THE CANADIAN HORTICULTURIST,

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BY THE

FRUIT GROWERS' ASSOCIATION OF ONTARIO.

VOLUME IX.

L. WOOLVERTON, M.A., EDITOR.

OFFICE ADDRESS—GRIMSBY, ONT.

N. B.—Numbers I. to X. of this Volume were Edited by Mr. D. W. BEADLE, of St. Catharines, Ont.

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THE GREAT, NEW QUINCE,

"MEECH'S PROLIFIC."

This sort bears very early,—sometimes one year from cutting, and usually a full crop at three years. The most prolific of all known varieties. Ripens between the Orange and Champion.

THE

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THE QUINCE.

The comsumption of this fruit has greatly increased within the past ten years, so that the attention of fruit growers is being turned to the consideration of more extensive planting in order to meet the increased demand. Hence the question arises whether the planter may expect that an orchard of quince trees will be remunerative, and, if so, what varieties are most desirable, what soil is best suited to their growth, and what cultivation should they receive.

With regard to the question of remuneration it may be sufficient to say that this matter of fruit growing for profit is like every other business, it needs to be conducted with skill and prudence, while prices will vary as do the prices of all other products according to the supply and demand. If there be any branch of agriculture that calls for the intelligent use of one's brains more than another it is this very department of fruit growing for profit. Not a few have been sorely disappointed just because they have made fruit growing a secondary matter, a sort of adjunct to the usual farm operations. If that way of fruit raising was ever profitable, the day has now passed; they only may expect success who will make this fruit growing the business to which all else is secondary.

We shall endeavor to set forth the conditions under which the quince can be successfully grown so as to yield good crops, leaving it to our readers to determine for themselves whether they can meet those conditions and reasonably expect to find quince-growing for market to be remunerative.

The quince will thrive best in a rich, deep, clay loam, that is thoroughly drained of all standing water. It has been the fashion to plant the quince bushes in some low, wet place and let them grow as they may without care. Experienee has taught us that this method is unwise, that on the contrary, they will respond as readily to generous treatment in well drained ground as any fruit plant. The climate must also be taken into account. The trees are more hardy than the peach and may therefore be successfully grown somewhat beyond the limit of peach culture. It is not the wood of the branches nor the fruit buds, but it is the root of the quince that is most liable to be injured by severe freezing, especially if growing in a light sandy soil. Hence in our

climate it will be found that a mulch in autumn will often be serviceable as a protection to the roots, thereby preserving the quince tree from injury.

The trees should be planted about fifteen feet apart each way, and the ground kept clean by thorough cultivation with the cultivator. Ploughing after the trees have become well established is likely to tear and injure the roots, which are fibrous and lie near the surface. Liberal annual manuring is as important in the quince orchard as anywhere else. Besides this a dressing of common salt applied every spring, and occasionally during the growing season, at the rate of a quart to each tree, scattered upon the surface of the ground, has been found to have a very beneficial effect. Pruning must not be neglected. The trees need to be kept open that the foliage may be fully exposed to the light and air. This should be regularly attended to every spring, requiring then but little labor, and only such an amount as that the heads shall not become a mass of interlacing brush.

For some time only two varieties were usually planted, the Orange or Apple-shaped Quince, and the Pear-shaped. Of these the apple quince was to be preferred on account of its better quality and brighter color. The Portugal Quince has been highly esteemed for its fine quality and the handsome color of the flesh when cooked, but it is not profitable as a market variety on account of its being a shy bearer. In later times we have had brought to notice Rea's Quince, which is a variety of the Orange of large size and by some thought to be the best of all, but it has not proved to be sufficiently productive in our climate. This was followed by the Champion Quince, which comes into bearing early and is productive, but ripens quite too late for our seasons. We have now brought before us a variety known as MEECH'S PROLIFIC. Its origin is lost in obscurity. Mr. Meech, of Vineland, N. J., found it growing in the grounds of one of the early settlers of that place who brought it from Connecticut. After growing it with the other varieties, Mr. Meech became satisfied that it was distinct from and superior to all of them. It is somewhat pear-shaped, but said to differ from the old pear-shaped quince by ripening earlier than that variety, yet a little later than the Apple or Orange Quince. It is also said to ripen earlier than Rea's and decidedly earlier than the Champion. The particular merits claimed for this variety are the vigorous, healthy habit of the tree, early bearing, and great and uniform productiveness. Young trees of two and three years old shew fruit, and continue to bear so abundantly thereafter that it is necessary to thin out the fruit in order to prevent injury to the trees from overbearing. Trees five years planted yielding from eighty to ninety well-grown quinces. The fruit is very large, often weighing from twelve to fifteen ounces, of a beautiful golden color, and possessing the peculiar agreeable quince fragrance in a high degree. It is claimed for it that its cooking qualities are remarkably good, one lady stating that it cooks as soft as a peach.

We are indebted to Messrs. Hance and Borden, of Red Bank, New Jersey, for the colored plate of this new quince which accompanies this number. These gentlemen were so favorably impressed with the good quality of this variety that they have undertaken its cultivation and dissemination, and to them we are indebted for the above particulars concerning its characteristics. Should it prove to maintain in our climate the good qualities which they state it has shown in New Jersey of coming early into bearing and continuing to yield heavy crops of large, well formed, highly colored, and highly flavored fruit, it will be a most valuable acquisition.

The quince is most frequently used for making a marmalade, by cooking the fruit soft, crushing the pulp and sweetening according to taste. Canned quince is a favorite dish with many, requiring only to be cooked soft *before* adding the sugar, else the quince will be made tough. Baked quinces are a most delicious dish. The core should be punched out, the space filled with sugar, and the fruit then baked in a pan containing just a little water. Eaten with cream and sugar—well, if you have never enjoyed this dish, there is a most agreeable experience in store for you.

BIGNONIA RADICANS.

Mr. T. H. Mackenzie has endeavored to grow the Bignonia radicans at Dundas, but has only had it bloom once in five years. The winters usually kill it down to the ground, and although the root survives and throws up strong shoots the next summer, it does not produce flowers.

PREMIUMS FOR NEW SUBSCBIBERS.

For five new subscribers and five dollars we will send prepaid any one of the following collections of choice bulbs or plants. This is an opportunity to secure a fine assortment of beautiful flowers and valuable plants without cost, other than the pleasure of doing a favour to your friends by introducing this monthly to their notice, and of enlarging the circulation and extending the usefulness of the only horticultural magazine published for the benefit of Canadian lovers of fruits and flowers :—

Collection No. 1—One Chionodoxa lucillæ, one Lilium longiflorum, two Frittillaria meleagris, two Spanish Iris, and two Narcissus poeticus.

No. 2—Five Tulips, two Chinese Peonias, one Spotted Calla, one Tiger Lily.

No. 3—A collection of five different Lilies.

No. 4—A collection of five different sorts of Iris.

No. 5—Two double and two single Hyacinths, and three double and three single Narcissus.

No. 6—Five herbaceous perennials —Fraxinella, Dianthus, Japan Anemone, Japan Spirea, and Clematis erecta.

No. 7—Three hardy flowering shrubs —Hydrangea paniculata, Spirea Van Houtte, and Purple Fringe.

No. 8—A collection of twelve different sorts of flower seeds.

No. 9—Four hardy Roses.

No. 10—Four Tea Roses.

No. 11—Three Polyantha or miniature Roses.

No. 12—Four Climbing Roses.

No. 13—Ten plants, to be chosen by you from the following list: Gerani-

ums, single; Geraniums, double; Fuchsias, single; Fuchsias, double; Petunias, double, blotched and fringed; Abutilons, rose-coloured; Abutilons, white; Abutilons, straw-coloured; Begonias, scarlet; Begonias, rose-coloured; Begonias, white-flowered; Coleus, with most beautifully variegated foliage; Hydrangea Thomas Hogg; and Hydrangea Otaksa. These plants will be securely packed and sent by mail. You are at liberty to choose the ten from any one or more of these different kinds of plants.

No. 14—Six beautiful clove-scented carnations.

No. 15—Six Double Dahlias, different colours.

No. 16—Twelve Gladiolus bulbs.

No. 17—Twelve Tuberose bulbs and six Gladiolus.

No. 18—Jessica Grape-vine.

No. 19—A Niagara Grape-vine.

No. 20—An Amber Queen Grape-vine.

No. 21—A pruning knife.

No. 22—Three plants of Hilborn Blackcap Raspberry.

For ten dollars and ten new subscribers we will send, prepaid, any two of the above collections you may designate; or if preferred, we will send you one strong yearling tree of the Russian Vladimir Cherry, grown from trees imported by the Fruit Growers' Association direct from Russia.

If you prefer books, we will send you, prepaid, on receipt of three dollars and three new subscribers, *Every Woman Her Own Flower Gardener*, 148 pages, bound in cloth.

For five dollars and five new subscribers, *Window Gardening*, 300 pages, illustrated with 126 engravings.

For twelve dollars and twelve new subscribers, Saunders' *Insects Injurious to Fruits*, 436 pages, 440 engravings, bound in cloth.

For fifteen new subscribers and fifteen dollars, the *Floral Kingdom*, a magnificent art book, splendidly bound, 450 pages, 200 illustrations.

THE WHITE FRINGE.

Mr. Thos. H. Mackenzie, of Dundas, County of Wentworth, informs us that he has two trees of the White Fringe, one of them now fifteen feet high, and the other ten feet, that they flower freely every year, and have done so ever since the fourth year from planting, and that when covered with bloom and when ornamented with their rich purple drupes they are most beautiful objects. It is now fully settled that this beautiful shrub or small tree is perfectly hardy in our Canadian climate, reports having been received of its flourishing at Dundas, Guelph, and at St. Anns de Bellevue, in the Province of Quebec.

OUT-DOOR FRUIT FOR THE MILLION.

We are indebted to Mr. F. P. Gassion for a copy of a little pamphlet of some thirty-five pages, with the above title, in which the author sets forth his method of growing fruit of all kinds with great success. His management is based upon the theory that the roots of a tree are of three kinds, the small fibrous roots, the lateral roots, and the tap roots, and that the office of the fibrous roots is to produce fruit, of the laterals to produce wood, and of the tap root to anchor the tree. Accordingly he cuts off the lateral roots every second year or so. If the tree be four inches in diameter at the ground, or a foot in circumference, he allowed a space of two feet from the tree, and cut off the roots at that distance from the trunk, thus leaving a circle of roots four feet in diameter. His time for doing this root pruning is in the autumn after the leaves have fallen. After cutting off the roots, he dresses the sur-

face of the ground with a liberal supply of good, solid manure. In the spring, when the trees began to open their blossoms, pails full of liquid manure were given them occasionally as long as the blooming process lasted; also for some time afterwards, particularly if the weather were dry. The fertilizers used were the drainings of the stable and cow-house, fresh solid manure of any kind well mixed with water, and a few handfuls of guano well stirred up in a pailful of water.

As a result of this treatment the author states that the trees soon covered themselves with fruit spurs, yielding great quantities of fruit. That this process of root pruning forced the trees to make short stiff wood well supplied with fruit buds. He thinned out all small, poor fruit, and then let the trees bear to their very utmost. In addition to the manuring, he gave the trees an annual dressing of lime.

We have no doubt but that by this method of lessening the wood growth of a tree, and at the same time supplying the remaining roots with an abundance of food, and thinning out the fruit so that each remaining specimen shall have sufficient room for full development, perfect fruit, of fine appearance and full flavor will be obtained. This method is particularly to be commended to those who have but small grounds, who can attend to the trees during the season of growth, and see that they do not suffer for lack of food or moisture, and who desire to have very choice fruit and of the highest flavor. It must be remembered that when the roots are thus shortened, food and drink must be supplied to the remainder, else the tree will suffer, and the fruit, and possibly the leaves, drop.

Should any of our readers have trees that are making too vigorous wood growth, and therefore yielding little or no fruit, they will find this root pruning process will check the excessive wood production and throw their trees into fruit bearing.

CODLIN MOTH IN NEW ZEALAND.

We have been favored by Mr. R. Hobbs, of Auckland, with a copy of the report of the joint Codlin Moth Committee appointed by the Legislative Council and the House of Representatives of New Zealand to consider and make suggestions for the proper working of the Codlin Moth Act, 1884, with the object of checking the spread of this terrible pest.

It appears from the report that the investigations of the Committee took a much wider range, and embraced scale insects, peach blight, &c. Mr. T. Kirk prefers syringing with a weak solution of caustic potash, rather than Paris Green, for preventing the Codlin Moth from depositing its eggs.

The appendix to the report contains copious extracts from the *Canadian Horticulturist* and the Report of the Fruit Growers' Association for 1884.

In his letter just received, Mr. Hobbs states that he has received at different times copies of the *Canadian Horticulturist* from Mr. Twohy, Hamilton, but that he wishes to become a regular subscriber, and accordingly he encloses his subscription for two years, 1886 and 1887. He adds: "I made free use of your Journal by taking extracts from it *re* the cure for insect pests, feeling sure also that you would be pleased to know that the usefulness of your Journal extended as far as New Zealand. Ours is a grand country for fruit, and our mild climate is very favorable to insects as well. We are now only beginning to realize the fact that we must do something to keep them in check; and it is with this ob-

ject in view that I have been interesting myself in the matter." Mr. Hobbs is the chairman of the Committee of the House of Representatives appointed to inquire into the best methods of combating the codlin moth.

THE HILBORN RASPBERRY.

This is a new variety of the Black Cap family, an accidental seedling transplanted with a number of others by Mr. W. W. Hilborn, of Arkona. This one manifested such a decided superiority over the others that he has continued to grow it for over six years past, and esteems it to be the most valuable of all the Black Caps for either home use or market. He states that it will average larger than any of them, save only the Gregg, is jet black, very productive, and the best in quality; that it begins to ripen just after Tyler or Souhegan, and continues in fruit later than most. The plant is a strong grower, has few thorns, and is as hardy as any Black Cap.

If any of our readers will send to this office five new subscribers, they shall receive in the spring three plants of this new valuable Black Cap Raspberry.

APPLES IN ENGLAND.

Green & Whineray's circular of 28th November, '85, quotes Canadian apples at Liverpool as follows:—Greenings, 12*s.* to 12*s.* 6*d.*; Spitzenburgs, 10*s.* to 11*s.*; Spys, 8*s.* 6*d.* to 10*s.*; Golden Russets, 15*s.* to 17*s.*; Kings, 12*s.* to 15*s.*; Seek-No-Furthers, 9*s.* to 11*s.* Total arrivals to date, 209,222 bbls.

OPINIONS OF THE PRESS.

One of the most worthy of the publications of this province is the *Canadian Horticulturist*, edited by D. W. Beadle, of St. Catharines. Among the contributors who are recognised as authorities upon various horticultural topics, is the name of F. Mitchell, of Innerkip. Mr. Mitchell is a most successful florist, and an intelligent writer.— *Woodstock Times.*

THE WINTER MEETING

Of the Fruit Growers' Association of Ontario will be held in the Town Hall, Stratford, on Wednesday and Thursday, the 10th and 11th of February, 1886, commencing at ten o'clock in the forenoon of Wednesday, and continuing through both days and evenings.

We have received notice that Mr. T. T. Lyon, the President, Mr. E. H. Scott, the Chairman of the Executive Committee, and Charles W. Garfield, the live Secretary, of the Michigan Horticultural Society, and also Mr. W. H. Green, of the Ohio Experiment Station, intend to be present at that meeting. They are all eminent as fruit growers and horticulturists, and will add very much to the interest of the occasion. We trust that our members will not fail to avail themselves of this opportunity of listening to these gentlemen.

THE ASH-LEAVED MAPLE.

Negundo aceroides.

A writer in the *American Garden* says this "is a handsome tree. The top is spreading, symmetrical and graceful. The foliage is dark green. The trunk is smooth and well proportioned. In point of beauty it is excelled by none of our forest trees. It is equally commended by its hardiness. It does well in Lower Canada; [We saw it growing most luxuriantly at Winnipeg, Manitoba, where it is not injured in the least by the cold of winter.—EDITOR.] and along the fortieth parallel, it is never injured by the winter. Nor is it injured by heat or drought."

COLEUS FIREBRAND AND GOLDEN BEDDER.

Mr. N. Robertson, Superintendent of the Government grounds at Ottawa, writes to the *Floral Cabinet* that Coleus Firebrand is a grand object; under glass it assumes a brilliant fiery appearance, and that in the open ground, though the sun destroys this delicate color, it yet is superior as a dark bedder over any other he has tried, and is a fine addition to our bedding plants. Golden Bedder under glass seems to him to have no particular attraction, being of a greenish white, but when bedded out the sun changes this to a bright golden yellow that in the distance is most attractive and pleasing and makes a splendid contrast with the other, either planted alternately or in lines. Mr. Robinson remarks that Golden Bedder with him is much dwarfed in outside planting and requires to be kept on the front line.

QUESTION DRAWER.

What variety besides Concord would you recommend for our climate and soil? The latter is a light, gravelly ridge, lying between Blenheim and Buckhorn. R. B. B.

REPLY.—If wanted for your own table, you will find the *Jessica* a most delicious white grape; the *Brighton* an excellent red, and the *Wilder* a magnificient black variety.

WORMS ON GRAPE VINE.

DEAR SIR,—I send for your investigation and opinion in regard to what these small worms are on this grape vine. This is one I was transplanting this fall. Please let us know through the *Canadian Horticulturist.*

Yours truly,
W. C. WEBSTER.

REPLY.—We received with the above a piece of a rooted cutting that was quite dry, and could find no worms, or appearance of worms, on it. They must have left the vine during its transit in the mail bags.

WHAT THE PEOPLE SAY.

NUTS.

P. E. BUCKE, OTTAWA.

Although in Canada we have a variety of nut-bearing trees growing wild in our woods, it cannot be said that any of the nuts produced on them are to be compared with the English or Spanish walnuts, the Barcelonas, Filberts, or sweet chestnuts of the Old World; and after all, this state of things is reasonable enough. We do not go to the woods to find snow apples or Smith's improved gooseberries. In the forests are found the original types of cultivated fruits only; it is left to man to improve on nature. Sometimes, however, we have been able to adopt the improved forms of plants that a long course of civilization has produced, but the attempts at growing the walnut, filbert and chestnuts imported from England to Canada have met with but little success. In Ottawa the cold of winter is entirely too severe for any of the above to flourish. The filbert has dragged out a miserable existence from year to year, but the catkins which form in the autumn do not pass sufficiently safe through the winter to shed their pollen in spring, or else the female flower buds are destroyed by the severity of the cold. Whichever is the case, certain it is that when the time for nuts is at hand the trees are found to have produced "nothing but leaves." There is little doubt, however, but the hazel, which is wild over a large portion of the Dominion, might be hybridized by pollen

from the English varieties, and a cross obtained suitable for our wants, if not so fine as the British parent. In the same way perhaps the condition of the native Canadian chestnuts and walnuts (either the black or the butternut) might be ameliorated. A cross between the two latter might be effected with good results. Many of the nut-bearing trees, such as the walnut and filbert, having unisexual flowers, the process of hybridizing would not be difficult if pollen could be obtained. Where the male and female organs are situate in the same flower, as in the grape for instance, of course the flower has to be artificially opened and the male organs removed before they are sufficiently advanced for the pollen to impregnate the female portion of the flower.

The *Juglans regia* is the variety cultivated for its nuts in Europe. Its home is supposed to have been originally in Persia or the Levant, from which it was no doubt carried to England by the Romans. The English nuts are now said to be better flavoured than those grown on the continent of Europe. The word *Juglans* is supposed to be a contraction of *Jovis glans*, "nut of Jupiter." *J. regia* is by no means a hardy tree. It is in fact so tender that it flourishes better in the south of England than in the north; nevertheless the writer has seen some fine trees of this species in Suffolk, Norfolk and Lancashire, but the trees of Kent and Surrey have the reputation of producing the finest nuts. There is a record of a walnut tree which grew in Welwyn, Herefordshire, whose umbrageous branches covered an area of over two thousand square yards. There is still standing at Balaclava, in the Crimea, a walnut tree said to be upwards of one thousand years old. This tree yields its proprietor a yearly average of eighty thousand nuts; it has been known to produce as many as one hundred thousand in a single season.

There is one way in which our nuts could be utilized as an article of commerce, and that is as a pickle. Both the black walnut and butternut when in that stage of growth, just before the shell begins to harden, while it is yet sufficiently soft to admit of its being penetrated with ease by a knitting needle, is gathered and converted into a most delicious pickle. When the nuts are ripe they are sold on the market in Ottawa for about one dollar per bag, but as a pickle they would bring in the English market, and perhaps in Canada, ten or fifteen times that sum. The writer has walnuts pickled, as well as the ripe nuts with the outer shell on, preserved for the Colonial and Indian Exhibition to be held in London next summer.

The walnut of England is a slow growing tree, and as some one has said of pears, though perhaps not truthfully,

> "He who plants pears
> Must leave it to his heirs"

to eat them; so in Britain one generation plants the *J. regia* and the next partakes of the nuts. This is by no means the case with *J. cinerea*, as I have myself planted the nuts and have gathered fruit from the tree seven years afterwards. I have now two trees eleven years old which yielded last season over a bushel of nuts. The older the walnut tree becomes the more nuts they produce, but it takes more than one generation to obtain a tree that will produce one hundred thousand.

The paper-shelled hickory is a pleasant nut. The tree, though slow of growth, is of a very clean, handsome appearance both of bark and leaf, and should be more extensively cultivated. The chestnut is indigenous to the western part of this Province, and why it is not more cultivated it is difficult to

understand. The tree is thrifty and a fine grower. The nuts, though not so large as the Spanish, are, when roasted, much relished by the children, and overgrown boys and girls have been known to eat them.

The fact is our nut-bearing trees have been too much neglected. It is trusted both the subject and the trees will receive that attention which they so justly deserve in the columns of the *Horticulturist.* I should like to call on the readers of our paper to send to the Editor any notes as to their success or failure in trying to cultivate or improve our wild nuts, and I am sure he would give any such information his immediate attention and publication; but I fear did I do so I would be like the character in Shakespeare who said, "I can call spirits from the vasty deep," to which his friend replies, "And so can I, and so can any man, but will they come when you do call for them?"

If the men of the present day have become too ancient to enjoy nuts, it must not be forgotten there is always a large crop of youngsters coming on who will be glad of them.

The destruction of our forests is no doubt making our native nuts scarcer; but there is plenty of waste and roadside ground that could be utilized for the reproduction of our nut-bearing trees.

GRAPES IN MUSKOKA.

Notwithstanding last winter was the coldest I have experienced in Muskoka and the summer a rather cool one, my grape vines produced very satisfactorily; one of Rogers' ripening 48 lbs., another 23 lbs., and another 18 lbs. Moore's Early I got from the Association, not so free a bearer, 10 lbs. Strawberries a heavy crop. Raspberries light, being mostly frozen down to the snow line.

F. W. COATES.

Cape Elizabeth, Muskoka.

THE MOST DESIRABLE GRAPES.

We addressed a card of inquiry to a few of our esteemed readers, asking them to favor us with the names of the three varieties of grapes grown in the open air which they valued most; and to state the reasons for their preference. We have been kindly favored with the following replies; for which we desire to express our thanks:—

AT ABBOTTSFORD, QUE.

DEAR SIR,—Your query as to my best three grapes: I fruited forty-seven kinds last year. If planting only five kinds it would be: (1) Delaware, (2) Massasoit, or Lindley, (3) Brighton, (4) Duchess, (5) Herbert, Amenia, or Worden. This is as near as I can answer your question.

Yours truly,
CHAS. GIBB.

AT ADOLPHUSTOWN, ONT.

DEAR SIR,—I have your favor of the 12th inst. In reply, the only grapes I have are eight at the foot of my garden, and they did not prove true to name. I have two that seem very hardy: one is the Brant, and the other Mr. Williams, of Prince Edward, told me was Rogers' very best grape, but I am not sure of the number.

D. YOUNG.

AT BARRIE, ONT.

DEAR SIR,—In answer to your card asking me to state the three varieties of grapes, grown in the open air, most esteemed by me, and why. I beg to reply that the only grapes grown by me, in the open air, and which I care to eat, are the Rogers' amber grapes; but these are produced in poor bunches, the berry is large and to my taste very good, and the yield on the whole is good. It is sometimes injured by the early frosts, but that is the case with all grapes here. I find it the most

reliable in this climate, except the Champion, but this grape I do not care to eat. The Delaware and Concord are tolerably successful here, but I have no bearing vines of either, and do not speak from experience. The only two grapes I ever recommend here are the Rogers and the Delaware.

At the last show in Collingwood a white grape was exhibited, which I would have said was grown under glass if I was not assured on undoubted authority that it was raised in the open air. It was fleshy and sweet, and much like in flavour a Hamburg grape. I hope to obtain a cutting or two, in order to try it here. If it succeeds I should consider it a great boon in the matter of open air grapes. I believe its name is not known to the grower, and I have not heard its history, but hope to learn more about it in a few days, and may write you again.

Yours in haste,
WM. ROYS.

AT BRIGHTON, ONT.

DEAR SIR,—Immediately on receipt of your card, I called on J. M. Wellington, Esq., Main Street, Brighton, a pioneer in grape culture, established over twenty years; and from that interview learn that the varieties of grapes grown by him, not mentioning those discarded as not suited to this climate, are as follows:—Delaware, Concord, Isabella, 12 different varieties of Rogers' hybrids, Elsinburg, Ontario, Union Village, Brighton, Allen's Hybrid, Lydia, Rebecca, and Maxatawny. His favorites for prolific bearing and early ripening are Rogers' Hybrid No. 4, Elsinburg, and either Brighton or Delaware for third place; for size, Brighton has the preference. Delaware is small, but very prolific, with hardy vines.

These varieties ripen nearly at the same time; if anything Rogers is in advance. Maxatawny, Lydia, Rebecca, and Allen's Hybrid are white grapes, of which he gives the Maxatawny the preference. Elsinburg he gives the preference over the blue varieties; while to Rogers' Hybrid No. 4 he gives the decided preference over all.

Hoping this may prove the information you desired,

I am, yours respectfully,
D. W. DULMADGE.

AT BROCKVILLE, ONT.

Of the grape-vines purchased some ten years since, I find the Rogers (No. 39, I think) a very fine, rich grape, berries nearly an inch in diameter, bunches not large, amber color, tough skin, but like full flavored Muscat. I gave some cuttings to my neighbor, Mr. Cochrane, a Jerseyman, who says they are as fine as any he met with in Jersey, or on the main coast of France; I prefer it to all our out-door grapes. I am sorry to say some of these got blighted this year, became hard like marbles, and did not ripen: I think it was owing to the cold, wet season. Next I have the jolly little amber-colored Delaware, prolific, but small bunches; my wife prefers these to all others of our out door grapes. Then there is a black, luscious grape, prolific, with large bunches, the name of which is lost: I think it is Concord. Then the Israella, black, which I like for its wild taste, and gets richer after a little frost has passed on it. Of the several different varieties of out door grapes, these are the most notable. I have more satisfaction with them than with those grown under glass.

Besides these, I have the August Giant, and the Pocklington; also the Niagara, the Vergennes, and the Empire State, but only the first of these has yet given me any fruit. The Pocklington gives promise of doing well; like the sweet water, it is pale green,

large bunches, and ripens early. All my grapes have ripened this year, notwithstanding the cold season we have endured. I always lay them down in winter, and cover them with a little earth.

SAMUEL KEEFER.

Brockville.

AT BLYTH, ONT.

DEAR SIR,—I grow Isabella, Concord, Martha, Champion, Salem, Pocklington, Burnet, and Clinton.

Concord, Isabella, and Salem, in the order named, have done best; that is, as to bearing and quality. Champion and Clinton are good for wine, but not fit for a table grape.

Yours truly,
W. SLOAN.

AT BLANTYRE, ONT.

There are very few grown near to me. I know of but one place where there are a few vines grown of Concord and Arnold's Hybrids, which grow and bear very well. I have a few myself, but they are yet young; one, the Concord, fruited this last season for the first time. The names of mine are Concord, Hartford Prolific, Martha, Salem, Worden, Prentiss and Brighton, and three or four of Arnolds, which are all growing very well. I will try and keep you informed how they succeed with me.

DUNCAN ROBERTSON.

TOO MUCH ADVICE.

DEAR MR. EDITOR,—As you invite your subscribers to give their experience anent their fruits, "garden sass and sich," I'll unload my worry regarding my grape vine Jessica, my only child "of that ilk," who, with all my tender nursing, has turned out a pathetic failure. Solomon says, "In the multitude of counsellors there is wisdom." But I like best the old Scotch saying, "O'er many cooks spoil the kail." One friend advised me to put bones under Jessica. I suspect he belonged to the "Pile o' bones Agricultural Society." Another said, "put old leather shoes under her." I thought my "sweet girl graduate" would not rise by degrees on that fare. As science is so bewildering now-a-days, I sat down to study what connection leather had to bones, and concluded there was an affinity, though, like Parlan McFarlane's, "pretty far removed." So Jessica got the bones and an old slipper. Then another said, "keep her eyes above ground." I did so. But alas, this last advice blasted all my hope of ever "sitting under my own vine." The cat came along and scratched poor Jessica's "eyes out." Snuffing after the bones, no doubt. I took the old slipper, and was nearly giving her "a clout 'i the lug," when the thought struck me that cats are not mentioned as forbidden beasts in John's Revelation as dogs are, so puss was allowed to shake the dust off her feet and clear. My poor Jessica, I fear she'll come to "Lochaber no more." I'll get another, and abide by your directions only.

GRANDMA GOWAN.

Montreal.

CURRANT GROWING AT THE NORTH.

Happily for the northmen, if they cannot grow the more luscious fruits of their southern neighbours, if only the hardiest apple trees will grow and bear for them their golden and crimson fruit, if the finer and richer plums of the yellow, blue and white varieties refuse to flourish in their rigorous clime, and though the pear and the peach can there nowhere be found, they are still fortunate in being able to produce as fine specimens of red, white and black currants as can be grown in any part of the temperate zone. No special care is required in their planting. They

demand no winter protection, other than is natural to themselves. They call for no special treatment at any season of the year, but yield with an unsparing hand an abundance of beautiful wholesome fruit.

The greatest difficulty to be overcome in growing currants of any kind, is the difficulty experienced in getting people to plant them. For once planted it is astonishing how much neglect, and even abuse, they will stand, and yet yield a very fair crop of edible fruit.

Of the red currant the principal varieties now grown are the Versailles and the Cherry. Between these there is very little to choose, both varieties being large in size, quite productive, but somewhat acid even when fully ripe. Fay's new Prolific and Moore's Ruby are among the newer varieties. Both of these were fruited on my grounds last season for the first time. I am, therefore, unable to speak positively of their merits until I have tested them for at least another season. They are both large in size, and it is claimed that they are more productive than the other varieties; and furthermore, it is said of Moore's Ruby that it is not so acid when ripe as the older improved sorts. But notwithstanding the large size and great productiveness of these varieties, no grower should be without a few bushes of the Old Dutch Red for his or her own use, as what it lacks in size, it more than makes up in sweetness and richness of flavor. On this head it, as yet, has no rival.

Among the whites, the White Grape seems to be in greatest request, but although attractive in appearance and highly prized by the thoughtful housewife for converting into jelly, still even when at its best, it is too acid to be as highly prized as it otherwise would be.

Among the blacks, Black English and Black Naples, which very closely resemble each other, have been chiefly grown by market gardeners, but latterly they have been somewhat superseded by Lee's new Prolific, which, on all points, is considerably more desirable than its predecessors. But even this variety is now likely to be shorn of its strength by the Champion of England, which nurserymen say is far ahead of anything yet produced.

CULTIVATION.

The currant, like any other shrub, will respond invariably to good treatment. It succeeds best in a deep rich soil, and when well mulched will yield fruit at least twenty per cent. larger than when not. There is no better manure than wood ashes, although ordinary stable manure answers a very good purpose. One thing in particular has to be carefully watched, and that is for the appearance of the currant worm. If taken in time, and the bushes well sprinkled with hellebore water in the proportion of two tablespoonsful to a pail of water, no evil results will follow; but if neglected, and the bushes are allowed to be stripped by them of their leaves, you may expect nothing but poor and unsatisfactory results. If you are too poor to buy bushes from the nurserymen, go to your neighbors garden in the fall after the first heavy frost, get some cuttings of the present season's growth, merely stick them in the ground where you wish your bush to stand, and in a couple of years you will have fine healthy bushes.

A. A. Wright.

BRACEBRIDGE AGRICULTURAL FAIR

We attended the Agricultural Show at Bracebridge; were received very cordially by the Directors and officers of the Society; acted as judge in several departments. The fruits were sparse. Duchess apples were fair samples, some others were rather inferior in quality; there were not many in competition.

Of crab apples there were two varieties (Hyslop and Transcendent) and 8 entries. The fruits appeared to be held back. The flowers were much better, as there was a very good show for a new country like Muskoka. The vegetables were excellent in size and variety.

C. H.

SOUTH SIMCOE AND ESSA AGRICULTURAL SHOW.

I attended the South Simcoe and Essa Agricultural Show at Cookstown on the N. & N. W. Rys.; was received by the Directors of the Society and cordially invited to dinner, where a large number of happy faces met and enjoyed a hearty feast of the viands set before them. The Secretary, R. T. Banting, Esq., of Cookstown (who is also County Secretary), presented me with a badge of welcome, and afterwards pressed me into their service as judge on fruits with two other gentlemen from different parts of the county. The fruits were excellent specimens of the various kinds. *Apples*—4 entries Duchess of Oldenburg, which were fair samples; 6 entries St. Lawrence, good size and shape; 10 entries of Snows, very good; 4 entries Alexanders, excellent; 2 entries Colverts, fine specimens; 3 entries King of Tomkins with other fruits, Seek no Further and a very fine specimen of Cayuga Red Streak; 6 entries Greenings; 9 entries American Golden Russet; 5 entries of grapes—Hartford, Brighton and Concord—all very fair samples. The vegetables were remarkably good. This part of the country is making rapid strides in the way of improvement in all the various branches of gardening, horticulture and floriculture. The flowers that were shown were a great credit to all that part of the county. The Show on the whole was a great success. All they want is to become members of the Fruit Growers' Association.

C. H.

SOME RED GRAPES.

(*For the Canadian Horticulturist.*)

BY T. C. ROBINSON, OWEN SOUND.

Jefferson.—This variety has been a disappointment in two respects—earliness and hardiness. Although the foliage apparently partakes largely of the enduring Concord type, yet it fails unaccountably in ripening its wood on young vines to a sufficient degree to withstand the severe winter. Most varieties grown here require no winter protection but our usually abundant snows; but the young Jefferson vines seem to need something more. I have had it on my place four years without getting a single cluster, but have seen it fruiting with a friend in town. The fruit is certainly very fine, but I fear it will always be later than Concord in ripening.

Vergennes.—I have not had this as long as the preceding variety and the vines are not large enough to fruit. On a friend's grounds I tasted a cluster that was very good, though not large. It does not appear to ripen much in advance of Concord, yet further experience is necessary to satisfy me on this point. The wood ripens well with me, and the foliage appears of the hardy insect-resisting, mildew-proof native type. On the whole I regard the Vergennes as well worthy of further attention.

The little *Delaware* still perseveres worthily among its red sisters. Wherever it does as well as it does in the Owen Sound district, it is essential to the completeness of any collection. Its quality is the sweetest and its clear waxy appearance the most beautiful of all out-door grapes in common cultivation, while its unusual compactness of cluster, and the tough yet thin skin of the berry, give it special value for market when it is once got into the basket. What a pity that both cluster and berry are not a little larger. Yet

give it well drained rich clay loam, and keep it from over-bearing, and clusters four or five inches long, with berries over half an inch thick will delight the grower in regions where the foliage is free from mildew—as it is here. But the principal drawback of the Delaware appears to me to be its slow growth. It is hard to get a good sized vine without thinning the crop to only about half of what a Concord or Niagara might readily ripen with impunity.

Agawam (better known as Roger's No. 15).—Will some one please say why this sort should not be kicked out of at least all northern grape regions? *But it is a very large grape?* Yes: a little larger than any other that we grow. *And it's a great bearer?* It is. *And it has a rich flavour?* Decidedly so. *And it ripens rather early?* It does indeed, usually in advance of Concord with us.

But what is the use of size in a grape when the only portion fit to swallow is a circumference of juice which surrounds a large tough pulp too sour to give to the pigs?

Such are the reflections that come to a man after going systematically through a pound of well-colored Agawams with the result of just about a quarter as much substance fit to swallow as could have been got from a pound of Delawares, and that quarter only about half as delicious as an equal bulk of the Delaware.

The Agawam is one of the very few varieties that I have heard of mildewing in this part of the country. It mildews with me. Where it is free from this it may be good to sell; but I prefer to grow varieties that I would not be afraid to talk to my customers about afterwards. I see that Toronto market-reports gave two quotations for Roger's Grapes: one "*Rogers Sour*" being considerably less than the other. Can it be that No. 15 crawls into the cellar that way in southern districts, as well as with us?

Salem (Roger's No. 22).—Was praised as among the best of the Rogers' hybrids some years ago. It does not seem to rank as high as some of the others now. The foliage like the Agawam, while *large* enough, does not seem to me to have as much native blood in it as we find in Lindley and Massasoit, which may account for more mildew in Salem also, and the irregular or late ripening of the fruit when there is a full crop. It seems to be a good grower and bearer, and the fruit is fine; but we want something more reliable.

Massasoit (Rogers No. 3).—Is more reliable with us, and I judge everywhere. It ripens soon after Champion here, and probably will rank as the earliest red grape in common cultivation in Canada. The berry is large, so is the crop; the vine is hardy and an excellent grower, and the foliage unusually good for a hybrid, though not as disease-resisting as Concord and other pure natives. The cluster is not large, and the berry is rather too dark a red, and not just good enough in quality to suit a connoisseur. Still many people would buy it readily for Lindley, and consider it better than Concord. It is certainly much better than any Concord we can raise here, and can be depended upon as one of the surest and most profitable.

Lindley (Roger's No. 9).—I consider this *the best* red grape for all purposes, of all that I have any certain knowledge of. The vine is a fine grower; it bears well; the foliage, for a hybrid, is just next-door to the Concord family, and will probably escape disease and insects when everything else fails except the Concord-Hartford tribe; the cluster is large, though often loose; the berries rather large, of a rich brick-red color, with bloom; and the quality

sweet, rich, and of about the purest flavor of any out-door grape in ordinary cultivation. I saw it in Barrie last year with the same characteristics, and it seems the same in many parts of the country.

Was it the president of the American Pomological Society who, a few years ago, called it "the best grape in the world?" No: I think it was Mr. Barry the chairman of the Committee on Nomenclature of that Society. Let us pass it along anyway as the Best Red Grape in Canada. I will be uncommonly glad to hear of a better one, but this is good enough for me.

Poughkeepsie Red and *Ulster Prolific* have not yet fruited with me.

ANOTHER SEASON'S EXPERIENCES WITH THE ROSE.

Mr. Editor,—Notwithstanding that former remarks made by me, through the medium of the *Horticulturist*, on the "Rose," received some gentle strictures from the pen of a much respected friend of mine—Mr. Gott, of Arkona, I still hold as warm and loyal allegiance as ever to the queen of flowers. In fact I find that another season's added experience and association has but added to and deepened my craze (if craze it is) for this (as I still claim it to be) the most beautiful of all flowers. I will, however, with as little effervescence as possible give a few notes on my experience the past season with the rose. For the hardiest kinds of out-door roses the season has been a very good one, while for tender sorts and for all kinds which are liable to mildew it has been very unfavorable. Alfred Colomb, General Jacqueminot, and Fisher Holmes, among the reds, fully sustained the reputations which I accorded them last season, while General Washington exceeded anything which I have ever given it credit for. It bore blooms (and grand ones) the whole season through, from June until severe autumn frosts. I am still, however, of the same opinion as formerly, that Alfred Colomb is the finest, most reliable, and the most valuable rose of its color which I have tested. Another red rose which made a most remarkable and beautiful display with me early in the season was Maurice Bernardin. I have only one bush of this variety, and it is rather a small one, but I have counted nearly a hundred fine blooms on it at one time.

Among the pink or rose colored, La France, Paul Neyron, and Marquise de Castellane, again proved themselves worthy of all the praise I have ever given them, while François Michelon has this year proved itself quite worthy of a place with this former-mentioned beautiful trio.

Baroness Rothschild far exceeded anything it ever did before. I have formed a more favorable opinion of it than I ever held before. In cold, damp seasons like the past one, I think it will prove a valuable rose.

Among the white roses, the White Baroness has this year carried off the palm. It is not quite white, but its symmetrical blooms were so entrancingly beautiful, that even sensible, matter-of-fact visitors who came to see it, and who profess to be quite above little weaknesses which I am marred with, were sometimes almost tempted to fall down and give it a little idolatrous worship like myself. I wish my gentle critic of Arkona had been there, and I think he would have forgiven me for getting off the solid earth occasionally when speaking of the rose. Madam Noman, Eliza Boelle, and any of this tenderest type of the hybrid noisette family, were hardly up to the standard of former years. The season, I think, was too cold for them. I think this will prove a particularly valuable class of roses in dry and hot seasons. I find

that Madam Noman retains its blooms longer, and is less affected by dry heat, than any other rose I have.

Among the dark roses, Louis Van Houtte again took the very first place, its only fault being that the bush is a poor grower and is somewhat tender. Baron de Bonstetten is also a very fine dark rose, and appears to be very hardy. Jean Liabaud is a very fine rose of this color, but did not bloom much late in the season.

Among the tender roses I have not much to chronicle. As I stated before, I find Sunset only a very slight improvement on Perle des Jardines, and that, chiefly, in that it appears to be a somewhat better grower. The color is so nearly the same that I have to keep them labelled so as to make sure which is the new Sunset which came out with such *eclat*. These are both very fine roses for the amateur. Perle de Lyon is another yellow rose, but one I would warn the amateur against meddling with. Mildew appears to be natural to it. I got one, but after patiently doctoring away at it for weeks, during which time it infected nearly every plant I had, I was forced to cremate it at last, and then it took me weeks to get rid of the effects of it.

Among the newest arrivals, I may mention that I have the Wm. Francis Bennett. It appears to be a good grower, and as soon as it blooms, which will be shortly, I will (if it is worthy) make mention of it. I have also other new garden roses, such as the Marshall P. Wilder, and others, but which have not bloomed yet, and on which I can note no experience of the past year, but whose beauties I am already looking impatiently forward for a coming season to unfold.

As to the respective merits of the rose and the geranium, as called in question by my friend, Mr. Gott, I have nothing to say, more than that I am in full and complete accord with all the good things this gentleman has said, and said so well, about the geranium. I endorse them all, fully and freely, and would only feel over gratified if I could think I had been in any way instrumental in bringing out so many good things as there are in that article from his able pen.

FREDERICK MITCHELL.

Innerkip, Nov. 23rd, 1885.

RASPBERRIES.

The raspberry has been planted very extensively within the last few years, and is every year becoming of greater importance as a market fruit. The first to ripen of the blackcaps was the

Tyler—The berry is quite large, of good quality, and very productive; bush is very hardy; it is a little earlier than Souhegan. I have it planted in rows side by side; one part has been planted two years, the other three; and in both cases the Tyler gave double the number of quarts at the first picking, on bushes of the same age and size, and on the same soil. If they were planted some distance apart it would be hard to notice the difference. Souhegan is sometimes injured with rust on the plant, while Tyler has been perfectly free from it with me. These two varieties are the best early sorts in most sections; it will make but little difference which one you have.

Hopkins is next to ripen; not quite so large as the above; I see no special value in it.

Mammoth Cluster begins to ripen with the second picking of Souhegan; of good size; a little larger and quite hardy; with good cultivation is very profitable.

Gregg is the largest and best late market berry; very productive, firm, and when grown in strong clay loam, is so large that it will sell well in any

market; not quite as hardy as Mammoth Cluster.

Shaffer's Colossal—A purple berry of the largest size; the bush is the strongest grower of any raspberry I have seen; it is also the most productive and hardy. I have been favourably disappointed in its hardiness: there was no raspberry came through the past severe winter in better condition than Shaffer's. The fruit, if left to get over ripe, is too dark and soft to ship well; but when picked every day it looks well, especially to those who know its unexcelled canning qualities. There is none in the whole list of raspberries, either red, black or yellow, that suits my taste so well with cream and sugar; it has just the right proportion of acid, when combined with the sugar and cream, to give that sprightly flavor that causes you to always want one more dish of them.

Caroline is the best yellow yet tested; a cap variety; very productive; of quite good quality; of a pink orange color; rather soft for shipping very far. Will give fruit when others are gone.

Beebe's Golden Prolific is not of much value; of poor quality, very productive, medium size; when a little over ripe it turns dark, and no one wants to buy it. Shall dig out most of that sort.

Turner, all things considered, is the best early red raspberry we have yet tested; it always comes through the winter all right; it is good in quality: a little soft for shipping.

Cuthbert—Best late red; not as hardy as Turner, but larger and later; quite firm; the best market berry we have where it will stand the winter.

Hansell has not done much with me, although I have not given it as good a chance as it should have. Will give it further trial.

Marlboro' fruited with me only on spring-set plants; fruit as large as Cuthbert, of bright red color; quality not as good as Cuthbert.

I have a seedling red raspberry from Northern Muskoka that fruited with me this season on spring-set plants that is very promising. It was sent to me by a man who has fruited it several years, and says it is the best and most hardy of any he has seen. If it should prove valuable you will hear from it at some future time. It has made a good beginning, but time alone will tell its weak and strong points.

I have several new varieties that have not yet fruited enough to say much about them, such as *Nemaha*, *Rancocas*, etc.

W. W. Hilborn.

A REPORT ON GRAPES.

In giving a report of my grapes it will be necessary first to mention that they are growing on a bed of scaly limestone rock, covered with from six inches to a foot of clay loam. This rocky bed is intersected with fissures of about six inches in width, leaving large blocks of from eight to twelve and fourteen feet square. The fissures are filled with earth, and whenever a vine or a tree gets its roots into one of them the effect is soon visible. This piece of ground is on the south side of the Owen Sound bay, about one mile from the shore. Frosts do not affect it as much as where there is no limestone; but the intense heat of summer must be tempered by mulching well around the roots of anything growing on it. A number of years ago I planted on it a number of fruit trees, several vines of the Isabella grape, and one vine each of Rogers' Nos. 4 and 15, and Salem. They all did well. The Isabellas have now grown to be large vines, and every year yield abundant crops, but they ripen too late. Occasionally they ripen well and are fine grapes; still one looks for a kind to

ripen earlier and be a surer crop. The Salem does well with me, producing fair crops of choice fruit. It has never mildewed, but in the season of 1884 it bursted badly. Nos. 4 and 15 do very well too; but, owing to their being planted too near other trees, they seem not so healthy and productive as the Salem. Those three of Rogers' ripen about the same time, and are ten to twelve days before the Isabella. I have Rogers' Nos. 3 and 9. They bore fruit for the first time the past season. They are both good growers, but the fruit of my No. 3 is much larger and finer flavoured than No. 9. I would give it a place next to the Salem in every respect. I planted Rogers' Nos. 43, 44 and 19 last fall. They made fair growth during the summer, and look to be healthy vines. I have a vine of the Eumelan that yielded some fruit for the first time the past season. The fruit was very small. I do not think much of it, and would not plant any more of them. Still, another year may make a change. I planted a vine each of the Champion and Brighton about four years ago. The Champion was planted about five feet from a small peach tree. Each year it would grow from one to two feet, and be all dead the next spring, when it would start again from the roots. Last winter the peach tree was killed, and this summer the vine grew vigorously, and seems quite different. The Brighton has grown well, and this year it would have borne fruit, but they got picked off. Two years ago I planted a vine each of the Pocklington and Lady Washington, and in the spring of 1884 I got the Prentiss from the Fruit Growers' Association. The Lady Washington is the most delicate-looking vine I have, and if it does not do better another year it will have to go. The Pocklington is also a slow grower, and as yet I have a poor opinion of it; and I may say the same about the Lady; still the Lady has not had the same chance, being only a one-year vine when I got it, and not a very healthy looking one. Last year I sent you a report of the Prentiss I got from you, and spoke very highly of it. This year I can do the same. It is one of the most healthy-looking vines I have got. It has a dark green leaf with a marked freshness about it, and it keeps its color longer than any kind I have. It has made very fair growth, and gives every appearance of being a very healthy plant. I have a vine, too, of the Delaware, which seems healthy, and does not exhibit the same tenderness that I hear others speak of. It has grown well with me, and I would have got some fruit off it this year had it not met the same fate as the Brighton. Last spring I planted a Jessica, a Moore's Early, as well as a few Wordens, two Concords, and a vine each of Burnet, Martha, Cottage and Early Victor, and a Niagara. All of them have grown very well and look healthy, and have made quite a length of permanent wood. I will only particularize the Cottage and the Niagara. The Cottage I got from Chas. A. Green of Rochester. It is a seedling of the Concord, and, although it was the last one I planted, it more than doubled the growth of any of the others planted the same year, with the exception of the Niagara. It seems strange to me there is so little said about it if it grows as well with others as it has done with me. I will conclude with a brief sketch of the Niagara. I got a vine of it in the spring from Mr. White of Owen Sound. It took root and began to grow soon after planting, and by the fall it had grown about ten feet, and most of that permanent wood. It far outstripped any of the others of the same age, and if it does as well other years with me as it has done this, and

if it does as well with others as it has done with me, it can easily be seen why the Niagara Grape Co. has made such efforts to keep it in their own hands. If it bears good fruit in proportion to its growth, I for one will not rue the price I paid for it.

A. C. SLOANE, M.B.

A SUMMER IN THE GARDEN.

(To the Editor of the Horticulturist.)

DEAR SIR,—The faded and falling leaf, while it reminds us that another mile-stone of life's journey is reached (let us hope running in the right road), tells us, too, that summer is ended. Most of your readers being more or less employed in garden operations, a review of the season's crop may not be without some interest. As success depends much on cultivating kinds the best and most suited to the locality, and as these kinds can only be selected by the study of our own failures and successes as well as that of our neighbours, we venture a word of our experience and solicit that of others. "In the multitude of counsellors there is wisdom."

The present season for most vegetables has been especially favorable. We doubt if even that oft-spoken of character *the oldest inhabitant*, ever saw one more so. On this account the success of of this year may be the failure of the next.

Beans.—Among the multitude of kinds it is difficult to name a best. Our good friend, Mr. Goldie, kindly sent me *highly recommended* seed of the Lima. It is certainly not the kind for our cold section. It was but started in the hotbed; to ripen it should be there now. In common seasons no doubt it would do better. The dwarf Butter Bean, Golden Wax and Newington Wonder are favorites with us, but of late years have spotted badly.

Beets.—We begin to think seedsmen have no conscience. We buy a packet marked Long Blood Beet, the picture of the pure thing is on it, true to life, is beautifully got up, 5 cents seems a mere bagatelle for it, but it's the best part of the bargain. In this case like does not produce like; in all likelihood the crop turns out to be something bearing a strong affinity to mangel wurtzel, baffling every effort of the cook to get it into her largest pot; and if it did go through the ordeal of cooking, the most fitting place for it is the swill tub. Of last year's novelties we tried the Eclipse early beet, but did not find it much of an improvement on the old early Egyptian. Burpee's Improved Extra Early Turnip Beet, almost as early and of better quality than the Egyptian, we have found excellent.

Carrots.—Of many kinds tried we prefer the Half-long Luc. They are early, easily lifted, yield and keep well.

Cabbage.—In Henderson's Late Flat Dutch we thought we had found perfection. Early in the season it headed beautifully, and some of it ripened early; but now, when it should be ready for pulling, although of immense size, there is a large proportion of soft unripened heads. This may be owing to the want of heat, but we think as much or more weight of cabbage, and of better quality, could be raised from the Winningstadt planted 18 inches apart than from any of the large varieties.

Cauliflower.—Till now we have been well satisfied with the Extra Dwarf Erfurt variety. This year we have tried Henderson's Early Snowball. It did not come up to our expectations, but as we had a few good heads, and have it well reported of by friends, we must try it again.

Celery.—Henderson's White Plume gave us less labour and more satisfaction than any kind we have tried.

Planted nearly on the level, with only one slight earthing up, about one inch, which I don't think it required, it blanched beautifully. I can fully endorse Henderson's description of it when they say, "It far exceeds any known vegetable as an ornament for the table. Its eating qualities are equal to the very best of the old sorts. Altogether we can't find words to describe its many merits as it deserves." We also tried Major Clark's Pink Celery (new), but giving it the same treatment as the White Plume, *i. e.*, failing to earth it up; it is as green to-day as we were to neglect it.

Corn (*sweet*).—For this crop the season was unfavorable. We had only a few dishes late in the season. We have found none better than Moore's Early planted at intervals. Stowell's Evergreen is also good for a late crop.

Cucumbers.—Who can't grow them? Early White Spine, the catalogues say, is very desirable; we have found it so.

Lettuce.—I think I hear my good friend the Editor saying, What in the world can the Scotchman tell us about lettuce? *Muckle*, *i. e.*, much. After trying the legion of kinds, I confine myself to a kind I've grown for forty years. If you ask me for its name, that's the only thing about it I don't know; but it deserves a name, as Burns says, *as lang as my arm.* Our worthy President is full of big names; I'll get one from him, and you'll have it some of these days under the head *Novelties.* Joking apart, I consider it very valuable. Besides supplying many friends here, I have sent it to England and Scotland, and as they have difficulty in ripening the seed there I have yearly orders for it. I'll ask Mr. Wright, of Renfrew, to report on it.

Melons.—A failure, I believe, all over; season too cold.

Onions.—On ground clean and rich, sowed early, they are a profitable crop, not otherwise. This year we could not get them sowed early enough. Last year off ¼ acre I sold 80 bushels at 65 cents, and had 20 bushels of thick necks besides. Query, was it the season, the soil, the culture, or what the cause? But friend Beall is the most successful grower of onions I know of, and he can tell us how to keep them, too. I take it that every Director of our Association is in duty bound to make known all he thinks worth knowing.

Parsnips seldom fail. Left in the ground all winter they supply a lack of vegetables in early spring.

Peas—the perfection of vegetables. So think the black-birds. As usual they left me nothing of the early sowings but the pods. We have not yet found any variety come up to the American Wonder.

Rhubarb.—Mr. Wright kindly supplied us with plants of the Victoria and Cahoon's Mammoth. They produced leaves as large as a good-sized umbrella, and stalks as thick as my wrist; the quality excellent. If these are a sample of Renfrew production, what provokes our friend to complain of his hard climate? We cover our plants in spring with sash before they are needed for melons, and have it a little in advance of the season.

Salsify fails to repay us the trouble of growing.

Tomatoes were late of ripening, and rotted badly on the ground. The Mayflower variety is good and early, but a neighboring garden growing the Fulton Market had fine tomatoes about two weeks earlier than I had the Mayflower. The Fulton Market is recommended in the *American Garden* as first early.

Turnips.—I never succeeded in growing early turnips fit to eat. This year I got among the novelties; and experimenting with them, it's no novelty to be disappointed. The Early Millan,

recommended highly, proved to be bitter and unpalatable. In Sweedish turnips, our Scottish Champion and Sutton's Champion, sowed 3rd June, yielded us a fine crop of splendid turnips. The depredations of the black fly, the greatest hindrance to their culture, we found much lessened by sprinkling the plants as soon as they appear with a solution of bitter aloes, 2 pounds to a 40 gallon barrel of water, a portion of it boiled to dissolve the aloes.

With varying seasons it is difficult to name the proper time for lifting vegetables. That they still grow is no excuse for leaving them till the lifting of them, if not risky, is unpleasant. As a rule we think they should be stored in our section not later than 15th October.

Done with the Gardener, a word to the Cook may bring us more thanks.

Sweet corn, cut off the cobs ripe as for use, and firmly packed in the usual glass jars, placed in cold water on the stove, and boiled three hours with the covers screwed on, is little, if any, inferior to fresh pulled. Try it, readers, and you will abandon the old system of drying it, or any other. When removed from the stove tighten the covers.

JOHN CROIL.

Aultsville, Stormont Co., Nov., 1885.

OYSTER SHELL BARK-LOUSE.

Having noticed at different times, in the *Horticulturist*, remedies mentioned, that I considered inferior, for the destruction of the Scale, or Bark-Louse, on apple trees, and at the same time having, to my own knowledge, in my possession a very effectual remedy, I have often thought of mentioning it to you, which I will now do. When I planted my young orchard, there was an old orchard in the centre of the plot, and it was about three years afterwards that I noticed, for the first time, that the trees of the old orchard were literally covered, even to the fruit spurs, with the Bark-Louse; and they had spread into several hundred trees of the young orchard. I cut the old orchard down and burnt the trees, branches and all; the following year, in the month of February, or March, I applied the remedy in question with the best results, killing all the insects, excepting on a very occasional tree, which another dose the following year cleaned; and to-day, out of 8,000 trees, I do not know of one that is infested with the Bark-Louse. The shells of the old louse remained on the trees for a few years, so that many thought they were still infested, but they were not, and eventually the old shells were washed off by the rains.

The remedy is simple: Take small cotton bags, two inches wide and three or four inches long, filled with the composition; and with a little carpet tack fasten them in the forks of the trees, or on the upper side of the main branches, in February or March; and the rains dissolving the composition, it makes its way into the sap, and being carried to every part of the tree poisons the insects on whatever part they may be. It is this:—2 lbs. of copperas, ½ lb. blue vitriol, ¼ lb. saltpetre, 4 lbs. hard soap, 4 lbs. common salt. Pulverize all but the soap, and mix with the soap thoroughly; then fill the little bags, and proceed as above directed.

Yours truly,

D. YOUNG.

Adolphustown, Ont., Nov., 1885.

BRIGHTON GRAPE.

The Brighton grape sent me some time ago by the Fruit Growers' Association, bore a heavy crop this year, and the berries ripened fully in spite of the backward season.

D. R.

Montreal, Nov. 18, 1885.

WINTERING GERANIUMS.

A correspondent wishes to know the best way to keep geraniums in a cellar during winter. The treatment must vary according to the condition of the cellar. The practice which is frequently recommended, of hanging the plants up by the roots, exposed to the air, can succeed only in a cellar uniformly cool and but few degrees above the freezing point; and the degree of moisture in the air must be just such as to retain the natural amount in the plants, without being so dry as to shrivel them on one hand or so moist as to cause decay. The plants must be kept as nearly in a dormant state as possible by maintaining a low temperature. There are but few cellars which possess all these requisites, and this treatment is not likely to succeed in most cases.

We have adopted the following mode, which requires little care and answers well. A rather large and well lighted window is double glazed, and a stand is provided on which the plants are placed so as to receive plenty of light. When they are taken up in autumn, nearly all the tops are pruned off, but enough is left for the base of a compact form, with a small portion of the young foliage, say about one-tenth or one-twentieth of the leaves of each plant. They are then planted in moss, in a shallow box, placing the box in an inclined position or with a slope of about forty-five degrees, putting a layer of moss on the lower side, then a row of the trimmed plants and another layer of moss and row of plants till the box is filled. It is then placed in its position on the stand in front of the window. The moss may be kept sufficiently moist by showering it with a watering-pot once a month or a fortnight, as it may require, a warm and dry cellar needing more frequent watering than a damp or cool one. In a warm cellar the plants will make some growth during winter, and as the leaves increase in number they will consume more moisture than at first. If the cellar is quite cool they will remain nearly dormant, and the slight moisture from the moss will preserve them from drying up. Moss is much better than damp sawdust, which in its turn is better than soil. In moss, there is no danger of their becoming water-soaked after watering, the natural supply being given off partly in the form of vapor.

The most convenient size for the boxes is about two feet square and six or eight inches deep, but they may be larger or smaller. An early growth is made the next spring by putting them in a hot-bed for a few weeks before planting in open ground. A small portion of a hot-bed will hold a large number placed compactly together.

It is now too late to adopt this treatment, except for plants which have been already placed in cellar for wintering by a more imperfect mode.—*Country Gentleman.*

THE DEACON LETTUCE.

Mr. Joseph Harris writes to the *American Garden* concerning this Lettuce as follows:—

I have just been to see Mrs. Müller. I found her and her daughter digging Potatoes. I told her that the New York Experiment Station had tried her Lettuce, and out of 150 varieties with 700 different names, her Lettuce proved to be the best, and I wanted her to tell me all about it.

Ques.—How long have you grown it?

Ans.—Over forty years. I am an old woman, I shall soon be seventy. I want to make a good deal of money out of this Lettuce, but I cannot get about as I used to.

Ques.—Where did you get it from?

Ans.—A French lady from the place where I came from, near Strasburg, brought me some seed. Strasburg is in Germany now; but I do not care. This is my country.

Ques.—And you sowed the seed and found it good?

Ans.—Yes.

Ques.—Why is it so good?

Ans.—Because it is.

Ques.—I mean, why is it better than other Lettuce?

Ans.—It is sweet and tender, and always makes a head even on poor soil. But the richer the soil the better, and you do not sow it too thick, and you should sow it early.

"Yes," said the daughter, "last year mother was cleaning the seed in the water and threw the chaff on the snow, and in the spring when the snow went off the Lettuce plants came up."

Ques.—Cannot you tell me something more about it? Did the French lady tell you its name?

Ans.—No. I have told you all there is to tell about it.

Ques.—You have grown this same Lettuce ever since the French lady gave it you forty years ago. How did you manage to keep it?

Ans.—(Smiling at my simplicity.) I raised seed myself. I left some of the very best heads every year for seed. And the people in Irondequoit wanted us to try some other kind. I saved the seed in another part of the garden. You know Lettuce will mix. I never found any other Lettuce as good as mine, and I always grow the seed apart by itself.

Ques.—How do you manage to grow the seed? I can't make it go to seed.

Ans.—Some seasons you can't get any seed. But it will keep for many years, and the old seed is just as good.

Ques.—Do you do anything to make it go to seed?

Ans.—Nothing, except to select the best heads, and then break off the lower leaves and open out the head.

I imagine that this last suggestion is valuable for general adoption.

1st.—It seems clear that this so-called "Deacon Lettuce" was a good variety to start with, or the French lady would not have thought it worth while to have brought it to this country.

2nd.—That Mrs. Müller by keeping it firm and by continuing selecting the best heads has made it what it is.

3rd.—It is not any better than it should be. It is good, or as "Elm" says, "the finest heading variety we have grown," because nearly all our Lettuces are so poor. I have often said that they are a disgrace to seed growers and seed sellers. And they will continue to be so till we adopt Mrs. Müller's method of selecting the best heads for seed.

THE RICHMOND PEACH.

Of several varieties of peaches which we put out six years since, this variety proves the hardiest and most enduring tree.

The Crawford, Honest John, and several others standing near, have lost from one-half to all their trees, when the Richmond row is full of thrifty, healthy trees.

We think that Dr. Sylvester never received the credit due him for its introduction.

The fruit is full as large as Crawford's, and perhaps not behind it in any feature except for yellowness of flesh, which with some is not considered any advantage, while the tree is much the hardiest.

It seems as though the hopes of peach growers might be quickened in view of the general good appearance of all peach trees this year, promising a peach season in the near future—perhaps next year.—*Fruit Notes.*

BEAUTIFUL SNOW.

Beautiful snow, beautiful snow,
Over its bosom we merrily go,
Now stars in the heavens are shining bright,
And moonbeams smile in the glittering night,
The earth in her own virgin garb is dres't,
And pearls from heaven are strewn on her breast.

Away, away over the snow we fly,
Like a sporting cloud in the deep blue sky.
Away o'er the hills and the shrouded lakes,
Where the snow-clouds dance—where the tempest wakes,
No spot on earth's bosom, no stain like care,
But boundless purity everywhere.

The streaming light over the northern star
Now sends through the heavens its radiant car;
The peerless moon like a gem on high
Gladdens the clouds as they pass her by;
A pure creation in silvery fleece,
And the breath of heaven is peace, sweet peace.

But the snow will weep when the breeze of spring
The odors of distant lands shall bring;
It will start at the summons and soon appear
On the bosom it loved like a frozen tear,
Like the waning light of some holy dream,
That fades when the morn's first smile is seen.

And thus like the snow will each beauty fade,
And the lustre that wealth and power have made;
The young and the old, the sage and the throng,
With time irresistibly borne along,
And our love and our joy, our hopes and fears,
Must pass like the snow from the earth in tears.

Reine Marie Henriette is a magnificent, ever-blooming, climbing rose, of strong and vigorous habit. The blossoms are a beautiful, deep red; large, perfectly double and exquisitely tea-scented. It is justly considered the best of the deep-colored climbers.—*Floral World.* [It will not endure our winter weather, therefore must be grown here under glass.—Ed. *Can. Hort.*]

The New Strawberry "Amateur."—The *Rural New Yorker* says: "It was not so prolific as the Jewell; the berries did not average quite so large, and they dropped from the stem too easily, as if the stems were weakened by the tall leaves which covered the fruit entirely. The quality is somewhat better than that of Jewell—the plants remarkably vigorous and free from all disabilities. We regard the Amateur as at least worthy of trial."

The Spotted Calla Lily.—The Spotted leaved Calla—Richardia alba maculata—when well grown, is a very pretty plant, suitable for cultivation either in the greenhouse or window garden. In habit and manner of growth it bears a striking resemblance to the common calla, although the leaf is narrower and not so long, and, besides, it is beautifully spotted with silvery white. The flowers are somewhat smaller, of a creamy white color, with a purple blush in the center. This plant grows in the Summer only, and should be kept dry in the Winter. Let it remain in the pot until April, or until it shows signs of growth; then repot in a rich, moderately heavy soil. In repotting, drain the pot well, and during the plant's season of growth water freely. After flowering, water should be gradually withheld.—Chas. E. Parnell, *in Rural New-Yorker.*

Subscriptions received in November:—F. B. Lockwood, John W. Walker, D. M. Malloch, Dr. Woodruff, John Wright, David Darville, M. Milgan, Alf. Hoskin, S. Grondyke, G. B. Hudson, Wm. Coates, A. H. Manning, R. A. McCormack, Mrs. John Leslie, R. B. Whyte, T. H. Mackenzie, John Bartley, W. A. Ransom, E. Hutcherson, Hugh Sutherland, M. Reid, F. B. Coates, D. Thomas, A. M. Cosby, D. Rutherford, Alf. Parratt, R. Currie, D. McCrimmon, J. A. Morton, E. Rice, Miss Pritchard, Mrs. W. Smith, Mrs. Begg, Mrs. Clement, G. W. Town, Jas. Hill, Bird & Martin, W. A. Roblin, S. S. Morden, Abraham Vest, Mrs. W. H. Whetstone, H. H. Ackley, Miss E. Ainslie, G. H. Wright, J. Hannah, J. Walker, M. Robertson, R. Gray, D. Dorrance, R. Steed.

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WEIGELA VARIEGATA.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

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THE VARIEGATED-LEAVED WEIGELA.

The effect produced by planting shrubs of varied foliage so that the color of the leaves of the one shall blend harmoniously with that of its neighbor, or by contrast make that of each more striking, is ever pleasing. Our shrubs are not always in bloom, hence it is desirable that they shall be so grouped that the differing hues of their leaves shall present a pleasing picture. It has been too frequently the custom to place our shrubs singly on the lawn instead of grouping them, whereby we loose the opportunity of producing a pleasing foliage effect, and the benefit of mutual protection which they give to each other when planted in groups.

We present our readers with a handsome colored illustration of one of our most desirable variegated foliage shrubs, and trust that many of them will give it a trial; planting with it, yet giving this the foreground position, some of the other varieties of Weigela. All of the shrubs of this genus are very handsome, and a group made up of Weigela candida, Lavallei, rosea, amabilis, and the variegated-leaved variety of rosea, arranged according to their several habits of growth, would command admiration from every one.

The habit of this variety is quite dwarf as compared with that of the others, and compact; the leaves are distinctly margined with white, and the flowers are of a light pink.

With regard to the hardiness of the Weigelas we need more information. Mr. Gott speaks of them as sufficiently hardy at Arkona, and so does Mr. Roy at Owen Sound, while Mr. Saunders, at London, says they are sometimes cut down, and Mr. Beall, at Lindsay, says they kill down close to the ground. Will not our readers who have planted the Weigela have the kindness to communicate their experience for the benefit of our readers.

PREMIUMS FOR 1886.

Some of our subscribers have neglected to say which premium they choose—three plants of Ontario Strawberry, a yearling tree of the Russian Yellow Transparent Apple, a plant of Lucretia Dewberry, a yearling vine of Early Victor Grape, two plants of the Marlboro' Raspberry, or three papers of seeds, viz., Gipsophila paniculata, Aquilegia cærulea, and Delphinium, mixed colours.

THE WINTER MEETING

Of the Fruit Growers' Association of Ontario will he held in the Town Hall, Stratford, on Wednesday and Thursday, the 10th and 11th of February, 1886, commencing at 10 o'clock in the forenoon of Wednesday.

Railway certificates will be sent to any members who may apply for them, by sending a postal card to the secretary, D. W. Beadle, St. Catharines. These railway certificates must be presented to the ticket agent when purchasing your ticket at the starting point, and be signed and stamped by him, and afterwards must be presented to the secretary at the close of the meeting and signed by him.

The following hotels will entertain members at one dollar and fifty cents per day; namely, Albion, Windsor and Commercial; the charge at the Royal and Mansion House will be one dollar a day. These are all first rate hotels.

At a meeting of members held in Stratford, a programme of subjects for discussion was prepared which will be taken up at the meeting in the order here presented.

PROGRAMME OF SUBJECTS.

1 —Gardens and lawns in city and country.
2.—Fences; the best and cheapest of the future, or should they be abolished.
3.—Ornamental trees and shrubs and forest trees, and hedges for protection and shade.
4.—Tree planting on streets, road sides and school grounds.
5.—Nut bearing trees suitable for this section.
6.—Black-knot on plum and cherry trees, its cause, prevention and cure.
7.—Curculio and insect pests in general.
8.—Grapes, early and best varieties for cultivation in this section.
9.—Peaches and cherries, earliest and best varieties for cultivation in this section.
10.—Gooseberries, currants, raspberries and strawberries, earliest and best varieties for cultivation in this section.
11.—Pears, best varieties for home use and commercial purposes.
12.—Apples, best varieties for export.
13.—Quince, varieties and cultivation.
14.—Plums, culture and best varieties for this section.
15.—Cranberries and huckleberries; would it pay to cultivate?
16.—Vegetables, the best and most profitable varieties of cabbage, cauliflower, celery, peas, beans, corn, asparagus, turnips, potatoes, etc.; how to grow them and destroy the noxious insects to which potatoes and the cabbage tribe are subject.
17.—Floriculture, amateur.
18.—Fertilizers best for clay and heavy clay loam soils.
19.—Drainage, relation to fruit growing.
20.—Fruit, proper method of packing and keeping.

The secretary has been advised that a delegation of three prominent horticulturists from the Michigan State Horticultural Society will be present at the meeting, also a representative from the Ohio Experiment station. It is also expected that some of the leading members of the Western New York Horticultural Society will be in attendance.

We expect a grand meeting, and that members will bring with them samples of fruit for exhibition, particularly of seedling apples or pears of promising qualities.

CHERRIES FOR THE NORTH-WEST.

The visit to Russia of Professor Budd, of Iowa, and of Mr. Chas. Gibb, of Quebec, has brought to our knowledge a variety of cherry which thrives and bears immense crops in a climate where the thermometer indicates great severity of cold, not unfrequently falling as low as forty-five degrees below zero, Farenheit. These gentlemen state that these cherries are grown in such large quantities in that cold climate that they

load whole trains with them for the city markets, and that in quality none of them are so poor as our Early Richmond. The trees are in truth only bushes, a little larger than our currant bushes, and are renewed by cutting out the old stalks and allowing the younger sprouts to take their place as often as age renders them unprofitable.

Now this cherry should be grown in Manitoba and the Northwest with every expectation that it will thrive there and bear abundantly. The Fruit Growers' Association of Ontario has imported some of these Vladimir cherries, and has had some trees propagated from them which are now offered to any one who would like to give them a trial in return for a club of ten subscribers to the *Canadian Horticulturist.* But in order that our friends in the Northwest may be enabled to procure this cherry for trial, in consideration of the expense of transportion, the offer is now made to them of a tree of Vladimir Cherry *for every club of five subscribers,* accompanied with five dollars, the trees to be securely packed for transportation and delivered either at the Express Office or on board the cars, without charge, as may be directed.

PREMIUMS FOR OBTAINING NEW SUBSCRIBERS.

See the fine assortment of bulbs, plants, shrubs, roses, grape vines, books, &c., &c., which we offer for obtaining a few new subscribers, on pages 3 and 4, January number, 1886.

THE GLADIOLUS.—Of the tender perennials, I find none here so satisfactory as the Gladiolus. It always grows and blooms, is wintered in the cellar as easily as a potato, never rots or has any disease, increases quite rapidly, and has a large range of color.—*Vick's Magazine.*

WHAT THE PEOPLE SAY OF US.

We give below a few extracts from letters received, just as a sample of many. Such expressions of kind appreciation stimulate to yet greater exertions to make the *Canadian Horticulturist* worthy of the support of our horticultural brethren.

The Dahlia sent me this year did first rate; am well pleased with it. We are very much pleased with your magazine. It is the best one of the kind we have struck yet. J. S. F.

Woodstock, Ont.

DEAR SIR,—I consider the *Canadian Horticulturist* a most valuable publication, so plain and practical, just suited to the needs of our climate and people.

Deans. A. C.

Please find enclosed my renewal subscription to the *Canadian Horticulturist,* which I would not like to be without at any cost. It is a great source of pleasure as well as profit.

Uxbridge. T. D.

Please continue on as you have done. We do not wish for any stories or witticisms, we want solid facts and information. My locality is unfavourable to apples, plums, grapes, raspberries, etc. Strawberries uncertain. I live in a valley which takes the frost readily, but I like the *Canadian Horticulturist* and think everybody should have it.

Minesing. S. KERFOOT.

DEAR SIR,—No one ever invested his money in a better way and got more for it, his full penny-worth, in return. The Association is such a credit to the province.

Many housekeepers must thank you for the recipe for making grape jam with the skins retained, it is such an improvement. G. W

Cobourg, Dec. 15, 1885.

DEAR SIR, — The time has come around again to renew my subscription for the *Horticulturist*, and I do it with pleasure for it is always a welcome visitor, with its monthly store of knowledge and instruction, the whole space being devoted to those things, instead of a part of it being taken up (as many of the periodicals are) with some worthless serial story.

W. HOOD.

Valleyfield, Dec. 17, 1885.

DEAR SIR,—Please find enclosed the sum of one dollar being my subscription for the *Horticulturist* for the ensuing year. It has regularly paid its monthly visit and has always been welcomed as a friend. It is so nice after a hard day's work to take an easy chair and forget all about weariness and bad weather, and dull markets while reading from its clear, well printed pages, the struggles and triumphs of fellow labourers. I always learn something from each number, and I am always encouraged by the perseverance, displayed by your correspondents, under the many discouragements attending on horticultural pursuits. I love my little garden, but what with untimely frosts and codlin moths, and currant, and gooseberry, and cabbage worms, I feel like *giving up*, but I am getting knowledge, and I find it true, that "knowledge is power." I am getting the upper hand of my insect enemies and if I cannot prevent frosts I can guard against them. You have asked so nicely for your readers to give their experience, that I, for one, feel tempted to try, just to please you, you know, and perhaps my experience may be of use to others.

F. F.

Minesing, Dec., 1885.

DEAR SIR,—Please find enclosed one dollar for *Canadian Horticulturist* for 1886, having taken it for several years I cannot do without it, for I consider it a most invaluable guide for the garden.

W. B. HILL.

Toronto, Dec. 13, 1885.

QUESTION DRAWER.

(1) I would like to know if coal ashes are good for anything or not. Are they good for the soil, or for bushes or trees? (2) What is the cause of lice on apple trees.

A. C. McD.

Dunlop, Huron Co.

REPLY.—(1) Chemists tell us that coal ashes do not contain sufficient fertilizing matter to pay for applying them to the land for that purpose. It is, however, said that the application of coal ashes to stiff clay soils is sufficiently beneficial to pay for the labor of hauling and spreading, because of their mechanical effect in loosening the soil. It is also claimed by some who have tried them that they are profitable as a mulch, when applied to currant bushes, especially black currant bushes. (2) It is not in the writer's power to say what is the cause of lice on apple trees; either bark lice, or the green lice (aphis). They are living beings, having the power of reproduction and locomotion; they feed on the juices of the trees; and, when allowed to become numerous produce very injurious effects.

PIGEON DUNG.

I have got a couple of casks of pigeon dung, and I would like to know how and what quantities to apply to about an acre, that is set with grapes, strawberries, raspberries, gooseberries, currants, plums, and pears. The ground now is rich, and well manured. By

answering through the *Horticulturist* you would much oblige,

Yours truly,
J. W. M.

REPLY.—This is a powerful manure, equal to the best guano, and should be applied with care. If your soil be light or sandy, it would be advisable to compost it with an equal bulk of dry clay, comminuting the clay, and mixing it thoroughly with the pigeon dung; and apply this in the spring by spreading it on the surface of the ground, at the rate of five hundred pounds to the acre, just before a rain. The object sought by mixing it with dry clay in an almost powdered state, and spreading it on the ground just before a rain, is to fix the ammonia contained in the pigeon dung; hence, if your soil be a clay, it will not be necessary to mix the pigeon dung with clay, but it may be spread directly on the surface, at the rate of three hundred pounds to the acre. It is, however, desirable to apply it during rainy weather, that the ammonia may be carried into the soil, and absorbed by the argillaceous earth.

Can you inform me in next number of *Canadian Horticulturist* where I can obtain seeds of the Catalpa speciosa.

ROBT. MCINTOSH.

Newcastle, Dec. 12, 1885.

REPLY.—You can procure them from Thomas Meehan, Germantown, Penn., U. S. A.

BINDING OF THE REPORTS.

It is a pity the Reports of the Fruit Growers' Association, and the Entomological and Forestry Reports, could not be bound together, and sent to the members. They are all valuable, and ought to be in the library of every country gentleman, or indeed of every man who takes any interest in rural affairs, and the development of all the rural industries of this country. If the government is so parsimonious that it cannot afford to bind this volume as formerly, I for one would willingly pay an increased annual subscription, in order that I might get them bound.

I am, etc.,
BENJ. S. BELEY.

Ferncliffe, Rosseau, Muskoka.

REPLY.—It is just because our government is so poor that ministers feel they are not warranted in the expenditure necessary to bind these reports that they are sent out in paper covers. They have been earnestly requested by the officers of the Association to have them bound; but they turn a deaf ear to all their arguments and entreaties. Surely if they are worth printing they should be worth the binding. If all bound at once, the cost would be very much less than the cost of having them bound by individuals, one at a time; and so we have to pay this extra expense because the country is so poor.

---

(1) Where can I get the Acacia Thorn for planting a hedge? (2) Where can I get dwarf pear and apple trees? and please name two good varieties of each. (3) Please name three good kinds of standard pear trees.

Brooklin. JOHN G. WARREN.

REPLY.—(1) We presume that our enquirer has the Honey Locust in mind, which has been used to some extent as

a hedge plant. It is not an acacia, but is placed by botanists in the genus Gleditschia. The acacias are often infested with a borer; and on that account are not often used for hedging. Any of our leading nurserymen can supply plants of the Honey Locust, and likewise (2) Dwarf apple and dwarf pear trees. You can have any variety of apple that you wish worked as a dwarf, and nearly every variety of pear. The apples are dwarfed by working them on Paradise stocks, and the pear by working on the Quince stock. Some varieties of pear do not unite readily with the quince stock; hence it is necessary to double work such varieties; which means that the quince is first budded with some variety that unites well with the quince, and then the desired variety that does not unite readily with the quince, is budded upon the pear that is growing on the quince stock. The Red Astrachan apple, and Sherwood's Favorite, would doubtless please you; and the Clapp's Favorite pear, and the Louise Bonne, for dwarf trees (3) For three good varieties of standard pear, take the Bartlett, Sheldon, and Seckel; these are of fine quality.

---

(1) Can the Industry Gooseberry, mentioned in your last paper, be purchased in Canada, and at what price. (2) How much gas lime, say quarts or bushels, do you advise to be sown on a patch of land 40 x 100 feet? Soil sandy and well enriched with stable manure. The gas lime has been exposed all winter, and is impregnated with petroleum. J. P. B.

Reply.—(1) Yes; at about ten dollars per dozen. (2) Not more than five bushels; and would advise spreading it now, and allowing it to remain exposed to the weather until spring. The petroleum impregnation is a feature new to us; not having had any experience with such gas lime we should be inclined to give the petroleum full exposure to the air for some time.

I would like to ask you a question if you would answer in the *Horticulturist*. In planting out a berry patch, does it make any difference which way the rows run—north and south or east and west? Yours, etc.,

Cedar Grove. Sol. Reesor.

Reply.—It is not of much importance which way the rows run, but if equally convenient would run them north and south, because the ground will then receive more of the sun's rays.

WHAT THE PEOPLE SAY.

RASPBERRY GROWING AT OWEN SOUND.

I raised a crop of raspberries this year on a plot of ground 24 feet by 60 and this is the 26th year that I have grown them on this same plot. The varieties are mostly Franconia, about one quarter Brinkle's Orange. We had *three hundred and eight* imperial quarts that we measured; there were fully 25 or 30 quarts extra of the Hauer (?). I have never protected them in the winter; have had them injured only one winter in the number of years I have grown them. Mr. T. C. Robinson measured the plot of ground.

John Chisholm.

Owen Sound.

PEARS AND BLIGHT.

I was very greatly delighted by your recent reproduction of the article on this subject from the "New York Experiment Station." The popular Professor is evidently doing some profitable work in this direction, and we may learn useful lessons from it. The cause and cure of pear blight is an old question and as virulent now as ever, and these observations tend to furnish a key to a successful solution, and to the proper treatment of the pear. This subject is of very great interest to us and with a climate so favorable to the growth of the most excellent pears, we should much like to be freed from this pestilent blight. If pears of acknowledged excellence cannot be satisfactorily produced we must look to those of lower grades of excellence but with hardier and more robust nature in the trees. A few days ago I received a pamphlet from a fruit company in the State of Georgia advocating the great merits of the Le Conte and Kieffer pears as the most promising fruit investment in that state. They claim that these trees are nearly and in some localities quite blight proof. This led me to recall some remarks of a gentleman at one of the Western New York Annual Horticultural meetings. He said "that the direction of promise in pear growing to-day lay in the lines of the Japan or Chinese Sand pears, and our hopes for the future must come through these." This doctrine of course was not nor is it now very grateful, so used as we are to looking to Belgium and France instead of to Japan or China for our delicious pears. Whether this teaching be correct or not there is evidently something in the very nature of the pear tree in its relation to our condition and its treatment here that requires the closest study before its prosperity can be assured in all positions and locations in Ontario. But we maintain that this will never be the case as it is contrary to our knowledge of the first principles of fruit growing to expect it. In the case of no fruit do we find that every locality is equally suited to its most complete production. For these reasons we will unhesitatingly resort for this purpose to the notion of

SELECTION OF LOCATIONS

for the pear as the direction of our surest and best hopes. I am not, Sir, going to lead you and your numerous readers into every hole and corner of Ontario to find these locations, but I am at present simply intending to confine my remarks on this subject to this locality and district. As you may already know there is a fine promising region of country here bordering the long and winding but picturesque and beautiful River Aux Sables, coming out as it does from the county of Huron and running through the county of Middlesex empties its volume of water into Lake Huron, at a point in this county called Port Franks. Along the upper course of this water ravine there are thousands of acres of rich deposit of strong clay loamy soils, in undulating positions, thoroughly drained and rolling. These very soils along this stream and through its adjacent county, are the best and most promising location for the successful growth of the pear that has come under our observation. In this region, as far as we know, there have been no cases of pear blight in its most virulent form with its depressing results of death to the tree. The soil throughout is a deep, heavy, clay loam, resting at a distance of 10 to 20 feet on the rock, and is in every direction cut up and ravined by the powerful force of small streamlets making their way to the river, and the intersected high lands are in some cases mound like and hill shaped and in others broad beautiful table lands. We would ask why not use a region like this of so much

promise for the special purpose of growing pears. There is not the least possible doubt but that it could be done. Up to the present the most beautiful and charming Bartletts and Flemish Beauty have been produced here, where scarcely anything else could prosper or grow. We have known pears to be planted on the most desirable acres of strong rich alluvial soils that were thought to be "just the thing," but before the trees came into profitable bearing they were overtaken with blight and their soft, sappy immature wood fell an untimely and disappointing prey. This makes us to look to "the *hills*" from whence cometh our hope. But we know that this region is not the only one of promise in the borders of our proud Ontario. There are doubtless many others as accessible and equally as good for the successful growth of pears were they properly looked up and utilized. I would beg simply to throw out this idea affecting our cherished pears by way of kindly suggestion, and hope that it may be the means of drawing out the observations of others better qualified, for further light and further knowledge.

Very truly yours,

B. Gott.

Arkona Nurseries, Nov. 20th., 1885.

REPORT ON PREMIUM SEEDS.

Dear Sir,—The three packets of flower seeds duly reached me; and were sown in a small piece of prepared land carefully attended to, and I have derived the utmost satisfaction from them. The Salpiglossis were exceeding beautiful and were very much admired, they produced a long succession of fine flowers of great variety of color, the veins and markings of which were lovely. The Pinks also were a success, though not such showy flowers as the *Salpiglossis*, and the Striped Petunias, also, supplied me with a great variety of brilliant hued flowers; and these, like the two former, remained in full bloom until cut down by the frost. I shall be glad to report you a similar experience on another occasion.

J. L. Thompson.

GRAPES AT COLLINGWOOD.

Dear Sir,—In the last number of the *Canadian Horticulturist* an enquiry was made by one of your correspondents as to the history, etc., of a white grape which was exhibited at the Northern Exhibition held in this town last fall. I can give him the information required.

A few years ago I weeded out of my vinery all vines which I judged to be of inferior quality, and having at the time a man employed building another vinery I gave him one of the vines, a Chasselas Fontainebleu which I procured from your nursery. Having no vinery he planted it in the open air and has succeeded in getting from it good clusters of grapes, I believe every year. I saw them at the Exhibition and they are really very fine and I quite understand how the judges were staggered at finding them among the outdoor grapes. About the same time I gave to a boy employed in my garden a West St. Peter's which he also planted in the open air and which has produced good crops. It does certainly seem strange that in this northern region we can grow grapes in the open air which can only be grown under glass elsewhere, but this locality seems especially favorable for grape growing; this year our out-door grapes produced most luxuriantly and the crop ripened well. Moore's Early is generally the first to ripen, then Salem, Creveling, Delaware, Wilder, Agawam, in the order named, Jessica about the same time as Delaware, Niagara has not yet fruited with me but is a very strong rampant grower, Prentiss promises well, Pocklington a very poor grower, Lin-

dley a strong good grape but a little late Jefferson has not grown well with me, Worden a slow grower, on the whole I should say Wilder would be the most profitable grape here for any one who grew for the market. The bunches are large, it is a great bearer and the grapes are very handsome with a beautiful bloom when fully ripe. I do not care for the flavour, but when mixed with Delaware and Salem they make a very good wine, which is wholesome, unintoxicating, and, as far as *human* agency is concerned, an infinitely better remedy for whiskey drinking than that most pernicious of all Acts—the Scott Act, the producer of perjury and of secret drinking. Yours truly,

Collingwood. W. A. PARLANE.

FAILURE OF GRAPE VINES—WHY?

My garden soil, is a sandy loam, with a considerable depth of sand beneath, rather more of sand than of loam, by the way. It is also new, having been brought into cultivation only recently; has been for some time a waste common and in Oct. 1883 I had it enclosed, gave it then a heavy top-dressing of good stable manure, and ploughed that and the sod under and have since, with a liberal hand, applied both stable manure and decomposed leaves. I have been very successful with my vegetables, my radishes, cabbages, beets, carrots, parsnips, etc., having attained unusual size, but of my vines I regret to have to give a very different report, I have tried many of the hardiest kinds, the majority of them died and the survivors have made very unsatisfactory progress and this appears the more singular as the apples, plums, and all the small fruits grow luxuriantly, and if you could suggest a course of cultivation by which this deficiency of growth may be overcome I would be much obliged. I may say that a near neighbour, and old horticulturist, reports a similar experience with his grape vines and for which he cannot account unless it is the presence of some constituent of the soil injurious to the vines. I am of opinion that the soil is too light and have lately been applying old stable manure and phosphates liberally and if these be suitable manures I may hope for better growth in the future, meanwhile I will be glad if you can assist me to this desired end.

Believe me dear Sir to remain

Yours very truly,

Toronto. J. L. THOMPSON.

FRUIT TREES AND GRAPE VINES IN EASTERN ONTARIO.

MR. BEADLE,—As I for many years have been growing fruit trees and given it a study, I here drop you a few words of information on this subject, which I trust you will lay before your many readers. It is stated by some that what is called the

BLACK KNOT

on fruit trees, is caused by a fungus, or a worm. It is not true. I admit that flies of a certain kind do deposit their eggs or young after the knot is formed, and the worm is sustained by the jelly or soft wood of the knot. Now for the cause. A hard, changeable winter, with a cold, wet spring, the sap well nigh froze out of the tree. In the spring, the ground and air being cold, the roots being covered or submerged with water, the tree being nearly lifeless (frozen), has not power of attraction sufficient to draw from the earth nutriment for a healthy growth. The water sap that goes up the tree meets the frozen, lifeless sap, both combined is not sufficient for a healthy growth, it remains stagnant. June heat sours the sap, and it breaks out into what is called Black Knot. It should be called Scrofula. The same is the cause of bad blood in people. It

breaks out in sores on the surface. There is no other cure, only good moderate winter and a fine warm spring.

DEAD SPOT ON TREES.

The cause. In trimming large limbs from a tree, the axe or saw may chance to bruise the bark next to the cut. The sap is bruised, and it soon turns black. If it doth not dry up soon with heat of the sun, it soon sours, and like leaven, it sours or mortifies the live sap next to it. If it doth not dry up with the heat of the sun, it may encircle and kill the whole tree.

Again, it may be caused by a clip or a blow against the tree, which will bruise the sap or soft wood under the bark, the sap will turn red and sour, and mortify the live sap by it. Now for the cure: When you see the bark look dark and shrink to the wood, take your knife and cut along side the dead bark and live bark, or wood, to prevent the dead or sour sap to come at, or to touch the green sap or bark. Cut to the wood one-eighth of an inch wide and the cure is accomplished. If a limb should wither and dry up in June. The cause: The limb nearly perished in winter, there being sap enough left to cause it to leaf out, the limb being too dead to draw fresh sap to grow, it dried up. The only cure is to cut the limb off to the green bark or wood.

Now, sir, I have heard it stated that some have got trees, not from my nursery, called the McIntosh Red. After they had them a few years they froze to death. Why they perished they were not the genuine or true McIntosh Red, only bogus trees, or perhaps grafted over and over so many times in other stock or trees. Perhaps the true McIntosh Red is nearly run out. I am the owner of the original McIntosh Red. It is over eighty years old. I have lived over seventy years within a few yards of it, given to me by my father over fifty years ago. It is a yearly bearer. A winter apple. The best flavored apple known. Fall of 1885, I sent several barrels to Glasgow, Scotland. The remainder of my crop I sold round about Dundas County from three and a half to four dollars a barrel, while the best of other good apples only fetched two dollars. I send trees and scions of the original stock to any ordering them. I am raising trees from a seedling of my farm. It is a very juicy, sweet apple, larger than the Snow, ripens 20th of August, keeps till October. When ripe, light golden color. Upright grower, a heavy yearly bearer. No sweet apple known to equal it in flavor. The original tree bore itself to death at the age of forty. I have propagated from it. Along the River St. Lawrence many of the hardy kinds do well. The river modifies the air. But six miles back, where I have my residence, from there to the Ottawa River, it is very trying on fruit trees and grape vines, only the hardiest trees and vines can be grown here with profit. I planted a few trees of those that were called very hardy, the Wealthy among them; planted three years. In the spring of 1885 they were all froze to the ground. All the grape vines I did not cover last fall were froze to the ground this last spring, the Concord not excepted. All grape vines here in winter must be covered, or they will freeze to death. I have travelled through the Eastern Townships for the past ten years, and have inquired about the longevity of certain trees that are called hardy. The Fameuse, they commence to die at eighteen or twenty years. Tallman about sixteen to eighteen years. Northern Spy fifteen years, and many hardy kinds nearly the same age. The Duchess of Oldenburg, they commence to die in the top at the age of twenty-eight. My native seedling, sweet, Golden apple, bore yearly,

and died at the age of forty years. The original McIntosh is now over eighty years old, is still a good bearer, and bids fair for many years more. It will, I believe, outlive in Eastern Ontario four generations of the best hardy winter apple that is known on this Continent.

Yours paternally,
ALLAN MCINTOSH.

Dundela P.O., Dundas Co., Ont.,
December 28th, 1885.

SLANTING GRAPE TRELLIS.

I can most strongly endorse Mr. Fuller's system. (See *Horticulturist* for December, 1885, page 284.) I have three Clinton grape vines planted to hide the back of a lean-to shed. They bore very little fruit, the bunches were small, and always so mildewed they were not worth gathering. By accident the top shoots grew over and spread down the other side of the nearly flat roof, facing the north, until they half covered the surface, quite rotting the shingles. And now every year this slightly sloping roof is by the end of September one mass of beautiful dark-blue bunches. It is quite a sight to stand upon a ladder and look down at them. And though they are so close together, often in a tangled heap, lying one upon the other, flat upon the shingles, with no ventilation under them, they all ripen, and there is little or no mildew. My other grapes, on upright trellis in the open garden, are a complete failure. The situation near the Lake (Ontario) is too low and damp. A mile or two back, where the ground begins to rise, they succeed better. I take no pains with these grapes on the roof, never pruning them, only cutting out any dead wood occasionally. And, of course, they are never covered or protected in any manner.

With reference to page 211, Annual Report for 1884, I can fully recommend Mr. Beadle's plan of making grape jelly or jam, adding the skins. We formerly threw away the skins with the stones, but it was always too thin. Now, by using the skins, it is much stiffer, and nicer to eat besides. Also it is much less trouble than one would think.

COBOURG.

GRAPES IN LAMBTON COUNTY.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—You card, dated 12th November, *re* varieties of grapes grown in the open air in this section of country, was duly received, but sickness and deaths in my family prevented me from sooner attending to it, and left me in sorrow to look across that bourn from whence none return.

The arduous efforts put forth by yourself and other members of the "Ontario Fruit Growers' Association," in disseminating useful information respecting fruit raising, and cultivating a taste for the adornment of our homes, through the *Canadian Horticulturist*, merit the gratitude of all who sincerely desire the welfare of our country.

The cultivation of fruit is one of the most interesting pursuits that can engage the mind of man, furnishing an endless variety of objects for contemplation, exciting our wonder, and leading forth the soul in adoration of the providence, wisdom and goodness of the Almighty hand which bespangles the heavens with radiant orbs, and carpets the earth with living gems no less brilliant and wonderful. All is now locked in the cold embrace of winter, but with the beautiful flowers that spring up with the first impulse of spring, when all nature seems to teem with gladness, we are filled with adoration at the order and infinitude of His works, in which we see goodness, beauty and glory blended.

We place wreaths on the tombs of

our departed loved ones, and cover their last abode with flowers. Why then should we not surround our earthly homes with Heaven's buds, showing as they do the gorgeous colors of the rainbow, and reminding us of the amaranthine flowers of fadeless bloom which luxuriate in that land where "The wicked cease from troubling and the weary are at rest." In looking back a few years, it is gratifying to mark progress in this direction, to which yourself and co-workers have greatly contributed.

The grape is one of the most grateful and delicious of fruits. From the days of Noah, "who planted vineyards," the vine has been the most universally cultivated of fruit bearing plants. The promised land was a land of wheat and barley and vines. Throughout the Bible the vine is represented as the emblem of fruitfulness and plenty, yielding, as it generally does, at an earlier age, and in greater profusion than most other fruits. Why then should it not be more extensively grown, seeing that so large an area of our Province, more especially along the borders of the lakes and large rivers, is so admirably suited for its cultivation?

Along the valley of Bear Creek, in the County of Lambton, the soil is very rich, and in many places capable of producing abundantly most fruits peculiar to our temperate zone, subject, however, to the drawback that the slight depression renders it more liable to summer frosts than where the ground is more elevated, or where the temperature may be modified by proximity to large bodies of water.

With the slight experience I have had in raising grapes in this section, I would place them, taking all things into consideration, in the following order of excellency :—

1. *The Concord.*—This popular variety succeeds well. The vine being healthy, vigorous and productive. The bunch of fair size, berries juicy and sweet, and ripening nearly two weeks earlier than the Isabella, which used to be the standard variety in this section. The vine is also hardier.

2. The *Delaware* is superior to the Concord in flavor as a table grape on account of its sweet aromatic taste, but the vine does not thrive so well on clay soils as the Concord, and is less vigorous.

3. The *Eumelan* is a hardy, prolific, and early variety, with a good sized bunch resembling the Clinton, to which it seems allied, only larger in bunch, and berry of a bluish black color, melting and sweet, with vinous flavor, and earlier than the two preceding varieties. Got the first vine from the Fruit Growers' Association in 1870.

4. *Clinton* bears well every year, and the vine is hardy. In short, it is our best wine grape. Too acid for a table grape, but keeps well, and good for canning and cooking purposes.

5. *Isabella*, a healthy and productive variety, and with its large bunches and berries, one of the most profitable to cultivate, were it not that our seasons are too short for it, sometimes, to fully ripen before fall frosts. It is, however, likely to hold its place for some time amongst collections as an old friend.

6. *Creveling* ripens with the Hartford Prolific. Well flavored and berries large, but set irregularly on the bunch. Vine hardy.

7. *Hartford Prolific.*—Vine not as hardy as could be desired. Berries resemble the Isabella, but ripening much earlier; large, round and black.

8. *Adirondac* is somewhat tender, and the wood does not ripen well. Berries ripe before that of the Hartford Prolific, with a sweet and agreeable flavor.

The Burnet and several of Rogers' have mildewed so badly as to be useless.

The Catawba, in favorable situations, yields heavy crops, and in some years, but often requires more heat and longer summers to develop its flavor properly.

Pressure of business and advancing years have not allowed me to attend to the introduction of the many new varieties lately brought under notice, neither have the old standard kinds grown been attended with such assiduity and care as they deserved.

Wishing you every success in your laudable endeavors, through the *Horticulturist*, to propagate amongst the farmers of Ontario a deeper interest in fruit raising,

I remain, dear sir,
Yours very truly,
JAMES WATSON.

Moore, Dec., 1885.

HORTICULTURAL DISAPPOINTMENTS.

MR. EDITOR,—You invite all to contribute to the interest of the *Horticulturist* by giving their experience on fruit culture, &c. I don't know as my experience will be of any interest to any one else, but I do know it has not been attended with pecuniary profit, at least, to myself. In the spring of 1884 I set out 5,000 Gregg Raspberry plants which made a fine growth, and notwithstanding the severe winter and their exposed position, they were not materially injured. The last season they made a vigorous growth, and I picked 1,400 quarts of fine fruit. In August some of the canes began to blight, turning a dark purple color, and the leaves falling off, and at the present time about 1,000 plants are destroyed, they kept going until winter set in. I have examined a number of the bushes, but have not succeeded in finding any insect in either the cane or root.

My Strawberry plants (of this year's setting) shared about the same fate. Something eat the roots off about two inches below the surface of the ground. They commenced immediately after planting, and continued their work until winter. I could find nothing but an abundance of small ants in the soil. Whether they were the cause or not I could not ascertain. I have a small collection of grapes, raspberries, currants, &c., which have not fruited yet, on which I may report at another time. If any of your correspondents would enlighten me with regard to the trouble with my plants, or a remedy, they would confer a favor.

Yours respectfully,
H. BODWELL.

Mt. Elgin, 14th Dec., 1885.

SMALL FRUITS IN CANADA AND MANITOBA.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—The December Number of your valuable publication just received. Permit me to express to you the pleasure I have had in perusing carefully the numbers issued during this year. Every monthly issue contained many hints of great value to those who take an interest in horticulture either for pleasure or otherwise.

On my little farm close to this city small fruit was the past season a very large crop. In raspberries the "Souhegan" was a great success, the canes bearing an enormous quantity of fruit. The "Cuthbert" and "Gregg" also yielded abundantly, and are well deserving of favorable mention. All three varieties are very hardy.

This fall I had the pleasure of spending two months on the south side of Manitoba Lake, Province of Manitoba, and met a number of settlers in that section from Ontario, all well to do, and well pleased with the country, from

whom I obtained glowing accounts of the richness of that neighborhood for wheat raising, stock raising, &c. They all have fine herds of Durham cattle, and have numbers of the animals registered in our "Canadian Short Horn Book," and find ready sale for same. Westbourne Station and Post Office, on the Manitoba and North Western Railway, being only from three to five miles from their homes.

Small fruit, such as black currants, raspberries, strawberries, cranberries (high bush), grow wild in great quantities. Also three kinds of cherries and plums, all wild. All making delicious preserves. We were all highly delighted with our trip, and with the richness of the country from all stand points.

Wishing the "Fruit Growers' Association" every success the coming new year,

I remain, yours truly,

JOHN MAUGHAN.

Toronto, 9th Dec., 1885.

PEAR-BLIGHT—GRAPE VINES—GOOSEBERRIES.

DEAR SIR,—I have been much pleased with the *Magazine* so far. It contained a good deal of practical and useful information.

Blight.—Within the last two years I have lost several pear trees from 4 to 9 inches in diameter, Duchess, Bartlett, Rosteizer, Flemish Beauty, White Doyenne, Clapp's, Louise Bonne de Jersey and Sheldon. I have 30 or 40 seedling pear trees from 8 to 10 years old. After fruiting I intend to graft in the top those not proving good, (probably all) the cause of so many pear trees dying, I think, over-manuring. *I feel satisfied of this.* I have lost none of the seedlings

Grape-vines.—Two years ago my Concord grape vines on the wire trellis were killed and the Delaware was not damaged. This last winter my Delaware was killed and the Concord not hurt; the Hartford Prolific stood both winters; the Burnet grape got killed down; Moore's Early died; the Eumelan kept killing down every year; about dead now. Downing and Houghton gooseberries have done very well, no mildew.

Yours truly,

D. SHOFF.

SLANTING GRAPE TRELLIS.

I see that there is one man after my own heart, as I have tried this plan for some years past, and find it does better than any other way. I put them about eighteen inches at bottom of vines and about three feet at top. The bunches all hang down between the vines. The sun does not strike so strong on the bunches as it does when up straight. When the sun strikes fully on the grapes it has a tendency to soften the skin, and for that reason they are not so good. And another reason I think it better, is the wind has no chance to break or tear the vines loose.

ALFRED WAGAR.

Napanee, Lennox County, Ont.

ORANGE QUINCE.

I may state that the Orange Quince flowered with me for the first time last year, and this is the first instance I know of its flowering in this neighborhood.

A. J. C.

Listowel.

GRAPES AT BRUSSELS.

As far as I know the Concord is most generally grown. There have been a few Brighton and Worden planted, but they have not done very well. My own few are Concord, excepting one White Ann Arbor I got from ———, and it is like all that comes from him.

Brussels, Dec., 1885. J. W.

FRUIT REPORT FOR COUNTY OF LAMBTON FOR 1885.

(Prepared for the Annual Meeting of the "Fruit Growers' Association of Ontario," at Wingham, Ont., Sept. 16th and 17th inst.)

GENTLEMEN,—I am pleased to be able to make the following report of the standard fruits and their culture for the year in our county. I still think that the first place, both in position and importance, should be given to

THE APPLE.

Our soils are in general admirably adapted for the successful growth of the apple, and, as a consequence, the planting of apple trees continues to be very large and very general. The time will come when this county will be noted among the noted counties for the production of very excellent apples. The crop this year was very large and very fine. It is impossible at present to gather the full statistics of the crop in barrels for the whole county, but as near as can be ascertained it is close in the neighborhood of 125,000 barrels, valued at $100,000, with the growth of the trees. And in this section alone the marketed crop was 40,500 barrels. This is a very large product, and represents $37,125 of positive income to our farmers and growers of this section alone. An item that they have not heretofore calculated much upon, as their apples formerly represented no particular value. But when the eager buyer comes into the orchard and offers of his own free will to take all their apples, both fall and winter fruit, and give them a good price for them right in their hand, it at once stamps the crop as a thing of real, positive value that is not to be trifled with. The great trouble has been that our people have planted too many varieties, but they are now gradually learning better through reading and observation, and are in their later plantings restricting themselves to fewer and those mostly standard winter sorts. One of the buyers told me to-day that our apple crop was by far larger and better than he had any conception of. That the worst apples to handle were Fall Pippins and Snows, and that he should strongly advise the farmers of this section to regraft many of their early ripening apple trees with hard winter sorts, and then our country would be one of the very best in which to pack apples for distant markets. The prices offered this year have been for fall apples 75c. per barrel, and for winter apples $1 per barrel; the purchaser to find the barrels and pack them, and the farmer to pick the apples and draw them to the market. About one third of the apples bought were fall, and brought in this section $10,125, and the other two-thirds being winter, brought $27,000, or a total of $37,125. The sorts mostly grown in the county have been, for summer, Early Harvest, Red Astracan, Sweet Bough, Tetofsky, Early Joe, &c. These are used mostly for family purposes. For fall, almost everything is found in the section, but the best and most popular are Duchess of Oldenburg, Colvert, St. Lawrence, Maiden's Blush, Fall Pippins, &c. But in young plantations the people run into the other extreme, and plant nothing but winter sorts to the exclusion of all others. For winter, Baldwin best of all, afterwards Northern Spy, Rhode Island Greening, American Golden Russet, Grimes' Golden, Rambo, Snow, Talman's Sweet, Ben Davis, Yellow Bellflower, Seek-no-Further, Wagener, &c. When we consider the great value of the apple crop, it is quite clear that greater attention will annually be given to it, and the improvement in its management and culture will be very marked. The question of overstocking the market has been brought up, the farmers at first not liking the prices offered for their apples, but when the net proceeds are consi-

dered they are better reconciled, and appear perfectly pleased with the bargain. The buyers have lost a little on their investments in soft sorts or fall apples, and they will in the future be shy at offering for them, except for home markets, as foreign shipment is found to be very unsatisfactory. They say the only alternative is for farmers to regraft to harder and better shipping sorts. But on the whole I assure you that this year, with farm produce of all kinds so low in price, and business so dull, and money so hard to get, the apple crop has been a great boon, and coming in so easily without any special outlay it has helped very much; as some of them say, they do not know what they would have done without it.

THE PEAR

Is rapidly growing to be a very interesting variety of hardy and delicious fruit, and our people are more and more appreciating its real value. It so happens that in this county we have very much excellent soil, perfectly adapted to successful growth of pear trees and pears. We have many acres of strong alluvial clay loams that, when well underdrained, make the very best soils to produce good pears. And even if these should be found to be too stimulating so as to produce the much dreaded fungus known as blight, yet we are not stopped in our efforts or daunted in our prospects. We have along the whole course of the beautiful River Aux Sable, traversing our county, many fine locations, splendidly well drained clay hills of immense fertility, that will produce pear wood in slower growths and perfectly free from all fungus attacks or blights. These can, and no doubt will in the near future, become utilized for these and similar purposes in many broad acres. There is nothing but lack of enterprise to hinder us from using these splendid soils of ours and producing pears at least equal, if not greatly superior, to the far-famed regions of Lockport and Rochester, N.Y. The crop this season has been very large, and prices at one time fell quite low for such fine fruit as was offered. The Bartlett and the Flemish Beauty are still the great staple pears of this section, and there is more of these produced then all others together. They are so hardy in the tree, so fine in the fruit, and so productive, that everybody desires to plant them, and will do so with the greatest assurance of the best results in the basket. The trees planted are mostly standards, on pear roots, but few dwarfs are used. Besides these old and well known sorts, a few White Doyenne, Clapp's Favorite, Louise Bonne de Jersey, and Seckel are grown. But this last, though of the highest quality, is too small for the market, and consequently not popular amongst growers. The pears known as Beurre pears are some of them very fine and of excellent quality. We this year fruited Beurre Clairgeau, and are very much pleased with it as a fine, showy pear of excellent quality. We fruited also the pear known as Dr. Reeder, a middling sized, high flavored pear, that will successfully take the place of Seckel, and the bearing qualities of the tree are immense. As the knowledge and fine tastes of our people are annually cultivated up to better standards, so there will be no lack of pears and other fine and delicious fruits to gratify these improved tastes and demands.

THE PLUM.

The conditions of soil and climate for successful plum culture are similar to those for the pear, and a good pear region is a good plum region. There are, however, some difficulties to plum culture, outside of climate and soil, that we do not know how to cope with. A few years ago we could raise plums in

almost any quantity, and nothing injurious seemed to affect them or the trees, but unfortunately it is not so now. The fruit is attacked by the destroying insect, and what is worse, the trees are attacked by the deadly fungus, and dies before our eyes, and no helpful hand is offered to cheer us in our despondency. Our only relishable repasts of plums is now in the recollection how we used to feast upon them, and the fine crocks of luscious preserves our mothers used to put away for our winter's entertainment. In some favored sections, however, the plum was raised this season in tolerably plentiful quantities. Favored spots on the lake shore, and well sheltered and properly exposed locations elsewhere, made some fine showings, and partly supplied the home demand. Up north, in our neighboring county, the crop was simply enormous, and these plums came down by every express. There is only one other fruit, viz., the peach, that will supply the demand for plums; but this year there being no peaches, every plum near was studiously looked up. The varieties most popular are the green plums, as Imperial Gage, and other Gages, and the Lombard. The larger plums are very desirable, but these old and smaller sorts pay the best. I think the only proper resource open for us to successfully grow plums, as also pears and peaches, is "the selection of proper locations and conditions."

(To be continued.)

THE INDUSTRY GOOSEBERRY.

I think that I recognize an old Friend in the Industry Gooseberry and in my school-days all the other kinds in my father's garden were safe while any fruit remained on it. But the name is new. We called it Red Jacket. I will send you a piece of wood and bark from one of my dead apple trees to see if the cause is known to you. Had several die the last season, some that had been bearing.

ROBERT KENNEDY.

PEARS, PLUMS, AND CHERRIES.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST

SIR,—To my experience with apple trees in November number, 1885, page 249, I may add a little with other fruit trees. I have tried one each of three varieties of pears, the Bartlett, Flemish Beauty and Lawrence, but they all died of blight. The two first named died the first summer. The Lawrence stood it for about three years. In the spring of 1883, I planted one each of three varieties of plums, the Yellow Egg, Yellow Gage and Imperial Gage. They were all killed to the snow line the first winter. At the same time I planted one Early Richmond Cherry, which seems to be pretty hardy so far. I have two plum trees eight years planted which are hardy, although their leaves fell rather early this fall. I have a Green Gage tree the same age, which will neither die nor do well living. It freezes back every winter, and bears about half a dozen plums each summer.

R. SCOTT.

Hopeville.

EXPERIMENTS WITH STRAWBERRIES.

1. I took 285 baskets of Wilson Strawberries last summer from 90 square yards of ground. The plants were set in April, 1883, in rows 2½ feet apart. Simply kept clean and slabs laid between the rows this last season. From the same 90 yards I took 21 bushels of Globe Mangels between the rows, some of which took a prize at the Great Northern Exhibition in Collingwood in 1884.

2. This year (1885) I have tried a plot three rods by five on the same plan. The proceeds were 60 baskets of

strawberries and 65 bushels of roots, about half mangels and half Belgian carrots, leaving the ground well covered with strawberry vines for next year's crop.

THE TREE BEAN.

From one bean-stalk called the "Tree Bean" from Burpee's, Philadelphia, in 1884, I gathered 450 beans. From the 450 I raised this year twenty pounds some ounces of beans—over an Imperial peck by measurement.

NOVA SCOTIA APPLES.

Dr. Hoskins, of Newport, Vermont, three or four years ago gave the same kind of notice about a seedling apple that you give from Mr. C. E. Brown. I sent to Dr. Hoskins, as directed in the *Rural*. He forwarded some "scions." This season I had one apple upon one of them. It ripened in September, was ten and a half inches in circumference, weighed 8½ ounces, beautiful in shape and color, and delightful in taste. Some who tasted it declared it excelled a peach.

Collingwood. J. B. AYLESWORTH.

REPORTS ON PLANTS RECEIVED.

I have been taking the *Hoticulturist* for three years, and I am well pleased with it. I think the Report of the F. G. A. worth the subscription price, without saying anything about the premiums we get every year.

My Prentiss Grape-vine came through last winter all right.

The Fay Currant bush did very well this summer. SOL. REESOR.

Cedar Grove, Dec. 9, 1885.

The premiums so far have done very well. Moore's Early Grape-vine fruited this last season, and fine fruit it has, both in size and flavour, besides ripening early. The Prentiss has grown vigorously and will likely fruit next year.

Valleyfield, Dec. 17, 1885. W. HOOD.

I am sorry to say that both the Worden and Prentiss were winter-killed last winter, though they did nicely the year before. The Fay's Prolific Currant seems to be growing well.

Yours truly,

M. E. STANWAY.

Mt. Royal Vale, Montreal, P. Q.

I received Fay's Prolific Currant from you last spring, and it is as large now as one I got a year ago that cost me $1. I was much pleased with the manner it came to hand, done up in apple-pie order. ALFRED WAGAR.

Napanee, Lennox Co.

My Catalpa tree grew very nicely last summer, but I am afraid it will not stand the winter, as the first hard frost killed the top for about four inches; but I have wound it well to protect it.

Napanee. JOHN GIBBARD.

The Fay's Currant which I received from the Association last spring grew remarkably well and seemed to be worm-proof, because when my other currant bushes were covered with worms the Fay's did not show one.

Brooklin. JOHN G. WARREN.

Spirea prunifolia was so well protected by snow that it flowered a little this last summer. The Worden Grape is dead. The Catalpa grew well last summer. How it will get through the winter is doubtful.

Listowel. A. J. COLLINS.

The Fay's Prolific Currant has grown very nicely. I planted it in rich clay soil.

London. D. MCDONALD.

The Prentiss Grape I received in 1884 got frozen to the ground last winter, and made a very poor growth

this summer. Fay's Currant that I received in 1885 grew very well.

Stewartville. ALEX. STEWART.

I received my Fay's Currant all right. It has done very well this summer.

Grassmere. JAMES PICKERING.

My Catalpa did nicely. Its growth is three feet and one inch. It has beautiful foliage. My Niagara Raspberry got killed back about one third down by the frost last winter, but there was a fine crop of very large berries. I am very much pleased with them.

Port Dover. E. H. RYERSE.

The grape-vine came all right and grew nicely.

Unionville. JOHN SMITH.

The Fay's Currant did very well with me, and I hope that it will give me a sample of its fruit this coming season.

Fernhill. JAMES M. WATERS.

The Catalpa I received last year has grown very well. I planted it in a grass plot, and gave it no special care.

Toronto. H. H. ARDAGH.

The Hardy Catalpa grew well and promises to be a very ornamental tree. The Prentiss Grape-vine sent me in 1884 has made but little growth.

Oakville. G. HALLEN.

Fay's Prolific Currant that I got last spring did well. The Niagara Raspberry that I got in 1884 sent one fine shoot out. This spring it was killed to the ground, but the root sent out three fine shoots, which I will protect if I can from the winter.

Lansdown, Leeds Co. W. B.

The Dahlia which was sent me last spring came to hand in good time and in good condition. It bore a number of large and beautiful double blossoms, and gave me a number of tubers for next year's planting. My land is a sandy loam. W. B. HILL.

My Catalpa has grown very well. Some of the leaves were nearly 6 in. long by 4 in. broad. It sent out three branches—two grew about a foot long, and the other 8 inches. My Canadian Baldwin Apple is alive, and has done well considering the chance it got. Last winter was very severe; some of my neighbors lost 90 out of a 100 trees planted, and others not quite so bad.

WM. CLARK.

St. Vincent, Dec. 12th, 1885.

The trees and plants I got all came in good order and did well, the Gladiolus excepted. I think my soil must be too heavy and cold. It made poor progress the first year, and failed altogether the second.

The Ontario Apple is quite at home here and quite hardy. It had just one apple on it last year, but the codlin moth found it out and it fell prematurely, so I could not know its size or flavor. The Saunders' Raspberry has grown well, and is a great bearer; but the fruit is small and the color is uninviting. GEORGE FORSTER.

Owen Sound, Ont.

You wish all subscribers to report success on what they have received as premiums. The first I had was Moore's Early Grape; last year was the third season it blossomed, but as yet no fruit. I expect next season to be able to report on the fruit.

The next was the Worden. I had a few bunches. They were good—I can recommend them as a good grape.

The Prentiss is too young yet to report on, but will do so in season.

The Fay Currant is growing well.

I had it last season. Should it bear this year I will report on it.

Lucknow. WM. TURLEY.

The Burnet Grape-vine bore a full crop this year. A great many of the bunches had two kinds of grapes on—one small, without seeds, sweet and luscious; the other large, with one or two seeds, and not so sweet as the small ones.

The Russian Apple sent last spring has done well.

The Beurre Clarigeau Pear fruited the first time this year; the fruit was fine looking, large in size, with a fine red cheek, in quality good.

The Bloodgood bore the first time this year. In appearance much like the Seckel, near twice as large, but not so sweet.

The Glass Plum has not fruited yet.

The Beurre D'Anjou Pear Tree is a fine looking tree; it has not been touched with blight, yet it bears every year. I remain, yours truly,

Newport, Ont. JAMES COWHERD.

SIR,—As you have solicited reports I will endeavor to give mine. Bad as it is, it may benefit someone. I have received Burnet Grape, but have not got one good bunch. The Saunders' Raspberry is too sour, but crops well. Moore's Early Grape is doing very well. Senasqua died out. I have planted the Prentiss, Pocklington, Lindley, Massasoit, Delaware, Brighton, Worden, Burnet and Jefferson on the south side of greenhouse, lean to, carrying them through the wall one foot from the ground into the inside, running them under glass, English fashion. They have done well under the circumstances, as they were entirely smashed up on the 7th of June by hail, both inside and out—all trees and market garden crops included. What trees are not dead will die yet, at least some of them. Now for a little experience. Raspberries completely stripped, broke again and carried a nice little crop in September. Peonias broke and flowered in August, also Delphinium. I will report on grapes in the house, God willing, next year.

Port Hope. AARON SLY.

DEAR SIR,—As you want reports on premium plants and trees sent out by the Association, I will give you a report of the premiums I have received since I became a member in 1878. The Burnet Grape-vine, received that year, is still living, although is has been badly killed back the past two or three winters, owing to insufficient protection. It will not stand the winter here without a covering of snow or earth. Where I have mine planted the snow drifted off. I got a few bunches of fruit from it three years ago, but none since. Moore's Early was a weak grower, and after two years I moved it to another place, thinking it might do better; but something ate the buds as fast as they came out, and that finished it. I have not tried any other grape. The Ontario Apple was too tender on my grounds. The Wealthy was injured badly last winter. The new Russian with the jaw-breaking name did not grow very strong. Saunders' Raspberry did very well at the first, but was badly injured the past two winters. Niagara also winter-kills badly with me. The *Deutzia crenata* is a rather weak grower, but has not had much cultivation.

Hopeville. R. SCOTT.

BOOKS, &c., RECEIVED.

ALDEN'S LIBRARY MAGAZINE is quite the peer of the great $4 monthlies, in the amount and high quality of the literature which it presents, though its cost is only the nominal sum of $1.50 a year. Among the contents are articles

by such noted authors as Canon Farrar, Max Muller, the Bishop of Carlisle, Cardinal Newman, Philip Schaff, and others. This magazine ought to have a circulation of a hundred thousand. You can get a specimen from the publisher, John B. Alden, New York, for 15 cents.

"ELIA" AND CHARLES LAMB.—A unique genius, that of Charles Lamb. Just like nothing that ever appeared before them, or has since appeared, are the quaint and delightful "Essays of Elia," a new edition of which has recently been issued by Alden, "The Literary Revolution," publisher of New York. Turn to any of your cyclopedias and they will tell you that Charles Lamb was one of the most charming essayists that the English language has ever known, and also that his "Essays of Elia" are the choicest of his works. They are not merely the first work of their class, but, like "Pilgrim's Progress" and "Robinson Crusoe," they constitute a class by themselves. The volume is certainly one of the most delightful of the books described in Mr. Alden's 148-page illustrated catalogue, which he offers to send for 4 cents, or the 16-page catalogue which is sent free. Address, John B. Alden, Publisher, New York City.

THE TORONTO NEWS is published by Edmund E. Sheppard, daily and weekly. The weekly is now offered at one dollar a year, and with it he gives to each subscriber a dollar's worth of books FREE. The list from which choice may be made comprises over thirty books, and the prices quoted are the lowest published rates. Subscribers can select from this list such as they may prefer to the value of one dollar at the prices quoted. Surely no one need be without instructive and entertaining reading matter on such terms as these. He further offers to send the daily *News* for three months and the weekly for the remaining nine months of this year, and books to be selected from this list to the value of one dollar and seventy-five cents, for the sum of one dollar and seventy-five cents. Mr. Sheppard assures us that these unusual offers will be carried out to the letter. No doubt they will, but the profit on such transactions must be microscopical.

THE TRANSACTIONS OF THE AMERICAN HORTICULTURAL SOCIETY for the year 1885, are replete with most valuable papers. The one on Cranberry culture by Mr. Augur is most instructive, pointing out in concise terms the essentials to success in the cultivation of this fruit, and that on Fungoid diseases of the Strawberry by F. S. Earle, is a most valuable contribution to our knowledge. The effect of the pollen of different varieties of strawberry upon the size and form of the berries of pistillate varieties is ably discussed in a paper on the fertilization of the Strawberry by C. M. Merwin. A most exhaustive paper on the native Grapes of North America is well worth the cost of the whole, which may be had by remitting two dollars to Mr. W. H. Ragan, the Secretary, at Greencastle, Indiana: or better yet, by remitting $2.30 secure Vols. I., II. and III.

THE AMERICAN AGRICULTURIST for January announces that it enters upon the new year under unusually auspicious circumstances. The old editorial force, who have been connected with that periodical for periods, running up to a quarter of a century, has received further accessions in Dr. F. M. Hexamer, so long the editor of the "American Garden," and Mr. Chester P. Dewey, a writer of national reputation, and Mr. Seth Green, the noted Fish Culturist. The illustrations, of which there are a very large number, represent noted horses, cattle, pigs, cows, new fruits, new potatoes, designs for new buildings, farm conveniences, household conveniences, fruits, flowers, etc. There are

nearly one hundred original articles. The Household and Childrens' Department abound in illustrations, while several new frauds are exposed in the Humbug Department. Price, $1.50 per year; single numbers, 15 cents. Address, *American Agriculturist*, 751 Broadway, New York.

AN EXTENSIVE FRUIT FARM.

The London *Garden* says that Lord Sudeley is the only land owner in England who has taken up fruit farming in a thorough and business-like manner. He has already planted 500 acres, and 200 more will be at once added. This 700-acre fruit garden is not like McKinstry's 300-acre fruit orchard on the Hudson, or some of the 500-acre peach orchards at the South. It takes up no fruit as a specialty, but embraces the whole catalogue of large and small fruits. It is situate in the northern part of Gloucestershire, some forty or fifty miles north-east of Bristol, and cannot but be well situated for market, in that full arrangements are made to consume the whole of the fruit in home manufacture. Although only four years have elapsed since planting, 10 tons of strawberries were raised last year, and it is expected that 100 tons will be grown the coming season.

Our readers may judge of the miscellaneous character of the selections when informed that the plantation includes 3,000 trees of the best sorts of apples, 800 pears, 32,000 plums, including 9,000 damsons, 50 acres of black currants, 100 acres of strawberries, and 60 acres of raspberries. The gooseberry bushes number 130,000, the black currants number over 200,000. It is probable, we think, that experience will cut down the lists of some of the fruits, such, for instance, as the 44 different kinds of plums, and the 45 different varieties of the gooseberry.

Shelter belts are regarded as important, and such quick-growing sorts as poplars and Scotch firs have been placed around the plantation to shelter it from prevailing winds. Beds of osiers have been planted along the margin of a stream and have succeeded so well that the addition of 10 acres will supply all the materials for the baskets needed on the estate. A nursery for raising trees and bushes has been formed, where standards, pyramids and bushes of all sorts are grown, trained and worked, and the owner is thus sure of obtaining what he wants. It will thus be seen that this is a complete establishment within itself, including the raising of the trees and plants for setting out, the manufacture of the baskets for the fruit, and the finishing preparation of the fruit itself in jars for market. Such a plantation as this, with the great number of laborers which it must profitably employ, affords a favorable contrast to the large domains kept only for hunting grounds. —*Country Gentleman.*

PRUNUS SIMONI.

This new plum is a native of Northern China. Eugene Simon, when French Consul at Pekin, sent specimens of it to the French Jardin des Plantes, whence it was disseminated. Prof. Budd has, through his writings in the *Prairie Farmer*, probably done more to introduce this new fruit to the American public than any other person. In the issue of June 17th, 1884, he said: "Beyond all reasonable doubt this tree will prove a valuable ornamental and fruit tree on the prairies, wherever it will endure our winters. The young trees bore the past test winter on the College farm far better than our apple trees of the hardiness of Ben Davis. * * * In all respects this is a botanical curiosity. In color of bark,

and in all points, except the net veining and color of leaves, it resembles the peach. In appearance the fruit more closely resembles a flattish, smooth, brick-red tomato, than any of our stone fruits, yet in smell and flavor it approaches very near the Nectarine."

Under date of Oct. 14, the Professor writes to the *Prairie Farmer :* The time has come when we can form a correct estimate of the hardiness of tree, and relative value of fruit of this unique Chinese tree. But our experience is yet too limited to guess at its habits of bearing on varied soils, or the status of its fruit for market purposes....The favorable notes of the writer and others have been written to encourage its trial in a small way, but some of our propagators have quoted from them in such a way as to raise undue expectations on the part of planters ...With our brief experience at the West, its claims to public attention are : (1) In tree and fruit it is a queer mingling of the nectarine and apricot, and interesting as a neat, round topped tree for the lawn, aside from its value for fruit. (2) It is hardier than the peach, but possibly not quite as hardy as the Russian apricot now claiming public attention. (3) On the northern border of the peach belt it makes the best trees and bears best when top-worked on the Miner plum. (4) The fruit has the size and smoothness of the nectarine, with the appearance and color of an old-fashioned, flattened plum tomato. For dessert use the fruit has a peculiar flavor and aroma when perfectly ripened in a dry climate, which many like, but others may dislike. In Eastern France, where it was first introduced, it is liked best for culinary use, and I suspect this will be our experience....That the Prunus Simoni will take the place of the peach, nectarine, and best Apricots—in sections where the latter succeed perfectly—we need not believe, but that it is worthy of trial on the north borders of the peach belt we have best reasons for believing.—*Prairie Farmer.*

SNOW-DROP.

The first flower of spring is the delicate Snow-Drop, white as snow. Its appearance about the first of March is a joyful surprise. The bulbs are quite small ; the leaves and flowers about six inches in height. Plant in the fall, in beds or masses of a dozen or more, about two inches apart, and about the same depth. They are very desirable for growing in pots, etc., in the house in winter. A dozen may be planted in quite a small pot or saucer. A few planted on the lawn produces a fine effect early in the spring, and mowing will not destroy the bulbs, for the leaves will ripen so early that they will be pretty well matured before the grass will need cutting. Perfectly hardy, and bulbs can remain several years without removal.

The Snow-Flake, (*Leucojum,*) is sometimes called the Large Snow-Drop, from its resemblence to this delicate flower. It is much larger, and more robust in habit. Flowers white, with bright green spots. Once planted it manages to take care of itself. This does not flower until later in the season. It flowers well in the house.—*Vick's Floral Guide.*

Moore's Early Grape.—We desire to speak a word or so in favor of Moore's Early. A more perfectly healthy vine has never been raised at the Rural Grounds. The Concord bears larger bunches, but the *average* size of the bunches of Moore's Early is larger than the average size of the Concord's, while the size of the berry is decidedly larger. The quality is much the same. Moore's Early ripens at least ten days earlier than the Concord, and the bunches ripen more uniformly.—*Rural New Yorker.*

CLIMBING HONEY SUCKLES.—Two good climbing honeysuckles are the old fashioned Dutch monthly and Hall's Japanese. The first was known to our grandmothers, although rarely seen now. It has no odor, but the nankeen yellow of its open flowers is always pleasing. Hall's honeysuckle is a more recent introduction, and one of the best of the many good things Japan has sent us. The flowers are abundant, beautiful and fragrant, and last until frost, while the leaves persist much longer. There is no better vine for a trellis, or screen, against unsightly objects.—*Philadelphia Press.*

SUBSCRIPTIONS RECEIVED IN DECEMBER:—J. Mann, J. Stacey, J. Tucker, R. Krik, Mrs. J. Christie, A. Reid, R. B. Thornton, A. Russell, Mrs. E. Mans, J. Mitchell, A. Battersby, J. Wanless, W. Thompson, D. Robertson, Mrs. Burnham, Z. Burnham, W. W. Dunlop, Mrs. H. G. Bescoby, S. D. Woodruff, W. Hanson, P. Nellis, P. Grant, G. H. Fawkes, J. B. Mercer, W. Dickson, A. D. Ferrier R. McMahon, G. Taylor, J. B. Aylsworth, W. Copeland, F. Farncomb, W. J. McCalla, T. H. Watt, G. Wilgress, S. Reesor, R. W. Bass, E. C. Scarlett, L. H. Kirkley, A. Harrington, C. J. Pearse, C. C. Bower, Mrs. H. J. Finkle, J. W. Canfield, J. Maughan, J. Weir, C. H. Peterson, W. S. Gamsby, O. J. Phelps, W. Freel, W. Wilson, J. Goldie, T. Fuguson, W. Ausley, R. T. Raynes, A. O. Shaughnessy, J. Witting, J. Pickers, W. O. Duncan, R. Hobbs, W. S. Thompson, L. G. Little, D. Shoff, W. Mather, W. H. McNab, W. Murry, W. Glen Airslow, S. Hunter, D. McGregor, T. J. Moorehouse, B. S. Beley, W. E. Sherwood, F. Edwards, T. S. McLeod, G. W. Lount, A. McRae, J. Edwards, E. D. Morton, E. S. Lally, H. Bird, W. Raikes, D. Farguharson, C. Hickling, C. H. Ross, E. H. Williams, P. F. Ewan, G. Lane, J. Rogers, G. Ottaway, A. H. Bodwell, W. Suggett, A. Black, R. McIntosh, J. A. F. McBain, J. P. Williams, J. D. Roberts, W. A. Cumning, G. H. Chandler, J. E. Browne, J. Stonehouse, A. Limoges, J. L. Thompson, J. Houseman, A. Valient. A. O. Norton, D. Grant, T. Beall, J. McMillan, J. Knowlson. W. Martyn, D. Lack, W. Foley, W. M. Robson, Rev. J. Greener, J. Rickaby, O. O'Leary, A. Hudspeth, M. Londergan, M. Crawford, J. Little, J. S. Falconer, W. A. Close, W. Clark, J. A. Clark, H. Bodwell, W. S. Forbes, D. B. Hoover, W. E. Taylor, W. Taylor J. Graham, R. B. Blake, H. B. Bock, E. Fysh, J. Robertson, D. Fleming, E. B. Lefroy, H. Robertson, M. McDonald, R. Scott, J. W. Millar, B. Cole, J. C Quinn, D. Smith, W. H. Trevorrow, A. R. Narraway, J. Ferrier, G. Miller, C. H. Sheffield, W. Fulby, C. J. Fox, Miss Brettal, J. W. 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PERLE DES JARDINS.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

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ROSE PERLE DES JARDINS.

This beautiful rose, of which we present our readers with a colored illustration, belongs to the class of Tea roses. The late Hy. B. Ellwanger, in his most instructive and valuable work entitled "The Rose," says of this class that it "may well be taken as a synonym for all that is delicately beautiful. What refinement of color, what subdued, yet powerful, fragrance do they possess. They are indeed the centre of loveliness; like fair maids at a reception surrounded by admiring groups, these lend beauty to the others, which may well strive to find a near approach to their sweet presence, that perchance they may receive a smile and borrow beauty, diffused from their chaste loveliness."

The Tea roses combine delicate coloring and a most agreeable perfume with continuous flowering. For these reasons they are the favorite class with many who, having "beautiful roses in their hearts," will give them the care which in our climate their tenderness makes imperative. Nor is this care of such a difficult or laborious nature as to be at all discouraging to an earnest soul. They need to be planted where they will be sheltered from the sweep of bleak winds, and can catch the first rays of the morning sun; away from under the shadow of overhanging trees or high buildings, yet where groups of shrubbery and the resistance of fences and buildings break the force of gales, taming their fury into gentleness. And then, when come the days of sere and yellow leaf, when our maples have put on their scarlet robes and the beech her russet gown, then the Tea roses must be carefully housed and stored where they shall be safe from fear of frosty weather.

The Perle de Jardins is one of those tea roses which possesses many excellent qualities. It has a very healthy constitution, which enables it to adapt itself to a variety of circumstances, so that it is found both among those which are recommended for bedding out, and those for forcing under glass. A rose in order to be desirable for bedding out, should be a free bloomer, of healthy habit, and possessing a pure and steadfast color of bloom; and for forcing it should add to these qualities symmetry of form, fragrance and high finish of flower. All these qualities are found in this variety to such a degree that it is called by our best authorities a superb rose for forcing, and fine also in the open air.

This rose was raised by Antoine Levet, of Lyons, France, and sent out by him in 1874. It is of large size, well formed, full, of a rich canary yellow color. Those who love to grow roses will surely succeed with this, and will be abundantly satisfied with the exquisite beauty, fine size, and great abundance of its highly finished flowers. Canon Hole wrote truly of the rose grower who would have beautiful roses when he said, "he must love them well and always. To win, he must woo, as Jacob wooed Laban's daughter, though drought and frost consume. He must have not only the glowing admiration, the enthusiasm and the passion, but also the tenderness, the thoughtfulness, the reverence, the watchfulness of love. His must be no ephemeral caprice, like that of the young knight who loves, and who rides away when his sudden fire is gone from the cold white ashes. He is loyal and devoted ever, in storm fraught or in sunny days; not only the first upon a summer's morning to gaze admiringly on glowing charms, but the first when leaves fall and winds are chill, to protect against cruel frost. To the true rose-grower must the rose-tree be always a thing of beauty. To others, when its flowers have faded, it may be worthless as a hedge-row thorn, to him, in every phase, it is precious. The glory which has been, and the glory which shall be, never fade from his heart."

WORMS ON ROOT OF GRAPE VINES.

Mr. W. C. Webster, Stoney Creek, writes us that the worms on the grape vine he sent to this office, were thought to be a quarter of an inch long, and as thick as a small darning needle; with very small black head, and of a greyish color. Have any of our readers found any such worms injuring the roots of grape vines?

THE CANKER WORM.

Gentle reader, have you ever felt disposed to smile, with something of contempt in your heart, at the grown up man chasing, net in hand, some fluttering insect, until the sweat stood in drops? Or, perhaps, more charitably inclined, concluded that the poor man surely had "a bee in his bonnet?" Possibly you wondered why any man in his senses should be spending his time after such a childish fashion, chasing a butterfly across the meadows. You could not see what possible good could come of such a spending of time and strength, and little thought that yon man, with his net of gauze, was searching for the key that would open the door of your prosperity.

Yes, it is even so. To the labors of the entomologist are we fruit growers already greatly indebted, and this canker worm pest is an apt illustration of the service they have rendered. Thetis plunged Achilles in the Styx, and made him thereby invulnerable in every part, save the heel by which she held him. He who would slay Achilles must first learn where was the spot his weapon might enter. To overcome these insect foes we need to know their vulnerable point. This, by the studies of the insect hunter, is often revealed; and a knowledge of their life-history opens the way to successful methods of destroying the insects or preventing their ravages.

There are two insects, bearing strong resemblances, but really distinct, which are known to fruit growers under the one name of canker worm. The un-

practised eye would hardly detect a difference, and as for the mischief they do, there is no difference. When they come in force, whether in the one guise or the other, or, as sometimes they may, both together, every leaf is taken; and the orchard looks as though some sirocco blast had swept it, scorching up the foliage. They make clean work, what "the canker worm hath left" would be starvation for the caterpillar. One of these insects is known as the Spring Canker Worm, designated by entomologists *Anisopteryx vernata.* The worm, or larva, when full grown, is about an inch long; varying in color from greenish yellow to a dusky, and sometimes a dark brown, striped longitudinally with numerous pale, narrow lines. This striped appearance is shewn in fig. 1; *c* represents a side view, and

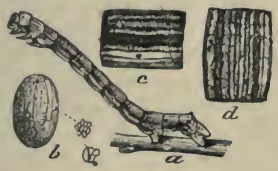

FIGURE 1.

d a dorsal view of one of the segments, highly magnified; *a*, the full grown worm in the attitude which it often assumes when at rest. But this creature is not always a worm, as its life history will shew. There are changes in nature that rival the magic power of the glass slipper; changes more transforming than that of the humble peasant girl in coarse homespun, into the witching princess in silks and diamonds.

When this worm has attained its full size it ceases to feed, leaves the tree, and burrows in the ground; going to a varying depth of from two to four inches, where it forms a cell, which it lines with silken threads. This is its winter hiding place, in which it undergoes one of its curious transformations, for after completing its own tomb, it throws off its skin and becomes what is termed a chrysalis; which, in this case, is a pale, greyish-brown object, hardly half an inch long, and the sixth of an inch thick, tapering to a point at the lower end. Here it lies, like a mummy in its case, and seemingly as dead, until the hour of resurrection. In the autumn, when most of the leaves have fallen, and wintry frosts have blackened every tender plant, and there come those balmy days of the south wind which we call Indian Summer, then a few of these waken into life; but the greater part remain, cold and still, until the return of spring. Then, when the buds are breaking, and nature is rubbing her eyes, they too awake; and bursting their cerements, creep out of the ground. Not now the crawling, looping, measuring-worm, that last summer fattened on your apple orchard; but, in the case of the male, a silken-winged, airy creature, delicate and beautiful; for Cinderella has laid aside her russet homespun, and put on her robes of princely richness. You may see it floating about in the sunshine, moving hither and yon, as though to live were a joy, and joy the object of its life.

An excellent representation of this moth is given at *a*, in fig. 2. The two

FIGURE 2.

fore wings are an ashen grey, almost transparent, an irregular whitish band crosses them near the outer margin, and there are three interrupted brownish lines between this band and the base of the wings. In the tip of each of these wings is an oblique black dash, and a black line along the border at

the base of the silken fringe. The two hind wings are of a very light grey color, with only a dusky dot near the middle of each.

How unlike this silken-winged creature is its mate. Nature in this instance seems to have been very partial in the bestowment of her gifts. He can float in the sunbeams, and fly whither he will; she, poor creature, wingless and clumsy, can only creep. She may be seen at *b* in fig. 2. Her body is full of eggs, which are so heavy that she drags herself slowly along until she reaches the trunk of the tree, up which she climbs. At *d*, in fig. 2, is a magnified segment of the abdomen, shewing the two rows of reddish spines that run transversely across each segment; *c* represents a part of the antenna of the female, and *e* her ovipositor, both magnified.

The other species is the Fall Canker Worm, *Anisopteryx pometaria*. This

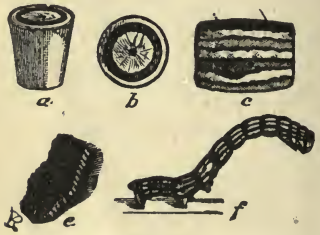

FIGURE 3.

is shewn, full grown, at *f*, fig. 3, while *c* represents a segment magnified so as to render the markings more distinct, which will be seen to be broader and fewer in number than they are in the

FIGURE 4.

Spring Canker Worm. The wings of the male moth are darker, *a*, fig. 4, and the fore wings are crossed by two whitish bands. The female of this species *b*, fig. 4, is also wingless. The eggs also differ in appearance: Those of the Spring Canker Worm are oval, *b*, fig. 1, and are laid in irregular masses, often as many as a hundred together; while those of the Fall Canker Worm are flattened on the upper surface, with a puncture in the centre, and a brown circle near the border, and are laid in regular, compact masses. See *a*, *b*, and *e*, in fig. 3: *a* being an enlarged representation of an egg, *b* shewing the top of it, and *e* the manner in which they are placed compactly together. It will also be seen that the antenna of the one, *c*, fig. 2, is covered with bristles, while that of the other, *c*, fig. 4, is smooth; and the abdominal segments of the female of the Fall Canker Worm have no bristles, *d*, fig. 4.

The full grown worm of this species also burrows in the ground, and there spins a cocoon of buff colored silk, within which it changes into the chrysalis state, remaining in this condition until the autumn. After the first fall frosts, the perfect insects appear, and the females seek the trunks of the trees, up which they crawl to deposit their eggs.

In the early spring, just when the buds have broken and the tender leaves unfolded, the canker worms of both species are hatched, and begin their destructive work of feeding on the leaves. The larger they grow, the more they eat; travelling in countless numbers over the tree, and leaving not a leaf behind.

It has been already stated that the females of both species are wingless. This fact, for the knowledge of which we are indebted to the studies of the entomologist, of that man with "a bee in his bonnet," is the heel of Achilles, the vulnerable spot where we may strike and conquer. If we

can trap the female on her way up the trunk of the tree, or prevent her from crawling up, we become masters of the situation. Tar, mixed with oil or lard to prevent it from becoming dry, refuse molasses, printer's ink, in short any very sticky substance smeared upon canvas or stout paper, say six inches wide, and tied around the trunk of the tree so that the female moths will stick fast in the adhesive substance, will effectually prevent them from getting up the tree. This sticky substance must not be allowed to get dry and hard, else the moths will crawl over it but must be renewed so as to be always in a condition to hold them fast. Troughs of lead have been fastened around the tree, and kept filled with oil, and found to answer an excellent purpose. Others have used broad tin collars, fastened around the tree, sloping downwards and outwards, so as to prevent the moth from climbing up. In all these cases care must be taken to have no crevice left underneath the bandages or collars, not even the smallest crack; for the moth, foiled in her attempts to climb the tree, will deposit her eggs on the trunk below, and the young worms are so small that they can creep through a very tiny crevice. We suggest as an additional means of defence, the washing of the trunk of the tree below the bandage or collar, with an alkaline solution, either soap or white-wash or potash, say one pound of potash dissolved in two gallons of water. This will kill the eggs or the young worms. These bandages should be put on about the first of October, and kept in proper efficiency until the advent of severe winter weather, and renewed early in the spring, as soon as the mild weather calls the moths from their winter quarters. With careful attention to these details, this formidable destroyer of our orchards can be completely routed.

ENCOURAGING WORDS.

I like your little publication very much; it is by long odds the best of its kind that has been published in Canada for the last thirty years. Everyone who has a garden ought to subscribe for it. JOHN FORSYTH.

Barrie.

I have taken the *Canadian Horticulturist* for two years, and would not now like to be without it. I think it is a very cheap publication for $1 a year, and the report of the Fruit Growers' Association is included, which is also very interesting and useful. This and your plant distribution make it a marvel of cheapness.

Caledon East. REV. J. GOODMAN.

I think the last year of the *Horticulturist* has been the best year of its existence. God bless the men of the association in their labor of love in spreading information throughout the Dominion, the useful and the beautiful, the fruits and the flowers. If the loving Father has given us so much on earth what must Heaven be with its holiness and beauty.

Bobcaygeon. THOS. GORDON.

QUESTION DRAWER.

BEN DAVIS APPLE.

(1) Please inform me what is your opinion of the Ben Davis as a market apple. Does it meet the tastes of the English people? (2) Also please inform me which in your opinion is the best winter apple for this section of country. G. H.

Peterboro'.

REPLY.—(1) We submitted the inquiry about the value of the Ben Davis as a market apple to two gentlemen who have had experience in shipping

apples, and received the following replies:—

DEAR SIR,—I have just read your letter with respect to the Ben Davis apple. I have not seen any quotations except from New York, and there they were higher than any other variety. I sent my Ben Davis and Golden Russets to Montreal, where they were bought and stored for spring shipment. I got twenty five cents more per barrel for the Ben Davis than for any other variety. It is certainly one of the best shipping apples we have, but the tree wants good warm soil, well drained, and good cultivation. The fruit must be thinned on the tree to produce good samples, then they will bring more than Golden Russet or Northern Spy.

P. C. DEMPSEY.

Albury, P. E. Co., 23rd. Jan., 1886.

DEAR SIR,—At present the Ben Davis is an excellent apple to grow for profit, as it bears well and ships admirably, and takes well in the British market. It is just a question if it will hold its present place in these markets, as they are becoming particular regarding *quality* and Ben Davis is not number 1 in that respect. Upon the whole, however, I think it will remain among the shippers to England, although, others will be in advance in price owing to a better quality.

Yours very truly,

ALEX. McD. ALLAN.

Goderich, Jan. 20, 1886.

(2) Probably no apple stands out so much superior to all others as to deserve the distinguished position of the "best winter apple." If there be any such apple, we should expect to be told that it is the Golden Russet. Will our readers in the County of Peterboro' please to write us and let us know which of the winter apples grown by them they consider on the whole to be the best.

CANKER WORM.

Would you have the goodness to inform me as to the best method of getting rid of that pest which we call down here the *measuring worm*, from its habit of looping itself as it moves along. It literally bares the trees of every leaf and appears to have established itself, as it comes along every season with the utmost regularity. Please favor me with your advice in this matter. I want a method of wholesale destruction, for their name is legion, and oblige,

Pictou, Nova Scotia. H. PRIMROSE.

REPLY.—See article on the Canker Worm in this number.

WHEN TO SPRAY PLUM TREES.

What time of the year should plum trees be sprinkled with Paris Green, as mentioned by one of your correspondents as being a preventive of the curculio? T. A. M.

Parkhill.

REPLY.—As soon as the fruit is set. The curculio begins its work very early in the season, just as soon as the young plums appear.

LUCRETIA DEWBERRY.

How should the Lucretia Dewberry be treated? It is something new to me.

Bowmanville. C. T.

REPLY.—The dewberry is a trailing blackberry, and may be allowed to trail over the ground or upon a support of some kind. Probably an inclined trellis like that mentioned for grape vines (see p. 284, December, 1885) would be an excellent support.

Is the low bank of a creek a good place for cultivating the Lucretia Dewberry? I have a creek running through my garden and think if its banks were covered with dewberries it might prove more profitable than wild grass. The wild dewberries grow in our beaver meadows. An answer in the *Canadian Horticulturist* will oblige.

F. W. COATE.

Cape Elizabeth, Muskoka.

REPLY.—The Lucretia, being comparatively a new variety of the dewberry, has not yet been grown in very many localities, hence it is impossible to speak from personal experience, or from that of others. One would certainly conclude that it would thrive where other varieties of the same species grow naturally. Please to give it a trial and report results for the benefit of others.

CHIONANTHUS.

I have a fine lot of young seedling Black Ash, about 3 feet high. Would I succeed were I to graft the Chionanthus on a few, for it appears it is hardier than at first supposed? I thought Muskoka should try it.

Medora, Muskoka. T. A. H.

REPLY.—You can graft it on the White Ash with better hope of success.

(1) Can the Catalpa be grafted? If so, on what stock? My plant has two side shoots, which I would like to graft. I am going to try on several kinds of timber roots, and will report if successful. (2) Please inform me how to grow the Mountain Ash from seed., viz., what process the seed has to go through. (3) The English Buck Thorn seed. (4) The Cedar Tree seed. (5) The Norway and the White Spruce seed. (6) The Balsam Fir Tree seed.

Appin. JOHN MCINTYRE.

REPLY.—It can be grafted on seedling Catalpa stocks. (2) Wash the pulp clean from the seed and sow in sand. (3) Same as Mountain Ash, (4) Sow in light sandy soil, and cover lightly. (5) and (6) Sow in light sandy soil, and screen from the sun.

SEEDLING ORANGE TREE.

MR. EDITOR.—I have an Orange Tree; I planted the pips myself. The tree now is eight years old; a fine tree it is, something over one inch thick in the stem, and about three feet high, and a fine bush at top. I have it in a tub in the house; in the summer I stand it out doors, but it has never bloomed yet. There are thorns upon it over an inch long. Can you kindly tell me the reason it has never blossomed. Is it because it needs grafting? I never noticed whether they grafted their young Orange Trees south or not, but it seems to me, if I remember right, that the trees there would be in full bearing at eight years old. Please answer in your usual way, through the *Horticulturist*, and oblige,

Yours respectfully,

T. G. GASTON.

16 Inchbury-st. South, Hamilton, Ont.

REPLY. — Yes, it needs grafting. Seedling Orange Trees, grown as they must be grown in our climate, are very slow in coming into bearing.

THE CLEMATIS.

I find we have the Clematis nicely classed in the report of 1883. Now, to make it more complete, will you name or give a list of those Clematis that are sweet-scented, other than Flammula.

Medora, Muskoka. T. A. H.

REPORTS ON PLANTS RECEIVED.

The little Deutzia is, I fear, no use here, as it is killed to the ground every winter. The Prentiss Grape looks to me a poor grower. Fay's Currants are growing. Black Raspberries all died; they arrived all dried up; none of them grew. This is all now, Mr. Editor. Wishing you a prosperous New Year.

Muskoka. T. A. H.

My Pear Trees have all done well, except Clairgeau. I like Clapp's Favorite extremely well. My apple trees are all doing well. My Grimes' Golden Pippin fruited well, fruit best quality, size small, slow grower. Ontario had 15 or 16 apples, size medium or large, flavor good, comes in bearing early, in three or four years after planting. Swayzie Pomme Grise had one specimen last summer; looks like American Golden Russet. Grapes have not done well with me. Burnet kills down to snow mark every winter. Moore's Early is not a strong grower in my grounds. My Saunders' Hybrid Raspberry has done well, hardy and good. I have a wild one growing in a corner of the fence on a 50-acre farm, some 80 or 90 rods from the house, similar in every particular as far as I can see, even to the color of the fruit. My Hydrangea paniculata was destroyed. My Catalpa has done well.

Appin. JOHN MCINTYRE.

In making my report for the last season of the things sent to me by the Horticultural Society, I would mention first the Grapes, the Worden and Prentiss. They grew moderately, but have borne no fruit yet. The Niagara Raspberry froze to the snow last winter, so did not bear much fruit. The other fruits I have, most of them did well. The Raspberries grew strong. The Mammoth Cluster Black Cap did well, and bore a good crop of fruit. The Gregg was frozen down to the snow last winter, and did very poorly. Gooseberries did very well, and bore a good crop. The Strawberries were very fruitful, especially the Sharpless. The Bidwell was a failure. I have a number of other kinds, of which I hope to report favourably next season

SAMUEL FEAR.

Brussels, Jan. 6th, 1886.

For the benefit of the Horticultural family I will report: First, the Prentiss is a failure, probably my own fault, as I had just bought my place, very much out of repair, and in my haste to get small fruit growing I made several mistakes. The Jessica is doing well. I hope for fruit next fall. I have also planted Brighton, Moore's Early, Early Dawn, Clinton, Delaware, Roger's 3, 4, 15, the inevitable Champion and others, besides a chance seedling that fruited this fall, which I am suspicious will make a name by and by. The Fay's Currants are doing well, one I received from C. A. Green in the spring of '84 fruited this year. The Catalpa speciosa is fairly started, 22 inches high, strong and healthy. My place is nicknamed Hurricane Hill; it gets the benefit of the breezes from all directions, and the wind sometimes twists the bushes into withes. The Russian Mulberry wintered with slight injury, while my one Peach tree was frozen to death before Christmas. The Cuthberts came through perfect, but I can't make a report worth a cent until I get more growth. I am trying to get a complete succession of small fruits, from strawberries to grapes.

TRUMAN COOPER.

Picton, Prince Edward Co., Ont.

The Catalpa set out last spring grew very rapidly, and seems to be doing nicely. Will it require any pruning

or trimming, and what is the proper time; also, best time for pruning grapes? J. E. R.

[The Catalpa should be trained to a single straight stem until it is about six feet high, and then allowed to branch so as to form a head.

The early spring is the best time to prune. If Grape vines are laid down and covered in the fall, in order to protect them with some covering during winter, it will be preferable to prune in the fall just before laying the vines down.]

The first plant that I received was Moore's Early Grape, which made a feeble growth and then died. The next season I got the Worden, which had some fine bunches of grapes this season, but they were very bad for dropping off as soon as ripe. Is that a peculiarity of the Worden? [No.] I next got a plant of the Prentiss, which has made a fine strong growth this last season. Last spring I got Fay's Prolific Currant, and it has done very well. So much for the premium plants. I grow Concord, Wilder, Brighton, Agawam, Pocklington, Martha, and some Niagara seedlings. Of the Grape vines, my Wilder, Agawam, Concord, Worden, Brighton, and Pocklington fruited this year, and I thought that the Wilder, Brighton, Concord and Worden were just splendid. I liked them best in the order named. Another year's experience may change my opinion. I am also trying the Russian Mulberry; it has been planted three years, and is about 7 feet high; it was about as thick as a wheat straw when I got it, and root and all about 14 inches long. I got some seed of the Catalpa speciosa last spring and planted them; they seem to be very easily grown; I have about forty of them; some of them grew about 14 inches from the seed. You told us that you would like to hear from members, hence this scribble.

WILLIAM TURNBULL.

Brewster, P.O., Ont.

I received last year the Fay's Currant which grew nicely, but of course it is yet too early to say anything as to final results.

Chatham. J. A. WALKER.

The Fay's Currant that I got of the Association made a good growth the last season, and I think that it will bear this. The Grape Vine that I received the season before has not made growth of wood to my expectation, but was alive and healthy in the fall. With careful treatment it may do well yet. I am well pleased with the way the Journal is conducted, and the useful information it contains.

Paris, Ont. JOHN R. FOLSETTER.

The Prentiss Grape Vine received in the spring of '84 has done very well. It is not so rapid a grower as the Niagara. Senasqua is no good here; giving it the same care as others, it does not make growth sufficient to be classed with either Eldorado, Vergennes, Martha, Delaware, Rogers No. 15, Janesville, Moore's Early, or the two first mentioned. I have one tree of Yellow Transparent Apple planted in the spring of '84, two years old when planted; it stood last winter without even a bud being injured by frost. I don't know the fruit, but if it is as good as recommended, I would consider it the best early apple for cold countries. H. C. REID.

Enterprise, Addington Co.

The Prentiss I had the spring before last has made a fair growth, and is in good shape for fruiting this year.

Fay's Currant made five good canes last season, and I am waiting to see the fruit. E. ROBINSON.

London, Middlesex Co.

I beg to state that we are situate on high and cold land. The Grape Vine received three years ago did not thrive well, and last winter died. The three papers of flower seeds did well, and gave entire satisfaction. The Catalpa received last spring is growing well at present; if it stands the winter will let you know. HENRY HUDSON.

Feversham, Grey Co.

I only wish with many others that the *Canadian Horticulturist* should be enlarged, and the money *wasted* in furnishing plants and trees be used for that purpose. The only one of the articles sent me is a small Apple Tree which has never borne fruit, and a bastard Raspberry, something between a Black Cap and a Red Raspberry, which yielded very little bad fruit, but any amount of canes, which I have dug up and burned. I certainly think a better use can be made of the money than squandering it in that way.

Palermo. H. M. SWITZER.

The Fays' Currant Bush received last spring has made a strong, healthy growth. JOHN KAAR.

Brownsville, Norfolk Co.

DEAR SIR,—Although I have been a subscriber to the *Horticulturist* for several years, and consider it an excellent investment for any Canadian who has a garden, no matter how small, I have never yet reported on the premium plants received from you, and will, with your permission, do so now.

Saunder's Hybrid Raspberry, was, I think, the first thing you sent me, and I have often wondered that I read so little about it, as I have found it an excellent berry—quite hardy, prolific, and of good size and flavor. The color may be an objection with some, but makes a pleasing variety when mixed with red and white berries. Season, middle of July to middle of August; main crop, about 1st August.

Wealthy Apple has done so well in this neighborhood, that I set out 20 in a small orchard I planted in the spring of 1884, about twenty miles north of the Ottawa River. They stood last winter, which was a very severe one, without showing any signs of tenderness, and I consider them hardier than the Fameuse and rather a better keeper, but not quite equal in flavor.

Worden Grape—Very good indeed, ripens about the same time as Creveling—is a strong grower, good bearer, and quite hardy here.

Prentiss Grape—Was planted spring of 1884, has made tremendous growth during last summer, and will bear this year I expect.

Canada Baldwin—Planted 1884; is doing well and is a vigorous grower, having made at least twice the progress of a Russian apple (name unknown), received from you at same time.

Fay's Currant—Planted last May; made good growth, and will doubtless be an acquisition.

I have also had from you a very pretty little rose tree, which bears the smallest white roses I have ever seen. They are about the size of batchelor's buttons. This, of course, is taken indoors during winter.

My soil is a sandy loam, and is liberally manured every year. The climate is not so severe as in many places to south and west of here, and as we usually have a pretty liberal covering of snow for the three or four months of coldest weather, many small

fruits escape here that are winter-killed in other localities. E. B. MEYER.

Côte St. Paul, Que., Jan. 1886.

BIGNONIA RADICANS.

I notice that Mr. S. H. Mackenzie has not been successful with *Bignonia radicans.*

Our treatment of it here is to lay down the canes in the fall, and give them a slight covering of earth or straw, the same as we do with grape vines. Protected in this way, there is no trouble in getting it to bloom every year. E. B. M.

WHAT THE PEOPLE SAY.

CLEMATIS CULTURE.

BY THE HON. MRS. LAMBART.

As the current Horticultural journals of our day contain so many enquiries concerning the cultivation of these beautiful climbers — enquiries that remain unanswered—I am tempted to offer a few suggestions on the subject, which I do with confidence in their correctness, as I have long grown the flower extensively, and have now in successful cultivation more than thirty varieties of it.

As to the propagation, I have searched in vain for information on the subject, and find the authorities *ominously* silent. True, they *can* be raised from seed—so can roses—and with about the same general result, that is: "a perfect lottery what the new plant will be"; but, to propagate any variety *truly*, that is quite another matter. That exhaustive and expensive work by Jackman on "The Clematis as a Garden Flower" says "root grafting," but we amateurs will thank him with little enthusiasm for directions so utterly useless in any but professional hands. Then there is "layering" which is also not practicable by the amateur, and, at best, is but a difficult and uncertain operation. The details of the work, and the apparatus necessary to perform the propagation by layering, are described and illustrated by Prof. Clausen of the Imperial School at Nikitr, in the Crimea, in the "Revue Horticole," and copied into the April number of "Vick's Magazine" for 1882. It is too formidable an undertaking as there described, on page 114, for me ever to have attempted it, and even now the length of the useless directions deters me even from copying the article. But, if the enquirer is enthusiastic, he can easily procure the details of the work with the references I have here given.

As to the cultivation of the Clematis, the first and imperative requisite is "plenty of sun and air." Without both of these it is utterly impossible to have any successful result. The earth must be dug out at least two feet deep, and at the bottom of the trench six inches of drainage, and then filled in with a mixture of sand and loam, but the *principal component* must be old manure from a cow stable;—in fact the soil in which the Clematis must be grown in order to flourish should be just what an Asparagus bed is made of, and like it, must be heavily top-dressed with *old* manure every year, and a soft and spongy consistency of the soil be maintained. The secret of *large* flowers depends upon potash in the soil, and to meet this want, Jackman, the great English Clematis grower, has prepared a manure especially for the purpose, but, as this is not to be had in this country, an excellent substitute and wonderful results are obtained by *frequent* waterings with a *weak* lye made of wood ashes. It is also of great use to mix powdered lime or chalk with the soil when preparing the Clematis bed. With this treatment I have had an unlimited supply of great white stars from the 10th of

June until the 1st of November, averaging 9 to 10 inches in diameter, the consistency of wax, the texture of satin, and remaining for several weeks in bloom, each flower, before falling apart.

In the autumn the Jackmani and Viticella varieties should be cut close to the ground—the Lanuginosa varieties left 9 inches long, and the perennial wooded ones not pruned at all, but carefully taken from the trellises, laid on the ground, and covered (in this climate of Ottawa) with *old* manure to a depth of at least 12 inches. In the spring this covering is to be raked off, and the long wood tied to the trellises, where it soon sends out young flowering shoots which bloom about the 10th of June, and are followed shortly after by the other varieties, which send up their blooming shoots from the root every year, rapidly covering space with foliage and flowers. If the colors are carefully chosen, a perfectly radiant combination of colors may be had from June until frost.

As to varieties, I would advise several white ones, for although all are nearly alike in appearance, the season of flowering is different, and if planted together the same flower seems in perpetual bloom. The same is true of the red varieties—(*not* including the Clematis coccinea, which does not harmonize with the others.) My favorite of all is the lovely lavender-colored Mrs. Bateman, and the Blue Gem is almost as fine. The Rubella, Viticella, Rubra Grandiflora, and Madam Grange, are of a fine red or claret color, the Jackmani, a radiant royal purple, but a coarse loose flower when closely examined, and the Velutina purpurea, which is like Jackmani, except that it is almost black and of a very velvety surface.

If these suggestions are found of use I will add a few more before the planting season opens, hoping to stimulate the cultivation of what is so perfectly within the possibilities in our climate, and capable of results which enrapture and surprise those who see them in their beauty and profusion for the first time.

January 22nd, 1886.

GIVE US YOUR EXPERIENCE.

(For the Canadian Horticulturist.)

It is some time since that I, partly in deference to the nod of the chief of the Horticulturist's staff, and partly to gratify the chronic *cacœthes scribendi*, prepared a paper on the "Advantages and Art of Fall Planting of Trees," &c., &c In the order, or disorder, of events it was mislaid and could not be found nor leisure had to prepare another, the author not being blessed with a brain as fertile as that Spanish prodigy, Lope de Vega, who could write a five-act play of Shakesperian power before breakfast. So the public have been permitted to sleep on in their accustomed and sinful arboreal apathy. Just a few days ago the missing "copy" was found together with the aforesaid "Nod" snugly embowelled in its folds, like precious and embalming spices. But no antiseptic could prevent it from becoming unseasonable, a sort of post mortem affair, for the Frost King had long since invaded Flora's domain, striking down first the lovliness which stood nearest the "picket line" between autumn and summer, and then with brumal din, rush and clash of storm and tempest, swept all before him. "But the Nod. What became of the Nod?" O! that was an evergreen, fresh and flourishing, and as potential as ever. The Secretary has more than once explained that the trees and plants distributed among its members were so distributed to ascertain their hardiness, productivness, profitableness, as adju-

vants, to increase the comfort, refinement, and happiness of every Canadian home. In this sense it is a patriotic task, but though patriotic it is not self-sacrificing, for it is discharging a debt contracted by accepting the gifts on the condition of publishing the experience. It is not self-sacrificing because it is one of those labors which carry their rewards with them. Who has not felt the fascination which holds the mind in delightful captivity as it watches the development of the useful and beautiful in fruits and flowers? I for one cheerfully obey the kindly behest of the Association to report, but firstly beg to wedge in a short paragraph on

REPORTING.

The Association is not a speculation, not a *Credit Mobillier*, an institution of hawks to capture pigeons, that it invites the marvellous—the report *ad-captandum vulgus*. The Fruit Growers' Association is none of these, but a *community of mutual teachers and learners*. It therefore wants facts in the form of experiences, most of all, plain, broad-footed, brawny-handed, and proletarean, if you like, on the one hand; on the other, scientific, but cautious; æsthetic, but ever rational, whilst exploring the realm of the beautiful. Again, it solicits *all the facts* affecting the experiment; not a one-sided array to parade a pet theory or thing, but both sides. The witness not in court may be the very one required to complete the chain of evidence. The stereotyped expression, "in my grounds" such a grape mildewed, or such a pear blighted, although a fact, and therefore of some value, is not sufficient. We know, theoretically and practically, that differences of results are mainly due to differences of treatment, climate, soil, position, each one of these facts adds to the value of the other in a cumulative ratio. The problem cannot be solved except by the use of all the factors. Yet how rarely are the factors given. A simple statement of success or failure, little more. One gratifying exception to this will be found in the *Horticulturist* for December, 1885, under the caption "Grapes—a Review." That review is admirable for the fullness of data.

Let us glance at a few of the agencies which more or less modify results or quite baffle our efforts in plant culture. Climate, which may be said to include locality, aspect, altitude, protection, air draughts, vicinity to swamps and small bodies of water. A little body of water to tender plants is what Pope says a defective education is to the mind. "A little learning is a dangerous thing." So are swamps and small bodies of water. Here, also, will come in barometric pressure, per cent. of cloudiness, sudden extremes. These in summer, more especially, affect development and quality of fruit, in autumn the ripening of the sap, and consequently hardiness of the plant to withstand the winter.

Then again the soil and drainage, heavy or light, close or porous, argillaceous, calcareous or arenaceous, and so on. I may almost say *ad libitum, ad infinitum*. There is scarcely a plant known to horticulture that is not partial to some certain soil and climatic conditions, more or less differing from the wants of nearly every other plant. There is scarcely a defect or difficulty hinted at above that may not be sufficiently mitigated or overcome for all practical purposes by the art of the skillful cultivator. The facts and experiences which create that skill it is the object of the Association through its reports and through its organ, the *Horticulturist*, to place in the possession of every Canadian who, however luxuriously he may be—*recubans sub*

tegmine fagi—may add to that primitive pleasure the still greater one of "sitting under his own vine" and apple tree, and snuffing the fragrance of his own flowers, or yet, most gratifying to some and acceptable to all, say with Iago:

"Go to, put money in thy purse."

Now for all this we must have each other's experiences. The *Horticulturist* can give generals, but the particulars, the peculiarities, the idiosyncracies of plants and places, can be obtained in no way but by the members reporting carefully, concisely, and fully.

Milton, Ont. S. P. MORSE.

THE CURRANT BORER.

Is there nothing that can be done to fight the Currant Borer? Of late I have been training my red currant bushes on a plan I found in a book I brought from England entitled *Multum in Parvo Gardening*, or £620 annual profit from an acre, by Samuel Wood. His system was to get upright rods as soon as possible, then top them, and the laterals that grew during the summer were to be cut back in the fall to one or two eyes, the same as many adopt with their grape vines, and he (Mr. Wood) maintains that this is the right pruning for the red currant and that they will bear immense crops.

On this plan I trained my bushes last summer, but when I went to cut the laterals in the fall I found the borer had made three and four holes in many of the rods, and as the only remedy, even in Mr. Saunders' book on insects, is to cut the wood away, I did cut it away and spoiled all my plans. Two bushes of Fay's I had to cut almost to the ground.

Now, Mr. Editor, can you not suggest a remedy, or perhaps some of your subscribers may have a remedy which they could give through your valuable *Horticulturist*.

London, South. E. ROBINSON.

NOTE BY THE EDITOR.—Unfortunately we have never heard of any other remedy than that of cutting back the rods of the currant bushes far enough to secure the worm, or larva, which will be found in the pith, and burning the cuttings and thereby killing the larva that may be in them. This is a very unsatisfactory proceeding, and makes very slow headway against the enemy. It is very much like burning up one's currant bushes in order to get rid of the borer. Can any of our readers give us something better? Has any one tried any other method?

GOOSEBERRIES.

I was much pleased to see the illustration of the "Industry" gooseberry in the December number. This is a fruit of which I am fond, and I am fully convinced that if it received that care and attention which it merits, it would in suitable soil prove the most profitable of our small fruits.

I have cultivated for the last twelve years the following English varieties, viz.: Whitesmith, Ocean Wave, Red Warrington, and Crown Bob. They have yielded enormously, and have never shown the slightest signs of any mildew.

Last year I imported twenty-two other English varieties, which I intend testing, and will select such as are suitable and give satisfactory results.

My garden is a stiff clay, rendered friable by coal ashes and plenty of stable manure. From my own experience and that of others who have cultivated the English sorts in this neighborhood, I

am persuaded there is little fear of mildew on a clay or clay-loam that has been well drained, provided the plants or bushes are kept in a good healthy, growing condition, by being liberally mulched with manure, and that care is taken in digging or stirring the ground around them not to injure the roots. With kindest wishes for an increased circulation for your valuable periodical.

A. MORTON.

Brampton, 16th January, 1886.

RASPBERRIES—BEST MARKET VARIETIES.

Souhegan and Tyler are now the leading early Black Caps. They are strong growers, and probably more productive than the older early kinds.

Next comes the well known reliable Mammoth Cluster for the medium season. The fruit is very good, though not so large as some others.

Last and largest comes the Gregg. The fruit is very large, firm and dry. As a fruit cannot well be firm and dry, and at the same time melting and juicy, the quality of the Gregg is not "best." It fills the basket and the can, and does not shrink much in drying. So long as the consumers do not object to its quality, the growers need not do so. Although the Gregg is a strong grower, it forms very weak tip plants, many of which must be rejected. Good plants of this variety cannot, therefore, be propagated as cheaply as those of most other Black Caps. The fruit of the Gregg adheres to the stem so firmly that the whole crop can be gathered in a few pickings. Some one has intimated that the Gregg is unsuited to a sandy soil. Upon such a soil I grow berries that astonish experienced fruit dealers. Many persons do not recognize them as Black Caps.

After growing many varieties of red raspberries by the acre for some years, I can only recommend the Cuthbert. I have an acre and a half of this variety in full bearing. I never lost any Cuthberts by winter-killing, but a portion of my patch was "shortened in" pretty severely last winter. Enough wood was left to produce a full crop of berries. The Cuthbert is a strong grower and transplants remarkably well. It produces a large crop of large, firm fruit, of a good flavor and good color. It takes several weeks and many pickings to gather all the fruit. It extends the raspberry season, and for ten days at the end has no competing red raspberry. An early raspberry as good as the Cuthbert is called for.

The Highland Hardy is a small grower and small bearer of small, soft fruit.

The Hansell is worse in nearly all respects.

The Marlboro' does not promise very well in any respect, but we will know it better after another year's trial.

The Brandywine, Turner, Clarke, Philadelphia, Herstine, and others, are mid-season berries.

The Brandywine is a dwarf grower, hardy, and produces fair crops of very bright, medium sized, firm fruit, of very poor quality.

The Turner is a fine grower, and one of the hardiest kinds. It gives two pickings of nice looking, medium sized, softish fruit, of excellent quality. The later pickings give softer and smaller fruit, and less of it.

The Clarke gives large, bright, soft fruit, that produces prompt spontaneous jam. Sometimes the canes get discouraged, and die just when the fruit ought to ripen.

The Philadelphia has several good points. It does not incline to sucker. It yields immense crops of dark-colored fruit of good flavor. It is good for canning and for raspberry vinegar, though it cannot successfully compete with the brighter kinds in the market.

The remarks that apply to the Philadelphia apply to the Hybrids also.

For home use the Saunders and Shaffer's Colossal ought not to be overlooked.

The Saunders gives a very rich color to vinegars made from it.

At the present time the Gregg black cap and Cuthbert red raspberries stand head and shoulders above their competitors. The market grower who plants mainly these two varieties, acts wisely so far as we can now know from the experience of the past. Ideal varieties very much better than these exist in many human heads. When they manifest themselves in the "fruit," let us all rejoice.

E. MORDEN.

Niagara Falls, South, Ont.

REPORT ON FRUIT IN LAMBTON COUNTY.

(Continued from Page 41.)

BY B. GOTT.

THE CHERRY.

This fine old fruit also is becoming rather shy of profitable results in our conditions and management. The better sorts, as those of the old English and other foreign kinds, with us will always be scarce and in poor supply, as there is a growing feeling that our country is not suited to them; and this feeling is becoming very strongly rooted in this county. The old Red Virginia or Kentish Red, known here as the old Red Sour cherry, is the only one that we can grow with anything like a decent success; but if the Black Knot attacks our trees as it does in some other portions of the Province, then we are totally done as to cherries. Plum and pear conditions of soil and climate are not suitable conditions for cherries. They need a something that is not found in our county, and consequently they are not at home with us. The markets and prices are good, if we could only get the fruit. The birds are our best consumers, but not the best paying customers.

THE QUINCE.

This fine fruit is growing in popularity, and there is now a demand for it in our markets that was not known a few years ago. I believe it to be one of those fruits the demand for which will very largely depend upon the culture and fine tastes of the people. I saw some very fine samples brought into the market this year, grown on rather damp, loamy soils, where they appear to do well. The sort cultivated is mostly the Orange Quince, and the prices are pretty good, but not sufficiently so to warrant a very large culture.

THE PEACH.

Owing to the severity of our past winter our crop of this very popular fruit was totally destroyed. Our conditions on the whole are not good for the producing of peaches, although we have, in years past, grown some large crops of very fine fruit. But it is not now with us as it once was, and as in the case of plums, we have very largely to regale ourselves with the thought of past enjoyments. For the last four or five years we have had no crop, and our people in their faithlessness refuse to plant any more trees. Last spring one gentleman recklessly cut down a fine promising orchard of peach trees as cumberers of the ground, but I believe he is sorry for it now. Of course it is discouraging enough, but we must ever hope for the best. The trees have done remarkably well this year; the growth made and the fruit buds matured are cheering, and well calculated to stimulate our hope for next year.

GRAPES.

This crop is exceedingly promising, and is rapidly growing in popularity. The plants are so hardy, so easily managed, grow so rapidly, and produce so abundantly, that our people plant them

with the greatest confidence. Then again, the fruit in its improved forms is one that everybody likes, from the smallest child to the gray-haired grandfather. It is so readily made up by the family into savory dishes that every housewife wants a supply, be it ever so small. Almost any family can grow them that has only a few square rods of soil. Our conditions over this county are remarkably favorable, and the produce, where the vines are properly cared for, is very great. A good apple region is a good grape region, yet grapes will sometimes do well in regions where apples will not. There are but few difficulties in growing grapes, but few rots or mildews but what are easily controlled. And then the best of all is, we have the power to protect the plant and the crop from the severities of our winter seasons, and so ensuring our crop of fruit. This is done by laying down on the ground before severe frost sets in, and although people are sometimes afraid of this trouble, yet it is very easily done. This season's crop has been very large and remarkably fine; almost all kinds doing well all over the county. The most popular variety here is still the old substantial Concord, that has done more good service for us in this country than any other sort. This season we fruited Worden's Seedling and Moore's Early, though not much difference in them, yet they are both very desirable sorts, and should be largely planted for their earliness, being about ten or fifteen days before Concord this year. On account of our cold and backward season all sorts were very late in ripening, being nearly two weeks later than usual, but still in due time they ripened up very nice. Lady is a beautiful grape, and Jessica is also promising, but in our opinion the Brighton is worthy of very extended culture as a popular amateur fruit. The vine is hardy and very prolific, and the fruit is possessed of so many fine qualities that it is difficult to surpass it. There are so many excellent kinds, all possessing one or more good points, that it is hard to say just which is the best. Any of them are good, if properly attended to, and will amply repay the labor and pains spent upon them. The crop being so large this year our markets were filled to a surfeit, and the prices in consequence went very low, but still on account of the quantity the results to the growers were very satisfactory, and paid as well as any other fruit.

RASPBERRIES.

We are yet scarcely sensible of the extent to which the culture of this fine fruit may be carried. The fine new sorts, almost every year brought out, serve very much to strengthen the industry, until it is no uncommon thing to see acres of them in continuous culture. The ease with which the young plants can be procured, the rapidity of their growth, the ease of cultivation, the quantity and beauty of the fruit, and its ready reception in almost any market, all tend to make the raspberry an increasingly popular favorite amongst all classes. Much of our county is by nature well formed for extensive and successful growth of this fruit. Many acres have been grown in an uncultivated state, the fruit from which was very beneficial to the early settlers, and the remembrances of these gatherings is yet pleasing. But as the advancing farmer approaches these "patches," they immediately disappear, and the place thereof is taken to grow other crops for other uses. So we have to rely upon the new plantations of improved kinds for our daily supply. These are planted out in the spring of the year in rows six feet apart, and the plants three feet in the rows, and cultivated as for corn, and the crop, when in good bearing, will run about 2,000 to 3,000 quarts

per acre. The kinds planted are various and are divided by color of fruit, as reds, blacks and whites; of the reds the Turner and Cuthbert are the best, and are very popular. Mammoth Cluster is best of the blacks. This season the crop was large and prices ran down pretty low, but still a good margin was realized. On account of the greatly increasing quantities used, the markets will always be glad to receive even the largest crops at very fair prices.

STRAWBERRIES.

Our county is found admirably adapted also for this princely fruit. They are raised on our soils in greatest profusion, and in the highest style of size and quality. One grower, near here, had about six acres and 16,000 quarts this year. His crop was one of the finest strawberry sights witnessed in the county, and realized him almost "a fortune." The kinds grown are various, all apparently doing well; but the Manchester, James Vick and Daniel Boone, are decidedly excellent, and in their behavior leave nothing further to be desired. The crop this year was immense, both in quantity and quality, and although it was very late before the crop came in, yet, in the end, gave the greatest satisfaction to all concerned.

GOOSEBERRIES.

Many sorts of this old popular fruit are grown and with very large success, although this year, being so cool and wet, they were much attacked by mildew and rust. The crop was large and tolerably fine, the demand in the markets good and prices fair. The kinds mostly grown are Downing and Smith's Improved, both good sorts.

CURRANTS.

This old and popular fruit is also grown very largely in all its variations of red, black and white. A better and more generous culture is securing much better results than formerly, and more satisfaction is given. Of the reds, Raby Castle and Cherry are good. Of blacks, the Naples and Lee's Prolific are recommended. Of whites, White Dutch and Grape are best, and all find a ready market.

BLACKBERRIES.

The growth of these is something amazing, and the crops, in favorable seasons, immense and beautiful. It is one of those fruits that are always acceptable, and of which we can never get enough. The product is pretty good, and the market prices excellent. Snyder and Kittatinny are best sorts, and give the best returns.

NUTS.

The native nut crop this year is generally very large over the county and very fine. The best nuts for popular use are the Hickory, Walnut, and Butternut, with Chestnuts and Beechnuts.

Arkona Nurseries.

APPLES, GRAPES, AND STRAWBERRIES.

We had a good crop of apples the past season and got $1.25 per barrel for them. Our late grapes were all frozen.

I see there has been some discussion as to whether the strawberry is best grown in rows or hills. I used to plant them in rows that were three feet apart and the plants ten or twelve inches apart in the row, and when the rows got too wide I hoed the outsides of them and in this way I have had them as good as ever for nine or ten years.

You deserve great credit for the way you have got up the annual report. Those who do not get it miss a great treat for the saving of so little money. WILLIAM BROWN.

Annan, Co. Grey.

GOOSEBERRY IMPROVEMENT.

SIR,—A good article by B. Gott, of Arkona, in *Rural Canadian* moves me to send to the organ of our fruit growers a paper on the same subject.

The article alluded to deals with the improved American gooseberries, and says that no good results have followed crossing with the English sorts.

Deep rich clay loam and much trouble and care are needed in order to secure reasonably long life.

I think, however, that our few and middling garden kinds must have resulted from crossing the native with the English, but that the mother selected was one of our swamp berries, of low, weak, spreading habit; fruit smooth yet deficient in flavor, size, and sweetness, whereas had the other wild type been chosen for crossing or improvement we might not now have had to complain that of all our fruits the gooseberry is the poorest.

The taller sort of wild gooseberry is very frequently prickly or even spiny, but is sometimes almost or quite smooth, and the flavor very fine.

Last summer I found a bush bearing smooth good sized fruit, sweeter and richer than any English kind I have met with, save one or two.

Were our best tall-growing upland natives crossed with suitable European sorts we might expect what has not yet been attained, plants adapted to our climate, fit for any soil, permanent, needing little care or training, averse to mildew, and bearing large crops of high-flavored, good-sized fruit.

From your remarks in *Horticulturist* I am pleased to know that Mr. Dempsey, Mr. Saunders, and others are moving in this direction, and that a few years may bring about a great reform in the fruit.

Our generally rough natives are so excellent for preserves that long ago in the United States the fruit was named the "Jam Berry," and if for no other reason deserves to be saved from the extinction which in case of so many wild plants follows the clearing off of our woods.

As an instance of the permanence and reliability of our upright growing natives, I may state that when the country was new, after trying many English kinds and throwing them away, I got into the practice continued fitfully till the present time, of marking the better specimens in harvest and lifting them in the fall, by which means I obtained in a couple of seasons a large plot of bushes four feet apart.

Without any care most have borne fruit for more than 25 years, and some plants are 6 to 8 feet high, so that one can place a chair under and sit to pluck or eat the fruit.

The native gooseberries are not absolutely free from mildew, though it is the exception, and not the rule as is the case with the English sorts in most situations.

Cuttings strike with much difficulty, but layers take readily and soon make fine roots; transplanting in the fall never fails. They are continued by a natural system of renewal. Almost every year tall straight twigs grow from the crown of the root, and in the next season these form side branches, which next year and for several years bear fruit. Pruning merely consists in reducing the number of these young stems, and in removing old ones occasionally.

The varieties are innumerable, as each district has its peculiar sorts:—Small, large, rough, smooth, sour, sweet, green, red, in various shades, rusty, purple, almost black, shining or with a bloom.

While doing well under cultivation, there is little or no improvement in size or quality of fruit thereby, and

from seed of the largest and best I have never obtained offspring worthy of the parents.

Crossing and hybridizing might give better results. J. CUPPAGE.

CRAB APPLES.

MR. EDITOR,—This last two years past you have been silent on our somewhat despised *Crab Apple*. Have you no plea for them. They are among apples our truest friends here in the cold north. Can you not name five or six good dessert kinds, and good keepers. I feel that we are losing time to neglect those valuable fruits. Why not improve those that do so well in the north, for, at most, all I know of the Russians they are not of first quality and not good keepers? Now, Mr. Editor, are they too mean a fruit for your notice; have you nothing in their favour? They have proved the hardiest apples we have; though hardy, they want care and looking after. I find all over the borers are at work, and many wonder they die. I have dressed my trees as per receipt in the July number, 1885, and believe it will answer admirably if done once or twice each year. For grafting, I find it advisable to take the cuttings off in the fall and partly bury them, because they are often so badly hurt by our severe winters as to be doubtful to grow when grafted, if cut in the spring. I find this so, even with the Duchess of Oldenburg; last year I find it is with me, as it was with J. P. Williams, in July number, 1885. It will not grow well when top-grafted; in fact, I could never make a tree of the Duchess when top-grafted. Now, dear sir, is it the same with all the Russians? Will the Yellow Transparent do well when top-grafted? Can you tell me this, as I do not wish to lose or waste time?

Muskoka. T. A. H.

SOME NEW BERRIES.

(For the Canadian Horticulturist.)

DEAR MR. EDITOR,—With your permission I would give the readers of your excellent monthly a notice of some of the new fruits that will be eagerly sought for by some and made little of by others this coming spring. As your are aware, sir, the strawberry is my favorite of the small fruits. Hence it will be the first I notice.

The Jewell. It has been before the public for some time and the only one that has been sent out for testing in different localities, and has given satisfaction wherever sent. No lover of the strawberry need be afraid to invest in a few dozen at the price asked for it. This variety is from Connecticut.

It is reported of the Jewell that from 1-22d of an acre 687 quarts of berries were picked besides what was picked by visitors. It is supposed it would yield 500 bushels per acre.

It is an old saying, sir, "when it rains it pours."

2nd. *The Belmont.* Origin Massachusetts. This variety, unlike the former, has come like the lightning flash, unannounced, and fruitmen are led to ask when will this production of new fruits end.

The following notice of the *Belmont* I had from the introducer. He says as a cropper we cannot say too much in its favor. From scarcely a quarter of an acre we realized the net sum of $596 or $2,384 per acre. What does my friend of Lakefield think of that, for I presume neither of these men followed the *slip-shod* plan of growing the strawberry.

Then, sir, the next wonder comes from Illinois. *Butach's No. 5.* This is only $5 per dozen, and if all that is said about this "wonderful" (may be it is the "Big Bob") berry is only half true, nothing I have yet grown can

compare with it for size, earliness, and fruitfulness. I have grown almost every variety introduced since 1872.

There are two other varieties that I have grown, namely, May-King and Ontario. May-King is early and Ontario medium. I am satisfied whoever gives them a fair trial will not regret the outlay.

The next wonder is in the raspberry line. It is the *Earhart Everbearer*, black. This also comes from Illinois. Well, Mr. Editor, I am dull in apprehending when the third season of bearing of the *Earhart* begins.

The first two I can understand, and knowing that you can see into these mysteries better than most men, would you please tell when the third term of ripening the berry begins and ends. In the fall of 1885 we had quite a supply from the young canes of Shaffers till October.

The next great novelty is a blackberry that has been through a gradation of names such as "Topsy," "Uncle Tom," now "Erie." The stock amounts to 6,000 plants; it has got into the hands of ten men who have each a share at $500 a share. These are all prominent fruitmen, and know how to handle the business.

My brother fruitmen, please go slow on these two novelties till you know more about them. J. L.

Granton, Jan. 26th, 1885.

GOOSEBERRIES.

Gooseberries are a very profitable crop to grow for market. They succeed best on a good strong loam, and will well repay good cultivation.

Unlike other small fruits, they are ready to gather for market as soon as they have nearly got their growth and continue to get better until they are fully ripe, thus giving several weeks in which to gather and market the crop.

The usual custom is to use them before they are ripe for canning purposes, and comparatively few ladies have ever tried them when fully ripe for that purpose.

To my taste there is just as much difference between ripe and unripe gooseberries as there is between ripe and unripe peaches.

By using the light colored varieties such as Smith's imp. and Downing when fully ripe with white sugar, they will make a very light green colored fruit, which looks very nice either in the cans or on the table, the juice all forms into a jelly, and makes one of the finest canned fruits we have.

VARIETIES.

English varieties are very subject to mildew.

White Smith is the best I have seen among those well tested in this country. While the bushes are young, (if planted on clay loam and given good cultivation) they are quite free from mildew. The fruit is very large, of a greenish white color, good quality, very productive, and a good strong grower.

Crown Bob is a poor grower with me, fruit very large dark red, quite hairy, of good quality.

Industry. The fruit is quite similar to Crown Bob in appearance, but a little larger, and the bush is a good strong grower and productive, but like all other English gooseberries it will mildew in many places, although it is much less liable to mildew than Crown Bob, and many other English varieties.

American Gooseberries are what we will have to look to for our standard market sorts.

Smith's Improved is the best and most profitable of any that I have seen, it is large, light green, good quality, hardy, a strong grower, and very productive.

The only fault I have seen with it is

that it will crack if left to get a little over ripe.

All things considered, I believe it to be the most valuable gooseberry that has been fully tested, for this country, either for home use or market.

Downing, fruit large very good, light green, a strong grower, not as productive as Smith's Improved, nor as hardy, mildews with me on sandy loam, but not on clay loam. Not easy to propagate from cuttings, requires to be layered.

Houghton has been more largely grown than all other varieties; it is small, red, very productive, and when grown on young healthy bushes, on good strong soil, and good cultivation, it is of quite good size.

It is so hardy and productive that it is still a very valuable sort for market.

W. W. Hilborn.

Arkona, Jan. 30th, 1886.

WINTER-KILLING OF THE ROOT.

Mr. Editor,—Allow me to add something to the practical and sound advice of our old and esteemed friend, Mr. A. M. Smith, of St. Catharines, given in November number of the *Horticulturist*, on the subject of prevention of root killing of fruit trees and vines by exposure to extreme cold during winter. It appears to me that if Mr. Smith had first explained the reason of the injury more definitely before giving the preventive, his already able article would have been still more effective in moving our fruit growers to action in making use of his advice in the matter. In our experience and observation in the matter of grape root killing, we have noticed that those varieties, the roots of which are most fleshy and less fibrous and wiry, are more susceptible to injury in cases of exposure to sudden freezing and thawing, from the very fact that the cell structure is more easily broken. Just as we find the potato more easily destroyed than the apple by freezing and thawing on account of the lack of tissue or fibre in its cell structure, so we find some varieties of fruits of all kinds more subject to injury from the above mentioned cause than others on account of the difference in the cell structure of the root. Of course the varied conditions and situations and exposure, all go to give different results and degrees of damage. For instance, in grapes we find the Niagara root very fleshy and with very little fibre, so much so that when we were ploughing to our vines last fall great bundles of Niagara roots would gather on the plough coulter, and when taken and bent between the fingers would snap off in pieces half inch in length without any sign of fibre, while some other varieties with tougher and more wiry roots could scarce be broken at all. Now it is quite generally known that when apples, potatoes, or any other vegetable with such lack of tissue or fibre are frozen, that if the process of such freezing and thawing is allowed to occur rapidly, then the cell structure is sure to be much worse injured than if allowed to freeze and thaw more slowly. If this be true theory, then our friend's advice is just the remedy, or rather preventive, of the injury such roots are subject to. And according to the old adage, an ounce of prevention is worth a pound of cure. So fruit growers generally will find it much to their advantage to protect such tender rooted varieties by covering the roots to a distance of two or three feet around the base or trunk of such trees or vines with coarse manure, or by sowing rye thickly about the first of September, after first ploughing to them (as our friend, Mr. Smith, has advised), and thus prevent injury by retarding the process of freezing and thawing. For if the cell structure once becomes broken, then the passage of the sap

must be obstructed, and consequently the vine must die. In case of such winters as the present one with us with little or no snow, and more or less sudden and severe freezing, and just as rapid thaws, any trees, wind-breaks or obstructions to prevent snow from blowing off are of little account, and we must resort to covering our vines, or be in danger of losing many of our choice varieties. And at the same time we find by experience on all heavy lands other advantages from such covering, such as in the case of rye, as spoken of above, when ploughed under in the spring tends to keep the soil in an open and porous condition, as well as to add its fertilizing properties as a manure to the soil. It also tends to keep the ripe fruit, especially grapes, from becoming dashed with mud in case of heavy showers in the fall. And when manure is used it also gives the two first advantages as the rye, and helps to lessen the work of the first digging or hoeing in the spring by keeping the soil from baking. Deep planting is also another remedy for grape root freezing, where it can be done without being subject to standing water in the soil. And, of course, no tree or vine can be expected to live and prosper in wet soil. If you think the above of any use to your readers, use it, and if not, let the waste basket take it.

I am, yours respectfully,

J. TWEDDLE.

Stoney Creek, Ont., Jan. 18, 1886.

GOOSEBERRIES.

DEAR SIR,—When I purchased the property on which I now reside I found quite a number of what is known as English gooseberry bushes. I also found I could get no fruit off them; mildew they would in spite of sulphur, salted hay, etc. So two years ago I dumped about a bushel of ashes from the coal stove around one of said bushes and was rewarded with a full crop of fine berries from it. Last winter I served half a dozen more bushes the same with like results, and this winter shall continue the practice.

GLADIOLUS.

A few years since I procured half a dozen of the more costly and finer kinds of Gladiolus, such as Africana, B. B. Coutts, Cameleon, etc., but they would not increase as the more common sorts, and after three years planting I just had the same quantity I commenced with. So last spring I cut them in two, with an eye in each half. I found they bloomed just as strong and I doubled my stock.

I have the best success with the following mode of culture. I may say that my soil is sandy with gravel subsoil so that it is perfectly self-draining. First, I prepare a sufficient quantity of compost, fully one-half well rotted manure, then dig a bed of required size to accommodate what bulbs I have, a foot deep, filling the same 8 inches with the compost and press moderately firm, then set the bulbs on top of the filling about 6 inches apart, then cover the bulbs with 3 inches of pure, clean sand, and fill the remaining inch with some of the top soil dug out, scatter the balance over the garden. I have raised bulbs 5 inches in diameter perfectly free and clear of blotches, scabs, etc., with bloom to correspond.

I am, yours, J. S.

St. Thomas, Jan. 1886.

BURNET GRAPE—CORRECTION.

In the account given by me of grapes grown in Muskoka, in January number, 1886, page 9, I gave the wrong name to the vine received from the Fruit Growers' Association, it should have read *Burnet*, not Moore's Early

F. W. COATE.

BOOKS, &c.

Schedule of Prizes offered by the Massachusetts Horticultural Society for the year 1886 ; competition open to all. Robert Manning, Sec., Boston, Mass.

Illustrated Catalogue of the Joseph Harris Seed Company, Moreton Farm, Rochester, N.Y. 1886. Flower and vegetable seeds sent prepaid by mail.

The Canadian Breeder and Agricultural Review is published weekly in the stock and farming interests of Canada, corner Church and Front Streets, Toronto, at $2.00 a year.

Nellis' Floral and Garden Instructor, 1886, a descriptive catalogue of vegetable and flower seeds for sale by the A. C. Nellis Company, Canajoharie, N.Y., profusely illustrated.

J. A. Simmers' Seed Catalogue and Cultivators' Guide, 1886, Toronto, 147 King Street East, is very abundantly illustrated, containing also a select list of grape vines, roses, gladiolus, dahlias, etc.

The Canadian Science Monthly, devoted to the interests of Canadian Naturalists, and the popular study of the natural sciences, is published by A. J. Pines, Kentville, Nova Scotia, at 50 cents a year.

Peter Henderson & Co's Manual of Everything for the Garden, 1886. A handsomely illustrated descriptive list of flower and vegetable seeds, garden and farm implements and flowering plants. Nos. 35 and 37 Cortlandt Street, New York.

Descriptive Catalogue and price list of Sibley's tested seeds, 1886, Hiram Sibley & Co. 179–183 East Main Street, Rochester, N.Y., and 12–14 North Clark St. Chicago, Illinois. Contains also a list of Summer flowering bulbs, plants, roses, small fruits, implements, etc.

W. W. Hilborn's Catalogue of small fruits for spring of 1886, Arkona, Ont. An unusually liberal offer of new and choice grape-vines, raspberries, currants and strawberries, together with the *Canadian Horticulturist* for a year, will be found on the fifteenth page of this catalogue.

Third Annual Report of the Board of Control of the New York Agricultural Experiment Station. This report is full of interesting results of experiments in feeding, in the germination of commercial seeds, nomenclature of garden vegetables, classification of peas, testing varieties of potatoe, etc. etc.

Report of the Entomologist, James Fletcher, Esq., Department of Agriculture, Ottawa, Ont. Mr. Fletcher will be gratified to receive communications from all parts of the Dominion in reference to insects injuring crops of any description, also small packets of insects for identification, which may be sent postage free if addressed to the Entomologist of the Department of Agriculture, Ottawa.

The Horticultural Art Journal, published by Mensing and Stecher, Rochester, N.Y. every month, at $3.00 per year, is devoted to disseminating a correct and faithful representation by means of colored lithograph plates, made from nature by skilful artists, of new and meritorious productions of the nursery, seed garden and green-house. Each number will contain four colored plates, accompanied by a careful description of the appearance, merits and qualities of each subject. We trust this new venture will meet with the support which such an art journal most richly deserves. The first number contains very beautifully executed plates of Marshall P. Wilder Rose, Shipper's Pride Plum, Rancocas Raspberry, and Niagara Grape.

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF THE COPP, CLARK COMPANY (LIMITED), TORONTO.

Shipper's Pride.

A plum of large size, handsome appearance; Tree hardy, healthy and productive.

THE

Canadian Horticulturist.

VOL. IX.] APRIL, 1886. [No. 4.

THE SHIPPER'S PRIDE.

We call the attention of our readers to this new plum, because from what we can learn concerning its claims to the attention of fruit growers, it seems to be remarkably suited to the needs of those who are growing plums for market. We are informed by Mr. H. S. Anderson, of Union Springs, N.Y., a gentleman in whose statements we place the utmost confidence, that it combines beauty of appearance, large size, good flavor, sufficient firmness to bear transportation well, and long-keeping qualities, with great productiveness. These are all important points in a fruit for the market, but especially size and beauty, for these have much weight with the purchasing public.

This plum, we are told, originated near the shores of Lake Ontario in the north-western part of the State of New York, and the tree is sufficiently hardy to endure, without the slightest injury, the severest cold of that region. We must confess that this is not a very definite statement as to the place of its origin, seeing that the lake is more than a hundred miles in length between the Niagara River and Sacket's Harbor; it may, however, be sufficient to give our readers an idea of the climate in which it originated and the degree of cold which it has there endured.

The original tree is said never to have failed to yield a good crop since it began to bear, while in some seasons the crop has been so heavy that it became necessary to prop up the branches to prevent them from breaking down beneath the load of fruit.

The plums are described as being of large size, it being by no means uncommon to gather specimens measuring two inches in diameter each way, they being very nearly round. In color they are of a very handsome dark purple, as will be seen by reference to the colored plate, for which we are indebted to the politeness of Mr. Anderson. The flesh adheres partially to the stone, is firm in texture, yet juicy, sweet and of good flavor. The fruit keeps well, is an unusually good shipper, whence the name, and is in season from the first to the middle of September.

The *Rural New Yorker* says of it that it is "a large, dark purple, oval plum, fine, juicy and sweet." The *Gardner's Monthly* says, "a large, round, dark purple plum, of excellent

quality." Messrs. Offenheiser & Son, Commission Merchants of New York city, say "that Shipper's Pride plums sold at one dollar per peck basket when we could not sell ordinary plums at over fifty cents for same size baskets. In our opinion they will compare very favorably with other varieties of same size, and are better keepers." The late Charles Downing, whose opinion of a fruit is held in high estimation, said of it: "They are large showy plums and will no doubt sell well in the market. Promises to be valuable for market and canning." S. D. Willard, a very successful and extensive grower of plums for market says, "I regard the Shipper's Pride as one of the most promising plums ripening at its season. It is good, and so attractive that it would seem it should have a decided value as a market variety."

We can only add that the tree is a strong, upright grower, and seems to be possessed of a vigorous and healthy constitution.

TO OUR READERS.

If you have not already notified the editor which of the articles offered to you this spring you desire to have sent you, please do so now, without further delay. You have the privilege of selecting whichever one you prefer of the following articles:—1. Three plants of the Ontario Strawberry; 2. A yearling tree of the Russian Yellow Transparent Apple; 3. A plant of the Lucretia Dewberry; 4. A yearling vine of the Early Victor Grape; 5. Two plants of the Marlboro' Raspberry; 6. Three papers of flower seeds, viz., Gypsophila paniculata, Aquilegia cærulea, and Delphinium, mixed colors. And if you have not sent in your dollar for this year's subscription, please do not fail to do so at the same time.

QUESTION DRAWER.

NIAGARA GRAPE.

When is the Niagara Grape Vine to be cheaper. J. D.

REPLY.—You can obtain a two year old vine of the Niagara grape, with the seal of the Company attached to it as a guarantee of its genuineness, by sending to this office the names of *five* new subscribers to the *Canadian Horticulturist* together with their five dollars. The only cost to you will be the postage and registration of the letter, five cents. Is not that cheap enough?

REPORTING PLANTS RECEIVED.

Am I correct in saying that all subscribers are invited to tell how the different plants sent out by the Association have succeeded? Suppose all, suppose one half gave their experience, you could not insert one twentieth part and many would be offended. But suppose you had room for it all, what good? Mr. Barry and Mr. Thomas have written valuable works, would they not allow you to give us monthly a chapter on the understanding you would advertize the book? Excuse the liberty I have taken. R. L.

Maitland.

REPLY.—You are correct. The object the association has in view in sending out these plants is to obtain reports of success or failure in the different localities in which they are tried, thus making the garden or orchard of each member an experimental station. The

reports received will serve the purpose of a guide to others who may reside in that section or in similar conditions of climate, soil, etc. Messrs Barry and Thomas do not tell us whether the Early Victor Grape, for instance, will succeed at Maitland, or if it succeeds in growing, whether it is a desirable variety to grow there as compared with other varieties. They do not tell us whether the Yellow Transparent Apple will be valuable in the county of Stormont or endure without injury the winters in Renfrew. As yet there has not been any plethora of these reports; in truth members have not been careful to comply with the conditions upon which these plants have been distributed. When they become too numerous for publication in the *Canadian Horticulturist* they will find an appropriate place in the Anuual Report, so that no one need be offended. If experimental stations scattered here and there through a country are beneficial, why not increase their number in the manner attempted by the Fruit Growers' Association?

TREES FOR FENCE POSTS.

DEAR SIR,—I should be much obliged if you would recommend a fast growing tree suitable for planting along a wire fence, so as they could be used as posts when grown.

Yours truly,
S. G. RUSSELL.

Thornbury, Feb., 1886.

REPLY.—There is nothing better than one of the maples. There are two that will answer well for this purpose, the Silver Maple and the Ash-leaved Maple. Both of these are rapid growing trees, and if the shade from the tops is not wanted the branches can be cut back and the tops kept within any desired limits. The poplars are fast growing trees, but they are objectionable on account of their propensity to throw up suckers from the root. Neither of the above mentioned maples throw up suckers. The Silver Maple must not be confounded with the Silver Poplar. They are very different trees.

JAPAN QUINCE.

Mr. Editor,—Will you please answer through the *Horticulturist* whether the Japan Quince is sufficiently hardy to give good satisfaction for hedges as far north as Walkerton and oblige

A SUBSCRIBER.

[Will some of our readers residing at or near Walkerton please to tell "a subscriber" through the medium of this magazine whether the Japan Quince, an ornamental shrub yielding bright crimson flowers very early in the spring, is perfectly hardy in that section.—ED. CAN. HORT.]

GRAPES FOR GEORGIAN BAY.

Would you kindly name some of the best varieties of Grapes which you think would be adapted to this section of country. Within half a mile of the Geogian Bay, opposite Collingwood.

H. C.

REPLY.—Early Victor, Jessica, Lady, Brighton, Massasoit, Moore's Early.

PLUM TREES.

DEAR SIR,—I have a small piece of land adjoining my barnyard where the fowls will allow nothing to grow. It is

about large enough for to plant six plum trees. Is it suitable for them, and what kind would you recommend. The land is a high dry clay.

HENRY DEACON.

Belgrave, Feb., 15th., 1886.

REPLY.—Plum trees will grow in almost any well drained soil, thriving best in a strong clay. Whether they will grow in the piece of land adjoining your barnyard will depend upon whether it is continually soaked with drainage from the yard, certainly the scratching of the fowls will not prevent the trees from growing. The Yellow Egg, Lombard and Bradshaw are well known and reliable varieties.

FLAT STONES FOR MULCHING

Please give your opinion of the use of small flat stones placed over the roots of newly planted trees, instead of litter etc. as a mulching process. I have had good success in the use of stones.

And oblige,

Toronto. J. S.

[Will those of our readers who have tried mulching with flat stones please to send us the results of their experience for publication. Never having tried them, we have no opinion to express.—ED. CAN. HORT.]

HUBBARTON PIPPIN.

MR. EDITOR.—Do you know an apple the Hubbarton Pippin, a large red striped apple, deep smooth cavity at the blossom end, nearly as large as the King, and twice or thrice as productive: hardy, and a very strong grower. I think of working this apple largely if I can get scions on to my Snow apple trees. It is generally shipped as the Hubbardston Nonsuch, but is quite distinct, far better grower and hardier, bringing a better price. I had very good success this year shipping to London. Russets cleared $2.42 all round, R. Pippins $3.26 per barrel.

J. P. WILLIAMS.

Bloomfield P. E. Co.

REPLY.—We think, from your description, that you refer to the Blenheim Orange, Blenheim Pippin, Blooming Orange. See Downing's first appendix page three. Without seeing the fruit it is impossible to speak positively.

What is the best thing to put with a hard clay soil for flowers?

Toronto. ARTHUR HEWITT.

REPLY.—The very best thing is rotted turf taken from an old pasture field of sandy soil. The turf should be stacked over summer and allowed to become well rotted. Manure from the cow-stable, composted with straw, or cornstalks, so as to incorporate with it considerable vegetable fibre, will be found very valuable for clay soils.

Thorough drainage is essential to success, without this there is nothing that will make soil friable.

IS THE CANADIAN HORTICULTURIST DETERIORATING?

"Some years ago I thought there was no paper of its size so valuable as the *Canadian Horticulturist.* Then the Editor and a few men of experience furnished the articles. Now all this seems to be changed." R. L.

NOTE BY THE EDITOR.—We are gratified always to receive the kindly criticism of our readers, and publish the above extract from our friend's letter in the hope that others will be thereby en-

couraged to express their opinions. We had flatttered ourselves that the change had been for the better; that by obtaining the experience of different cultivators in different localities and using different methods, we were making the magazine more valuable to our readers. Perhaps we are mistaken, but we thought that as it is not given to any one person to know everything, nor even to three or four, so we were increasing the amount of knowledge imparted, by an increase in the number of those who contributed of their personal experience to its pages.

BARK LICE, ETC.

To the Editor.—(1) I have lately tried several different remedies recommended to kill bark lice in apple trees. The appearance of the lice remains the same. How can I tell if they are dead or alive? (2) The trunks of some of my pear trees are considerably cracked, what had I better do to them? (3) What, if any, injury does "ringing" do to a fruit tree? (4) In propagating the grape vine will it do to take the cuttings off the old vine in the *spring* and planting them at once.

Toronto. R.

Reply.—(1) Usually the scale becomes of a light grey color, almost white, when dead. If you will lift a few of the scales with the point of your knife, you will be able to ascertain whether there is any living substance beneath. If alive at this time of the year there will be a mass of eggs under each scale, which will hatch about the first of June.

(2) Wash the pear trees with some alkaline solution, such as soft soap diluted with washing soda dissolved in water to the consistence of a thick paint.

(3) It will usually cause that part of the tree or branch beyond the place where the bark is removed to die prematurely. (4) Yes it will do. But the cuttings are more sure to grow, and to make more vigorous growth if they are taken off immediately after the leaves fall in autumn.

PRUNING SHADE TREES.

Dear Sir,—Will you kindly inform me through your valuable journal the suitable or *best* time to prune shade trees, more particularly maples and much oblige,

Yours respectfully,
Jno. Mulligan.

Port Hope.

Reply.—If maples are pruned at all severely in the spring the sap will flow from the wounds, hence we prefer to prune them in the fall, or else after the leaves are about half grown.

Dear Sir,—I purpose raising onions cabbages, tomatoes, &c., manuring with ashes. (1) Will salt answer put on the land with the ashes? Is there any chemical objection to using the two at or near the same time of application? (2) Is there any chemical objection to using salt and superphosphate?

Jno. P. W.

Horning's Mills.

We sent the above inquiry to the professor of agricultural chemistry in Cornell University, and received the following

REPLY:

(1) In some cases salt would be an advantage used with wood ashes. When salt is applied with ashes, it causes the potash to penetrate deeply into the soil, and for deep rooted crops it would be desirable, but ob-

jectionable for surface rooting crops. There is no chemical objection to using them together. The salt gathers moisture, and in this way facilitates the downward action of the potash.

(2) No objection. The salt will act with superphosphate similarly as with salt, and is only objectionable when the crop roots near the surface.

Cornell University, Ithaca, N.Y.

REPORTS ON PLANTS RECEIVED.

When I wrote before I forgot to tell you about my Dahlia which I received last spring. I broke it into two sets and planted them late, yet I had a most beautiful display of fine flowers as any one would wish to see. I would not take three times the price of the *Horticulturist* for my flowers alone.

My flowering shrub I got the spring before last is doing well, but it has not blossomed yet. My grape I got in 1883 is not doing very well yet, but I think it is my own fault, as I planted it alongside of a very strong vine, and I think it is shaded too much.

A. C. McDONALD.

Dunlop, Huron Co.

As you desire reports on premiums received, and as you are aware of the high opinion I have of the journal and the efforts made by your society, I beg to enclose you the following report: The Burnet grape has grown well with me, but unfortunately most of the bunches have small seedless grapes with a few proper ones in the bunch. However I have concluded to give it a chance in hope of its yet succeeding. Moore's Early and Worden have exceeded my anticipations, and have fruited for this last two years, and I am inclined to think are about the best varieties for our northern climate though I adopt the principle of laying them down and littering as I don't think any grape vine uncovered would stand the rigour of our northern climate. The Ontario apple is just where it ought to be up here and is a decided acquisition to the limited list of apple trees that will stand our winters. As to pears the Clapp is the only one that has yet given me any satisfaction. The Hydrangea paniculata will not, I fear, prove a success. The one I got from you I planted where it is entirely sheltered by a cedar hedge on the north; but it won't flower. As I put in three others I find it is not the fault of the plant, so must ascribe it to the climate.

Barrie, Simcoe Co. J. R. C.

WHAT THE PEOPLE SAY.

PRUNING AND TRAINING THE GRAPE.

DEAR SIR,—Will you kindly publish a simple system of pruning and training the grape. Give us something *practical*, that can be understood by amateurs. The trouble with all you professionals is that you always begin your instructions by assuming that the amateur knows a great deal. Hundreds of people try to grow a few grapes for home use, who know nothing and care less about the art of propagation. Begin your instructions with the one and two year old vines as they are received from the nursery in the spring, and you will much oblige many of your readers besides.

Yours very truly,

GEO. SUTHERLAND.

Meaford, Ont.

We are much gratified that any of our readers should thus specify the information they desire to receive. It will ever be a source of pleasure to us to endeavor, as far as in us lies, to supply the information. Now to the mat-

ter in hand. We will suppose that the vines received from the nurseryman have been properly planted in suitable soil, and are ready to start into growth. The first thing that will require attention as the buds begin to start will be to make selection of that one which promises to make a vigorous growth, giving the preference, if there be several, to the one nearest the ground. Rub off all the rest and allow only this *one* to grow. A small stake, say a strip of lath, should be thrust into the ground at each vine, and the growing cane carefully tied to it as it advances. This will be the pruning and training for the first summer. At the close of this season the grape vine will have the appearance shewn in Fig. 1.

Fig. 1.—Vine at the close of the first season.

After the leaves have fallen in the autumn untie the cane from its support, lay it upon the ground and cover it lightly with earth. Or you may cut it back to two good, plump buds, and cover the stump with a little mound of earth.

SECOND SEASON.

In the spring, if the cane was not cut back in the previous autumn, it should be cut back, leaving only two good buds near the ground. From these buds train up two shoots, tying them to the stake as they grow, precisely as during the first summer, only that you have two canes now instead of one, rubbing off all other buds that may start into growth.

During this season you will make preparations for putting up your trellis; a post at each end of the row of grape vines, posts between at least two feet in the ground and five feet above, and set from sixteen to eighteen feet apart. Three wires will be sufficient, the lowest at eighteen inches from the ground, the others eighteen inches apart, thus bringing the upper wire about four and a half feet from the ground. Number twelve annealed galvanized wire will be found to be strong enough The end posts should be well braced on the side towards the vines so that they will not be pulled over by the wires. The wires should be fastened tight at each post by staples driven tightly over them into the wood. Instead of wires you can use strips of wood if more convenient. Mr. Fuller, of your place, recommends a slanting trellis instead of an upright, as more suitable in your climate; and his plan is very

Fig. 2.—Vine at the end of the second season.

highly approved by some others who have tried his method. You would do well to call upon Mr. Fuller and see his trellis. Mr. Alfred Wagar, of Napanee, Lennox County, makes his trellis eighteen inches from the ground at the vines, sloping back to about three feet from the ground at the top. Mr. Fuller does not find it necessary to cover his vines in winter which are trained on the slanting trellis. *We* have never tried any other than the upright trellis.

At the end of the second season your vine will have the appearance indicated by Fig. 2.

In the fall you will again untie your vines, and laying them on the ground cover them with a little earth.

THIRD SEASON.

In the spring of the third season, your trellis being ready, uncover your canes, shorten them in to about three feet in length, and stretch them in opposite directions upon your lowest wire or bar, in the manner shewn in Fig. 3.

FIG. 3.—Vine in the spring of the third year with arms extended.

When the buds start allow only those on the upper side, at a distance of about eight inches apart, to grow, rubbing off all others. You may find that the buds nearest to the stock do not push vigorously. This can be overcome by fastening the points of the arms to the ground for a while, until the buds near the stock have got well started. You will tie these growing canes to your trellis as they progress, and when they have grown to the length of about five feet you will pinch off the end, which gardeners call "stopping." These canes

FIG. 4.—Vine in the autumn of third year.

will bear fruit this year, and in the autumn your vines will look something like the one shewn at Fig. 4.

In the autumn of this year, after the leaves have fallen, you may cut back to one bud all the canes of this season's

growth, except the one at the extremity of the arm; cut back this one to about three feet in length, and having untied your canes bend them down and cover with earth, if you have used the upright trellis. If you have adopted the slanting trellis of Mr. Fuller, of Meaford, you can, he says, safely allow them to remain.

FOURTH SEASON.

In the spring stretch out horizontally the two canes at the extremities of the horizontal arms for a continuation of that part of the vine, and allow the buds on the upper side to grow in the same manner as you did in the third summer. Also train the shoot from the one bud that you left at the base of the upright canes, just as you did the canes during the previous summer, which, last fall, you cut back to the one eye. You will now have six or eight canes on each arm of your vine, all bearing fruit. In the fall of this year you may cut all these canes back to one eye, or if you prefer the plan which many cultivators adopt, you can cut back to one eye each alternate cane, and cut the other canes to about three feet in length. If you choose this method you will not allow any fruit to remain on the canes which grow from the single eye, but grow the fruit on the lateral branches which will start from the canes left three feet long. Then when the fruit is harvested and the leaves have fallen you will cut back the canes that have borne fruit to one bud from the horizontal arm, and prune the canes that you trained up without fruit to a length of three feet to bear fruit next year, thus alternating.

SUMMER PRUNING.

The only pruning admissible in summer is that which is done with the thumb and finger, which consists in stopping the lateral branches by pinching off the end of the lateral shoot when it has developed three or four leaves beyond the last bunch of fruit. Sometimes we pinch back the main cane when it has reached the top of the trellis in order to develop the parts below more fully. Never strip off the leaves to admit the sunlight upon the fruit, but rather seek to preserve the leaves in full vigor so that they may shade and perfect the grapes. Without a good supply of healthy foliage the fruit will not ripen.

OVER BEARING.

In our great desire for an abundance of fruit we are very apt to allow our vines to carry too many clusters. It is impossible to give definite instructions on this point, as the quantity of fruit that a vine will bring to maturity depends upon the vigor of the vine. Our fruit growers are not in danger of taking off too many clusters. But it is a fact that when the fruit is well thinned out the grapes will ripen earlier, be of finer size and of higher flavor. It is no uncommon thing to see a grape vine so loaded that it can not bring any of its fruit to maturity, while the grower condemns the variety as too late for his climate, when the fault is purely his own.

We trust these hints may prove helpful to our subscribers, and if any points have not been made sufficiently plain, we will esteem it as a favor, if our amateur friends will direct their inquiries to the points upon which they desire further information.

COVERING GRAPE VINES.

I cover my grape vines in the fall with earth, and they turn out fresh in the spring and start right off to grow. I do not think that straw is good to cover vines in winter as it is liable to prove a harbour for mice.

JAMES DOUGAL.

Barrie, Simcoe Co.,

LIQUID FOR PRESERVING FRUIT.

It is difficult for me to give you a formula for liquid for preserving fruits. I have experimented with some 13 or 14 different preparations, some are better for one sort of fruit and some better for others. A strong solution of sulphurous acid I have found very useful for light colored fruits which are yellow when ripe.

Salicylic acid in the proportion of about a drachm to the quart of fluid, the fluid consisting of four parts of water with one of alcohol, I have found to be very good for dark colored grapes. The red colors of apples and pears I have found to be best preserved as far as my experience has gone, by using a mixture of three parts of glycerine with five parts of water and dissolving in it Boroglyceride in the proportion of two per cent. I have used several other fluids, among which some may prove better than this, but they have not been tested long enough to admit of my reaching any definite conclusion.

The subject is a very complex one, and needs much experimenting yet before entirely satisfactory conclusions can be reached, and whether any treatment will ensure the permanent retention of the pinks and reds in fruits with the difficulty of long continued exposure to the bleaching influences of light to contend with, is still surrounded with much doubt.

WM. SAUNDERS.

London, Ontario.

THE MARTHA GRAPE.

My Martha grape vines planted in the spring of 1883, bore last fall, 1885, for the first time. Fruit not large, but very sweet, and a good keeper having eaten the last of them, this month, Feb, 1886.

Yours truly,
JOS. WOON.

A PRETTY NATIVE SHRUB.

In speaking of our native ornamental trees, I have never noticed any account of a tree that grows on the margins of streams, and produces clusters of black berries, or rather fruit, quite sweet, with a flat seed in them. I don't know the name of it, but I dare say you can give me the information. About two years ago I got two of them growing in a swamp on the Nottawasaga River. I planted them on the top of the hill in my place; and to-day I look on them as two of the handsomest trees or shrubs I have in the spring. They are covered with large clusters of white flowers, a peculiar shade of green leaves and thick foliage, about seven feet high.

I look upon this shrub as one well worthy a conspicuous place in any of our ornamental grounds. Unfortunately I have never found out any one who can name it for me.

Barrie, Simcoe Co. J. R. COTTER.

Can any of our readers give the name?

NO OFFENCE.

DEAR SIR,—Allow me to say that I believe all the readers of our *Horticulturist* heartily appreciate the efforts put fort by yourself and other contributing members, in disseminating invaluable information in regard to the cultivation of fruits, flowers, etc., but I do not think it was ever intended that writers, in their contributions, should make the columns of our magazine a medium for advertising something which they are interested in selling.

An article giving accurate descriptions, modes of cultivation etc., we all admire, but it takes away more than half of the admiration and interest if it winds up with a "puff" for some thing in which the writer is interested in making sales. I submit this, believing

it to be the sentiment of the majority of our readers, and not from any ill-feeling toward any individual.

J. H. WISMER.

Pt. Elgin, Feb. 8th, 1886.

NOTE BY THE EDITOR.—Our friend is quite right, and we trust correspondents will accept the criticism.

SOME INTERESTING LAWN TREES.

DEAR SIR,—In sending my sixteenth yearly subscription, I think I ought to write a few words on what I have seen and experienced in fruit and horticulture. I see by the report of the Winter Meeting that the third subject was shade trees, &c. Had I been there, I should have advocated four shade trees that I have taken much interest in :—The Tulip tree, Catalpa, Widben Pear, and Monkey's Puzzle. The Maple is the standard shade tree of America, but we want a variety. We should not like to cultivate only one flower because we thought it the best and prettiest. In visiting England a few years ago I saw long rows of our Maples planted in Kew Park, near London. When I first came to Canada, over forty years ago, I saw several Tulip trees in blossom. In visiting St. Louis, in the latter end of June, several years ago, I saw a number of beautiful shade trees in blossom. On inquiry, I was told that they were Catalpa trees, but too tender for Canada. I hope the variety that has been sent out to the members will prove hardy. It will be a fine sight to see them in full blossom. The Widben Pear is a tree that grows wild in Buckinghamshire, in England. It has some appearance of the Mountain Ash, and I should think it was a species of it. It has bunches of berries like the Mountain Ash, but they are sweet and good enough to make preserves of. The leaves are a good deal like a beech leaf, only white underneath. It appears to be perfectly hardy. I have seen two trees of them in Toronto; one in the Horticultural Gardens, which came through last winter without the least injury. I do not know its botanical name. The Monkey's Puzzle, so called from its sharp points all over the tree, has scales on both trunk and branches, like pine apples, so that a monkey would require boots on to run about it. In appearance, it is greatly like the Austrian Pine. It is not iron clad; it suffers sometimes in England in severe frosts; it will grow in the western part of Canada, and as far north as Toronto. As a lawn tree, I thought it was the finest in England. It requires great pains in planting, and not to be exposed too much.

EGLINTON.

CHANGE OF NAME NEEDED.

When one is ordering trees or shrubs from a nursery it is important that he should be able to make himself clearly understood; therefore, it is essentially necessary that there be but one common name for each species, because more leads to misunderstanding and disappointment. For instance, I received an order for six Syringas of sorts. I kept ruminating in my mind for a time as to what I had better send, but knowing the gentleman from whom the order came to be somewhat scientific, I finally decided that he must be using the technical name for "Lilacs." So I sent him six Lilacs, two of a sort, with both technical and common names attached. They were quickly returned with a note stating that he did not want "Lilacs," bnt "Syringas," commonly known as such; so then I knew he wanted Philadelphus, or Mock Orange. With many, Syringa is still the common name for Philadelphus; while the proper generic name for Lilac is Syringa. Hence, in order to avoid confusion, would it not be better to

have the matter settled once for all, and either let the Philadelphus be known by the common name of Mock Orange, or have the generic name of the Lilac changed to something else?

Some nurserymen advertize the Syringa or Mock Orange, some the Mock Orange (Syringa), others the Philadelphus (Mock Orange), or Philadelphus (Syringa), and Syringa (Philadelphus); while we rarely find the name Lilac accompanied with its generic name, Syringa; yet if you send to some of the best American nurseries for Syringas you will certainly receive Lilacs.

CORRESPONDENT.

GOOSEBERRIES AND CURRANTS.

I notice discussions upon the above fruits in the Annual Report. I would like to give some of my experience. My soil is called a sand, but is largely made up of pulverized shale. We get immense crops of Houghton gooseberries, but rarely get beyond 5 or 6 cents per basket for them. Last summer, for the first time, they were scarcely saleable. As the anti-Scott wine and beer advocates claim that the low price of grapes was caused by the Scott Act, we suppose that the Scott Act also ruined the gooseberry trade. In times of great glut we find that housewives demand larger fruit, which involves less labor. The quality of the Houghton is better than that of the larger varieties. Downing does well with me, and sells more readily. Smith's Improved mildews, and loses its leaves by a species of blight, probably of fungoid origin. It started with the Smith's in one patch, with me, about 3 years since. From them it has apparently struck the Downings and Houghtons, though with diminished power.

When the fruit is about half grown, the leaves which seem quite contented, one day will be found green and fresh, and upon the ground the next day. They have struck, never again to return to their old work.

Black currants, with us, are not profitable. The same may be said of cherry and white grape currants. The old Red Dutch is reliable, but for eleven years past I have largely grown the Raby Castle, which beats it in every way. Its greatest merit is its power to hold its black currant style of foliage through the heat of summer. This enables it to ripen its immense crop of fruit perfectly, and to hold it securely until the berry season is nearly past, when it sells readily for good prices.

The plant is a very strong, rapid grower, and takes the tree form quite readily. The fruit is good, but not much larger than the Red Dutch. The bunches, when weather is favorable, are very long.

As yet, I do not know what the newer larger kinds can do.

The tree form has great advantages in the cultivation and picking. As the "tree" is short lived, we must plant as often as once in every seven years. This is a good plan, even where trees are not indulged in.

E. MORDEN.

Niagara Falls South, Ont.

BIGNONIA RADICANS.

MR. EDITOR,—One of your correspondents, Mr. Mackenzie, of Dundas, writes that the Bignonia radicans does not flower, and is cut down every winter. This should not occur at Dundas. But if your correspondent will lay the vines down in the fall, and cover them with a light mulch, the result will, in all probability, be different. A lady friend of mine pursues this plan, and under her judicious treatment the Bignonia flowers abundantly, even although occasionally the thermometer goes down to twenty-five degrees below zero.

I may add that in this quarter grape

vines of all kinds require similar treatment, save and except the Clinton, which is able to endure extreme cold.

Durham, Grey Co. Yours, C.

ACCLIMATING PLANTS.

Can tender plants be made hardier by any manner of treatment? This question is suggested by a remark I saw lately in some report (no matter where) that a certain plant was yet too tender for Ontario but it could be made hardy. We know that animals and even human beings can become inured to foreign climates, so that they will be no more affected by climatic influences than the aborigines, even if the transition be from a warm to a colder climate, but in no case do we find that the off-spring of the foreigners can endure intense cold with less protection than that of the natives, who are quite as liable to be frozen to death as they were centuries ago. I have heard a great deal about the acclimatization of fruit and ornamental trees and shrubs, yet I am not aware of a single instance in which any plant has become hardier, any more than the potato or tomato, which are just as tender now as when first introduced.

I have been trying to acclimate many half-hardy shrubs for the last thirty-two years, and sometimes a succession of moderate winters encouraged me to believe that I had met with partial success, but the hard snap of frost would come and kill all down to the snow line, leaving me just where I began. I find the fact to be, that a few degrees difference in the intensity of the frost decides the matter now with all half-hardy plants, just as certainly as it did when I first commenced to experiment.

I know that the condition of the young wood has something to do with the enduringness of some shrubs as well as trees. Under certain circumstances it ripens early and is hardened up before the winter sets in, consequently it will stand severer frost than the young wood that has been growing luxuriantly in rich moist land until late in the fall. This is particularly noticeable in peach trees, which under the same circumstances do not endure harder frost than they did thirty years ago. The same may be said of all the tender pears, and of some kinds of apples. Indeed I do not know of any tree, shrub or plant being made hardier, however gradual the exposure to the frost may have been.

A long experience has convinced me that trying to make tender plants hardy is only a waste of time and means, so I have adopted the practice of protection.

In making this statement I do not court controversy, yet I think this is a subject well worthy of discussion by the members of the Fruit Growers' Association. I have no other motive in view than that of trying to promote the interests of the science.

I presume with you, located as you are between the great lakes which have such a powerful influence on the climate, all the Deutzias and many of the half-hardy spiræas come through ordinary severe winters with comparatively little injury. Here however at the foot of Lake Ontario it is different. Deutzias if left standing in exposed places invariably get killed down to the snow line, and as it is the last year's wood that produces the best flowering stems, we would get but a poor show of flowers under such circumstances. So now I lift the plants in the autumn and heel them in with their tops laid on the ground, so as to be conveniently covered with tree leaves and evergreen branches, which sufficiently protects them until there comes a fall of snow, which is the best protection of all. By this means I am enabled to lift my flowering shrubs in spring, in quite as good condition as they were laid down in the fall, and am certain of a gorgeous display of

flowers, even from the very points of the young shoots; and be it observed this is a convenient method of propagating such shrubs because they are then easily divided. I have found this by far the most satisfactory mode here of growing Deutzias, Altheas, Almonds, half-hardy spiræas, Treepeonias, Weigelas and Hydrangeas; and I have no doubt that under this treatment, the Viburnum plicatum will give entire satisfaction. Some will doubtless object to this method as being laborious. I would say in reply, I have found it to be by far the most economical method of protection. Where plants have grown too large for handling, I replace them by smaller ones, and I with confidence recommend this practice to whom it may concern. D. NICOL.

Cataraqui, near Kingston.

GRAPE VINE GROWING IN ALGOMA.

My experience in grape vine growing here has been varied; good expectations and sad disappointments. I have been trying them here for eight years. Varieties, Concord 6 plants, Creveling 4 plants, Delaware 2 plants. At first the Creveling made the best show, growing freely and making great show for fruit, but not setting well, still ripening some very good bunches of fine berries; but after fruiting two years the leaves began to get black spots on them, then the berries; the spots increased in size till the berries stopped growing and shrivelled without ripening. Next year it was so bad as to stop the wood growth, and what was made never matured.

Last spring when the buds were near bursting, I made a paint of sulphur, clay, fresh cow-droppings and soft soap, and brushed the canes all over with it. I have seen something such used in Scotland for vines under glass. The grapes all but ripened, though it was the shortest, coldest summer I have seen here. My Concords have never quite ripened well, and appear the tenderest of the lot. Two years ago my vines were looking extra well in May and starting a fine growth, but we had a very hard frost on the 29th May which scorched them completely. I allowed them to stand ten days to see what they would do, but only a very few buds offered to start; so I rubbed off all the buds and forced them to start again from the root, when all of them did well, except the two strongest Concords, which were killed right out. With me the Delaware has been the healthiest, hardiest, freest fruiting of the lot, ripening every season so as to be good to eat. I have just got the following sorts for trial, which I am planting in a very much better situation, completely sheltered from the north and west and a good slope to the south-east, namely: Lady, Moore's Early, Cottage, Champion, Worden, Janesville, Martha, Perkins, Rogers' Nos. 3, 4, 9, 15, and Brighton. My first planting lies to the west, and is exposed to the killing north-west winds, which are very severe.

PLUMS.

I planted about sixteen sorts of plums. After doing well for three years they all were winter-killed but two Imperial Gages and one Duane's Purple. Several of them started above the working, but all have again been completely killed, except one Lombard (I had three at first). The Lombard and Duane's Purple flowered last year, and one of the Imperial Gages had some fruit. The curculio is abundant here on the wild plums, which are plentiful; the black knot is also very plentiful on the wild cherries. This winter has so far been mild; last winter we often had the mercury frozen; usually we have from three to five feet of snow. DANIEL DUNN.

St. Joseph Island, Algoma.

STRAWBERRY NOTES.

Mr. Editor,—My few notes on the strawberry at this time are for those like myself who love this, the best (to my mind) of all the small fruits, and to those who are engaged in its cultivation as a source of revenue I would offer a few remarks.

The cultivation of this valuable fruit is yearly increasing and with the varieties best suited to the locality and market the grower lives in, even if by bringing only a moderate price he may reap a fair recompense for his toil. A well-kept strawberry bed is an ornament to any garden, and a profitable one, and the labor required to keep it in order is a pleasant pastime.

Any ordinary soil will grow strawberries, only have it *free from weeds* and as rich as you can afford to make it, especially the surface. Last spring, in raising plants for setting, I found the roots running across the alleys sixteen inches apart; no mulching, no heaving, no root-breaking, owing to the fact that the roots found what they needed for plant-growth and fruit near the surface. This bed was fertilized with ashes from hardwood. Bone dust and ashes are the best fertilizers for the strawberry.

Some people advise planting the strawberry in July, August, and September. I regard spring as the better time; the objections to fall setting apply more to market than garden culture. It is often said that in setting plants in August we may secure half a crop the next season. In our experience we have never succeeded in this. The berries produced the following year from fall-set plants have always been few in number, and have generally averaged small in size. The plants rarely become sufficiently rooted before winter to yield any amount of fruit the next season.

By setting the plants in spring we give them a whole year to prepare for a crop. The soil will be in the best condition, and the weeds are easily kept under control. We cultivate the plants one season and receive a bountiful crop of fruit to repay the cost, whereas if set in the fall we must cultivate a year and a half before we receive a full crop.

The growing demand for small fruits has more than kept pace with the production, and large crops are now marketed at satisfactory prices, where a few years since a few quarts amply supplied the want. I would say to all engaged in growing small fruit, either for home use or market, whatever variety does best in your section hold on to it till you find a better. At the same time the quality of the strawberry depends mainly on the cultivation, on a rich soil, clean culture, and in not letting a weed appear.

In closing I will mention a few varieties that do pretty well in all sections of the country, viz.: Early—Crescent, Old Ironclad, May King, and Parry. The two last named are pretty new and well worthy of trial. Medium—Cumberland, Triumph, Ontario, Daniel Boon, Jewel, Manchester. Late—Mount Vernon, Vineland, Cornelia, Kentucky. These varieties, with a few more I might mention, are the cream of the strawberry family.

Granton. John Little.

BARK-LOUSE REMEDY.

Mr. D. Young in his Bark-louse Remedy did not say how many bags we put into a tree. Is it one to a tree, or one to each branch?

A. C. McDonald.

Dunlop, Huron Co.

[Will Mr. Young have the kindness to reply to the above inquiry?—Ed. Can. Hort.]

FRUIT GROWING IN ONTARIO COUNTY.

This is the sixth year I have subscribed for the *Horticulturist*. It is of inestimable value to me. I commenced farming seven years ago under great disadvantages, not having much experience in farming as well as horticulture. With the help of the *Horticulturist* I have succeeded pretty well. My farm was in such a poor state of cultivation that I was compelled to plant fruit trees of the small varieties in very unsuitable places for their cultivation. I set about one hundred and forty apple trees, twenty pear trees, and about the same number of plums. The apple trees are all bearing more or less, except the Spys. The pears have borne since the third year from setting. The Flemish Beauty is the most prolific of all, but it shows some signs of blight, probably caused by its vigorous growth and heavy bearing, requiring more nourishment. One year ago last summer I gave them a heavy dressing of wood ashes and copperas. Last year they were quite recovered and bore fruit. Plums last year bore a heavy crop. I cannot speak too highly of the Weaver. This variety I grafted on wild plum stock, and in the fourth year from grafting I picked half a bushel from one tree, and a delicious plum they are. My grapes bore a good crop last year, third year from setting. Concord and Worden are the best. I must speak a good word for the Clinton. I believe there is none more profitable for wine. There were two old vines on the farm, neglected and woven through other. I trimmed them to the bare stock, trellissed them eight or ten feet high; they have borne a heavy crop every year since, ripening as early as Concord, and ripening every year. The Brighton and Moore's Early that I received from the Society have not fruited on account of being moved. The Brighton is a vigorous grower. The other articles I received from the Society all grew. My other varieties of grapes are too young to say much about. Another year will enable me to speak more fully of their merits. I cultivate several varieties of red raspberries. Highland Hardy and Cuthbert I like best, the first named on account of its earliness and firmness, which makes it profitable as a shipper, while it ripens as early as the wild varieties. Cuthbert is about ten days later, firm, sweet, and of good flavor, and continues in bearing until the blackberries are ripe, of which I cultivate the Snyder and Taylor. I esteem them very highly; they are hardy and heavy croppers. Of strawberries the Crescent Seedling pleases me best, being early and long continued in bearing. It stands the winter better than the Wilson, and continues longer in bearing. The Black Caps I do not take much stock in. The Mammoth Cluster suits me best. They do not pay in field culture. Planted close to a fence, with a little attention, they pay the best of any plan I have adopted. As I have my small fruits arranged, we have a succession from the 10th of June until the end of August. We use them as liberally as we do potatoes. I have sold in the past as many as would pay for cultivation. I see no reason why every farmer cannot cultivate enough for home use, and not have wives and family hunting wild berries, spending more time than it would take to cultivate all they require and have a very superior article besides. The prevailing excuse is, "I do not know how to cultivate them;" but that difficulty is easily overcome. One dollar sent to D. W. Beadle, St. Catharines, will get the *Horticulturist* for one year and a copy of the Fruit Growers' Report. In them you will find all instructions for the cultivation of fruit, and many more useful hints.

The investment is only the price of one small turkey : try it, and you will never regret the venture. J. B. BURK.

Brougham P. O., Ontario Co.

PARIS GREEN FOR CABBAGE WORM.

DEAR SIR,—In my remarks in regard to using Paris Green on Cabbage at the Fruit Grower's Association, in Stratford, I neglected to state very clearly my plan of mixing and applying.

Lest any bad results might occur through any misunderstanding, I beg leave to state more clearly my experience on the subject. I put about two tablespoonfuls of Paris Green to about one-half bushel of Land Plaster, mixing thoroughly. This quantity, if kept dry, will be enough for 500 cabbage during the growing season, dusting on a small quantity in the evening as soon in the season as the worms begin to appear, and continuing every week or ten days till the cabbage have grown full size. I would not put any on cauliflowers after they begin to head up, or on cabbage that are bursted or open in the head. In this way I have kept my cabbage free of worms, and raised very heavy crops. I might state also that after I had cut all the good heads out in the fall, leaving the useless ones and all the outside leaves, with the intention of plowing them down, some of my cattle got in and eat all they could devour of them, and none of them seemed to suffer in the least from it. This was about four weeks after I had stopped using the Paris Green. We have used nearly all the cabbage in our own family for the past two seasons, with no bad results.

If you think this experience would be of any benefit, you can add it to the report. Yours respectfully,

DANIEL DEMPSEY.

Stratford, Ont.

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THE STRIPED SQUASH-BEETLE.

I wish to ask is there really any known remedy for the striped bug, excepting the old Indian remedy—catch him, then you may kill him. Heretofore I have not suffered materially from their ravages. I have generally planted a few squashes through the cucumber and melon patches early to give them their first meals, and to give time and warning of their approach. This method has been all that has been needed till the past summer when they came suddenly, and in swarms. Had I been away that day they would not have left a hill standing. Some strong hills, in the short time of two hours, were completely riddled, having as many as eighty on a single hill. I must have killed one or two thousand the first half day.

After three days they were somewhat abated. I replanted the destroyed hills, and then began trying remedies. First was white hellebore sifted on till the plants were covered ; second, a table spoonful of carbolic acid to a pail of water, applied with a brush, drenching three or four times in two hours, then adding two tea spoonfuls Paris green ; but all to no purpose. Then a friend came along and told me his remedy that had never failed, namely, paper flags fastened to sticks so as to wave just above the plants. I asked him whether it must be the Union Jack or the Stars and Stripes ; he thought the Old Lion the best. However, the little scamps did not scare worth a cent, but continued their work if the flags did not brush them away. Another remedy was an emulsion of sweet milk, ten parts to one of coal oil. One neighbor told me he applied this when they raised in a swarm before him. It was a failure with me, as I wet many of their backs, but that did not stop their dinners. I applied it with a brush three times on a small

plot as fast as it would dry. As a last resort I took clean Paris green and sifted directly on the plant that was being eaten. While the upper surface was covered with the green they continued to eat away on the under surface till destroyed, provided it kept dry and without dew or rain. Some of the first application was wet by a rain-fall and the plants all destroyed. For the past six years the only remedy I have found is to hand-pick them early in the morning as soon as they appear, let the task be ever so great.

J. P. WILLIAMS.

Bloomfield, P. Ed. Co.

GRAPES.

DEAR SIR,—It has been stated in the *Horticulturist* that those subscribers receiving premium plants and vines are expected to report success or otherwise as their experience may be, and give opinions in reference to *merit* in various locations. I send you a little experience I have had with those received from the Association and other sources.

I do not grow grapes largely for market, but chiefly for private use as table grapes (canning purposes), and presents to friends. I have grown 33 varieties, and do gather them by the bushel. As for the best varieties, the Delaware has till lately, say two or three years, held first place, but has had to take a back seat. The Brighton now stands pre-eminently victor. It has steadily improved with age and in the strength of the vine till this year, as unfavorable as it has been with us, they were all gathered before the frost, and soon after the Champion. I could pick bunches by the dozen of ¾ lb. weight, while a few turned the scale at 1¼ lbs. I placed a number of different kinds of grapes in the fruit room separately, and all other kinds had but few customers while the Brighton remained. Visitors and all parties testing it pronounced it the best out-door grape they ever saw. Some were kept to try their keeping qualities; they remained good till near December. Some were dried something like raisins, in a warm room. They were meaty and pleasant, while the Delaware and all others tested, dried away to nothing but skins and seeds. The Moore's Early was laden well for a small vine, and colored but a little behind Champion, which was very poor, some fine clusters being left on till frost came, but without any improvement as to quality; neither do I think it as good as Champion for cooking. The famed Prentiss, which made such a stir among grape men has, I think, got too near the North Pole; except it greatly improves with age, it must be discarded and put down as worthless. The Worden vine I received was a poor, weakly plant, scarcely made a live of it the first year, and making but little growth the second year, has made a very fine growth the past year, and will give some specimens in the near future. I have set 15 vines of the Jessica, and was much taken with the quality of its fruit and early fruiting. The first vine set out the first year set three bunches, the only vine that ever fruited with me the first year. I left only one-half of the first two bunches to ripen. I fear the vine is quite tender, and will want careful attention in our northern climate; I hope, also, this will improve with age and strength of vine. Early Dawn fruit very like Clinton; quite tender, and sprightly, ripened very fine this year, began to ripen in part with Champion; fruit keeps well. Hartford Prolific does well with me; very seldom fails to ripen, bears heavily, and is a good canning variety. I had this year 110 bunches on one branch of a vine, which occupied 15 feet each

way of the trellis, and have discarded many, such as the Adirondac, for which I paid $5.00 for a small vine, Ontario, Northern Muscadine, Isabella, Iona, Concord, Creveling, Pocklington, Rogers' 15, 19, 22, 43; the 44 is the best, though not yet tested by me.

I have the Niagara, Woodruff, Jefferson, Lady Washington, Duchess, Walter, Wilder, Brant, and Early Victor. The Duchess and Lady Washington both fruited and partially ripened; some berries of the Lady Washington were very high flavored and fine. I hope, in a favorable season, they will delight us with their large and showy clusters, as well as the popular Niagara.

PLUMS.

The Glass Seedling Plum is very fine, all that was claimed for it; a good, hardy grower, and fine bearer; is not surpassed for canning, and has but few equals.

Moore's Arctic and Curculio proof tree has blossomed around me in several places, while the larger and older tree I have has not yet done so; neither have I seen any fruit of it in my neighborhood, for the curculios destroyed them all every time. It appears a very tender tree; I have grafted it on others several times; they have always frozen in winter, besides common sorts, as Washington, Princess, Peach, Egg, Lombard, &c., have come out all right. My original tree is still sound, and I hope to see the fruit this coming year. I am trying the Shippers Pride—the trees have done well so far; will report on them further on. The Russian Apple received last spring has grown fairly, but I do not think they are an extra strong grower.

FAY'S RED CURRANT,

of which we have such splendid drawings in our paper, have surpassed every other currant in growth so far, except the Raby Castle which, I think, will fill the next place to it as far as yet tested.

RASPBERRIES.

I only keep a few varieties, and have held on to the old Red Antwerp for 30 years, and have been well pleased with results. Laterly, I have planted Cuthbert, Philadelphia, Reliance, Victoria, Franconia, and several others. I can't say that I find any surpassing the old Antwerp; the Cuthbert comes nearest in quality and productiveness, and stands second in our list. We gathered by the pailful off a small plot till we did not want any more, and then gave pailfuls away. The apple crop is our principal crop. Small fruits call for so much time to market that we cannot attend to it.

APPLES.

I am looking hopefully to the Russian family for something to turn up; some kind of winter fruit that will save with the Golden Russet, and prove as prolific and showy as the Oldenburgh, that will be a strong and vigorous grower to retop our 2nd and 3rd class fruits. Very many kinds are appearing to fail both in quality, quantity, and the general appearance becoming nubby-spotted, worthless for shipping—such as the Snow; it is played out, constitution gone, while the tree may be made profitable by retopping. The Swaar, Fall Pippin, Yellow Pippin, Jeneting, Benoni, Yellow Harvest, and a lot of others too numerous to mention, and the sooner the Fruit Growers get into something large and fine the better! and what shall it be? Have you, Mr. Editor, ever seen or grown the famed Nonpariel, of Nova Scotia; I would like to try it in Canada. If any of your readers can direct me where I can find it, it will be esteemed a favor.

Yours truly,

J. P. WILLIAMS.

GLOXINIAS AND GESNERIAS.

These beautiful plants are not very common in Canada, nor do I suppose they ever will become so in the same degree as the Geranium and a few other plants which can be grown with a measure of success under very varied conditions, and which I am pleased to know can be seen in nearly every real home in our country. I am quite aware of the fact that neither Gloxinias nor Gesnerias will ever become such universal household necessities as these plants I have just alluded to, but there is no reason why they should be so very rare and uncommon as they are. Well grown, perfect specimens of either are nearly as beautiful as it is possible for anything in the floral kingdom to be. And the Gloxinia in particular, by its neat, compact form of growth, freedom from insect pests, and long continuance of bloom, has, with the Gesneria, much to recommend it for the conservatory. After several failures I have had my efforts to grow these beautiful plants crowned with perfect success. Last season my Gloxinias were in bloom from May until September, and sometimes a dozen and a half of fine blooms on a single plant.

I will give a brief outline of the treatment required (or what was successful with me) in the culture of the Gloxinia, and this will in the main answer for both.

In the first place get bulbs (if you can) which have been keept right; that is, which, while resting, have been kept dry, or nearly so, and at a high temperature. Pot in soil composed largely of leaf mould or something light and porous. Do not fill the pots within an inch of the top, as later on the plants may need filling in with earth to make them firm. Cover the bulbs about half an inch deep with soil, and place the pots in a frame or case in a warm part of the conservatory. It is best to have considerable bottom heat at first. Water sparingly till after growth commences. Do not, if possible, at this stage, or at any time wet the leaves or subject them to bright sunlight, as either of these mistakes will destroy the velvety beauty of the foliage. After the plants have become well established, water can be given freely. Keep an even but high temperature and a humid atmosphere until the plants commence to flower. The temperature may then be lowered as it lengthens the blooming season. After bloom has ceased withhold water and place the pots in a warm place to rest the bulbs until again required. The Gesneria requires the same treatment with the exception that I find it best to plant several bulbs of some varieties in one large pot. A pot of Gesneria zebrina, treated as advised, will form a great bush nearly three feet high, and at blooming time will be spangled with from fifty to a hundred bright red and orange colored flowers, which, with the rich velvety purple and green of the leaves beneath, makes an object of rare beauty.

I think among Gloxinias that the drooping kinds are the most beautiful, although I know it is considered proper to admire the erect kinds the most. The erect Gloxinia is a somewhat late introduction, and has been produced, I believe, by the skill of the florist, and is considered by some as a striking example of the way in which art can mend nature; but I cannot help feeling that much of the grace and beauty of a bell-shaped flower, such as this is, is lost by turning it stiffly upward at a correct angle of just so many degrees. I would advise no one to attempt the culture of either of these plants if not thoroughly in earnest about it, for an ill-grown specimen of either is a poor object, and bears about as much resemblance to a well-grown and perfect

one, as a dirty, unkempt arab waif from the city's slums does to a bright, clean, and tenderly cared-for little child. FREDERICK MITCHELL.

Innerkip, Jan. 27th, 1886.

GRAPES.

I have to apologize for not answering your card of the 12th December *re* Grapes. I have removed from Brampton. Your card was forwarded in due course but it got mislaid.

A large variety of grapes are grown around Brampton with success. My own experience on clay soil was in favor of Delaware, Massasoit, and Clinton. Salem and Burnet mildewed bad. Brighton looked well but had not fruited. At the county fall fair I have seen some splendid bunches of Eumelan, Merrimack, and Wilder and Concord. Yours truly,

WM. MILLER.

Oshawa, Jan. 15th, 1886.

STRAWBERRY GROWING.

MR. EDITOR,—I have noticed in some journals lately about large crops of strawberries. Now, as I am only a novice in raising them I thought that I would give you my experience and mode of cultivating them as it is the first time I have ever grown them.

In the latter part of August I planted one row each, 75 feet long, of the following kinds :— Cumberland Triumph, Miners, Windsor Chief, Park Beauty, Vineland, Jersey Queen, Charles Downing and Sharpless, plants 1 foot apart in rows 2½ feet apart. In the fall when the plants were well established I manured heavily between the rows with old rotted stable manure. After frost I covered lightly with cornstalks. In the following spring I cut off all blossoms and runners and kept the ground well hoed and hand-weeded throughout. The next year I allowed them to make narrow matted rows. The result was 402 quart baskets sold at 10 cents each, and 90 quarts used in the family ; 16 berries of the Jersey Queen, Sharpless, and Miners prolific, filled several baskets. [How many baskets did you fill with sixteen berries?—ED.] Do you consider this a good yield?

Yours truly, J. W M.

Toronto.

GOOSEBERRIES.

I would like to say a word respecting the gooseberry figured in the December number (1885). I believe it to be the old Crown Bob which I can remember for more than thirty years, and I suppose it was an old berry then. I have grown it here in St. Thomas for the last five years and I had berries last year nearly as large and high colored as shown in the picture. It has never mildewed with me, but is not a strong grower on my soil, though very productive. I find the Downing ahead of anything I have seen here yet for flavor, size, productiveness, and strong vigorous growth. I grow some five or six varieties all under the same conditions, get good crops every year, and have never seen a particle of mildew.

St. Thomas. JOHN WHITHAM.

PARIS GREEN FOR CODLIN MOTH.

I tried Paris green and carbolic acid on three apple trees with good results, giving them three applications in three weeks, the first just as the blossoms began to fall. One tree was the Grand Sultan which had for the last four years shed all the fruit but a very few irregular specimens, the ground being covered till near all had fallen. This year they were smooth and glossy, the limbs almost breaking with fruit, and not a dozen in all fell before ripe, the whole crop being gathered at once. I

did not see half a dozen apples with a sign of a worm upon them. The proportions were half a teaspoonful of Paris Green, and one tablespoonful of Carbolic acid to about two-thirds of a pail of water, and a little lime to save the leaves. I used it on some plums twice and the leaves began to die; I stopped its use, but did not save all the plums.

Bloomfield. J. P. WILLIAMS.

STYRAX JAPONICA.

Several years ago, a plant named Styrax Japonica was introduced from Japan. Plants were advertised and sold for two years, since which time only one firm has had the plant catalogued, so far as I am aware. The reason for this is that the plants never flowered, though they were represented as bearing beautiful flowers. Many complaints followed, and the propagation of the plant was consequently stopped. Briefly, I wish to rescue the Styrax Japonica from its undeserved condemnation and place it where it rightly belongs, among our fine ornamental shrubs. I had one of the first plants sent out; and though it did not flower for several years, I kept on growing it for the sake of its fine form and beautiful foliage. I have had my reward. For two years past it has been covered with its beautiful pendulous, bell-shaped flowers, which are as white as pure snow. The flowers are succeeded by numerous white, oval berries nearly an inch long, which hang suspended to the branches till killed by frost. The plant is beautiful in flower and in fruit, and ornamental at all times. It is by no means the only plant that will not flower till it has a few years of age. Any one who is willing to wait can not fail to be pleased with this plant at its maturity. Its propagation should be resumed by somebody.—*Rural New-Yorker.*

GRAPE VINES AT SARNIA.

Mr. Peter Wellington reports that the Moore's Early and Worden were both killed by summer frost, and that the Concord, Clinton, and Delaware are the principal varieties grown in that part of the country.

BOOKS &c.

Native Grapes of the United States, an exceedingly valuable and exhaustive paper, read before the American Horticultural Society at its last meeting, by T. V. Munson, Denison, Texas.

The National Journal of Carp Culture is the only journal in the United States devoted to the subject of carp culture. It was established in 1885, is issued monthly, at fifty cents a year. Those interested in carp culture can obtain a sample copy free by addressing L. B. Logan, Akron, Ohio.

The Maryland Farmer, published at Baltimore, Maryland, by Ezra Whitman, at $1.00 a year, is a monthly magazine of 32 pages, devoted to agriculture, ably edited by a veteran agriculturist. It begins the year 1886 in beautiful style, with new cover of handsome design, new type and superior paper, giving it a very attractive appearance.

North East Europe Fruits are exhaustively treated, so far as our knowledge of them at present extends, in a Bulletin of the Iowa Agricultural Colledge just issued. It contains a revised list of names, with notes on some of the fruits, trees, and shrubs from Nort East Europe on trial in the College grounds, and which have been sent out for trial during the past six years.

Vick's Floral Guide for 1886 comes as usual in beautiful and attractive garb. The cover is a most artistic thing of itself, the interior a charming picture book, and the reading matter interesting and instructive, such as the

article on Roses, Keeping Fruit, Onions, Mushroom growing, the Young Gardeners, &c. Send ten cents to James Vick, Rochester, N.Y., for a copy, and if you order seeds this will be credited on your order.

The Gardeners' Monthly edited by Thomas Meehan, and published by Charles H. Marot, 814 Chestnut Street, Philadelphia, at $2 a year, is a most welcome visitor. It is always filled with valuable information on horticultural subjects, and the latest intelligence of new and interesting plants, fruits, etc. We advise our friends who want the best horticultural publication in the United States to send to the publisher for a copy.

Alden's Library Magazine is a most valuable eclectic monthly published by John B. Alden, New York, at the low price of $1.50 a year. The January number contains Premier Gladstone's celebrated article on the Dawn of Creation and Worship, and the February number T. H. Huxley's reply, entitled The Interpreters of Genesis and the Interpreters of Nature. In the March number is an article by S. Laing, on Mr. Gladstone as a theologian. Other articles on a variety of interesting and live topics of the day fill the nearly one hundred pages of each monthly issue. Single numbers can be had for fifteen cents.

Portfolio of rare and beautiful flowers, published by James Vick, seedsman, Rochester, N. Y. is a most beautiful and artistic production. The work contains six large colored paintings of natural size on fine heavy paper, twelve by fourteen inches, executed with the utmost fidelity to nature, and accompanied by descriptions and information relative to the plants and the several families to which they belong, corresponding in elegance and interest with the paintings themselves. The Portfolio makes a rich ornament for the parlour table, and will be highly prized by every lover of the beautiful It may be had by sending two dollars to the publisher.

A Literary curiosity is just issued by John B. Alden, Publisher, New York, at the low price of 50 cents. It is a copy of a quaint poem which was published nearly half a century before Milton's Paradise Lost and it is thought by some that Milton's immortal work was inspired by this poem. Only two copies of the original issue are known to be in existence, one in the British Museum, the other in the Bodleian Library. It is entitled "The Glasse of Time in the first and second Age, Divinely handled by Thomas Peyton, of Lincolnes Inne, Gent., 1620." The present reprint preserves the quaint spelling, capital letters and italics of the original.

Poultry for Pleasure and Profit is the title of a very neat little book of 48 pages by G. M. T. Johnson, Binghampton, N.Y., in which the writer treats of fowls under three heads :—1st, those whose chief merit is their beauty; 2nd, those whose specialty is for eggs; and 3rd, those best calculated for market, Chapters are also devoted to the requisites for making the keeping of poultry both pleasant and profitable, how to house and yard them, how to manage, feed, &c. The price of the book is only 25 cents. If any of our readers would like to have a copy we will send one on receipt of name of one new subscriber and one dollar. When sending the name please to state that you want this book.

British Orchards.—Last year there were 194,723 acres of fruit orchards in Great Britain. This year the area has increased to 197,532 acres. Last year 52,975 acres were devoted to market gardens. There are now 59,473 devoted to this purpose.

MY AIN COUNTREE.

I am far from my hame, an I'm weary often whiles
For the longed for hame,--bringin' all my Father's welcome smiles;
I'll ne'er be fu content, until my een do see
The gowden gates o' heaven, and my ain countree.

The earth is fleck'd wi flowers, mony-tinted, fresh, and gay,
The birdies warble blithely, for my Father made them sae;
But these sights an' these souns, will as naething be to me
When I hear the angels singing in my ain countree.

I've his gude word o' promise, that some gladsome day, the King
To his ain royal palace, his banished hame will bring;
Wi sere an wi heart runnin oure we shall see
"The King in his beauty," in our ain countree.

My sins have been mony, an my sorrows have been sair,
But there they'll never vex me, nor be remembered mair;
His bluid has made me white, his hand shall wipe mine ee,
Wnen he brings me hame at last to my ain countree.

Like a bairn to its mither, a wee birdie to its nest,
I wad fain be gangin' noo unto my Saviour's breast;
For he gathers in his bosom, witless, worthless lambs like me,
An he carries them himsel to his ain countree.

He's faithfu that has promised; He'll surely come again;
He'll keep his tryst* wi me; at what hour I dinna ken;
But he bids me still to watch, an ready aye to be
To gang at any moment to my ain countree.

So I'm watchin' aye an singin' o' my hame as I wait
For the soundin o' his footsteps, this side the gowden gate;
God gie his grace to ilk a ane wha listens noo to me,
That we may a' gang in gladness to our ain countree.

* Tryst—appointment.

—*London Advertiser.*

KEEPING GOOSEBERRIES.—Dr. Hoskins, of Vermont, says it is not generally known that gooseberries can be perfectly preserved the year round in common bottles with pure water. See that no broken or crushed berries get into the bottle, but all sound, perfect fruit; then fill up with cold spring or well water, cork tight and set away in a cool cellar. No sealing is necessary.

KEEPING GRAPES.—Fussing up grapes with cotton, sawdust, paper, wax, and so on, to keep them into the Winter, is all nonsense. Let the grapes ripen perfectly, and then carefully pick into shallow boxes, or baskets, and without changing or disturbing, keep them in the coolest place you can command. That's all there is of it. The cooler the better, so they don't freeze.—*Wine and Fruit Grower.*

NEW RACE OF PINKS.—A French nurseryman, M. Regnier, sends out a new variety of Pink which originated with him under the name of Alexandre Regnier. "This Pink," he says, "forms the commencement of an entirely new and interesting race, the plant being robust and very hardy. The flowers are numerously produced, are borne on sturdy, upright stems, and never burst." The flowers are sulphur yellow, and the season of blooming is so long the variety is called a perpetual bloomer.—*Vick's Magazine.*

MOORE'S DIAMOND GRAPE.—As the above grape was noticed in your *Magazine* last season, and we have one year's more experience, I will say a little more about it. Bunch large, berry above medium or large. A most beautiful golden yellow, and of the best quality. Vine perfectly hardy and healthy. It rots, like nearly all other grapes, but I don't care for that, as it is worth sacking if every sack cost two cents, instead of only one-quarter of a cent. It is about as early as any grape in my collection of sixty varieties. I look upon it as one of the coming grapes.—SAMUEL MILLER, *in Vick's Magazine.*

WHITE PLUME CELERY.—Our White Plume Celery is turning out very desirable in spite of remarks in these columns to the contrary. We have two kinds, the White Plume and the Improved White Plume, the latter of which is a trifle more vigorous than the other, and gives a few more stalks to the plant The outside leaves are green or variegated; the inside leaves a cream-white. The foliage looks pretty in glasses or celery "boats," and the stalks, though not quite so tender as celery blanched in the usual way, and perhaps not quite so mild or sweet, are yet very palatable. It is now a question whether this self-blanching celery is not the best for early use.—*Rural New-Yorker.*

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THE BELMONT.

THE

Canadian Horticulturist.

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THE BELMONT STRAWBERRY.

This new strawberry, an engraving of which appears in this number instead of our usual colored plate, was raised by Messrs. Warren Heustis & Son, Belmont, Mass., U.S.A. It has been tested by them for four years, and they say that they have found it to do well on both heavy and light soils. They also state that the plant is of such vigorous growth that it can mature an abundant crop of fruit, which can remain a long time on the vines without injury; they having realized from 10,700 square feet of ground, scarcely a quarter of an acre, the net sum of $596.

The originators describe the berry as large, oblong in shape, crimson in color, very solid and sweet, and of extra flavor and quality; also that it colors evenly and perfectly, having no hard or unripe spots, and is quite remarkable as a carrier and keeper.

This plant is also said to produce perfect blossoms, yielding an abundance of pollen to fertilize the fruit; and that the blossoms open so late that they escaped a frost which occurred at Belmont on the thirtieth of May, 1884, injuring seriously all other varieties.

The Fruit Committee of the Massachusetts Horticultural Society in the Report for 1883, state that the special prize of ten dollars offered by the Hon. M. P. Wilder, for the four quarts of the variety of finest form, color, and quality, was awarded to this new seedling, which in color and quality resembles the Sharpless, but is much better in form.

In the Report for 1884, this Committee states that they visited Mr. Heustis' grounds on the 21st of June, and found the vines to be of unusually strong growth, and bearing an exceedingly heavy crop of fruit; that the berries were of large size, good form and color, quality very much like the Sharpless, and that the firmness of the flesh, and exceptionally good keeping quality of the fruit, must make this a desirable market variety.

Some of the dealers in fruits in Faneuil Hall, Boston, Mass., say that the fine flavor, aroma, and color, together with its splendid keeping qualities, make the Belmont by far the best they handle, selling during the past two seasons at least one-third higher than any other berry of its season. The *American Cultivator*, published in Boston, stated last July that the Belmont sold

in Quincy Market forty per cent. higher than any other berry offered in the week.

We are indebted to Messrs. Parker & Wood, dealers in plants, seeds, agricultural implements and machines, 49 North Market Street, Boston, Mass., U.S.A., for the electrotype of this remarkable new strawberry, which was engraved from a photograph. We were not able to procure a colored plate for our illustration, but in all other respects this engraving will enable our readers to form a correct idea of the appearance of this new strawberry.

QUESTION DRAWER.

HOW TO GROW ONIONS.

Can you inform me in your next number the best method for raising good black seed Onions. I am so much pleased with your magazine I would not like to be without it.

Lakeside, Oxford Co. SAM. A. COLE.

REPLY.—To grow good Onions it is important that we select suitable soil and have it properly prepared. The best soil for Onions is a deep, rich, loamy, mellow soil, on a dry bottom, that is well underdrained either naturally or artificially. The Onion will not thrive in a wet, cold ground. A sandy loam that is strong enough to raise good crops of corn or potatoes, will make an excellent ground for Onions. In making your selection of a place for growing them, give preference to one that has been previously well fertilized and tilled with hoed crops and kept clean—such as has raised a fine crop of beets or carrots.

Prepare the ground by ploughing, harrowing it thoroughly, breaking up all lumps, and making it as fine and light as possible. Manure it with fine, thoroughly rotted barn-yard manure, at the rate of twenty-five tons to the acre, adding all the cleanings of the pig-stye, poultry-house and earth-closet that can be spared, and work these into the surface with the harrow. If you can procure them, sow the ground with fine ground bones, at the rate of a couple of tons to the acre, for Onions being an exception to the general rule of rotation in crops, you will find the bones of great benefit for more than one year. If you wish to grow enormous specimens that will take the prizes at our Agricultural Shows, you will find nothing better than to dress that part of your Onion field with a barrel or two of well-rotted onions, in addition to your other fertilizers.

The surface of the ground should be finished off as nearly level as possible, and cleaned entirely of stones, sticks, or rubbish. If you wish to grow on a large scale sow the seed with a machine made for the purpose, which sows two rows at once, making the drills, sowing the seed and covering at one operation. If you only require enough for home use, you can make the drills by hand about a foot or fifteen inches apart, sowing the seed thinly, say about an inch apart in the drill. The drills should be very shallow, mere scratches into which to drop the seed, and the covering is best done with a light roller run over the ground lengthwise of the drills.

In growing from seed it is important to procure the best American grown seed. European seed often fails to form good, solid bulbs. Four pounds of fresh seed will be enough for an acre sown with the machine, and if sown in the garden by hand an ounce will be enough for four hundred feet of drill. Sow the seed just as early as it is possible to get the ground in good condition; the earliest sown yield the heaviest crop.

As soon as the plants can be seen, the gronnd should be carefully hoed between the rows, either with the wheel hoe or by hand, and the weeds thoroughly cleaned out. The hoeing should be shallow, taking care not to draw the earth up around the plants, but to keep the ground level and clean. As soon as the Onions are an inch or two high they should be thinned out to two inches apart in the row. They may be allowed to grow at this distance for a time, and the young Onions used for the table or sold, gradually thinning out to four inches apart. In field culture, or where there is no market for these very young Onions, they may be at once thinned out to four inches apart.

Timely and thorough cultivation are of great importance to the success of this crop. If the weeds once get the start they will materially injure the growth of the plants, if not entirely ruin the crop; hence, do not let the weeds once get a start, but hoe even if no weeds are visible.

In wet seasons Onions sometimes grow thick-necked. To remedy this, gently bend down the tops, late in July, with the hoe handle, which checks the growth of top and induces the formation of better bulbs.

MEALY BUG.

Please tell me a cure for Mealy Bugs which have got into my little greenhouse and vinery, and seem hard to conquer. A. D. FERRIER.

Fergus, Ont.

REPLY.—They are hard to conquer. If you are troubled with them on plants in pots, set the pots out of doors when the weather is suitable, and then with your force pump turn a strong stream of water on the plants and wash them off. Be thorough, and turn the stream on while one remains. Repeat the operation in about ten days and until you conquer. The writer has been successful by pursuing this plan vigorously. But in your vinery you must try another plan. Dissolve a pound of potash in three gallons of water; warm it until it is of the temperature of 130°F., and wash your vines thoroughly with the solution, and repeat the operation in a week or ten days. If you see them making their appearance again, and you should maintain a careful lookout for them, repeat the washing. If your grape vines are in a dormant condition, you may make the solution stronger by adding half a pound more of potash.

FRUIT IN BRACEBRIDGE, MUSKOKA.

The Canada Baldwin I got in 1884 did not take root. The Fay's Currant in 1885 did well, and the flower seeds gave us some most beautiful flowers.

My orchard of over six hundred fruit trees, planted some every year since '78, is doing first-class. I have over forty different kinds of apples, about seventy-five plum trees, some of them bearing well, also Early Richmond cherry. I believe I can grow any apple tree here that can be grown in Canada. If you could see them in bloom in summer you wonld be surprised. I have the best trees money can get, and I care for them; that is the only secret of success. Strawberries and all small fruits do well; they cannot be beaten anywhere. I do not believe I have lost a bud or an inch of young wood this winter on any of my trees. I have the Russian Apricot, Quinces, Russian Mulberry, Black Walnut, and Butternut; also ten or twelve kinds of Grapes.

THOMAS COLLINSON.

Please to tell us what kinds of Grapes, and when they ripen.—ED. CAN. HORT.

HEATING GREENHOUSES.

Please give your views on heating greenhouses by steam. Which is best, cheapest, and safest—hot water or steam. GRAINGER & DUKE.

Deer Park, Ont.

REPLY.—Your Editor has not had sufficient experience in the use of steam for heating greenhouses to be able to express a decided opinion. There seems to be a conflict of opinion on this subject among those best competent to decide. The first cost of boiler and piping for steam heating, should be less than for heating by hot water. The cost of fuel for maintaining heat would be about the same in either case. In large establishments steam has the advantage of water in the matter of the speed with which the temperature can be increased upon a sudden falling of the thermometer out of doors. In a small greenhouse, where the distance the water has to travel is not great, this question of speed becomes of less importance. In steam heating the pipes will cool quickly the moment steam ceases to be generated. In hot water the circulation will continue as long as the water in the boiler is warmer than that in the return pipes. Steam heating will require some watchfulness and judgment on the part of the manager to see that all is in perfect working order continually. The conclusion on the whole is this, we would heat a small private greenhouse with hot water, as at present advised, but a large commercial establishment, if we were now starting one, with steam.

THE WINDSOR BEAN.

I shall be glad if you could, through the magazine, give any hints as to growing the broad or Windsor Bean. I and others in my household are very fond of it, but have not had much success with it out here. New Zealand Spinach too, which in England found very profitable and nice, I am unable as yet to get to grow. Perhaps the seed of the latter may have been at fault. A.

Hamilton, Ont.

REPLY.—Our soil being a sandy loam we have always found some difficulty with these beans, especially if the season was hot and dry. They flourish best in a rich clay loam, or even a heavy clay soil that has been

well supplied with fertilizers. They should be planted as early as possible after the ground is in working order in the spring. They may be planted in drills about three feet apart, and three inches apart in the drill. When the lower pods on the stalk are set, pinch off the top to insure the filling of the pods. We suggest that in order to hasten their growth in the early part of the season, so that they may not suffer when the hot weather comes on, you sprinkle a little *nitrate of soda* on the ground just before a rain, on each side of the drill, after the plants have appeared. You probably can procure it from John A. Bruce & Co., Hamilton; if not, you can get it of Brodie & Harvie, 10 Bleury Street, Montreal, in a bag of about 280 lbs., at 3¼ cents per lb. You will find it a very useful manure to use in the early spring to hasten the growth of early vegetables before the weather is warm enough to supply nitrates from stable manures.

You will probably find no difficulty with New Zealand Spinach in good rich soil—preferably a light soil.

PROPAGATING CUT-LEAVED MAPLE.

What is the mode of propagating the cut-leaved maples described in the last volume of the *Canadian Horticulturist.* I have seen some of them growing beautifully near Fredericton. N. B.

Sheffield Academy, Sunbury Co., N.B.

REPLY.—Nurserymen propagate the cut-leaved maples by budding them on seedling maples of the same species. For instance, Weir's Cut-leaved Maple is a variety of Acer dasycarpum, and grows freely when budded on seedlings of the Silver Maple.

REPORTS ON PLANTS RECEIVED.

It seems to me useless to report on plants sent out by the Association until they have had time to mature, so that we can give, not expectations, but facts. I have acted on this principle.

In apples I got the Canada and the Wealthy. Both have been winter killed, and are sprouting from the roots.

The Bartlett pear flourished well the first two seasons, but died the third of summer blight. I may say I have tried several kinds of pears, but all died at the age of blossoming, when I found the wood, trunk and branches had rotted from the centre, leaving only a very thin shell of green wood immediately under the bark.

My Glass seedling plum is now a large, beautiful, and apparently healthy tree; but it is a shy bearer. Two and three years ago it had a thin crop of blossoms, and only from 20 to 30 plums each year. Last season it had a full crop of blossoms, but not more than 60 or 70 plums.

The Diadem raspberry (sent out, I believe, in mistake for some other kind,) has done well with me. Last year it continued bearing till the frost came. The berry looks a little coarse from the large size of the facets; but it is of large size, bright red colour, juicy and well flavoured.

In grapes, Moore's Early, received in 1882, has grown well. It bore a few in 1884, and a fair crop in 1885. Bunches and berries about the same size as Champion, ripens about the same time, and is slightly better in quality. Worden, received in 1883, bore last season. It closely resembles Moore's, but is a little better in quality

and a shade later in ripening. The Burnet has proved a fair grower, not too rampant, a moderate bearer, bunches and berry resembling the Isabella, but not quite so large, and liable to be interspersed with a few small, seedless berries. Its time of ripening is about the same as the Concord, and when fully ripe its flavour is delicious. The Prentiss, received in 1884, grew well that season, but was found dead next spring.

These are all received from the Association that I have to report on. I would only add that it is useless to plant grapes here that do not ripen with or before the Concord. They have all to be covered in winter.

If the correspondents of your excellent journal would be a little more particular in indicating their locality, it would add much to the usefulness of their experiences. For my own part, I have spent a good deal of money, time and labor in experimenting with apples, plums and grapes highly recommended in south-western Ontario, which are utterly worthless here.

ROBERT LEES.

Wildwood, near Ottawa City.

THE WEIGELA.

Referring to a note in your February number, the Weigela has grown and blossomed with me six or seven years without winter protection. R. LEES.

Wildwood, near Ottawa City.

The *Horticulturist* is a very welcome visitor here, and is always improving.

THE BURNET GRAPE, ETC.

As Mr. S. P. Morse gives some very good advice to the readers of your paper to send their experiences, also their successes and failures in all the different branches of horticulture, I will try in my humble way to contribute my mite, in the hope that others may do the same.

The Burnet grape has only had a few grapes on it once, as it kills down badly, but I shifted it to a more sheltered place last year, so I am in hopes it will do a little better. Moore's Early has not done very well, although it has not had a very good chance The Ontario apple has done very well, and I am well pleased with the fruit. The original tree has been in bearing three years; besides, several grafts which I put on a Talman Sweet have been bearing two or three years. Fay's Prolific currant made good growth last season. The currant borer is pretty bad here, having killed a good many of our plants. We have had no reason to complain of the productiveness of most of the old varieties of currants, of which we have the common red and white, white grape and red cherry, which we think is very sour. We also have the Black Naples currant, which did middling so long as it got good care. Gooseberries do splendidly here when properly attended to, and the worms kept off with hellebore. Houghton's seedling has been very productive. We have two or three English varieties; also the Downing, which does very well. Peaches are a failure, except on very dry land, and sheltered. The common early cherry does very well, but if we want to get many we will have to grow enough for the birds and ourselves too. SAMUEL CARR.

Sarnia.

APPLES, PLUMS, GRALES, ETC.

I have never yet sent you any report of my plants received from the Association, but will endeavour to do so now. My first were a Wagner apple and McLaughlin plum. Through neglect the apple died last year, the borer having girdled it just at the collar, and being engaged in other work I neglected it. The plum is yet alive, and I esteem it very highly. I have some Wagners

grafted, and they are splendid apples. I have some in my cellar to-day (March 11th), and they are keeping good. The Ontario apple is doing well now, but it is subject to dead spots on the bark. The Salem grape was dead when I got it, but I have one that I bought for Salem that in the last ten years has never borne a good bunch of fruit, and I have now cut it down. The Saunders raspberry has done splendidly, and I have never yet seen a raspberry carry such an immense crop of fruit as mine did last year; they were the wonder of all who saw them. The Worden grape was doing well, but I had a man in my garden, a new importation, and he thought it was a very thrifty weed, and the hoe put an end to its existence. The Downing gooseberry does well here, but is not quite as prolific as the Smith's Improved. The Prentiss grape I got two years ago is making a splendid vine, and I look for fruit this year. The Wealthy apple is also doing well. The dahlias I got last year made a splendid root, and I shall hope for flowers this year.

I will just add that the pears I got some years ago have all died by blight, and so have many others that I have planted, so I have given up in despair. Fruit here last year was a good crop.

GEORGE OTTAWAY.

Barrie, Simcoe Co.

RASPBERRIES, &C.

For three years I have been a subscriber to the *Horticulturist*, and have learned to prize it highly. Some of the papers published during the past year about strawberries, grapes, raspberries, etc., are alone worth many times the price of the magazine. The Report also contains an invaluable fund of information. While I especially prize articles written by our veteran fruit growers, such as Little, Robinson, Smith, Spotten, Hilborn, Beall and yourself, yet I am almost as much delighted and profited by the information given to and by our amateur horticulturists.

In the spring of 1883 I received the Hansell raspberry. It made a good growth, and has fruited the past two seasons. It passed through the winter of 1885 very well; killed back a little, but not enough to hurt. In fruiting I find it a week later than the Turner, about the same size, but light coloured, making it difficult to know when it is fully ripe; besides, it is covered with a light bloom resembling a mildew, which spoils the appearance. I also find the flavor very poor. I don't like it and can't recommend it. The Turner, Herstine and Cuthbert are very much superior, and cover the season from early till late among the red to my satisfaction.

I should like to say a word in favour of Shaffer's Colossal, which I consider the best canning berry grown. Combining to a remarkable degree the habit of growth of both red and black, it also unites the qualities of those kinds in the fruit, and for size is equalled only by the Red Antwerp. The maroon colour of the berry is its weakest point before canning, but afterwards it gives the fruit a very rich, deep colour. Another excellent feature is that it never throws up suckers, but propagates from the tips like the black. Every one who saw the yield upon my bushes last season was astonished. To all your readers who want a profitable raspberry for home use, I would say, try Shaffer's; you can't help but like it.

In 1884 I received the Prentiss grape. It is making a fair growth. In 1885 I received the Hardy Catalpa and a Russian apple tree. My Catalpa made a wonderful growth, but as it was still growing and putting out new leaves when winter came, I fear it will

kill back considerably. The apple tree grew about five inches, and promises to do well.

Your correspondents in the March number give a somewhat flattering testimony regarding the Ben Davis apple, but any one who has once bought them for his own use will not be apt to do so again. They are too much like balls of sole leather, tough and tasteless. As long as buyers are guided by appearance instead of quality they will buy Ben Davis, but no longer; still it may pay the grower for a few years longer.

R. B. THORNTON.

Orono, Durham Co.

WHAT THE PEOPLE SAY.

STRAWBERRIES FOR THE FAMILY.

BY T. C. ROBINSON, OWEN SOUND.

The requirements of a family fruit are very different from those essential to a market variety. The firmness which implies safe transportation long distances is entirely unnecessary in a berry that is to be eaten directly from the vine, or that appears on the table within an hour after the little fingers have scared it from its leafy hiding-place. And although size and beauty are very desirable, they do not rank essential, as in the samples on the huckster's stands, which are successes or failures mainly according to the degree of anticipation excited in the great public by their appearance.

The qualities, then, to be sought in a fruit for the household are:

1st. Quantity.
2nd. Quality.
3rd. Size.
4th. Beauty.
5th. Earliness in one and lateness in another, so as to cover the entire season.

Some persons, where there are not many children, would put quality first and quantity fourth; but probably most people would rate a family fruit according to the foregoing scale of values.

According to this estimate, after years of careful testing, I consider the following varieties of special value for family use:

Crescent.—I put this first because of its earliness. It is the hardiest in plant that I am acquainted with, and the crop is simply enormous. With me it usually gives two pickings in advance of Wilson, and two after Wilson is done, and it gives equal pickings with Wilson all through the Wilson's season. It will bear on any soil where the Wilson will, and many soils where Wilson will not, and the berries are as large, more handsome, not as rich, but sweeter, and the blossoms will stand frosts which kill the Wilson's blossoms. Finally, it seems quite as good as Wilson when cooked; hence for home use I consider it leaves no room whatever for the grand old Wilson in the family garden.

About a week after the Crescent comes in we begin to pick ripe berries from the

Bidwell.—With me this is the best family berry that I have well tested. Year after year it comes to the front with its immense loads of beautiful fruit. The berries are much sweeter and larger than Wilson or Crescent, and I find the crop larger also when runners are kept off. The plant is about the largest and healthiest that I know of. Set in moderately rich soil, 16 inches apart in the rows, and rows 30 inches apart, and runners kept off so that no young plant can take root, the rich, tall, luxuriant foliage will cover nearly the whole surface of the ground. Many of the berries thus grown will measure from two inches to two-and-a-half inches in length, the shape being long conical.

Seneca Queen ripens about the same

time as Bidwell, lasts nearly as long, and tastes about as good. It does not bear quite so well as Bidwell with me, but I find that it does better than Bidwell with some of my friends. In truth it seems to be adapted to a wider range of soils than Bidwell; so that if a person had rich, moist soil, about half sand and half clay, I would recommend Bidwell first, but if his soil happened to be very light sand, or stiff clay, or very loose and gravelly, I would say Seneca Queen. In appearance, both of plant and berry, these varieties are very unlike, the Bidwell's leaves spreading out wide, especially the first year, and the fruit being long and pointed, while the leaves of the Seneca Queen stand very erect, and the large, flattened fruit ripens all over at once, with nothing of the white tip so often seen in the Bidwell. On equally good soil I think the berries of Seneca Queen average rather larger than Bidwell or even Sharpless, and the colour is peculiarly attractive.

Towards the end of the strawberry season we find in its prime the royal

Sharpless.—It cannot compare in productiveness with any of the others just described; but it is so large and delicious and late, that no collection would seem complete without it. I have not seen any other variety yet which will give so large specimens. I weighed one from my grounds that went an ounce and a half, and I have no doubt that larger berries could easily be raised. The plant is very large and healthy, and with plenty of manure and runners cut off, it will give fine crops.

Manchester ripens about with Sharpless. Some specimens are nearly as large as the largest Sharpless, and the average was larger with me last summer. The berry is remarkably smooth, uniform and handsome, the crop fully as large, I think, as Bidwell—larger than that of any other I have mentioned—and the quality about as good as Bidwell or Sharpless. This fine variety should never be left out; but as the blossoms are imperfect it should have every fifth row planted with Sharpless or some other late flowering and perfect-blossomed kind, or many of the blossoms will fail to produce fruit.

Most of these varieties are excellent for market—especially for a near market—but as I have aimed to speak of varieties for home use, I have passed by the market value in describing each.

There are other varieties, such as Parry, Early Canada, Atlantic, etc., that are coming rapidly to the front in value for home use.

But with these four varieties—say 100 plants of each—a family of five could be supplied with delicious strawberries through the first four weeks of the time when fruit is most needed, with some to preserve for winter.

Any good nurseryman should supply the plants for three or four dollars—a moderate cost for such a luxury—for an equal amount of fruit from the grocer's would cost $10 at least, and not taste half as good.

THE DOUBLE POPPY.

The best plant at present known for consolidating, by the interlacing of its roots, the loose soil of a newly made embankment is, according to M. Cambier, of the French Railway Service, the Double Poppy. While the usual grasses and clovers need several months for the development of their comparatively feeble roots, the Double Poppy germinates in a few days, and in two weeks grows enough to give protection to the slope, while at the end of three or four months, the roots, which are ten or twelve inches long, are found to have interlaced so as to retain the earth far more firmly than those of any grass or grain. Though the plant is an annual, it sows itself after the first

year, and with a little care the bank is always in good condition.

Royston Park, Feb. 24. NATURE.

POTATOE CULTURE.

Potatoes may be grown in any kind of soil, but to grow them of good quality requires land of a sandy nature, well drained. To grow them for early market plant the sets in a hot-bed close together about ten days before setting them out in the field, so that they may have a growth of an inch or so in length. Some start them in boxes or barrels in a kitchen or warm room, but that is only for small quantities. Have the land ploughed the fall before, and in the spring work it well with the grubber or pulverizing harrow. Make the drills thirty inches apart. Closer than that you will not have enough of earth to fill them up properly, and there will be more small ones and a great many sun-burnt growing out of the ground. Put one-seventh cart load of rotten manure to a drill of three acres in length. Plant the sets carefully therein, about ten inches apart, covering them gently with a few inches of earth with the hand or feet, taking care not to break off the sprouts; then apply about fifteen pounds of fertilizer (containing a good percentage of potash) to each drill, scattering it over the sets. The sets being slightly covered with earth protects them from the fertilizer, as it is concentrated, and might injure the sprouts. Finish covering with the plough. By using this fertilizer I have had potatoes fit for market ten days before those where I used no fertilizer. In a few days the potatoes will be through the ground. Keep the weeds down by the use of the hoe and cultivator. When the plants are long enough they may be moulded up with the plough. By this means of cultivation we have had potatoes on our market by the end of June, bringing from two to four dollars per bushel.

For general crop plough in the manure in the fall, about twenty-five one-horse loads to the acre, for manure in the drill, especially cow manure, tends to grow scabby potatoes. Draw drills as for early potatoes, and use fertilizer also. Never let the drills be drawn a long time before planting and covering, for if the drills remain a day or two in the hot sun the potatoes will get scalded and never come up. It is a good thing to pass the roller over the drills; it keeps the land moist. When the potatoes are on the point of coming up, harrow the drills down with the saddle harrow or a Scotch harrow turned upside down. To kill the weeds use the hoe and cultivator, &c., the same as for early potatoes. We have grown 450 bushels to the acre cultivated in this way. For early potatoes I like the Early Vermont the best. It was a week earlier than the Beauty of Hebron and Early Rose. The Hebron is a popular market variety, but rots easier than the other two. I raised 200 bushels of Early Maine from 7½ bushels of seed. They resemble the Early Vermont. I have not tested them for earliness together. Old pasture land and clover ploughed in will give the largest yield of potatoes. Change your seed every year, if possible from land different from your own.

M. G.

THE NEW DUTIES ON BERRIES.

By the change recently made in the tariff of customs on berries, the duties on a crate containing 54 baskets is considerably increased. The old duty was two cents on a basket, which was $1.08. on the crate. The duty is now four cents per pound, weight of package to be included. A crate containing 54 baskets will weigh from 90 to 100 lbs.,

which will make the duty from $3.60 to $4 on each crate.

HOW TO PRESERVE FRUIT FROM DECAY.

At a meeting of the Montreal Horticultural Society, held in February last, Mr. J. Fraser Torrance read a paper, which is published in the *Family Herald and Weekly Star*, in which he gives an account of some very interesting experiments in the matter of keeping grapes and apples in a fresh state, by packing them in cases so that they shall be entirely surrounded with infusorial earth.

We may state, by way of explanation, that infusorial earth is composed of an innumerable quantity of very minute shells. A cubic inch will contain more than a million of these tiny shells, and as each of these holds within its cavity a particle of imprisoned air, it follows that a body of this infusorial earth, although not exceeding an inch in thickness, becomes an excellent non-conductor. For this reason it is extensively used as a covering for steam pipes to prevent the loss of heat.

Mr. Torrance conceives that the conditions essential to the preservation of vegetable substances from decay are the maintenance of an uniform degree both of temperature and moisture ; that it is of quite secondary importance what that degree, either of temperature or moisture may be, so long as it be maintained *without change.*

Acting upon this theory, he has constructed a double packing case, so made that there shall be a space of not less than one inch between the outer and inner case on all six sides, which space is packed full of infusorial earth. The fruit is first wrapped in manilla paper and packed in the inner case, the interstices between the fruit filled with infusorial earth as the packing proceeds. When the case is filled the surface is covered with the earth, so that the lid may close firmly on the contents, sufficient to prevent any movement of the fruit in handling the case. This lid is then covered with the earth until the outer case is full, when the lid of that is closed and securely fastened. By this means there can no change take place in the air immediately surrounding the fruit, and consequently there can be no evaporation of its juices; while the temperature, by reason of the non-conducting character of the infusorial earth, is also maintained without change.

Mr. Torrance also states that this earth is absolutely tasteless, and in confirmation exhibited to the meeting apples that had been packed for four months in direct contact with the earth, and yet retained fully their characteristic flavor as when first plucked from the tree. Further than this, Mr. Chas. Gibb, of Abbottsford, Que., had packed some fresh butter directly in this earth for ten days, and on testing it could not detect the slightest change in flavor. About the end of September last Mr. Torrance sent to Mr. and Mrs. Jack, of Chateauguay Basin, some of these packing cases, together with a supply of the earth, in which they packed a variety of grapes, Agawam, Concord, Delaware, Duchess, Eumelan, and Niagara, also some Alexander and Fameuse apples. By chance the cases containing this fruit were left in an open shed until the frost had become so severe that the mercury fell to zero, but the fruit was uninjured, and Mr. Torrance exhibited to the meeting some of these grapes and apples in a perfectly sound and fresh condition.

The size of case recommended by Mr. Torrance is one not exceeding in capacity a bushel and a half, ten of which would be equal to one ton measurement. For small or delicate fruits he substitutes four trays for the interior case, placed one above the other, and held

securely in the centre of the exterior case by cleats.

The cost of case and packing material he states to be as follows: the double case, forty-five cents; the infusorial earth, laid down in Montreal in bags or one hundred pounds costing one dollar and a half per bag, each bag being sufficent for three cases, would cost fifty cents, and a quire of large manilla paper at a dollar and a half a ream would cost seven and a half cents, thus making the total cost one dollar and two and a half cents per case.

He thinks that this system of preserving fruit in a fresh state promises to be of value to the fruit grower who wishes to keep extra choice fruit for the holiday trade and market it in the cities and towns in severe frosty weather, inasmuch as there will be no danger of it being injured by the frost during transportation. For such purpose the cases could be used an indefinite number of times, year after year. Further, that it promises to be of great value for the export of choice fruit of such a quality that the price to be obtained would be sufficient to pay for the package as well as the freight and charges and leave a satisfactory margin of profit, such as would be the case with tomatoes, nutmeg-melons, peaches, and very choice pears. Inasmuch as these cases can be stowed in the hold of the vessel without fear of injury to the fruit, they can be shipped at lower rates for freight than fruit in ventilated cases, which must always be carried between decks. Also it may be that something can be obtained for the empty packing cases in England, where such articles are always in demand, and likewise that the infusorial earth could be sold for somewhat near the cost, as it is quoted in the British markets at from about twenty to thirty dollars per ton.

In conclusion, Mr. Torrance calls attention to the facilities herein presented for the safe shipment of our choice and even perishable fruits next summer to the Colonial Exhibition, whereby a complete succession can be kept up during the fruit season, and the fruit arrive in a perfectly fresh condition; and as the fruit can be kept in these cases for a considerable time without fear of decay, it can be allowed to remain stored in the cases until wanted to be placed on exhibition.

It is certainly to be hoped that the gentlemen having the colonial fruit exhibition in charge will make a thorough investigation of this matter, and fully test the value of this method of preserving and transporting fruit in the fresh state. Should it prove to be what Mr. Torrance expects, it will open up such a market for some of our finer fruits and vegetables as will give a new impulse to their cultivation, and so increase the volume of our transatlantic trade.

PARIS GREEN FOR CURCULIO.

By permission of Wm. Roy, Esq., Royston Park, Owen Sound, to whom the letter was addressed, we publish the following communication :—

My Dear Sir,—In conversation on the train with Senator Plumb, he told me that the past two years he has successfully raised the most delicate and finest flavored fruit, when for fifteen years before they have been destroyed by curculio, and moths, and other insects.

He explains the reason by application of Paris Green to the trees in the following manner :—Plums; after the blossom falls and fruit appears, he mixes, say a dessert spoonful of Paris Green in a good full pail of water, and with a large garden syringe squirts the water on the fruit, leaves and branches of the trees. This he repeats at intervals of four or five days or more, according to the nature of the weather,

for three or four times. He says the curculio will not go near the Paris Green, and consequently the fruit will be saved from the insect.

The same treatment will save the most delicate apples from being pierced by insects that destroy so many of them, and other fruit in the same manner.

And then after the insect season is past, there is plenty of time for rain to wash all the Paris Green off the fruit. The quantity is so small that in any case it would do no harm, as one dessert spoonful will do several trees.

I thought the experiment was worth knowing. With kindest wishes, I have the honor to be,

Yours faithfully, B. ALLEN.

THE CULTIVATION OF HOPS.

DEAR SIR,—Will you please let me know through your valuable *Horticulturist* something on the planting and cultivation of hops? I have a piece of very heavy clay land, sloping towards the west. Would it be suitable for hops? How are they propagated? What will it cost per acre for plants? How are they set out and trained? What kind of manure is best? The soil is strong.

Yours etc.,

W. H. HODGES.

Ops, March, 4th., 1886.

LOCATION.

In the selection of a site for the hop-yard it is very important that one be chosen where there is a free circulation of air and full exposure to the sun. Low and damp locations are to be avoided, for the reason that the hop-vine is subject to be attacked by a vegetable fungus known as *the mould*, which flourishes in wet seasons and damp locations. Dryness checks the growth of this fungus, hence the importance of a free circulation of air and sunlight.

SOIL.

As the roots of the hop-vine are liable to suffer from drought it is important that there be a good depth of soil, and that it be abundantly supplied with vegetable matter. Hence in preparing the ground, it should be deeply and thorougly sub-soil ploughed. Again, the hop plant is very sensitive to superabundance of water in the ground, so that in soils not naturally underdrained it will be necessary to thoroughly underdrain the hop-yard. Strong, rich land, having a very considerable depth of soil and thoroughly drained, is an essential requisite to success.

PLANTING.

The usual distance in this country is seven feet apart each way, which gives 888 hills to the acre. One strong healthy plant is sufficient to each hill, but planters usually set two or three to guard against failures from any cause. The roots should be spread out, covered with fine mould, pressed firmly about them. In England the hills are raised, but in our climate level culture is the rule. As the hop is diœcious it is necessary to have a number of male plants distributed through the plantation. Some planters say that half a dozen to the acre is sufficient, others set three times that number. The best plants are those that have been bedded in the previous spring and made a season's growth.

CULTIVATION.

The hops will require to be supplied with poles, two to the hill, tapered to a point at the bottom, and about twenty feet in length. These can be thrust into holes made with a crowbar a foot apart and with the tops inclined from each other. Two shoots may be trained to each pole, fastening them with woollen yarn as they require, because of its elasticity. The ground will require to be kept perfectly clean and mellow with

cultivator and hoe during all the growing season. The hop-vine is an exhaustive feeder, requiring to be abundantly supplied with potash, lime, and sulphuric and phoshoric acids. Gypsum, (sulphate of lime,) Quick-lime, and hard-wood ashes should be spread on the surface and harrowed or cultivated in. Superphosphate at the rate of a hundred pounds to the acre has been used in England with beneficial effect, when the plants required to be stimulated into rapid growth. Barnyard manure must be supplied with liberal hand, and the higher the stock are fed the better will be the manure.

It is of the utmost importance that every operation connected with the cultivation of hops be performed promptly at the proper time, from the time of setting the poles until the crop is harvested.

PROPAGATION.

Plants are raised by cutting off the shoots of the preceding year and planting them early in the spring in beds of rich soil, where they are kept clean and well cultivated during the summer.

COST OF PLANTS.

We are not able to answer this part of the inquiry, and request any of our readers who have had experience on this point to communicate it through the columns of the *Canadian Horticulturist.* Those who have *sets* to sell might do well to advertize them.

FRUIT AT OWEN SOUND.

The fruit crop in the immediate vicinity of Owen Sound was in some respects very good the past season, and in others almost a total failure. Apples, pears and plums were either a very small crop or no crop, while strawberries, raspberries, and currants were very good. Gooseberries were not so abundant. But we have had perhaps the best crop of grapes that has been grown here for some years. We very seldom fail to raise good crops of the early varieties of grapes here. The four kinds that seem to be favourites here are Moore's Early and Worden for the best two blacks, and Lindley and Brighton for red. We have not fruited anything in the green grape line that has proved a success yet.

THOMAS BROWNLIE.

NOTE BY THE EDITOR.—Will Mr. Brownlie do our readers the favor to inform them, through the *Canadian Horticulturist*, what varieties of white or green grapes have been tried at Owen Sound, so that those who reside in that vicinity may be saved the dissappointment and expense consequent upon planting varieties known by trial not to succeed.

SHAKESPEARE AND BERRIES.

FRUIT AND SHADE.

"The strawberry grows underneath the nettle,
And wholesome berries thrive and ripen best,
Neighbored by fruit of baser quality."
SHAKESPEARE, Henry V., I. 1. 60.

This circumstance so graphically noted by the great dramatist as being true in his day, has also been noticed by moderns as still remarkably true in isolated cases. But this will not by any means do for a principle of action. The practical facts underlying succesful fruit culture in any times, either ancient or modern, are not exactly in accord with this statement.

Neither would it be either wise or prudent to attempt to verify the deep truthfulness of these statements by planting choice *Daniel Boons*, *Manchesters*, or *James Vicks*, or even *Jewels* in the midst of untilled negligence, or of rampant choking nettles. Neither is it found in modern practice that the finest results are obtained by thrusting in a plant here and there, even of the

best strains, amongst a numerous and choking progeny of baser sorts.

THE WORLD MOVES

and berry growing and successful fruit culture is also found in practice to be moving with it, and that onward.

The only sure and praiseworthy course is to plant only the best samples of the best sorts of fruit plants, and give them the best attention and the best open air culture possible. Allow no intruding or overshading plants to occupy even the neighboring soil, or trespass upon the fertility of the ground, or to deprive them of that life-giving and colour inspiring sunshine that all living things are found to need. It will be found by this treatment that not only will the "wholesome berries thrive and ripen best," but they will be in the highest state of possible perfection. Oh, to think of fields and acres of these! Why, it seems the sight never dazzled the eyes of our great teacher, nor the thought ever glanced across his imagination. Although

THE STRAWBERRY

will perhaps bear a moderate amount of shade, and do better than any of our other domestic fruits, yet it is found that for best results in product, plenty of room for the plants, good cultivation, and plenty of fresh air and sunshine are absolutely necessary. Let these remarks apply in all their force to those who are

ECONOMIZING TOO CLOSELY

in their management of these fine fruits. To those who, to save space, plant their grounds with the larger and more spreading fruit trees, and in amongst these plant smaller fruits, as grapes, gooseberries, currants, etc., and in amongst these again, just to fill up you know, thrust in a few choice strawberries, or a starting of newest and best raspberries. This practice, though it may be economical of ground, is not by any means profitable, and the planter will be the loser by the attempt.

Arkona, March 10, 1886. B. GOTT.

WHITE GRAPES AT CLARENCEVILLE, QUEBEC.

In compliance with your request, I will give your readers last season's results in grape culture here, but as the popular mind is at present directed towards white varieties, my notes must be confined alone to the latest introductions in these.

Duchess has fruited here for three years, and its value could not be fairly estimated till last season, when it turned out highly satisfactory, and produced as fine fruit as was ever sent to Canada by its introducer, Mr. Caywood, for exhibition. Very few new grapes now produced are any better than those we have long had in cultivation, and only tend to swell our list beyond due proportions; but Duchess has come to fill a place for a fair-sized grape of superior quality and showy appearance.

Mason's Seedling will be perhaps new to all your readers. Its parentage is Concord, to which it bears resemblance in vigor, wealth of foliage and productiveness; is fully as large in berry, superior in quality, ripens earlier, comes into bearing earlier, and seems to be destined to soon take the place of Martha. It hails from Mascontal, Illinois, and if it continues to do as well will be a decided acquisition.

Mr. Rickett's new discoveries in white varieties places his name foremost as a benefactor in fruit culture. His *El Dorado*, while equal to Concord, one of its parents, in vigor, does not partake of the feeble foliage of Allen's Hybrid, its other parent, but imparts its high quality to the fruit. The berry is large, with a beautiful bloom, ripens early, and thus far is very promising.

His *Lady Washington*, a similar cross, runs to the other extreme as to time of ripening. Where frost holds off into October it may ripen, and its mammoth clusters can only be produced by proper care. His *Naomi* in foliage shows the weakness of its Muscat parentage late in the season, and its fruit is retarded in ripening thereby. In anticipation of this it is necessary to thin it out, with this calculation, early in the season. It is a long-jointed strong grower, and for fine double-shouldered, compact, large clusters of most beautiful color it transcends any out-door grape that I know of. His *Golden Gem* ripens early, but its berry is as yet quite too small to be of much value. This may be remedied in a measure by liberal thinning out of clusters. It is very productive, in habit short-jointed, with delicate small leaf. Without further trial it would be unfair to decide against a grape Mr. Ricketts recommends, and it may yet prove a valuable variety. I have fruited a grape he calls *Undine*, which looks at present favorable, being of large berry, but late; also his No. 346, a long, tapering bunch, of small berry, probably a cross with a Vitis Æstivalis species, which may improve after a time. *Empire State* has not fruited here yet. There is good evidence to lead us to view this grape as the crowning success of Mr. Ricketts' labors. Early in September last we were favored with specimens of its fruit from its present proprietors, Pratt Bros., of Rochester, N.Y., though I first saw it in Boston in 1881 at the exhibition and session of the American Pomological Society. Its vigor and health of foliage are remarkable, and the fruit is as fine as it is showy. Though this variety has been placed before the public with modest pretensions, it may in time be found "the grape for the million."

Peter Wyley gives promise of being a popular variety, is a strong grower, with healthy foliage, medium berry and bunch, very fine in quality, and early here.

Pocklington did better this season, and fruited as early as Concord, improved in size and quality over previous years. Much of the prejudice against it has arisen through its introducers at first sending out feeble vines propagated from unsuitable wood. Though not showing mildew, its foliage here is enfeebled by extremes of temperature late in summer.

Prentiss still bears heavily, and is a good market variety. Its foliage is also affected by atmospheric extremes. With all such varieties the cultivator, early in the season, should leave only the quantity of fruit on the vine which the leaf can reasonably ripen.

Grein's Golden again bore very large fruit, bunches small and berries loose. It still drops from the stem when ripe. It may, however, recover from that serious failing as vine gets older; ripens with Concord.

Romell's white grapes have so far been disappointing. *Faith* is the best, but still small in berry and late. His *July*, though very early, drops badly as soon as ripe. *Amber* I dug up after a fair trial as too late. If Romell's *Superior* does not improve it will share the same fate next fall from this cause.

Minor's Seedlings, *Belinda*, *Antoinette* and *Carlotta*, have fruited here for three years—the first quite early and a good cropper; the second a few days later but better in quality; the last has proved late and a shy bearer. We have in the old standard *Lady* a grape as large as either of these, of better quality, and much earlier, though it takes more time for the vine to arrive at a good bearing condition.

Purity, a Delaware cross by G. W. Campbell, of Ohio, is a small grape, which compensates for this in exceed-

ingly fine quality, is less vigorous and productive here than Delaware, but without exaggeration a finer grape in flavor. A vine of it should be in every collection.

Still hold Lady and Martha as good profitable varieties; Allen's Hybrid, Sweetwater, and Dr. Underhill's Croton for fine quality of fruit, though unreliable some seasons. Empire State, Centennial, Jessica, Hayes' Golden Drop, and Niagara have not fruited.

Noah, Elvira, Irving, Astrachan, Eva, Rebecca and Perkins I have discarded and dug up.

Some years since, from the remarkable adaptability of this section for fruit culture, I made a venture with several early foreign vinery varieties to test for out-door culture, but one by one departed, leaving only White Sweetwater and Early Auvergne Frontignan. The latter, with good nursing and bagging its elegant bunches, gave good results and a rich, spicy berry, resembling the imported Malaga.

Yours truly,
WM. MEAD PATTISON.

Clarenceville, Que.

REPORT ON TREES, SEEDS, &c., RECEIVED FROM THE F. G. ASS'N FOR TRIAL.

They have nearly all proved desirable, some indispensable, some I would not probably have had but for my connection with the Society, and would not be without for many times the price of membership.

The McLaughlin plum, Clapp's Favorite and Beurre d'Anjou pears, Grime's Golden apple, Downing gooseberry, Saunders' Hybrid raspberry, are all fruits of high, or highest, merit in their respective classes.

The Glass plum grows well, is a fine fruit, but unproductive, seems much better on limestone soils.

The Red raspberry is well flavored, but the *acini*, or fruit grains, crumble at the touch, and it out-suckers the whole State of Indiana.

I have lost some two or three kinds by accident, and others I have not had long enough to report satisfactorily upon.

The Hydrangea, thoroughly hardy, is one of the indispensables, reinforcing the floral ranks at the right time to prevent a break or halt in the pageant of beauty and grandeur, as it marches athwart the calendar up to when

"Stern winter shuts the scene."

I think that thorough, even severe, pruning out all weak wood much improves the size and richness of the panicles, especially of the later blooming, which otherwise are liable to fall off, somewhat, in these qualities.

Pansies.—I must not omit the Pansies. The seed grew well, the flowers, exquisite, and so large,—considering the strain, two inches, full, over banner and keel, and the wings,—and replete with *expression.* There are some varieties that lack this *pensé* characteristic and its charm, wanting which it scarcely deserves the name of pansy. The white and yellow, though pretty enough as flowers, are wanting in that wonderful look which moves one to ask,

"Of what may that flower be thinking?"

I have never seen a really good picture of the pansy. The artists do not seem to catch the spirit of the fairy dream, woven into and pervading the form and color. I venture to predict that if ever the pansy loses its popularity, it will be through the "new variety" men flooding the market with their speechless, soulless, idiotic looking pets under the name of pansies. I saved seed from some of the best, and the children were quite equal to the parents. They observed the fifth commandment, which was very proper in a flower capable of thinking, and therefore morally responsible.

My Asters were not good. A large

willow, with its unwelcome roots and shade, was too near.

A word here with respect to the policy of sending out trees for trial. My personal experience is that when the recipient tastes the delicate fruits, and contemplates the beauty of the flowers, he feels the cords of affiliation drawing strongly, may I not add, tenderly. At all events, they address him in the name of the Association in the most eloquent language of progress and refinement. Nevertheless, the suggestion of H. M. Switzer, Esq., of Palermo, is worthy of consideration; perhaps both enterprises are possible. But of this, in its proper time and place.

You may expect me to say something of the hardiness of varieties. Hardiness is largely a matter of the *condition* of the tree at the time of trial.

AN EXPERIMENT.

Six years ago I selected a young native plum, about six feet high, vigorous, and standing on a clay bank, facing south-east. Sometime after it had completed its season's growth, the last of August, I mulched it heavily, kept it moist, and succeeded in starting new growth, I kept it at that till frost. Well, the winter killed that hardiest of trees, and killed nothing else that I had, not the tenderest.

AN OBSERVATION.

In 1884, just as the leaves of trees were about one-third grown, there came, at the last of May, a severe frost, accompanied by a wintry wind from the north-west for two days. Within a week I observed the leaves on the Black Ash all withering on high and low land alike. The trees never rallied. Our Black Ash are all killed, yet the Black Ash is a hardy tree. Why then was it killed? Because it was in just that *condition* which made it as susceptible to frost as a tropical plant. Some other foresters suffered slightly, and some fruit trees considerably, at the same time.

This locality is not one to test the property of hardiness. Although inland, north-west of Lake Ontario about a dozen miles, and about eighteen north of Hamilton city, yet nearly everything that thrives there can be grown fairly well here. I have peach trees seedlings thirty-two years old. The arctic winter of 1884 and 1885 thinned them out. Some survived and bore here and there a peach, in spite of the 64° of frost they had endured. This unusual hardiness is due to *position and soil.* The country lies high and rolling, occasionally rolling up into the picturesque. Nature, when she made our mountain, decided that it should be unique. To prevent the building of any more just such mountains, after laying down the strata of shale, gray band and limestone, composted the surplus debris, detritus and lithic chips, fragments of slate and granite, and a large percentage of clay, underdraining, and occasionally top coursing, with sand and gravel. Then gashed and scored her work everywhere with gully and gorge of all imaginable depths, through which flow numerous streamlets limpid and trouty. Thus she has supplied herself with a comprehensive laboratory, filter, crucible and alembic, all in one. She is prepared to welcome almost every kind of tree and plant, and give each his proper food "in due season." What with steady and not fitful growth, perfect drainage, and well ripened wood, our trees attain the utmost healthiness and hardiness possible to the genus, species or variety. I have never seen a case of mildew on the grape. No pear blight that went further than to discolor the leaves. I have never lost a branch, so doubt it being true pear blight. The Black Knot never attacked our plum and cherry till it had ravaged the sand and calcareous soils adjacent.

Then it stole in by way of the San-Culottes, the degenerate "Fence Corner" varieties. After thus establishing itself, it, like the cholera, seized whatever was nearest of the higher classes.

Though we have such comparative immunity from diseases, the insects sufficiently reinforce them to bring us down to average in regard to quantity.

The Tent caterpillar came, did much mischief, but is rarely seen now. The fall web and canker worm are here, but not yet troublesome. The curculio disfigures some of the thin-skinned apples, and is equal to the whole crop of plum and cherry. Thorough jarring saves the fruit. I have not tried poisons.

The codlin moth sometimes, and of some varieties, takes, with the owner, about "share and share alike." If the Yankees sent the moth here to secure a supply of champagne cider apples, they succeeded. Car-loads are yearly sold them. Those who have turned their orchards into sheep and swine pastures have nearly driven out the moth, while the pork and mutton seem none the worse for the mixed diet.

S. P. Morse.

Oakville, Halton Co.

HOW TO PRUNE THE CURRANT AND GOOSEBERRY FOR PROFIT.

The method I use in pruning the currant, and which will apply to the gooseberry as well, differs in one respect from the usual advice given in the columns of the horticultural journals of the day, viz.: that of cutting back the new growth of the terminal branches about one-half, which will give all the following advantages over the old system of pruning, which was simply to cut out old useless wood, and thin out that which remained.

THESE ADVANTAGES ARE :—

1st. Strong, healthy growth at the top of the bush, where we want it, and not in an increased number of suckers or sprouts at the bottom.

2nd. Rank foliage, that will remain all season to protect the fruit from sun scalding, and also prolonging the picking and marketing season.

3rd. Larger fruit and longer bunches, for the reason that all the short bunched small currants are produced at or near the terminal buds, and these being pruned off, leave only the best to be developed, and as it is a well known fact that the production of seed is the cause of exhaustion of the plant, therefore small currants produce just as much seed as large, and these being pruned off, relieve the bush of its greatest burden or cause of exhaustion.

4th. Regular bearing, for a strong, healthy bush is always able to bear its load of fruit, because, with this mode of pruning and its advantages, the bush grows stronger every year, and with these come

5th. Other advantages, such as very large bushes with fruit further from the ground, and consequently not liable to get splashed with dirt, and being able to grow very large plants less plants are required to the acre, and will do best planted not less than 5 x 5 feet, or 6 x 6 feet, when horse cultivation can be used both ways, and thus save a great deal of hand labor.

6th. By this mode of pruning, all the medium sized varieties may be made to produce almost as large fruit as the cherry currant.

7th. Currant plantations will last 20 years or more, because the vitality and vigor are always kept up.

And while I could name other advantages for this method of pruning, I have only to say that I have tried it on an acre of different varieties, and others have tried the same, and we have all had results more satisfactory than was anticipated. I believe that

with this mode of pruning, currant culture can be made to give as good a profit for the capital invested as any other fruit now grown for market.

Stoney Creek. J. TWEDDLE.

FRUIT GROWING AT AXE LAKE.

Fruit culture is only in its infancy here, we are struggling against the forest as yet. Small fruits, wild varieties, and what few that have been planted of improved kinds do well. I am intending to try some small fruits this spring. There would be a great opening here for the sale of apple trees, provided they would not winter kill.

JOHN CLAPTON.

Axe Lake, Monteith, Muskoka.

THE CANKER WORM.

DEAR SIR,—I think from your description of the habits of this pest there should be no difficulty in fighting it successfully by barring the passage of the moth up the tree, and this can be most conveniently and successfully secured by tying loosely with a single stout cord a width, of say four inches, of cotton batting around the trunk of the tree.

I have, at any rate, found this effective in preventing caterpillars ascending my trees. The wool entangles them so that they can make no progress, and I presume the moth could not crawl over it either. The wool requires to be examined occasionally, especially on the lower side for larvæ, but it is the most convenient method of protecting trees from "crawlers" that I know.

H. PRIMROSE.

Pictou, Nova Scotia.

SCALE INSECTS.

Enclosed is "sample" of a supposed coccus, very injurious in my greenhouse and orchard house. These specimens were taken from a weeping ash in my garden, where it is very abundant; also in orchard house on grape vines and peach trees, and in greenhouse on Marechall Neil and Gloire de Dijon Rose trees. HENRY YOULE HIND.

Windsor, Nova Scotia.

NOTE BY THE EDITOR.—Alkaline washes are the most efficient remedies for these scale insects. A pound of potash dissolved in three gallons of water, and applied either by spraying the tree or by washing the trunk and limbs thoroughly, will kill these insects. It is better to apply it warm, if possible, say at a temperature of 130° F. When the young insects are running about, add to the above solution flour of sulphur, at the rate of half a pound to each gallon. For descriptions and drawings of many of these scale insects, and of their natural enemies, and artificial remedies, see Saunders' Insects injurious to fruits, pages 390 to 423.

BLACK SPOTS ON THE APPLE.

It is now generally understood that the black spots on certain varieties of our once popular varieties of the apple are of fungus growth, which, however, have not as yet assumed the form of an epidemic, but only confined to those that have been long in cultivation, such as Fameuse, Early Harvest, Swaar, &c., whilst those of more recent introduction seem to be entirely exempt.

The reason appears to be obvious, the varieties alluded to have passed the meridian of the period of existence nature has assigned them, their loss of vitality in order to produce healthy fruit make them fit subjects for the attacks of these parasites.

A seedling apple tree in this country rarely exceeds in life more than a century, consequently only admits of arti-

ficial perpetuation of the original for but a very limited time, say about half that period. The scions, whether taken from the original or from a grafted tree, it makes no difference in so far as general longevity is concerned, they being only sections of the original, nature not permitting any further extension of life.

In Europe the apple tree from seed will live much longer, soil and climate, particularly the latter, being different; hence the reason why the period of raising grafted trees is more lengthened.

In connection with the apple I may refer you to the peach. All your old and esteemed varieties are succumbing to the same influences, and are dying off with the yellows.

I observe that quite a number of our hitherto abundant bearing apple trees, even although apparently healthy and in prime of life, are beginning to show a sparcity of fruit in comparison to blossoms, such as Pomme Grise, Ribston Pippin, Gravenstein, &c., which are as yet exempt from spotting, nevertheless they are old varieties in cultivation and have become enfeebled.

The varieties alluded to should be planted with caution, and limited in number, because in the ordinary course of nature they will soon become extinct. The production of new varieties should by all means be encouraged, not trusting altogether to natural fertilization. A great deal can be done now in this more enlightened age by artificial means, and thus produce apples of a superior character to those which are showing evidences of extinction.

The success that has been attained in the strawberry by artificial fertilization is really wonderful, and that, too, within the last decade, a thing unprecedented in the era of strawberry culture.

In corroboration of what I have stated about the apple, may very well be illustrated by the potato, the period for its artificial perpetuation by section of tubers only extends to some ten years—the period that nature has assigned it. After a few years of productiveness it ceases to be so, becomes scabby (a fungus growth), and finally the rot, another variety of fungus, and then the variety becomes extinct, consequently, as a matter of necessity, it becomes imperative to keep up a continuous supply direct from seeds.

Yours truly,

SIMON ROY.

SAUNDERS HYBRID RASPBERRY.

Mr. Saunders' Black Cap No. 53, distributed in 1880 by the Society, is a treasure to us; the fruit is rather small, and of a dull purple color, but so very productive, we can gather three pints from this one plant, enough to make a pudding, two or three times each season, besides stray pickings as the children pass by. I find it throws up suckers occasionally like the red raspberry, and I have thus secured six extra plants. The canes are so strong they seem to have no chance to bend sufficiently to reach the ground and grow from the tips as usual. It is quite hardy and has no thorns. X.

Cobourg, Ont.

GOOSEBERRIES.

Some six years ago I purchased three Crownbob and three Downing Gooseberries, and they have thriven very well, and not a speck of mildew. From long experience I may state that the only manure I apply to Gooseberries is good clean house ashes from wood, and I think that keeps off mildew. I first got a hint of that from the old *Am. Agriculturist*, and I had very good red Gooseberries. British, and they didn't mildew either. A. D. FERRIER.

Fergus, Wellington County.

THE CATALPA.

I am afraid the "Catalpa" will not be found hardy enough for many parts of this Province. I have had one here (Cobourg) for twelve years, it grew to be five or six inches in diameter, forming a handsome tree, but the young shoots were often winter killed, and the beautiful blossoms did not even attempt to form any seed pods, as if they were only pistillates. Two years ago more than half of the top died and had to be cut off. A friend, who saw it in this mutilated condition last summer, told me of one he had in his grounds near Chicago, Ill., one twice as large as mine, that had been killed last winter.

My "Ailanthus" is also too tender for this climate, growing too fast to ripen the new shoots, which are thus killed by the frost. It never blossoms either. It has had leaves, the mid rib of which measured fifty-four inches.

Cobourg, Ont. X.

NOTE BY THE EDITOR.—Your tree was not the Catalpa speciosa, which is more hardy than C. bignonoides.

JAPAN QUINCE.

MR. EDITOR,—As it appears to me no one ever answers any questions put in the *Horticulturist* not replied to by yourself, allow me to answer : 1st to "A Subscriber." The Japan Quince is nearly hardy at Ottawa. I have seen it both in flower and fruit. It is one of our handsomest shrubs and should be more commonly cultivated. It would be a nice thing to send out for test by the "F. G. Ass." As a hedge plant, I do not see what object would be gained by planting it, as it only grows two or three feet high. As a single plant it is very beautiful ; its habit is rather spreading than upright.

PLUM TREES IN HEN YARDS.

No. 2. Plum trees grown in hen yards are usually very productive ; the hen manure highly enriches the soil. The birds will not allow any sod to grow in their yards, so that the roots of the trees are not dried up by the absorption of the grass roots, besides which, the hens are a terror to any curculio which come in their way. Birds should be kept which do not fly, such as Dark and Light Bramahs, Plymouth Rocks, &c.

NANNIBERRY.

3rd. The common name for the shrub spoken of by Mr. Cotter, Barrie, is the Nanniberry. I think it is one of the Viburnum family. After frost, the berries which hang in bunches, are sweet, juicy, and pleasant. I fancy it could be much improved by cultivation. If Mr. Cotter will furnish me with some of the flowers in spring, I will be glad to give him the botanical name.

PLUMS FOR ALGOMA.

4th. I would strongly advise Mr. D. Dunn, of St. Joseph's Island, Algoma, to procure Pond's Seedling plum, and the Glass Seedling, especially the former ; it is the hardiest cultivated plum we have and is of large size, red, turning to purple on one side when fully ripe. Unfortunately, it is rather a shy bearer.

PARIS GREEN ON CABBAGE.

5th. The application of Paris Green to cabbage and cauliflower for the destruction of the larva of the Pieris rapiæ is, to say the least of it, a highly dangerous experiment. A gentleman of this city was very badly poisoned by eating vegetables on which it had been used, perhaps incautiously ; he did not recover his health for months afterwards. The use of such active poisons as Paris Green should not be recommended, or used, on any plant of which anything but the root is eaten.

P. E. BUCKE.

SAUNDERS' HYBRID RASPBERRY.

DEAR SIR,—Having fruited Saunders' Hybrid Raspberry for three years or more, I can say that it does splendidly with me. My soil is a clay loam. The Raspberry should have a place in every garden. LUKE BISHOP.

St. Thomas, Ont.

BOOKS, &c., RECEIVED.

Green's Fruit Grower, devoted to the fruit farm, garden and nursery, Charles A. Green, Editor, is an eight page quarterly journal, published at Rochester, N. Y. at fifty cents a year. Sample copy will be sent to all applicants addressing Green's Fruit Grower, Rochester, N. Y.

THE SALOME APPLE.

The Salome apple seems to be growing in favor in Illinois, being very hardy, productive, and a long keeper. The apple is of very good quality, size only medium, color from a light to a dark red or nearly so. Bears well annually, but more heavily alternate years. Keeps well until May or even June. The *Western Rural* says in the issue of June 13th, that samples received at that office from Mr. A. Bryant, were then as sound as bullets, and gave evidence of being good keepers.—*Farm and Garden.*

HARDIEST KNOWN GOOD PLUMS.

Mrs. A. P. of New Hampshire, after saying that Moore's Arctic has not proven hardy, asks is there a hardier plum known of good quality.

On the grounds of the Agricultural College near Moscow, and later at Kazen, and through Central Russia, we saw trees laden with red, yellow, blue and dark purple plums, of really excellent quality. These cultivated varieties seem to have originated from the apparently indigenous, low, round-topped bushes which we found on the edges of the timber belts along the Volga and other streams of East Russia. In leaf, bud and texture of fruit, these indigenous forms resemble the Prunus spinosa of Siberia. We saw thousands of these bushes laden with blue fruit with a rich bloom, which were not more than three feet in height.

The cultivated varieties make low, bushy, round-topped trees not over ten feet high. We imported small trees from Moscow of red, yellow and dark-blue varieties, which we have sent out as Nos. 1, 2 and 3. The Russian names received are long and to us unmeaning. The specimens have not fruited as yet, but the foliage endures perfectly our hot, dry Summer; wood ripens up perfectly in Autumn, and has not colored in the least during the past test Winters in Iowa, Minnesota, or North Dakota.

The question as to their final value does not hinge on their hardiness, or the quality of their fruit; but on their habits of bearing with us, and their relative exemption from the attacks of the curculio. As they blossom late, and the fruit develops rapidly, they will be apt, like our native De Soto, Wolf Plum, Rollingstone, etc., to measurably escape the curculio on account of their succulence during the period of their rapid development.

We are also testing a large blue plum, called "Moldavka" in Central Russia, with six other sorts from Aral. They are all as hardy as our wild plums; all bear fine fruit in their native country, and all have the habit of late blooming and rapid development of fruit. —PROF. J. L. BUDD.

MY FLOWERS.

(For the Canadian Horticulturist).

My garden treasures have gone to rest,
With a snowy mantle o'er their breast;
The first that drooped her drowsy head
Was my English rose, of ruby red;
Then followed her sister, pearl white,
My darling little "Jacobite."

And "London Pride" fell to the dust,
As "Weeping Willow" said she must;
Her dying words were, "None so pretty;"
This vanity excited pity
From "Daisy" and "Violet," modest dears,
They bowed their heads to hide their tears.

Winking Marigolds closed their eyes.
And gazed no longer on the skies;
"Sweet William" sighed and looked around.
His "Columbine" lay on the ground;
And such a change came o'er Miss Moss,
She grew so sallow, sear, and cross.

My Scottish Thistle, proudly waving,
Every storm and tempest braving;
He cares not tho' Old Boreas rages,
As Scotia's sons will do for ages;
My loyal heart so longs to press it,
But, "Nemo me impune lacessit."

My blooming "Primrose," you shall rest
With me, within my sanctum nest;
Precious gift, from dear wee "Flo,"
Precious flower, I love you so.
Almost above all things terrestrial,
My lovely, sweet, "mild-eyed celestial."

Ah, me! I well nigh had forgot
My golden-eyed Forget-me-not!
Say, little elf, shall we e'er meet
Again, beside this garden seat.
Sweet treasured flowers, since we did part,
Deep winter lies within my heart.

Montreal. GRANDMA GOWAN.

VERY EARLY APPLES FOR THE NORTH.

The Yellow Transparent has a number of rivals among the Russian apples as to earliness of season, size and quality of fruit, and hardiness of tree. August 6th my table showed fine specimens, about equally mature, of Yellow Transparent, Charlottenhaler, Transparent Juicy, Kremer's Green, Blushed Calville, Breskovka and Repka Sweet. These vary but little in season, and all would pass in the East or South for first-class dessert fruits of their season, which is in advance of that of the Red Astrachan and even of the Tetofsky. At this time I wish to call attention to the two last named, as they are less known and seem to have special merit.

Breskovka was imported from the grounds of the Agricultural Institute at Moscow in 1880. Root-grafted trees are already in bearing, and have proven quite as hardy in the North as Duchess. It has been sent out for trial as No. 152 m. The tree is a nice upright grower, with firm, thick foliage. The fruit in size, color and general appearance, is much like Grimes' Golden; but the basin is wrinkled more, like that of Tetofsky. In firmness and weight the fruit reminds me of the Swaar; yet the flesh is peculiarly juicy and tender, this year slightly in advance of the Yellow Transparent. With further tests, on varied soils, it may show some defect of tree or fruit; but at present it seems to lead the very early dessert apples.

Repka Sweet. At the west we have specially needed an early sweet apple of good quality for dessert use. This seems to meet our wants fully, as it is completely ripe on August 6th, in this late season. It is an early bearer, and the fruit is of fair size, handsome, and really of good quality for table use. In shape, ridging and color, it is much like Benoni; but the scarlet striping is deeper, and covered, next the sun, with bloom. While it will not be popular as a market fruit, it will apparently fill a gap in our Western and Northern list. Its native home is is Kazan, Russia; hence it should endure the extreme climate of Northern Dakota. If No. 466 (Repka Kislaja) of the list sent out by the Department of Agriculture, is true to name, it is probably identical with Repka Sweet, yet, singularly enough, the Department translation reads "Sour Turnip."—J. L. BUDD *in Rural New-Yorker.*

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LARGE MONTMORENCY.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. IX.] JUNE, 1886. [No. 6.

LARGE MONTMORENCY CHERRY.

Why is it that our markets are so poorly supplied with cherries at the time when this fruit is in season. In any of our larger towns we will find the market usually well furnished with other fruits, berries of all kinds are to be had in almost unlimited quantities, and there is usually no lack of pears, plums and grapes. But the demand for good, ripe cherries is far in excess of the supply.

Probably one reason of this paucity of cherries is to be found in the fact that the attention of fruit growers has not been turned to the production of this fruit. Our horticultural papers have not been filled with glowing accounts of the "millions in it" that have been given of many other fruits; and another reason may be found in the fact that the growing of cherries for market is surrounded with some difficulties which require caretul attention to overcome. Our fine sweet Bigarreau and Heart cherries are very apt to rot on the tree just as they are becoming ripe enough to use, so that the crop is lost, or else gathered and sent to market in so unripe a condition that the fruit does not meet with a ready sale. And again the birds are very fond of cherries, and sometimes help themselves so bountifully as to leave but little to the owner. But the difficulties in the way of growing cherries for market are not insuperable, and we believe there is a satisfactory margin of profit to be realized by the fruit grower who will bring good judgment, and attention to bear upon the business.

We have in what is known as the Duke and Morello class of cherries a number of fine varieties which are eminently suitable for planting in our climate. The trees are hardy and healthy, and seldom fail to bear an abundant crop. The fruit is not apt to rot on the tree and if properly gathered and handled not apt to spoil after being gathered. Very few persons gather cherries in the proper manner. They should always be gathered by seperating the fruit stems from the tree, not by seperating the stems from the fruit. If gathered in this manner and sent to market either, as we do strawberries, in quart boxes, or in ten quart baskets, they would not soon spoil after being gathered. For all culinary purposes and for canning and drying this class of cherries is very highly esteemed, most

persons prefering them for these purposes to the sweeter cherries.

The Early Richmond is probably the best known of this class, this and the Mayduke have been in cultivation in this country for a long time. Our colored plate is a fine illustration of a variety not so well known, but which is worthy of attention by all cultivators of this beautiful fruit. It is both large and of handsome appearance, as will be seen by reference to our illustration, it is also juicy and rich, and when fully ripe of a very agreeable acid flavor. These three varieties, Early Richmond, Mayduke and Large Montmorency, together with the Royal Duke, Reine Hortense and Empress Eugenie make a collection of half a dozen sorts of great excellence, that can be commended for planting anywhere within the limits of our cherry region.

A CANADIAN SEEDLING OF THE JAPAN QUINCE.

We have received from Mr. James Stewart, of Saltford, Huron Co., some blooms of a seedling raised by him from the Japan Quince, which are quite distinct from any variety that we have ever seen or heard of before. The flowers are not uniform in color, some being nearly all white, others white shaded with pink, others marked with crimson. The bush must present a beautiful appearance when in full bloom.

THE ROUGH OSMODERMA.

(Osmoderma Scabra.)

We received some time ago from Mr. C. Julian, of Presque Isle, an insect, with the request that we would give the name and habits. On examination it proved to be the female of Osmoderma scabra. In the larval state this insect feeds on decaying wood of the apple and cherry, and in the imago state feeds at night on the sap which may exude from any wound of the bark. The injury done by this insect, if any, is of a very trifling character.

THE SUMMER MEETING

Of the Fruit Growers' Association of Ontario, will be held on Wednesday, July 7th, 1886, in the Council Chamber, at Lindsay, Ont., commencing at ten o'clock in the forenoon and continuing through the day and evening. An adjourned meeting will be held on the following day, Thursday, July 8th, at Bobcaygeon, commencing at two o'clock in the afternoon. The Directors will meet at the Benson House, Lindsay, on Tuesday evening, July 6th, at eight o'clock.

D. W. Beadle,
Secretary.

THE NONPAREIL APPLE.

We have received a letter from Mr. Charles E. Brown of Nova Scotia in which he says that he notices in the *Canadian Horticulturist* an inquiry for scions of the Nonpariel apple, inspired no doubt by an article going the rounds of the papers which is an extract from an after dinner speech of the Hon. J. W. Longley at a meeting of the Nova Scotia Fruit Growers' Association, and says that if the inquirer will apply to Mr. C. R. H. Starr, Secretary. N. S. Fr. Grs. Association, Port Williams, King's Co. N. S. he will be pleased to send them to him.

Mr. Brown adds that he has no trees of the Nonpareil; cut down the last in disgust, they being in his soil and climate terribly subject to canker, and the fruit would not grow *there* at all; nor does he esteem the apple in the least, it

will keep well, but as for quality it is worthless. It might be better in Ontario than in Nova Scotia, just as most kinds are. However it was as an export apple that the Nonpariel was commended, Mr. Brown continues, and that is all right; one will hardly find a dozen really good judges of quality among one's own friends in the best fruit countries, how can we expect to find them among millions.

CACTUS FRUIT.

We have received from J. P. Cockburn, of Gravenhurst, a sample of fruit which he described in his letter as a new fruit of Muskoka production, that had been just one year in coming to its present ripe condition. He says, "I have not tested any but presume they are good to eat, at least it has the fragrance of a ripe pine apple. Is it common? I have never seen it before. The flowers dry on the end of the fruit and remain there until it is ripe."

We replied that we had never seen the fruit before, but presumed it to be the fruit of some species of cactus, and requested him to tell us what species it was. In answer he sent to us another sample of the fruit with the flower adhering and the whole yet growing from a piece of the parent cactus plant. In his letter accompanying the second specimen he says, "I do not know the specific name, it is generally known, I believe, as the Sword Cactus; but I am of the opinion that this is not the correct name. I am told that they are very good to eat and considered a great boon to the weary traveller in some parts of Mexico and southern Texas."

The piece of the plant to which the fruit was adhering greatly resembles one of the Epiphyllums. The fruit is about an inch long, somewhat fig-shaped, of a deep red color, which color continues through the pulp, the fragrance somewhat like that of the pine apple, and the taste like a podophyllum, *May Apple.*

THE ANNUAL MEETING

Of the Association of Nurserymen, Florists and Seedsmen is to be held in the buildings of the Department of Agriculture at Washington, District of Columbia, U.S.A. on the 16th of June next, continuing three days. Any information concerning programme of proceedings, hotel and railroad arrangements can be obtained by writing to the Secretary, D. Wilmot Scott, Galena, Illinois, U. S. A.

THE MASSACHUSETTS HORTICULTURAL SOCIETY

Is offering special prizes for Hybrid Perpetual Roses at the coming Rose Show, June 22 and 23rd., 1886. A prize of $30 is offered for the best 24 Roses, named; $25 for the best 18; and $15 for the best 12, all named.

QUESTION DRAWER.

MEMBERSHIP IN FRUIT GROWERS' ASSOCIATION OF ONTARIO.

DEAR SIR,—I am well pleased with the *Canadian Horticulturist.* Could you let me know the conditions of membership in the Fruit Growers' Association of Ontario, also the rights and privileges of a member. An answer in the *Horticulturist* or otherwise will oblige,

Yours truly,

J. K. DARLING.

REPLY.—Every subscriber to the *Canadian Horticulturist* becomes entitled to membership in the Fruit Growers' Association, the rights and privileges of which are: 1st. To receive a copy of the Annual Report. 2nd. To receive such article from the

list of trees, plants or seeds offered for trial by the Association as may be preferred. 3rd. To attend all meetings of the Association, and vote thereat upon the election of Officers or other business. 4th. To contribute of his experience in the growing of fruit, flowers, or vegetables, through the columns of the *Canadian Horticulturist*, for the benefit of fellow-workers.

TREES AND SHRUBS FOR THE LAWN.

Which ornamental trees and shrubs are most effective on the lawn?

1. Planted singly.
2. Planted in groups.

Innerkip. M. H. M.

REPLY.—Much depends on the size of the lawn. Maples, Cut-leaved Birch, Maiden Hair Tree, Purple and other Beeches, Catalpa Speciosa, Horse Chestnut, &c., make handsome specimen trees planted singly, so do the Evergreens. If the lawn be large, they may be grouped, planting the Beeches, Birches, Maples, &c., in separate groups. The shrubs look best in groups, planting the Viburnums in one group, the Weigelas in another, and so on.

ARBORVITÆ PYRAMIDALIS.

Please to let me know through the columns of the *Canadian Horticulturist*, whether the Arborvitæ pyramidalis is hardy. GEO. CRAWFORD.

Copleston, Lambton Co.

REPLY.—We presume that it is perfectly hardy. We have never heard that this variety is any less hardy than the typical form, which grows far to the northward. Will those who have grown it in our colder sections please to give their experience.

LONDON PURPLE—BARK LICE.

(1.) Please say in your next if London Purple answers as well as Paris Green for Apple, Plum and Peach trees.

(2.) And what is the best remedy for Bark Lice? R.

Toronto, 18th April.

REPLY.—(1.) London Purple being of very variable strength is not as safe to use as pure Paris Green.

(2.) Strong alkaline solutions. Lye from wood ashes, or potash, one pound dissolved in two gallons of water.

GRAPE VINES.

Allow me to ask the following questions:

1. Is it desirable to remove the loose bark from grape vines in the spring when putting them up?
2. Will growing lettuce or other small things around the roots, and thus shading the ground until the berry is formed and partly grown, be an advantage?

Yours truly,
W. C. ADAMS, V.M.C.

Toronto, 6th May, 1886.

REPLY.—1. In the vinery—under glass—it is desirable to remove everything that will harbor insects. It is not so important in the vineyard.

2. We can see no advantage whatever in shading the ground at any time; would prefer that it should receive the sun's rays without hindrance.

PERPETUAL ROSES.

DEAR SIR,—I have a variety of hybrid Perpetual Roses that has bloomed in Conservatory during winter, and I want

them to flower again next winter. Now should they be planted out in spring with ball, or should earth be shook off from the roots, and should they be cut back when planted out?

GEO. BOND.

Prince Albert, Ontario Co.

REPLY.—You will do well to shake the earth out, prune both roots and branches, the roots moderately, plant in good strong soil, and cut off during summer all flower buds that appear.

SPRUCE TREES.

DEAR SIR,—Can you tell me what is wrong with my Spruce trees. I enclose a diseased twig. It will cover the whole tree in two or three years, and then the tree dies. What is the remedy?

JOHN SAILES.

Little Britain, April 6th, 1886.

REPLY.—We are not able to say positively what is wrong with your Spruce trees. The twigs sent to us look as though they had been preyed upon by some parasite, such as goes under the general name of mildew. We suspect that there is something wrong with the soil in which they are trying to grow. Lime rubbish we have found to be very prejudicial to most Evergreens.

INSECTS ON A PLUM TREE.

DEAR SIR,—I have a Plum tree in my garden known by the name of the Weaver Plum Tree. Last September I noticed that many small black ants were on its branches, afterwards a small worm, about three-quarters of an inch long, of black color, having light streaks on its sides, were observed on the leaves and caused them to wither. I applied a solution of Paris Green to them, but, perhaps, it was too strong, for all the leaves withered and fell from the tree shortly afterwards, but it killed the worms. I was afraid the application would kill the tree, but now the tree seems healthy and budding freely, with many blossom buds on it. The ants are also on it, and a small dark grub, or the larvæ of some grub, are in large numbers clustered around the stems of the blossom buds. A few of which I have enclosed in a small vial in a tin box for your inspection, which I send to your address through the Post Office. Will you be pleased to let me know what they are, and the best remedy to prevent them destroying the fruit or the tree. Any information you can give me on the subject will be esteemed a great favor, and

I remain, yours truly,

W. F. ROSS.

Woodstock, April 30, 1886.

REPLY.—The insects found on the buds were the black aphis. The ants were numerous because they feed on the sweet liquid exuded by the aphis. Syringing the tree with strong tobacco water will rid it of the aphides.

PLUM AND PEAR TREES.

I have a Plum tree named Smith's Orleans, it has been planted about eight years, and borne fruit for two or three years. Last season the bark began to split and part from the trunk of the tree. It has now got about two-thirds round the tree and about three feet up from the ground quite clear of bark. I bound cow manure on last season, thought that might help it, but it was no use. Can you give any remedy for this sort of thing. The fruit all dropped off last season when about half grown. I dont expect to save this tree, but may save others if there is any cure for them.

I have spent a good deal of money buying Pear trees, and have only two living now, one Vicar of Winkfield and one Sheldon. They would live and thrive well for three or four years, and just when blossoming out would die. My soil is a sandy loam, which does not seem to suit Pear culture. One of the Pear trees living is growing on clay taken out of the foundation of the house when I built it, and bears a good crop every year.

By answering the above in the next number of *Horticulturist*, you will much oblige yours,

J. Lawless.

Reply.—The Plum tree is suffering from some cause, probably the soil is too wet, and therefore cold. What is the condition of the subsoil into which the roots have penetrated? If that be very cold and usually saturated with water, it will account for the death of your Plum tree.

It is very evident that your sandy soil does not agree with Pear trees. You had better get some clay and make a border of it, into which you can plant Pear trees with some hope of their yielding fruit.

OYSTER-SHELL BARK LICE.

Can you please answer the following questions:

Enclosed you will find a piece of bark taken from one of my Apple trees. What is the insect attached to the bark, and what can I do to kill them? I have washed my trees with soft soap, and just water enough to make it spread, is that any good?

J. Lawless.

Reply.—The insects are bark lice, Soft soap will kill them.

STRIKING DAHLIA CUTTINGS.

How do you strike Dahlia cuttings in the spring and summer?

Grainger & Duke.

Deer Park.

Reply.—We place the dry tubers in moist soil with sufficient warmth to start the eyes into growth. When the shoots have attained to a couple of inches in length we cut them off, insert them in a shallow box of pure sand and put them on a gentle bottom heat. As soon as they have struck root they are potted off into thumb pots. Sometimes we put the cuttings into thumb pots having a large proportion of clean sand mixed with the soil that is in them, and place the pots on bottom heat.

SALTED FISH AS MANURE.

What use can we make of a large quantity of salt herrings which have got stale? Would they make good manure for grapes? How can we prepare them so as to get the best results from them?

Grainger & Duke.

Deer Park.

Reply.—If you have an asparagus bed spread the fish, brine, and salt on the bed between the rows of plants and dig them in sufficiently deep to cover the fish completely so that no odor will escape from them. If you have not such a bed of asparagus, the fish can be composted with stable manure in alternate layers, and the heap covered with soil until the fish are absorbed into the compost. Use the same as any compost wherever wanted, in the grape border or elsewhere. If the proportion

of fish is very large, it will be a very strong fertilizer and should be used accordingly.

HENDERSON STRAWBERRY.

Do you know anything about the new strawberry "Henderson?"

GRAINGER & DUKE.

Deer Park.

REPLY.—We have not yet fruited the "Henderson." Through the kindness of Mr. John Little, of Granton, Ont., we have been put in possession of some plants of this variety, and as soon as they shall have fruited we will give our opinion of its merits.

If Mr. Little has fruited this strawberry, will he please to favor our readers with his estimate of its qualities.

PEAR BLIGHT.

Is pure or raw linseed oil the best for pear blight? R.

Toronto.

REPLY.—The raw oil, if pure, may be safely applied, but we need more experiment to establish its efficacy as a remedy for pear blight.

A WORD FOR OUR CORRESPONDENTS.

We frequently receive inquiries coupled with the request that we will answer them in the very next number of the *Canadian Horticulturist*. Some of the inquiries that are answered in this number came to us in a letter bearing date April 27th, yet requesting us to answer them in the May number. This was simply asking an impossibility. The May number goes to press not later than the 20th of April, and in order that this can be done it is necessary that the copy be in the printer's hands by the 10th, which gives only ten days for setting up, sending the proof to us, returning it to the printer, correcting and putting in page form, sending again to us for final revision, returning to printer and making last correction. All communications must reach your Editor's hands not later than the tenth day of the month previous to the month of issue.

CORRESPONDENCE.

REPORT ON PLANTS RECEIVED.

DEAR SIR,—I herewith send you a report of the plants I have received from year to year:—In 1883 I got the Worden Grape. It has made slow growth, but looks well this spring; it has not fruited yet. In 1884 I got the Prentiss Grape. It is twice the size of the Worden, seems quite hardy and I think will fruit this year. In 1885 I got Fay's Prolific Currant. It has made good growth, but will not fruit this year. Last week I received the Marlboro' Raspberry. I am afraid they will not live: were very dry when received, appeared to have been too long in the mail bag. My location is on a northern slope, five miles north of Lake Ontario, north-east of Cobourg. I lay my vines down in the fall, and cover them with earth, and in the spring they come out nice and fresh. J. LAWLESS.

Baltimore, May 11th, 1885

MULCHING WITH FLAT STONES.

MR. EDITOR,—I will give "J. S." my experience with flat stones for mulching: I find them superior to any other mulching for newly planted evergreens and deciduous trees and shrubs. I made the change to them three years ago, and my yearly use of them since has proved to me their superiority. I use small pieces for small trees, and larger ones for larger trees. I do not put them so close to-

gether as to exclude air. There is another advantage in using stones: they steady the tree while forming new roots.

Yours, &c.,
M. O. H.

Cowansville, April 12, 1886.

VIBURNUM DENTATUM.

DEAR SIR,—The native shrub referred to on page 82 of your April No., must be a Viburnum—probably dentatum, a fine shrub.

Yours respectfully,
P. BARRY.

Rochester, N. Y., April 6th.

CURRANT BORER.

SIR,—In reply to your correspondent's enquiry in reference to the "Currant Borer," I may say that when residing in Japan, I found a worm of this nature a deadly enemy to many fruit trees, and especially to apple trees, cherry trees, and other fruit trees not indigenous. The only ways of stopping its ravages, were to watch for the first symptom of its being at work, and then insert a fine elastic wire into its hole, pushing it up and down; or to take a glass syringe with a fine point, and pump kerosine or other like liquid into the hole. I do not know if the borer of this country is the same as that of Japan: The latter is a white maggot, which works its way by a small hole into the stem or branch of the tree or shrub, and hollows out a circular channel up the branch, of perhaps two or three feet length. A little heap of what looks like sawdust lies at the foot of the tree, as the sign of his deadly labour—deadly, for the tree soon succumbs, if not attended to.

The climate of Japan (excepting the north) of course differs exceedingly from this, but perhaps this experience may be useful.

Yours faithfully,
A. J. WILKIN.

Pine Creek, Calgary, Ap. 16, '86.

GRAPES AND STRAWBERRIES.

As yet I can say nothing definite of the value of the premiums received. It was necessary to move Moore's and Worden a year after planting, so that I am so far unable to sit under my own vine without danger from sunstroke. In my garden the soil is sandy, and rather poor. There is a full east and south exposure, with a shelter belt on the north and north-west. In such a situation Prentiss made a poor growth and failed to ripen half of that, while Moore's, Worden, Pocklington and Brighton ripened to the tips. Fay's Prolific is a vigorous grower.

In August, 1884, I purchased some potted plants of Bidwell, Manchester, Sharpless, Seneca Queen, Early Canada, Jersey Queen, Triple Crown, Shirts, and James Vick. They were planted in rows in very rich soil, inclined to sand, runners cut, and a light covering of straw thrown over the bed after the first freeze-up. Last season Manchester and Seneca Queen bore heavy crops of very large, handsome berries; Early Canada and James Vick produced a large number of berries, so small that it required a great deal of patience to pick them. The others are valueless with me.

J. McN. MALCOLM.

Norval, Halton Co.

BARK LICE REMEDY.

MR. EDITOR,—When I used the Bark Louse Remedy, I mentioned to you, my trees were but three or four years old. One bag in the fork of the tree was then sufficient, and I think one bag so placed would work into the sap generally and be sufficient for any sized tree, yet I have put it on a few large trees and used from two to four bags to a tree, with the view of making it more surely effectual, and placed the bags so that the wash made by the rains on the ingredients would come in

contact with the trunk and trunk ends of as many main branches as possible.

Yours truly,
D. YOUNG.
Adolphustown, P. E Co.

NOTE BY THE EDITOR.—Does our correspondent suppose that the ingredients of the composition used by him are taken up through the bark into the circulation, and that the sap is thereby rendered poisonous, so that the young lice are killed by feeding on it?

STRIPED MELON BUG.

I noticed in the April number of the *Horticulcurist* that J. P. Williams, of Bloomfield had considerable trouble in getting rid of the striped squash beetle; if it is the same as the squash bug my remedy would be to put some fresh cow dung into a pail, put on some water, stir it up, and sprinkle the vines and plants with the mixture; the beetles will seldom wait for a second dose.

NONPAREIL APPLE.

J. P. Williams enquires for the famed Nonpariel of Nova Scotia. I have some grafts of the above-named apple now growing, and in another year may have some to take off.

EDW'D C. SCARLETT.
Conway, Lennox Co.

GRAPEVINE TRELLIS.

MR. EDITOR,—I cannot help expressing my gratitude to the party writing that article on grape culture. I find that others have trouble with their trellises as well as myself, but I have experimented until I have got a trellis that I can recommend to any of your readers who may require them. It is this: put in your posts two feet in the ground, fifteen feet apart, five feet high, and then instead of a wire, get small cedar poles, then four inches from the top bore a two-inch auger hole and in them fit your poles between the posts; that serves for the top wire, then put in two wires below the poles, then the end posts cannot pull together, which has been all my trouble. The wires must go through the centres of the posts, by boring holes through them. This trellis will stand any amount of pressure, for the wire can be strained as tight as necessary without any bracing.

Yours,
A. C. MCDONALD.
Dunlop, Huron Co., Ont.

AMBER QUEEN GRAPE.

The Amber Queen came through the winter without any other protection than the snow, in an exposed position, where it had been forgotten. Of course it was lying on the ground.

J. P. COCKBURN.
Gravenhurst, Muskoka.

THE JAPAN QUINCE.

In reply to the enquiry of "Subscriber," Walkerton, I would say that the Japan Quince has proved itself perfectly hardy here. Even in the winter of 1884-5, the severest known to the oldest settlers, when nearly every Baldwin Apple tree in the neighbourhood suffered, the Japan Quince came through uninjured. With my experience I can confidently recommend it for hardiness, while for beauty, when in bloom, it excells all other deciduous shrubs.

J. H. WISMER.
Port Elgin.

STRIPED MELON BUG AND HYDRANGEA PANICULATA.

I notice in the *Horticulturist* for April an enquiry for a remedy for the the ravages of the striped squash bug. I have used saltpetre for years, with the best results. Dissolve a tablespoonful of saltpetre in a patent pail of water and soak the ground around each

vine with the fluid, using about a pint to a hill. Do this after sundown, as the bugs descend into the soil about that time for the night, and they will not be in a condition to come up again next morning. A second or third application may be necessary where the bugs are very numerous. The saltpetre will not injure the plants.

Another correspondent in the same issue fears that Hydrangea paniculata will not prove a success at Barrie. Unless I am greatly mistaken I saw a very fine plant at Allandale Railway Station in August, 1883, that had evidently bloomed profusely, for the dead trusses were still upon the plant.

Permit me to express the gratification I feel upon the arrival of the *Horticulturist* each month. I consider it invaluable to all who cultivate fruit or flowers, whether for pleasure or profit, particularly so to Canadian horticulturists.

Yours faithfully,
WILLIAM KAY.

Chesley, Bruce County.

STRIPED BUGS.

If Mr. J. P. Williams, who had so much trouble fighting the striped bugs last season, will take inch lumber 8 inches wide, cut in pieces 14 inches long, nail four of these together, and over the top fasten mosquito netting, he will have nice, handy, bottomless boxes that he can place over each squash, melon or cucumber hill that he may desire to plant, and he will have the most effectual remedy against striped bugs yet discovered. If the ground should be uneven, pull the earth against the sides of the boxes to prevent the bugs from getting in underneath. Put these boxes or frames over the hills as soon as planted as they answer the double purpose of protecting the young plants against striped bugs and late night frosts. They can be left on till the squash plants crowd hard against the netting and the melons and cucumbers have made six or eight leaves. By that time they can be safely removed in ordinary seasons, as most of the bugs will have disappeared, and the few that may remain, in exceptional seasons, will not be able to harm the plants much when they have attained the size indicated. The frames, if well nailed together when first made, will last nearly a lifetime; the netting will need to be replaced every three or four years.

As soon as their services are no longer required in the garden or field they should be stored away in some outbuilding.

Where very large plantations of squashes or cucumbers are made this method is not feasible, but where the amount does not exceed the fourth of an acre, this is the cheapest and most thorough way of disposing of the striped bug. For melons and cucumbers the pieces can be cut twelve instead of fourteen inches long. I think this answers Mr. Williams' question, "Is there really any known remedy for the striped bug?" in the affirmative.

H. L. JANZEN.

Berlin.

FRUITS IN NORTH SIMCOE.

As you invite the members of the Fruit Growers' Association to give their experience in fruit growing, in their respective localities, through the columns of the *Horticulturist*, a few items from the northern part of Ontario may not be out of place. With respect to apples, the past year has given evidence of the necessity of planting only the very hardy kinds. Of course the winter of 1884-5 was an exceptional one. But it played sad havoc with the apple orchards in this county; hundreds and thousands of trees were frozen to death. It was

quite a common sight last summer to see numbers of trees in every orchard with yellow leaves and scathed trunks, as if they had been scorched by fire. As to the cause there is a difference of opinion. Some think it was the rain that fell about Christmas, followed by severe arctic weather. Others that it was the premature warm spell we had in spring that started the sap too soon, and then froze and burst the bark. Perhaps both are partly right. The three varieties that stood the best were: 1st, Duchess; 2nd, Talman Sweet; and 3rd, Golden Russet. I agree with Mr. Williams, who wrote in the April number that he is looking to the Russian Family for something to turn up to replace the kinds we have now; and if we can get among the Russian fruits an apple as fine as showy and as hardy as the Duchess and that will keep to spring, that would be *the* apple for North Simcoe.

WITH REGARD TO SMALL FRUITS.

The last year seemed very favourable for grapes and berries, notwithstanding the severity of the preceding winter. But this may be explained by the fact that grapes are mostly put down and covered, and then the snow lay very deep and so protected the small fruits. Strawberries were a splendid crop, and the same may be said of raspberries. The Cuthbert is my favourite red, and the Gregg the best black cap. All the varieties of grapes that I have, ripened well—Champion, Concord, Moore's Early, Vergennes, Early Victor, Prentiss, Rogers' No. 3, 15, and 17, Worden and Brighton. Last fall was exceptionally free from early frosts. We can bring all those varieties of grapes through the winter all right by covering them; the vines grow well through the summer, and if we can only get them ripe before the early fall frosts catch them, we can grow a very fine sample of fruit.

Everyone as far as I can learn in this district is highly pleased with the premiums sent out by the Association. The Catalpas sent last spring all grew splendid, also the Dahlias and Fay's Currants. I have not heard of a plant that failed. I only wish that more in this county would join the F. G. A. If they would subscribe to the *Horticulturist*, and not give so much to Yankee tree agents for worthless trash that never lives to produce fruit, they would be vastly benefited. I am highly pleased with our little journal; it is getting better every month. Every farmer, every gardener, and every man or woman who takes an interest in fruit or flowers should take the *Horticulturist*. G. C. C.

Vespra, April.

FRAGRANT CLIMBING ROSE.

How can I tell you anything about roses without "carrying coals to Newcastle?" Yet you say so positively in the report of the Fruit Growers' Association that you do not know of *any fragrant* climbing rose, that I want to tell you of one that thrives here, although it *might not in Canada*. A friend of mine here, Mrs. Hentzley, has one that covers her verandah, and is fast running over the roof of her two-storey house. It has a delightful odor, very similar to that of the tea roses, and it has the same glossy leaves. It is evergreen, and with the thermometer at four degrees below zero, as we had it one night in January, it was not hurt at all. She calls it the Banksia. Some people here call it Lady Banks. It is a profuse bloomer, and had *some* blossoms late in the autumn. It is a very pale yellow, and the open rose is not specially pretty, but the buds are beautiful. Mrs. Hentzley is trying to start some cuttings for me, but finds it hard to make them grow. I feel as if I were very officious in offering you

this little bit of information, but I do it because of what you said to the Fruit Growers. NELLIE COOKE PETERS.

Dallas, Texas, U. S. A.

NOTE BY THE EDITOR. — We are under obligations to our fair correspondent for so pleasantly reminding us that such comprehensive expressions as were used by us on the occasion to which she refers are apt to be misleading. We were speaking to a Canadian audience, and had in mind at the time, and should have so stated, such climbing roses as can be grown in the open air in the climate of Canada. There are many fragrant climbing roses, but they are largely climbing tea roses, such as Gloire de Dijon, or Noisettes, as Marechal Niel. The Banksia roses, both the yellow and white, are tender in this climate. The climbing roses that can be grown in any considerable portion of Canada in the open air are of the Prairie rose class, Rosa rubifolia, the best of which are the Baltimore Belle and Queen of Prairies, but all the roses of this class are scentless, so far as they have come under our observation. Doubtless at Dallas, Texas, Gloire de Dijon and Marechal Niel could be grown in the open air. We saw a splendid specimen of Marechal Niel in Doctor Kenworthy's garden, at Jacksonville, Florida, covering a space of 30 by 40 feet.

BIGNONIA RADICANS.

This plant, which is alluded to in the present month's number, is certainly worthy of a place in every garden and grounds. Care as to protection during winter is necessary. The greatest trouble to contend with is its spreading propensity, as it would soon monopolize the flower border. The best way to manage it is to put it into a tub of sufficient size, cedar wood being the best, then plunge into the earth almost to the surface. S. R.

Berlin.

PARIS GREEN FOR CABBAGE LEAVES.

It appears from an article under this heading in the last number of the *Canadian Horticulturist* that Mr. D. Dempsey had something to say at the meeting of the F. G. A. in Stratford with regard to using Paris Green against the ravages of the so-called cabbage worm. However effectual and safe the application of Paris Green to cabbage may prove, in the hands of experienced and careful men, I for one would unhesitatingly and utterly condemn this practice as altogether too dangerous to be recommended to the general gardening community. The use of it on a vegetable where the leafy part, on which the Paris Green must be sprinkled, is consumed, especially since Mr. Dempsey recommends the sprinkling to be continued until the cabbages are full grown, is exceedingly dangerous. I grow from 8,000 to 10,000 cabbages yearly, and find but very little annoyance from the cabbage worm. I attribute this freedom from their ravages to the fact that I invariably plant nearly all of this quantity in one solid block. If for any reason I find myself obliged to plant a few hundred heads by themselves, and especially if near the shelter of fences, buildings or orchard, or where the air cannot circulate freely, they are sure to be doomed to destruction through the ravages of the cabbage worm.

My advice to all that grow, say from twenty-five to a few hundred heads of cabbage, is to select that portion of their garden that is most exposed to

the free circulation of the air. If you have no such plot at your disposal, but are hedged in on every side, as very many gardens are, by buildings, high fences or orchards, and your calling is such that you cannot find the necessary time to hand pick the worms, sooner than resort to such a dangerous remedy as Paris Green, do not attempt to grow cabbages, but buy them on the market of parties you know are not obliged to resort to its use in their cultivation, and devote your time and ground to the growing of other vegetables or small fruits.

I have had occasion within the last ten years to try many of the remedies recommended for the destruction of the cabbage worm, but the only one I ever found effectual and at the same time practical (aside from hand picking) was to take water when about at the boiling point and pour it over the cabbages with an ordinary sprinkling can.

H. L. JANZEN.

Berlin, Ont.

THE MOCCASIN FLOWER.

With reference to some of our native herbaceous plants and shrubs, alluded to by Mr. Goldie in the January number, I would beg to state that the Cypripedium spectabile, or as it is called, the Moccasin Flower, one of our most charming flowers, is difficult to transplant into dry, exposed ground, it being a swamp orchid. I tried it twice, but failed in both cases, the first specimen I bought, and the second I discovered, and notwithstanding having brought along a quantity of muck to plant it in, I failed to get any satisfactory results. The only way to treat it successfully is to plant near the edge of a pond, or creek which may be on or running through pleasure grounds partially shaded.

The Lobelia cardinalis, or Cardinal Flower, intense scarlet, is more easily handled. I found some fine specimens of this plant growing in a dried up black ash swail, and it will grow satisfactorily when planted in a soil of a similar character.

The Hepaticas and Sanguinarias are easily grown in any common garden soil. S. R.

Berlin.

WATER LILIES, &c.

Parties who have a small pond near to their premises should not omit to procure some water lilies (although not lilies really, still they are known best under that name). They are easily transplanted. I have seen them growing in abundance in the township of North Dumfries, and a few of our Ranunculus might be transplanted on the edges. Our native lily will bear transplanting very well. Some of our native shrubs must not be forgotten, such as the Comptonia asplenifolia (sweet scented fern), for its fragrance, and the Potentilla suffructicosa, for its pretty yellow blossoms. Both are easily removed. S. R.

Berlin.

THE WEIGELA ROSEA.

This charming shrub is grown here without winter protection, at least on my grounds, but in localities where it is exposed and partially winter killed, it would be as well to give it protection during winter, either by covering with evergreen boughs, or what is just as good, a piece of packing sheet, or such like, taking care to bend the canes gently and fastening with hooked pegs.

This shrub is a native of China, and was introduced into Europe by Weigel, a Russian botanist, hence its name. There are many varieties now in cultivation evidently seedlings of the original Rosea, all of which are no doubt equally as hardy. The var. Variegata,

illustrated and described in the February number of the *Horticulturist*, is certainly an acquisition, and no person having a taste for gardening should be without at least one specimen on his grounds. The Weigela is of easy propagation from cuttings.

In protecting the Weigela, you may at same time apply the same *modus operandi* to the Japan Quince (*Cydonia Japonica*), and instead of having a few scattering blossoms at the base of the shrub, you will have a magnificent floral blaze. S. R.

Berlin.

THE CANKER WORM.

Your article on this subject is very opportune. Although this pest or rather insect epidemic has not reached this locality, that I have heard of. Some parties seem to think it has, but I think it is a mistake. Possibly it is the fall web worm they allude to. None are on my premises yet, but I suppose it is only a question of time. However, it is as well to be on the lookout, forewarned is forearmed.

The poor horticulturist has many troubles to contend with, but must content himself with this, the only satisfaction, that there is not much danger of his brains becoming inert.

Berlin. S. R.

THE CURRANT BORER.

This pest, to a considerable extent, can be controlled. The egg from which the grub is hatched is usually deposited towards the tip of the young shoot or sucker from the base of the bush, first being very ingeniously girdled in order to reach soft liber or pith; and just as soon as you will see the end of the twig lean out and wilt, then is your time to head the grub off by cutting back, say about an inch of the new wood, below where it was girdled. If allowed, it will soon work its way downward, eat its way through, and get transposed to a winged beetle, ready to engage in the same profession that its parents did previously.

I could not for a long time understand why so many currant suckers were wilting at the tips; finally I saw the insect in the act of girdling a rose sucker, but being rather smart for me, escaped. It appeared to be about three-fourths of an inch in length, with brownish scale wing coverings, and fly shaped. No doubt entomologists know it. SIMON ROY.

Berlin.

PANSIES.

To have pansies for early spring bloom, and all summer as well, I sow the seed in August. When seedlings are up nicely I prick out and pot in verbena-size pots (one plant in a pot). I then thrust the pots into earth in my cold frame up to the rim, cover with glass, and water when required. By the time of first frost they will be beautiful large plants, and some of them in flower. When severe cold sets in I cover the glass with some old boards to protect the glass, then cover with old vines and leaves. It is best to elevate your cold frame a few inches to keep dry. I also keep in such frames carnation cuttings, and other plants that will not stand our long, severe winters very well. In early spring I uncover the frame to the glass, and in two weeks time their saucy faces will be peering up at you. When the weather becomes somewhat settled I take them out, tip them out of the pot and put them into the border. Be cautious about manuring with strong manure; a good dressing of leaf mould I have always found sufficient; put a little salt on the surface to retain moisture, for pansies require plenty of moisture. In dry, hot weather the

watering should be done late in the evening, after the earth has cooled; if they are watered while the ground is hot they will throw out strong, straggling shoots and often die.

WALTER S. GAMSBY.

Orono, Ont.

NOTE BY THE EDITOR.—With this communication we received from Mr. Gamsby a most magnificent collection of pansy blooms of unusual size. We took the trouble to measure the largest and found it to be fully 2½ by 2 inches. Many of the others were but a little less. Mr. Gamsby does not tell us where he obtained his seed. There is quite a difference as to size in the several strains that are grown by florists, which, combined with Mr. Gamsby's excellent treatment, may account for their great size.

JAPAN QUINCE AND WEIGELA.

I may say that the Japan Quince and the variegated Weigela needs protection during winter here.

GEORGE BOND.

Prince Albert, Ontario Co.

STRIPED MELON BUG.

DEAR SIR,—In the *Horticulturist* for this month there is a remedy recommended for the three-striped Yellow Squash and Melon Bug, which remedy is a very troublesome one. For many years past I have always planted tomato plants near my melons, and as soon as the scent of the tomato gets strong, which it soon does, it banishes the bug at once. This is a certain remedy and gives no trouble. I have never known it to fail.

Yours truly,

Toronto. W. W. R.

CATALPA SPECIOSA.

The Catalpa is hardy here and comes out in good condition, better than the Russian Mulberry, which is sure to indicate the snow line when developing the buds in spring, all buds above the snow being at least four days later in coming out.

J. P. COCKBURN.

Gravenhurst, Muskoka.

BARK LICE ON APPLE TREES.

As you published the remedy for bark lice I assume that you do not discredit it. Its action, I imagine, *is purely as an external wash*, and not that it is absorbed and carried with the sap through the ramifications of the branches. C. E. B.

MEETING OF THE MICHIGAN HORTICULTURAL SOCIETY.

The annual June meeting of the Michigan State Horticultural Society will convene at North Lansing, on the evening of June 15th, and continue for three sessions on the following day. The exercises will be unusually interesting, and a novelty will be introduced in the way of short essays and addresses upon special topics by classes from the Agricultural College, under the direction of Dr. Beal, Prof. Cook, and Prof. Bailey.

The meeting is arranged to follow closely the semi-centennial celebration at Lansing, so as to take advantage of the greatly reduced railroad rates, and give an opportunity to take in both entertainments at one visit.

For further particulars address

CHAS. W. GARFIELD,

Grand Rapids, Michigan. Secretary.

THE POTATO ROT,—ITS CAUSE AND REMEDIES.

By J. Hoyes Panton, M.A., Professor of Natural History at the Ontario Agricultural College.

The use of the microscope in the fields of scientific research has revealed much that is of importance to man. Many forms of disease, about whose origin little was known, have had much light shed upon them since this instrument was employed in their study, both among animals and plants. We find now that man is constantly lashed by invisible foes—some attacking himself and others the food which he eats. During the past summer and fall a striking example of this occurred in the prevalence of the so-called "potato rot," which has proved a great loss throughout the Province and in many parts of the United States. In the bulletin issued in November from the Bureau of Industries, we learn that the "rot" prevailed through the whole southern belt of the Province. In many cases one-half to three-fourths of the crop was destroyed, and in some it was not worth digging. With such disaster around us, the questions are naturally suggested, What is the cause of the "rot?" and, What remedies can be adopted?

Cause.—This disease has received a great deal of attention from botanists since the days when it became a scourge in Ireland and other parts of the British Isles, and it is now conceded to be the result of a minute fungus called *Phytophthora infestans.* This attacks all parts of the plant—leaf, stem and tubers. By those ignorant of the life history of this tiny parasitic plant little attention is paid to its appearance on the tops, and no alarm is experienced until the potatoes are affected. But being very contagious, its presence on the leaves should become a serious matter, especially when we remember that it spreads with great rapidity. It is usually indicated by the tops presenting a blotched, brownish, spotted, dead appearance. A close examination of the potatoes showing this will discover innumerable slender stems growing up out of the surface of the leaves and stems of the affected plants. These branch and swell out at the ends into pear-shaped minute bodies (spores), which are produced by millions. When ripe they separate from the stem and being exceedingly light pass into the atmosphere, where they are wafted about, many of them finally reaching the ground or settling upon plants. Under favourable conditions of moisture and heat the contents of a microscopic spore may push out a long minute tube, which can penetrate into any part of the potato plant and give rise to the fungus; or may separate into several distinct portions (swarm spores) which burst through the spore-wall and become the source of the parasitic plant. The mature plant which lives in the tops and tubers is very minute, and can be seen only by the aid of the microscope. It consists of many colourless, branching, thread-like structures. These penetrate the tissues of the potato and feed upon the juices, so that it soon weakens and begins to waste away. From the thread-like structures tiny stalks arise, assuming beautiful plant-like forms and bearing upon their branches the spores already referred to. They live but a short time, but the thread-like structure is perennial and hardy, and from fragments of it new fungi may arise. It is said by some that another kind of spore is produced which can winter, and thus give rise to the organism in another season. These are the so-called resting spores, apparently for the purpose of keeping the species over certain periods, while the spores already considered are produced rapidly so as to hasten the spread of the fungus under favourable conditions. This minute microscopic

plant is certainly a low form of vegetable life, incapable of manufacturing food from the mineral kingdom, but fastening upon other plants and feeding upon their juices. A wet season supplies conditions well adapted for its development, and hence we find the "rot" associated with such weather. There is no doubt that many spores are always more or less present, but they are prevented from being a source of trouble because the weather is not suited for their growth.

Remedies.—The "rot" usually appears about the first two weeks in August, and if the weather is favourable its spread is very rapid, for as soon as the thread-like structure which arises from the spore is developed it immediately becomes spore-bearing. Hence the importance of examining the plants for the appearance of the brownish spots that indicate the presence of the fungus.

1. As soon as discovered, dig the potatoes. Delay will allow it to spread to the stems, and thence to the tubers. If it reaches these and damp weather comes, "rot" will certainly appear.

2. After digging, the potatoes should be put in a cool, dry place, thus surrounding them with conditions unfavourable for the growth of the fungus, if any happens to be upon them.

3. Growing early varieties is worthy of consideration, so that they may mature before the season arrives when this parasite is likely to affect the crop.

4. All potato stalks in affected lands should be gathered and burned, so as to destroy the millions of spores which may be upon them.

5. Use none but good seed. If at all affected, reject them; and plant in well-drained land. If the potatoes to be used for seed have been taken from cellars where affected ones were kept, they are likely to have the microscopic spores on them and escape notice. It would be best to get seed from unaffected districts.

6. It is scarcely necessary to remark that it would be injudicious to plant potatoes in the same field the following year after a visitation of the "rot," inasmuch as the ground may retain the germs of the disease.

7. Avoid planting upon heavy clay soil, but prefer a light and dry soil. This presents the fewest conditions suitable for the growth of the fungus.

The nature of our climate is not so favourable for the development of this injurious fungus as that of Britain; yet as we are sometimes visited by it, and although scarcely viewed as a scourge, it is well that we should remember its nature and habits and always be ready to guard against failure if it appears. As last summer was favourable for its propagation, great care should be exercised in the selection of seed this spring.

The above paper was prepared by Mr. Panton at the request of the Ontario Department of Agriculture, and deserves the careful consideration of all cultivators of the potato.

SMALL FRUITS.

(Read before the East Lambton Farmers' Institute, at Watford, by W. W. Hilborn, of Arkona.)

There are no fruits which can be so extensively and profitably grown in Ontario as the small fruits, and none that give such quick returns. No crop on the farm is

MORE PROFITABLE.

While I would not advise every farmer to go into growing small fruits for market, I would very earnestly recommend all to grow enough for their own use There is no other way in which you can have the same satisfaction as to grow them—not in a small enclosure, where all the work has to be done by

hand, but out where you have plenty of room to do most of the work with horse and cultivator. There is no other crop on the farm that will pay as well as a good collection of strawberries, raspberries, currants, blackberries, gooseberries and grapes, if they receive reasonable care. There are many places where it would pay well for farmers to go into small fruit growing for market. Every neighborhood should have at least one person engaged in small fruit growing for market; but to be successful, those engaged in it for profit must have

A LIKING FOR THE BUSINESS,

and be willing to work, not only with their hands, but with their brains. There are many farmers that have small farms, with perhaps two or three sons, for whom they would like to buy more land, but do not find it an easy matter to do so, as land is high in price in all good localities, and times are dull. If such farmers would go into small fruit growing they would not require more land, and would find it more profitable, that is, if gone into intelligently. Some will say, "The supply will soon be greater than the demand." Why not be afraid to grow wheat for the same reason? There is not the slightest doubt but that it will pay as long as people continue to have a taste for fruit.

THE PAST SEASON WAS A FAVORABLE ONE

for strawberries, and the supply was equal to the demand in most parts of the country, especially in large towns and cities. Small country places and farmers in many places did not get a full supply even last year, when the largest crop was gathered that has ever been grown in this country. I sold five hundred bushels from five acres, grown with just good ordinary field culture. After deducting expenses for picking, boxes, marketing, etc., they give a net return of

FULLY ONE HUNDRED DOLLARS PER ACRE.

The supply did not equal one-half the demand for raspberries, currants, gooseberries, and blackberries, and is not likely to fully equal the demand for many years.

At the present time I think it is very doubtful if there is any other line of our great agricultural industries of Ontario that will give a greater return for the outlay required than small fruit growing. Do not for one moment suppose that you can go right into the business on a large scale and make a fortune in two or three years without any knowledge of the business. The only sure way to succeed is to begin on a small scale, and as you gain practical knowledge of varieties, manner of cultivation, marketing, etc., you can enlarge your plantations and do so intelligently. There is great competition in all branches of trade, but those who are not afraid to work, both with their hands and brains, need not fear competition.

ONE OF THE MOST IMPORTANT POINTS

in growing small fruits for market is to try always to have them put up in nice packages and well filled with good fruit, and always sell the fruit for just what it is—never put the large berries on top of the box and the small ones in the bottom. Another very important matter is to plant well-tested varieties, and plant some of all the small fruits—strawberries, raspberries, gooseberries, currants, blackberries, and grapes. Plant several kinds of each, so that you can extend your supply of fruit over as long a period as possible, which gives you a greater length of time in which to market. You can also market at a much cheaper rate, as you do not require so many boxes, crates, etc.; you also have time to do more of the work yourself, thus reducing expenses. Having a regular

supply will help to find you a market, as all dealers like to buy from those who can give them the most regular supply, and for the greatest length of time. I will give a

LIST OF THE MOST PROFITABLE SORTS

for market, so far as tested in this county. First on the list is

Strawberries.—For first early, plant Old Iron Clad; next early, Crescent Seedling; for medium, Wilson and Daniel Boone; for late, Manchester and Atlantic.

Red Raspberries.—Turner, for early; Cuthbert, for late. Shaffer's Colossal is a very dark red or purple; it is the most productive and best for canning, and none more hardy.

Black Raspberries.—For early, Tyler and Souhegan; for medium, Mammoth Cluster; for late, Gregg.

Red Currants. — Victoria, Raby Castle and Fay's Prolific.

White Currants.—None better than White Grape.

Black Currants.—Lee's Prolific and Naples.

Gooseberries.—Smith's Improved and Downing.

Blackberries.—Snyder.

Grapes.—Concord, Worden, Moore's Early, Delaware, Rogers' No. 9 (Lindley), and Brighton.

The above are all well-tested varieties, and will

ADAPT THEMSELVES TO ALMOST ANY SOIL,

and where they will not succeed it would be useless to look for any that will pay. There are some of the new grapes that show such decided merit that I will give the names of a few, although I do not like to say much about new varieties in a paper of this kind. Ulster Prolific I believe to be one of the most promising new red grapes I have seen for this country. Empire State and Niagara are both very fine white grapes, and well worthy of a place in every collection.

BAGGING GRAPES.

(From the Philadelphia Weekly Press).

The following replies to inquiries as to the results of using bags upon grape clusters this season, the difference between fruit thus treated and that left uncovered, the influence of the bags upon early ripening, flavor, bloom, soundness, etc., will be found instructive.

IN NEW JERSEY.

I bagged some of all varieties and most of some varieties, the smaller clusters being unbagged. Of the Martha, Niagara, and some others, the exposed cluster was invariably worthless, while those in bags were perfect in every respect. Not every cluster bagged, however, was perfect. Some would have a berry or two affected, others more. Occasionally one was found entirely destroyed. That bags are a great protection is abundantly proven in my experience. I wish I could affirm or believe it was absolute. The quality of the grapes bagged is not in the least impaired. The appearance is improved, the bloom is perfection and the general appearance of the clusters more attractive to the eye than are those grown outside. I think the ripening is generally retarded a few days, but it is none the less perfect. My experience summed up is this: That by bagging I am sure of securing a reasonable amount of fine fruit; without it the result is extremely problematical. To put it more plainly, on my grounds, as far as the choice varieties are concerned, bagging constitutes just the difference between success and failure. If I want to be sure of fine clusters of so common a variety as Concord I bag them.—E. WILLIAMS.

IN CONNECTICUT.

My first experience in bagging grapes was on a very limited scale four years ago, with very little faith that there could be any good in it. However, to

test the matter carefully, soon as the fruit was well set in early Summer, I put a few bags on each vine of every variety in our experimental vineyard, leaving bunches unbagged side by side with the bagged ones, and the results in the Fall were such as to encourage me to repeat the experiment the next year on a larger scale, and for the past two seasons we have bagged all our best grapes and shall continue to do so in the future, for by so doing we get more perfect bunches, berries of larger size, ripening more perfectly, and a more perfect bloom than the unbagged fruit. As to quality, four years' test has failed to show me that it is either improved or injured by the bagging. Mildew has been very prevalent this season, and on some varieties we should not have had a single perfect bunch had it not been for the bags. They also serve as a protection against frost. We have had several hard frosts, and yet every day now we are enjoying many of our best varieties fresh from the vine, and in a perfection of freshness that we have never seen at this season in grapes not so treated. So much in favor of and nothing against the system, except the very light expense of the bags and pins, and the labor of putting them on. I believe it will pay well to bag the fruit in a market vineyard, and I know that for family use the satisfaction of having so much better appearing fruit more than compensates for the slight expense.—J. H. Hale.

IN ILLINOIS.

Last year I bagged a few clusters of Concord and Diana grapes as an experiment. It proved so satisfactory that I this year bagged most of my Champion, Concord, Diana, Brighton and Lady grapes. All those bagged ripened evenly, were free from specks and blemishes, and were covered with a beautiful bloom, but in the midst of nearly every cluster a species of small spider had spun a dense web, which had to be removed before they were presentable.

About two-thirds of those left unbagged were punctured or wholly destroyed by grasshoppers, which were very numerous and very destructive this year. I could see no difference in the time of ripening between those bagged and those not. We used quite a lot for dessert, and I noticed that the bagged were always selected for that purpose; and though the red and white varieties were somewhat lighter in color than those exposed, the general opinion of the family was that they were better flavored—more "sparkling." Bagging made no difference in the color of the black grapes; they were simply black and covered with a heavy bloom.—Fred. Grundy.

IN NEW YORK.

We have for several years past practiced covering clusters of grapes with small paper bags. We usually place these bags on the grapes when about half grown, fastening them with a pin, having first drawn the top of the bag about the stem closely, and having slit the lower corner of the bag with a knife to let out any water that might gather in the bag during a rain. Our object in bagging grapes is to preserve specimens of the different varieties in the best possible condition. In localities where rot is prevalent bags are used for the purpose of preventing rot with good results. The grapes reach a higher perfection of color and quality in the bags than without. The bloom, which is a prominent feature in the grape, is undisturbed in the bags, and is apparently more noticeable when thus protected. The only specimens of Lady Washington grapes we have ever succeeded in ripening on our farm, were those enclosed in paper bags, as it has been proven too late for this

locality. It is surprising to learn how many grapes may be bagged in a day by a skillful person, who is quick motioned. The expense, however, is worth considering, and will prevent the practice becoming general, except to prevent rot, and to prevent the depredations of birds and fowls, and damage by frost. If one has only a few vines in the garden, it is an easy matter to make them secure against rot and other serious dangers by bagging them, and the expense is hardly worth mentioning in such cases.—CHARLES A. GREEN.

MAMMOTH SQUASH.

In W. Atlee Burpee & Co.'s Farm Annual for 1886, Philadelphia, the credit is awarded to Mr. Charles Hewitt, of Lunenburg, Nova Scotia, of having grown the largest squash on record, 292 lbs., exhibited at the Dominion Exhibition in St. John in 1883, and in 1885, in competition with the United States, of having won first and second prizes, $25.00 and $10.00, for mammoth squash with 262 lbs. and 223 lbs., and first of $25.00 with 206½ lbs. for mammoth pumpkin.

Thinking it a matter of interest to learn Mr. Hewitt's methods, since whatever will grow mammoth will also grow table squash, I wrote to him recently for his processes in detail, with permission to publish, which he kindly gave as follows :—

"Soil, a clay loam, with some sand and chip manure, not too coarse, a sheltered, southerly aspect. Prepare the ground in the fall, by digging a hole 5 feet by 5 feet 1 foot deep, in which put a bucket of fish offal, with half bucket of night soil; replace the soil. About 20th April put two seeds in a 4-inch pot and place in a window or hot bed; when in four leaves remove the weakest by cutting it off; pulling up may disturb the roots of the other. Take a sash 3 ft. square, make a frame to fit with four pieces of boards, dig out the hole made in the fall the full size; in this put a large barrow load of horse manure, mixing it with the soil removed, form a mound or hill, on which place your frame and sash; in the centre put some garden soil, in which set your plant, with care not to disturb the roots in removing from the pot.

Water when dry with liquid manure, not strong, and not touching the leaves; give air as needed. When danger of frost is past, and the vine fills the frame, remove the frame, pick off bugs, let the vines run and encourage them to root in adjoining ground, which should be heavily manured with stable manure, mixed with fish offal, lobster factory offal, if convenient.

Let the vine cover the space of 10 or 12 feet. When fruit forms, allow all to get as large as cocoanuts, select the most healthy; if from the main vine, so much the better, not too close to the stock, as they feed from the root joints; at the same time pinch off the tip ends of the vines and laterals, keep pinching off as soon as other laterals form, and all fruit as soon as formed, allowing only the one to remain; the concentrated nutriment immediately takes effect, and in twenty-four hours you will be surprised to find your squash growing so rapidly.

When very dry, water once a week with liquid manure, made from cow dung, or from the draining of the manure heap, not too strong; dilute with soft water and avoid touching a leaf. Just before a rain, strew some superphosphate around the plant, and along the vines, and cover lightly with soil. Stirring the soil frequently is better than water, as the ground is apt to bake.

Pegging down the vines securely would be a useful precaution where

there is any risk of disturbance from wind."

The above gives Mr. Hewitt's "How to grow mammoth squash" nearly in his own words, and but slightly condensed.—CHARLES E. BROWN, in *Yarmouth Herald.*

BLACKBERRY NOTES.

Among the blackberries, the Snyder holds it own as the hardiest. It is very prolific, but the berries are not large. The Taylor is also quite hardy, though less so than the Snyder. The berries are larger. The Early Harvest seems to be the earliest of standard blackberries—but there is a doubt as to its hardiness. The berries are small and jet black; the drupes small and uniform. The Wilson Junior is a large berry of fair quality and productive. Whether it is hardier than its parent, the Wilson Senior, remains to be ascertained. The Wachusett is nearly free of thorns. The quality is good; size medium; but the plants are very productive. Stone's Hardy is with us entirely hardy; the berries of medium size. The canes are large and somewhat dwarf, but they do not bear fruit very abundantly.

The Western Triumph is spoken of in some catalogues as a new variety; but we have had it many years. It is very hardy, but unproductive at the Rural Grounds.

Crystal White is a white blackberry of good quality, but not hardy. The Minnewaska is not introduced. It is immensely prolific; the berries are about the size of the Kittatinny, but not so sweet. Its hardiness is yet to be determined.

The Lucretia Dewberry is as early as the Early Harvest. The berries are large and, when full ripe, of good quality. It runs over the ground or may be trained to a stake or trellis. It is quite hardy.—*Rural New Yorker.*

THE LARGEST GRAPE VINE.

Though the largest Grape vine in the world is claimed to be at Hampton Court, England (a *vinifera* variety), and another is claimed by Santa Barbara, Cal. (a Mission Grape vine), yet I believe the farm of Jesse Tarlton, seven miles from Lexington, Ky., has the best right to the honor of possessing the largest Grape vine, at least in size of body. I measured it at six feet from the ground and found it 66 inches in circumference. It is of the *cordifolia* (Frost or Winter Grape) species, and is probably 200 or more years old. It is supported by an Elm nearly three feet in diameter, which it entirely covers, and shows vigorous growth in many branches, though partly dead on one side near the ground, caused by exposure to the sun and trampling of stock.

A vine of the same species, reported in newspapers of Fla. a few years ago, having a circumference of 69 inches, has always been regarded by botanists as a "fish story," so Kentucky must now bear the palm till good authority from elsewhere shows a circumference of body over 66 inches, six feet or more from the ground.—T. V. MUNSON, *in Am. Garden.*

FREESIA.

The Freesia refracta alba is one of the most desirable of recently introduced bulbs, and is very certain to become a favorite among all classes. It was introduced here years ago by, I think, Mr. Hovey of Boston, but was soon lost, so that it may in a sense be called a recent introduction. The Freesia is a small bulb, easily grown, and bears white flowers of the most delicious fragrance. The flowers last a long time, even after being cut. It may be forced early in the hot-house, but will come into bloom in January and February in the ordinary green-house temperature.

Better still, it will grow well and bloom freely in the sitting-room, if placed near the window and not kept too hot. It is a nice little bulb for all our country cousins. Put five or six bulbs in a five-inch pot. A little freezing will not hurt it when grown in a low temperature. There are two species on sale, F. refracta alba and F. Leichtlinii, between which there is only a trifling difference in color, the latter having a little more yellow in the throat. Both are fragrant, but F. refracta alba is much the better plant, and, with me, has bloomed earlier than F. Leichtlinii. Flowering bulbs may be obtained from the seed in a single year, if sown early and carefully grown; that is to say, seed sown early in the Spring will bloom the following Winter, but not all of them.—*Rural New-Yorker.*

BOOK NOTICES.

THE MICHIGAN HORTICULTURIST for May, is full of valuable papers. Published by W. H. Burr Publishing Co., Detroit, Mich., at $1.00 a year.

THE FORESTRY REPORT of the Kansas State Horticultural Society for 1885, is full of useful information that is worthy of the careful consideration of our people and government. The paper on the use and abuse of our forests is full of eminently practicable suggestions. It contains, also, a list of forest trees, deciduous and evergreen, recommended for that State.

THE HORTICULTURAL ART JOURNAL for May is embellished with four colored lithographs. As a handsome work for the library table it is without a peer among American horticultural publications, and we trust that it is meeting with the support it deserves. It is perhaps very difficult to catch the exact shade of color of the purple filbert, in this case the artist certainly can not be accused of having made the foliage more beautiful than in nature.

ALDEN'S LIBRARY MAGAZINE.—This popular Magazine, which, beginning with the month of May, was transformed from an octavo monthly into a handy, small quarto weekly, has taken other steps in the line of progress. No. 4 of the weekly issue appears in new and larger type, and also with the addition of a handsome cover. In its new appearance it becomes one of the most attractive magazines in the field, while it is beyond rivalry in economy of cost, $1.50 per year. From the amount and quality of the matter it presents it is commonly considered even superior to the great four-dollar monthlies. You can get a specimen copy free upon application to the publisher, John B. Alden, 393 Pearl St., New York.

CANON FARRAR'S NEW BOOK.—A few weeks ago, when Canon Farrar was in this country, tens of thousands of people paid as much as one dollar each to hear a single lecture delivered by him, and were well pleased with what they got for their money. Several of the most important of those lectures and addresses, with other papers, are now published by John B. Alden, of New York, and can now be had in a very handsome cloth-bound volume, for the price of 40 cents. Some of the lectures are also published separately in his *Elzevir Library*, in which form the lecture on Dante sells for 3 cents; on Temperance, 2 cents; on Ideals of Nations, 2 cents; Thoughts on America, 3 cents. The millions of intelligent people who admire Canon Farrar, and who were not able to hear him lecture, will be delighted to find his brilliant, scholarly, and eloquent thoughts placed in this handsome form within their reach. The publisher's illustrated catalogue, 132 pages, is sent to any address on receipt of 4 cents; or condensed catalogue free. John B. Alden, Publisher, 393 Pearl St., New York.

MY NEIGHBOURS GARDEN.

Up to the border of my small domain
My neighbour's garden stretches wide and sweet;
His roses toss against my window-pane;
His jasmine wreathes my porch and doorway seat.

My threshold every May is carpeted
With pale pink petals from his peach-tree blown;
His tallest lilac lifts its plumy head
Up to the casement where I sit alone.

Waking, I hear, as dawns the morning light,
My neighbour busy in his bordered walks,
Noting the added beauties born of night,
Pulling the weeds among his flower-stalks.

From early March, when the brave crocus comes,
Edging the beds with lines of blue and gold,
Till the consoling, kind chrysanthemums
Contend against December's cruel cold,

My neighbour toils with wise and patient hand,
Scarce pausing in his work for sun or shower,
Evolving gradually from mould and sand
The germ, the leaf, the perfect bud and flower.

A rare magican he—whose touch transmutes—
Helped by the sprites which rule the airs and dews—
Dry dormant seeds and dark unlovely roots
To graceful shapes and richest scents and hues.

His garden teems with glad and brilliant lives;
There wheel and dive the gauzy dragon-flies,
Bees gather tribute for their distant hives;
And grey moths flutter as the daylight dies.

Sparrows and wrens sing songs which need no words;
And over flower-cups scarce more bright than they,
Green-winged and scarlet-throated humming birds
Hang, tranced with sweet, then whirr and dart away.

From branch to branch, beneath my watching eyes,
His net a black and golden spider weaves;
And scores of many-colored butterflies
Waltz in and out among the dancing leaves.

My neighbour in their midst—thrice favoured one!—
Delves, plants, trains, weeds, and waters patiently,
Studies the alchemy of rain and sun,
And works his floral miracles for me.

For me! not one enjoys this Paradise
As I, within my overlooking room:
It is not seen even by the owner's eyes
At once, the whole wide stretch of growth and bloom.

With sight and mind absorbed he little thinks
How all his garden's sweetness drifts to me—
How his rich lilies and his spicy pinks
Send incense up to me continually.

Yet still he labours faithfully and long
My loneliness to brighten and beguile,
Asking for all this fragrance, bloom and song,
Not even the small repayment of a smile.

Unconscious friend, who thus enrichest me,
Long may thy darlings thrive, untouched by blight,
Unplagued by worm or frost! and may there be
No serpent in thine Eden of delight!

And ye whose spirits faint with weariness,
Count not you work unvalued and unkown:
Cheered by your toil, some silent soul may bless
The hand which strives not for itself alone.

ELIZABETH AKERS ALLEN

HOW TO MAKE ALCOHOLIC PLASTIC.—Melt 10 parts of white rosin with one part of beeswax. When thoroughly melted, remove the dish from the stove, and cool until the alcohol will not smoke, then pour in alcohol—continuously stirring—until the mixture, when cool, is of about the consistency of molasses in cool weather. We do not measure the alcohol, but pour in very slowly until the stirring cools the mass. For use in the graft-room it does not need warming. For use in the open air, we place the dish on the top of a lantern-like arrangement with a kerosene lamp under it, regulating its consistency by turning the wick up and down. If covered with a white rag, we do not find this plastic to melt in the sun to more serious extent than the common grafting wax. I will add that during the past four years we have met severe losses in grafting with wax softened with linseed oil —*Prairie Farmer.*

GRAPE NOTES.—Lady Washington is too late; Jefférson is also late though of of the first quality. It is worthy of trial where the seasons are longer than at the Rural Grounds. Vergennes is also a reddish grape, of fair quality, that keeps well. Eldorado is of superb quality and very early—but it is not a grape that will succeed everywhere. Moore's Early is the best early market grape. Eaton, will make its mark as an early black. The Niagara holds its high reputation for fruitfulness and healthiness. It is probably the best market white grape known at present. Jessica is a very early white grape of some promise. F. B. Hayes (white) is hardy and of good quality for a purely native grape. Ulster Co. Prolific, (let us call it Ulster) and Poughkeepsie Red, are in every way promising. Pocklington is inferior to several white grapes of recent origin. The Woodruff Red disappoints us. It is a large showy, red grape, but foxy.—*Rural New Yorker.*

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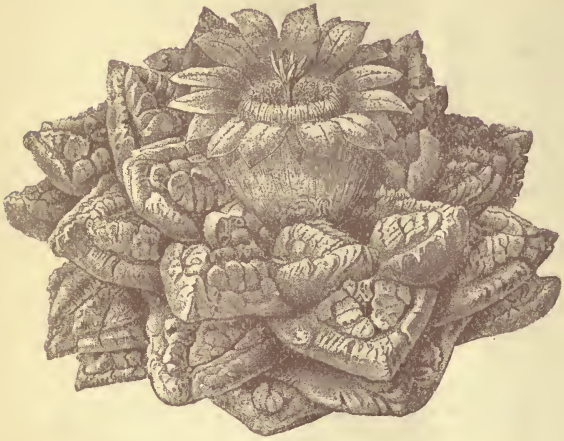
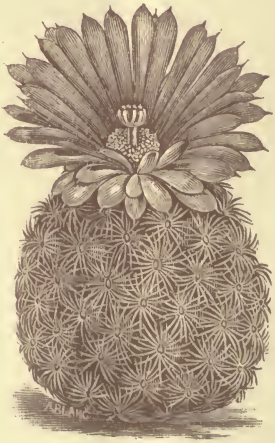
Specimens of Cacti.



Anhalonium fissurata.

Cereus colubrinis.

Echinocereus pectinatus.



Mamillaria pectinata

THE

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THE CACTUS.

A much needed service has been rendered to cultivators of the cactus by Mr. A. Blanc, of Philadelphia, Penn., U.S.A., in the publication of his catalogue of cactus plants, wherein is not only a full description of many valuable varieties, accompanied in many instances with engravings giving the appearance of the plants and of their flowers, but also hints as to their cultivation, in which full directions are given concerning the soil to be used, the temperature required, and the various details needing attention to secure success. Accompanying this neat little work was a letter from Mr. Blanc offering us the use of such of the cuts as we might wish, for the purpose of giving our readers a better appreciation of the appearance of some of these very curious and interesting plants, than can possibly be given by any verbal description. We have availed ourselves of this very kind offer, and present our readers in this number with a plate containing four different species.

To those who wish to grow plants in the house, the cactus family offers many varieties that will thrive in the dry and heated atmosphere of a room, where most other plants suffer and often perish. Besides, they are very patient of neglect. You may forget to water them for a month, and they will not show proper resentment by drooping and dying, but patiently wait for your return to thoughtfulness. They do not object to sunlight, nay the hotter and fiercer its rays fall upon them the better they thrive; so that if you can give them a shelf at the window, and heat enough to keep out frost in winter, with water when they are growing and blooming, they will almost take care of themselves the rest of the time.

The soil which they require is any good loam well mixed with sand, so that it shall be porous, and thoroughly drained. If the bottom of the pot be filled half way to the top with bits of broken pots, so much the better. During the winter they will need but very little water. Mr. Blanc says if the whole tissue of the plants seems to be plump and full, no water is needed; but, if there be the slightest approach to laxness, or a dulness in the surface color, then water should be given. In the spring and early summer when the plants are growing rapidly, they will require water twice or thrice a week.

In our plate will be found one species taken from each of four different genera, which may be considered as types, shewing the style of growth and of the flowers of each of these genera. And yet, so varied are the forms in each genus, that no one species will give any adequate idea of the numerous changes in appearance which are wrought out in nature, while retaining the same structural habit. Were we persuaded that any considerable number of our readers are interested in this department of Flora's domain, instead of only presenting them with an engraving of one species from each genus, we would devote several numbers of the *Horticulturist* to the illustration of these curious plants, giving a number of species from one genus on each plate.

The Mamillarias, which in our plate is represented by mamillaria pectinata, is an exceedingly interesting genus. Many species, says Mr. Blanc, resemble exquisite pieces of mechanism finished with the greatest minuteness and accuracy. Others would seem to have undergone a kind of crystallization, the whole surface being frosted over with star-like spiculæ arranged with geometrical precision, while yet others appear as if covered with finest gossamer. The spines of M. fulvispina are ivory white at the base, turning to purple towards the point, and regularly curved towards the top of the plant. M. senilis has such delicate spines that it resembles a ball of raw cotton. The flowers of M. pectinata as will be seen from the engraving are large, being nearly three inches in diameter when fully expanded. The exterior sepals are of a reddish green, the interior sepals yellow, with a dark midrib ; the petals of a beautiful sulphur yellow. M. pusilla has yellowish white flowers, with a red stripe through the centre of each petal. The flowers of M. Rhodantha are bright rose, and those of M. Wrightii are bright purple. It is impossible in the brief space at our command to give anything like an exhaustive description of the many species that are included in this genus, but enough has been said to shew that there is a great variety in the appearance of the plants and the color of the flowers.

In the genus called Anhalonium, we have some most curious forms. Perhaps the most interesting of them all is the one known as Anhalonium fissurata, an excellent representation of which will be found in our plate, so good, indeed, that further description is unnecessary.

We have selected one of the so-called Torch Cactus to represent the genus Cereus, a genus that includes some of the most wonderful and some of the most beautiful of the Cactus tribe. This genus embraces two distinct groups of species ; the one group grows erect, with rigid stems, some of them attaining a height of from forty to sixty feet ; the other group has slender, trailing stems. In the latter group is found the celebrated night-blooming Cereus, of most delicious perfume, yet as evanescent as it is beautiful, fading before the morning.

The genus Echinocereus is repre-

sented in our plate by E. pectinatus, which Mr. Blanc says is decidedly one of the very best for blooming that can possibly be obtained. Strong plants often bear twelve to fifteen flowers, and open four or five at a time. The flowers are large, often measuring three and a-half inches across, and are of a beautiful bright purplish pink, and very fragrant. Next in freedom of blooming is Echinocereus cœspitosus, which bears large purple flowers; some varieties bear yellow flowers, and others dark rose and shining crimson.

We hope to be able in some future number to give our readers further notes of this curious family of plants; meanwhile, anyone can procure a copy of Mr. Blanc's "Hints on Cacti," by enclosing to him the trifling sum of fifteen cents, addressing him at 314 North Eleventh Street, Philadelphia.

THE SUMMER MEETING

of the Fruit Growers' Association of Ontario will be held in the Town Hall, Lindsay, on Wednesday, July 7th, 1886, at ten o'clock in the forenoon, continuing through the day and evening.

An adjourned meeting will be held at Bobcaygeon on Thursday, the 8th of July, at one o'clock. The members will leave Lindsay at eight o'clock on Thursday morning, by boat, pausing at Sturgeon Point to inspect the vineyard of Mr. John Knowlson, and arrive at Bobcaygeon in time for dinner at noon. The meeting will continue until three o'clock. Members can then return by fast boat to Lindsay in time to take the evening trains east and west.

Members intending to be present can have rooms secured for them by writing to Mr. Thos. Beall, Lindsay, informing him of their wishes.

Members travelling by rail will please purchase round-trip tickets when leaving home.

The Directors will meet at eight o'clock on Tuesday evening, July 6th, at the Benson House.

The following subjects are proposed for discussion :—

SUBJECTS FOR CONSIDERATION.

1. *Strawberries.*—Time for planting. Hills or matted rows. Varieties for different soils. Name four of the most desirable varieties suitable for this locality; for market.
2. *Pears.*—Name four varieties suitable for cultivation here. What is the best mode of cultivation?
3. *Plums.*—Can plums be profitably grown here? What varieties? What insect pests are they liable to? What are the remedies?
4. *Apples.*—Why are there so many failures in our apple orchards? The right time to prune apple trees. Should orchards be cultivated after the trees commence to bear fruit? Are wind-breaks necessary? Aspects of orchards. Name ten varieties that can be profitably grown for market purposes here.
5. *Roses.*—Name twelve varieties suitable for general cultivation. Kind of soil most suitable. Insect enemies. Remedies.
6. *Tulips.*—Method of cultivation. Should the bulbs be taken out of the ground during the summer? At what time?
7. *Grapes.*—What varieties may be profitably grown in this county? The hardi-

est sorts. Method of planting and trellising. Comparative standing of white, red. and black sorts. How protected during the winter. The proper season for pruning.

8. *Hedges.*—Is the common native Spruce suitable? Black Spruce and Norway Spruce compared. Proper time to plant. How far apart. When to prune.

DOUGALL'S SEEDLING GOOSEBERRIES.

The *Rural New-Yorker* says that these have not proven mildew proof in the *Rural's* grounds.

REMEDY FOR MILDEW.

Put one pound of sulphur and one pound of lime in two gallons of water, boil down to one gallon; of this put one wineglassful into five gallons of water and syringe the plants therewith twice a week.

REMEDY FOR GRAPEVINE MILDEW.

Prof. Riley, writing to the *Rural New Yorker*, gives the following remedy for the downy mildew which usually appears on the under side of the leaves in the form of small patches of white down. Dissolve a pound of sulphate of copper in a gallon of water. In another vessel put two pounds of unslaked lime and pour over it a quart of water. After the lime is slacked add the solution of sulphate of copper and make the lime into a thin bluish paste, by mixing thoroughly. This mixture is to be sprinkled lightly on the leaves with a small broom, but not on the fruit. This downy mildew is most abundant in wet weather, and is known to botanists as Peronospora viticola.

THE SALOME APPLE.

Professor Budd is reported to have said, at the last meeting of the American Pomological Society, of this apple: "It is a very nice keeper, and good grower, and would generally be called hardy, though not as hardy as Fameuse, but more so than Ben Davis. It is of good quality; keeps well with ordinary care; rather small in size; season, in Iowa, January to March; about as hardy as Pewaukee which is more tender than Wealthy; better than Ben Davis, but smaller."

TO PREVENT GREEN-FLY IN THE ROSE HOUSE.

Spread a layer of tobacco stems two inches deep and ten inches wide the full length of the greenhouse and give them a dash of water when you are watering. The slight fumes constantly arising from the tobacco will keep the green-fly entirely in subjection.—CHAS. HENDERSON, *before the Florists' Convention.*

QUESTION DRAWER.

GRAPES IN PERTH COUNTY.

Can you please inform me (1) what kind of Grape Vines would grow best here (Perth Co). Our soil is loamy, and trees and vegetables do well. I have a Grape Vine, but it does not do very well on account of the frost. Also (2) which is the easiest and best method of producing new vines from a branch of a vine. (3). Should the soil be rich for grapes. (4). At what time of the year should a person plant branches for a new vine. Strawberries seem to do well here; also gooseberries and currants. We have two plums which are Yellow Gages; the frost has not hurt them yet, and we expect

to have a lot of fruit from them this year.

Thanking you for so much space in your valuable paper,

I remain, yours respectfully,

Kirkton, Ont. J. B. SPARLING.

REPLIES.—(1) Early Victor, Moore's Early, Linden, and Worden, of the black varieties; Lady and Jessica of the white; Massasoit and Brighton of the red.

(2) The easiest and best method for most amateurs is by layering.

(3) Grape Vines require rich soil and generous feeding if they are to yield fine fruit. However, they can be overfed as well as other things.

(4) The spring of the year is the best time to layer. Lay down a cane of last year's growth. If you wish to try cuttings, plant them in the spring, but take the cuttings from the vine in the fall.

CORRESPONDENCE.

REPORTS OF PLANTS RECEIVED.

My report of plants received since I last wrote. I think the Hydrangea was the last noticed, which unfortunately died. I believe the Moore's Early Grape was the next, and then the Worden. They both lived, but have not made much growth. Next, the Prentiss, did not much more than keep alive, but unfortunately my sheep were let in during my absence and ate off the first shoot it made when quite young, and this winter has finished it. I found it lifted clear out of the ground with the frost in the spring. I planted Concords the same year as the Worden. They have done splendid, nearly all fruited, and all in the same row; but one end was wet and cold. I did not know it then. I knew it was good land, and I happened to plant those three varieties on the cold end. Last year I got the Catalpa; it has done well and is living. I hope the Dewberry will do with me; I received it all right. The Burnet Grape, got some years since, never did anything, seemed all the time sickly, and at last it died. My Ontario apple is a fine tree and is full of blossom just now. There is a great show of blossom; trees and shrubs of all sorts are covered.

This winter has been rather mild; in fact the winters are never very severe in this section. I find the Deutzia crenata is not at all injured this year, but generally the top of shoots gets killed if not protected; and the Bignonia radicans I see growing up a brick wall is not in the least affected.

In looking over the March number of the *Horticulturist* (I think they are getting better and better), among the many flattering testimonials, reports and questions, there is one solitary grumbler, all the others speak very favourably of the premiums received. I find this miserable raspberry (the Saunders) that I have, an enormous bearer; a purple berry, rather soft and sour, but the quantity make up for the quality. I think, Mr. Editor, that forty-nine out of fifty would not want the change that party suggested, because the reports and plants we get are each often worth the price of the subscription to any interested in fruit-growing, besides the valuable magazine. In your reply to S. G. Russell in the April number you state that the Silver Maple does not throw up suckers. I find it the worst tree I know that way; it is worse than the common poplar. A subscriber (Walkerton), asks about the Japan Quince It is one of the hardiest shrubs grown in this section.

As regards R. L.'s question, my opinion is that the *Horticulturist* was never better, in fact it is improving all the time. I think your answer to George Sutherland, of Meaford, on the cultivation of the grape, is one of the best and simplest articles I ever read.

I found that the whey of milk, as recommended by Mr. McIntyre about two years since, a good remedy for the codlin moth, as I caught thousands, and hundreds of the small click beetles, besides a number of large moths. I found the first Tent caterpillars on the 22nd April; they are not very numerous this season.

WALTER HICK.

Goderich, Ont., 22nd May, 1886.

NOTE BY THE EDITOR.—Will Mr. Hick have the kindness to send to the office of the *Canadian Horticulturist* a few of the leaves of this Silver Maple that throws up suckers. He can place four or five between the folds of some soft paper and send them by mail at one cent for four ounces. We are very curious to see what kind of Silver Maple he has. We have been familiar with the Silver Maple for some half century, and do not remember to have seen any suckers thrown up by that tree.

PROSPECTS OF FRUIT AROUND BERLIN.

The coming season promises to be a fairly abundant one. Fruit trees, such as pears and apples, show well developed fruit buds. Biennial bearers, which carried little or no fruit, such as Golden Russet, Alexander, Duchess, and Red Astrachan, having had a year's rest. The same remarks may be applied to currants.

Now, if the season turns out as I anticipate, having had a steady, cold winter, I expect that the early summer frosts will be light, and not do serious damage.

I have understood from some of my neighbours who are in the strawberry line, that the plants wintered well, and with but few upheavals. SIMON ROY.

Berlin, April, 1886.

SOME HARDY PLUMS, AND OTHER FRUITS.

Having purchased a home of my own in that part of the City of Ottawa known as "Sandy Hill," I at once, in opposition to existing theories as to soil, climate, &c., planted in my garden several varieties of that best of fruits—the plum. I was partly induced to follow this course, from the fact that the former owner, some eight years before, had planted one tree—Pond's Seedling—which appeared to be healthy, and which I was informed had in former years borne some fine fruit. I have since added to my collection, and now have twelve varieties, some of which have fruited, and ten of which are now white with blossom, viz.: Huling's Superb, Pond's Seedling, Imperial Gage, Yellow Gage, Smith's Orleans, Coe's Golden Drop, Purple Gage, Weaver, a seedling Blue, and our common wild variety. All of these appear to be hardy, except the Golden Drop. One thrifty tree of this variety succumbed to the cold of '83-'84, and another, which last autumn gave great promise, has but a few blossoms. I would not advise anyone to plant it so far north. The Pond's Seedling is a good plum for this section of country. While not ranking with the best in quality, it is so large, and the tree so hardy, that it must ever prove attractive. With me it has proved to be a free bearer, having had three full crops in four years, and for two of which I had to prop up the limbs to prevent

them from breaking down with their load of fruit. In the spring of 1883 I grafted a young native tree with this variety, and last season picked therefrom nearly half a bushel of beautiful plums, many of which would not have suffered by comparison with those I saw at the Industrial and Provincial Exhibitions. I would strongly recommend this variety to all who may wish to grow fine fruit in spite of Jack Frost.

The Weaver is doubtless a near relative of our common wild plum, being as hardy, equally as prolific, and commences to bear quite as young. A small tree of this variety planted in April, 1882, bore its first crop last summer—somewhat over a peck of choice plums—which were delicious eaten from the hand. None of this variety were canned so that I am unable to speak of its cooking qualities, but I see no reason to regard it with suspicion in this respect. It must prove a profitable market plum as soon as buyers learn to distinguish it from the ordinary wild variety, to which it bears a striking resemblance. I also grow a blue plum, (a seedling) which for canning purposes is not excelled by any with which I am acquainted. It is a regular bearer, and quite hardy. The Imperial Gage, Huling's Superb, Smith's Orleans, and the German Prune also appear to thrive. The Lombard, which we are so often urged by tree pedlars to try has not proved hardy, dying back to snow line each season. To those in the East about to plant I would recommend Pond's Seedling for size and beauty, the Weaver for profit, and the Imperial Gage or Huling's Superb for quality. I cannot understand why the people of Eastern Ontario should grow those astringent little red plums, which are two-thirds pit, one-fourth skin, with just enough nutriment between to support a curculio during the earlier stages of its existence, when such varieties as I have mentioned above might be grown with little more care, and but a trifling additional expense.

GRAPES.

The excellence of the grapes grown in this section is well known to the horticulturists of the Dominion, and while the quantity produced, especially of the earlier varieties, does not equal the demand, causing us to import from points farther west, the day is not far distant when all this will be changed, and the fruit of the vines now being planted in the Ottawa Valley will not only monopolize the home market, but largely assist in supplying the requirements of a great and growing Northwest. Nearly all the earlier varieties are being cultivated. Such a diversity of opinion exists respecting the merits of the various kinds, that one can scarcely decide which is the best for general cultivation. Very much depends upon the soil, culture, &c. Then tastes, like doctors, differ, and when this is the case each must judge for himself. While on the whole I prefer the Concord, there are many who think the Brighton and some of the Roger's should occupy the first place. Any kind ripening after the Concord would be almost worthless to us here. I am cultivating over thirty varieties, many of which come into bearing for the first time this year, and about which I shall have something to say in a future article.

The Russian Mulberry, about which so much has been said and written, fruited (?) with me for the first time last season—that is, if the tiny berry is worthy of the appellation. It was too small to see without the aid of a magnifying glass, and as sour as a Champion grape in August. The tree was planted three years since, and was then about the size of a lead pencil.

It grew so rapidly that my garden was in danger of being wholly shaded by its branches. To avoid this I have just removed it to its proper place—the lawn. For a man blessed with only an ordinary city lot, and who is desirous of utilizing the major portion for a garden, the Russian Mulberry is not the tree he wants. But on the lawn it will give every satisfaction. It can be sheared to any desired shape. It will grow from a cutting almost as freely as a currant bush. It will grow faster than any other tree that I know except the "Balm of Gilead." It continues to grow until stopped by the frosts of October or November, consequently the tips winter-kill, but it makes up any loss so sustained by growing at the average rate of an inch in three days during the following summer.

Ottawa City. P. G. Keys.

BLIGHT ON THE PEAR TREE AND ITS PROBABLE CAUSE.

Various causes have from time to time been assigned to pear tree blight, some asserting that it is caused by a stroke of lightning, being led to this opinion from the sudden wilted appearance of the tree; others again hold with tenacity to the opinion that it is caused by a fungus, from the fact that such is frequently seen on the surface of the bark of affected trees; others again suppose it is caused by perforations of some insect which poisons the liber, hence its spreading upwards, while others nearer the point assert that it is caused by an open winter with alternate freezing and thawing.

Blight is without doubt caused by the action of the frost, but not, however, in winter, but in early summer. It is in the latter part of spring or in early summer that the damage is done, the ascent or flow of the sap being injured by frost, the cellular tissue and capillary conduits of the sap are ruptured immediately under the epidermis, which is usually thin, on such parts of the tree so affected; thus the sap becomes fermented, followed by decomposition and imparting a species of blood-poisoning to the limb. Other effects of a similar character may likely occur in the descent of the sap in the fall, it being overtaken by an early frost. Winter pears are very subject to this calamity in certain seasons, and some summer pears, which apparently had finished the descent of the sap, will, upon warm weather late in the fall, start another flow of sap, which is almost certain death to the tree. Against these two latter calamities I cannot advise any precaution. The first or blight proper may be averted by judicious management, either by the selection of elevated sites retentive of winter frosts in the ground, thus checking a premature flow of the sap until all danger of late spring frosts are over, or when low or flat sites are selected, with soil of a porous character, mulching is absolutely necessary for the same purpose.

I was on a visit to Hamilton some ten years ago, or perhaps more, and visited our old friend the Rev. Robert Burnet, and as a matter of course I was called into the garden to view his pear trees, in which he took much pleasure. I felt cheap when comparing his trees with ours in Waterloo County. The thrifty appearance and fine-looking fruit made me wish that I had a similar site. I then went over to Mr. Holton's, at the east end, and saw Mr. Springer's apparently fine dwarf pear orchard, which, of course, I very much admired. The following season I visited the same places and saw that the destroying angel had passed over, such was the complete character of the calamity. Partial destruction fre-

quently takes place and gives rise to the doubtful opinion that some varieties are blight-proof.

Waterloo County, or at least the greater part of it, is the most (or nearly so) elevated county in Ontario, and geologically is in the line of the glacial drift, hilly and broken, and contains a mixture of almost all soils, composed in part of boulder, clay, sand, gravel and alluvial soil strongly impregnated with calcareous matter, and from its elevated position we are more exempt from injuries caused by blight than any other county in Ontario, simply from the fact that the frost is carried off by the slightest breeze of wind and deposited in more depressed places. We here have generally a fair crop of fruit annually. Last year it was in excess and was almost a drug on the market; every grocery store was fully supplied with mostly Flemish Beauty and Bartlet, which are the popular varieties grown here. Some inferior goods were sold by the farmers (rather than to take them home again) at about the same price as apples, thus realizing the wishes of the border Scotchman who carried a banner in one of Gladstone's processions inscribed, "Down with the Peers," and when interrogated by a bystander why he did so, and being asked if the peers had done him any harm, wittily replied, "Naethin at a' mon, but we maun hae them doon tae the same price wi arpels, that's a'," peers being the doric pronounciation for pears.

I am very doubtful if pear-growing will be generally successful throughout Ontario and those parts of the States lying contiguous thereto, which are subject to late spring or early summer frosts.

The pear-tree is much more sensitive to external influences than the apple, and consequently requires more care in its cultivation. It must be borne in mind that the pear which we have in cultivation is indigenous to Asia Minor and Persia and cultivated varieties thereof, or rather seeds thereof, were at first introduced by the Roman conquerors of these countries into Italy.

Ontario climate cannot at all be compared to the fine, equable climate of the countries alluded to, so we must quietly submit to circumstances and endeavour to make the best of it.

You will observe that pears worked on the Quince are more subject to blight than those worked on the free stock. The reason of this is that the Quince, being indigenous to the Levant, will force into the pear a premature flow of sap, thus rendering the tree more liable to injury. Various nostrums have been advised from time to time as specifics, such as sulphate of iron, iron filings and chips, and even inserting sulphur into the stem of the tree—all of no avail. I once read an article by a writer on the pear strongly recommending the placing of iron filings around the base of the tree as far as the roots extended as a specific against blight, giving as authority an instance of what he saw in front of a blacksmith's shop at Vincennes, Illinois, which had been liberally supplied with the *debris* of the shop, thrown out, no doubt, during the winter, when in fact it had nothing at all to do with it save in retaining the frost later in the season; no doubt the unsightly mass would be cleared off in spring if only for appearance sake.

Having worked a number of pear trees for my own use at standard height upon rough wildlings, all appear to do well and are bearing fruit. They have as yet exhibited very little or no blight and have the advantage of a hardier stem than those which are grown from buds or grafts worked low down. Foreign or imported stocks are not likely as a rule to conduce to the

healthy base of a tree worked on any such system. Seeds from our own grown trees are preferable. There is plenty of natural fruit growing throughout the country adapted for this purpose; such seedlings will at least have one or more degrees of acclimatization in their favor.

As a rule you will find that pear trees of American origin are much better adapted to our climate than the generality of the soft-wooded foreigners are, and are likely to supersede them in the future. SIMON ROY.

Berlin, April, 1886.

THE CURRANT BORER.

In March number of the *Horticulturist*, I see Mr. E. Robinson, of London South, asks a question respecting the Currant Borer. Some years ago I was troubled with this pest. I cut off all canes affected and burnt them. I also dug or loosened the soil around the bushes with the garden fork for about two feet all round, in the spring of the year, and let in my hens. You would have thought they would have scratched the plants out of the ground; but they made a total clearing of the borer, so that I was not troubled with them for years after, and always had heavy crops afterwards. I attributed it to the hens hunting and eating up the larvæ buried in the soil.

WALTER HICK.

Goderich, Ont.

DEUTZIA CRENATA.

The Deutzia crenata received two years ago is not hardy enough to stand the winter without being covered. A year ago I put a barrel over it, putting in straw around it, it came through all right; last winter I thought I would try it by only putting some straw around it, but it froze down to the ground.

W. WALTAM.

Waupoos, P. Ed. Co., Ont.

DRY EARTH STORAGE.

BY P. E. BUCKE, OTTAWA.

Few of us are unacquainted with the mode of storing the white grapes received from Spain and Portugal in cork dust or chips. The grape itself has no particular merits in the way of flavor, but it has a thick skin, and is known as one of the fleshy varieties; it is therefore easily preserved. This grape is especially esteemed as a refreshing article of diet in winter, when close warm rooms are crowded with parched humanity. Could this grape be replaced by almost any of our own during the same season, and in the same profusion, its place would never be missed. Happily we believe we are on the track of a means which points to the end sought for. A Mr. Fraser Torrance, late of Montreal, has, it is understood, made a wonderful discovery as to a new substance for packing fruit. The article, like the cork dust, is both porous and dry. The substance alluded to is infusorial earth, and is composed of shells of a very minute microscopic animal which inhabits the water and liquids of various kinds. The shell is so small that thousands can be lifted on the point of a knife, and if placed upon the hand and rubbed with the finger, are so minute as to enter the pores of the skin. Yet each atom, as it were, is a shell formed of silica. It is claimed, and from the experiments which have been made and investigated by some of the most eminent men in this line in Canada it seems justly that fruit packed in this earth is kept at an uniform temperature, neither heat nor cold will readily pass through it. The air spaces in the shell act in a somewhat similar manner as the double windows on our houses in winter. It is well known that the dead air space keeps the heat from passing out or the cold from coming in. Considerable experiments were made

last autum by Messrs. R. Jack & Sons, Chateauguay Basin, near Montreal, who packed quite a number of varieties of grapes and apples. The cases containing them were inadvertently left out in a shed until the thermometer had fallen well below zero; however, when the box was opened the fruits were all in good order, the frost having failed to penetrate to them. The earth is perfectly inodorous, and imparts no taste of any kind to the most delicate substance.

Mr. Chas. Gibb, of Abbotsford, subjected it to the severest test that could be applied by packing some butter in it. It is well known that fresh butter is an absorbent, and is readily tainted by being placed in contact with any foreign matter. Even if it is put in a place where bad smells are detected, it immediately flavors the fresh article. After ten days the butter was taken out, and no trace of taste or smell could be discovered. Apples, or any fruit that can be readily wiped may be packed directly in the earth, but such fruits as grapes, currants, strawberries, peaches, &c., may be placed in paper bags, which should be packed in shallow trays in the earth.

Mr. J. F. Torrance has taken out a patent for his boxes, but the earth can be procured in Montreal at $1.50 per 100 lbs., by the bag. We gather from the Montreal *Star* that boxes holding 30 lbs., of earth can be procured of Messrs. Esplin, (Montreal), for 45c. each. If such men as Professor Sterry Hunt, Chas. Gibb, Robert Jack, and a host of others can be relied on, we must take it for granted that, so far as tested, it is a marked success.

HYDRANGEA PANICULATA.

The Hydrangea Paniculata came out all right this spring with a little straw around the roots. W. W.

Waupoos, P. Ed. Co., Ont.

CHERRY TREES AT YARMOUTH, N.S.

I tried Starr's Prolific Cherry many years ago, grafting two or three young stocks with it. The trees made a strong growth and attained considerable size, but failed to fruit, as do all varieties tested here now, from what cause I am at a loss to know. The trees grow well, blossom abundantly and set fruit, but before half-grown all drop off. I tried special top dressing, manure, sand, &c., &c., but at last gave it up and sawed off trees eighteen inches through.

In the earlier history of the county cherry trees succeeded, but nowhere in the county now. In some parts of the Province cherries do well, but it is mostly in very warm localities, and there may be some exceptional conditions of soil.

C. E. Brown.

Yarmouth, Nova Scotia.

PARIS GREEN.

It must be borne in mind that Paris Green is composed of two active dangerous poisons, viz.: Arsenic and Oxide of Copper, known chemically as Arsenite of Copper, and its use as an insecticide must be made with extreme caution and by a very careful person. It is certainly sure death to potatoe bugs and every bug.

In so far as its use to potatoes is concerned, it may be applied with impunity, as it will only reach the surface of the ground; but its use for other vegetables, and fruit-bearing trees and shrubs I would not advocate. As applied to cabbages it is extremely dangerous, and instances have occurred of persons being poisoned by it, at least they have imagined so.

Its use even on plum trees as a curculio remedy is at best a risk, even although washed off the fruit by rains it is not altogether cleared off the limbs, some of it will stick on without doubt.

Rather risk having all the fruit destroyed by insects than that one human life should be endangered.

White hellebore being a weak vegetable poison, answers a good purpose for rose slugs and currant caterpillars, and can be used with more safety, as it would require a large quantity of it to produce any dangerous results.

On two occasions I used a solution of bitter aloes on plum trees, with very favorable results in banishing the curculio; but such was its cathartic results to myself and others around that I was obliged to abandon its use, and adopted the safer plan of jarring and shaking the trees. Now I can save all trouble in this matter. I have only a few trees left out of thirty varieties which I prided myself on cultivating.

The plum trees around Berlin are verging on extinction, and I hope they will carry black knot and curculio with them.

SIMON ROY.

Berlin, April, 1886.

EXPERIENCE WITH PARIS GREEN FOR INSECTS.

MR. EDITOR,—I duly received the Early Victor grape and have carefully planted it. It is a fine little specimen and is now showing two vigorous shoots. I hope my experience with it will be more satisfactory than it has been with my other vines hitherto.

I have read the Report of the Fruit Growers' Association for 1885 with very great pleasure and, I trust, also with some profit. I was particularly struck with the experiences of the President, Messrs. McD. Allen, Hickling, Beall and others with Paris green on various kinds of fruit trees; so, a few days ago, having made the discovery that the currant worm, though exceedingly diminutive, had already began its ravages, I, in accordance with the experience above referred to, forthwith mixed "a teaspoonful of Paris green with a patent pailful of water," and syringed nearly every fruit tree I had, and since then I have not been able to detect the smallest sign of either gooseberry or currant worm, or any other grub which infests fruit trees; but, unfortunately, two or three days afterwards I saw something wrong with my gooseberry bushes; towards the lower part of the stem the leaves began to droop, then to shrivel, then to turn brown, just as though a sharp frost had struck them. We had not had any frost, so I feared that Paris green was the matter with them. I was loth to attribute the change to that, but other trees which had also been syringed with the mixture began to exhibit similar symptoms, until I could no longer resist the evidence before me that Paris green, and naught else, was the cause of the trouble, for the blight was invariably in the direction in which the stream from the syringe was applied, and the parts beyond, being protected by the foliage had always escaped injury. The damage done is considerable, though, if what I now see is the extent of it, it wont be serious, and I send you my experience that it may appear in the *Horticulturist* and may be useful to others.

My own impression is that the "teaspoonful"—a somewhat indefinite quantity—which I applied, is too large a dose, possibly two douches of half that quantity would have been in the end as efficacious and much less injurious to the plant; at any rate, I purpose to follow this course in future.

I may further add that the trees injured are, proportionally, in this order: gooseberries, black raspberries and pears; plums, apples, red raspberries, blackberries and currants, red and white, do not appear to be affected at all.

Yours truly,

J. L. THOMPSON.

Glen Cottage, Toronto, 18th May, 1886.

MONKEY'S PUZZLE AND OTHER TREES.

Some of the ornamental trees referred to in Eglinton's communication, in a late issue of the *Horticulturist*, may not be generally known here under the name given by him, such as Widben Pear and Monkey's Puzzle; but according to the description given, the first is the Pyrus ariæ, commonly known by the name of White Beam Tree, the name Widben being likely a corruption of the latter. The tree, as Darwin would say, is the connecting link between the apple and pear. The second, the Monkey's Puzzle, is, as far as recollection carries me, the Araucaria imbricata, which I have occasionally seen growing in very favorable localities in Scotland. It is not at all likely that Eglinton refers to the Gleditchia triacanthus, or Honey Locust. This tree is indigenous to America, and must be well known to him under its common name.

The first is not indigenous to Britain, although apparently so; and the second is a sub-tropical (or nearly so) tree; and neither may be generally suitable for our climate.

The other tree, or large shrub, referred to in T. B. Cotter's communication, is, no doubt, from the description given by him, the Amelanchier Canadensis, or June Berry; very common here around beaver meadows. When in blossom, it is very showy, and I should say very desirable, in a shrubbery. The flowers are in racemes, like the wild black cherry.

SIMON ROY.

Berlin, Ont.

WEIGELA ROSEA.

The Weigela passed the winter safely, with only a little straw thrown over the roots.

W. W.

Waupoos, P. Ed. Co., Ont.

THE BOUSSOCK PEAR.

In an orchard of 400 pear trees, I have about twenty Bussock, purchased some fifteen years ago, and now I regret that I did not plant a greater number of them; for the reason that the tree is a regular bearer, the fruit excellent, and fine in appearance. Another advantage is, the slug does not prey upon the leaf of the tree as it does upon that of the Bartlett and some other varieties. In order to reach the full excellence of the Boussock, it should be picked fully ten days before ripening on the tree, because if left on the tree to ripen the fruit becomes puckery and sour, and because of this peculiarity many have denounced the Boussock as worthless.—JOSEPH LANNIN, *in Michigan Farmer.*

THE "BLEEDING" OF APPLE TREES.

BY T. H. HOSKINS, M.D.

A recent writer says he has trimmed apple trees every month in the year, and has come to the conclusion that from May 25th to June 25th is the best time, because a wound made in the full flow of the sap will begin to heal immediately. He adds that March and April are the two poorest months to prune, because there will be a liquid "forming" (query, flowing?") out of the wound, which will kill the bark underneath the limb. Another writer insists that March is the best of all months to prune, because the sap is not then in motion, and the wound will dry before the sap starts, and that then the process of healing will go on most favourably, while anything but very light pruning in June will greatly weaken and sometimes kill the trees. Still another writer says, shortly and emphatically, "Prune when your knife is sharp," without regard to season. All these writers are orchardists of experience. Is there, then, no proper time to prune, or no way of intelli-

gently reconciling the seemingly contradictory views of these practical men?

WHY APPLE TREES BLEED.

A widening accumulation of facts does, in all disputed questions, tend towards the reconciliation of conflicting opinions. In the thirteen years that I lived in Kentucky I never saw an apple tree "bleed," that is to say, I never saw a flow of disorganized and blackening sap from the stump of a severed limb. In the first years of my orcharding in Northern Vermont, this so-called bleeding exhibited itself in nearly every case where a limb of any size was removed, no matter at what season the operation was performed. It was the most discouraging of my experiences at that time, and I could not understand it, or find a remedy for it.

About fifteen years ago, at a session of our State Board of Agriculture in the Champlain Valley, where this question of pruning and subsequent bleeding was discussed by many orchardists of that orchard country, one of the speakers dropped the casual remark that he had never known an apple tree that was not "black-hearted" to bleed, no matter at what season it was pruned. That thought was much more fruitful to me than my orchard had been up to that time, for all my trees were black-hearted, except the Siberians and Russians, which I at once remembered never bled, no matter when they were pruned. And at the same time I remembered that apple trees are never black-hearted in Kentucky.

THE CAUSE OF BLACK-HEARTEDNESS.

The state of black-heartedness in the apple tree is unquestionably the result of excessive winter's cold. In New England a large proportion of the most popular apples are grown upon trees that are more or less black-hearted. The Baldwin is always black-hearted in Maine, New Hampshire and Vermont, and frequently so in the three southern New England States. Along its northern limit it can only be grown when top-grafted on some hardier stock. With me a Baldwin tree or graft has never lived long enough to bear an apple.

Now if it be true that only black-hearted trees bleed, then the experience of orchardists must vary according to whether they are growing more tender or more hardy sorts. When I began, though I planted the hardiest known of New England sorts, yet almost all my trees became black-hearted in a few years. Now that nearly all of that class of trees have been uprooted from my orchard, and replaced by the "iron-clads," I see almost no bleeding, and when I do see it I know the cause. I do grow a few sorts that suffer some in this way (such as Fameuse), because of the excellence of their fruit. The Fameuse is with me about as hardy as the Baldwin in the upper Champlain Valley, and though the trees are short lived in both cases, they are planted because of the merits of the fruit.

WHEN TO PRUNE.

In my experience it makes no difference at what season a black-hearted tree is pruned, as regards the subsequent flow of disorganized sap, provided the limb severed is so large that the stump will not quite or nearly heal over in one season. This flow takes place during the whole growing season, and injures (often kills) the bark over which it runs. A tender tree, subject to black-heart, should be pruned very sparingly. Branches not too large to heal over in one season may be taken off, and the best time to do this is in June, as the sap is then too thick to flow freely. But *heavy* pruning in June is a severe shock to the tree, even to the hardiest kinds, and almost surely fatal to any tender sort. Fall and winter pruning is also injurious to

tender sorts, as the bark around the wound will be killed for some distance, and there is little hope that it will ever afterwards heal. But any of the varieties that never become black-hearted may be pruned "whenever your knife is sharp," remembering this, that June pruning is a shock more or less severe, according to the amount of wood removed. "Prune in summer for fruit," is an old and correct rule, for the very reason that the shock of summer pruning (like anything that weakens the tree) tends to cause the formation of fruit buds. The effect is much like that of root pruning, and both must be practised with moderation and judgment.—*The Examiner.*

THE ANIS APPLE.

In the summer of 1882 after wandering for days through the old orchards of the Province of Kazan, Russia—over one thousand miles inland and on the 57th parallel of north latitude—we expressed the opinion in home letters that the Anis family of the apple could endure lower temperature in a snowless region than any other really good variety of apples in the world.

The report then made, and the comments of Mr. Gibb and myself in more recent bulletins on northern fruits, have created an urgent demand for trees, both north and south.

As some of the varieties have now fruited on the College Farm and at other points in the state, and the comparative hardiness of the trees has been tested as far north and west as Bismarck, Dakota, and Western Manitoba, we can now determine very nearly the correctness of our conclusions, when studying the family in its natal home.

1. The habit of the pink Anis, blue Anis, and mottled Anis—the three best varieties—will not please our nurserymen, as root grafts three years old are low, bushy shrubs, rather than trees such as purchasers like best. Although it comes into bearing when very small it finally becomes in orchard a neat round-topped tree of the size of a full grown Tetofsky.

2. The fruit is oblate, basin very full and wrinkled, with considerable color and bloom. In size it comes nearly or quite up to the Fameuse. In texture it is firmer than the latter, but the flesh is equally white. Mr. Gibb, who is very critical as to quality of fruits, says, "It is really a dessert apple of fine quality."

3. The season varies with latitude and amount of summer heat. At Ames it is not later than Fameuse, but if picked early it will keep better on account of its thicker skin and firmer flesh. In North Iowa it should keep until mid-winter with good treatment, and in North Dakota it should keep until May.

In like manner in Russia it is a fall apple in the black soil sections where dent corn ripens, and a prime winter apple four hundred miles further north.

4. While the tree succeeds well wherever tried as yet, it is quite evident that it will prove most valuable at the far north, where the fruit will keep through winter.—J. L. Budd, *in Students' Farm Journal.*

THE GLADIOLUS.

There are few flowers more conspicuous than a well grouped bed of the gladiolus. Stately in growth, free of flowering, distinct in color, with a great variety of shades, no flower garden of any pretentions can be said to be complete without them. It belongs to a class of flowers that have changed greatly in the hands of the hybridizer and careful cultivator, and to the French, it may be said, we are the most indebted for the great advance made in this flower. In the olden time but few kinds were known. gandavensis being

one, and from which many of the present kind have sprung.

The colors comprise the most brilliant of orange, scarlet, and vermilion tints upon yellow and orange grounds, including many shades, from white and rosy blush, and salmon rose tints, to a salmon and nankin; from blush white, with purplish throat and marginal streaks of pink, to light rosy salmon grounds with flakes of deep carmine. Their period of flowering may readily be extended from July to September, by planting at separate times, from March or April to June. The earliest planted, however, should be the only ones from which the stock of bulbs are raised, as, although it does not materially affect the flowering by a late planting, it does not give time to perfect a large healthy bulb.

Ordinarily the simple increase of the bulb will be from two to three fold, which except in cases of great scarcity of them or new varieties, will answer all purposes, and such increase is strong enough to flower the next year. But in case of new varieties or a desire to get a large stock of any kind, the small bulblets found at the bottom of the bulb on taking up in the fall, are carefully preserved, and the next spring sowed in drills like unto seed, two or three inches apart and a foot in the rows, where during summer they will have made bulbs from the size of a hazel to that of a hickory nut.

A few of these will flower the following summer and all the succeeding one by this method. A stock can be very rapidly increased with some kinds; however, it will often happen that the choicest or best variety is a poor cropper of the bulblets. New varieties are the result of seed crossed with dissimilar kinds. Where the frost is not too severe or when snow keeps the frost from going deep in the soil, many of the kinds will often winter out of doors, but to secure the finest stalks and individual flowers they should be taken up in the fall, as soon as the frosts have destroyed the foliage, dried off so that the bulb frees readily from the stem, packed away in a moderately dry drawer or bag—kept from freezing, and planted again the ensuing spring. If left out of doors, of course the bulbs, by the natural increase, get crowded for room and a struggle for existence takes place, and a quantity of medium flowers is the result, instead of a stately stalk with very large individual flowers of the clearest and most distinct color. We have known them quite successfully grown as green-house plants, mainly, however, for cut flowers. They may be had this way in early winter by retarding the planting of the old bulbs until July, or in late winter, by the planting of the fall ripened bulbs before Christmas.—EDGAR SANDERS, *in Prairie Farmer.*

EXPERIMENTS WITH PARIS GREEN AND LONDON PURPLE IN THE APPLE ORCHARD.

Prof. S. A. Forbes read an interesting paper at a meeting of the Illinois State Horticultural Society, detailing some experiments made with Paris Green in the ratio of one and one-half ounces to four gallons, London purple in half that quantity, and lime in indefinite amount. It should be noted that, owing to the scarcity of apples and the abundance of apple insects, the season was most unfavorable to the success of the remedies.

All the trees were thoroughly sprayed eight times between June 9th and September 3rd, the Paris green being applied when the apples were the size of small currants, and the lime and London purple four days later. The fallen apples were gathered six times from July 16th onward, and those remaining were picked as they ripened;

all of them, both picked and fallen, 16,529 in number, were examined individually for insect injuries, and those due to the codlin moth and curculios were separately noted.

The examination of 2,418 apples from trees sprayed with Paris green, and of 2,964 others from trees not so sprayed, showed that 21 per cent. of the poisoned apples were infested with the codlin moth, and 69 per cent of those not poisoned, while 22 per cent. of the poisoned lot had been infested by the curculio, and 20 per cent. of those not sprayed. Thus, treatment with Paris green had been entirely ineffective for the curculio, but had saved something more than two-thirds of the apples, and it should be remembered that the Paris green not only protects the apples, but, by destroying the insects, lessens the amount of future injury. Analysis of apples one week after spraying with Paris green, a heavy storm intervening, gave abundant evidence that this insecticide could not safely be applied for some weeks preceding the harvesting of the fruit.

The comparison of 1,205 apples from a single tree sprayed with London purple, and 2,036 from a tree not so treated, showed that 49 per cent. of the former were affected by the codlin moth, and 59 of the latter. Also that 23 per cent. of the first lot of apples had been invaded by curculios, and 23.6 per cent of the second lot. The London purple thus saved about one-sixth of the apples which would have been sacrificed to the codlin moth, and was without effect on the curculios. Comparing these results with those of the Paris green experiment, it must be remembered that the spraying with London purple began four days later than with Paris green, and that only half the amount was used, though both were applied to the limit of serious damage to the foliage.

From a tree treated with lime, 1,706 apples, as compared with 1,825 apples from a check tree, show that 54 per cent. of the former contained the apple worm, and 50 per cent. of the latter, thus indicating the uselessness of this substance against the codlin moth. The curculios were entirely unaffected, and it may be fairly concluded from these experiments that it is useless to attempt to combat the plum curculio in the apple orchard by insecticide applications to the fruit.

As bands for traps serve only to capture the apple worm after it has done its mischief, and hence interpose only a general protection, and are liable to be rendered ineffectual by the neglect of one's neighbors, the use of Paris green will serve at least as a valuable addition to remedial measures. Since it may be safely applied only to the Spring brood, it is best to use both bands and insecticides, each measure supplying the deficiencies of the other.

Final Conclusion.—Attending only to the picked apples, and condensing our statement of results to the last extreme, we may say that under the most unfavorable circumstances Paris green will save to ripening, at a probable expense of ten cents per tree, seven-tenths of the apples which must otherwise be conceded to the codlin moth, that London purple will apparently save about one-fifth of them, and lime will save none. Furthermore, all these applications are without effect on the curculios in the apple orchard.

THINNING FRUIT.

When planted in good soil, good thrifty fruits will nearly always overload themselves, and in order to secure the best, smoothest and largest fruit, considerable thinning must be done; this is especially the case with grapes and tree fruits.

Choice apples, peaches, pears, quinces; in fact, the best of all kinds of fruit command the best prices and always sell. Oft times the market becomes glutted with poor fruits, and the prices realized are really below what it costs to produce them and sometimes they cannot be sold at any price, while at the same time the choicest and best are selling at a profitable price.

Too many fall into the error of thinking that by thinning they lessen the quantity so much that they prefer to let the fruit all remain. This is a mistake, as well as to think that by thinning they lessen the profit on the fruit. When a tree is heavily loaded, the fruit must necessarily be small and this will lessen the quantity; then the fruit being small will sell for a less price, and really cost more to sell, and you lose rather than make by not thinning. Then in addition, when a tree or vine is allowed to overload and mature the fruit it is a strain upon the vitality of the tree. Judiciously thinning fruit always pays; but it requires considerable courage when the trees are laden with young fruit to go over and pull off and throw away a considerable portion of the fruit. To one who has never tried it, at first it would seem like a waste; yet it has been tested sufficiently to prove its value.

The work of course should be done early, as soon after the fruit has set as possible. The longer the fruit grows after setting, the more waste of vitality of the tree, that should go to the other fruit that is left upon the tree to mature. It should be done as evenly as possible all over the tree, thin so as to give each specimen left as much room as possible. Close crowding makes ill-shaped fruit. If you have never been in the habit of thinning try a few trees first to see the effect, and in a majority of cases you will conclude that it is beneficial.—N. J. Shepherd, *in Michigan Horticulturist.*

THE SHIAWASSEE BEAUTY.

PROF. A. J. COOK.

The other night at tea, as we were all commenting on the delicious apple sauce, Mrs. Cook remarked that every family in the land ought to have one Shiawassee Beauty apple-tree. The sauce is of a beautiful pink color, and has a peculiar and delicate flavor that renders it a universal favorite. We are often asked what is it that gives the sauce the delicious flavor, and our reply that it is Nature's own flavoring stored up in the fruit, is often met with a very incredulous look.

This excellent apple is doubtless a seedling from the Fameuse or Snow, which it much resembles. The form and color, both of skin and pulp, are quite like the same in the Snow. It is larger, however, than the Snow, and keeps much longer. We have kept it well into January—is much fairer, as the tendency to scab and deformity, so peculiar to the Snow, is entirely absent in this. But the greatest difference is in its spicy flavor. While the Snow is pleasingly tart, it is remarkably tasteless. The Shiawassee Beauty, on the other hand, is one of the most marked or radical in this respect and its flavor is as delicious as peculiar. I have yet to find the person who does not esteem it highly. The tree is vigorous and spreading. Of several trees set out in my garden here in 1876, among which is a Duchess of Oldenburg and a Red Astrachan, none has made so large and fine a growth as this. It is not only vigorous, but it is very hardy. On my farm in the Shiawassee County, Mich., I have trees of this variety that have remained vigorous and hearty all through the several hard Winters of the last 15 years. It is a very persistent bearer, equal to the Duchess of

Oldenburg. My tree, set out in 1876, has borne every year for five years, and this year was a marvel of beauty, as it hung full of most beautiful apples, just such as I exhibited from it at Grand Rapids. I repeat the "*gude wife's*" words: "Every family ought to have one."—*Rural New Yorker.*

NEW PLANTS.

Among the new plants—new to me—which I have grown this year, there are two which I have found to be valuable acquisitions. The one is the Dahlia Glare of the Garden, and the other the bulb Milla biflora. These, of course, are not hardy, but are easily cared for during the winter season. Of the first, I have one planted out upon the lawn, which for nearly two months past has been continually covered with its brilliant flowers, never less than fifty and frequently over a hundred at a time. It has so little the appearance of a Dahlia that it has become almost a daily occurrence to have passers-by stop and enquire the name of the plant. The most vivid description of it was given the other day by one of a number of little girls passing by, who cried out, "Oh, look at that Christmas tree, in there, upon the grass." It is one of the Cactus Dahlia type.

Milla biflora has given, for a month past, an abundance of pure white, waxy, star-shaped flowers, an inch and a half in diameter and highly fragrant as the day closes. As a cut flower, for room decoration, it is particularly valuable, from the fact that it remains perfect for nearly or quite a week after having been cut. My bulbs were started in small pots in a cold-frame, and afterwards transferred to the open ground, but I presume the same treatment as required for the Gladiolus would answer for it.—*Vick's Magazine.*

A GLUTTED MARKET.

"This country around Keuka Lake," said Captain Smith Fairchild, who commands the little steamer Urbana, "is now one of the greatest grape growing regions in the world. The vineyards cover thousands and thousands of acres, clear from the edge of the lake up to the summit of the hills on every side of it. We ship thousands of tons of all kinds of grapes to the New York market every season, to say nothing of the tons and tons that we mash up into the best wine on the American Continent. But I can remember the first grapes that went from here to New York, and, although there wasn't more than 300 pounds of 'em, they glutted the market. That's a fact.

"Stanley Fairchild, my father, was a cabinet-maker, and Uncle Billy Hastings lived up on the hill yonder. Nobody had ever thought of raising grapes as a business, but Uncle Billy had some of the finest grape arbors that ever tempted a youngster. One fall his vines were so overloaded with grapes that he didn't know what to do with 'em. An idea struck him that it would be a good thing to ship a lot of 'em to New York. This was in 1847. There was no way to ship 'em except by lake and canal, and Uncle Billy thought the best way to do it was to pack the grapes in a barrel with cedar shavings. He brought a big cedar block to my father's shop, and told him to have it converted into shavings. I was a chunk of a boy then, and father set me to work with a plane to demolish that block. That put me down on the grape business at once, and I made a solemn wish that the steamboat or the canal-boat would sink that carried Uncle Billy's grapes, so that the business would end right there. I saw nothing bright in a future that had nothing in store for me but the making of cedar shavings. Well, I knocked that block into curly bits in

the course of a day or so, and Uncle Billy packed them in with a barrel of the nicest grapes that ever made boy's mouth water. They got to New York all right, and made a good sale. Uncle was delighted, and, like all speculators, wasn't satisfied. Nothing would do but he must send off another barrel, and he rolled another cedar block to my father's shop, and I was set to work to knock the spots out of it.

"If this industry keeps growing, I said to myself, "this part of the countary don't hold me."

"I peeled the second block down to nothing, though, and Uncle shipped his his second barrel of grapes to New York. Time went along, and one day Uncle got a letter from the party he had sent the grapes to. My father asked him how the business looked.

"Well," said he, "I made thirteen shilling clear on my first barrel, but my second one bust the market. It won't do to put too many grapes in the New York market at once."

"I went out behind the shop and howled for joy over the failure of the grape growing industry. But that pioneer shipment of Uncle Billy's set people to thinking, and now the New York market can't get enough of Hammondsport grapes.—*N. W. Sun.*

KING HUMBERT TOMATO.

I have been much interested in this variety, because it seems to offer a new type of fruit. So far as I know, this is the first strictly two-celled red Tomato that has been sufficiently large for table use. The two-celled Tomatoes are invarably smooth, and are usually earlier than the many-celled varieties, facts that should not be forgotten by the growers of new varieties of this vegetable.

The plant of the King Humbert is very vigorous and productive. The fruit is oval, slightly flattened longitudinally, and thickish towards the blossom end; very smooth; with neither cavity or basin, bright scarlet, about one-and-three-fourths inches in longest diameter, and two-and-a-half inches through the axis; borne in clusters of from five to nine. The flesh is remarkably thick and firm; so firm indeed, that fruits picked and placed in a dry room will shrivel like an Apple before decaying—"ELM" *in American Garden.*

RASPBERRY NOTES.

Shaffer's Colossal still maintains a high place among the newer raspberries. Its color is all there is against it, and that is a mere prejudice. Superb has never pleased us. It bears for a long time large berries, with large drupes that part or "crumble" too easily. It is not for market at all. The Marlboro' holds its place well. The berries are of the largest—firm, of a fair color and fair flavor. The variety seems quite hardy and strong. The Rancocas is *very* early, *very* firm and of medium quality. The plants are bushy and hardy. It ripens more berries in the early season than the Hansell. The Hansell is a less vigorous grower, less fruitful, though it ripens *few* berries the first of any red raspberry we have tested. Crimson Beauty is praised by some and not by others. It seems the flowers are imperfect and that the plants should be set among those of other varieties to insure perfect fruit. The berries ripen early and are of good quality. The *Rural* finds this the same as the Imperial, if we may judge the latter by plants sent us by Secretary Holman, of Missouri. The Cuthbert still holds its place as the best late red; the Caroline as the best very hardy yellow. The Montclair is an improved Philadelphia. It has never been advertised much and is not perhaps fully

appreciated. Lost Rubies has proven a failure, or nearly so.

The Gregg, among, blackcaps, is, at the Rural Grounds, not hardy. The berries are of the largest; quality poor It is late. The Ohio Blackcap gives the strongest and tallest canes of any. It is quite hardy. Berries rather small. This is far from new, but it is not well known.—*Rural New-Yorker.*

[NOTE.—It is somewhat surprising that the Gregg should not prove to be hardy at the *Rural New-Yorker* experiment grounds, when here, in the County of Lincoln, so much further north, it is only occasionally injured in exceptionally trying winters.—ED. CAN. HORT.]

BARONESS ROTHSCHILD AND MABEL MORRISON.

Among the many beautiful Hybrid Perpetual Roses, one which has played a conspicuous part for the last eighteen years is Baroness Rothschild, which was raised in France, in 1867. It is a large, full and well made flower, cupped form, and usually very symmetrical. The color is a soft rose, or light pink. It is a free bloomer, a vigorous grower, and one of the hardiest of the Perpetuals. It is an excellent autumn bloomer, and is highly prized as an exhibition variety. Its one lack is a deficiency of odor. The foliage of this flower stands up close around it, giving it a fine setting. The fine form and color, and the other good qualities of this variety should secure it a place in every good collection of hardy Roses. Baroness Rothschild is distinguished by the number of other fine sorts it has given rise to as sports. One of these, Mabel Morrison, has the characteristics of growth and constitution of its parent, varing only by its color. It is one of the most desirable of the white, or so called white, Hybrid Perpetuals. The flowers are beautiful in form, semi-double, cup shaped, usually a creamy white on first expanding, and then changing to a delicately tinted shade of rose, and in either aspect admirable in the highest degree. In the close setting of the foliage around the flower, Mabel Morrison even surpasses its parent, and this habit is an attraction of great value. It originated in England in 1878, and has not yet become known as widely as it deserves; one cause of this is probably because it does not grow freely from cuttings, and many professional rose growers in this country propagate in no other way. Some however, increase it, as well as several other varieties, by budding on strong-growing stocks, and in this way it makes a very satisfactory plant, if properly cared for.—*Vick's Magazine.*

LAWN GRASSES.

As to the grasses best adapted to soils and situations, it may first be said that a wet soil is hardly to be considered as a fit situation for a lawn; nevertheless there are places where a wet condition of the soil cannot well be avoided, and for such the best grasses are *Poa trivialis*, or Rough-stalk Meadow Grass, *Alopecurus pratensis*, or Meadow Foxtail, and *Agrostis vulgaris*, or Red-top. For average good soil I have had the best results from a seeding in about equal proportions, of *Poa pratensis*, or Kentucky Blue Grass, *Festuca duriuscula*, or Hard Fescue, *Agrostis canina*, or Creeping Bent, *Cynosurus cristatus*, or Crested Dog-tail, and the Pacey Dwarf Rye Grass. The two last named are especially adapted to light, dry soils, as they are deep rooted and very fibrous, and will continue green in the dryest of weather, even when the Kentucky Blue is apparently dead.

It is a great mistake to stint the

seed when making a lawn. Three or four bushels to the acre should be laid on, and fairly covered before rolling down. The small graniverous birds, especially the sparrows, will be sure to eat all the seed left on the surface.—*American Garden.*

GOLDEN QUEEN RASPBERRY.

The Golden Queen may be termed an albino of the Cuthbert or Queen of the Market, but whether a seedling or a so-called "sport" I am unable to state, as it was discovered growing in a patch of twelve acres of that variety in the summer of 1882, on my farm in Camden County, New Jersey. I was at once forcibly impressed with its merit from its vigorous growth, large size and beauty—on picking a few of the berries and tasting them, it is putting it mildly to say I was delighted. Since the day it was found I have employed every means of testing the variety with the object of determining fully its character; and from my experience with it I think it may be fittingly described as a variety of six cardinal virtues, viz.: 1. In flavor it rivals (some have pronounced it superior to) that venerable and highest in quality of all raspberries, the "Brinckle's Orange." 2. In beauty it transcends all other raspberries I have ever seen, being of a rich, bright creamy-yellow, imparting to it a most appetizing effect, both in the crate and upon the table. 3. In size it challenges the large Cuthbert. 4. In vigor it fully equals its parent—the canes attaining the dimensions of the Cuthbert or Queen, noted for its strong growth—and resists heat and drought even better. 5. In productiveness it excels the prolific Cuthbert. 6. In hardiness it has no superior. The past unprecedently severe winter several rows of it stood wholly unprotected at one side of a large field of the Cuthbert, all of which were so badly killed by the cold that I was compelled to mow them all to the ground, yet not a branch of the Golden Queen was injured. In addition to the foregoing, which is of less interest to the grower for the family supply, but of paramount importance to the grower for market, the berry is so firm that when pressed out of shape, it will, when turned out of the basket, resume its true form and not loose any of its juice, or, as is termed by fruitmen, "will not bleed;" also, if allowed to become over-ripe on the bush, it will not, as is usually the case with raspberries, drop to the ground as soon as the bush is disturbed, but retains a firm hold upon the stem. "What are its faults?" some one will ask. It would indeed be a novel fruit without any. And it doubtless possesses some. Yet I must say they have yet to be manifested, unless it would be desirable to have it ripen earlier. Its season is that of its parent.—EZRA STOKES, *in Orchard and Garden.*

THE LONGFIELD APPLE.

Prof. Budd: "There is one variety of Russian apples which has been fruited almost across the continent, which has exhibited many desirable peculiarities for places where something hardier than Fameuse is needed. The name, as nearly as I can give it to you in English, is "Longfield." The Russian name is "Longerfeldskoe." During the last three years it has been loaded with fruit with me, making an annual growth of 12 to 14 inches while thus bearing. It is longer than the Jonathan, about the weight of an ordinary Missouri Janet; yellow, with a blush nearly equal to that on Maiden's Blush; keeps through the winter at the north. It has been extensively tried, and I think it should now have more general notice. The quality is quite as good as that of Fameuse, which it resembles in texture. I do not, however, consider it among the hardiest of Rus-

sian apples, but it is hardier than the Fameuse.—*Rural New Yorker's Report of the American Pomological Society.*

BLANCHING CELERY WITH DRAIN TILE.

BY FRED. GRUNDY.

The experience of another season has served to confirm my faith in this practice. It is certainly superior to the laborious banking process when intelligently managed.

Celery intended for early use should be set in trenches about three inches deep, which should be kept open in all subsequent cultivation of the ground. When ready for blanching, all the small outside stalks are removed, because they are of no value whatever, leaving but three or four stalks around the heart. Three or four-inch tile are then set over the plants, and the earth banked up against them about eight inches high. This banking must be done to prevent the tile from becoming too hot in the sun, which they will do to the great injury of the confined plants. Later on, when the weather becomes cooler, banking with earth is not required. The celery blanches perfectly inside the tile, and comes out clean, white and crisp.

Our family is small, and a few stalks are all we require for a meal. To get them I lift the tile, break off as many as needed, in the same manner as rhubarb stalks are broken, replace the tile and the plant continues to grow and supply fresh, nutty stalks, until the ground freezes. Fifty good plants set in rich soil give us a full supply of this delicious vegetable, from the time it tastes good until Christmas. At the beginning of freezing weather the plants are taken up with some roots and earth adhering, set in a long, narrow box, containing about four inches of sand, and placed in the cellar.

I find Golden Heart Dwarf and Crimson Dwarf the most suitable varieties for this section, and I grow them exclusively. I use them with tile one foot long for bleaching. For the tall varieties of celery, tile eighteen or twenty inches long can be procured. —*Philadelphia Weekly Press.*

MEALY BUG.

We have tried various emulsions of kerosene oil for this pest, but with indifferent results. Alcohol, which is the basis of most insecticides for mealy bug, will do the work, but it is too expensive for general use. The imported preparation known as "Fir-tree oil" is by far the best and most economical remedy we have yet tried. It kills the bug and its eggs, and does no practical injury to the plants. In using the fir-tree oil or similar insecticide, it is better, when practicable, to dip the plants in the preparation. In my experience one dipping is as good as ten syringings, and much more economical. A common error in the use of all insecticides is the want of persistence in their use. It is much better to use a weak application of any insecticide frequently than a stronger dose of it at less frequent periods. For example, we have always found it more effective and safe to fumigate with tobacco smoke our house twice a week lightly, rather than once a week and more heavily.—CHAS. HENDERSON, *in the Country Gentleman.*

AUTUMNAL COLORED FOLIAGE.

All the gaylussacias and vacciniums (huckleberries, cranberries, etc.,) turn so brilliantly that for this reason alone they are worth a place in ornamental plantings. *V. corymbosum* (swamp blueberry) is sometimes ten feet high and six or eight feet in diameter. It is attractive in flower. The fruit is beautiful and tastes better than it

looks. Its habit fits it admirably for the formation of specimen plants, and in autumn it is fairly refulgent with glowing crimson. When it is remembered that this shrub is of the easiest cultivation, is it not strange that no one plants it? Will the time ever come when American planters will break loose from traditions of Old World gardens, and use the plants adapted to the American climate and American surroundings?—*Philadelphia Weekly Press.*

PLANTING BULBS FOR SUCCESSION OF BLOOM.

In planting my Dutch Bulbs I repeated a plan for successive cropping of flowers in the spring, on two small beds that in the past has usually pleased me greatly. These beds are only two feet across and lie conspicuously on each side of the front walk near to the steps. I set out Crocuses, Hyacinths and Parrot Tulips all in the same beds.

My way of planting was as follows: First, I dug up the soil well, mixing in some manure during the process, and after shaping up the top tramped it rather firmly. Then I dug out each bed exactly five inches below the surface. On this bottom fifteen bulbs each of Single Hyacinths and Parrot Tulips were set, and covered with a layer of two inches of soil. This new surface was for the Crocuses, and on it I placed six dozen imported bulbs, dividing the spaces between them uniformly.

Early next Spring there will be sheets of Crocus flowers over these beds. These will soon be followed by Hyacinth, and later yet will come along the Parrots.

After the Tulips are done, the same beds are planted with summer flowers, thus securing to me an almost perpetual period of bloom from March until October.—*Popular Gardening.*

JAPAN ANEMONE.

These plants are herbaceous perennials, with numerous radical leaves, and sending up leafy flowering stems a foot to three feet in height; these flower stems branch several times, each branch having a leaf at its base, and terminated by a flower. They are wonderfully hardy plants standing unprotected in the lowest temperature known in the Northern States, or from twenty to thirty degrees below zero, Fahrenheit. To produce the finest effects in the garden these plants should be set in masses, the two colors near each other, supported by a background of leafy shrubs.

As cut flowers for vases they are valuable, and they also serve an excellent purpose, when potted, in furnishing the greenhouse with flowers in the autumn months, when there are few other flowers to enliven it. The plants are easily increased by division of the roots.—*Vick's Magazine.*

THE JEWELL STRAWBERRY.

We have found this to possess more points of merit than any other we have ever tested, if we may judge by the experience of two seasons. The plants are very vigorous and free from disease. The berries begin to ripen June 12. The average size is large from the beginning until the end of the season—the form broadly conical, often flattened or widened at the top. The largest berries with us measured four inches in circumference. The color is a bright red, and the quality is very good, though not best. They are firm enough to ship to a distance. Its great claim to superiority rests in the vigor of the plants, the uniformly large size of the berries, and its productiveness, in which latter respect it is thought to stand first among all known varieties of strawberries.—*Rural New Yorker.*

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SOME INSECT ENEMIES OF THE ROSE.

So many inquiries have been made recently for some efficient and available means of combating the common, yet at the same time very injurious insects that prey upon the rose, that we have thought it might be acceptable to our readers if we should devote some space to the consideration of the habits, appearance and ravages of these insects, at the same time giving such suggestions as we may be able to offer for their destruction.

The Rose Slug has been very abundant for several years, and judging from the pertinacity it manifests in the work of destroying the foliage of our roses year after year, we have little to hope for in the way of relief from the labors of its natural enemies. This insect is one of the Sawflies, is known to Entomologists by the name of *Selandria rosæ*, and is described by Harris as a small fly of a deep and shining black color, the body of which is in the male a little more than three twentieths of an inch long, and in the female about one-fifth of an inch, while the wings expand about two-fifths of an inch. They come out of the ground during the month of June, at various times, not all at once. The females do not fly much, but may be found during the day resting on the rose leaves, and when touched they draw up their legs and fall to the ground. When about to lay their eggs they turn a little on one side, unsheath their saws, and thrust them obliquely into the skin of the leaf, depositing in each incision a single egg. The eggs hatch in from ten days to a fortnight, so that the young slugs can usually be found on the leaves about the twentieth of June. These have a round head with a black dot on each side of it, and eleven pairs of short legs. The upper surface of the body is green, paler on the sides, yellowish underneath, and the whole is soft, with a transparent, jelly-like appearance.

These slugs eat the upper surface of the leaves, leaving the veins and skin; thus giving the leaves a skeletonized appearance. When they are numerous, which has been the case now for several years, there will not be a green leaf remaining, and the whole rose-garden will look as if scorched by fire. When these slugs have attained their full growth they drop to the ground, burrow into the earth to the depth of an inch or so, form little cells in which

they pass the pupa stage, emerging again in the fly form to repeat their work of destruction.

In the summer of 1840, the Massachusetts Horticultural Society offered a premium of one hundred dollars for the most successful mode of destroying these slugs. Whale oil soap, in the proportion of two pounds of soap to fifteen gallons of water, sprinkled over the rose trees so as to wet the upper surface of the leaves as often as the slugs make their appearance, will be found effectual. The writer, however, prefers to use white hellebore, for the reason that a supply of this must needs be at hand to combat the Gooseberry Sawfly, and is equally destructive to this one when applied in the same manner. In using the hellebore it will be found advantageous to dissolve a little alum in the water, which will have the effect of making the hellebore adhere to the leaves. It is very important that the rose-grower be on the watch for this insect, and apply the hellebore or the whale-oil soap as soon as the slugs appear, for they work with great rapidity. Mr. Harris says that a second brood makes its appearance in August. We have not noticed this to be the case here, and we think that if the brood that works in the latter part of June and the beginning of July is thoroughly treated in the manner above mentioned, there will be nothing to fear from the August brood.

The Rose Leaf Hopper is a most provoking little pest, as agile as a flea, and as numerous as ever was the flea in Tiberias, where it is said that the king of the fleas holds his court. And a cunning little fellow is he too, for when he sees you approaching from one direction he will hastily dodge off in the opposite, and if you press him too close he will take to himself wings and fly. Entomologists call this insect *Tettigonia rosæ.* When it first appears it has no wings, is a small white creature, to be found on the underside of the rose leaves, with its proboscis thrust into the leaf, from which it is sucking the juice or sap. As they grow they cast their skins, which may be found adhering to the underside of the leaf, until arriving at maturity they are also supplied with wings. In the autumn they secrete themselves among fallen leaves or other rubbish, pass the winter in a dormant state, appear again the following summer, lay their eggs and perish. If they would only die before they laid their eggs; but then, they won't.

The remedies that have been found most efficacious are whale-oil soap, as recommended for the rose-slug, and tobacco-water. But in order that these may destroy the leaf hoppers, they should be applied when the insects are young. The gardener should be on the watch for them about the middle of June, this season they were abundant as early as the tenth of June. If allowed to grow they become at each successive moult more tough skinned, and less sensitive to the effects of the tobacco or the whale-oil soap. Poisons do not reach them, inasmuch as they do not feed on the substance of the leaf, but subsist by sucking out the juices, and in this way causing the leaf to turn

of a sickly whitish hue. It is only by the contact of the liquid with their bodies that they can be destroyed, hence it is necessary that it be thrown with a garden syringe upon the underside of the leaves. The late Geo. B. Ellwanger, in his most excellent treatise on the rose, says that he has found syringing the rose plants with pure water so as to wet the *underside* of the leaves, and then dusting on powdered white hellebore, will destroy or disperse them. We are at a loss to understand the reason of this, unless it be that, like some other creatures we wot of, they have a great aversion to pure cold water. The hellebore would not be likely to harm them. In preparing the tobacco-water some care must be used not to make the decoction so strong as to injure the leaves of the rose trees. If applied as soon as the young leaf hoppers appear, it need not be very strong of the tobacco. Senator Plumb, of Niagara, uses a light frame covered with cotton of sufficiont size to enclose the rose bed, under which he burns tobacco slowly, so as to smoke out this troublesome leaf hopper and all other pests of every kind that prey upon the leaves.

The Green-fly or Aphis is sometimes very troublesome even upon rose bushes in the open air. They have been exceedingly abundant during the present summer. We presume that our readers are all familiar with this little green plant louse, which gives birth to living young lice, which in turn give birth to others, which thus go on multiplying in more than geometrical ratio all through the season. In the autumn males are produced, and after pairing the females lay eggs, which remain over winter, and on the return of spring hatch only females. The natural enemy of these plant lice are the Lady-birds, which in the larva and imago state feed upon them. But they are not always on hand with sufficient promptitude, hence we are obliged to have recourse to tobacco-water or a solution of whale-oil soap to get rid of them. An occasional sprinkling with either will usually suffice to keep them in check.

The Rose Beetle, fortunately is not very generally diffused over the country. It seldom appears upon plants growing in clay soil, but seems to prefer light sandy soils. When they do appear it is usually in swarms, about the time the roses are in bloom, feeding not only upon the leaves, but also upon the flowers. The name given to this beetle by Entomologists is *Macrodactylus subspinosus*. It is a little more than a third of an inch in length, with long sprawling legs, and the joints of the feet armed with long claws. The general color is a yellowish grey. After they have been feeding about a month the males perish and the females enter the ground, lay their eggs, about thirty in number, which hatch in about three weeks, and feed upon such roots as they can find. Late in the autumn the larvæ descend to a considerable depth, it is supposed to be beyond reach of frost, but return towards the surface in the spring, and forming a little cell pass into the pupa state, from which, in June, the perfect beetle, or imago, emerges into the open air.

The best method of destroying them is that of gathering them by hand in the cool of the morning, at which time they are very sluggish, and putting them to death. Tobacco-water and whale-oil soap are of no avail in this contest, nor even white hellebore. Paris-green will kill them, but there may be danger in the use of this powerful poison in the rose-garden to those whom we would be most unwilling to harm.

These are some of the insect enemies of the rose, the most common in this climate and the most widely diffused. We trust our readers will be able to recognize them by the description given, and be able by the use of the means suggested, greatly to counteract their ravages.

LOUIS VAN HOUTTE ROSE.

We present our readers in this number with a colored illustration of what is considered by experienced Rosarians to be the finest crimson rose yet produced.

It was raised by Lacharme from seed of Charles Lefebvre, and sent out in 1869. It is usually of medium size, semi-globular in form, and highly perfumed. It is a very free bloomer. The plant is not quite as hardy in our climate as we might wish, but well repays the care needed to protect it from the severity of our winters.

EARLY TOMATOES.

Mr. Frank Evans picked the first ripe tomato in his garden, on the 5th July.—*Orillia Packet.*

TORONTO INDUSTRIAL FAIR.

We have received a copy of the Prize List for the next Industrial Fair, to be held at Toronto from the 6th to the 18th September. The book is very tastily gotten up, and contains cuts of different breeds of animals for which prizes are offered, and also views of the City of Toronto and its public buildings. Any of our readers desiring a copy can obtain the same by dropping a post card to Mr. Hill, the Secretary, at Toronto.

QUESTION DRAWER.

BARREN GRAPE VINES.

Dear Sir,—I have three grape vines come from the seeds in my garden: strong, healthy, in their third year. Two of them threw out some blossoms last year, and this year are quite full, but on each time the blossoms all fall off, leaving no fruit. They break much earlier than any other kind in my garden; and if fruited would, through being earlier and abundant, be very acceptable. The other gives no evidence of fruit. Can you give me any information relative thereto? I would like to hear from you, or from any of the readers of the *Canadian Horticulturist*, whether I may look for grapes from them. The bunches,—that is, in blossom,—shape like the Concord.

Yours truly,

H. M. Switzer.

Palermo, 21st June, 1886.

Reply.—It is quite possible that the flowers are only pollen bearing, being without ovary and pistil. In other words, only male organs are present in the flowers, and therefore no fruit will ever form. A neighbor had some seed-

ling grape vines which for several years bloomed most profusely, shewing large and most magnificently formed clusters, but no fruit appeared. Happening to be in his garden one season when they were in bloom, the writer was shewn these beautiful clusters, and asked if he could tell why they failed to set fruit. An examination of the flowers revealed the fact that there were no fruit bearing organs present, that the ovary and pistil were not developed, hence that it was impossible that fruit should ever be borne by these plants.

SLUG SHOT AS AN INSECTICIDE, &c.

DEAR SIR,—(1.) Have you had any experience with slug shot as an insecticide for apples and plums; and is it as harmless as represented, and as effective as Paris green? (2) Will the Muscat Hamburgh Grape ripen in a cold grapery? (3) Also please say how toad stools can be exterminated.

R.

Toronto, 23rd June, 1886.

REPLY.—(1.) We recently saw a report from a State Analyst to the effect that its usefulness as an insecticide was due to the arsenic therein. We have never used it. (2) In some seasons, but seldom full flavored. (3) Apply quick lime freely.

THE ROSE LEAF HOPPER.

DEAR SIR,—Have no cure for the little white insect that infests the rose bushes. I have tried everything, but so far without success. Could you refer me to any remedy: my roses are being killed out rapidly by the insects.

I am delighted with your *Canadian Horticulturist.* If, perhaps, had I attended to its contents a little more carefully, I would not now be asking for information to destroy the lice on the rose tree leaf.

Sincerely yours,

J. HAMER GREENWOOD.

Whitby, Ont.

REPLY.—Please see article in this number on some insect enemies of the rose.

THE CABBAGE MAGGOT.

Is there any remedy for the maggot in the roots of cabbage plants early in spring? It does great havoc here. What would a cure be worth?

WM. FLEMING.

Owen Sound, June 30th, 1886.

REPLY.—This maggot is the larva of a fly resembling somewhat the common house fly, and is known to entomologists as Anthomyia brassicæ. It is often very destructive to young cabbage plants, sometimes ruining the crop. Peter Henderson says that it is never troublesome in soils abounding in shell lime. If that be the case, it may be that a heavy dressing of lime from limestone would prove efficacious. English authorities advise the careful pulling up of all plants affected, and burning them so as to destroy the maggots in the plants, and the free use of quick lime applied to the spot whence they were taken to destroy any that might be in the ground. The writer has planted cabbage on the same piece of ground for several years in succession. In the two first seasons the fly was very troublesome. A dressing of wood ashes, and an abundant supply of stable

manure, have been the only applications made to the soil, and this year there has been no appearance of the fly. The probability is that the natural enemies of this insect have increased in sufficient numbers to keep it in check.

BLACK-KNOT.

1. Can the black-knot on the cherry tree be cured?

2. Are there any varieties not subject to black-knot?

W. T. WHITE.

Eglington.

REPLY.—1. We doubt if black-knot on either cherry or plum trees has been cured. The only remedy at present known is amputation as often as it appears.

2. We do not know whether there are any varieties that are exempt. We have not been troubled with black-knot on cherry trees, hence have not had any opportunity to see whether any varieties escape. Will our readers who have had experience on this point please to answer this question.

CURRANTS.

I send some currant leaves that have insects on them, and are turned red wherever these insects get on the leaves. What is the best remedy to use to destroy them and save the currants?

Yours truly,

W. C. ADAMS.

REPLY.—They are green fly. Give the currant bushes a syringing on the under side of the leaves with tobacco-water twice a week until you get rid of them.

CELERY.

DEAR SIR,—Kindly answer in next issue of *Horticulturist* the following questions:—

1. Do you think it necessary to have celery blanched before being stored for late winter use?

2. Would you describe a cheap root house for storing celery which you think would answer for this cold part of Ontario.

3. Would a root house made something about as follows answer: Ground excavated two feet below surface, then board two feet above, then on a frame six feet high twelve foot boards meet and slant down sides with windows, all of which is banked and covered with manure.

4. Describe the most approved method of keeping cabbage until late in spring, either in root house or outside.

By answering the above questions you will confer a great favor upon

Yours truly,

H. W. CAMPBELL.

Penetanguishene, Ont., June 8th, 1886.

REPLY.—1. It is not necessary that it should be blanched when stored. It will blanch afterwards.

2 & 3. Any house that will exclude frost and admit of ventilation when needed, and in which you can plant the celery close together and get at it as required, will do.

4. The usual method of keeping cabbage over winter outside, is that of a trench wide enough to hold two heads of cabbage abreast, placed in the trench with the roots up, and covered with earth in the form of a ridge. We have not had any experience of storing them in a cellar or root house, but in that case would plant the roots in the earth.

SMALL FRUITS.

Kindly inform me in next issue if convenient :—

1. Should I cut away the old wood from raspberry and blackberry bushes as soon as fruiting is over to enable the young wood to ripen.

2. Is it true that the first plant from strawberry runners will not bear fruit, and that the second must be allowed to grow for that purpose. I wish to grow some potted plants for setting out early, so they may get a good hold before winter.

3. I enclose you a leaf from a black currant bush. I have had a very promising crop of fruit almost totally destroyed by the pests which you will notice on the under side of the leaf, the leaves shrivel up, and then the fruit naturally follows suit. I have used a mixture of hellebore and sulphur, two parts sulphur to one of hellebore in a strong solution, but my bushes seemed to be worse after it. My crop for this year is gone, but can you tell me how to fight them another time. I have been told that a strong solution of soap, with a handful of salt to each gallon of water, is good, but I am afraid the salt may kill the bush. This is my first year in fruit raising, which may account for my ignorance on the above questions.

Yours, &c.,
C. H. Dunning.

Reply.—1. It is a good practice to cut out the old canes when the fruit has been all gathered.

2. We have no faith in that statement, but would take the first strong plant. Try it for yourself, and report to the *Canadian Horticulturist* next summer.

3. Your insects are aphides or green flies. Syringe with tobacco-water. The hellebore will be of no use, they can not eat it.

BLACK APHIS—LADY BIRD.

Dear Sir,—With this letter I send you, by parcel post, a package containing specimens of insects taken from a cherry tree and a black currant bush. Those from the cherry tree, small brown insects, have but lately appeared and are doing great damage. Would the kerosene emulsion be of any use against them? As for the insects from the black currants, I could not tell whether they were injurious or not, as the bushes had been badly injured by the green flies, before I observed them.

If they are injurious, please tell me of some remedy, and also one for the green fly. If this is too late for the July number of *Horticulturist*, please answer by mail. I have enclosed stamp for answer.

I remain, yours obediently,
John S. Warren.
Brooklyn, Ont., P.O. Box 5.

Note by the Editor.—The insects on the cherry leaves are the black aphis. They are unusually abundant this season over a very large extent of country. The remedy is an application of tobacco water with a garden syringe upon the underside of the leaves. Steep some tobacco in water until the liquid is of the color of strong coffee, and apply it abundantly every three or four days until the insects are killed. Those insects on the black currant leaves are the larvæ of one of the Lady-birds which feed on the green fly. Do not do them any harm, they are your friends; they are fattening on the green fly that has been so abundant on the leaves of your black currants this season.

CORRESPONDENCE.

GLASS PLUM.

The Glass Seedling Plum which I received from the Association was eaten down to the stump two seasons in succession, and afterwards made a strong growth of about four feet and was the only plum tree which stood the winter of 1880-81 with me out of about 104 of different varieties; it has since made a good growth, but has not yet borne any fruit. The Prentiss Grape and Fay Currant have both made a good growth

E. RICE.

London, Ont.

INSECTICIDES.

DEAR SIR,—I send you a paper containing an article on an insecticide called "Buhach." My reason for sending it is, that I had not before seen any reference to it in any of our horticultural publications. And if there is any better way of getting rid of insect pests than we now know of it would be an advantage to find it out. The insect pests seem to be unusually bad this year. The hellebore is effectual for the currant worm, but seems to have no effect on rose bushes. My neighbor, Mrs. Wade, says the aphis on her rose bushes seem to grow fat on it. The latter are very bad on my rose bushes, as well as the little white insect that lodges on the under side of the leaf. Latterly, I have been trying a weak solution of Paris Green and carbolic acid, but not long enough to know the result.

There is an insect powder sold by the druggists here at 10 cents per ounce (on enquiry, I was told a pound of it would cost me $1), that is produced from same species of plant that is referred to in the article above mentioned. The druggist showed the description of it in the U. S. Dispensatory, where it is called Pyrethrum anacylis, grown on Mediterranean Coast of Europe, &c. That grown in California is called Pyrethrum cinnerariafolium. It would be interesting to us outsiders to have this mentioned and discussed at some of the meetings of the F. G. A. I humbly suggest, and that is all I assume to do in thus bringing the matter to your notice.

I have been spraying my plum trees with Paris Green and carbolic acid. A teaspoonful of former and about two tablespoons of the latter (the carbolic acid is somewhere between the crude and refined), mixed in a pail of water, and sprayed on with a large syringe. I have only, on examination so far as I could reach, been able to find but one plum on each of three trees with the mark of the curculio on it. One of my trees is the Glass Plum, got from the Association some years ago. It is now a fine tree, some fifteen feet or so high, and spreading in proportion. It is loaded with fruit this year. It had not borne any the previous two years, but had a heavy crop in 1883; perhaps I allowed it then to bear too heavily. The fruit was very fine.

The frost nipped the young leaf buds of my Catalpa this spring, but it is now throwing out vigorous shoots. My dewberry, got this spring, is also shooting out nicely. Yours respectfully,

WM. DICKSON.

Parkhill, June 12th, 1886.

NOTE BY THE EDITOR.—The Green fly can be subdued by frequent syringings with tobacco water, say twice a week, until they disappear. White hellebore, buhach, Paris Green, and such like poisons, will have no effect on green fly, in as much as they can not be eaten by them, but the external application of tobacco water will kill them.

THE ABELE OR SILVER POPLAR—NOT THE SILVER MAPLE.

DEAR SIR,—As requested, I forward a few leaves of the silver maple grown here. The first I knew planted was in front of the central school, it made enormous growth, a great spreading tree, and on account of the silvery appearance of the under side of the leaves and the glossy surface of the upper side it became a great favourite, but after a few years people found it a great nuisance, because it suckered so much. Those at the school are all destroyed. There was several trees of it also planted on the court house square (so-called), but I see they are trying to get rid of them also. We have the silver poplar as well.

W. HICK.

Goderich, 8th July, 1886.

We are under obligations to Mr. Hick for his kindness in complying with our request that he would send us some leaves of the tree known in his vicinity as the silver maple, but which had the bad habit of throwing up suckers from the roots. It is very much to be regretted that this poplar, for it is one of the varieties of the poplar known as Abele and Silver Poplar, should have come to be called silver maple. It is not a maple at all, of any variety. The silver maple, known to botanists as *Acer dasycarpum*, is a very fast growing tree, much used for road-side planting, the leaves of which are bright green above and silvery white beneath, but not coated with such a thick covering of white, downy material, too heavy to be called pubescence, as is found in this poplar. They are also more deeply cut and sharper pointed than those of the poplar. We were greatly surprised, on reading Mr. Hick's previous communication, that the silver maple should be accused of throwing up suckers, and felt confident that there must be some mistake. We trust that he will do what he can to correct the impression that seems to have got abroad that this poplar is the silver maple. It is too bad that so useful a tree, one so hardy, so vigorous, so easily transplanted, so free from the fault of suckering, should have been confounded with the silver poplar.

The silver poplar which Mr. Hick mentions above as being also grown in his section, is doubtless another variety of silver poplar, possibly that known to botanists as *P. canescens*.

BEES AS HELPERS IN THE ORCHARD.

I would like to hear or read a discussion on the subject of whether an apiary, kept in the immediate vicinity of an orchard or fruit garden, produced any perceptible difference in the yield of fruit, in comparison to any other orchard or fruit garden not being in close proximity to where honey bees are kept, but having other equal natural advantages.

This question may appear to be ridiculous on the face of it, but I should think that it is important to ascertain.

We have much yet to learn of the secrets of nature, and what we have attained to is like a drop in the bucket, or the first step in the ladder.

The relations of the various kingdoms of nature to each other are but imperfectly understood. Goethe, the German poet, relative to the dawn of light entering into the human mind, illustrates it by the figure of a young man, with open book in hand, exclaims, as he sees the rising sun partially

obscured by a passing cloud, "Licht mäher licht yets" (Light, more light yet).

This is precisely what we want as horticulturists.

Yours truly,
Berlin, Ont. SIMON ROY.

[Will some of our readers please give the results of their observations.—ED. CAN. HORT.]

A SCENTED CLIMBING ROSE.

Perhaps you will think me a critic, but I beg to differ from you in your statement in June Number *Horticulturist*, page 132, where you state that all of the Prairie Roses are scentless. The Baltimore Belle, one of those you named, has a lovely perfume. If I thought it would retain its scent I would send you some of them, as they are now in full bloom and beauty.

W. HICK.
Goderich, Ont.

We have been into the garden and gathered some roses of the Baltimore Belle. There is more perfume than we thought it had, and certainly it can not be called scentless.

FRUIT PROSPECTS NEAR GODERICH.

When I sent you my last I stated that we had a great show of blossom, but we had frost at the time the apple trees were in bloom, and I find the apple crop is very light, caused no doubt by the frost. The small fruits, as strawberries, raspberries, gooseberries and currants, are very plentiful, and a lot of cherries; but, dear me, the cherry birds or waxwing is swarming almost, so that it has been a job to get a few cherries to eat, and the Robins take their share too. From what I see the plums are not suffering so much from the little turk this season as usual. We have had hot dry weather for some time, so that the land is much in want of rain.

Yours truly,
W. HICK.
Goderich, Ont.

ROSES—TWELVE GOOD VARIETIES, SOIL, INSECT ENEMIES, ETC.

Finding it impossible for me to attend the meeting of the Fruit Growers' Association in Lindsay, I will, here at home, make a few notes on No. 5 in the list of subjects for consideration. The subject given is, "Roses.—Name twelve varieties suitable for general cultivation, kind of soil most suitable, insect enemies, remedies." I presume the term "general cultivation" refers to out-door cultivation. The more experience I have with roses the more careful I become in passing judgment as to which are really the best. Three weeks ago everybody who came into my garden pronounced Baron de Bonstetten and Jean Liabaud to be the most beautiful of any, but the dry heat of the present time has sadly marred the beauty of these rich fleeting flowers, and less pretentious roses (which at the former time no one had a word of praise for), as General Washington, Annie Wood, Countess de Serenye, Francois Michelon, and other good stand-bys are now the noticed and admired ones. And I find that occasionally some of our best roses will not, for some cause or other, come up to their proper standard of excellence throughout a whole season. I would not like, therefore, to say, when such is the case, and when there is so many good roses to choose from, that the selection below is the very best that can be made, but it is a good one, and as good a one as I can think of just now. The list is,—Louis Van Houtte, Baron de Bonstetten, General Jacqueminot, Alfred Col-

omb, Annie Wood, Anne de Diesbach, Francois Michelon, Paul Neyron, Victor Verdier, La France, Madam Noman, and Coquette des Alps.

Some of these, I know, have faults, and quite serious ones, as Louis Van Houtte, Paul Neyron, Victor Verdier, La France and Madam Noman are all quite tender, and then again Louis Van Houtte and Madam Noman are also very poor growers, and Victor Verdier is scentless, and General Jacqueminot is not full, but all of these roses with the failings I have mentioned, have also other wonderful points of excellence of such a nature that they could hardly be dispensed with in a garden in which only a dozen kinds of roses are grown. These are all old well tried kinds and in the order given pretty well cover the range of colors from very dark to white.

Now, as to soil. In the first place have it so drained, naturally or artifically, that water will not stand for any period of time, at any season, even at the depth of the lowest root, as standing water will invariably kill the roots of roses. I think that the reason so many roses put in such an apparently sickly existence and produce such poor flowers is that the deep roots which are the life of the plant have all been killed in the winter preceding, by standing water. Rose beds are generally so small that it is better to go to the trouble to prepare them properly in the first place. The best way to make a rose bed is (after temporarily removing the surface to afterwards replace it again on the top) to dig out the subsoil, removing it to the depth of eighteen inches or two feet, and then fill up with sods and a little manure. Sod cut on good loamy soil is the best if it can be had. Care should be taken that it does not contain any larva of the May beetle. This can be avoided by cutting the sod before the frost is fully out in the spring. Although on heavy soils this cutting while the soil is wet (as it must be at that early season), tends somewhat to make the ground hard, I have found that filling with green sod and planting at once produces just as good results, as if the sod is already rotted, if there is sufficient friable soil on top to plant the young plants in.

As to insect enemies, I may say that I have never used anything but whale oil soap-suds and tobacco water applied with a syringe. These are, either of them, sure death to the thrip, and very aggravating if not quite death to the green fly. The thrip must receive its quietus at once when it makes its appearance, or else the plant is weakened and stunted and falls an easy prey to everything else that comes along. This season I have just syringed my bushes twice and now everybody asks, How do you keep your bushes so clear of insects? I reply that I don't do much but do it at the right time.

The rose thrip comes out of the bark of the rose early in spring, and when they make a move (which they do all at once), the rose shoots will look, when they are coming through the bark, as if covered with small white thorns.* At this time and for a week or two following is the time to thoroughly syringe the bushes. Most of the other rose pests deposit their eggs on the leaves about this time and soon after this, and my theory is that operating thoroughly at this time I not only destroy the thrip, but that the distasteful odor of the remedies used, prevent other insects from depositing their eggs in such numbers as they otherwise would.

Another reason for beginning early is that no one (even if it would destroy the insects as well) wants to be firing soap-suds and tobacco water into his roses when in full bloom. I would just

* NOTE.—This will be quite new to our Entomologists.

say here at the close, to any who would like to have roses and who are deterred from growing them on account of these insect bug-bears, that if you have already fought the Colorado Beetle with any measure of success, and if you will promise to take the same interest in your roses that you have already done in your potatoes you need have no fear of the result. F. MITCHELL.

Innerkip, July 8th.

BIDWELL STRAWBERRY.

DEAR SIR,—I have a Bidwell strawberry in my garden measuring six and one-half inches in circumference. Is that not very good for a Bidwell?

Yours truly, DR. A. HARKNESS.

Lancaster, June 28, 1886.

THE GREGG RASPBERRY AT PETERBOROUGH.

DEAR SIR,—Referring to your note in the July *Horticulturist* in reference to the Gregg black cap, I may say that after I have gathered what little fruit my Gregg's will bear this year, I shall dig them out. Though well sheltered and on well drained land they have winter-killed every season for four years, so as scarcely to yield anything. It is not more than a second quality berry anyway. Yours truly,

G. M. ROGER.

SOME HARDY SHRUBS.

DEAR SIR,—The dewberry is now doing finely and so is the Fay's Prolific Currant plant that I got last year; 1885 being my first year a subscriber to the *Canadian Horticulturist.* I like the *Horticulturist* very well and especially the Annual Report of F. G. A. of O. I have some plants that I think will prove hardy in most parts of Western Ontario. Daphne Cneorum comes out in spring completely covered with its sweet scented flowers and gives a few in right along until the fall when it is again covered with flowers. The Variegated Weigela also does well and holds its colour good. The Double White Deutzia requires a slight protection, but it well repays a little extra care. The Yucca plant stands the cold very good and the Hydrangea paniculata grandiflora is quite hardy and a very rapid grower, but the Rose is my favorite. I have not a great many varieties yet; about twenty different varieties and some good seedlings.

J. M. W.

Fernhill, Middlesex Co.

THE PEWAUKEE APPLE.

It is, as I am informed, claimed for this variety of apple that it is a seedling of the Russian apple Duchess of Oldenburg, having its characteristics as to hardihood, being dubbed an iron-clad, and its bearing qualities, with the additional recommendation that it is a winter fruit.

Now, with regard to its two first qualities, I will not dispute, but to the latter I object upon a scientific reason, and that, too, most decidedly, as inconsistent with the laws of nature which are the laws of order and never deviate.

It is well-known by botanists that the Duchess of Oldenburg is a development of the wild crab, a variety indigenous to central Russia and ripens its fruit towards the close of the season in that country and would therefore be in our climate nothing else than a late summer variety, and its succeeding progeny precisely the same; this also being the case with all varieties from that country, and, as a rule, all are summer fruit and cannot possibly be otherwise. To produce a winter variety from any variety of Russian apple would require a special suspension of the laws of nature and this does not often occur in this degenerate age.

Our winter apples have emanated from an entirely distinct variety of Pyrus Malus or crab apple, indigenous to Asia Minor, the season in that country being longer would naturally make in our climate a winter fruit and their successive progeny the same. The principal reason why winter apple trees are as yet tender in this country even after centuries of acclimatization they yet hold fast to the original conditions under which they emanated.

Our fall apples have no doubt their origin from the natural wild crab of western Europe, another distinct variety, and subject to the same natural influences and geographical conditions as the preceding, and are better fitted for our climate than the winter. I can easily understand that a late fall apple may emanate from the fertilization of any of the Russian apples with winter varieties as producing a medium or late fall fruit, but not a distinct winter fruit.

I will not go the length in stating that the party who put the Pewaukee under the auspices of the Duchess of Oldenburg as a winter fruit did this knowingly, but he is undoubtedly mistaken. I am yours truly,

SIMON ROY.

ORCHIDS.

SIR,—I am glad you are giving some attention to that beautiful class of the Orchid family, the Cypripedium. I think if florists gave as much attention to these as to some less beautiful foreign plants, they could be made to overcome any difficulty of culture that may at present exist, not that they could be made more beautiful for they are all that could be desired in that direction, its season of bloom might be extended, and if it were possible for you to have a coloured plate prepared of these lovely flowers for the front of the *Horticulturist* it would do much to awaken an interest in that direction. I give my experience with some of these plants which is encouraging to myself at least, and I hope it may be so to others. I see a reference to these plants under the caption of Moccasin Flower in the June number, page 133. in which they are said to be difficult of culture. I took one from its native bed in a tamarac and cedar swamp, Oakland Township, Brant Co., with a piece of sod adhering to it containing ferns and other plants, this was Cypripedium spectabile, the large white and purple lady slipper. I planted it in a shady spot in the garden in rich soil; I stuck a few cedar boughs around it and watered it the first season, allowing the ferns to grow around it as before and kept the ground around well hoed. I kept a look out for them to make their appearance next spring when I discovered a small plant two weeks earlier come out of the clump whose roots had been heretofore unnoticed in the sod, this proved to be Cypripedium parviflorum, the fragrant yellow slipper plant. I at once made another search in said swamp and found them in full bloom, this was about the end of May whilst the Cypripedium spectable had only sent up long shoots, it blooms June 22nd. I also found Cypripedium acaule, the pink or stemless lady slipper, this on higher land, more shady, black leaf mould, I planted them the same as before and they increased in size and beauty, and drew fourth exclamations of praise from those who saw them for three years, except the pink one, which disappeared and never came up in the spring. Last fall I took up a plant of each and packed them with my Dahlias and other plants and brought them to the State of Delaware, and after being in the case for over two weeks I set them out hurriedly, intending to have them moved to a more suitable location, but they remained and bloomed

nicely nearly a month earlier in the open ground in dry sand without water or shade, they were shorter in the stems and the flowers got a little burnt with the sun. I am trying another of the pink ones, Cypripedium acaule, which I found here in the woods. I lost the cardinal flower, which I grew about the same length of time, in moving. I intend giving them a suitable location this fall but they seem to stand as much hardship as most plants taken up when in bloom, but their great beauty amply repays for any little trouble. I have planted a number of the different honeysuckles found here, and the magnolias that have been in bloom for more than a month.

SAMUEL HUNTER.

Hartly, Delaware, U.S., June 22, 1886.

GOLDEN QUEEN RASPBERRY.

Mr. Lovett writes as follows concerning this new raspberry :—

DEAR SIR,—Wish you could come and see Golden Queen Raspberry, now ripening. It goes way ahead of all things raspberry that I have seen. Larger than Shaffer's Colossal ; as productive, and almost, or quite, as strong a grower. As beautiful as a May morning, and the flavor simply grand. Think it will keep in good shape for nearly a week yet.

Yours truly,
JNO. T. LOVETT.

This raspberry was found in a twelve acre block of Cuthbert in 1882. Mr. Lovett says that in flavor it rivals the high quality of Brinckle's Orange ; that the color is a bright, creamy yellow ; in size equal to the Cuthbert, and likewise in vigor of plant and productiveness, and that in hardiness it has no superior. It ripens at the same time as the Cuthbert.

THE PLUM CURCULIO.

BY B. GOTT.

The following item will serve to show the character of much of the teaching given by superficial experimenters :—

"There is no use in trying to poison the curculio by spraying plum trees with water containing Paris green or London purple. The little pest, which makes its crescent-shaped incisions in the plum, does not do it by eating in, but only *stings* the fruit. As it never eats in its perfect form, no poison can affect it. But if sheets are spread under the trees and the latter jarred, the curculio will drop off and can be easily caught and destroyed."

It may be true that there can be but very little urged against the practice of jarring the trees to capture the plum curculio, save that people, as a general thing, will not do it so as to be successful. In the first place they do not understand the time to jar, and so much of the mischief is done before they are aware that anything is the matter with their plums. Again, they will not practice jarring sufficiently frequent to save their plums. They may perhaps try this jarring once or twice sometime during the early stages of the fruit, and when the last plum has fallen off they are taken with a sudden fit of wonder at the mysterious providence that has not left them a tasting sample, notwithstanding their great effort to save them. Jarring, to be really serviceable, must be commenced as early as the fruit is set, and be closely followed up every day, or even twice a day, for at least three or four weeks, or as long as another curculio can be captured. This involves work, but nothing less than this is the price of plums.

To say that there is no use in spraying the trees with Paris green is not, according to my experience this summer, strictly true. I concluded to try it to find out how it would work. The

curculios, just after the blossoms were nicely off, were busily working in great numbers, and with a doggish perseverance. We got our spraying pump, and in a pail of water placed about a small tablespoonful of Paris green, and by rapid motion with a stick mixed the powder completely into the water, and proceeded to force the mixture on to the leaves and the fruit in liberal quantities, until the trees were pretty well besprinkled and bedewed in every part. The result was the insects were at once deterred in their work of biting the plums and laying their eggs in them. It seemed to stop them almost immediately. The philosophy of this may be apparent from the following considerations :—First, it is clear that the curculios do eat or bite the plums, and so may get some of the poisons applied into their systems while at work providing positions for egg-laying under the lip formed by their mandibles or pinchers. But secondly, it may be possible, and quite probable, that that indescribable something which we call instinct in insects, and which sufficiently guides them to the selection of those positions which will be safe and supporting to their young, and which also leads them to avoid those positions or influences which might be dangerous or deathly to their young, operated upon them at that moment and caused them either to leave the place at once or to stop their work of egg-laying in that position for the present. To make the thing comparatively sure we again applied another dose in about two weeks from the first, and the result is, we think we have the crop safe, and the great majority of the plums are now growing nicely and appearing very promising. The danger of poisoning from the use of plums so treated is entirely obviated by the frequent rains between the season of treatment and the time of using.

Arkona, Ont.

REPORTS ON PLANTS RECEIVED.

Dear Sir,—You will think perhaps that it is for want of interest in the Fruit Growers' Association that I have not acknowledged receipt of premiums, &c., but such is not the case, I value too highly your publication not to appreciate it, and I am too fond of fruit growing and horticulture not to appreciate your endeavours to place in the members' hands the newest and most reliable species of fruit and the choicest of shrubs and flowers. But to my report.

The Fay's Prolific I received last season made a magnificent growth and this year has a good sample of fruit and I am greatly pleased with it, and think it is the finest red currant I have ever fruited. The Lucretia Dewberry has not yet shown life, but the one which I got from an agent has thrown a few sprouts and I think it is all right, as also the Leib cherry and Schuyler Gage plum which have both shown good signs of vigor.

I have two shrubs in my front garden which I purchased years ago and had them flower successfully in Elora and on my removal to this place about five years ago I brought them with me and one, the Deutzia Crenata, had one spike of flowers last season and although it has more on this season it does not seem to be vigorous. The other, Wigela rosea, has never bloomed yet although it appears healthy, of course they suffer more or less from frost, and the climate of this country is not suitable, and as I have never seen it reported on from this section I would like information on the subject as it is a desirable shrub. I wish to ask also if the Hydrangea paniculata grandiflora is hardy enough for this locality, if so, give particulars as to time to set out, &c., and oblige.

Now that I have made a start I will try and have a talk with you more frequently to help promote the interests

of the *Horticulturist* and the society of which I feel proud of being a member. Wishing you every success.

I am yours truly,
J. GORDON.

Flesherton, Co. Grey, June 8, 1886.

NOTE.—We believe that Hydrangea paniculata grandiflora is hardy enough to endure your climate. Plant it in the spring.

Although I have been a member of the F. G. A. for some six or seven years, I have not yet sent my experience of plants received; partly because owing to removals I have lost track of some of the plants. The Wealthy apple and Moore's grape, I believe, have done well. The Worden and Prentiss vines are both dead, owing, I think, partly to insufficient protection, and partly because the place I am living on was new, unbroken ground, and the soil was not in fit condition. The Fay's Prolific currant, received last year, was broken when I got it; it rallied for a time, but is now dead. The Yellow Transparent apple, received this year, is doing well. I put out a few more Fay's Prolific last year, at the same time, and side by side with the premium one. They are all doing well, and some of them bearing. I am very pleased with the size of the currants; they are very large, and fine bunches. I also set out a few Raby Castle; these are also doing well, but the fruit is not so large as Fay's. At the same time, I planted a few Houghton Seedling gooseberries; they are growing well, and bearing good sized fruit. Two of the Large Golden Prolific, the new wild gooseberry which has been puffed so, and for which I paid one dollar a bush, are nowhere as yet; they are alive, but keep very stunted, and bore a few poor miserable berries, which nearly all dropped off; one Houghton is worth half-a-dozen of them. I planted six or seven Catalpa speciosa two years ago; they are doing pretty well, but the first winter the young wood was killed to the snow, and last winter some of them were, but not all. Your correspondent, "R. L.", on page 76, April number, complains of the present system of conducting the *Horticulturist*, the columns being open to all to give their experience in the various branches of horticulture. I must say I cannot agree with him. I think this feature is one of the most valuable in connection with the Association. I believe I can gather more useful information regarding what to plant, from correspondents living in Simcoe county or Muskoka, than you, sir, could give me from St. Catharines. With best wishes for the future success of the Association,

Yours truly,
J. J. R.

Penetanguishene, Simcoe Co.

PROCEEDINGS OF THE FRUIT AND VEGETABLE GROWERS ASSOCIATION OF THE UNITED STATES.

The Fruit and Vegetable Growers Association of the United States met at the Neil House, Columbus, Ohio, June 17, 1886. The meeting was one of unusual interest. The various papers read all embodied deep thought and research. The most interesting discussions were on the value and use of fruits, and regarding the best methods of preparing fruit for market and preserving it for family use. The opinion seemed prevalent that evaporated fruit was bound to obtain and hold the highest position in public favor. Not only is evaporated fruit superior in appearance, in flavor, in healthfulness and in keeping properties, but it commands a much higher price; ordinary dried apples are worth from two to two and a half cents per pound, evaporated apples from eight to ten cents. Com-

mon dried peaches are worth from three to five cents, evaporated from eighteen to twenty-two cents. Ezra Arnold, the Illinois fruit grower, presented drawings and specifications of a cheap evaporator made and used by himself with which he has had better success than with the more expensive dry houses and evaporators. He evaporated apples in two hours, strawberries in three hours, peaches in two hours, cherries in two hours, corn in two hours, and all kinds of fruits proportionately quick. The evaporator is a marvel of simplicity and excellence, and can be made by any one at a very trifling cost. By its use millions of dollars can be saved the producer and consumer each year. There are thousands of families that dry large quantities of fruit annually in the old fashioned slow way, and sell it at the old fashioned low price, when they could with but little expense make an evaporator and evaporate five times as much fruit and sell it for five times as much per pound. There are thousands of families in the cities that can at times, when the market is glutted, buy fruit for less than the cost of production, and with an evaporator can prepare in a few days sufficient fruit for a year's consumption, and at one-tenth the usual expenditure. Mr. Arnold said he did not intend to make or sell evaporators, and would consign to the Association his right and title to his evaporators, provided the Association would procure cuts to illustrate the different parts and distribute gratuitously among the farmers, fruit raisers and consumers of the United States complete illustrated directions for making and using this evaporator. On motion Mr. Arnold's proposition was accepted, and the following resolution adopted :

Resolved, That the Secretary of the Fruit and Vegetable Growers Association be authorized to inform the people through the leading newspapers in each State, that illustrated directions for making and using Arnold's fruit evaporator can be obtained by addressing our Secretary, W. Orlando Smith, P.O. Box 104, Alliance, Ohio; enclosing stamps for return postage, and that the Secretary draw on the Treasurer for the necessary amount to defray expense of wood cuts, printing, etc. On motion a vote of thanks was tendered Mr. Arnold for his valuable gift to the Association. —W. Orlando Smith, *Secretary*.

Since receiving the foregoing we learn from the *Country Gentleman* that the whole affair is a swindle. This is what the *Country Gentleman* says :—

A Curious Plan of Swindling.—Some little time ago we received, in common we suppose with most of our contemporaries, the following note, under the letter head of the "Fruit and Vegetable Growers' Association of the United States," bearing a long list of officers and directors :

Alliance, Ohio, June 19, 1886.

Mr. Editor,—I enclose a notice of the proceedings of the Fruit and Vegetable Growers' Association of the United States at Columbus, Ohio, June 17, 1886. Please publish it, and make such comments as you may deem proper to impress the importance of this subject on the minds of the people. Truly yours,

W. Orlando Smith, Secretary.

Knowing of no such association, and observing the suspicious character of the so-called proceedings, we gave the subject no further attention. But one of the editors of the *Evening Times* of this city had the curiosity to apply for further information, and we give below his statement of the result in slightly condensed form :

Enclosed was a fac simile newspaper proof, purporting to be a report of a meeting of the above named association at the above time and place. The whole "proceedings" consisted of evaporated apples. "Ezra Arnold, the Illinois fruit-grower," presented a drawing and specifications "of a cheap evaporator made and used by himself, with which he has had better success than with the most expensive dry-house and evaporators," &c., &c., He generously "assigned his right and title" in the evaporator to the association,

"provided that they would distribute gratuitously among the farmers and fruit-raisers of the United States, complete illustrated directions for making the evaporator." The "valuable gift." was accepted with thanks, and it was resolved that the public be informed through the newspapers, that for enclosed stamps the above W. Orlando would send the before-mentioned plans and specifications, free-gratis-for-nothing. We wrote to W. Orlando and enclosed a stamp. In return, we received a small printed circular containing "specificatious and diagrams of the Arnold evaporator." which the circular said "will enable you to intelligently make and use it: and the probable cost will be from $12 to $15 for a machine of 40 pounds capacity." The specifications, on the principle of *similia similibus curantur*, would work miracles in the Utica asylum. But fortunately there was a way out indicated by the "nigger in de meal." This was another circular by W. Orlando, saying:

"Since our meeting and publication of the specifications and diagram of the Arnold evaporator, there has been laid before our committee an evaporator made at Newark, O., made by the Common Sense Evaporator Co., which we find upon thorough examination, far superior to the Arnold, because it will evaporate quicker, do it better, and only costs $7 delivered to your nearest R. R. station, all expenses paid, which is only about half the cost to make the Arnold."

Thank you Mr Orlando, we think we will not invest to-day. We will stick to the old-fashioned dried apples until December, when if we happen to be at the Southern Hotel in St. Louis, at ten o'clock in the morning, we will look in and see if there are any greenhorns there who have tried the "Common Sense," Meanwhile we commend Mr. W. Orlando to the attention of the Post-Office Department.

PEARS AND BLOSSOMS AT THE SAME TIME.

Mr. F. Kean's garden contains a natural curiosity, in the shape of a pear tree on which can be seen at the present time, on one side pears fully formed larger than eggs, and on the other side blossoms still in full bloom. It is not a graft, either.—*Orillia Packet.*

[This is not a very uncommon proceeding on the part of some pear trees, nor are we aware that the fact that it is or is not a graft has anything to do with the performance.—Ed. Can. Hort.]

THE CODLIN MOTH AND BARK LOUSE.

Codlin Moth (*Carpocapsa pomonella, Linn.*)—This insect, though so well known as a larva—the "apple worm" is not familiar even to our wisest fruit growers in its mature or moth state.

In May, about two weeks after the blossoms appear, the female moth commences to lay eggs in the calyx of the blossoms. These soon hatch, when the minute larva eats into the apple and feeds upon the pulp about the core, filling the space with its fecal filth.

Some good observers argue that a single larva feeds in several apples. While it is hard to prove that this may not be true, I am sure that it is not always the case, and from my observations and experiments I have been led to believe that it was exceptional if ever true. One wormy apple placed with several others in a box has always remained the only one injured.

This spring moths continued to come from cellar or apple house till July. I have taken such moths July 4th on the screen of my cellar window. The whitish larvæ attain their full growth in about four weeks. This period will be lengthened by cold and shortened by heat. When mature the larva leaves the apple, which may have fallen to the ground, and seeks a secluded place in which to spin its cocoon and pupate. The pupa or chrysalis is much like those of other moths. The pupæ of the June and July larvæ are found in the cocoons soon after the latter are formed, while those of the autumn larvæ do not pupate till spring, but pass the winter as larvæ in the cocoons. The eggs of the second brood are laid in July, August and September. The

larvæ feed in autumn and often till mid-winter, while as just stated they do not pupate till spring.

REMEDIES.

As this is by far the most injurious pest of the apple, it should be widely known that we have a satisfactory remedy.

The old method of bandaging failed signally, as it required careful attention right in the busy season, at intervals of from ten to fifteen days. This was neglected and so the method was a failure. A better method was that of pasturing hogs in the orchard, which would eat the wormy apples, as soon as they fell, and thus save the fruit, and kill the insects. This remedy was imperfect, as many larvæ left the apples before they fell from the tree, and so of course escaped. To render this practice effectual, the orchardist must fell the wormy apples to the ground, before the worms leave them. As the mound of filth at the calyx end—which as the apple grows will hang down—shows which apples are wormy, it is not very dificult, with a forked stick, to remove all wormy fruit. This not only makes the hog remedy quite perfect, but also thins the fruit, which insures much finer apples.

Another so-called remedy which finds space in the papers each year, is to attract these moths to liquids, either sour or sweet, which are placed in vessels suspended in the fruit trees. It is said that sour milk and sweetened water will lure scores of these moths and drown them. This remedy, like that of attracting these moths by fires in which they will be burned, is entirely worthless. *I have tried both repeatedly, and with not a shadow of success.*

SPRAYING WITH THE ARSENITES.

By far the best remedy for this codlin moth, is to use either London Purple or Paris Green. The remedy is not only very efficient, but is also easy of application, and not expensive. I have now tried this thoroughly for six years, and in each and every case have been more than pleased with its excellence. Enterprising fruit growers of New York, Michigan, and other States have also tried it and are as loud in its praise as I am. Indeed, I know of no one who has tried it in vain.

I have found London Purple just as effective as Paris Green, and as it is cheaper, and rather easier to mix in the water, is to be preferred. White arsenic will serve as well, but from its color it is apt to be mistaken for some other substance, and may thus in the hands of the careless do great harm, and perhaps even destroy human life.

I mix the powder one pound to fifty gallons of water. It is best to wet the powder thoroughly and make a paste before putting it into the vessel of water, that it may all mix, and not form lumps. For a few trees we may use a pail, and Whiteman's Fountain Pump, always keeping the liquid well stirred. One common pail of the liquid will suffice for the largest tree. *A teaspoonful of the poison is enough for a pailful of water.* For a large orchard, common barrels should be used, and drawn in waggon. I prefer to have the barrels stand on end, with a close movable float, with two holes through it, one for the pipe or hose from the pump and the other for a stirrer. If very large orchards are to be treated a good force pump should be fastened to the barrel. In western New York the handle of the pump is attached to the waggon wheel, so that no hand power is required other than to drive the team and manage the pipe which carries the spray. The spray may be caused by a fine perforated nozzle or a cyclone nozzle. The finer it is the less liquid will be required. *The important thing is to scatter the spray on all the fruit,* and get just as little on as possible. The

larva is killed by eating the poison, and we find that the faintest trace suffices for the purpose. Again, the poison should be applied early, by the time the fruit is the size of a small pea. I have found one such application to work wonders. There is no doubt but that the first application, followed by one or two others at intervals of two or three weeks, would be more thorough, yet I have found one application, made early, so effective, that I have wondered whether it is best or necessary to make more than one application. I do think, however, that it must be early. In May and June the calyx of the apple is up, and so the poison is retained sufficiently long to kill most all of the insects.

One more count in favor of this treatment, is the further good we receive by killing the several phytophagous larvæ that attack the foliage of the apple at this early period when defoliation is so harmful. Thus the terrible canker-worm, the several destructive leaf rollers which even eat out the very buds, and that old pest, the tent caterpillar, are all made to bite the sod. Very likely, too, the plum gouger which so deforms the apple in Wisconsin may also find in this remedy its death warrant.

The danger from this practice I have proved to be nothing at all. The microscope and chemical analysis have both shown that all the poison has been removed long before we wish to eat the fruit. The wind no less than the rain helps to effect this removal, as I have shown by putting the poison on plants sheltered from all rains. Of course we should not turn stock into an orchard till a heavy rain has washed the poison from all herbage under the trees.

I am entirely positive that a knowledge and practice of this remedy throughout our country will save hundreds of thousands of dollars to our fruit growers. It will serve to give us the fair, perfect apples known to our fathers, but which have become lamentably scarce in our modern orchards.

THE APPLE TREE BARK OR SCALE LOUSE.

In many parts of our State the Apple Scale or bark louse is very common and destructive. This is often called the Oyster Shell Bark Louse and is known in science as *Mytilaspis pomorum, Bouché.*

Under the scales, from late summer till the following June, will be found scores of small white eggs, which resemble white powder, unless magnified. Early in June these eggs hatch, and the minute yellowish lice will be seen scattered about the trunk and branches of the tree. Soon they insert their beaks into the bark, sometimes into the skin of the fruit, and commence to suck the sap or juice. They now grow rapidly, and secrete a waxy, fibrous substance, which forms the growing scale, which will be fully developed by August, when the many white eggs will again be laid under the protecting scale, where, unless eaten by some parasite or mite, etc., will remain in safety till the coming June.

It seems strange that these small, almost microscopic, insects can do so much injury, as they often entirely destroy large, vigorous trees. Yet when we consider their numbers — almost millions, which almost cover the bark of the tree, it does not seem so strange. The scales of the male lice are rarely seen. They are found on both sides of the leaves, and are more symmetrical than the female scales. The males have two wings.

REMEDIES.

Parasites, Mites, and Lady Beetles all prey upon these fell destroyers, but though efficient aids, they are not always enough to exterminate the lice, and then the trees fall victims to these

ruthless suckers. I have seen trees in all parts of our State thus enfeebled or destroyed.

The old remedy, soft soap, or a strong solution of the same, will surely vanquish this enemy if it is applied in early June, and again three weeks later. I have proved the efficacy of this treatment over and over again. The trees at once put on new vigor, and in a short time only dead lice could be found. To apply this specific I know of no better way than to use a cloth and scrub by hand. To be sure we can, if dainty, use a brush like a shoe brush, but I like to go at it with a good cloth, when, with sleeves rolled up, I make pretty sure that no louse escapes.

For the past few years I have changed the substance by adding crude carbolic acid, which I think improves it, especially if but one application is to be made; and we know that at this busy season the second application is apt to be neglected.

I heat to the boiling point one quart of soft soap to two gallons of water, and while still hot thoroughly stir in one pint of crude carbolic acid. This may be applied as before. This carbolic acid mixture retains its virtue, I think, longer than does the soap alone, and so is especially desirable when but one application is to be made, as described above.

Like the arsenites, so this carbolic acid and soap mixture is of triple value. Not only does it kill the dreaded lice but it also keeps off the borers, which are also serious pests in the orchards. I have demonstrated beyond question that these enemies are surely kept away by the same treatment, applied at the same time for which we use it to ward off the scale lice. No wonder, then, that our trees put on such new life and vigor after this annual scrubbing.

In each of these remedies, then, not simply two but several birds are killed by the self same stone. It is to be hoped that many of our fruit growers will throw it, and thus secure fairer fruit.—A. J. Cook: *Bulletin of the Entomological Department, Agricultural College, Michigan, U.S.A.*

NOTES ON LATTER-DAY STRAWBERRIES.

Prince of Berries does not ripen evenly, and, though of good quality, will not be the berry for the million. Parry, its child, is earlier, larger, ripens more evenly, and is more prolific, though not so good in quality. Parker Earle, though the foliage is variegated, bears large berries and many of them. It is firm and of good quality. Lida offered this Spring at the modest price of $1 each plant, is a rich, dark crimson in color, of fine shape, ovate-conical, generally pointed at the tip. It is of fair quality. It is a berry of some promise, if we may judge from spring-set plants. Jewell, what shall we say of this? In size of berry, in evenness of ripening, in keeping up the size during the season, in shape, in productiveness, in vigor of plant it is all that could be desired. Could we add to its quality and a trifle to its firmness, it would be perfect. May King disappoints us as to earliness. But the plants are vigorous and productive, the berry of good quality, shapely and firm. It resembles the Crescent, but is larger. The Henderson is at the Rural Grounds, a disappointment. The plants are variable, some being quite strong, others feeble. They are not, at all events productive as grown with us. The berries mature as if protesting against ill-treatment, being variable in size and shape. But the quality is superb—in fact it is the best berry for one of its size that we know of. Were we to grow seedlings with the view of producing a *perfect* berry, we should strike for the quality

of the Henderson combined with the other merits of the Jewell.

Bonanza is unique. Of all harlequin-shaped berries, this takes the prize. The plants are marvels of vigor, the berries often of remarkable size, but no two alike, except as to a swan-like neck, a characteristic of all, The berries are furrowed, coxcomed, winged, upside-down, wrinkled, round, square, parallelogramatic, rhomboidal, and every other shape we have ever seen in a strawberry, except a regular heart shape. The plants are quite fruitful, the berries of good quality but generally hollow and mushy in the middle. Iron-clad is this year the earliest berry we have. The plants are thrifty and healthy. The berries are of medium size, about the shape of Crescent, firm and of good quality. We know of no better berry that is as early. Amateur is a variety with pronounced virtues and pronounced failings. The quality is better than that of Jewell. It is almost as productive, but the berries average smaller and softer. The plants are as vigorous as need be, but the leaves so o'ertop the berries, borne on slender peduncles, that the berries ripen, as it were, in a dense shade. The foliage of Connecticut Queen burns—the berries shrivel. Vineland Seedling is of little promise. Wonderful is of fair quality, medium-early, bright red, quite firm, variable in shape and size. Plants vigorous, but not remarkably productive. Queen of the Peninsula bears rather small berries, and is not worthy of introduction. Dimondale, also, had better be confined to the originator's grounds. Gardener's Colossal seems worthy of future trial. The berries are of fine shape, firm and good. Bubach No, 5 is promising. The berries average very large, bright red in color, variable in shape, firm and of fair quality. Iroquois we must not speak of yet. Bomba resembles Lida, but is not so prolific. Later in the season we shall again refer to the above berries, and to many others being tried this season for the first. Illustrations will accompany the best of them.—*Rural New-Yorker.*

BONES DISSOLVED WITH ASHES.

In dissolving bones with ashes, there are several things to be considered to prove successful. The ashes must be good; those of oak and hickory I find the best. Some say that wood grown on low land will not make soap, consequently will not dissolve bones. As I have always burned wood from off ridge land, I cannot answer for this. The ashes must be kept moist, just so they will not drain. They should be kept from freezing. If suffered to freeze, the process ceases. The smaller the bones, the quicker they will dissolve.

This is the way I have managed my bones for the last two years. As fast as ashes can be had, they are put in barrels, the bottom is covered with about six inches deep in ashes, then a layer of bones, then a layer of ashes, then a layer of bones, and so on, until nearly full, and then finished with a layer of ashes. I use two-thirds ashes to one of bone. The ashes are kept wet all the time with soap-suds or chamber lye. When one vessel is filled, I then put in another until I have all the bones used. If I still have ashes, they are barrelled away until near spring, then they are put in a hopper as if used in making soap. When I wish to use the bones, and I find them not sufficiently dissolved, I put ashes and bones in a large kettle; the ashes in the hopper are leached and the lye put on the bones and ashes, and the whole mass boiled until the bones are entirely consumed. The mass is now in a doughy state; this is mixed with loam enough to make it dry as wanted. It is now ready for use.

When lye is not to be had, this mass is boiled with water, but it is not so good and takes longer to dissolve the bones.

I have heard it said that caustic lime would dissolve bones as well as wood-ashes, but I have not tried it, and cannot speak from experience.—*Farm and Garden.*

THE ROBINSON PLUM.

The Robinson plum is one of the most promising of the new varieties. It was first introduced to public notice six years ago, when Dr. J. H. Robinson, in a paper read before the Putnam County Horticultural Society, described the variety, highly praising its merits. It was named after Dr. Robinson by this society. . . J. W. Ragan, in his report to Indiana Horticultural Society, 1881, says: "The Robinson bore one-third crop of good smooth plums, 12 trees yielding more than 25 bushels. Fruit slightly oblong, nearly round, with an indistinct suture; color, a pretty marbled red on a yellowish ground; flesh, when fairly ripe, very fine, almost sweet; juicy; when cooked it is one of the best (having almost no trace of that bitter astringency of some of the Chickasaw varieties), and very rich. This is from experience. A fine canning plum; seed very small. . . On the 19th of August, 1884, we went to Putnam county to see this plum in bearing, and there, on a Mr. Johnson's place, saw two hundred trees, which he planted two years ago, now six to eight feet high, and loaded with the finest fruit. Mr. Coleman, of same place, planted eleven small trees four years ago, now about two inches in diameter, eight feet high, and the limbs weighted to the ground and breaking with their load of fruit. Never saw such loads of fruit on small trees before; average more than one bushel to the tree. One tree which Mr. Coleman failed to prop and tie up was completely ruined (broken to pieces). On single limbs one foot in length twenty-eight plums were counted, and where there were spurs the number was largely increased. The tree is a good grower and is perfectly hardy."—*Prairie Farmer.*

A SMALL OUT-DOOR FERNERY.

There are but very few small gardens in the cities or in the rural districts where an opportunity does not exist for the making of a pretty hardy fernery. The north end of the dwelling house or barn may be turned to good account. If the surroundings prevent the use of such locations, a space behind the bushes, between them and the boundary fence will be found useful. Send a tiny, winding walk by one of the larger bushes into one of these neglected spots, and let the walk emerge at another convenient point. In selecting the position protection must be afforded from cold, blustering wind, and shade sufficient to break the direct burning rays of the sun. The free growing and larger species of Ferns will grow in any fresh turfy soil, with an admixture of sandstone grit and small stones. All silly or elaborate attempts at rockery making are unnecessary; all that is required is a rich sandy loam well mixed with the materials mentioned above. When they commence to grow after planting, daily sprinklings with tepid water are beneficial, adding, as they do, considerably to the freshness, health and beauty of the young fronds.—*Vick's Magazine.*

EXPERIMENTAL FRUIT GROWING.

The Abbotsford Fruit Growers' Association has lately made a distribution of 13 trees to each of its members to test their value on different soils. There were 315 apple trees of 52 varieties, including several long keeping Russian

apples, and 12 German late winter apples. Some were received from the Iowa State Agriculture College, others from Germany; also varieties imported by the United States Department of Agriculture, and odd varieties not obtained before.

Of pears, 63 trees of nine varieties, half of which were of the celebrated Bessemianka pear. Plums, 18 trees of three varieties. Cherries, 116 trees of 18 varieties, mostly dwarf forms of the Griotte or purple-fleshed Morello type. Some of these trees or bushes, not over three feet high, bore last year, and their blossom promises another crop soon.

This is not the first work of the kind done by the Abbotsford Association. Promising fruits are obtained and placed in the hands of the members as soon as possible. There are now growing at Abbotsford 97 varieties of the newer Russian and German apples; 59 varieties of Russian, Polish and German pears. A few Russian and many German plums, and promising North-West native plums, and 39 varieties of German and Russian cherries.

Such work must tell in time.

RASPBERRIES.

I have for several years been testing as to the hardiness and productiveness of raspberries. I would place them in the following order: Tyler, Doolittle, Ohio, and Gregg. The Tyler is very hardy and productive. The Ohio follows in good time, somewhat later, and it is a large yielder. The Gregg, the latest of all, and liable to be winter-killed, is only profitable on good upland and in protected situations. Of the red, the Philadelphia and Turner are perfctly hardy and yield a crop every year. The Cuthbert froze back to within two feet of the ground. It is a fine berry, but not as hardy as I would like. The Marlboro' wintered better. Shaffer's for six years has proved very hardy and productive. I have not lost a bush from any cause. Insects and blight, that affect black raspberries, do not trouble it. This is enough like a black-cap to be classed as such and to take their place, as it is gradually doing with those who know its worth. Were I to confine myself to one berry it would be this. There are no suckers which with many varieties of the reds, are as troublesome as weeds.—*Rural New-Yorker.*

PROLONGING THE SEASON OF THE WINTER NELIS.

AN IMPORTANT SUGGESTION.

In '82 I put cions of Winter Nelis into four pear trees that had been in bearing about 10 years. Three were Flemish Beauties, the fourth a Bloodgood. Last October I gathered about three pecks of fine Winter Nelis pears from the Bloodgood, and about a barrel from the Flemish Beauties. There was no perceptible difference in size or fairness, but those gathered from the Bloodgood were green, while the others were yellow-brown. The two sorts were kept separate. The Flemish Beauty Winter Nelis all ripened before the end of December. The Bloodgood Winter Nelis kept through January. In other words, the season of this delicious pear was prolonged a full month. In the grafting about one-third of each tree was changed. I had previously noticed that in a list of 25 varieties, the Flemish Beauty was the first to stop growth and drop its leaves, while the Bloodgood continues growing and holds its leaves very late. My experience, unless exceptional, points to an easy way of prolonging the seasons of choice late pears, and possibly of earlier ones.—A. D. Morse, *in Rural New-Yorker.*

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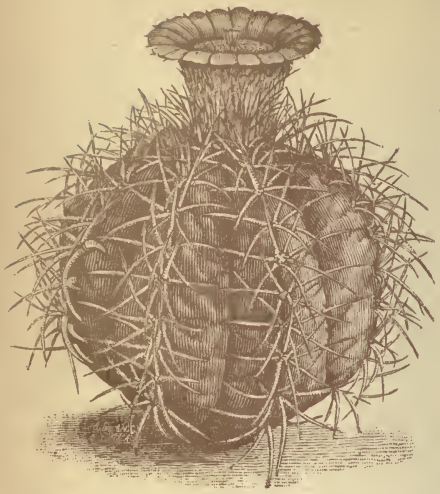
Specimens of Cacti.



Echinocactus horizonthalonius.

Mamillaria decipiens.

Epiphyllum truncatum.

THE

Canadian Horticulturist.

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SOME INTERESTING SPECIES OF CACTUS.

In a former number we called attention to the Cactus tribe as presenting some very remarkable forms of plant growth, such as were full of interest to every lover of nature, and at the same time yielding flowers, in many instances exceedingly beautiful in form and coloring, and often of most delightful perfume.

In this number our readers will be pleased to see a few more examples drawn from nature and engraved by Mr. Blanc, of Philadelphia, who has given much attention to the study and cultivation of this unique family.

Mamillaria decipiens—He has found to be very easy of cultivation, enduring rough usage, and yielding in abundance its very large yellow flowers, which last for several days.

Echinocactus horizonthalonius—Is a beautiful species found growing in strong soil at the summit of hills. The flowers are funnel shaped, of a purplish pink color, the sepals being tipped with a darker shade of purple, producing a very pretty effect. The stamens are very numerous, and the contrast between the yellow anthers and the white filaments which support them gives a very pleasing appearance to the flowers. This variety is also very easy to grow and is one of the finest of this genus.

Epiphyllum truncatum—Is probably more frequently met with as a window plant than any other variety of Cactus. The plants of this genus are of a free, quick growth, hence they soon attain to a considerable size; being profuse flowering, and the flowers marked by many rich and bright shades of color, they are attractive objects for a considerable length of time.

Mr. Blanc gives the following directions for their cultivation. "The best "system is to employ a small proportion "of manure, say one fourth of the bulk "of the soil, and to give what further "assistance may be needed either in a "liquid state or as a top dressing. The "Pereskia, upon which Epiphyillums "are usually grafted, is a strong root-"ing, and quick growing plant, absorb-"ing moisture and nutriment from the "soil very rapidly; therefore when it "is bearing a large head of Epiphyllum "the assistance afforded should be of a "most liberal character, and it is only "by such means that the finest and "most abundant flowers can be pro-"duced. After flowering, the soil may "be allowed to become partially dry

" for a few weeks, only giving a little " water to prevent the branches from " becoming flaccid. As growth is re- " sumed the water supply may be in- " creased, and with occasional syringings " progress will be rapid in a suitable " temperature. As much depends upon " a thorough maturation of the growth, " the plants must at all times have a " position fully exposed to the sun, as " they never need shading, and with pro- " per attention to ventilation to avoid " rendering the growth weak, good re- " results may be confidently expected."

THE ANNUAL MEETING.

The annual meeting of the Fruit Growers' Association of Ontario will be held in the Council Chamber in the city of Toronto on Tuesday evening, the 14th of September, 1886, at eight o'clock p.m. The President will deliver his annual address, and the officers for the ensuing year will be elected. The Directors will meet as above, at 7 p.m. sharp, as business of importance is to be transacted. Full attendance requested.

QUESTION DRAWER.

EUONYMUS.

Dear Sir,—I herewith send you some leaves of a shrub which I have growing in my garden with the request that you give the name through the columns of the *Horticulturist.*

The shrub in question was a present from Mr. Wm. McArthur, of Dungannon, Ont., about a year ago, and was potted when received.

During last fall and winter it made no growth whatever, and in the spring I transferred it to the garden, and it has grown amazingly this summer.

Mr. McArthur believes the shrub to be a species of "Japonica." It does not, however, resemble in the least any specimens of "Japonica" which have yet come under my notice.

Please state whether the shrub is sufficiently hardy to remain in the garden throughout winter.

Robert Harrison.

Ashfield, Co. Huron, July 22, 1886.

Reply.—They are leaves of an evergreen shrub, not hardy in our climate, introduced from Japan. It is known as "Euonymus Japonicus variegatus," the variegated Japanese Euonymus. It will not be likely to survive the winter if left in the garden.

THE DEVONSHIRE CURRANT.

Dear Sir,—I send you to-day a specimen of a new Hybrid Currant, which I name "The Devonshire," it having originated in Devonshire, England.

It is a cross between the Black and the Red Currant. In England, where the Black Currant was more or less subject to mildew, *this* did not mildew. It is claimed for it:

1. To have the black currant flavor and "medicinal qualities."
2. To have the same freedom from "currant-worms."
3. To be much *sweeter* and *milder.*

A fair test of "No. 3," would be to taste it *along with the Black.*

I am bringing forward two or three hundred cuttings, and hope the "Devonshire" may be considered an acquisition by those who fancy the "*Black Currant* taste" in fruit. I am yours,

W. W. Smith.

Note.—We received the currants by post. The foliage resembles that of the Black Currant in its odor. The bunches of fruit are short, no longer than those of the ordinary black currants. The berries are hardly as large as the average of Black Naples, and of

a peculiar dull reddish-brown color. We suspect that the fruit could not have been quite ripe, for in flavor they were more acid and less mild than Lee's Black gathered for comparison.

CRANBERRY CULTURE.

Can you give me the system of Cranberry culture and the conditions necessary to success? Can they be raised from the seed, or would it be better to set out the plants? Do you know any place where cultivated plants can be obtained at a reasonable figure?

Yours truly,
S. CORNELL.

Thedford, August 4th, 1886.

REPLY.—The paper on Cranberries, by Vice-President Allan, which will be found in this number, will answer your inquiries as to cultivation. It would probably be a slow process to raise them from seed, cuttings are usually employed. We do not know who has them for sale.

PRUNING GRAPE VINES.

DEAR SIR,—I read with much pleasure your very minute and interesting instructions relative to the growing of grape vines by amateurs in the April Number of the *Canadian Horticulturist*, and am, I trust, profiting by them.

I would like you to give me your advice on this matter. Some of my vines are making excellent growth—an improvement on my previous experience—and, besides making long shoots, are throwing out vigorous laterals. Now, I wish you to tell me how I am to treat these. Let them grow, or cut them off? If this latter, how will the bearing bud for the following year be affected?

Kindly say in your next Number, and oblige, Yours truly,
J. L. THOMPSON.

Toronto, 29th July, 1886.

REPLY.—You might pinch off the ends of the laterals with advantage. This will tend to strengthen the buds at the base. All severe summer pruning is to be avoided.

DANDELIONS IN THE LAWN.

SIR,—Can you inform me through your journal how I can improve my lawn, it has become full of dandelion. Your attention will oblige much.

Yours respectfully,
S. BEGG.

Innerkip, Ont., 4th August, 1886.

REPLY.—The only way known to us to get rid of them is that of cutting them so far below the crown that the roots will not sprout again, and removing the portion thus cut off. We remember to have seen some laborers doing this on the lawn of an eminent horticulturist in Rochester, N.Y., some years ago, and feel sure that if there had been any better method known to him, he would have employed that method.

CORRESPONDENCE.

HARDINESS OF WEIGELA ROSEA.

In the February Number of your valuable journal you ask for more information regarding the hardiness of the "Weigelas." I have a "Weigela" which has for eight years occupied a north-western exposure (perhaps as cold a situation as is to be found in the County of Huron), and it thrives admirably without any protection whatever, has never been damaged by frost, and is each year the admiration of all who see it, on account of the density and beauty of both foliage and bloom. It is the "Rosea" variety.

Yours respectfully,
ROBERT HARRISON.

Ashfield, Co. Huron, July 22, 1886.

THE PEWAUKEE APPLE—SOME CORRECTIONS.

I always look over the pages of the *Horticulturist* with much interest. In looking over the August Number just at hand, I have stopped to read and re-read the funny note of Mr. Simon Roy, under the heading "Pewaukee Apple." At first I thought it a burlesque on the writings of sidewalk horticulturists, but on second reading he seems really in earnest. Permit me to correct some of his statements.

1. What we know as the Siberian crab is not indigenous to Russia in Europe.

2. The indigenous crab of Central Europe is a forest tree of considerable size, and on the timber borders where it spreads out apple tree fashion, it produces great crops of true winter apples of much better quality for culinary use than our native wild crab.

3. There is no evidence that the Borovinca tribe of the apple to which the Duchess belongs sprang from the native crab of Russia or of Siberia, but there is much evidence favoring the idea that it was introduced from the north-west Provinces of China.

4. If Mr. Roy will visit Saratov on the Volga this fall, he may see orchards containing from ten to twenty thousand trees, nearly all of which produce real Simon pure winter apples, which are sent in immense quantities to Moscow on the north-west, and to Perm and other points on the north-east.

5. The summer heat over a large portion of the black soil section of Central Russia is high enough, and the season long enough, to ripen dent corn, melons and tomatoes.

6. Our common winter apples, which have proven tender over a large part of the west and north, did not originate from an Asiatic crab, but from the indigenous wild crab of west Europe.

7. Mr. G. P. Peffer, the originator of the Pewaukee apple, is one of the most careful and truthful of our western horticulturists, and his statements as to the origin of the Pewaukee, Clark's orange, etc., may be safely taken without discount.

J. L. B.

NEW ROSES.

Of the new roses which have been sent out the past two or three seasons there are a few which created such a *furore* on their appearance, or were heralded by such a special flourish of trumpets, that their names are now household words among all who take an interest in roses, even including those who cannot count these famous plants among their possessions, or where the famed beauty of their blooms has never yet been seen.

As I have now bloomed (with one or two exceptions) all mentioned below, (comprising all the most noted of newly introduced roses), and have also seen most of them in bloom in other places, and under other conditions, and have thus gained a little practical experience on the matter of which I speak, I thought perhaps it would not be out of place to say a few words to rose-lovers on this head through the columns of the *Horticulturist.*

I know that descriptions of all these roses can be found in the leading rose-growers' catalogues, but the descriptions are necessarily so brief that there is no room for faults, and there appears often to be such a cheerful and commendable desire to look on the best side of things that we sometimes fail to get a correct estimate from this source alone.

White Baroness, introduced to the rose-world three or four years ago by Paul is a rose with the same stiff growing habit as Baroness Rothschild. It is a slow, poor grower, and like most

roses of this type, is scentless. It is almost white, and is one of the most symetrically formed and most beautiful roses that has ever been sent out.

Merveille de Lyon, sent out about the same time by a French grower, is another rose of the same type—scentless, or nearly so, and a poor grower also. The blooms are larger than White Baroness, and of a somewhat flatter form, and of a deeper shade of color. It is a very beautiful rose.

Queen of Queens, sent out about the same time by Paul, will, I think, prove to be a very valuable rose. It is a good free grower, with large, finely-shaped blush-colored blooms. The only fault it has is that it is without perfume, or nearly so. I predict that this rose will yet be considered a standard variety. This and the other varieties mentioned above are classed as Hybrid Perpetuals.

Sunset (a Tea rose sent out by Peter Henderson), the next in order, was sent out a year or two later. With me it has proved to be a poor grower, and very variable and uncertain in size and color. It occasionally glows in rich tints almost equal to the colored plates which were sent out of it, but more often it is a very washed-out, weak, nondescript sort of a color in no way suggestive of its high sounding name, in no way resembling the glorious sky or cloud painting of a real sunset. I cannot claim to have been successful in the cultivation of this rose. I am not quite sure yet whether the fault is with myself or with the rose.

William Francis Bennett, sent out about a year ago, a Hybrid Tea, and raised, I think, by Bennett, came out with a greater flourish of trumpets than any other of these new roses, and has so far (among amateurs at least) given the least satisfaction. Most persons after purchasing a new rose at a high price expect at its blooming to find it somewhat larger, more perfectly formed, and more double perhaps, than any rose that they have before seen. Although this rose is of good size it is very loosely formed, and has so few petals as scarcely to be called semi-double even. Its good points are that it is of a good red color, is very fragrant, and in the bud and half-opened state is very handsome. I do not think it will do so well outdoors as La France and some other Hybrid Teas.

American Beauty, a Hybrid Perpetual, came out next in order. Although not a rose of the very highest style of finish, it possesses a number of good points. It is of a very deep rose color, or carmine (not crimson, as some of the florists' catalogues have it), of good size, very fragrant, a very free blooming rose, and the plant is a vigorous grower. With all these good things in its favor, it will no doubt yet take its place in the list of good standard varieties.

The last introduced Hybrid Perpetual Rose of particular note is *Her Majesty*. This is claimed by the introducer to be the largest rose yet raised. It has not yet bloomed with me, and all I can say of it from personal observation is that it is the stoutest growing rose that I have even yet seen. It is somewhat of the type of Baroness Rothschild, but with thicker and larger shoots, and stouter thorns, and more glaucous foliage than that variety. Those who have seen it in bloom inform me that the flower is as large as Paul Neyron, and of a more delicate and better shade of color. If so it will prove a great acquisition.

These are the most noted of the new roses of the past few seasons with the exception of the Marshall P. Wilder, which came out a few years ago and is now pretty well known. It is enough to say of it, that although considerably like Alfred Colomb, it has proved itself

to be a thoroughly good rose and well worthy of a place in any collection.

FREDERICK MITCHELL.

Innerkip, Aug. 7, 1886.

THE THRIP OR BEETLE HOPPER.

DEAR EDITOR,—In my communication on roses, published in the August number of our magazine, you note that my remarks on the Thrip and its place of advent in the spring is not in accord with accepted Entomological teaching. In making the statement I did, that the Thrip came out of the bark of the rose, I did not do so in any way in a spirit of controversy or criticism, or with the idea that I was starting any new theory, but merely stated what I believed, and still cannot help but believe, to be a fact. All that I can say is that the rose-shoots for some days in the spring are as I described them to be; the Thrip standing out on some very thickly at right angles to the bark and in all stages of forwardness. This any one can, if they take the trouble, verify for themselves at the proper season. I have also taken up roses that have passed the summer in the open air, and potted them in entirely fresh earth, and placed them under glass when the Thrip has made its appearance in the winter in just the same manner as it does on the outdoor plants in the spring. In all statements that I have ever made in the *Horticulturist* I have tried to be very guarded and state nothing but what I knew to be facts. I trust that it will prove that I have not made a lapse in this case. In reply to a question from me, Mr. Webster, of Hamilton, one of our leading rose-growers and an enthusiast in rose culture, writes as follows:—"As regards winter quarters of the Rose Thrip, it is in the larvæ form and in the bark of the rose. They can be seen working out with the naked eye, but much easier with a glass. I know this to be a fact as I have seen it, and I have no doubt but that many others have done so too."

I have also written an eminent Entomologist on the matter and when he replies I will, if he permits me, send you his opinion.

F. MITCHELL.

Innerkip, Aug. 7th, 1886.

FRESH STRAWBERRY NOTES.

BY T. C. ROBINSON, OWEN SOUND.

Parry—This has proved moderately productive of exceedingly handsome large fruit. With hill cultivation doubtless the fruit would be very large, but all the young plants were not removed and the weeds got in, so that I cannot say much more about this famous variety except that it seems to require clean cultivation with runners cut. The quality is inferior to that of Jersey Queen and of Prince of Berries.

Woodruff—Is abundantly productive, even in weedy matted rows, of large rich-looking fruit; of good quality. But the berries are a little soft for market, and the shape is irregular.

Dollar—Is a large and very handsome berry, of excellent quality, and firmer, I think, than any other strawberry I have seen, but it does not bear well with me.

Sucker State—Grown in matted rows, gives a great abundance of good-sized, uniform, and otherwise handsome fruit, of good quality. I think this variety well worthy of a better name and further attention.

Daisy (*Miller*)—This is a miserable weed on my grounds. The berries are few, small and sour.

May King—I had hoped a great deal from this variety. It proved about as early as its parent the Cresent, the berries rather firmer, of good size, very smooth and handsome, and the quality

really delicious for a market sort. It is abundantly productive too,—but the *berries mildewed.* Only one sort on my grounds suffered similarly; this was the Early Canada, which mildewed abominably to the great detriment of its crop. One patch thereof was near the May King, and may have caused the disease in the latter. I certainly hope the May King, in another season and in a better situation than the hot slope where I have it, will be all right, for it is otherwise so fine; but the facts must go as they are.

Parker Earle—Is another splendid sort with just one "*but*" among its characteristics. The foliage is variegated, and last year this *variegation* assumed such a straw-colored tint as to present the aspect of disease. But it was supposed this might be the result of so extreme a change of climate, (it is a seedling from Texas). This hypothesis appears plausible, for this year the plants, though still yellowish here and there, do not appear to suffer materially in fruiting. In the matted row they have yielded an abundance of large good-flavored berries, which are, without exception, the most attractive I have ever seen. The color is of the richest rose; the shape very regular; conical; slightly elongated; the surface smooth like satin, that glistens as if varnished. If this variety becomes fully acclimatized it must create a stir, as, in addition to its good qualities just stated it is a remarkably vigorous grower.

Cornelia—Is not vigorous enough on my light sandy loam. The fruit is fine but the plants want clay loam and plenty of manure, with clean cultivation. I cannot recommend it for general culture.

Mrs. Garfield—A good grower, and productive of large scarlet fruit of moderately firm texture and fair quality. It might be in great request for market plantings if we had not the more productive Crescent.

Atlantic—On rich clay loam, with clean culture, this variety is very productive of good-flavored long berries which are firm, very handsome, large to very large in size, and very late. On light poor land the plants make royal attemps to bear well, but they do not seem able to stand the strain of producing berries of such excellence without the strong land and clean culture which I have indicated. Still I consider it valuable.

Lacon—"Here's your *Lemonade* in chunks!" In dry weather and on poor land this sort runs more to acid than any other kind I know of. Not the slow watery sour of a just-red Crescent that would make you lean against the fence and wish for a low place to climb, but a rich fierce acid that pitches you over the fence and chases you to the house for the sugar bowl. In vigor of growth and great productiveness the Lacon, perhaps, cannot be beaten, and the berry though not very smooth, is fine and large. As a market sort, in seasons varying from moderately moist to immoderately wet, it will be found, I believe of great value, as it is then sweet and rich. But persons who want a sweet berry *always*, may take warning from a little exaggeration, and plant something else.

Prince of Berries—Is not productive with me. Evidently it must have rich soil and good culture. But it is the sweetest and most delicious strawberry I have ever tasted. The berries are large, smooth, firm and handsome.

Fairy—Many people would like this better than the preceding, because though not quite so sweet it is of rich flavour. The berries are of a creamy white in the shade; but in the sunshine they turn pink. The plants are both

vigorous and productive. The older varieties I purpose describing in a later issue.

SLUG SHOT.

The *Horticulturist* for August has just been received, and after perusal I find a great many inquiries carefully answered. One, however, in regard to Slug Shot does not seem clear. I would therefore beg to request you to publish, for the benefit of the fruit and rose growing public, the fact that from repeated experiments on the trial grounds of J. A. Simmers, situated on Yonge street, Slug Shot has done very serviceable work on all kinds of fruit and rose plants, and has proved itself to be just the thing for the general public. It is cheap, therefore within the reach of all growers, and not only does it act as an insect exterminator, but also as a fertilizer, as it leaves the plants in a healthy condition, which is frequently not the case with other more expensive insecticides. You will agree with me that the public must first hear of successful experiments before being convinced, and a visit to the grounds of J. A. S. will prove what I assert.

Yours very truly,
ANTON SIMMERS,
Firm of J. A. Simmers.

CANADIAN FRUITS AT THE EXHIBITION.

SIR,—The Canadian fruit, preserved in about 1,000 glass jars, continues to be one of the chief attractions of the Exhibition, notwithstanding many of the specimens have lost their natural colors.

This Exhibition cannot fail to be of great benefit to Canadian fruit growers, as well as all other classes, and no efforts should be spared to supplement this collection with fresh fruits at the earliest possible date.

All reports agree that the apple crop this season in Great Britain and on the Continent will be under the average, excepting in Spain and Hungary, where large crops are reported.

Efforts are being made to extend the markets for Canadian apples directly to all the principal cities of Great Britain and on the Continent where it seems practicable.

I hope to be able to report very shortly upon the prospect of success in this direction, as well as in the matter of cold chambers for fruit shipments in Canadian steamers.

Yours very truly,
C. R. H. STARR,
Canadian Fruit Department.
London, S.W., July 28, 1886.

NOTES ON STRAWBERRIES.

First to ripen was *Early Canada*, where it will succeed it is the best very early sort, it blooms so early and its blossoms are so much exposed that it is quite often injured by early spring frosts except in favorable seasons, hence it is not safe to plant it very extensively for market. In many localities it does not succeed well.

Crescent Seedling is next to ripen. All things considered, this is the most profitable market berry I have grown, although the fruit is not of first quality it is so early and productive. The fruit colors on all sides at once, so that all ripe berries can easily be gathered, and it carries its size well to the end of the season.

Daniel Boone is well worthy of a more extended trial, fruit is of large even size, bright red, good quality and productive.

Wilson appears to require better treatment than it did years ago, to make it profitable. It appears to be deteriorating, although when given extra good cultivation on rich soil, it is still one of the best market sorts. It yields such a large crop of fruit that

will stand shipping better than any of the the newer sorts, except, perhaps, Atlantic.

Manchester is a very fine sort, it is so large, regular in form, good quality and very productive. It gives us such fine fruit late in the season when earlier varieties begin to run small. It has one fault, the foliage blights so badly that it is sometimes very seriously injured. I have not noticed that tendency to blight in new plantations, but the second season, after planting, the crop is often a failure in many localities.

Capt. Jack is still one of the best late market berries I have, when grown on clay loam; does not do so well on sand loam.

Atlantic, fruit of large size, dark-red, good quality, very productive and more firm than any other berry I have seen. The foliage is not as healthy as I would like; it blights somewhat on sand loam, does better on clay loam, and is worthy of a more extended trial.

Prince of Berries still takes the lead for quality, but does not produce enough fruit to ever become a market sort. Every grower should have a few of them to know what first quality is, in the strawberry. I have fruited quite a number of newer sorts this season.

Jewell appears to be altogether the most promising. It is a very strong plant, foliage, thus far, very healthy, fruit very large, of very bright scarlet color and wonderfully productive; although the quality is not the best, I believe it will become a standard market sort.

May King, a seedling of Crescent, with perfect blossom, fruit about same form of Crescent; a little larger, somewhat lighter in color, with a white bloom, which does not add to its appearance, quite productive; a good amateur sort.

Parry has not done much with me; the plant appears to be tender, does not stand our winters as well as most sorts; unproductive.

Woodruff, a variety from Michigan that has very healthy foliage and produces a large crop of very firm, bright red fruit of large size, well worthy of a more extended trial. It is said to be taking the place of Wilson, in Michigan.

Wonderful, from Connecticut. If it is not the old Windsor Chief, it is so near like it that I cannot detect any difference either in plant, blossom or fruit.

Jumbo and *Cumberland Triumph* are also alike good for the amateur. Many of the new varieties have not ripened enough fruit this season so that I cannot form any opinion as to their merits. Among the most promising are Ontario, Bubach, Belmont, Lida and Garretson.

W. W. HILBORN.

Arkona, Ont.

ANOTHER NEW GOOSEBERRY.

We have received by express from Mr. J. H. Williams, Goderich, Ont., a sample of the fruit of a gooseberry which he says is a chance seedling raised by him, has been fruited for the last six years, and seems to be quite free from mildew. He states that "it "is not a very rapid grower, but stands "very erect with strong short-jointed "wood, and has less thorns than any "that I have seen. When ripe the "berries are a beautiful amber color. I "have the Downing, Smith and Hough-"ton, but think more of this seedling "than of either of them. I would like "to have your opinion of them."

The fruit received was not quite as large as the Downing, but larger than the Houghton, of a light green color, with a yellow tinge, and round in form. The flavour was much like that of the Downing. It is not an easy matter to

form an opinion upon the merits of a fruit from seeing a sample in this way. It may have merits that do not strike one on so short an acquaintance. What we want now is a goosebery that is larger than the Downing, richer in quality, and free from mildew in general cultivation.

THE "OTTAWA" GOOSEBERRY.

We are indebted to Mr. P. E. Bucke, of Ottawa, for the opportunity of seeing and tasting this new seedling gooseberry, raised by him. The branches were well laden with fruit, though some of the berries had dropped off during their transit by mail. The fruit is of a light green color, oval in form, not varying much in size, which is not much more than that of the Smith's Improved. The fruit was nearly ripe, sweet and pleasant.

Mr. Bucke has given the history of its origin in the report of the Fruit Growers' Association of Ontario for 1885 as follows :—

"To show what may be done by any individual having a little patience, I will relate a little of my own experience. Some years ago I planted a Whitesmith and a Houghton so close together that the branches interlocked. I gathered some of the finest berries from the Honghton, and having rubbed them in dry sand to separate the seed, sowed them in a bottomless box in the garden. I was rewarded next spring by a nice little crop of seedlings. I pulled up any that did not come up to my idea of leaf or growth, reserving about one dozen plants; when these came into bearing I destroyed all but one; this is a fine bearer, and has a large berry. Last year I set out a number of layers from the parent, and think I have a good thing in gooseberries. The fruit is larger than Downing's or Smith's, of an oval shape and quite smooth; it has never ripened yet; having only one bush the berries have been all pulled for canning. I call it the "Ottawa," and if on further trial it sustains its reputation, I will send it round to my friends for trial."

TESTIMONIAL TO THE ORIGINATOR OF THE CONCORD GRAPE.

By the kindness of the venerable President of the American Pomological Society, the Hon. M. P. Wilder, we have received a copy of the Massachusetts *Ploughman*, of the 17th July, giving a full account of a gathering of the leading horticulturists of Boston and vicinity, held on the 26th of June last, for the purpose of expressing their appreciation of the labors of Mr. E. W. Bull, of Concord, Mass., in the cause of grape culture, and especially as the originator of the now widely cultivated Concord grape.

President Wilder presided on this delightful occasion, and inaugurated the proceedings with the following introductory address :—

"*Gentlemen*,—I have the honor of occupying this chair by the courtesy of my friend Mr. Hovey, by whose invitation we are here assembled.

"I am most happy to be here, and the more so because we are here to do justice to an old friend and associate who has done much to promote the happiness of our people by the cultivation of the vine, and which we desire to recognize on this occasion by some substantial token, too long delayed, of our appreciation of his meritorious services in the production of the renowned Concoıd grape.

"To say that the Concord grape surpasses hundreds of other varieties which have been originated since it made its appearance, would perhaps be considered extravagant; but it may be said that no other grape during its thirty

years of existence has been so extensively cultivated and generally approved of in New England and many other States. When we reflect on the blessings which this grape has conferred on our country, supplying by its abundance the poor as well as rich, how it has cooled the fevered lip and parched tongue, and added to the comforts and luxuries of our tables, we surely should remember with gratitude the hand that gave it to us. I therefore rejoice that Mr. Hovey in his wisdom has brought us together to recognize this fact, that we may thus publicly testify to its producer our sense of gratitude for this benefaction to our country.

"And now, my dear old friend, permit me in my own behalf and in behalf of these other friends, to assure you of the deep interest we feel in your future welfare. May the remainder of your days be crowned with health and happiness, and when you shall have done pruning and training of the grape on earth, may you and we meet again in the Vineyard of the Lord, and gather fruit from that Vine of which if a man partake he shall never die.

"'Where life fills the wine cup and love makes it clear,
Where Gilead's balm in its freshness shall flow
O'er the wounds which the pruning knife gave us below.'"

Mr. C. M. Hovey reviewed the history of grape culture in this country, showing that up to the time of the introduction of the Concord grape, there was no variety in cultivation that could be relied upon to ripen its fruit in our northern latitudes; and concluded his remarks by presenting to Mr. Bull the testimonial that had been provided.

To this Mr. Bull responded in fitting terms, and gave the following account of the origin of the Concord grape:—

"You ask me how I got the Concord?

"At the foot of a wooded hill with a south aspect, a wooded soil and shelter from all winds coming from the north of east and of west, the hill coming down to the road at Hawthorne's "Wayside" on the west and to the same road about 1500 feet east of the "Wayside," forming an amphitheatre of which the road formed the chord—all the conditions favorable to the grape being present, I expected to grow grapes to perfection without difficulty, but this hope was doomed to disappointment; the late and early frosts incident to the valley of the Concord made it impossible to ripen any grape then in cultivation.

"The thought occurred to me that it might be possible to improve the native grape by reproduction from seed, and I looked about for the best grape which met the necessary conditions of hardiness, vigorous growth, size of berry and bunch, early ripening, and, with these conditions, as good flavor as the wild grape affords. At the foot of the hill before mentioned, a woodland path, leading to the river, debouched into the open space, and there I found an accidental seedling, which in 1843 bore its first crop. It was very full of fruit, handsome and sweet, and the whole crop—dead ripe—had fallen to the ground before August went out. Here was my opportunity. I planted these grapes at once and got many vines, most of them harsh and wild, but one of them bore a single bunch which I found ripe on the 10th of September, 1849, six years from the sowing of the seed. This was the Concord. When I found that I had attained such a gratifying success at a leap, so to speak, I resolved to continue my efforts in the hope of establishing the vineyard in Massachusetts, which had been found impossible up to that time. In this I have succeeded, and in establishing a strain of seedlings giving new grapes to the country almost yearly. The marvellous success of the Concord, its

adaptability to all soils and climates where grapes can be grown, its patient endurance of neglect, its wonderful fertility in ordinary soils, and its habit of giving to the country seedlings of value, justifies and explains the general acceptance, and foreshadows the time when we shall have, of our own stock, grapes equal to those of Europe."

SLUG SHOT.

In reply to an enquiry as to the character and efficiency of Slug Shot we publish the following bulletin :—

N. Y. Agricultural Experiment Station,
Geneva, N. Y., Mar. 18, 1886.

Nearly two years ago a sample of Hammond's Slug Shot, an insecticide of some repute, was sent to the Station for examination as to its poisonous properties, the claim having been made that it was perfectly harmless to all animals except insects and consequently could be used with impunity on all fruits and vegetables.

This insecticide is in the form of a fine powder having a pinkish color and an odor resembling coal tar. The color and the odor, together with the strong reactions given in tests for lime and arsenic gave the impression that the substance was a mixture of gas-lime and London purple, and a statement to this effect was made at the time. This was not intended to be a positive statement of its composition, and was made simply because it afforded a plausable explanation of its appearance and odor, and also suggested a cheap source for the arsenic which it contained. It was not considered necessary to proceed further with the examination after dangerous quantities of arsenic had been discovered.

This explanation is rendered necessary by the fact that the appearance of the above statement as to the probable composition of the Slug Shot in the late report of the Station was followed by an affidavit from the manufacturer to the effect that at no time had either London purple or gas-lime entered into its composition.

A recent circular issued by the maker reaffirms the statement that "Slug Shot "is a combination * * not harmful to either man, beast or fowl, but probably the most effective and economical article in use for the destruction of the various insects that prey upon cultivated vegetation." The printed directions upon each package also state that "It contains poison thoroughly diffused through natural and chemical fertilizers and is perfectly safe in its use no matter how bountifully applied." This same impression, as to the harmless properties of this insecticide, is conveyed by the affidavit mentioned above. This claim, on account of the strong reaction for arsenic which had been found, was considered misleading and liable to result in serious accidents if not corrected, and a further examination was undertaken for the purpose of determining the quantity and if possible the source of the arsenic.

A few tests showed that the main portion of the substance was gypsum, and determinations of water, sulphuric acid, and lime were made which fully confirmed this.

A microscopical examination showed a reddish coloring matter, and numerous green particles insoluble in water suggested Paris green as the probable source of the poison. To confirm this opinion a test for copper was made which showed its presence in considerable quantity. In order to obtain a clue to the quantity of Paris green which the copper represented, the color imparted to a solution of ammonia by a given weight of Slug Shot was compared to that produced in the same strength of ammonia by Paris

green. This comparison showed that one part of Paris green was equivalent to about one hundred parts of Slug Shot. A determination of arsenious acid in the same sample (No. 1) which was received two years ago, gave 0.54 per cent.

On Feb. 4, 1886, when the investigation had reached this point, two more samples of Slug Shot (Nos. 2 and 3) were received from the manufacturer. Externally the packages were the same, except that No. 3 was put up to be sold by Joseph Breck & Sons, Boston, Mass. The general appearance of the substance in both these packages was quite similar to No. 1, although the color was slightly darker and the odor somewhat different; a more careful examination, however, showed that they were different in composition. No. 1 was quite free from organic matter, while both Nos. 2 and 3 contained a considerable quantity of fine organic powder which it would be difficult to fully identify, but when it is digested in water for some time and gently warmed, the odor is very suggestive of tobacco. This was the same in both No. 2 and No. 3. The organic matter which these samples contained so modified the color produced by ammonia that no definite idea of the amount of Paris green used could be obtained by direct comparison as with No. 1; the color was, however, much deeper, showing that they contained more than that.

A determination of arsenious acid in No. 2 gave 1.02 per cent., and in No. 3, 0.76 per cent. Paris green as obtained in the market is not a very constant composition, but the above figures indicate that No. 1 contained about one per cent., No. 2 two per cent., and No. 3 one and one-half per cent. These quantities are larger than necessary for an efficient insecticide. Experiments at the Station have shown that one part of Paris green to 100 or 150 parts of land plaster is ample for the destruction of the potato beetle.

The quantity of arsenic found in these samples is certainly sufficient to demand especial care in its use at all times and to warrant the recommendation of its discontinuance upon cabbage and all other vegetables and fruit where it is possible for a portion of the poison to be retained until it reaches the table. When it is considered that one grain of arsenious acid is a dangerous dose, and that a tablespoon full of any of the above samples would contain more than this quantity, the necessity for caution in its use will be evident to all.

E. Lewis Sturtevant,
Director.

SMALL FRUIT NOTES.

The season has been quite favorable for the strawberry. The Horticultural Exhibition was the best for 50 years. Among strawberries the Belmont carried off the Silver Cup, although it had powerful competiters in the Sharpless and Jewell. The Prince (of Berries) took the first prize for a new variety, and the Parry the second, but there was a silver medal also given to the Gold, which is larger, higher-flavored and handsome. It was raised by P. M. Augur & Sons. Among the new varieties was the Dorchester, which, although exhibited in a general collection, attracted special notice for its size and beauty, and as a very late, handsome kind, the Omega received a first-class certificate of merit. Jewell fully justifies the high commendation it has received, and Sharpless is more popular than any other kind. Ellwanger & Barry conferred a great blessing on the world when they introduced it.

In regard to raspberries, the Carman is the earliest cap variety I possess. It is sweet and *very good*, a valuable

acquisition. The Ohio comes in next, and is hardy and productive. The Marlboro is early and prolific, ripening its crop gradually, and when fully ripe, of good quality, good size, and firm enough for traveling to distant market; but to obtain these advantages the suckers must be constantly kept down. It is the most vigorous and robust of all raspberries. My favorite is the Souchetti, which I introduced 30 years ago. This and the Franconia lead in the prize taking. Cuthbert is good, but no improvement over the Franconia. The Crystal of Caywood, a new white, is vigorous and prolific, handsome and firm, promises well for market.—MARSHALL P. WILDER, *in Rural New Yorker.*

STRAWBERRY NOTES.

THE first strawberries this season were Alpha, on June 1st. This has now, for several years, shown itself to be the earliest really valuable strawberry with me. Early Canada may sometimes be a day earlier; but Alpha is larger, more productive and of finer flavor; while the hardiness and vigor of the latter are all that need be desired. Metcalf and Crystal City may, perchance, be a day or even two earlier; but their lack of size, and extreme unproductiveness have ruled them out, and I abandoned them several years since.

Alpha, Maggie, Bright Ida and Arnold's Pride, which ripen successively in the order named, are seedlings (in the second generation) of the late Charles Arnold of Ontario, from a cross of Wilson upon the foreign variety, Dr. Nicaise; and are again, this season, as for several years past, surprising me with their fine size, fair quality and great productiveness. Jewell, Parry and Cornelia are fruiting heavily; but I doubt if either of these—even the Jewell—can be said to excel the former in vigor or productiveness.

Howell, a new variety of the history of which I am ignorant, ripened along with Crescent, on the second day after Alpha, and were soon followed by Philadelphia, Nicanor, Duchess, Duncan, Maggie, Bidwell and many others about in the above order.

The Alpha, last season, ripened its first fruit on June 13th; or about two weeks later than this year. Parry showed its first ripe fruit this season on June 11th. The plant shows a moderate degree of vigor, and is more than maintaining its last season's reputation for productiveness, as well as for the size, beauty and high quality of the fruit.—T. T. LYON, *in Rural New-Yorker.*

THE "CONN" GOOSEBERRY.

We have received from Mr. P. E. Bucke, of Ottawa, a branch of this Gooseberry, to which a goodly supply of fruit was no doubt attached when it started on its journey, but which had nearly all become detached when it came to hand. The berries vary very much in size and form. Some of them are of an elongated form, nearly oval; others are round. The longest was a trifle over an inch in length, and measured two and a quarter inches in circumference at the largest part. The color was a bright green, but as the fruit was not perfectly ripe it may be that the color becomes lighter at maturity. Of the flavour it is impossible to speak, owing to the unripe state of the fruit.

The following account of this berry, given by Mr. Bucke, is taken from the report of the Fruit Growers' Association for 1885, page 53:—

"Last, but not least, comes a berry which I found in the possession of John Conn, Esq., J.P., of Kemptville, Ontario. This is decidedly the best gooseberry of which I have any personal knowledge. On strict enquiry of

Mr. Conn, he could give me no information as to its origin; he thought it a Whitesmith. Having doubted this I obtained some berries from him last summer and compared them with the Whitesmiths grown by a member of our Association in Ottawa, but there was scarcely any resemblance. It has the appearance of being some English variety, from its size, but bears much heavier crops than either Downing, or Smith's, and is nearly twice the size. Wood stocky and upright in growth. I immediately secured some thirty layers and set them out last autumn. These will not give any fruit of much consequence for two years, as layers should be set out for one or two years in nursery rows before they make good stock. Should this berry prove as free from mildew elsewhere as it has with Mr. Conn, it will certainly prove a most valuable acquisition to our fruit list. Failing any name for it, I have with Mr. Conn's consent called it the 'Conn,' and trust that name will be adopted until its true parentage is discovered. Mr. Conn informs me that all the American varieties he has grown (Houghton, Downing and Smith's) have mildewed more or less, but this one never."

ANOTHER NEW GOOSEBERRY.

Mr. J. M. Ogle, of Washington Territory, has a new variety of gooseberry, which he has named the Puyallup Mammoth Gooseberry, and which bids fair to become a popular candidate for public favor. It is said to be hardier and less liable to mold than any other known. Mr. Ogle says that he has this new gooseberry growing beside the English varieties, Crown Bob, Whitesmith and Champion, and that while the Puyallup Mammoth was wholly free from the diseases of the three English varieties, the Crown Bob and Whitesmith had prematurely dropped most of their fruit and the Champion had not escaped.

We do not admire the name which Mr. Ogle has given to the gooseberry, and hope he will read the recommendation of the American Pomological Society and at least drop the word "mammoth."

THE KOELREUTERIA PANICULATA.

The Koelreuteria has the merit of blooming when few other trees are in flower. In late July the large yellow panicles open at the extremities of all the branches, giving the tree an appearance quite unlike that of any other. The foliage, too, is good, and I have never seen it preyed upon by any insects. One drawback to the tree is the dead flower stems which remain on the tree for a year after the fruit—which is quite ornamental—has fallen. —*Philadelphia Press.*

NOTE.—A tree in a neighbour's grounds is now in full bloom (August 12th) and is a very showy object.

REFORM IN NAMES OF FRUIT.

The President of the American Pomological Society thus expresses the object which he seeks to attain in simplifying the names of fruits:—We want to repress all royal titles, such as emperor, king, or prince; all political titles such as president or governor; all military titles, such as general, colonel or captain; all indelicate names, like Hog-Pen, Sheepnose and Big Bob; all ostentatious names, such as Excelsior, Ne Plus Ultra or Stump the World, and all long names, like Doyenne Gris d'Hiver Nouveau or Twenty-fifth Anniversary of Leopold the First. In the future we desire to use but one

word for the name of a fruit, as with the Baldwin Apple, the Bartlett Pear, the Concord Grape, and other renowned fruits which will be perpetually known by appropriate and easily remembered names.

THE HICKORY AND BLACK WALNUT.

Talk about timber devastation! If our readers want to see what it looks like, let them follow us to any of the mountain ranges of the great Alleghany mountain system, wherever these ranges are within reasonable distance from the railroads, notably to the Blue Ridge, which divides the Great valley from Eastern Virginia. Here whole forests of white oak are cut down, merely for the sake of the bark, which is to be sold to the tanneries; and the noble hickory and the majestic black walnut are falling under the stroke of the axe. The oak timber is sometimes worked up into railroad ties, more generally, however, left on the ground unused. Hickory and Black walnut logs are shipped to northern manufacturing towns.

So the timber gradually grows less; the mountain slopes and even the very ridges are getting denuded of their original growth; and after a while the ornament of these forests, the hickory and the walnut, once so numerous, will be no more. They are getting scarce already in the reigons intersected by railroads.

The present price of black walnut lumber, even without the sure prospect of rapid and material advance, is such as to insure very large profits in the cultivation of this tree for its timber.

The same may be said of the hickory. Whether the fruit may be of much account or not, the timber alone will pay large dividends.

Why the American farmer, especially in the South and West, with large tracts of cheap land, does not take hold of so good a chance, we are unable to understand, unless it is because he does not look beyond the immediate future, and rather take six per cent. interest one year from date than six hundred in ten years.

The establishment of a black walnut forest is an extremely simple thing. The nuts are easily obtainable almost anywhere in any quantities, and may be planted like corn. Seedlings are for sale by nurserymen at very reasonable figures, and may be planted like any ordinary orchard, only rather close, say eight feet a part each way. In either method you can accomplish your object without great trouble or expense. Much cultivation is not needed. The trees will soon take care of themselves and grow into money right along, big money, too. Why not do it, you who can?—*Orchard and Garden.*

BUHACH.

We take the following extract on the manufacture and use of this insecticide from the *New York Examiner*, merely premising that the plant from which it is made is a variety of Pyrethrum, the *P. cinerariaefolium*:—

Buhach powder is made by pulverizing the flower-heads of the plants. The flowers, which look much like daisies, are gathered before they are quite open, and should be dried under cover, as the heat of the sun seems to injure them. So does the heat of stoves, or other artificial heat. After drying, if only a small quantity is to be pulverized, the flower heads can be put into a mortar, and covered with a piece of leather, through which the pestle can pass. After pulverizing, the powder should be sifted through a fine sieve, and then, if not wanted for immediate use, put up in an air-tight glass fruit jar.

Buhach is usually used in the evening or in the early morning, because the dew on the leaves will make the powder

stick to the little insects and kill them. The powder should not be used on rainy days, for it will wash off from the leaves, and do no good. The insufflator, a little invention for holding in the hand and throwing the powder, is the best arrangement for applying buhach. The powder never injures the leaves of plants. It can be applied mixed with water. Professor Riley says that in a mixture where only 1-200 of a pound was used to the gallon of water the solution proved fatal to caterpillars. The water mixture is the most economical way of using buhach on plants, although, in order to prevent the too rapid evaporation of the mixture, add some glycerine, about half a gallon of crude glycerine being added to forty gallons of water. This mixture kills both the red spider and the scale insect, pests that in former years have been fought against with lye, and remained unconquered even when the lye was strong enough to crack the bark and injure the trees.

The use of buhach in liquid solution in this country dates from 1880, when the United States Entomological Commision discovered that it could be so used, and the Government Entomologist, in his report for 1881-82, says that "the finer the spray in which the fluid is applied the more economical is its use, and the greater the chance of reaching every insect on the plant."

Professor Cook, of Lansing, Mich., has killed cabbage-worms with a mixture of one pound of buhach with 200 gallons of water, and he also states that he has applied buhach mixed with flour and also with water, and has found both methods efficient in destroying the larvæ and imagos of the Colorado potato-beetle.

Professor Hilgard, of the University of California, says that he has been surprised at the effect produced on the hairy tent-caterpillar by water that contained a mixture of one pound of powder to fifty gallons of water. Although the tent-caterpillars paid no attention to the powder when blown upon them from the bellows, when they received a sprinkle of the diluted extract, they died very soon. Professor Hilgard has recommended the use of the extract in greenhouses and conservatories, on account of its harmlessness to plants.

Professor Riley states that there is nothing known to him that so quickly kills the cotton-worm as buhach.

Professor Eisen, in an address before the California State Viticultural Convention, held in San Francisco nearly three years ago, recommended the nse of the buhach solution for spraying grape-vines, about forty gallons of solution being used for an acre of vines. One pound of buhach mixed with thirty of sulphur, and allowed to stand six hours before using, he recommended as a sure remedy for vine-hoppers.

QUALITY *VERSUS* QUANTITY.

In a few remarks last month I suggested the securing of quality of fruit, as one good step towards the realization of better prices for our horticultural products. Our markets are most always supplied with an excess of inferior articles, the prices for which, even though in excess of their actual value, act as a bar to sales of articles in the same line of a better grade.

This, I think, will apply to any article of trade in any branch of industry, and fruits are no exception.

The manufacturer of a strictly first-class article of dairy butter has enough of the inferior grades of the genuine article to compete with, to say nothing of the diabolic counterfeits in the shape of oleomargarine, butterine, etc. The merchant who endeavors to handle only first-class goods, has "Jews" and "cheap John" dealers in inferior grades of goods to contend with, and

cheapness with the masses is synonymous with low prices. With our fruits the lowest in price is often the dearest to purchase. Is it not so in other things?

A case or two in point by way of illustration. The Ives grape is one of the first to appear in our markets, coming with or followed closely by the Champion. The reason of this is, it colors early and looks well weeks before it is fit to eat. Some growers at Hammonton and Vineland send forward their whole crop of Ives before commencing their Concords, and I am sorry to say the vendors often sell them for Concords, though the latter are the earliest. In an interview with a German grape-grower at Vineland last winter, he put it in this way: "Those peeples who sell Ives so early spile the whole bizness, the Ives be so sour peeples who buys 'em got no more appetite for grapes, and the whole market be spiled."

That is just what's the matter; they break the market with their sour, unripe and inferior stuff, that purchasers are afraid to buy, and regard a really good article with suspicion.

Last fall the grape market was, as usual, pretty well demoralized, and as a consequence, I felt a little concern as to the resulting income from my small crop.

I kept holding off as well as I could, hoping the receipts would diminish and prices stiffen a little, but no improvement seemed apparent, so one day I filled a sample basket and went to New York, to see for myself. Calling on a commission merchant, I enquired what first-class No. 1 Niagaras were bringing? Twelve cents was the highest mark and from that down! I remarked that I was sorry to hear that as my crop was smaller than usual, and I hoped to do better than that. Niagaras, he said, had not been first rate, not sweet, and it was hard to get twelve cents.

"Well," said I, "I suppose I will have to take what I can get, even if I am not satisfied. I have brought a sample basket of my fruit, that you may see how it compares with that in the market."

On removing the cover, the merchant exclaimed, "Oh? I was not talking about such stock as that, I meant the best State stock. I have not seen anything as fine as those this season. Such fruit as that ought to bring fifteen cents readily." I felt relieved. I told him the sample was a fair one, and he could turn it out and find the bottom as good as the middle or top. I left the sample for him to show his customers what they might expect, and returned.

In a day or two I received a note from him stating that his customers, while admitting the fruit to be very fine, that fifteen cents was as much as they were willing to give on account of the abundance of *Almeria* grapes in the market and the low prices they brought. While he would like to handle the fruit, he did not wish to create undue expectations.

When I got to gathering the crop I took a small load in to the city, and left them with the merchant, merely saying, "do the best you can."

I due time, the returns came, sixteen cents per pound.

Why? Simply because the quality was No. 1, and they were honestly put up. Another party did as well or better. Does it pay?

A merchant sent me an order for some Concords, saying he would give me five cents per pound for them. I filled his order and in a few days I received a note from him to this effect, "The Concords were fine large clusters, will allow you six cents for them; they are worth it, send me some more."

With Concords abundant at four cents, quality alone must have the credit of this advance. Does it pay?

I frequently hear people talk of the profits of growing Concords at two and one-half cents per pound, and their satisfaction at such prices, but when I reach that condition of mind I shall be more of a lunatic than I am now. I would rather go out to work at a dollar a day, turn tramp, or go to the almshouse by a more direct route.

With the present condition of our markets and the business, I am convinced, from my own experience, that the most important factor in securing profits, or even satisfactory prices, for our agricultural and horticultural products is in improving the quality, even if the quantity is diminished. Better fruit and less of it.

I think it was Webster who said, there was "plenty of room at the top."

Will it not pay more of our fruit-growers to try and get there?—E. WILLIAMS, *in Michigan Horticulturist.*

VARIETIES OF RASPBERRIES TO EAT.

I feel some embarrassment in writing upon what is so clearly a matter of taste, knowing that that subtle sense varies so much in individuals that it would be audacious for any one to set up his own as a standard.

I may be under an illusion but am impressed that I used when a boy, roving over fields and woods, to occasionally strike a stool of black raspberries, growing in just enough shade, with roots feeding in just the right kind of compost, that produced berries of the most delicate and exquisite flavor of any I ever ate. In fact, as I have since tested new varieties of raspberries, the memory of the flavor of those I used to eat, strung on a timothy stalk, would obtrude and become a standard of comparison.

The Mammoth Cluster was a favorite of mine for eating, not so much, perhaps, because of its high flavor as for its freedom from seeds. A berry with pulp crowded full of seeds is not very pleasant eating of however high flavor.

Seneca is another high-flavored black-cap, but, for some reason, has failed to push its way into popular favor, perhaps because it had no one particularly interested in pushing it.

Of the black-caps now grown extensively for market or evaporating, none, I think, are of very high quality. Gregg is one of the poorest; Ohio is a little better but not of high quality, and the same may be said of Tyler. I think Hopkins may prove better than any of the three. A new variety, not yet much disseminated, "Reyes," is the *sweetest* black-cap I ever tasted.

Passing on to the reds, among the best in flavor are Knevett's Giant and Herstine, and I think they are well worthy the attention of the amateur, although not perfectly hardy. Among hardy sorts, Clarke, Turner and Cuthbert are of good quality. I think Marlboro will rank pretty high in quality. Excelling all in delicate flavor, yellow berry, Brinckle's Orange, will repay considerable effort for its production.

For the table, well mixed with sugar, I know of none that please me more than Shaffer, although of inferior flavor, eaten out of hand.—P. C. REYNOLDS, *in Michigan Horticulturist.*

CANADA'S FRUIT EXPORT.

The trade tables show a steady growth in Canada's exports of fruits during recent years. The declared value is now over half a million dollars, and, although this is but a small sum, it doubtless has a marked effect on the home prices.—*Montreal Witness.*

CRANBERRIES.

BY A. MC D. ALLAN, GODERICH.

Up and down throughout the Province there are hundreds of acres of swampy lands that at present are of little or no practical value to the owners, and yet possibly a large area of this swampy land could be utilized for the purpose of cultivating cranberries. This subject stands prominently among our neglected industries in this Province, probably from the fact that so little is known about the various points of cultivation and care necessary in order to secure a crop at once profitable and regular. Consumers heretofore have been satisfied with the supply reaped yearly from wild beds in far northerly sections, or imported from the neighbouring republic. But now that the demand is rapidly increasing, and will certainly continue to increase, those who have pieces of waste land suitable for cranberry culture may feel interested in a few particulars on the subject.

There appears to be several varieties of this fruit in European countries, and in some of these countries the cranberry stands among the most reliable and valuable crops for home market and export. But although it is largely grown throughout Europe, our American cranberry being larger and of a much better quality, finds a ready market across the ocean at much higher prices than the native berry. By the British market reports, I find that the demand in that country for the American cranberry has rapidly increased during the past few years, and prices are steadily on the rise, the supply being short of the demand.

The first requisite is to secure a piece of land that can be flooded during the winter season, but it must be so situated that the water can easily be drawn off in spring when wanted. The plot should be sufficiently underdrained or ditched to avoid holding water stagnant near the surface, as this would induce disease and the breeding of insect enemies.

In preparing the soil care should be taken at the outset to have it free from grass and weeds, although I have seen plots along the sea coast in Maine where, in the course of three or four years, the vines made so close a matting that grass was choked. But like other crops, so in this it will pay to begin with clean cultivation. The plot should be nearly level, so that when flooding there will be an even cover over the whole surface. Lands with peat or muck bottoms are usually considered best. If a regular sod is formed, especially of the coarse strong-rooted swamp grass, it should be removed at a season of the year when the water is low, and in place of this sod a complete cover of fine sand about two inches in depth should be spread over the entire plot. Clay bottom soils should be avoided. Peat or decayed vegetable soil, with a mixture of sand will do, although, if at all possible it is preferable to have a complete top cover of pure sand. The winter is a good time to apply the sand, as there is usually more time for such work at that season, and besides, the expense is generally less for hauling then. If there is danger of grass or weed roots in the soil, the sand should be laid four inches deep over the surface, otherwise half that quantity will be sufficient.

It is not necessary to obtain rooted plants for setting out, as the cranberry grows freely from cuttings. Some growers make small cuttings, broadcast them over the plot and roll or press them over the soil, while others advocate planting in rows. If the soil is clean, broadcasting the cuttings is probably best, as the vines cover the surface sooner and thus prevent the growth of grass and weeds. When they are planted in rows there is usually too

much space left for cultivation the first two years, and this space allows the scorching sun to beat so directly upon the young vines that they are often weakened. Under favourable circumstances, if plants are placed two or even three feet apart they will completely cover the ground in about two years.

The spring is the best time to set the plants or cuttings.

Usually the plot should be flooded about the first of December, and the water drawn off gradually the following spring from the first to the middle of May. After the plants or cuttings are set the water should be kept near the surface and gradually drawn off as they strike and grow.

If a stream runs through the marsh so much the better, as in dry weather in midsummer, when there is any appearance of insect enemies, the flood-gates can be closed and the plot thoroughly saturated for a couple of days so as to destroy these enemies, while at the same time supplying needed moisture to the plants.

Sulphate of iron is an excellent top dressing for cranberries but it must be used sparingly. If dissolved in water a liberal sprinkling will be sufficient.

There are several varieties grown, but I think the favourites are the Cherry and the Bugle, although the former is reported as being tender in parts of the State of Maine. As a rule, a full crop need not be expected until the fourth year, although a small crop is often reaped the second year from planting.

The yield varies from one to two hundred bushels per acre. Large growers reap the crop with rakes specially adapted for the purpose, but hand-picking is preferable, as the berries are not injured, and hence keep much better in transit and bring a higher figure in the market.

As soon as the crop is picked and barrelled, it should be sent to market if the grower wants to make the best value out of his crop year after year, as by keeping, the shrinkage will more than counterbalance any possible advantage in awaiting a rise in the market.

HOW TO MANAGE THE CUTWORM.

Professor C. V. Riley believes that the onion crop can be grown successfully, even in a marked cutworm season, by adopting the following measures :—As a preventive treat the land early in spring with a mixture of lime and ashes, preferably wood ashes. This mixture should be lightly spread over the land after ploughing and harrowed in. If, after the seed is sown and the plants begin to come up, the worms appear and threaten damage, employ the poisoned ball system, which, in brief, consists in placing along the rows, at a distance of fifteen or twenty feet apart, small bunches of fresh cut grass or other green plant; cabbage leaves answer a good purpose. These bunches of grass or green plant should be previously sprinkled with Paris green or London purple. Should the worms still appear in great numbers by migrations from surrounding fields, sprinkle the ground at night, while the worms are at work, with a dilute emulsion of kerosene. A Goshen grower has used pure kerosene for killing the worms, simply blackening, not killing, the onion tips. The free use of pure kerosene may injure the plants, hence an emulsion is recommended as safer and cheaper. The kerosene is emulsified with soap or milk in order that it may readily dilute with water. There is little doubt but that by spraying of the fields at night with this mixture the worms can be destroyed by wholesale. It should be used most thoroughly at the points in the field where the worms are first noticed at work, and from which they

spread to surrounding points.—*Montreal Witness.*

MOORE'S EARLY GRAPE.

Prof. Budd said: "I consider it very promising in Iowa now; it seems to be hardier than Concord, it has a better leaf. Moore's Early has the best foliage. It is earlier even than the Worden I think." Mr. Lyman: I have fruited it now two years, and it has proven quite satisfactory; wood and foliage good; an abundant bearer; fruit large; ripens early; shall plant largely of it." Mr. Plumb, Wisconsin: "I fully indorse what Prof. Budd has said of Moore's Early. I think very highly of it, and consider it the best and most promising grape we have out there. It ripens nearly a week ahead of the Worden." Mr. Rogers: "Moore's stands well in New Jersey." Mr. Scott: "I have to report some rot on my grounds." Mr. Munson said: "It does not rot in Texas; it is very early, black, firm, medium to large, quality good to very good; makes a red wine." Mr. Harrison, Ohio, reported no rot. Mr. Green: "I can also speak very highly of it; ripens before the Worden." Mr. Manning: "I was at Mr. Moore's place the other day and saw more than 40 tons of grapes in his vineyard. He has 660 vines which must have nearly three tons of fruit on them. The vines are allowed to run wild, no pruning having been attempted. Moore's ripens three weeks before the Concord."—*Rural New-Yorker.*

REMEDIES FOR CABBAGE WORM.

I have not failed for forty-two years in freeing my cabbages of worms. I was at the house of a lady in Kentucky who had the finest cabbages I had seen that year. I asked her how she managed to keep them free of worms. She told me by sprinkling them with flour, shorts, or shipstuff. As soon as I got home, I had mine well plowed, and the next morning I put a large tablespoonful of coarse flour, or middlings, on each head, while the dew was on; the dew made it wet. and the worms began to crawl and roll over on the wet flour. The more they struggled, the more paste they gathered; they would soon fall on the fresh plowed earth, which, being wet, would stick to them, and clog their feet and legs, so that they could not get into the ground. Those that could not get off, died on the heads. The paste prevents all eggs from hatching.

This has been one of the most difficult seasons I recollect to keep the worms from destroying cabbages. Two plowings, and twice going over and applying the flour, saved mine, while most of the neighbors lost theirs. It may be necessary to apply it oftener, if hard rains come and wash out the flour. Rye or buckwheat, unbolted, is as good as fine flour; the paste is what does the work.—W. G., Lexington, Ky., in *Country Gentleman.*

SMALL FRUITS ON THE FARM.

To stock a small garden with the best varieties requires only a few dollars outlay, and the skill necessary to keep them in good condition is within the reach of any one who is interested in the matter. We generally see a few scrubby and neglected currant bushes in the grass along the garden fence, but not in one garden in a dozen do we see much more in the line of small fruits. That men are fond of these fruits is proved by the avidity with which they dispose of them when placed before them in the shape of pie, shortcake, or eaten with sugar or cream. They seem to forget, or overlook the fact, that the season of enjoying these luxuries need not be confined to summer. Canned fruits are nearly as good during the winter, if properly put up, as when

fresh, and the expense and trouble of putting them up is not great. More money is usually spent for prunes and other dried fruit during the winter in families where fruit is not put up, than it would cost to purchase jars and sugar to prepare a supply at home. The women will take care of the fruit if they only have it to take care of, and will be glad to have the chance to do so. Should more fruit be produced than the family can consume, it will meet with a ready sale at the nearest village, and usually bring the grower better returns than if sent to the overstocked markets of a large city. Sell none but the surplus.—*American Agriculturist.*

ADAM'S NEEDLE—(*Yucca filamentosa*).

Among tall growing perennial flowers the *yucca filamentosa* is conspicuous. In rich soils the stocks stand six or seven feet high, carrying hundreds of cream-colored, drooping, lily-shaped flowers. They are especially beautiful in moonlight, when they appear snow white and no imperfections can be seen. A group of them standing before a background of dark foliage is most effective.—*Philadelphia Press.*

FLOWERING DOGWOOD.

This small native tree (*Cornus florida*), grows from twelve to thirty feet high, and the flowers appearing in spring before the leaves have expanded, it becomes a conspicuous object in the margins of woods where it grows, the showy white flowers being often three or three and a half inches in diameter. What appears to be the petals are really the corolla-like involucres, the flowers themselves being in a small head within. They last long for spring blooming, often more than two weeks, and later in the season the berries are an ornament. The foliage turns to a deep red in autumn. The flowering dogwood is valuable, as immediately following in bloom that of the magnolias, and is eminently worthy of a place in ornamental grounds.—*Country Gentleman.*

BOOKS, &c., RECEIVED.

Proceedings of the thirty-third annual meeting of the Kentucky Horticultural Society. A neat pamphlet of some eighty pages, full of horticultural information of special value to residents of that State, yet containing many suggestions very worthy of the attention of those who cultivate fruit in Ontario. One of the papers, entitled "Some things needful in Kentucky horticulture," especially that part of it which treats of "a higher order of culture among those who make it a business," contains suggestions that might well be put in practice by cultivators in any latitude.

Report of the North Carolina State Horticultural Society, 1885. S. Otter Wilson, Secretary, Vineyard, Wake Co., N.C.

Transactions of the Massachusetts Horticultural Society for the year 1885, Part II. The report of the committee on gardens is especially interesting.

The Canadian Bee Journal is published weekly by Jones, Macpherson & Co., Beeton, Ont., at one dollar a year. It is now in its second volume, which has been increased from sixteen to twenty pages. Those who are interested in bee-keeping in Ontario will find this weekly a very helpful visitor.

MINNEWASKA BLACKBERRY.—This new blackberry, not yet disseminated, I believe, has again emerged from the winter alive to the tips, here in the Hudson River Valley. This feature of hardiness has long been the pressing need of blackberry growers at the North. If with the exceptional productiveness, good size and quality so far evinced by the Minnewaska it shall continue to combine iron-clad vigor, it will be a valuable acquisition.—H. H. *in Rural New-Yorker.*

THE SCENT OF A FLOWER.

Jane C. Simpson, in the Quiver.

The scent of a flower is a wonderful thing!
It plays round the heart like the zephyrs of spring;
So subtle, so soft, so resistless its power,
No monarchy rules like the scent of a flower.

Some odors so blend with past happier years
They move us like melodies breathing thro' tears;
For they bring back the faces and forms that are cold,
And walks in the woods 'mid sunsets of gold.

* * * * * * *

"Consider the lilies." Lord grant us to be
By the field and the garden brought nearer to Thee;
To read in sweet blossoms Thy goodness and power,
And an infinite love in the scent of a flower.

Experience with Huckleberries in Connecticut.—About three years ago I transplanted eight huckleberry plants, which had attracted attention on account of their size of fruit, and they were given a home corresponding as near as possible with the old. They began to die, however, one after another, until the last one perished last fall. In my opinion there is but one way to conquer this fruit, which is by raising seedlings from those that have taken most kindly to cultivation.—S. T. Bradley, *in Orchard and Garden.*

Low Respberry Bushes.—Mr. W. R. Sprague gives the readers of the *Ohio Farmer* some good advice as to the proper length of berry canes: "I have too often neglected," he says, "to stop the growth of raspberry canes at the proper height. The canes almost always require cutting off when other work is pressing. This year I have cut the growth when from a foot to two feet. It was necessary to go over the plantation of two and a half acres twice, from the fact that a portion of the new growth is backward. I have found that with me a low bush will give more satisfactory results than a high bush.

Another New Strawberry.—I believe the coming berry has come, and far exceeds the expectation of the most sanguine, and those berries that have held the first place so long will gracefully step down and out, to make way for so worthy a successor. The Jessie—named for one of Mr. Loudon's daughters—is of a deep, rich color, attractive in form, a Jumbo in size, (we picked specimens which measured 9¼ inches in circumference). In flavour it is a delicious pine apple; it is firm without being hard, thus rendering it a desireable berry for shipment or for the table. Specimens before me compare with our Cresents as our Cresents compare with the wild berries. We have had many new varieties of berries, which promised well, but did not prove satisfactory when tried away from localities where they were originated, but the Jessie promises to thrive and flourish everywhere, Mr. Loudon having given it thorough tests in a great variety of soils.—V. H. C. *in St. Paul Farmer.*

Management of Early Fruits.—Early apples and pears will now be ripening and should be gathered for home use or for market. In the eastern States, in localities near a market, early apples pay better than late varieties, as the grower has not to compete with the Western fruit growers. These are only profitable when they can be sent to a near market, while the late fruit can be transported a long distance without injury. Early apples, of showy kinds, should be carefully selected, and sent to market in neat packages; half barrels, lined with white paper, are the most attractive package, though, on account of their cheapness, bushel and half bushel crates are used by many. The fruit should be matured—*i. e.*, full-grown when gathered, but should not have had time to mellow. When an apple or pear is mature, it readily parts from the tree; when lifted to a horizontal position the stem of the fruit will break away from the twig to which it is attached, leaving a clean, well defined scar. With fruit, maturity is a distinct stage, and ripeness, or mellowness another. Early fruit generally, if picked when mature, will be ripe and mellow by the time it reaches the consumer. Fruit picked thus, and ripened off of the tree, is vastly better in flavour, juiciness and texture than if allowed to remain on the tree until "dead ripe."—*American Agriculturist.*

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The Ontario Strawberry.

THE

Canadian Horticulturist.

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THE ONTARIO STRAWBERRY.

This new variety was given last spring by the Fruit Growers' Association to those of its members who chose to receive it for trial. It is too soon as yet for them to report upon its behavior in their several localities, with the various treatment and in the variety of soils and circumstances under which it will be tested, but believing that it would be interesting to all growers of the strawberry to learn how it had succeeded in Mr. Little's hands during the past season, we now give the substance of his reply to our inquiries.

Of its origin nothing positive is known. Mr. Johnston, of Shortsville, N.Y., bought the stock, a few plants, some five years ago, named and disseminated it. As a cropper it has proved to be a larger bearer with Mr. Little "than a number of the new and greatly admired sorts in the specimen beds." This, it must be confessed, is somewhat vague. It would have been more definite had its productiveness been compared with some of our well known sorts, such as Wilson, Sharpless, or Crescent. The blossoms are perfect, by which is meant that the stamens and anthers are well developed so that there is an abundance of pollen produced to fertilize the seed vessels and so cause the fruit to set, without being obliged to plant some other variety yielding pollen sufficient to ensure fertilization.

The berries are larger than those of the Manchester, taking the season throughout, while some of the berries are larger than any of those borne by any other variety in Mr. Little's grounds, and Mr. Little has a very large number of varieties. In form they are "slightly elongated and ribbed, but never mis-shapen, somewhat resembling Cumberland Triumph." In color they are "not so bright as Manchester, but better than Cumberland Triumph," and in texture they are "firmer than Manchester."

The quality of the fruit is designated as "very good, sprightly, the very best for family use." Here again it is to be regretted that we have not some comparison with other varieties with the qualities of which we are familiar, yet the expression "*very best* for family use" would seem to indicate high quality.

The plant, Mr. Little says, is "one of the very best here, it is entirely free from burning in the sun, and from all

diseases, standing up strong and stocky, as if well able to do its great work of producing the very largest berries."

The Fruit Growers' Association expects that every one who received plants of the Ontario last spring will report through the *Canadian Horticulturist*, after they have fruited it, how far they find it to accord with the results given by Mr. Little.

NOTICE.

All communications and correspondence in connection with this journal are henceforth to be addressed

L. WOOLVERTON, M.A.,
Editor of the Canadian Horticulturist,
GRIMSBY, ONT.

THE HARDINESS OF BLACKBERRIES.

We learn from replies given to the *Minnesota Farmer* by fruit growers in Minnesota, Dakota and Wisconsin, that none of the Blackberries known to cultivators are hardy in that region, that unless they are protected in winter they are never profitable, not even those esteemed the most hardy with us, such as Snyder, Taylor or Stone's Hardy can be relied upon without protection. One gentleman who had tried to grow blackberries without protection says that he raised two crops of Kittatinny in ten years, and one of Snyder in three years. Most of those who had succeeded in raising crops of fruit recommended removing the earth from one side of the stalks, bending them over and covering with earth sufficient to hold the stalks in place, and doing this late in the season so as not not to injure the buds by too much moisture before the ground freezes. They also advise mulching the surface with manure. When protected in this way the Wilson and Lawton yield large crops.

QUESTION DRAWER.

THE GREEN GRAPE VINE SPHINX AND ITS PARASITE.

DEAR SIR,—With this I mail a caterpillar I found on a grape vine this evening covered with what appeared to be eggs. Never having met with one before, I send it that you may give us information concerning it, and as to what those eggs (?) are, how they came there, and for what purpose, and what will they produce, friend or foe to grape vine. I hope this will be in time for the October Number.

Yours truly, G. HALTEN.

Oakville, 7th Sept., 1886.

REPLY.—The caterpillar is known as the Green Grape Vine Sphinx, *Darapsa Migron*. You will find a full description of it in "Insects Injurious to Fruits," by Wm. Saunders, President of the Entomological Society of Ontario, a book that ought to be in the library of every fruit grower. It is a very common insect, and the most destructive grape-leaf eater we have. The little white oval substance covering the body of the caterpillar, which look like eggs, are the cocoons of a small two-winged parasite, a species of Ichneumon. This Ichneumon punctures the skin of the caterpillar, and lays its eggs in these punctures. From these eggs the larva, or worms, are hatched. These feed on the caterpillar, and, when full grown, eat through the skin and spin themselves up within these little white cocoons, from which, in a few days, the little Ichneumon flies emerge, soon ready to lay eggs in other like caterpillars. The catterpillar that has thus

been made a feeding-ground for these parasites soon after becomes shrivelled and dies.

PROPAGATING GRAPE VINES.

I have been trying to propagate grape vines from cuttings by instructions given in the October Number of the *Horticulturist* for 1884, but they did not root. Is there any other method by which I might get them to root? The cuttings were taken off in the fall, kept in the cellar till spring and then set out.

Yours truly,
W. J. PORTER.

Kemptville, Sept. 6, 1886.

REPLY.—Yes, there is another method, namely, by layering. Bend down in the spring a shoot of the previous summer's growth, and cover with earth sufficiently deep to keep the part that is covered always moist. Leave the end of the shoot to project out of the ground. When the leaves drop in the fall you find that the layer has sent out roots.

CORRESPONDENCE.

THE WINDSOR BEAN.

I have grown the Windsor Broad Bean on several occasions on my grounds, but with only partial success, barely the value in return paid for the seed. At first I attributed the cause to our hot summers, by producing abortive blossoms, which were abundant enough. On another occasion, with the usual result, I attributed the failure to the black aphis, which appeared on the tips of the stalk. Again, I tried pinching back and poisoning the aphis, but with only similar results. However, this past season I was more observant, and found but very few insects, save the aphis, approach the blossoms, our native wild bees preferring the blossoms of the clovers instead. The humming bird I often observed attacking the blossoms, and to it I attribute the few pods we find on the stems. This bean is botanically distinct from the China variety, which is a self-fertilizer. The Windsor variety is not, and depends upon the aid of insects. Our humble-bee cannot reach the nectaries of the blossoms; its probocis is not long enough. The same with our common honey bee, hence avoiding the blossoms. The European humble-bee is much larger, and better fitted for this purpose. The blossoms of other leguminous plants require insect aid in fertilization, as in the case of the red clover in New Zealand, which does not produce seed there. Acting upon the advice of scientists, the European humble-bee has been imported there, but the results which followed I have not been able to ascertain.

Yours truly,
Berlin. SIMON ROY.

NEW STRAWBERRIES.

BY JOHN LITTLE, GRANTON, ONT.

MR. EDITOR,—With your permission I will tell you and the readers of the *Horticulturist* about some of my new friends, the last arrivals of the strawberry family.

They are not like some of the human family—you can say what you like about them and they will not tear your character to pieces, and if you will give them their needed supply it is wonderful the manifold return, though a silent one, they will give you for the attention given them.

I will be brief at this time, just mentioning their names in the order of their merit, as they have done here this season. The first are Ontario, Jewel, Gola, Deeve, Acorn, this last not fruited; these are Mr. P. M. Augur's seedlings. Next, a seedling from Ohio—shown at the June meeting

at Columbus—named Mrs. Cleveland. Summit, a new seedling of Matthew Crawford's; I have fruited it for three years; sixteen berries this season weighed one pound; no plants for sale. From T. T. Lyon Nos. 3, 5, 9, worthy of testing in Canada; Howell, as early as the Crescent and as large as Manchester; Emerald and Bancroft, the former early and the latter the latest of the late. These are only a few out of a number I give my full attention to with my raspberries.

BEES IN THE ORCHARD.

Mr. Editor,—I notice a question asked in the *Canadian Horticulturist* headed, "Bees as Helpers in the Orchard." Now, sir, I have been keeping bees for twenty-four years—never been without them during that time. I also am a fruit-grower on a small scale. I have my bee yard located among my fruit trees. My pear trees are in my bee yard. I am never troubled with blight, and I grow the finest samples of pears I ever saw grown in the county of Lambton. I grow several sorts, such as Clapp's Favourite, Flemish Beauty, Bartlett, Sheldon, White Doyenne and Louise Bonne de Jersey. I have been in the habit of showing fruit at the agricultural fairs, and when I gather fruit to show I always find the finest samples in my bee yard.

There are a great many persons interested in keeping bees in the neighborhood of Arkona, and I have heard the remark made by apple buyers that they can buy handsomer samples of apples here than in any other part of Ontario.

The Value of the Honey Bee in Agriculture.—Honey and wax have ever been two most useful articles in domestic economy, and from the earliest times the honey bee has been the companion of man. What an addition to a farmer's house is a beehive nestling among the fruit trees, with its hundreds of busy inhabitants, some settling about the door or flying lightly above the roof, others darting off in quest of new supplies of food, and still others returning on labouring wings laden down with their baskets filled with crude pollen. What a scene of industry and system is bee life! The grand use in nature of the bee is the securing to the farmer or fruit-raiser a good crop and the permanence of the best varities of fruit. Gardeners have always known that bees fertilize squash, melons, cucumbers and flowers conveying the pollen from one plant to another, thus insuring, not only the complete fertilization of the seed by the pollen, and so improving the fruit, but actually causing the production of more squashes, melons and cucumbers by causing certain flowers to set that otherwise would have dropped to the ground sterile and useless. This has been proved by fertilizing the flowers by hand, a very large, indeed an unnaturally abundant crop being thus obtained.

It has been noticed by a few, though the many have not appreciated the fact, that fruit trees are more productive when a swarm of bees is placed among them; for when the bees have been removed by disease, or other means, the fruit crop has diminished. It is no longer a doubt that bees aid in the fertilization of flowers, thus preventing the occurrence of sterile flowers, and by more thoroughly fertilizing flowers already perfect render the production of sound and well developed fruit more sure.

Many botanists think if it were not for bees and other insects, such as certain two-winged flies, moths, wasps, etc., many plants would not fruit at at all. What is the use in nature of honey? The best observer will tell you that it is secreted by the plant for the very purpose of attracting bees to the flowers, otherwise it is of no use to

the flower or fruit. Of more importance, however, is the improved management of our fruit trees. Here the interest of the horticulturist and the bee-keeper combine and run parallel. A judicious pruning of our fruit trees will cause them to blossom more freely and yield honey more plentifully.

From these facts we learn the value of the honey bee to agriculture. Blot them out and we must go almost entirely without fruit and vegetables, besides being a source of profit for their honey and wax. The bee actually brings to our doors loads of fruit and vegetables and other products of the farm.

My pear trees and grape vines were so laden with fruit last year as to lead me to make the remark that we would not have many next year. But I find I was under a mistake. They are so laden with fruit that I will be obliged to prop my pear trees to keep them from breaking down, and a handsomer sample of fruit you never saw. I am certain if fruit growers would introduce a few hives of bees among their fruit trees their fruit would be much improved.

Yours truly,

Arkona, Ont. GEORGE OTT.

REPORT OF FRUIT CROP IN BERLIN.

In small fruits, such as strawberries, currants, and raspberries, the supply from local sources in the immediate neighborhood has been fully equal to the demand, and fair remunerative prices have been realized. The almost total annihilation of the common sour cherry has given an impetus to this class of fruit as a substitute for preserving purposes.

In plums, the crop will be good, of such varieties as have passed through the fiery ordeal of epidemic, and I think that those varieties which have escaped will be planted again, having learned a lesson of wisdom from experience, viz., that purer and healthier varieties must be depended on.

Early apples of the Russian type are very abundant; and, although of only recent introduction, will in course of time become popular, especially in towns and cities near by; but being summer fruits, they will not bear distant transportation.

Our common fall apples are comparatively a failure, and very little cider will be made. The cold wave which passed over during the time of blossoming, and which was succeeded by three nights of only slight frost, did material damage.

Winter apples, of the more valuable class, will be scarce; the only exceptions I notice are the Baldwins and the Golden Russets, which carry their full quota. Northern Spies are sparse, and Rhode Island Greenings are comparatively few. In pears, the crop will be fully up to the average. Summer varieties, such as the Doyenne d' Ete and Rosttiezer, bear heavily; and later varieties, such as Ananas d' Ete, Bartlett, Belle Lucrative, Clapp's Favorite, and Louise Bonne, carry their full bearable crop.

The geographical position of this (Waterloo) county not being favorable for the general culture of grapes and peaches, I have nothing to report on them.

Yours truly,

SIMON ROY.

Berlin, 17th April, 1886.

P.S.—I may state, in connection with the pear, that I have seen no blight on the trees this season.—S. R.

RUSSIAN APPLES.

We Canadians are not likely to take much stock in either Russian politics or in Russian civilization, as we imagine they are "not up with the times," but we must certainly accord to Russia the

credit of having ultimated a race of apples precisely suitable to our climate —being of a similar character—and we are always liberal to give credit to whom credit is due. Russian apples are of comparatively recent introduction (thanks to the Uuited States Bureau of Agriculture).

I have now in my collection six varieties, viz.:—Red Astrakhan,* Alexander, Duchess of Oldenburg, Tetofski, Grand Sultan and White Transparent, all of which are very satisfactory—hardy, healthy, prolific and abundant biennial bearers.

The Alexander takes well in the market from its large size and fine appearance. The Tetofski, although of recent introduction, takes well, and is highly prized for its fine flavor for culinary purposes, especially in making jelly, at least the ladies, who are the best judges in these matters, say so, thinking they are superior to the ordinary Czar for that purpose. The Duchess of Oldenburg is not behind, and, although rather acid, is nevertheless highly appreciated. Sugar is cheap (thanks to our Government). Mallic acid and sacharine form a fine healthy combination—all acid fruits being better fitted for preserves than sweet ones. The White Transparent, which the Fruit Growers' Association has very judiciously disseminated, will certainly be an acquisition, and will be a strong rival to some of the others of the same genera. The Grand Sultan I cannot say much of, having only a few specimens on the tree.

Yours truly,
SIMON ROY.

Berlin, Aug. 17, 1886.

* The Red Astrakhan, although called a Russian variety, was introduced into Britain in 1818 from Sweden, and may have no scientific or botanical connection with the Central Russian variety Pyrus Malus. The habit of the tree and the distinct character of the fruit being different would naturally place the origin of that apple to that locality, as no doubt all our other summer apples have their origin from the same place.

RASPBERRY NOTES.

BY T. C. ROBINSON, OWEN SOUND.

First to ripen this year came the *Hansell.* I consider it very valuable for market purposes. Like Highland Hardy it is not a vigorous grower, and in taste as well as appearance it resembles the common wild raspberry. Hence I do not expect it to be popular in the garden of the amateur. But the berry is of good size with me, as thick as Cuthbert, but not so long. The color is most beautiful. It tastes almost as good as Turner, and is very firm. The plant gives a good crop with fair manuring and cultivation, seems uncommonly hardy, and it is the earliest raspberry I have tested. I know of no other variety that comes up to this grade of excellence for early market, and have rooted out Highland Hardy in its favor.

Turner comes in less than a week after Hansell, and is preferable for home use for its sweetness, extra hardiness, and ability to thrive under neglect. But I doubt if it bears any more than Hansell, and the berries are far softer, unfitting it for a distant market. The canes are generally smooth, and very large and strong.

Superb is rejected here for poor color, poor quality and tendency to crumble.

Crimson Beauty is a nasty weed which I can scarcely speak of with patience. Soft, small, sour and unproductive. Few fence corner wild rasps but excel it.

Cuthbert stands easily as the king of the raspberry family on my grounds. Large, fine colored, firm, delicious and productive, it will be hard to beat. If it were only as hardy as Turner, I would expect nothing better in the next decade, but it is hardy enough to stand the most of our Owen Sound winters. It is quite late in season of ripening.

Marlboro' has borne a little fruit on one year plants. It does not seem as

early as Hansell, and the berries do not taste as good as Cuthbert. But they are large and firm, and most people would smack lips over them. The plant seems hardy also, but I am eager to hear from some Canadian who has tested it further.

Shaffer's Colossal (call it "*Shaffer*") has persistently worked its way to the position of a standard variety, and I predict it will stay there. I know I have no room for "Philadelphia," or any of the Philadelphia class, while I have Shaffer, for the berries are large, look as well, taste better, and the bush grows and bears I believe some fifty per cent. more. I think a plantation of Shaffer will, with ordinary treatment, yield double the crop of even the productive Cuthbert, and the plants seem of the very hardiest.

Franconia does not succeed well on my sandy loam, but I have seen it growing on the grounds of our worthy Reeve, Jno. Chisholm, Esq., yielding as large a crop as the best Philadelphia or Shaffer would with ordinary treatment. Mr. Chisholm gives his Franconia no winter protection, but his garden is well protected by houses, trees and high board fences. His soil is clay, and he keeps it full of manure.

Caroline still impresses me as of great value for family use, on account of its great productiveness, beauty and hardiness. The berries are of the color of Brinkle's Orange, and of good size, and I think it comes next to Shaffer in productiveness. Unfortunately the plants are not so healthy, suffering rather more from "curl leaf" than any other variety I have seen.

Rancocas appears to me just like Hansell, only not so good, smaller and softer.

Golden Queen has borne me some very fine fruit, enough to judge of the appearance and taste of the berry. It seems to me about the shape, size, and color of Brinkle's Orange, but the quality is not so good, tasting very like its parent Cuthbert. It seems fully as firm as Cuthbert, and the foliage is very like that noble variety also, but the cane is greener in color. It seems a grand grower, and is altogether very promising.

Black Caps I must leave for a future communication.

AN ACRE OF MUSHROOMS.

On a vacant plot of building land in the immediate neighborhood of the Harrow road, and within four miles of Charing Cross, is produced, annually, what is probably the most valuable crop grown in the open air and without the aid of glass, on any one acre of English soil. The space occupied is, indeed, rather more than an acre, the rent being just £12 a year, but the space devoted to mushrooms and manure is under an acre, and the uninitiated will be astonished to learn that from this small plot has been gathered in the last 12 months about 12,000 pounds' weight of mushrooms, all of which have been sold at Covent Garden at a price varying according to the season, but averaging 10*d.* a pound for the whole year. Now, the value of 12,000 pounds at 20 cents per pound is just $2,400. We have, therefore, the amazing circumstance that an acre of our metropolitan area has produced a richer garden crop than the coziest corner of Kent, or the most favored nook on Lord Sudeley's jam farm in Gloucestershire. For instance, a crop of 30 cwt per acre of hops is so great as to be of rare occurence. The average price obtained for hops is now about $15 per cwt. It is obvious, therefore, that the sum obtained for the produce of our London acre of mushrooms is more than five times as great as what would be obtained, in a particularly good year, for a first-rate crop of hops. The fol-

lowing are exceptional prices that have been realized per statute acre for other fruits and vegetables in recent years :—

Very early potatoes	$500
Onions	960
Early lettuces	500
Plums	500
Gooseberries	500
Strawberries	750
Black currants	840
Filberts	1,000

It will be observed that onions and filberts head the list, but the produce of an acre of mushrooms is worth more than double that of either onions or filberts.—*Pall Mall Gazette.*

THE SMOKE TREE.

Bless this dear old plant! If we were constrained to part with all our shrubs but one, we should hold on to the Smoke tree. It is easy as one looks at it from a little distance to fancy it a cloud tinted with the faintest rose and the faintest green blended together, or a mass of smoke such as may issue from a combination of colored fireworks. There is no shrub like it while in bloom. The delicate, downy inflorescence is not due to the flowers, which are quite inconspicuous, but to the feathery pedicels that elongate and so diffuse themselves as to conceal the leaves, while because of their delicacy we see only softly-blending colors that might well indeed be smoke or a cloud.

We have seen specimens of this little tree 20 feet in diameter—a mass of light, mossy green and purple or rose. Later, all this becomes gray, and its beauty is gone, though the later growth of leaves takes its place in a measure. One likes old-fashioned things that bring to mind the old homestead or the familiar country gardens of early days, and the Smoke tree, though among the choicest collections of plants of more recent times, seems like an old and tried friend among aristocratic strangers.

It has been said that this little tree, so distinct from all others, so oddly beautiful to those who see it for the first time, rejoices in a dry, warm soil. It is true. But it also thrives in heavy, moist soils. We have it in both positions, and it seems to prefer the latter. Its botanical name is *Rhus cotinus*, and is known familiarly as the Purple Fringe, Wig tree, and Venetian sumach, as well as the Smoke tree.—*Rural New-Yorker.*

FARMERS' ORCHARDS.

Read before the Farmers' Institute, by T. Beall, Esq., Lindsay.

While this south riding of Victoria is not supposed by its inhabitants to be generally favorable to the production of fruit, it is known that samples are often shown at our county exhibitions, and at the Mariposa fall shows, which would take first prizes at our provincial exhibitions. This is especially true of apples.

The prize lists of our county exhibitions show that these exhibits are not confined to any one locality, but are produced throughout the whole riding, from the southern, western and northern parts of Mariposa, the southern, northern and central portions of Ops, and in Verulam, along the southern shores of Sturgeon lake. It must not, however, be understood that apples can be profitably grown on every farm, although there are but few farms whereon sufficient soil may not be found to produce at least enough fruit for the family use.

The causes for the prevailing opinion that apples cannot be profitably grown here, notwithstanding the beautiful samples that are every year exhibited at our fairs, are not difficult to find, and indeed may all be summed up by one expression—lack of knowledge—as may be witnessed in too many orchards throughout the country, and proven by almost every act of the would be grower, from the time the trees are being con-

tracted for with the tree pedler until the last tree is dead.

In order that this statement may be better understood, I will endeavor to show what kind of knowledge is necessary to secure success. But first let me impress upon your minds this one fundamental fact, which becomes apparent to any one who has eyes to see and ears to hear. That the climate in this riding is eminently suitable to the health, growth and development of all the hardy varieties of apples. Let this fact be accepted, then the causes of failure will be much easier understood.

To the person about to plant an orchard, the first question for decision should be: Is the fruit I purpose growing intended for the use only of my own family; or am I going into the business of fruit growing as a commercial enterprise, *i.e.*, growing fruit for market? Let this question be well considered, and it will be seen that farmers' orchards generally are either too large or too small. Too large for the use of their family, and too small to deserve the necessary attention for profitable marketing. When a little more fruit is grown than the family requires, the balance is often wasted. Being too small to pay for marketing at the proper time, cattle, sheep and pigs are allowed to help themselves, and if a portion of the overplus be taken to market, the fruit is often in such bad condition that less—sometimes one-half less—than the proper marketing value is all that can be realized for it. I have seen two lots of apples of the same variety offered for sale on the same day in this town, one of which was sold at once at 80 cents per bushel; the other was with difficulty sold at 50 cents per bag. The lot which brought 80 cents per bushel had been carefully hand picked, placed in baskets and taken to market in a good spring waggon. The other lot had been shaken from the trees, thrown into bags like so many potatoes, and then taken to town in a lumber waggon. Those at 80 cents paid a handsome profit, while the lot at 50 cents per bag were—not quite so profitable; the grower of which said he could not afford the time to handle these apples, as he was, at that time, too busy with farm work. That man's orchard was too large. The farmer who plants more fruit trees than is necessary for an abundant supply for his family, unless he be well versed in practical pomology, and is prepared to give the necessary time and attention to his orchard, will certainly find it, in most cases, an unprofitable speculation. Profitable orcharding is the result of judicious selection of varieties, intelligent cultivation and treatment, and timely and ample provision made for handling and marketing the fruit.

A few years ago, at a summer meeting of the Fruit Growers' Association of Ontario, during a season when summer apples had been a poor crop generally, and therefore had brought large prices, one gentleman stated that he had only about a half crop, yet he had sent several hundred barrels to Montreal, which brought him about $5.00 per barrel. That man's orchard is not too large, although it contains about 300 acres. Another man stated that he, too, had sent a few barrels of the same variety to Montreal a week or two later, and had received less than $2.00 per barrel. That man's orchard, although but a few acres in extent, was probably too large for him. The next question will naturally be: What varieties are you to plant? Now, don't go to nurserymen's catalogues for an answer to that question. Neither should you allow the ubiquitous tree-pedler to have one word to say on the subject, because as a rule these gentry know less about the matter than you

do yourselves. But, go to your nearest neighbors who have orchards, consult with them, and you will soon ascertain what varieties will suit your locality best, and just here let me add in large type: Don't get too many varieties. If you have decided to plant your orchard for your family's use only, two or three trees each of such varieties as may furnish you with a constant supply of fruit of the best quality from the beginning of August until the end of the following May, is all that is required; but, if for market purposes, then three or four varieties is all you should attempt to grow, let your orchard be ever so large; and these varieties should be selected, not for the quality of the fruit, but for its market value when ready for sale. Many of the poorest apples in quality are the most profitable to the grower.

Having determined on the varieties you intend planting, the next question in order will be: How to procure the trees. Well, the best way to get your trees is to send your order to some reliable nurseryman, and tell him to send the choicest trees he has of the varieties named; and depend upon it, you will get in this way the best possible value for your money.

Next; as to planting: Have the ground into which the trees are to be planted, in the highest state of cultivation. See that the planting is properly done. The soil neither too wet or too dry, but mellow and friable. Make the holes large enough so that every root may be fully extended, and deep enough, so that the tree may stand a little deeper in the soil than it stood in the nursery. Work the mellow soil around and between the roots with your fingers. When the hole is filled up level, tramp the earth down until it is firm; then cover the trodden earth with rich, loose soil to the depth of two or three inches.

Cultivation and after treatment:—

Corn is perhaps the best crop to grow in an orchard the first year, as it impoverishes the soil but little, and its tall growth shelters the stems of the young trees from the hot sun just when shelter is most needed. Root crops of any kind may be grown for the succeeding five or six years. Allow no weeds or grass to grow during this time under or around the trees; then no fear of girdling by mice need be entertained. All pruning during this time may be done with the finger and thumb; a small knife may occasionly be required. The operator should know the habits and peculiarities of growth of each variety he is working, and allow no shoot to grow where a limb may not be in future years. Have the trunks and limbs as far up as possible; wash once or twice each summer with an alkaline wash, and thereby greatly assist in increasing the health and vigor of the trees. This treatment also tends greatly towards keeping insect enemies in check. When the trees commence to bear and the effects of the Codlin moth feared, the tops of the trees should be sprayed with water in which Paris green has been mixed. This must be done when the blossoms are mature and just ready to fall, to be effectual. It will not do to say I am too busy with my seeding and will attend to the orchard in a day or two. To-day is the time; to-morrow may be too late. When the orchard is in good bearing condition all cropping should cease and grass may be grown which may be eaten by pigs or sheep or it may be mowed occasionally but never removed without supplying its equivalent in manure, in addition to a heavy top dressing of good manure every year The land when first reclaimed from the forest contains a bountiful accumulation of all that is necessary for the production of our various crops, but every

crop taken from the land makes the soil poorer to that extent. The honest man will therefore return to the soil every year an equivalent for the crop removed.

GOOSEBERRIES.

The *Rural New-Yorker* reports as follows :—

Triumph was received from George Achelis, of Westchester, Chester Co., Pa. It is a large berry, certainly; but it so mildews this season that a longer trial is necessary to make a report in other particulars.

Cayuga and *Industry*, the former from H. S. Anderson, Union Springs, N. Y., the latter from Ellwanger & Barry, Rochester, N. Y., have not as yet fruited.

Orange is from H. M. Engle of Marietta, Pa. "It is," he writes, "probably a seedling of the Houghton." This berry is with us of real value. It is one of the earliest to ripen, if not the earliest. It is of medium size, sweet and tender. The color is a dull yellow. Plant thrifty.

Imported Variety from H. Sumner, Polo, Ill. He imported it 10 years ago from England. The berries average of fair size. Some mildew and some do not. A longer trial is needed.

Dougal No 10, mildews badly.

Dougal No. 3, berries from medium to large—scarcely any mildew. Green when ripe. Ripens with Porter. Quality medium.

Dougals No. 2. Fruit of medium size and high quality, hairy. Color light green shaded with purple.

The Editor of the *Canadian Horticulturist* fruited the *Industry* this year and was much pleased with the size and quality of the fruit; when cooked the fruit was inviting to the eye, much more so than that of the green varieties, and of a rich and agreeable flavour. It has not yet suffered from mildew.

FOOD-HABITS OF BIRDS.

It is well known that certain birds are directly destructive to farm crops, causing a loss of many thousands of dollars each year, and that others are highly beneficial, preying upon mice and insects which are injurious to vegetation; but the extent and significance of these effects and their bearing on practical agriculture is little understood. Moreover, great difference of opinion exists, particularly among farmers, as to whether certain well-known species are on the whole beneficial or injurious; and many kinds which are really of great practical value are killed whenever opportunity offers. For example, hawks and owls are almost universally regarded as detrimental, while as a matter of fact most of them never touch poultry, but feed largely, and some almost exclusively, on mice and grasshoppers.

The wholesale slaughter of small birds has been known to be followed by serious increase of noxious insects; and invasions of insects which threatened to devastate large tracts of country have been cut nearly short by the timely services of some of our native birds.

In view of the above facts, and many others which might be cited, it is clear that a comprehensive, systematic investigation of the inter-relation of birds and agriculture should prove of value to farmers and horticulturists. Such an investigation has been undertaken by the newly-established Division of Economic Ornithology of the Department of Agriculture, and the assistance and co-operation of persons interested is earnestly solicited.

The food of all birds consists either of animal matter or vegetable matter or both, and its consumption must be serviceable or prejudicial to the interests of mankind. Therefore, according to the food they eat, all birds may be classed under one or two headings—

beneficial and injurious. Many species are both beneficial and injurious, and it is impossible to assign them to either category until the percentages of their food-elements have been positively determined and the sum of the good balanced against the sum of the evil.

In a very large proportion of our small birds the food varies considerably with the season, sometimes changing from vegetable to animal, or from injurious to beneficial. Furthermore, many birds feed their young upon substances which the adults rarely or never eat; and the young on leaving the nest sometimes greedily devour things which are discarded as they grow older. Hence it becomes necessary to ascertain the food of each species at different times of the year and at different ages.

Information is desired on all questions relating to this inquiry, and special attention is invited to the following:—

1. Has the common crow been observed to catch young chickens or to steal eggs?

2. Has it been observed to eat corn or other cereals in the field? If so, how long after planting, and how extensive was the injury done?

3. Has the crow been observed to feed upon injurious insects? If so, what kinds of insects were thus destroyed, and to what extent?

4. Has the crow blackbird or grakle been observed to carry off the young of the robin or of other small birds, or to destroy their eggs?

5. When breeding near the house, has it been observed to drive off small birds (such as robins, bluebirds, &c.) which had previously made their abode on the premises?

6. Has it been observed to eat corn or other cereals in the field? If so, how long after planting, and how extensive was the injury done?

7. Has the crow blackbird been observed to feed upon injurious insects? If so, what kinds of insects were thus destroyed, and to what extent?

8. What birds have been observed to feed upon or otherwise injure buds or foliage, and what plants or trees have been so injured?

9. What birds have been observed to feed extensively upon fruit? What kind or kinds of fruit have been most injured by each species, and how extensive have been the losses thus sustained?

10. The bobolink (rice-bird or May-bird of the Southern States) congregates in vast flocks during its migrations and commits extensive depredations in certain parts of the South. The division will be glad to receive detailed accounts of these depredations from persons living in the affected districts, to whom a special circular will be sent on application.

11. What birds are considered to be injurious to grain crops, and what kinds are regarded as beneficial? On what facts are these opinions based?

12. What birds have been observed to feed upon injurious insects, and upon what kind or kinds does each bird feed?

13. Do blackbirds (other than the crow blackbirds already mentioned) commit serious depredations in your vicinity? If so, which of the several species of blackbirds are concerned, and what crops are affected?

14. Has any kind of bird been observed to feed upon the honey-bee? If so, what species, and how extensive has been the injury done?

When possible, the exact date should be given of all occurrences reported.

Persons willing to aid in the collection of birds' stomachs will be furnished with the necessary blanks and instructions.

Special circulars on the English sparrow, and on the economic relations of mammals, will be furnished on application.—C. Hart Merriam, *in Country Gentleman.*

A NEW ORNAMENTAL TREE.

The Japan Lilac, Syringa Japonica, has been raised from seed at the Harvard Arboretum, at Cambridge, Massachusetts. The seeds were planted in the spring of 1877, and some of the trees raised from them bloomed for the

first time last summer. These trees have already attained a height of fifteen feet or sixteen feet, with a straight, clean stem covered with thin, smooth, light-colored red bark, similar to that of a thrifty young cherry tree. The leaves are five or six inches in length, accuminate, wedge-shaped at the base, coriaceous. The flowers are small and white, and are borne in immense panicles, eighteen inches to two feet in length and three-fourths as broad. These panicles are borne in profusion, and the flowers open during the first week in July and remain in bloom a long time.

The tree is considered perfectly hardy here, and grows rapidly. What height it will attain is not certainly known. It promises to be a splendid ornamental tree for this country. The time of its blooming is later than that of most other trees and shrubs, and this feature gives it additional value.—*Vick's Magazine.*

THE DUCHESS OF OLDENBURG APPLE.

Were we writing for the orchardist, as distinct from the people, there would be little need of referring to this excellent Apple here, as its merits are widely known to the regular fruit growers. But a kind that is so universally esteemed by orchardists everywhere, and especially in the North and West, should be better known by the average amateur.

A leading merit of this fine Apple is its great hardiness—sufficiently accounted for by the fact that it is a Russian variety. Added to this, the tree is a strong grower, forming a roundish spreading head, and it is an excellent bearer. What would strike most people as a good characteristic of the tree, is, that it requires but little pruning at any time—much less than the average of orchard trees.

The fruit is from medium to large size, of a handsome, regular form, and is streaked, the ground color being yellow, with red streaks. The flesh, while not of the highest quality, is sufficiently pleasing to the taste to insure a ready sale for the fruit in market. It is a fine cooking apple. The flesh is a handsome yellowish white, juicy, slightly sub-acid. There is a faint blue bloom diffused over the fruit.

The subject of our article is an early autumn fruit, being at its best in September. Possessing, as it does, such a number of good points, it should find a place in the lists of all who set out apples in the northern belts of this fruit. In moderate proportion, it would rarely if ever disappoint the grower.—*Popular Gardening.*

GERANIUMS FOR WINTER BLOOMING.

We notice every year advice to amateur florists to use only young plants of geraniums for winter blooming. We have tried both young and old plants, and are in favor of old plants every time. A young plant—meaning by that a plant started in the spring—will not have many branches for the first year, consequently it will not have much blossoming surface. It may bloom well, but if many flowers are wanted you must depend on old, well-branched plants for them. Some plants will not bloom well after a certain age is passed, but the geranium will bloom for years, and as long as plants keep in a healthy condition I would not throw them aside for young ones, unless they become too large for the space allowed them. We have plants six and seven years old, and they give us a profusion of flowers every winter. One such plant is worth a dozen small ones.

In spring we put them out on the veranda and cut them back well; indeed, we cut off at least two-thirds of their branches, trimming them into as sym-

metrical a shape as possible. In a short time half a dozen new branches will start for every one cut off, and by fall we have compact, bushy plants, well furnished with blossoming points. We keep all buds picked off during the summer and do not encourage a vigorous growth. The aim is to keep them as nearly dormant as possible, and in order to accomplish this we give only enough water to keep the soil moist. A slow, healthy growth will result. In fall, before taking them into the house, we repot them, using a compost made of garden mould, well-rotted manure and sand. The light-colored varieties seem to be the freest bloomers in winter.—*American Agriculturist.*

PEOPLE WHO LIVE IN TREES.

In thinly populated districts of Southern and Central Africa, where lions, leopards and hyenas abound, the natives live in huts like gigantic bee-hives, firmly fixed among the large branches of the Baobab tree. On the approach of night they ascend to their huts by means of rude ladders, while the lions roar about their camp-fires until the approach of day drives them to their lairs.

As many as thirty families have been found to occupy a single tree. In many instances natives who till the ground at any great distance from their tribe build these huts for nightly accommodation. In travelling through the country one frequently sees these trees alive with baboons and other kinds of the monkey tribe, busy in collecting the fruit and indulging in ceaseless gambols and chatter; for this reason it is commonly called the monkey-bread tree. When the tree is not occupied as a habitation, the hollow trunk serves the natives as a sepulchre for executed criminals—the law of the people denying them the right of burial—inside of which the bodies dry up, and to a great extent resemble mummies. To a European this tree is a marvel. Coming across one inhabited by monkeys, it is extremely dangerous to shoot any unless one is with a party, for if any are wounded the whole colony take up the battle, and more than once I found that a retreat in short order was necessary. —CAPT. PINTO, *in American Agriculturist.*

THE HUCKLEBERRY.

When Bartholomew Gosnold, in 1602, discovered wild grapes growing in great abundance in the swamps and low grounds on a little islet near the New England coast, he gave to it the name of Martin's Vineyard, no doubt believing that he had found the home of the wild grapes of the New World. But that little islet, now known as "No-man's Land," nor the larger island, which bears the name of Martha's Vineyard, are considered favorable locations for vineyards, although the wild grapes do grow all along the New England coast, and in swamps and low grounds throughout these United States. While it is true that the wild grapes of North America are found more abundantly in swamps and low grounds than on high and dry soils, still no vineyardist would think of planting a vineyard in a swamp, because long experience has shown that high, dry and well-drained soils are far preferrable for such purposes than those that are low and wet.

There is another very valuable native fruit, about which the same erroneous ideas exist that were for a long time held in regard to the indigenous grapes; it is our swamp high-bush huckleberry, or blueberry *(Vaccinium corymbosum).* It is found growing wild in the same localities and under the same conditions as the wild grape, not only in swamps, but also on high and dry soils. Because the plants are more abundant in swamps than on hills and in dry soils does not

prove that under cultivation low, wet soils would be the best. From my own experience with this species of the huckleberry, I would not choose low, wet soils in which to plant it for fruit, but in a sandy, or, at least, well-drained one. The plants thrive best in peat and the almost pure vegetable deposits of the swamps; also in the light, sandy soils, and even high up in the hills of New Jersey and adjoining States, in light, sandy soils, in which the running blackberries and five-finger plant have to struggle to obtain nutriment from the sterile soil. A plant that will grow and thrive—bearing a heavy crop of fruit in moderately favorable seasons—in such soils will certainly thrive under good cultivation, provided the soil is not a heavy, unctuous clay. I have had no experience in cultivating the huckleberry on clay soils; but in sand, or sandy loam, they may be grown almost as readily as currants or gooseberries.

The plants can be had in abundance from the open fields and swamps, and usually they can be lifted with good roots, and then by cutting away the older stems—leaving the younger and more thrifty—there is no difficulty whatever in making them live. The past spring I had occasion to move some plants of the high-bush huckleberry that were set out eighteen years ago. They were dug up, and with saw and hand-axe the stools were divided up and replanted, and all have lived and are now growing finely and even bearing fruit. I have dug up wild plants for my own use and for several of my correspondents and friends almost every season for the past twenty years or longer, and have not as yet discovered that the huckleberries of any of the species are at all difficult to make grow or thrive under cultivation. They may all be propagated by layers or seed; but the latter is a slow process, as the plants make little progress for the first few years, and we may save a decade or two by taking up the wild plants.

As there are several distinct natural varieties of the high-bush species, as well as of other species, it is well to mark the plants to be taken up when in leaf or fruit. The genuine or true *Vaccinium corymbosum* bears quite large, round berries, covered with a blue bloom; but there is a variety with oval fruit, jet black, without bloom, and another with globular berries also destitute of bloom. Of the dwarf, early blueberry (*V. Pennsylvanicum*), common to high, dry and rather sterile soils, there are also several distinct natural varieties, one of which is an albino, the fruit being pure white and fully as transparent as the white grape currant.

In cultivating any of the huckleberries on sandy soils it is advantageous to keep them well mulched, thereby insuring an abundance of moisture at the roots, as well as preventing any baking and overheating of the surface soil. Under proper care and in rich soils the plants will grow far more rapidly and yield larger crops of fruit than when left to grow uncared for, as in their native habitats.—A. S. FULLER, *in American Agriculturist.*

HOW TO APPLY PARIS GREEN.

Not long ago I saw on Long Island what was to me a new way of applying Paris geeen. A farmer was riding a two-horse machine through his potato field, dropping the poison on four rows at a time and as fast as his team could walk. This work is usually performed by hand at great disadvantage. The poison is mixed with water and applied to a single row, of course—slow and heavy work. The poison is no doubt as effective when diluted with water as when mixed with dry powder. But the latter is most covenient, and I prefor cheap flour to plaster because it is

lighter. Each hill needs but a small quantity, and, of course, the mixing should be thoroughly done. In default of the horse machine the quickest method I know of is this: Get coarse cloth that will allow the mixture to sift through easily and make some bags of convenient size. Have a deposit of the mixture at each end of the rows and in the middle if they are long. Take a bag in each hand and shake it over the rows as fast as you can conveniently walk and the work will be done in half the usual time.—*Philadelphia Weekly Press.*

A NEW ENEMY TO THE APPLE TREE.

We have received several specimens of a minute beetle from U. L, Mowrey, Providence Co., R. I.. which he found boring into and through branches of his apple trees, It appears to be a hitherto unknown enemy of the apple, at least, we find no mention of its habits or food in entomological works. Its scientific name is *Xyleborus obesus*, and it was first described by the late Dr. John L. LeConte, in the "Transactions of the American Entomological Society," for 1868. Dr. Le Conte reported that this species had been found in Virginia, Massachusetts and Canada. The beetles are about one-eighth of an inch long, and rather stout, cylindrical, blackish-brown, aud clothed with long, soft, erect, pale colored hairs. Its antennæ are of a reddish brown, and the head, convex, coarsely, but not densely punctured. It is closely allied to the Pear Scolytus (*Scolytus pyri* of Peck), described in Harris' "Insects Injurious to Vegetation," but differs from it by its stouter form, and by the absence of the small, acute tubercles on the sloping tip of the elytra or wing-covers. This insect is likely to become a dangerous enemy of the apple and nearly related trees, and it would be well for orchardists throughout the country to be on the lookout for this pest, and all infested branches and twigs should be carefully cut off and burned, in order to destroy both larvæ and the mature insects.—*American Agriculturist.*

A DOZEN LILIES.

For a dozen good hardy varieties and species I would name the following, but will add that there are others equally desirable:—

Lilium auratum (Gold-striped or banded.—Flowers are very large, sometimes twelve inches broad; petals spotted with chocolate purple, and a broad gold-colored stripe down the centre of each petal. There are several varieties with a red stripe in place of the gold or yellow.

L. lancifolium album.—Pure white, not so large as the former, but showy.

L. lancifolium roseum.—Form and size of the last, but of a pale rose color spotted with purple.

L. longifeorum.—Flowers trumpet-shaped, six to eight inches long, pure white and very fragrant. Variety *Harrisi* has recently become very popular for forcing in winter.

L. browni.—A variety of species intermediate between *longifeorum* and *auratum*, with somewhat trumpet-shaped flowers, white within and chocolate color without.

L. chalcedonicum.—Brilliant scarlet. The petals are so much reflexed that the flowers appear like a round scarlet ball.

L. Leichtlinii.—A beautiful Japanese lily, growing two or three feet high, with long slender alternate leaves. The flowers are of a bright golden yellow, spotted with small oblong blotches of maroon brown.

L. candidum.—The common white lily of the gardens; and, although one of the oldest in cultivation, it is worthy of a place in every collection.

L. tigrinum fl. pl.—Very similar to the common tiger lily, but the flowers are double and more enduring than the single form.

L. superbum.—The common wild lily of our Northern States, but deserves a place in every garden on account of its stately growth and showy flowers.

L. Philadelphicum.—Another native species, seldom cultivated in this country, but highly valued abroad. Flowers bell-shaped and of a reddish orange. A low growing species, seldom more than two feet high.

L. nigrum.—A black lily of Kamtschatka. This is no doubt closely allied to our Superb lily, but the flowers are of a very dark purple color.—A. S. FULLER, *in Orchard and Garden.*

THE FLORIST'S TULIP.

The tulip is perhaps one of the most precious of flowers in the estimation of the florist, because of the extraordinary transformations through which it passes, as well as on account of its possession of other qualities of a not less fascinating character. One singular peculiarity of the Tulip is the extraordinary change which takes place when the seedling breeder "breaks," or, in other words, assumes its proper and permanent character. That a flower which, on its first blooming, from the seed, and probably for a series of years afterward, should (to take the case of a fine Byblœmen) present but one dull slate color with a circle of white at the base; that this flower, so unattractive in its appearance, should all at once, without any apparent cause, completely alter its nature; that the dull slate color should disappear entirely, giving place to a delicate feathering of rich purple or violet, while the pure white, which was confined to a narrow circle at the base, should spread all over and become the ground color of the petal; and that the latter and true character should be maintained during the whole of the after existence of the plant, is surely so remarkable a fact in vegetable physiology as to deserve at the hands of the scientific and practical botanist the closest investigation.

Many persons, though well acquainted with flowers, are unaware of the changes through which the seedling Tulip passes. It is four or five years before it flowers, then it takes on the self-colored or breeder form; but in the breeder state it is easy to class it with the Bizarres, Roses or Byblœmens, according as it may belong to either of these three divisions. Then, at the expiration of sometimes one or two years up to six or seven years, it breaks into its true character, and becomes what is termed "rectified." Why the Tulip should be an exception to the universal law observed in seedling flowers, and have an almost exceptionally intermediate state, passeth knowledge. The practical florist asks of the botanist the why and wherefore of this, and no reply is forthcoming.

It is said that in the whole range and history of plants there is no analogy to this phenomenon.—*Vick's Magazine.*

RELATION OF STOCK TO SCION.

My attention to this matter of what may be called "graft crossing," was awakened a great many years ago, when I was a boy, about the year 1838. I was then extremely fond of the Sops-of-Wine Apple, known also as Bell's Early. My grandfather had a large orchard, but no Sops-of-Wines, and at my urgent request he grafted scions of that variety into branches on half a dozen trees for my benefit. I watched these scions anxiously for fruit, and in three or four years they all bore. But I was greatly disappointed to find that this fruit, though externally appearing to be Sops-of-Wine, was hard, green-fleshed, and miserable to eat. There was but one

exception, and that was upon a Pound Sweet tree the others being upon Russets. This Pound Sweet graft bore very large, handsome and excellent Sops-of-Wines, but the rest were worthless.

Some thirteen years ago, I was speaking of this to the late Albert Noyes, of Bangor, Maine, who said he had had many similar experiences, especially in getting extra sized fruit for exhibition by grafting upon Alexander, all varieties seeming to grow larger and handsomer when so worked. But this size was got at the expense of quality.

A more curious matter still is, that by grafting "in and in" upon the same tree the change produced can be much intensified, By "in and in" grafting, I mean grafting a scion upon the limb of a tree, then next year taking a scion from the graft and grafting it into the same tree; next year take a scion from the second graft and insert it in the same tree. This may be repeated again and again, the result being that you will have all grades between the original fruit of the graft and the original fruit of the stock. To be quite successful there must be difference enough between the stock and first scion to start a change. But by "in-and-in" grafting the effect is often so marked from one year's graft to the next, and so on, as to make a positive demonstration of the actuality of this which I call "graft crossing."

R. Dibble, of Brantford, Conn., was the man who, in June, 1873, first called my attention to this method of intensification of the graft cross by grafting in and in. He wrote: "About forty years ago, my father had a large and thrifty apple tree that bore exceedingly sour fruit. I helped him graft a part of it from a very sweet apple standing near. The second year we grafted another part from the scions set the previous year. The third year we grafted the rest of the tree from the second setting. These grafts produced three different kinds of fruit, all differing from each of the original stocks. The first strongly resembled the sweet apple, but were only moderately sweet. The second were slightly striped, like the sour apple, and neither sweet nor sour, while the third were clearly striped, and a moderately sour apple." Mr. Dibble, adds, "No man can graft a Rhode Island Greening on a sweet apple stock and another from the same on a sour stock, and have the same fruit in appearence and taste as the original from each tree. To say the least, I have never been able to do it. I have a number of them, but no two are alike."—T. H. Hoskins, *in Vicks's Magazine.*

THE ERIE BLACKBERRY.

In the multiplication of varieties, the blackberry has not kept pace with the raspberry and strawberry; yet the last five or six years have witnessed the addition of some very valuable new sorts to a list which was, and is still, by no means very large. Among these kinds two deserve special mention: the Early Harvest, particularly for its extreme earliness, which gives it sole control of the markets far in advance of all other sorts, and Wilson Junior for its size and productiveness. Intermediate between these two, in regard to its season of ripening, stands the "Erie," named thus by Hon. Marshall P. Wilder in consideration of its place of origination, which is near Lake Erie, in northern Ohio.

We have good reason to believe that the Erie is the "coming blackberry," and will give to the fruit grower what has been looked for so long in vain—a variety with the iron-clad cane of the Snyder and the large fruit of the Lawton or Kittatinny. At Monmouth it has passed the last two winters without protection entirely unharmed, while all

other varieties, with the exception of Taylor's Prolific and Snyder, were more or less injured. In northern Ohio it has stood the test of 25 degrees below zero, coming out sound and full of life force to the very tip.

In vigour of growth the canes excel even the Snyder and Kittatinny. In size it equals the Lawton. The colour of its fruit is jet black and the quality excellent. But a very peculiar and valuable feature of the berry is its round form, which makes it seem still larger than it really is, and lends to a dish of the fruit a most attractive and appetizing appearance. There is little doubt that it must become a favourite in the markets.

The Erie has not yet been introduced to the general public, but will probably be offered for sale the coming fall.—*Orchard and Garden.*

A NEW MOLE-TRAP.

Whoever has a garden surrounded as mine, by old sod pastures, wherein the unfortunate proprietor has attempted for many a year to grow the bulbous plants over which the heart yearns with exceeding great desire—as dear to the heart as pleasant to the eye—will understand the feelings with which I saw, year after year, my first tulips, hyacinths and crocuses destroyed ruthlessly by moles.

Only by planting in deep, bottomless boxes or crockery were they at all safe. But these, after a time, would rot and crack with continued rains and freezing, and again was I left without protection.

Not only did my bulbs suffer, but my finest roses and lilies were ploughed under and rendered sick and useless, sometimes before I could discover the invasion. My newly-planted sweet corn, when just above the ground, would be left to stand green enough for a day or two, but grainless underneath, until soul and spirit were vexed and wroth over continuous planting. I bought a large, old-fashioned, wooden mole-trap of a farmer, home-made and clumsy, which did me no service, since I could not get the thing to work properly, and in the meantime the work of destruction still went on. I used to sit out hours sometimes, under an umbrella, watching for those blind rascals at work, and when I caught one his brains paid the penalty. I had tried field corn soaked in poison and put in the drain, but it was untouched. Then I wrote to a dealer, making arrangements for one of his famous mole-traps, when, lo, in desperation in the meantime, I again placed grains of corn soaked in a strong solution of arsenic in the runways, and succeeded. It seems that the mole has a sweet tooth in his head and prefers sweet corn to the more common field grains I had at first used.

I submit the preceding for the benefit of any who may, like myself, have a common cause of complaint. It has proved, since I first tried it, again and again successful in destroying them. The corn should be soaked over night in the poison, then placed in the runways.—H. K., *in Vick's Magazine.*

CURRANTS FOR HEALTH.

I shall not lay stress on the old, well-known uses to which this fruit is put, but I do think its value is but half appreciated. People rush around in July in search of health; let me recommend the currant cure. If any one is languid, depressed in spirits, inclined to headaches, and generally "out of sorts," let him finish his breakfast daily for a month with a dish of freshly-picked currants. He will soon almost doubt his own identity, and may even think that he is becoming a good man. He will be more gallant to his wife, kinder to his children, friendlier to his neighbors, and more open-handed to every good

cause. Work will soon seem play, and play fun. In brief, the truth of the ancient pun will be verified, that "the power to live a good life depends largely upon the *liver*." Out upon the nonsense of taking medicine and nostrums during the currant season! Let it be taught at the theological seminaries that the currant is "a means of grace." It is a corrective, and that is what average humanity most needs.—E. P. Roe, *in Harper's Magazine.*

WHAT ARE LENTILS?

The stores and markets of large cities offer a number of articles of food to meet the wants of their European customers, which are hardly known to, much less eaten by Americans in general. Among these articles is the Lentil, concerning which we have occasional inquiries. Lentils are the seeds of a plant of the Pea Family, the native country of which is not known with certainty. It was probably one of the first plants brought under cultivation, and is not now known in a truly wild state. The plant is mentioned in the books under the botanical names of *Ervum Lens*, and *Lens esculenta*, the latter being the name adopted by the best authorities. The plant is a slender annual, seldom over a foot and a half high; it has compound leaves, which are terminated by a tendril. The small, blue flowers grow two or three together at the end of a long stalk, and are succeeded by pods, containing from one to three seeds. The seeds are circular, with two convex surfaces; the optical glass having this form is called a *lens*, from the ancient Latin name for the Lentil. In color, the seeds usually are gray or drab, but this sometimes varies to brown, and there is a black variety. Lentils are raised in all warm countries, where they form an important article of food. In cultivation, a poor soil is preferred, as upon rich lands but few seeds and a heavy crop of foliage are produced. The various works upon foods rank Lentils among the most highly nutritious alimentary substances. Many years ago, there was introduced a food for invalids, with the high-sounding name of "Revalenta Arabica." It was found to be Lentil Meal, flavored with cocoa and other substances, and for a time was exceedingly popular. The common method of preparing them for food is to cook the seeds in soup or broth, until soft. In India, lentils are often added to rice, making a most nutritious diet. The lentils offered in our stores are imported, but there is no difficulty in raising them here, should there be a sufficient demand to warrant it.—Dr. George Thurber *in American Agriculturist.*

SOME OF THE NEWER PELARGONIUMS.

Easily grown, beautiful and fragrant, it is no wonder that pelargoniums are favorites with the majority of flower lovers.

Annie Atkins is one of the most prominent of the newer varieties; it is very robust in habit, with fine, healthy, branching foliage, flower and trusses are very large, pearly-white tinged with pink. A desirable variety, for in-door culture especially.

Evangeline is another fine white variety, especially desirable for bedding; it is rather dwarfish in habit; the flowers are very large and pure white.

Harriet Thorpe is one of the best of modern introductions; its color and shading are so delicate that it seems almost so much out of place among its stronger-looking mates as would a La France rose among a lot of hollyhocks. Yet the variety is by no means tender. In color it is of the most delicate blush shaded with whitish pink; the edges of each are lined with a narrow edge of deep pink; the trusses are large and

well shaped. It is strongly branched and very compact in growth. The foliage is very fine and healthy.

Progression must not be omitted from the list of the fine varieties, for it is as near an approach to a yellow pelargonium as has yet been introduced. It is of a soft chrome-yellow shade, flower and trusses of good size and shape.

Excelsior is a noble variety, and one which we can highly recommend. It bears remarkably large flowers of pure scarlet, almost perfect in form; the habit of the flower is branching and compact.

The varieties named, while by no means all of the newer kinds, may at least be considered equal to any, and will repay trial. They are all double and of fine, healthy foliage. We can strongly commend them to our readers, and trust that many window gardens this winter will contain at least some of the kinds we have named.—*American Garden.*

SQUANTUM SUGAR CORN.

I should like to speak a good word for the Squantum Sugar Corn. Among the many novelties that are continually being introduced so many are worthless that often a good thing is catalogued for several years perhaps before its merits are generally known to the public. How much of a novelty the Squantum Corn is I cannot say, but it is not planted to any great extent in this section that I know of, and I notice that it is not generally catalogued by seedsmen, or, if it is, it does not appear under this name. I have planted this corn now for several years, and no other is acceptable on my table while it is in bearing. If it has any faults I have never discovered them. It is what I suppose would be called a second early, coming in after the Early Minnesota. The ears are about the same in size as the latter—perhaps a trifle larger—well filled with eight to twelve straight rows of pearly-white grains. It is exceedingly productive, bearing three and often four ears on a stalk, and remarkably sweet; in fact, the flavor is wherein it principally excels. What more a person wants I cannot see, and I know of nothing more delicious than a dish of this corn fresh from the garden. Some may prefer the larger ears of the Evergreen, Egyptian and Mammoth; but they are more fond of distending their jaws than I am. As long as corn is sold by the hundred, however, I suppose the larger eared, late varieties will gain the preference in the market, although, for my part, if I had to buy my corn, I would rather have the smaller ears of the Squantum, even at the same price per hundred. I have sent some of this corn to the grocers on several occasions each season, and it is the same old story every time—the customer sends back word that he wants some more of that kind of corn, and one even went so far as to say that he would have no other. It seems to me that if our farmers would pay more attention to quality sometimes and less to quantity it would pay them, at least in certain markets.—Wm. Hewitt, *in Rural New-Yorker.*

THE SPRINGFIELD BLACKCAP.

This new black raspberry is as yet but little known outside of Springfield, Mass., where it originated. The old bush was found, neglected, on J. W. Adams' place some years ago, and was rooted up and given away as of but little value. The variety was propagated, however, and later attention was called to it so strongly that others secured plants and have since propagated it as fast as possible. It is thornless, and by some has been considered identical with the old Davidson Thornless, but the characteristics of the variety belie this opinion. It is an exceedingly vigorous grower, hardy, a prolific bearer, and, being practically thornless, is easily picked

clean. The fruit is of good quality, but its great point is its early ripening. The Springfield Blackcap was ripe, on the farm of W. L. Chandler, on June 21, and three days later was in the market. Coming just at the close of the strawberry season, the fruit commands good prices and a quick sale, while ten days or two weeks later the red raspberries come in, and the market for blacks decrease. The Springfield is being quite largely grown by the few nurserymen who have been able to secure it, and promises to be a decided acquisition.—*Farm and Home.*

THE CLEMATIS IN FRUIT.

Several species of Clematis, after being ornamental in flower, again become so in fruit. After the flower falls, it is succeeded by a cluster of what are commonly called seeds, but they are little seed vessels, each containing a single seed. Each seed vessel is terminated by a sort of tail, an inch or more long, which, in some species, is plumed with long, whitish hairs, as seen in the Travelers' Joy *(Clematis vitalba)*, of England. Our native Travelers' Joy *(C. Virginiana)* excels this both in the size of its clusters of flowers and fruit, and in that of the individual fruits, as well as in their plnmed character. This native species is very abundant, and climbs quite high. In summer, its clusters of white flowers are hung upon the shrubs of thickets, and are suspended from the branches of trees. In autumn, the flowers are replaced by clusters of fruits, which are so downy as to be even more conspicuous than they. When in fruit, this Clematis is often called "Old Man's Beard." The heavy-smelling Clematis *(C. graveolens)*, from Thibet, is a rampant grower, and its solitary flowers, of a greenish-yellow color, are not at all showy. The ornamental character of this plant commences after the flowers have disappeared. We have a vine of this which covers the end of a shed; during the past autumn it has borne such an abundance of large, plumed fruit-clusters, as to quite hide, not only the shed, but the foliage of the vine. This species is well worth growing for its beauty in autumn. We have, at times, advocated the planting of shrubs that have bright berries, for the sake of their autumnal effect; we may add to the shrubs several of the showy-fruited species of Clematis.—Dr. Geo. Thurber, in *American Agriculturist.*

EARHART EVERBEARING RASPBERRY.

The so-called everbearing raspberries have so uniformly proved shy bearers, and some neverbearers, that people have almost come to the conclusion that such a thing as an everbearing berry does not exist. Nor do we think that the Earhart is truly an everbearer; but that it produces one very full crop, and at least two others of almost equal abundance, there is no reasonable doubt.

Its first crop, which is claimed to be as abundant as that of any berry grown, is on the old wood, or that grown the previous year. It ripens about one week earlier than Mammoth Cluster, is of good size and of a bright shiny black —very handsome. Its later fruit is borne on wood of the current season's growth, and it really ripens two good after crops—one in August and the other in September, although it has more or less ripe fruit at all times after the middle of August. The leaves are extremely wrinkled or corrugated, and of such distinct shades of green as to be very ornamental.

This berry is an accidental seedling, found growing wild about 16 years ago by Mr. Earhart, in an open grove on his farm in the eastern part of Mason County, Ill. When found, in August or September, it was full of ripe berries.

Mr. E. broke off the canes and carried them to the house; but when subsequent search was made for the vine, it could not be found, and for two years it was forgotten. When it was again found in the Fall, loaded with fruit, it was transplanted the succeeding Spring to the garden, where, it is claimed, the original bush is still growing.—*Rural New-Yorker.*

STRIPED BUGS.

We have never known this pest so troublesome on squashes and other vines as they have been this season, and we have never before exterminated them with so little difficulty. We inspected our vines one morning and found them literally covered with bugs. On our approach they arose in swarms. We at once applied Paris green in solution, very weak; the next morning the only evidence of bugs was the dead that lay thickly around, and not a live one have we seen since.—*Ladies' Floral Cabinet.*

[We are surprised that our contemporary should speak of Paris green in *solution;* in our experience it is not dissolved. Then *very weak* is exceedingly indefinite, conveying but a dim idea of the proportion of Paris green used, say, in a gallon of water. To be of value to others we need to to have correct and definite statements.]

MYOSOTIDIUM NOBILE.

This striking herbaceous plant, introduced from the Chatham Islands, New Zealand, about thirty years ago, is worthy of extended cultivation. Several strong plants of it were shown by E. G. Loder, Esq., Floore, Weedon, at the meeting of the Royal Horticultural Society this year, creating much interest. To many persons it appeared to be quite a new plant, although so long introduced. The flowers are of a light blue color, with a broad margin of white, and show a tendency common to most members of the order, namely, to expand with a purplish tinge, and then gradually fade to blue, pink or white, as the case may be. The purple tint in this instance is confined to the five spots at the base, and alternating with the five lobes of the corolla. The great petioles are of much consistency and substance, the upper surface of the huge cordate glabrous leaves is light green, and the under surface is coated with a softish pubescence—characters found in some species of myosotis.—*Gardeners' Chronicle.*

MILDEW.

We hear many complaints of mildew this season, and as we think we have an infaliible remedy, will give it as it may be beneficial to others. It is an old idea improved upon, or at least we think so, as we have had better success when the last ingredient has been added.

Take one pound sulphur, one pound slacked lime, three fourths of an ounce of carbolic acid, in two gallons of water and boil down to one gallon. Cork well, and set away for use. Use a 2½-inch pot full of the mixture to five gallons of water, and spray foliage well. Keep the ventilators down two or three hours after applications, as the fumes will be retained better . We use this preparation twice a week, not only as cure but as a preventive.—H. M. WHEELER, *in American Florist.*

PRUNUS TRIBOLA.

This beautiful shrub cannot be planted too freely. It is quite hardy, a vigorous grower, and blooms abundantly. It is one of the earliest shrubs to flower, and brings spring to us in her freshest garments. The flowers closely resemble those of the Flowering Almond. With a Spruce or Arbor Vitæ or some other evergreen for a background, it appears

to the best advantage, but it is a good shrub in almost any position, and either grouped with others or standing alone. It is an erect, handsome grower.—*Vick's Magazine for September.*

BOOKS, &c., RECEIVED.

Transactions and reports of the Fruit Growers' and International Show Society of Nova Scotia. Our brethren in Nova Scotia are earnest workers and intelligent students of economic pomology, as this very interesting report fully testifies. The paper on the rationale of manuring and pruning an apple orchard, by Henry Youle Hind, M.A., is one of the most suggestive articles that has appeared in a long time, and deserves the careful consideration of every orchardist. Mr. Kimball thinks that plum growing in Nova Scotia is more remunerative than orange growing in Florida.

Adelaide Jubilee, International Exhibition, South Australia, 1887, giving the classification, system of awards, regulations for exhibitors, &c. This exhibition is held in commemoration of the Semi-centennial of South Australia's colonial existence.

Report on Agricultural Colleges and Experimental Farm Stations, with suggestions relating to experimental agriculture in Canada, by Prof. William Saunders, F.R.S.C. A most exhaustive report of some eighty pages, containing a brief account of the agricultural colleges and experimental stations of the United States, of agricultural education and experimental work in Canada, of agricultural colleges, experimental stations and schools of horticulture and forestry in England, France, Germany, Belgium and other countries. It is to be hoped that the suggestions made by Prof. Saunders will receive the attention which their importance demands, and not be allowed to lie unheeded.

Fertilizers; where the materials come from, where to get them in the cheapest form, and how to compound them, by J. J. H. Gregory, A.M. This is one of the best essays on the subject of manure that has appeared for some time. It treats of potash, wood ashes, coal ashes, bones, superphosphate, &c., making our own fertilizers, where to obtain fertilizing material at lowest cost, &c., &c. Every farmer and horticulturist would be greatly benefited by a careful study of this pamplet of some 115 pages. We presume that copies can be had by addressing Mr. Gregory at Marblehead, Massachusetts, U. S. A. We do not know the price.

The Library Magazine, monthly part, September, 1886, published by John B. Alden, 393 Pearl street, New York, is filled with selections from reviews and magazines of the ablest papers on topics of interest.

Report of the Montreal Horticultural Society and Fruit Growers' Association of the Province of Quebec, E. J. Maxwell, Secretary. The paper on Hardy Fruits in Wurtemburg, by Chas. Gibb, Abbotsford, P.Q., and the Resume of Out-Door of Grape Culture in the Province of Quebec, by Wm. Mead Pattison, Clarenceville, P.Q., are exceedingly interesting. The paper by Mr. Auguste Dufruis, of L'Islet, on Plum Culture, together with that by Chas. Gibb on Plums for Cold Climates, give information of much value to residents in the colder parts of Ontario.

Report of the Entomologist, James Fletcher, F.R.S.C., 1885, is full of valuable instruction with regard to our noxious insects. But a broad-bladed knife is too tedious an instrument wherewith to combat the onion maggot where they are grown by the acre, and we trust that Mr. Fletcher will yet be able to discover some more expeditious method of combating this foe.

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GOLDEN QUEEN

Large as CUTHBERT and more productive,
Rivals in quality BRINCKLE'S ORANGE and of iron-clad
hardiness, of greatest beauty and strongest growth.

ARMSTRONG & CO. LITH. BOSTON.

THE

Canadian Horticulturist.

VOL. IX.] NOVEMBER, 1886. [No. 11.

New Fruits.

THE GOLDEN QUEEN.

We are so often deceived in estimating the value of new fruits that we hesitate to say much about them until we have tested them well on our own grounds, or else have seen them grown on those of our neighbors.

The Marlboro', for instance, which was so highly puffed some time ago, is now set down by many as not bearing out its good reputation, especially after the first two or three seasons; and a similiar tale might be told of many other new varieties.

But all the evidence, thus far, seems to indicate that the Golden Queen raspberry is to be a very strong claimant for popular favour. Already some notices of it have appeared in this journal, so that many of our readers are already partially familiar with its claims upon their notice.

The *Golden Queen* originated on the farm of Mr. E. Stokes, of Camden, N. J. He found it growing in a twelve-acre block of Cuthberts, and thinks it either a sport or a seedling of that variety. It resembles the Cuthbert in so many ways, that its relationship seems well attested. It is like the latter in size of berry, in vigor of canes, and in productiveness; but differs in color, being a beautiful yellow. Mr. Stokes says that in color and flavour it resembles the famous *Brinckles Orange.*

This latter been for a long time at the head of the list of light colored raspberries, being everything that could be desired in point of flavour; but in these days, when raspberries sell at such low prices, this variety does not produce enough quarts to the acre to satisfy us.

The *Catharine* is the best bearer yet tested of this class, and it was this season laden down on our grounds with the most attractive looking fruit. But alas! one berry was enough to satisfy even the children. It lacks altogether in point of flavour, being most insipid. Besides this it has another fault, for it is too soft to ship any distance.

In this latter respect also the Golden Queen is claimed to be quite equal to its parent the Cuthbert, which is such an admirable shipping berry. Mr. Theo. F. Baker, President of the N. J. Horticultural Society says: — "The fruit is very firm and carries well, from my experience with a pint which I kept three days, after carrying over seventy-five miles, in good condition."

It is also claimed for this variety that it carries the palm for *hardiness* also. Mr. J. T. Lovett of Little Silver. N. Y. who is introducing this berry says: "I have never known it to be injured in the slightest by cold." Now with us in Canada every thing hinges upon this last point, and we are not willing to take the experience of New Jersey fruit growers as a guide to us in this respect. It is claimed to be hardier than the Cuthbert, and it will need to be, to satisfy us, for the Cuthbert is found to be too tender in many places.

To be able to speak confidently we must test it for ourselves, and we hope many of our readers will give it a trial, and report whether it really has any faults; for so far it has been claimed to be faultless.

Notes and Comments.

THE ANNUAL MEETING of the Fruit Growers' Association of Ontario was held at St. Lawrence Hall, Toronto, on Tuesday evening, 11th September. President Saunders read his annual address, which was received with the closest attention by all present. It was a matter of deep regret to every one that it should contain a final statement that it would be impossible for him to serve another year owing to the pressure of other engagements.

Still we are happy in being able to say that he has allowed himself to be elected as a director, representing Agricultural Division No. 11; and the Association will therefore still continue to receive the benefit of his wise counsel and varied stores of scientific knowledge.

THE PRESIDENT for the new year is Mr. Alex. McD. Allan, of Goderich, Ont., a gentleman who has been long and favorably known in connection with our Association, and who has honorably filled the position of vice-president during the past year.

Mr. Wm. Saunders says of him:—"He has an excellent knowledge of Canadian fruits, and has been one of the most extensive shippers of Canadian apples and plums for many years past. He has long been looked upon in our meetings for discussion as one of our most reliable authorities on fruits. He has served as chairman of the Committee on New Fruits for several years, and as such has presented the Association with several excellent reports."

THE VICE-PRESIDENT is Mr. W. E. Wellington, of Toronto, who has been been for some years a prominent member of the Association. His intimate acquaintance with the details of his own business is of much service at our meetings; and his eminent success proves that he is possessed of the very highest qualifications for his position as a member of the Executive Committee.

THE BOARD OF DIRECTORS for the new year consists of the following persons, the figures showing which agricultural division they represent:—1, John Croil, Aultsville; 2, A. A. Wright, Renfrew; 3, R. J. Dunlop, Kingston; 4, P. C. Dempsey, Trenton; 5, Thos. Beall, Lindsay; 6, Col. J. Magill, Oshawa; 7, Murray Pettit, Winona; 8, A. M. Smith, St. Catharines; 9, Fred. Mitchell, Innerkip; 10, J. A. Morton, Wingham; 11, Wm. Saunders, London; 12, W. W. Hilborn, Arkona; 13, Charles Hickling, Barrie.

These gentlemen, being elected by vote of the Association and not by any ring or clique, it is evident that any

man from any of these divisions, who is interested in the growth of fruits or flowers, and shows that he has practical knowledge of the same, has before him the possibility of office in the Association, and of influence in the conduct of its meetings.

THE SECRETARY appreciates the honor and confidence reposed in him in his appointment to such an important and responsible a post as that which includes, not only the secretary-treasurership of the Association, but also the editorship of the *Canadian Horticulturist.*

This latter department of the work he takes up with some hesitation, because he has to succeed a gentleman of such acknowledged ability and wide culture, and one who has so ably conducted this journal during the nine years of its publication.

We have no doubt that we express the feelings of every reader of this magazine, when we say that Dr. D. W. Beadle's retirement from the editorship is a matter of the greatest regret and disappointment. We are happy to say, however, that he has most kindly promised us the favor of his valuable assistance at any time, an offer of which we shall not be slow to avail ourselves.

MEMBERS OF THE F. G. ASSOCIATION, and readers generally, please show us your favor both by contributing items of interest, and by securing long lists of new subscribers. Enlargements and many improvements depend upon a large circulation. This magazine is not published in the interest, or for the pecuniary advantage, of any individual. The revenue above the legitimate expenses is devoted to the interests of the whole membership. We only await the necessary means in order to carry out the many plans in contemplation for increasing the attractiveness, as well as the usefulness, of "*The Canadian Horticulturist.*"

PRIZE FRUIT.

THE PRIZE FRUIT AT THE TORONTO FAIR certainly made a fine display in every department, excepting that of peaches, in which it was necessarily a lamentable failure. Even the favoured Niagara district, from which almost the only specimens came, had very little to show, and with that little easily carried off the prizes.

Some very fine specimens of the Lord Palmerston peach was shown from Toronto, but they were grown under glass at Sir D. McPherson's, North Toronto. One of them weighed nearly ten ounces, and the total weight of eight was four pounds and two ounces. This peach is mentioned in *Meehan's Gardener's Monthly*, December, 1873, as being then a new seedling raised by Lord Rivers, which was remarkably well adapted for house culture. Mention is there made of one grown in a twelve-inch pot in a greenhouse in England that measured twelve and a quarter inches in circumference.

The show of Grapes was capital, and it may be interesting to some of our readers to know to what varieties the first prizes were awarded by the judges. For twelve varieties (open air) the following is the list, viz.:—Rogers 3, 4, 19, 43, 44, Sweet Water, August Giant, Iona, Allen's Hybrid, Prentiss, Delaware and Hartford Prolific. They were grown by S. Burner, Hamilton. The same gentleman also took the first prize on the six varieties with Rogers' 3, 30, 43, 44, Prentiss and Allen's Hybrid.

Mr. A. M. Smith showed some magnificent samples of the famous Niagara, which attracted much notice.

The display of Plums was very fine, especially of the Pond's Seedling, an excellent English plum and one of the

most showy varieties known. The prize for the best six varieties, green or yellow, was taken by the following list, viz.:—Yellow Egg, Washington, General Hand, Coes' Golden Drop, Imperial Gage, McLaughlin; Mr. J. K. Gordon, Whitby, being the exhibitor. For best six, red or blue, Mr. Alex. Glass, St. Catharines, carried off the first prize with Pond's Seedling, Victoria, Duanes' Purple, Glass, Columbia and Bradshaw.

The first prize five varieties of Pears were Sheldon, Beurre Diel, Flemish Beauty, Bartlett and Duchess; and the ten varieties included the following in addition, viz.:—Winter Nelis, Louise, Beurre Clairgeau, Beurre D'Anjou and Clapp's Favourite. The prize winner was Wm. Anderson, of Hamilton.

In *Apples* the following were the first prize ten varieties, and they were exhibited by Mr. S. Peck, of Albury:—Alexander, Duchess, Wealthy, Baldwin, Ribston, N. Spy, A. Gold. Russet, King, S. Pomme Grise, Ben Davis.

The Fruit Exhibit at Hamilton Fair was certainly very excellent. The Hamiltonians claim that it surpassed that in Toronto. We will draw no comparisons, only remarking that it ought to do so, for it has one of the finest fruit districts in the world quite near at hand.

In the beautiful display of Grapes we noticed that Mr. S. Burner took the first prize for ten varieties, on the same kinds as he did in Toronto, while that for the six varieties was taken by Mr. W. H. Spira, of Stoney Creek, with (white) Lady Washington and Niagara, (red) Brighton and Delaware, (black) Worden and Concord. Some of Mr. Spira's Niagara's were certainly very fine. There was one bunch among them the weight of which was estimated at one pound.

The first prize six varieties of Plums were Jefferson, Gen. Hand, Pond's Seedling, Duanes' Purple, Lombard and Prince Englebert. For a dessert plum the Imperial Gage took the first prize, and for cooking the Fellenburgh or Italian Prune.

The show of Peaches was, of course, very small, indeed only eighteen plates were shown, by three exhibitors. The first prize for the best collection was taken by Mr. Gage Miller, of Virgil.

The show of Pears was most excellent. Such immense specimens of Bartlett, Souvenir de Congres and Beurre Clairgeau are not often seen. Mr. Stipe, one of the directors, said a large part of this fruit exhibit would be forwarded to the Colonial Exhibition in England, and it certainly will reflect credit upon Canada.

The South Renfrew Fair, like others throughout the country this year, seems to have been an unusual success. It is interesting to notice that even as far north as Renfrew, the Fruit Department was a leading feature.

The display of Apples was larger than ever, and consisted of such varieties as Duchess of Oldenburgh, Wealthy, Magog Red Streak, Tetofsky, Fameuse, Alexander, Peach, Yellow Transparent and the Siberian Crabs.

The show of Grapes was, of course, small, and consisted of Concord, Champion, Agawam and Brighton. We are pleased to notice that a good many prizes were won by our Director for Division No. 2, Mr. A. A. Wright.

AMONG OUR NEIGHBORS.

We notice in the *Ohio Farmer* that the Seventh Annual Meeting of the American Horticultural Society was held early in September, in the city of Cleveland. Mr. Parker Earle, a famous Illinois fruit grower, is the President, and Mr. W. H. Ragan, of Indiana, the Secretary.

The small attendance of about forty

was attributed by the President to the refusal of the railways to grant any concessions on fares, and also to the fact that many fruit growers were at this time attending State and other fairs.

We give one or two extracts from the proceedings.

Grape Culture.—A paper was read from Geo. Husmann, of Napa, Cal., upon grape culture in that State. He says the wines of California are now competing with the best wines of the world, and its brandies compare with the best French cogniac, and its raisins with London layers. He believed grape growing would be profitable in that State as long as good grape lands could be had at $50 to $100 per acre, and brought into bearing at $100 more per acre. It would then produce five tons per acre, worth $20 a ton, and expense of cultivation need not exceed $12 to $20. He believed production would be doubled in ten years, and the wine yield this year would reach 20,000,000 gallons.

This paper was followed by remarks on the condition of grape culture in various States. Mr. Cushman, of Ohio, spoke highly of the Concord. F. C. Miller thought the Worden superior to Concord of which it was a seedling. Mr. Hubbard, of New York, commended it, and it was favorably reported upon by eastern growers generally. He had visited Mr. Worden in Oswego, N.Y., seen the original vine that had borne 110 pounds each year for three years past. All reports said that it clung to the stem. It was larger, handsomer and more attractive than Concord, and ripened a week to ten days earlier. Purchasers would pronounce it a first-class Concord. The grape crop this year was very fine, and there was no rot.

Mr. Hollister, of Missouri, said the crop was short in that State, the fruit rotting badly. He condemned the picking and selling of early grapes, before ripe. Purchasers would buy one basket and wanted no more of the sour things. It injured the business.

Mr. Albaugh, of Montgomery Co., O., stated that Mr. Cramer, of his county, had sown oats between the rows of vines and it entirely prevented the rot. This had been tested several years. The oats was plowed under when full grown.

Mr. Miller, of Ohio, used sulphate of iron, one year, as a disinfectant, when grapes were rotting badly, and to his surprise it prevented rot. He used one to three pounds around each vine, and applied early in July, or in June. Others near him had tested it with like result.

Mr. Kizo Te Mari, of Japan, was present and was called upon. He represented his government at the New Orleans exposition, and has ever since been travelling in this country in the interests of Japan horticulture. He spoke English with difficulty, but all could understand him. He said Japan was adopting American methods, and had introduced many American grapes. They never had any wine in Japan until the country was opened to the traffic of the world. The Chinese grew grapes and made wine, but Japan did not. Now she was pushing ahead in this as well as other things. They were great vegetable eaters, and he would read a paper on growing vegetables during the meeting. Mr. Kizo Te Mari was vigorously applauded.

President Earle's Address.—In the evening Mayor Gardner welcomed the society to Cleveland, in a brief and appropriate address, which was responded to by President Earle in a graceful manner. He then followed with his annual address, which was an able and comprehensive review of the rise and progress of horticulture in this

country and its present condition. He traced the marvellous growth of horticulture in Ohio, from the days of Johnny Appleseed down to the present, and paid a high tribute to that romantic pioneer of fruit culture. The nursery-men of Ohio should erect a monument to his memory. "It was not many years ago," he said, "when all the peaches used in that wonderful fruit market of Chicago were grown in one orchard. Now the orchards of many States are required to furnish the hundreds of carloads that daily pour into Chicago." President Earle suggested the need of a pomological bureau under governmental charge and of experimental stations. Central Russia has been building up a race of fruit almost under the arctic circle that has for hundreds of years withstood the hard winters and arid summers. An investigation of these fruits with a view to their introduction in the interior of the United States should be made. The complaint of over-production in fruit growing is not so much due to over-production as imperfect distribution. Apples in New York and Michigan last fall seemed too plentiful, but many a family out of range of the apple districts went unsupplied.

He spoke at some length on the rapid destruction of our forests, and the bad results that have followed in producing extremes of climate, of drouth and flood, frost and heat. Ohio, in 1853, had 45 per cent. of her surface covered with timber; in 1884, but 17 per cent. No wonder the Ohio valley was visited annually by destructive floods, and that the climate had changed for the worse. It seemed that the State was making rapid strides toward the Agricultural condition of Arabia, and Ohio stands for America. "I quail before the inexorable penalties which nature has in store for all States and peoples who will ruthlessly destroy so glorious a heritage of forest as the American people once possessed. Without forests no successful agriculture is possible and no high civilization can be maintained."

The address was spoken of in the highest terms by several members, and a committee appointed to take action in regard to it. It should be given the widest possible distribution.

Fine Duchess Pears.—At the recent exhibition of fruits in this city, during the meeting of the American Horticultural Society, N. Ohmer exhibited one of the finest plates of Duchess pears we have ever seen. The largest weighed nearly 1½ pounds, and five others were but little lighter. The large pear he presented to Miss Ragan, daughter of the secretary, for which he has our thanks. Mr. Ohmer marketed nearly 1,300 bushels of pears this year.

Best Time to Gather Apples.—At the recent meeting of the Montgomery County Farmers' Club, Mr. Waymire said he had the best fruit he ever raised. Apples have been falling, and he has been picking to keep them from falling. In August he picked green samples of many varieties, except Maiden's Blush and Fall Pippin; laid them away in the dark, and from the fact that they have ripened and mellowed up finely he is beginning to believe in early picking, and let the apples ripen themselves.

Mr. Turner wanted to know the best time to pick apples—came to the meeting to make this inquiry. His apples were falling freely. One or two varieties will fall from the trees if he waits till October.

Mr. Ohmer replied that thirty years' experience in growing fruits taught him that if you want apples to keep, it is best to pick them when they begin to fall, even if that be as early as the first of August, unless the fruit is wormy. The fact that apples are fall-

ing is evidence that they have ceased to grow. Two years ago apples picked in September kept until March. As a rule never put apples in the cellar when first picked, but leave them in the orchard in barrels or in heaps covered over with straw, but not enough to heat them; leave them there until November, then barrel and put in the cellar, or the barn floor or anywhere else. This year he has been blessed with a good crop of fruits of all kinds; pears in the greatest abundance, especially Duchess, Bartletts and Lawrence, and has sold 1,244 bushels of Bartletts alone, at good prices; never saw such crops of fruit. Apples are falling off more than ever before, and earlier, but are much more wormy than usual.

[We have made it a rule for years to begin gathering our winter apples as early as the 20th Sept., notwithstanding the fact that most of our neighbors do not begin until about two weeks later. All we need to wait for is to get the full color, which is so great an attraction of our Canadian apples for export. We usually pick our Greenings first, because they ripen so early, and our Spies last, for the bright sunny days of October give them such a beautiful rich, purplish-red color.—Ed. *Horticulturist.*]

The Belleflower Apple. — Mr. Waymire referred to having saved his Belleflower apple trees, although at one time he had gone to the orchard to cut them down. The trees looked so well, and the idea that it would take ten or fifteen years before others would grow to bearing if planted in their places, caused him to hesitate before destroying them. So he dug around the roots and applied manure to about four of them, and these four bore fruit the next season, while apples fell off the trees not so treated.

John Bradford said that the Belleflowers were more profit to him than any other kind of apple, if properly fertilized. Had eight trees that yielded 35 to 40 barrels of Belleflowers each year for three years, and sold readily at advanced prices; and this year have a good crop, as can be seen by specimens which he exhibited.

Mr. Waymire said that Belleflowers required more nourishment than other trees. The tops droop and shade the trees so that nothing will grow under them, and they must be fed. His bear so heavily as to require propping up. Other farmers have tried his plan, and their orchards are doing well.

[We in Canada have pretty well discarded the Belleflower as being a very uncertain cropper, and because it bears so much second-class fruit. It also requires the most careful handling.—Ed. *Horticulturist.*]

Spraying Fruit Trees.—In answer to the question—how often is it necessary to spray, and what to spray with? Mr. Ohmer said: We spray with poisoned water made with London purple, arsenic or Paris green; one pound of purple to 140 or 150 gallons of water, thoroughly stirred. 'Tis best to make a paste of the purple, then mix it in a barrel and spray it on the fruit just as the trees are going out of bloom, thoroughly wetting the trees, and give them another dose after that. The codling moth is the insect that does the most harm to your apples. It comes out of cellars just as the trees are going into bloom, deposits the egg from which the little worm begins to work around seeking a soft place in the apple. The spray that you have applied settles in the blossom end of the apple, the worm eats it and dies, and if your work has been well done the first crop of the pests have been destroyed, and there are no more to injure the apple. The curculio is different, depositing in a lip on the side of the fruit where it does its work; its

business is to lay eggs and die. The poison can be made too strong, and had better be too weak than of strength to kill the plants. A pound of Paris green should be dissolved in 200 gallons of water.—*Ohio Farmer.*

Question Drawer.

This department is intended as an open one to every reader of the "Horticulturist" to send in either questions or answers. Often a reader will be able to answer a question which has been left unanswered, or only partially answered by us. For convenience of reference the questions will henceforth be numbered, and any one replying or referring to any question will please mention the number of it.

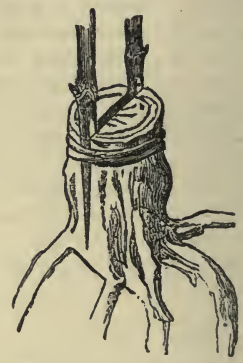
1. HUCKLEBERRIES.—*Can they be profitably cultivated? If so, where can a supply of bushes be obtained, and which varieties would you recommend?* D. C. L.

See article by A. S. Fuller, on p. 230 of this vol. Mr. T. C. Robertson, Owen Sound, says: "I do not know where they can be had. My conviction, from experience of reliable parties published in the *Rural New Yorker*, and elsewhere, is that they will not grow in ordinary garden soil so as to be productive." It is said that Prof. Bailey, of the Michigan Agricultural College, has devoted an acre to the experiment of improving the wild species of huckleberries, and we may hope for some useful information from him in course of time.

Mr. John Little, Granton, writes that Mr. J. T. Lovett, Little Silver, N. J., offers two varieties, the Bell and the Cherry, at 50 cents per hundred.

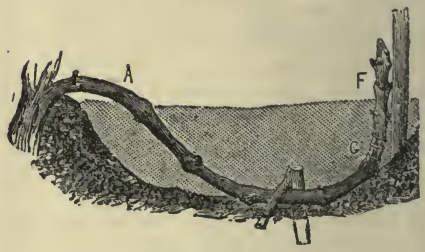
2. GRAFTING GRAPES.—*What is the best time and mode?* D. C. L.

Propagators differ as to the best time for cleft grafting the grape vine, but probably it may be done with best success in spring, just before the buds begin to swell. Any one familiar with the ordinary method of top grafting the apple tree, will have little trouble. The vine is cut off three or four inches below the surface of the ground, split with a grafting chisel, and held open with a wedge until the scion is fitted to its place. The scion need not be over six inches long, and should have a wedge shaped end, smoothly cut, to fit the cleft in such a manner that when it is allowed to close, the bark of the old and new wood will be in close union. Use no grafting wax; but, if necessary, tie the cleft with a string, and then heap the earth carefully about the graft, leaving but one bud of the scion above the surface (see cut).



CLEFT GRAFT OF GRAPE.

Or, if the stump is old and knotty, you may splice graft a smaller branch. Do this at a distance of two or three



GRAFTED CANE OF GRAPE.

feet from the stump, and then lay the grafted branch down carefully, fasten it in place with a peg, and cover the graft

with earth, pressing it down firmly. Leave one bud above ground, and when you see signs of growth, rub off all others between the branch and the main stump (see cut).

Perhaps some of our experienced gardeners or vineyardists will give their methods.

3. PRUNING PEACH TREES.—*When is the best time to cut back the new growth?* D. C. L.

Our plan is to prune out the dead wood, and cut back the leading shoots of the new wood in March or April.

4. BREAKING DOWN OF CURRANT BUSHES.—*How can I prevent the breaking of the stalks of my cherry currant bushes, by strong winds, without staking?*—D. C. L., St. Thomas.

Clip back one-half of the new growth every spring, and you will have no trouble. Examine and see if the broken stalks are infested with the currant borer. If so, cut them away and burn them.

5. CUTTING BACK GRAPE VINES.—*In the April number of the "Horticulturist" you recommend cutting back one year old vines this fall to within two buds of the ground. If I do this, the stump will be too short to reach the first wire of the trellis, eighteen inches from the ground?* H. E.

You need not necessarily save the two lowest buds; you can save two buds at whatever height you wish, and then rub off all the others, and so secure the growth of only two upright shoots, to serve afterwards as laterals. Some vineyardists use four or five wires, especially for this renewal system of training, and put the bottom one within eight or ten inches of the ground, for the support of the two main laterals.

6. BEST APPLES FOR NAPANEE.—*Please name the best apples for this section to cover the whole season; also the best and most productive winter apple of good quality that would thrive here. Would the Walbridge do? I do not want to wait for the Northern Spy. The thermometer registered 36° below zero here last winter.* H. E.

We recommend (summer) Yellow Transparent, (autumn) Duchess of Oldenburg, and (winter) Alexander, Wealthy, and American Golden Russet. The Walbridge is only partially tested as yet, but it is said to be an iron-clad, and to be productive, of good quality, and an excellent keeper, but not sufficiently showy for market.

7. FRUIT DRYER.—*Will you or some one of your readers tell me how to make a fruit dryer to be used on a cook stove?* H. E.

8. GRAPE CUTTINGS.—*Will cuttings from one year old grape vines make healthy vines?* H. E.

Yes, if wood is well ripened, though perhaps not so vigorous as larger wood.

A. M. SMITH.

Fruits.

DO BEES HARM THE GRAPES?

An interesting experiment has been made at the new station at Aurora, Ill., in solution of the question whether bees injure fruits or not. The following account of it is from the *Farm and Home:*

Two colonies of hybrids and one of Italians were placed in a bee-proof house with fruit of all kinds and in all stages of growth arranged, so that the sun could strike it. The bees were given no food or drink, and a high and dry temperature was maintained. The bees inspected the fruit and took advantage of every opening at the stem or crack in the epidermis or puncture made by insects which lay their eggs in

the skin of the fruit. When the skin was broken or removed they would lap and suck the juices exposed, but would not attack the skin, even of the tenderest grapes. If the grapes were cracked the bees would suck the juices from the exposed segments until they came to the film separating the broken and exposed segments from those unbroken, beyond which they appeared unable to penetrate. After a 30 days' test, another colony of Italians and 20 more different varieties of grapes in all stages of ripeness were introduced, the conditions natural to a severe drouth were produced, and the test continued for 25 days longer. The bees showed no more capacity or disposition to offer violence to one variety of grapes than another. No more attention was given the thin-skinned varieties than the thick-skinned. As long as the skin remained whole, they did not harm the grapes. When the skins were broken by violence, the juices exposed were appropriated.

SEEDLING PEAR.

Mr. W. C. Reid, of Enterprise, County of Addington, has sent me a couple of pears grown at Newcastle, as a sample of a seedling, with the request that I would report on it through the *Horticulturist.*

They were small pears, about three inches in length and six in circumference at the largest place, pyriform, yellowish-green, stem about two inches long, slightly curved. The flesh was fine grained, gritty at the core, juicy and sweet, without any marked flavor.

Your obedient servant,

D. W. Beadle.

IRON FILINGS FOR PEAR TREES.

Sir,—There is in this town a man who six years ago had several pear trees. Some four, some three, and others two years planted. Up to that time not one of these trees had borne any fruit, except the four year planted ones a few straggling pears. In the fall of the year this man wheeled from his foundry two or three barrow loads of iron filings, and dug into the soil about each tree a pailful of the filings. The following year the four year, the three year and the two year trees all bare fruit, and have continued to bear every year since. The proprietor of those trees makes no pretentions as a horticulturist, but he succeeds in growing larger crops and taking the prizes away from many of us that do. I examined his trees a week or two ago, and found them looking unusually thrifty and bearing heavily. Had the iron filings anything to do with it?

Respectfully,

T. H. Race.

Mitchell, Perth Co., Sept. 20th, 1886.

[The use of iron filings about pear trees is not new. In our Reports you will find some discussions on the subject. I think the evidence on the whole is in favor of their use as improving the health and vigor of the trees. — Wm. Saunders.] See also Reply by Prof. Panton on p. 257 of this volume.

THE SHIAWASSEE BEAUTY.

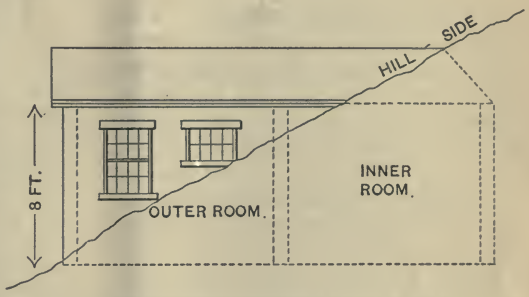
Not nearly enough attention has been given in the East to that fine Michigan seedling of the Fameuse which bears this name. It has borne with me for two seasons, and the terribly severe test winter of 1884–85 has shown that it is, if anything, hardier than its parent. Its great merit is that it is a non-spotting Fameuse. In many seasons from one-third to one-half of the crop of Fameuse is rendered unmarketable by the black fungus spots which disguise, dwarf and deform its fruit. From this grave defect the Shiawassee Beauty is free.

Though plainly of the Fameuse type, the Shiawasse Beauty is not exactly like it in form, color or markings, nor is the young wood exactly similar. Compared with Fameuse, Shiawassee is larger, flatter and more angular. The striping of the fruit of some Fameuse trees, which has given that type in Canada the distintive name of Fameuse Barrée (Striped Fameuse), is never seen in the Shiawassee. Its resemblance in coloring and dotting is, however, very close to the Fameuse Rouge, the more common type. Stem and cavity, calyx and basin are similar in the two. The young wood of the Shiawassee is darker, with smaller and more numerous white dots; the leaves are undistinguishable. Shiawassee is called the better keeper. The main distinctions between them are the larger size, flattening and angularity, non-spotting and non-striping of the Shiawassee. In quality the two are very close, the Shiawassee in no respect inferior. On account of its non-spotting, it should ertainly replace its parent in all commercial orchards at least. In the colder sections it should be top-grafted on an ironclad—preferably on Tetofsky.—Dr. Hoskins, *in the Examiner*.

DR. NICHOL'S FRUIT CELLAR.

Dr. Nichols of the *Journal of Chemistry* has been conducting some careful experiments in preserving fresh fruits over winter in cellars of different construction. It is so clear to anyone that fruit stored through the winter, to come out fresh and sound in the spring, will command a price several fold greater than the same would bring in the fall that the matter becomes a very important one to the fruit grower. Following is a condensed statement for making the cellar which has given the doctor the most perfect results. An engraving of the same is also shown. It should be added that the objects had in view were to keep the fruit dry and cool, yet free from frost.

Two rooms, each large enough to contain all the fruits of the farm, are needed —an outer and an inner. A cellar should be dug in the south side of a hill large enough for the inner room.



DR. NICHOLS'S HILL-SIDE FRUIT CELLAR.

The outer room should be exposed to the air wholly in front, and on the sides far enough to accommodate two windows, as shown in the engraving.

Build of brick or stone, carrying the walls to the height of eight feet. If stone is used,—it may be rough and be put up by any farmer,—it must be pointed with mortar A thick wall, with a door, should seperate the two rooms. In the engraving the walls are shown by dotted lines.

The roof should come near the ground in the rear; be carefully constructed and supported by timbers; be lined with tarred paper, strongly secured and painted with tar or pitch. There should be a ceiling—rough boards will do—and a space one and a half or two feet deep between it and the roof, to be filled with dry straw, hay or sawdust.

The fruit should be kept in the outer room until freezing weather, and then be removed to the well protected inner one.

The outer room should be ventilated through its windows; the inner, by opening both doors—but *only in cold, dry weather*, as warm air introduced would condense and give out moisture. There must be special care about admitting warm air in the spring.—*From Popular Gardening (with cut).*

EXPORTING APPLES.

The demand for American apples in Great Britain has increased of late years to such an extent that for the season beginning August, 1885, and ending May, 1886, the total shipments to the three principal ports, Liverpool, London and Glasgow, aggregated 862,000 barrels. The magnitude of the business has attracted the attention of many who have no means of ascertaining the requirements for its proper transaction, and numerous inquiries have been addressed to us for this information. These facts induce us to believe that instructions as to the proper course to pursued will be welcome to a large number of people throughout the apple-growing districts.

Marking.—The shipping mark must be put on the head of the barrel, and it is a matter of small importance what that mark is. A plain stencil is far the best—the plainer the better, but shippers who send often must remember not to use their brand except for the *best* parcels. If they wish to send fruit that is not up to their standard it is better to vary their mark, as a reputation for good packing is easily established by any shipper, but may be destroyed entirely if the same brand is used on a barrel of inferior fruit. Some brands of fruit hardly need to be shown at the sales, so well has their reputation become established.

All exported apples are sold at auction as soon as landed. The total expense of shipping, without commission, is about $1.00 per barrel. The only commission charged is 5 per cent.

Some shippers send all kinds and think that is the best plan; the trip across is now made in such a short time that apples keep very well if they are sound when shipped and not over-ripe. —*Circular of S. C. Houghton & Co., Liverpool.*

KEEPING BARTLETT PEARS.

A writer in the *Rural New-Yorker* says:—"I save my Bartlett pears so that they make fine eating two months (? Ed. *Horticulturist*) after those of my neighbors have gone. I take a stout box and line it with paper, almost any kind will answer. The bottom is covered an inch deep with wheat bran. The pears are carefully picked, wrapped separately in thin paper and packed deeply in the bran until the bottom is covered. Then this layer is covered with bran to the depth of an inch, and another layer of pears is placed in the same way. This is continued until the box is full, when the cover is tacked on, and the box set away in a cool, dry place. The fruit will retain its fine flavour and color."

Of course nearly every fruit grower knows that the best time to market his Bartletts is either very early or very late in the season. The only trouble is how to keep them in good condition without the expensive convenience of a fruit house.

Noticing the miserably bad specimens of this fruit exposed for sale in Toronto this year towards the end of the Bartlett season, we tried a somewhat similar experiment to the one described above. We carefully packed away all the finest samples we had left in peach baskets between layers of dry sawdust. After

two or three weeks we began using and shipping them, and found they were in great demand. Plump, rich, and juicy, without any ugly dark blemishes, they sold in the market like "hot cakes;" and the children, who are first class judges of good fruit, were always begging for "sawdust pears."

We doubt very much whether Bartletts could be kept two months in this way. We found them ripening within a fortnight, but their excellent condition alone was a sufficient reward.

SMALL FRUITS AROUND ARKONA.

Once again it becomes my pleasing duty to be able to report a very favorable season, and an abundant and encouraging crop of handsome and well-formed samples in most of the lines of our varied annual fruit.

THE STRAWBERRY CROP,

though injured very considerably by the early frosts of the season, was yet a rather pleasing crop, though by no means an abundant one, and in some soils was almost destroyed altogether. Yet, under favorable conditions and locations, on well-drained, high, and warm soils, and under good culture, the yield of tolerably good fruit was very pleasing. But, compared with last year, it was indeed very poor. It is but little or no use to attempt this delicious crop on low, heavy, undrained lands, for, if frost should come over us before ripening, which is very apt to be the case more and more lately, it is quite sure to catch them, and at once, in a night, to destroy or hazzard the prospect of fruit in such tempting places. If success be desirable in any line of fruit growing, it will be found better to carefully select the location known to be most favorable to the wants and absolute necessities of the fruit so as to be sure to get it in all its perfection and beauty. It is, doubtless, better to plant strawberry plants for success on high, dry, warm, loamy, well-drained soils, and keep them under the very best care and culture. At one time during the season of marketing a short glut occurred in this fruit, and the saleable price ran down to a point scarcely keeping up with the cost of production, but things like this must always be in a great and growing country. The sorts in cultivation are the Wilson's Albany, Crescent Seedling, Daniel Boone, Manchester, and the Jewell, the beautiful new berry of Mr. Augur's. The last three of those are something astonishing, and fully enough to produce a smile on the most austere. Immediately upon the strawberries being done, and almost before,

THE RASPBERRY CROP

was ready to handle, July 3rd. The tone of the market on the whole was very good considering the general depression in most lines of business, and prices on the whole were good. It is felt, however, that as more and more people go into the growing of raspberries for the market the prices must inevitably go down, unless room can be provided for the increasing crop in canning or fruit drying factories. The Turner and the Cuthbert among the reds, and the Mammoth Cluster among the blacks are still very popular and many of them are being annually planted. Among the newer blacks the Souhegan and the Taylor have proved themselves of most decided merit, quite early, fine size, beautiful color and flavor, and very productive, and carry well to market. Brinckle's Orange is the finest and most valuable yellow sort. These fine raspberries will pay and give abundant satisfaction for any amount of care and labor that may be given them. The best soil for the growth of red raspberries is a rich, warm, well-drained, sandy loam soil,

deeply worked; and for the black raspberry a fine, well cultivated, dry, clay loam soil. It is quite a question how to prevent the crop from suffering so much from drouth, but some locations are better adapted to its successful growth than are others. These must be selected. Before the raspberry was fairly done

THE BLACKBERRY CROP

was in upon us in all its beautiful grandeur. I think I have never seen any berry crop so abundant and perfectly beautiful as was this crop this season. The conditions for the successful production of the crop were fulfilled, and the result was a charming crop all over the county. Even wild roots, where there were any, were heavily loaded with fine fruit. Any good strong soil is suitable for the growth of this fruit, but it is very impatient of drouth. The sorts most grown are Snyder and Kittattinny, and these are very good indeed.

THE CHERRY CROP.

This popular fruit, though a great favorite with our people, is not in its production anything approaching a success in the county. Neither our condition of climate nor of soils seems at all favorable to its healthfulness and growth to maturity. The young trees apparently do well enough in the first periods of their growth and seem to thrive admirably for a time, but just as they are expected to come into fruitfulness they begin to decay, and finally wither away, either through the attacks of fungoid parasites or the severity of the winters. This has of late been the case with all the better and more valuable European varieties we have yet tried. The Old Virginia red cherry, being the only one that will produce plentiful crops of fruit, is planted very largely almost on every farm. This sort this year was very fruitful in most localities, and the crop consequently was unusually large. The fruit was very fine in its beauty and perfection, and was placed upon the market so as almost to glut it, and at very low prices by the pailful.

THE GOOSEBERRY CROP.

The crop of this growingly popular fruit was this season very fine indeed, and remarkably large. I think I never saw so many gooseberries before put into our local markets, and, of course, the prices ran very low. The soils of our county are well adapted to their most perfect growth and development, and the time is not far distant when we can have our gooseberries shows as in England the old.

THE CURRANT CROP.

Like the preceding, this crop of popular fruit for the heated summer time was very large. We can grow them in highest perfection, and that in many colors and varieties. The best black are Black Naples and Lee's Prolific. The best whites are the White Grape and the White Dutch, and the best reds are Red Dutch, Fay's Prolific or Cherry, and Raby Castle. These fine sorts all do well, and this year were very fine, clear and perfect.

THE GRAPE CROP.

The cold and severe frosts of early spring tended very much to the injury of this valuable and delicious crop in this county. In many places the leaves were severely cut and the joining-point branches blasted. Otherwise the indications are becoming apparent that many favored locations of our county may eventually become very highly noted for the growth and high perfection of their grapes. In vineyards planted in favorable localities, on high, warm, well-drained soils, the crop of handsome, well-formed and perfect fruit, is something to astonish one not ac-

quainted with it, and is now advancing to a high state of excellence and maturity. The best locations for vineplanting are, undoubtedly, high, well-drained, rolling soils, gently sloping to the south. If these soils are a rich wash, or are made rich, and good and warm, they will be every way suitable for the best development of the plant, and the highest perfection of the fruit, but it must be free from all encumbering shade, and well exposed to the sun, and our fruit this season on such soil is perfectly clean and handsome, quite free from mildew and all other defects, and in great quantities and variety. We have the Amber, Brighton, and Delaware in highest perfections, the Golden Pocklington, Jessica, Lady, Moore's Early, Worden, besides Concords, Champions, and Wilder, or Roger's No. 4, Hartford, Prolific, &c., in great profusion. All these fine grapes appear to do equally well on properly selected locations. Were it not for the timely cutting in the spring, and consequently reduction of the crop, the market prospects would have been very dull indeed, and even now the prospects are that the prices may run down very low on account of the general stagnation in business and the consequent scarcity of money.

THE MULBERRY.

Already some of the kind known as Russian Mulberry have begun to show fruit in considerable quantities. Although not very large in size it is very fine and relishable in quality, and may eventually become quite general and serviceable to our people, who are very fond of an early fruit for pies and tarts, &c.

THE CRANBERRY,

although indigenous to the county in the low grounds, especially around Lake Burwell, is not yet very largely produced amongst us, and solely for the want of proper attention. So far as I know there is not a successful cranberry marsh in the county, and consequently not much of the fruit is shipped, but, on the contrary, those in use are imported from American and other growers. The nut crop is not good this season.—B. GOTT *in Globe.*

Vegetables.

OUR GARDEN.

BY JOHN CROIL, AULTSVILLE, ONT.

Another season gone, in so far as garden operations are concerned, suggests the enquiry, how has it differed from former ones? "Have we spent our money for that which is not bread, or our labor for that which satisfieth not," or has honest toil been rewarded by fair returns? The weather on the whole has been favorable, with few scorching days, and a large proportion of cool, pleasant ones, the former and the latter rain given us in due season, we look back on it as a most enjoyable season. Every thing grew luxuriantly, *the weeds especially*; good gardener he who could at any time of the season boast of having them kept in subjection, but if the weeds grew fast so did the crops. Being very much of the *bird at home* tribe, the reader will pardon our egotism, when we speak only of our *ain kail yard* (our editor must borrow friend Beadle's Scotch Dictionary), we take it for granted, other things being equal, our garden is a sample of many around.

We generally go sparingly into novelties, having from experience learned that it generally requires tens of these to reap units of improvements, but having purchased from Messrs. A. C. Nellis & Co. an assortment of vegetable and flower seeds, we felt bound to try them. These seeds were sent

us at exceedingly low prices, were all good, and many of them valuable. I will only speak of kinds new or nearly so.

Celery. — We tried Nellis' Self-Blanching, but could not see it to be better than Henderson's White Plumer. Both of them are early and excellent, easily grown and very ornamental for the table, but as they keep good only till about Christmas they do not supersede the later varieties.

Cabbage. — Nellis' Mohawk, early market, is all that the catalogue claims, being early, with large solid heads, the best early cabbage we have tried. For fall, and even winter use, we have found none better than Henderson's Early Summer; although ripening early, it keeps long without bursting, heads very evenly, and in weight equals most of the late varieties.

Cauliflower. — Nellis' New Sea Foam, said to be ahead of all other kinds, did not go ahead at all with us, but I must confess neither did other kinds tried, so we must not condemn the Sea Foam.

Corn.—Black Sweet Mexican, although highly recommended, and said to be the most sugary corn of all, is of too swarthy a complexion to grace the table; the color is decidedly against it, and it is too late in ripening in cold sections; the taste, too, we think inferior to Crosby's Early sugar corn and Moore's Early—great favorites with us.

Lettuce.—The Deacon, very good; but we still claim to have a better, and *the best of them all,* in our own old variety described in our last year's report.

Beet.—New Eclipse; we don't find any better than the old Egyptian beet.

Onions.—New Golden Queen grew to an immense size, but was hardly matured before heavy frost set it. The large Red Weathersfield and Danver's Yellow seem to be second to none yet. We have always had a large proportion of thick necks. Mr. Beadle, in his excellent book on gardening, attributes this to wet seasons. With us it has been a general thing. This summer I visited the grounds of a friend, a market gardener near Montreal. He had upwards of an acre as fine a crop as the ground would carry. They were nearly free from thick necks, except one ridge on one side of the field, and they were all thick necks. They were all sowed at the same time, with the same seed, manured and cultivated alike, on soil seemingly the same. Query, how came the difference? He could assign no cause.

Peas — Rural New Yorker. — The earliest variety we have tried, large, well-filled pods, fine flavor; think it would be a profitable field pea; height two feet. For general use we still claim preference for Bliss' American wonder, a perfect dwarf, very prolific, early, and in flavor among the best.

Tomatoes. — Fulton's Market ripened first, but with us it was roughly shaped, and rotted badly; otherwise it was in every respect good. New Cardinal, about a week later, comes up well to the catalogue description, ripens early, smooth, a good keeper and shipper. The Mayflower we consider as good as either of the above.

(Concluded in next number.)

THE WINDSOR BEAN.

SIR,—In your issue for October Mr. Simon Roy says he is only partially successful in growing it. I have grown it for a good many years—fifteen or sixteen—nine times out of ten with success; but my theory is that it cannot stand the hot sun, so I plant it within two feet of a high, close board fence, and on the north side of it—the fence runs east and west,—so that dur-

ing the extreme heat of the day it stands in the shade. I have planted it for years on the same piece of land, a heavy clay loam, well manured.

Yours truly, WM. KOUGH.

Scientific.

PLANT LOUSE ON SPRUCE.

SIR,—By referring to page 125 (June Number) of the current volume it will be seen that I received from Mr. John Sailles some spruce twigs which seemed to be effected by some parasite. Being desirous of ascertaining the true nature of the trouble, I sent the specimens to Prof. Comstock, of Cornell University, who replied that the twigs had been infested with some insect that had then passed into the pupa state, and that when the imago appeared he would report thereon. I wrote to Mr. Sailles and obtained some fresh twigs, which were also sent to Prof. Comstock, who has favored me with the following reply.

Your obedient servant,
D. W. BEADLE.

St. Catharines, Oct. 11, 1886.

MY DEAR MR. BEADLE,—Your letter of the 9th inst. was received during my absence from Ithaca. This morning is the first chance I have had to study the plant louse on spruce. I think it is *Adelges abieticolens*. But there is no good description of this species. See Packard's Guide, fig. 520 (p. 523), and Bulletin No. 7 of the United States Entomological Commission, p. 234.

As to remedies, try solution of soap, quarter pound to one gallon of water. It would be well to try the kerosene emulsions recommended by Riley in his reports. But be careful in the application of these, lest the kerosene injure the trees.

Very sincerely yours,
J. H. COMSTOCK.

Ithaca, N. Y., 22nd Sept., 1886.

THE RUSSIAN MULBERRY.

DEAR SIR,—I herewith enclose you two leaves of the Russian Mulberry, which are taken from trees growing on my grounds. This variety is diœcious. The leaves are cordate, one, you will observe, is only serrated, which is the female, or pistillate, tree bearing fruit; the lobed, or oak-leaved, is from the male or staminate tree, blossoming profusely. but not fruit-bearing.

Seedlings, therefore, planted singly cannot be relied on.

Of course, the practised eye of the botanist will soon detect this.

I am, yours truly,
SIMON ROY.

Berlin, 22nd Sept., 1886.

IRON FILINGS ABOUT PEAR TREES.

SIR,—Regarding the use of iron filings in promoting the fruitfulness of pear trees, I would hesitate to give all the credit to their use in the case referred to. The presence of iron is necessary to the production of chlorophyll, one of the most important compounds in the leaf.

This is the chief agent at work in the decomposition of carbonic acid, an important source of food for plants, by supplying carbon which enters largely into their structure. The green color of leaves is owing to the presence of chlorophyll. Plants that grow in soil containing no iron do not become green, and the production of this constituent ceases, and the plants perish.

The analyses of the ash of plants shows iron, but the quantity is small compared with other ingredients, such as potash, etc., and thus though very important, still the quantity required is not much and usually found in soils. However if the soil where the trees referred to was deficient in iron, no doubt a ready response would be given in a more vigorous and productive tree;

but I am inclined to think that the great improvement was due to something else than iron filings. The subject is worth investigation, and if repeated experiments show a decided gain in productiveness in trees, then there will be no denying the facts.

Yours respectfully,

P. HOYES PANTON,
Prof. Nat. History and Geology.

Agricultural College, Guelph,
13th Oct., 1886.

Flowers.

TEN HOUSE PLANTS FOR THE WINTER.

The chief requisites of success in the winter care of house plants are sunshine, moisture, uniform temperature and cleanliness. It is not wise for the cultivator to be too ambitious; one cannot produce all the effect of a varied conservatory in one window, and any attempt to do so will result in disastrous failure. When I say moisture is an indispensable requisite to success, I do not mean that the soil should be waterlogged, nor should the pot stand in a saucer of water, unless it is an aquatic plant. I mean that the atmosphere should be moist, and here we encounter the greatest of all difficulties in the culture of house plants. Both stove and furnace produce a dry heat, and this is more or less trying to all plants. Where possible, it is well to stand a pan of water over the stove or furnace; the evaporation is very serviceable. If this cannot be done, the only plan is to water frequently, but discreetly. Gas is also very trying to plants; even where there are no perceptible fumes the light frequently causes the flowers and buds to drop off. When we are arranging for the comfort of our floral pets it is well to recollect that we ourselves require sunlight as much as they, and it is hardly wise to entirely block up the only sunny window in a room during the dark winter days. A stand or window-box is always preferable to the numerous shelves we so often see shutting out every ray of sunlight. For these reasons plants noticeable for fine foliage rather than for flowers may be specially recommended, since they require less sunshine.

We must give first place for beauty and ease of culture to Ardisia crenulata, a plant little known among amateur growers, though becoming popular as its virtues are becoming known. It is a sturdy-growing, shrub-like plant, with shining, ovate, dark-green leaves. In August or September it bears small, inconspicuous, greenish-white flowers. These are followed by bunches of berries, which, as they mature, turn bright red, resembling, in size and appearance, the Mountain Ash. These berries last the entire season, keeping their beauty, in fact, until a succeeding crop is ripe, so the plant is never without them. The effect is really beautiful, so bright and Christmasy. The plant does well in an ordinary living-room, with regular watering, but it must not be waterlogged or stand in water. The leaves may be sponged once a week, and it will keep its brightness in a northern window where there is little or no sun. This plant is a charming decoration for the dinner table; in fact, it is infinitely desirable in every way.

The Climbing Asparagus (Asparagus tenuissimus) is not yet very familiar, but it is a charming thing and may be highly commended as a window climber. Nothing short of a hard frost or the absence of water for two or three weeks will discourage it. It climbs and twines like smilax; but the foliage is fine and feathery, like common asparagus, only more so. It does well in a room heated by a stove, does not harbour insects, and, in short, is a botanical paragon.

Another more familiar climber is the old-fashioned German Ivy, so called by the rule of contrary, I suppose, for it is not an ivy, and does not hail from Germany. However, it is a rapid grower of very pretty habit, and is usually of more easy culture than ivy proper.

All lovers of house plants are familiar with the large-leaved Begonia Rex. Its robust habit and handsome vari-colored, metallic leaves justly make it a favorite. Like the palm, it is an excellent thing for city houses where there is little sunshine. Of course, if grown in a gloomy locality it will only flower weakly, and will not be as richly colored as when in good sunlight, but it will do better than most plants and is attractive under any circumstances.

Another member of its family, Begonia rubra, is equally desirable, being the most attractive of the plain-leaved varieties. The long leaves are a bright, shining green: the large flowers, profusely produced, are a brilliant red. It is a very free grower, easily propagated and if sponged or syringed in addition to the ordinary watering, is very cleanly in its habits.

Most growers of house plants are familiar with the ordinary abutilons, sometimes called bell-flower, but very few grow the trailing variety, A Mesopotamicum. It is a charming little thing, throwing out long, trailing branches. The leaves are smaller and more pointed than those of the ordinary variety, beautifully variegated with gold; the little bell-shaped, dark-red flower has a besom-like clapper of black stamens. It is as easy to grow as others of its class, but it requires a good sun to bring out the variegation of the leaves.

For those desirous of profusely flowering house plants nothing is better than the Chinese primrose. It can be kept continually in bloom from November till May, and the blossoms form a whole gamut of color, from pure white to deepest crimson. They are of easy culture, requiring little attention save in watering. They must not grow actually dry, though here, as everywhere else, the cultivator must be warned against over-saturating the pots. A great advantage of the primrose is that it is very rarely infested by greenfly, or similiar pests. Under the same circumstances as the Chinese primrose, we may grow its modest little yellow-flowered English cousin, though a living room is rather too warm for it. The frail English flower, however, is always rather spindling under our alien skies.

Cyclamens are good house plants, and may be readily grown, flowering profusely. It is well to notice in purchasing however, that one should get plants of good constitution; many growers seem to have a very sickly strain, with worn out vitality. In the very beginning of September plants should be repotted, shaking all the old earth off, and giving new soil; the crown of the bulb should be left uncovered.

For those having rooms rather cool than otherwise, violets are charming, but it is useless to attempt them in a very warm place. They will flower profusely during the winter at a temperature of from 45° to 50°, and their beauty and fragrance make them most desirable. Of single varieties the Czar is very fine; it is large, dark purple, and very fragrant. The Neapolitan is the best double variety. With all house plants frequent sponging or syringing of the leaves may be advised as a preventive of red spider and similar pests. But it is well to reiterate that in every case one must water with brains; no amount of printed instructions is equal to a little personal discretion in this case. Discretion, enthusiasm, and energy are the three graces of horticulture, and they cannot

fail to bring success either to professional or amateur.—E. L. Toplin, in *Rural New-Yorker.*

PRIMULA OBCONICA.

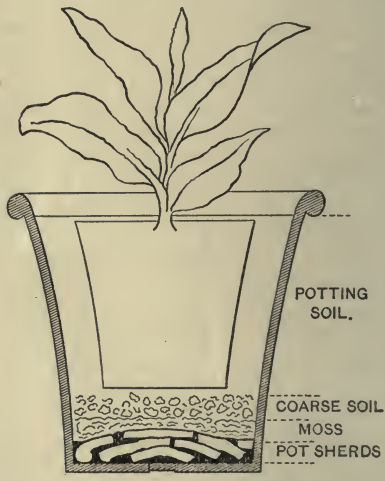
This pretty perpetual-blooming primrose is a native of the Tchang Valley, China, and was collected by Charles Maries for Messrs. Veitch, of London, some four or five years ago. It has many good points which make it at once a friend of the florist, and, when more generally known, it will undoubtedly be grown extensively. The heads of bloom can be cut with a long stem bearing sixteen to twenty flowers, each about an inch in diameter, which will last two weeks or more after being cut, and travel well. The color of the flowers is pure white, sometimes changing to lilac, and where several plants are grown you might imagine there were two or three varieties. I have seen plants at the Cambridge (Mass.) botanic garden with over 100 spikes of bloom at one time. Mr. Manda propagates it by division of the roots in the same manner as the double primrose. It thrives well in a cool green-house under clear glass in winter. The flowers should be kept picked off from June to September, as the plant will bloom and thrive better the following winter.—*American Florist.*

It will be noticed that Primula Cashmeriana is among the premiums for 1887.—Ed.

HOW TO POT A PLANT.

Who does not know how? may be asked. We venture to say that a matter weighing as lightly as this often does with growers is very often the one point between future success and failure in plant culture.

The engraving almost shows how without further explanation. A chief point is drainage. This, so far as underdrainage is concerned, is clearly set forth in the cut. There is first something like an inch of broken pot-shreds,



POTTING—THE PLACING OF THE MATERIALS.

carefully laid, for shedding water. Then—and a very important part—comes a strata of moss or sphagnum to keep the earth above from settling into the drainage below. A clogged drain is of no use. Above this comes the soil, seeing that coarse parts, such as roll down the sides of the heap, go to the bottom as shown in the cut.

Besides such underdrainage, there is clear gain in a similar direction, by having the sides of the pots clean and porous, the dealers in painted pots to the contrary notwithstanding. For plants to do their best there needs to be not only porousness, for the escape of water, for the admission of air to the roots. A painted or dirty pot or a a wooden box or cask in a large measure obstructs the admission of air from the sides.

The larger the pot the more needful is underdrainage, and the less needful is side porousness. Hence pots smaller than three inches across scarcely need the former, while receptacles larger

than one foot across can pretty well dispense with side porousness. Tight boxes, therefore, answer better for large plants than for small ones.

The Potting Stick, is of use in doing a good job of potting, for firming the soil about the roots. It may be whittled from a lath, and should be about six inches long.—*From Popular Gardening (with cut).*

GRANDMOTHER'S HOLLYHOCKS.

Hollyhocks by the garden wall,
  Quaint old-fashioned flowers;
White and crimson, yellow and pink,
Grandmother loves you best, I think,
  Of any in her bowers.

Stately and tall, yet graceful, too,
  Swaying with the breezes;
Grandmother loves and cares for you
Out in the pearly morning dew,
  And plucks you when she pleases.

Roses and peonoies royal red,
  Glowing in summer weather,
Have drooped and died near by your side,
While you are standing in your pride,
  Clustering close together.

Grandmother's flowers, old and true—
  Hollyhocks by the wall—
Sweeter to her than pansies blue.
Dearer to her than orchids new,
  She loves you best of all.

Farm and Home.

THE WINDOW GARDEN.

BEGIN EARLY.

Success in window gardening, as in other kinds of gardening, depends in a great measure upon beginning at the proper time, and with the proper materials. If one waits until cold weather, and then purchases plants at a greenhouse, he makes a bad beginning. The plants had already been in a much higher temperature than that of the window, and the change to a cooler place, and to a much drier atmosphere, gives them a check, from which they do not recover in a long time, and some remain in an unhealthy condition all winter. Some depend upon plants taken up from the borders and potted, to furnish the window. These are apt to delay taking them up until the cool nights have checked their growth, and when they are taken to a warm room the change is too sudden, and the plants rarely do well. If they are to be taken up from the open ground and potted, it should be done so early that they may recover from the shock of removal, and become established in the pots before cool weather makes it necessary to take them into the house.—*American Agriculturist.*

Uses of Fruits.

GRAPES AS FOOD AND MEDICINE.

The quantity of grapes, says Dr. Irving C. Cross, of Washington, D.C., that one may eat with impunity is something astonishing. Persons at European Grape Cure Institutes consume from 3 to 6 Kilos (6 to 12 lbs.) daily. Grapes constitute a perfect nutriment, which includes in remarkable proportions the nitrogenous Albumenoid and Respiratory principals indispensable to a good alimentation. According to the analysis of a French chemist, a striking analogy exists between the juice of the grape and human milk. This chemist finds in 100 parts of each substance as follows:

	Milk.	*Grape.*
Albumenoid and nitrogenous matter ..	1 4	1 7
Sugar, Gum, etc.....	11 0	16 0
Mineral Substance, Water, etc.		

Some of the affections which the grape may be used for, as a respirative medicinal agent of great value are those arising from troubles in the digestive functions, diseases of the liver and spleen, female derangements, catarrh of the air passages, and that state of general exhaustion that keeps up all troubles of the respiratory aparatus. The doctor also says: "Over worked persons may

derive from the vegetable milk of the luscious, but inoffensive 'grape,' a rational means to re-establish the physiological conditions of clear thoughts and correct expressions.

Modes of Preserving Grapes in their Original State.—1. Take sound, ripe grapes, in baskets or boxes from three to six inches deep, set in a cool place to sweat, for one or two days, then line the baskets with paper and place in layer of grapes (removing all unsound ones), then a layer of paper, and so on until basket is filled, then cover closely with paper and keep in a dry place with temperature as near thirty-five or forty degrees Fah. as possible. Grapes thus put up will keep sound and fresh from two to six months. Even temperature is desirable.

2. Take grapes, set by to sweat as in No. 1, then take sand and wash until water runs off clear, dry thoroughly in sun or oven, line box or basket with paper, then put one-half inch of sand, then a layer of grapes (each bunch wrapped in manilla paper), then layer sand, and so proceed until filled. Broken or unsound fruit never to be used. This process has kept the grape fresh to the following June.

Unfermented Wine. — 1. Take sound, ripe grapes from the stems, cover with water, heat slowly until thoroughly cooked, drain through flannel, do not squeeze or crush the grapes. Use one pound of white sugar to gallon of juice, heat again until hot, but not boiling. Seal up same as fruit, keep in a dark place. When wanted for use, add two-thirds water, and sweeten to suit the taste.

2. Take six pounds grapes, mash well, add half gallon water, let stand in an earthen jar for three days, then run off the liquid which is at the bottom, being careful not to disturb the skins and seeds that have risen to the surface,—or, strain through fine sieve or cheese cloth. Add one pound sugar to each quart of juice, bring to the boil, and while at that temperature, can in self-sealing jars. Age improves flavor without fermentation.

Grape Jelly. — Take under ripe grapes, mash, boil three minutes, strain through flannel bag. To every pound of juice add one pound sugar, let come to boil, skim, boil one minute, and run into moulds.

Grape Relish: *to be used with fowl.* — Take ten pounds under ripe grapes (if well ripened add one box gelatine), boil five minutes, strain, add one pound sugar to one pound fruit juice, also one teaspoon each cinnamon, cloves, and allspice, boil five minutes, strain into moulds.

Grape Catsup or Sauce.—Take one quart grape juice, one teacup sugar, one small teaspoon salt, one large heaping tablespoon ground cinnamon, one tablespoon even full ground allspice, one large teaspoonful ground cloves; boil slowly for twenty minutes, and seal, if for future use. Will keep for a long time open. Can be thinned with vinegar to suit taste when used. — Very much liked.

Canned Grapes.—Take ripe grapes, separate seeds from pulp, boil pulp three minutes, strain through leno or cheese cloth to take out seeds, add skins after boiling them twenty minutes, add one-quarter to one-half pound sugar (to suit taste) to one pound fruit, let dissolve, then boil one minute—not longer, as boiling too long destroys the aroma.

Caution.—In preserving the juice, or canning grapes, avoid boiling beyond the specified time, as further boiling carries off the flavor and aroma of the juice; also changes and destroys the chemical and food properties of the sugar used.

[The above paper was prepared by E. D. Smith, and published by the

Niagara District Grape Growers' Association.—Ed.]

Miscellaneous.

AUTUMN.

BY GRANDMA GOWAN, MONTREAL.

(Written for the Canadian Horticulturist.)

Autumn has come with her fairy wand,
  And touch'd the trees, the fields and flowers;
Peace reigns supreme all o'er the land,
  And glorious foliage fills our bowers.

Trees standing still to greet the sun,
  With weight of fruit are bended low,
Whisp'ring their summer's work is done;
  And dew-kiss'd grapes luxuriant glow.

Plenty has come, in golden showers,
  Down from a loving hand divine
To these ungrateful hearts of ours,
  So prone to murmur and repine.

Here in this sylvan solitude,
  All radiant with autumnal dyes,
I praise the "Giver of All Good,"
  With tremulous voice and tear-dimm'd eyes.

Forfend! when angel reapers come
  To garner in the golden sheaves,
That I, now in my setting sun,
  Have naught to give but withered leaves.

The weeds we have with us always. This statement is indeed near the truth, there being some marked exceptions in the cases of a very few very clean cultivators of the land. Professor Lazenby, of the Ohio Experimental Station, Columbus, Ohio, has gone to great pains to show why weeds are so persistent in their presence; this by counting and closely estimating on the seeds of some of the more common ones. As to results, he found on one plant of the everywhere abundant Shepherd's Purse *(Capsella Bursa-pastoris)* 77,500 seeds; on a rank Burdock *(Lappa major)* 400,328 seeds; on a large Wild Parsnip, 19,000, and many other kinds were nearly as numerous as those of the ones named.—*Pop. Gardening.*

Not in Bloom.—*He* (at the horticultural show)—"This is a Tobacco Plant, my dear" *She*—"Indeed! how very interesting! But I don't see any cigars on it."—*Harper's Bazaar.*

To Protect Shade Trees from Stock.—Take a stiff board six or eight feet long and set it up against the tree; then, beginning at the top, wind barbed wire very loosely around both tree and edging, fastening to the latter at intervals of two or three inches, and fasten several short pieces of edging inside the upper and lower coils to keep the wire from wearing the bark.—*Farm and Home.*

I have found that air-slacked lime sowed over the foliage of Kittatinny blackberries just before blossoming has (or something has) completely cured them of the rust that threatened to destroy the plantation. Have any of your readers had like experience?—*W. P. Corsa, in Farm and Home.*

Lady—"Have you given the gold-fish fresh water, as I told you, Maria?" Maria—"No, ma'am; and why should I? Sure, they haven't drunk what they have yet!"

Apples for London.—C. S. Nixon, Montreal, Forwarding Agent for Simon Jacobs & Co., writes:—"Have just been advised by our Halifax correspondent that the steamers left that port on Saturday, 9th Oct., with about *eleven thousand barrels* Nova Scotian apples for London."

A Fine Quince Tree.—Mr. D. Kerman, President of the Grimsby Fruit Growers' Association, has a beautifnl quince tree in his garden. Just now (Oct. 7) it is loaded with immense orange quinces, probably enough to fill a barrel. It grows in such a uniform shape that it is an ornament to his grounds, and not like the neglected scrubs we so often see. Mr. Kerman cultivates it well, and digs in a dress-

ing of manure every spring. This much in favor of high cultivation for the quince.—ED.

MANY-FLOWERED SUNFLOWER.—We have in our garden a sunflower on which we counted, about Oct. 1, ninety-six fine flowers!—ED.

RECENT PUBLICATIONS.

Simmer's Descriptive Catalogue of Flowering Bulbs.—This pamphlet is neatly got up and well illustrated. It contains a description of the more prominent dutch flowering bulbs, kept for sale by J. A. Simmers, 147 King Street East, Toronto.

The Canadian Live Stock Journal, published at Hamilton, Ont., by the Stock Journal Publishing Co., is a neatly got up *monthly* magazine of 36 pages, devoted to the interest of farmers who make a business of growing live stock. It is ably conducted and deserves to succeed. Exhibition number just received.

Descriptive Catalogue of Fruits, 1886, Ellwanger & Barrey, Rochester. This catalogue deserves notice, aside entirely from its business value, as containing reliable descriptions of all the more prominent fruits, large and small, excepting strawberries. It is embellished with a handsome colored plate of the Industry Gooseberry.

The Farmer's Advocate, edited by Mr. Wm. Weld, London, Ont., is most ably conducted in the interests of Canadian farmers. We are glad to notice in the October number some account of the annual meeting of the Fruit Growers' Association at Toronto and a most cordial mention of this journal. We do not know of any monthly magazine that is so popular among Canadian farmers as the *Farmer's Advocate*

NOTICES.

SUBSCRIBE NOW.

NOW IS THE TIME to send your subscription to *The Canadian Horticulturist.* New subscribers sending in one dollar for 1887 *now* may have November and December numbers for 1886 *free!* Choose your premium for 1887 and name it when you send in your subscription, then there can be no mistake.

The *premiums* are: (1) Tree of Vladimer Cherry, (2) Dahlia, (3) Two Plants Hilborn Raspberry, (4) A One-year-old Niagara Grape Vine, (5) A New Single-flowered Geranium, (6) Three Packages of Flower Seeds—Primula Cashmeriana.

All subscribers will receive in addition to the premium the *Report of the Meeting of the Fruit Growers' Association of Ontario*, which is full of the most valuable information to Canadian Fruit Growers.

Agents wanted in every town. Write for terms. Sample copies free.

Members of local associations in clubs of not less than ten at *special rates.*

Address,

L. WOOLVERON,
Grimsby, Ont.

N. B.—The premiums for 1887 will be distributed in April or May next.

THE MICHIGAN HORTICULTURAL SOCIETY.

A letter from C. Garfield, secretary, says:—"The annual meeting of our society will occur at Grand Rapids, beginning Tuesday morning, November 30, and continuing through Wednesday and Thursday, December 1 and 2. President Willits, of the State Agricultural College, will deliver an address on the second evening, and other prominent gentlemen from abroad will assist in the exercises."

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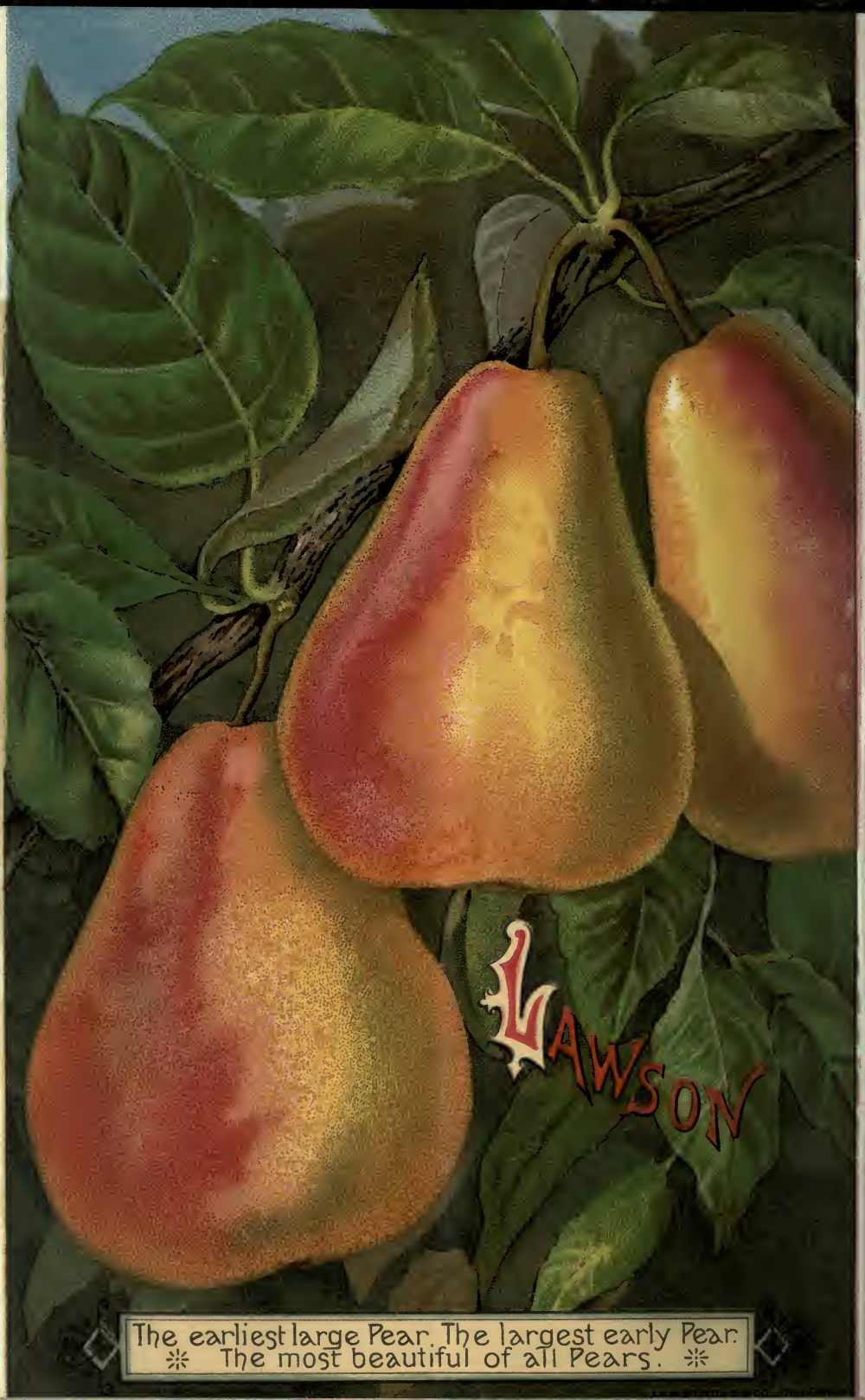

LAWSON
The earliest large Pear. The largest early Pear.
The most beautiful of all Pears.

THE

Canadian Horticulturist.

VOL. IX.] DECEMBER, 1886. [No. 12.

New Fruits.

THE LAWSON PEAR.

The Lawson Pear is another of those new fruits which have not yet been tested in Canada; but, if it has all the excellences claimed for it by its propagators, it will be the leading market pear of its season.

The great objection to all our early pears that ripen before the Clapp's Favorite and the Bartlett is their small size.

The Rostiezer is perhaps the best in quality for dessert of all our tested early summer pears. In flavor, it is equalled only by the famous Seckel, which was at one time so popular as an autumn dessert pear. When the Rostiezer is well known among consumers, it is eagerly sought for; but when placed in a new market it is very unsalable, on account of its small size and poor color.

The Oslands Summer is a very good old pear, ripening early in August and a little before the Rostiezer. It is larger than the latter, and takes on a better color, being of a clear yellow with a warm cheek, but not quite equal to it in flavor. In our grounds it has been quite subject to blight and not very productive; while the Rostiezer, on the other hand, seems be to be comparatively free from blight, and is an abundant bearer.

The Margaret is a new summer pear, of medium size, and very highly commended as the finest of its season, which is about the last of August. We are testing it, and hope to report later concerning it.

The Tyson, an old and well established pear, is just now receiving many enconiums among our exchanges, but we do not value it very highly. It certainly is a fine grower. We have some trees twenty-five years planted, which are about thirty feet high and bear heavy crops annually, but the fruit, though a good size, has a poor color, and it comes too near the Bartlett season to command a high price.

We have thus briefly spoken of the best of our early summer pears to show that there is room for one of good size, good quality and beautiful color.

Now all these excellences are claimed for the Lawson. The color is said to be a most beautiful crimson on a bright yellow ground, and the time of ripening about the 1st of August. It is also claimed to be an annual bearer.

It derives its name from Mr. John Lawson, of Ulster County, N.Y., who formerly owned the farm on which the original tree still stands. The tree is thought to be about 100 years of age, and has never been known to blight.

The pear is certainly desirable, provided it bears out all these characteristics and is sufficiently hardy for our Canadian climate.

THE EARHART EVER-BEARING RASPBERRY.

The *Rural New-Yorker* of 23rd Oct. gives this raspberry a good puff. It claims for it the following points of excellence, (1) hardiness, (2) thrift, (3) productiveness, (4) better quality than the Gregg.

But the great point, in which it is claimed to excel them all, is its wonderful second crops on wood of the current year's growth. The main crop ripens about the last of June, and the second crop commences to ripen about August 15th and continues for about six weeks. On one cane over 500 berries were counted on the 16th September last, and altogether it is made out to be a wonderful acquisition to the garden, giving a continuance of fruit for the table all summer long.

Now we always read statements in the *Rural* with the greatest confidence, because it gives its opinions, as we also aim to do, without fear or favor. But we should require the experience of more than one season to establish our confidence in the wonderful everbearing qualities of the Earhart.

Why, only a few days ago we read of a gardener in Wingham, Ont., picking a fine lot of second crop raspberries in his garden about the 16th October; they were literally loaded with fruit and not Earharts either. The fact is, this is an unusual season for second crops. A neighbor of ours, Mr. Snyder, has plenty of second crop strawberries now (Nov. 12) on his plants; and another Mr. Sardis Smith, has an apple tree with a second crop of apples, of fair size and ripe.

This peculiar phenomenon extends to England also, for we read in the *London Standard* 11th Oct. "the extraordinary mildness of the weather in Dorset has produced some curious phenomena. Strawberries in full bloom are very common in the south, and at Dorchester may be seen apple trees in abundant blossom."

Notes and Comments.

Back Volumes of "The Canadian Horticulturist."—Many of our readers will be pleased to learn that we can still supply back volumes. We have Vols. I., II., III., IV., VI., VII. and VIII. on hand. They contain vast stores of useful information for Canadian fruit growers. Any of these volumes complete, with the accompanying Report, will be sent, post paid, to any address on receipt of 75 cts., or, without Report, for 60 cts.

Correspondents will please make all articles as brief and pointed as possible. Nobody has time, in this busy Nineteenth Century, to read very long articles; besides, when they are very long they are sure to be dry. Let

"Little and Often" be the motto of our contributors, and let us have a bright, cheery journal, full of practical hints just adapted to our country, and a welcome visitor to every home.

Thanks.—We thank our many friends for the kind complimentary words concerning the November Number of *The Canadian Horticulturist.* We hope the appreciation will show itself in a practical way, by doubling our subscription list.

A New Contributor.—We are fortunate in having the promise of a series of articles on flowering bulbs, with illustrations, from Mr. Hermann Simmers, of the firm of Messrs. J. A. Simmers & Co., Toronto. The first appears in this number, with cut of Easter Lily.

All Subscriptions, new and old, are now due. Please renew at once, that we may know how many colored plates we shall need for our January Number. The address labels will indicate whether paid or unpaid, and be satisfactory receipts, we hope, for the money.

Annual Premium.—We receive a good many subscriptions without any accompanying choice of a premium for the spring of 1887. The choice must be made now that we may provide a sufficient number of trees, plants and vines for all subscribers.

A Seedling Plum.—Mr. W. H. Wylie, of Carlton Place, Ont., writes that he has a seedling red plum which has been cultivated by the family for fifty years. It is excellent in quality, a great bearer, and curculio proof. He will exhibit it at some future meeting of the F. G. A. of Ontario.

Display of Fruits and Flowers at Meetings of Fruit Growers.—At the last meeting at Cleveland, Ohio, premiums were offered for displays of fruits and flowers, and in consequence the hall was made most attractive. Local florists covered the stage with plants in bloom and decorated the room with floral ornaments. Among these was a floral parasol, lined with red flowers and covered with white ones nicely fringed, and resting on a base of ferns. May we not learn a lesson from this for increasing the attractions of our meetings?

Ladies at the Evening Sessions.—We notice that at the Winter Meeting of the Main State Pomological Society, several ladies were present in the evening, and some read essays on floral subjects, to which an evening Session was purposely devoted.

At the meeting of the Michigan Pomological Society meeting on the 30th ult., it was the design to have two or three evening lectures by eminent horticulturists to interest the general public, and thus to widen the influence of the Society.

Bagging Grapes.—President Earle said at the close of a discussion on grapes at Cleveland, that he had found bagging grapes a means of protection from rot. The cost was not a half cent a pound.

Deep Planting of Grapes.—Mr. J. J. Harrison spoke on this subject at the Ohio Horticultural Society as follows: "Three or four years ago we lost thousands of grape vines. Those vineyards where the Concord was planted deeply survived, while those that were planted shallow died. With us it is considered

essential to plant deeply." We, on the other hand, think there is quite as great need of caution not to plant too deeply, especially in heavy soil. What is the experience of other vineyardists in Canada?

Wanted.—January, February and May numbers of the *Canadian Horticulturist* for 1886. *Nine numbers* of the year 1885 will be given in exchange for these three; or three numbers of 1885 for any one of them. Each number for 1885 contains a colored plate.

A valuable paper has come to hand from Mr. P. E. Bucke, of Ottawa, on "Suitable Trees for the Lawn," which will appear in the January number.

Able Contributors.—Among other gentlemen, who will contribute to these pages during the year 1887, we have pleasure in mentioning the names of the following, viz. :—D. W. Beadle, W. E. Wellington, A. M. Smith, W. W. Hilborn, John Little, Hermann Simmers, P. E. Bucke, A. A. Wright and F. Mitchell. With such a staff of able contributors an era of unprecedented prosperity is before this journal, and of enlarged usefulness for the *Fruit Growers' Association of Ontario.*

Question Drawer.

This department is intended as an open one to every reader of the "Horticulturist" to send in either questions or answers. Often a reader will be able to answer a question which has been left unanswered, or only partially answered by us. For convenience of reference the questions will henceforth be numbered, and any one replying or referring to any question will please mention the number of it.

9. **The Influence of Stock on Graft.**—*With us Grimes' Golden is below medium size. At our County Exhibition in October among the dozens of Grimes' Golden shown, was one dozen twice as large as some of the others. I asked the exhibitor, "How do you grow them so large?" "By top grafting on the Holley," was the reply. The Holley is a Nova Scotia seedling, a very large apple. What do you think of this?*

C. E. Brown, Yarmouth, N. S.

Neither the scientific study of the growth of the tree, nor the experience of our most reliable pomologists, favors the idea that the stock has any power to change the identity of the fruit grown upon the scion. It may have some influence upon habits of growth in certain ways. Thus grafting a standard pear upon the slow growing quince dwarfs its growth, and by hindering the free return of the sap causes it to be the more directed to the development of the fruit; so that in certain cases, as with the Duchess, the fruit is larger and finer thus dwarfed. A tender tree may also be made hardy by grafting it upon a hardy stock; thus the peach will sometimes succeed upon the plum stock where it would otherwise fail. But it is not at all probable that the Grimes Golden would grow larger upon the Holley stock, simply because the Holley stock bore a large-sized fruit. See, however, article by Dr. Hoskins, p. 233.

Mr. A. M. Smith says: "The influence of stock on scion is an old question, and one on which there is a difference of opiniou. I think the quality of the fruit depends more on the vigor of the stock and the cultivation it receives and the soil than it does on any special variety on which it may be grafted." See Report N. S. A., p. 34.

10. The Most Able Pomologist.—*Do you know of any one who is familiar enough with varieties of apples grown under different conditions to be able to identify them?* C. E. Brown.

There is no man living equal in this respect to the late lamented Chas. Downing. Probably Mr. P. C. Barry, of Rochester, N. Y., is the most able pomologist of the present time.

11. Greenhouse and heating.—*For a greenhouse how far the depth in ground, what width generally, what glass and size is best to use, and what is the latest heater?* R. N. Jameson, Whitby, Ont.

REPLY BY DR. BEADLE.

I must confess to being not a little puzzled over this questions which yon have sent to me for answer. The proper answer hinges greatly upon the use which Mr. Jameson wishes to make of the structure, but of which he has not given the slightest hint. I will take it for granted however that he wishes to propagate plants, and reply accordingly.

If the soil will admit of it he may have the walls all in the ground, rising above the surface just enouge to admit of a few inches projection of the roof so as to throw off the water. Such a house can be heated much more economically than where the walls are above the surface. In many soils it is impossible to go so deep because of water in the ground.

The interior width is most convenient when made at ten feet, allowing two feet for the walk and four feet for each of the tables.

I have used Chance's thick sheet glass, eight by ten inches and found it perfectly satisfactory; but if hail storms are frequent at Whitby, it would be better to use an extra thick quality.

The latest heater is *steam.* I have not tried steam and cannot therefore give an opinion upon the merits of steam heating from personal experience. My greenhouses are heated with hot water, but I have only a small range of glass as compared with many florists, especially in the United States. Our horticultural periodicals have published a good deal of late on the question of steam *versus* hot water heating. From my reading on the subject I am inclined to the opinion that for heating a large establishment, especially in a climate subject to very great and sudden changes of temperature, steam will prove to be the safest, because a sudden and extreme lowering of the thermometer can be more speedily counteracted in every one of the houses and in every part of each house by steam than by hot water.

This matter of heating is largely a question of the extent of surface to be heated. A properly built flue will be the most economical method of heating a small area, where hard firing will not at any time be needed. The danger of setting the structure on fire, of cracking the flue so as to allow gases to escape from the burning fuel into the house, and of having one end of the house too hot and the other too cold, is always present when a flue is relied upon to heat any considerable amount of glass

12. Grapes and Small Fruits for Orillia.—*In your December Number please give me the names of four or five grapes, a*

strawberry, and at least three raspberries that would succeed at Orillia.

JOHN S. WARREN.

Among the black grapes try Champion, Moore's Early and Worden; the first is poor in quality but very hardy, For red try Brighton or Lindley, and for white, Niagara or Empire State.

Perhaps the best strawberry for general purposes to plant at Orillia would be the Crescent Seedling.

In raspberries try the Turner for red, the Hilborn or Ohio for black. The yellow raspberries are not so hardy. (See article on Golden Queen on p. 241.)

13. Rust on the Strawberry Leaves.—*Are you familiar with the rust on the strawberry; and is it that which affects enclosed leaves.?* C. E. BROWN.

We have so little rust on the strawberry at Grimsby that we referred to Mr. Hilborn for his experience. He writes: "I have had strawberry leaves affected with rust the same as samples you sent every season since I began their culture, but have met with no serious results. The Manchester is perhaps more affected than any other sort; sometimes the crop of fruit will be somewhat less on plants that have been planted two or more years, but have not found any injury to the first crop grown on any of my plantations. More than one-half, of a hundred varieties I have grown, have shown more or less of that rust. Among those most affected are Manchester, Wilson, Windsor Chief, Atlantic, Arnold's Pride, Bright Ida, Lacon, Cornelia, Daniel Boone, Prince of Berries, Mrs. Garfield, and many others."

14. Pruning Currants and Gooseberry bushes for fruit.—*When should this be done, and what is the best method.* J. P. W.

Currant and gooseberry bushes may be pruned in either fall or spring. If in the fall it should be done before severe weather comes on, and if in spring, very early before the buds begin to swell.

In pruning the currant our practice is to cut back a portion of the new growth, say one half. This causes the stems to grow stocky, and to throw out a good many side branches for fruit bearing. Besides this, the old wood needs thinning out. Half a dozen stems to each bush are enough to leave.

With the gooseberry pretty liberal pruning is also necessary; not perhaps shortening in as with the currant, but thinning out freely both old and new wood; remembering always that the fruit is borne upon the latter.

15. Making cuttings of Currant and Gooseberry bushes.—*When should this be done? Will cuttings of five inches long grow as readily as those fifteen inches long? Should they be planted in the spring or fall?* J. P. W.

The best time, both for making and planting the cuttings would perhaps be in October; but even in that case they would be better mulched with some coarse strawy manure when winter sets in. If made early in December they should be packed away in sand or sawdust until spring, and then planted early. Cuttings of about one foot in length are surest to grow, if planted deeply, leaving only two or three buds above ground; but we have seldom

failed in our own experience, with cuttings five or six inches in length. We usually cut them at the time of our spring pruning in March and bury them in sand for a few weeks. Very few fail to grow, and any novice should succeed.

16. Grape cuttings.—*Should grape cuttings from fall pruning be planted now, and packed in sand until spring?*

J. P. W.

It will be safer to pack them in sand in the celler, or bury them in dry sandy loam out doors, and plant them in spring.

17. Manure for Currant and Gooseberry bushes.—*Would sulphate of iron or bone dust mixed with ashes be the most economic manure for currants and gooseberry bushes in bearing, money value being equal.*

J. P. W., Hornings Mills, Ont.

18. Ardisia Crenulata.—*In the November Number you refer to A. Crenulata as a desirable house plant. Local florists do not know it, will you kindly inform me where it can be got.*

C. H. Dunning, Toronto, Ont.

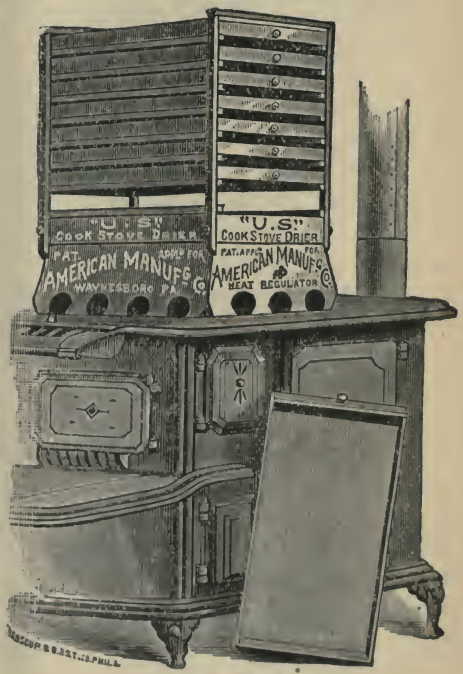
We think it cannot be purchased nearer than New York City at present. We asked Mr. Jas. Vick about it and he says "We do not grow it, and do not think is can be purchased in Rochester." Mr. E. S. Carman of *Rural New-Yorker*, writes "You can get the Ardisia of Peter Henderson & Co., New York, or of John Saul, Washington."

REPLIES TO PREVIOUS QUESTIONS.

1. Huckleberries.—Mr. Lovett, Little Silver, N. J., writes: "Please correct the error on page 248. I have the Bell and Cherry Cranberries, but no Huckleberries. My many attempts to grow this fruit have in all cases resulted, the same as with your correspondent from Owen Sound, in failure."

Mr. W. A. Dempsey, son of Mr. P. C. Dempsey, of Trenton, Ont., says: "Wild Huckleberry plants can be got in quantity here at cost of labour digging them, say 50c. per 100 or $4 per 1,000. There are a great many pails picked off my place each season. I like what is called the *Bill-berry* better, only that it mildews. The bushes are much larger; I have seen them about 8 feet high."

7. Fruit Dryer.—In order to answer this question, we wrote to the Ameri-



U. S. COOK STOVE DRIER.

can Manufacturing Co., Waynesboro, Penn., asking for a cut of their U

S. Cook Stove Drier. Through the kindness of this firm we present our readers with the accompanying illustration, which may be interesting to many Canadian readers. The weight is only about twenty-five pounds, so that it may be easily handled by the servant or mistress. The trays are of galvanised wire cloth, and therefore will not rust or discolor the fruit. The price is $7.

Flowers.

THE BELL FLOWERS.

"With drooping bells of purest blue,
Thou didst attract my childish view."

There are only three species of the Campanula family common in our Canadian woods, viz., the Harebell, or Blue Bell of Scotland (C. *rotundifolia*), found on rocky, shaded banks; the Tall Bellflower (*C. Americana*), the stem of which grows from three to six feet high, with blue flowers also; and the Marsh or Rough-Leaved Bellflower (*C. aparinoides*, with lavender flowers, which is of a climbing habit.

But there are besides these, in various parts of the world, nearly 300 known species. Many of these are cultivated in flower gardens, and may be seen described in the catalogues of our leading florists and nurserymen. Some are annuals, some are perennials, like the Harebell above mentioned, and some are biennials and die after the second year, as the Canterbury Bell (*C. Media*) and the Peach-Leaved Harebell (*C. persicifolia*).

To this last class belongs also the Climbing Bellflower (*C. rapunculoides*), which is so well shown by the cut kindly loaned us by the Popular Gardening Co.

The name Campanula is a diminutive of the Italian *campana*, a bell, from the shape of its corolla.

CLIMBING BELL-FLOWER.

WINTER FLOWERING BULBS.

BY HERMANN SIMMERS, TORONTO.

THE EASTER LILY.

Among the varieties most suited for indoor culture, we may class the Easter Lily (*Lilium longiflorum, Harrisii*). This variety, on account of its easy culture, has of late years been given a prominent place by all amateurs; but there may be some readers of the *Horticulturist* who are not aware of its remarkably easy culture, and who would give it a trial if they only had some thoroughly explicit directions. We will endeavour to give some directions based upon a thorough practical experience in the cultivation of the Easter Lily.

Take a sufficient quantity of good rich loam to fill an ordinary pint pot

THE EASTER LILY.

about three-quarters full, add the remaining quarter, of ordinary sand, in order to prevent the earth from souring; then place the bulb in the centre of the pot, care being taken not to press the earth under the bulb at all, so that the roots of the bulb will have easy growth. Press the earth firmly around the bulb, after which water thoroughly; then place the pot in a totally dark portion of a moderately warm cellar, temperature not to be lower than 40°, or in a box, which would require to be covered. Watering the pot would be necessary about once a week, or, if the mould is moderately damp, it could be left for about ten days.

After treating the bulb in this form for about eight weeks, it could be brought to the light, care being used not to bring it to the light suddenly, or else the stem will be forced too quickly, and not be able to hold the large truss of white flowers which would appear in about five weeks after the above treatment.

We might add that it is necessary to water it at regular intervals, at the same time that the other plants in the house, or conservatory, are watered; but not too much at a time, as the bulb is liable to rot with too much watering.

If, at times, the bulb does not show as quick a growth as is desirable, an application of some prepared plant food may be given it, when the difference will at once be noted.

The directions, as given above, may appear somewhat lengthy to the readers of the *Horticulturist*, but the actual cultivation of the Easter Lily will not be found greater trouble than that of other plants in general.

Toronto, 8th Nov., 1886.

THE HOLLYHOCK.

BY M. W. M., OWEN SOUND, ONT.

Upon a dry and withered stalk
  There sat, in bright array,
The last of all the Hollyhocks,
  To bloom alone and die.

To bloom alone, when none were left
  Of all the floral band;
And not a voice of summer bird
  Was heard throughout the land.

And so, methought, we sometimes see
  One far from friends removed,
While yet they might have lent their aid,
  And in affliction soothed.

And, like the flowers, we all shall fade,
  In winter's tomb be laid.
Yet we in Christ shall rise again,
  In youthful bloom re-made.

Written for Canadian Horticulturist.

Fruits.

TIMELY HINTS.

Manure the Orchard.—Now is the time, when other work is closing up, to show kindness to the fruit trees. The trees have just exerted themselves in behalf of their owner, and now deserve their reward. Indeed, unless a top dressing of compost, or of wood ashes, is given them every year or so, they will be revenged by producing small, spotted, unsalable fruit.

Cleaning up all rubbish about the trees is also work for this season. Bits of corn stalks, straw, or brush about young trees, will encourage the depredations of the mice throughout the winter. These should be carefully cleared away, and a mound of fine earth packed closely about the trunk. Nothing will more effectually save the trees from the depredations of mice than this. Thousands of trees are annually destroyed in Canada every winter, in time of deep snow, through neglect of this simple precaution.

The old fashioned rail fence is an abomination about an orchard or garden. It accumulates tremendous banks of snow, and every tree within twenty feet of such a fence is a temptation to this despicable foe, the field mouse. The wire fence, properly built, is the best for an orchard. Once we agreed with a suggestion in the *American Agriculturist* that the wire should be fastened on rows of trees planted in line to take the place of posts; but experience has taught us that this does not pay. As the tree grows, the wire is bent out about the staple, and breaks frequently, thus proving a constant nuisance. Good cedar posts are best of all supports for a wire fence. They may be set fifteen feet apart, if well braced here and there.

Keeping Winter Apples.—We frequently see it stated that apples will keep their fresh crisp state far better if pitted like potatoes, than if kept in the cellar. It is said that in Kentucky whole barrels of apples are frequently stored in pits in this way. A trench is dug one foot deep, a layer of straw put in the bottom, and the barrels laid in end to end; then a thick covering of alternate layers of straw and earth is made, sufficient to keep out the frost, and to shed the rain.

Apples so kept are said to come out wonderfully fresh and crisp, and to keep much longer than by the usual method. Perhaps some of our readers would like to experiment, and find out

whether the plan would succeed in our more rigorous climate.

Grape Cuttings.—Most propagators advise making grape cuttings in the autumn, and burying them until the spring, so that the cut surface may heal; or early in December, and packing them away in sand in the root cellar. No doubt this is the best time, but we usually have complete success with cuttings from wood pruned in March. We bury them as soon as the frost is out, and leave them two or three weeks. Scarcely any fail to grow.

Cuttings need to be about six inches long, and include two buds: those with one bud seldom succeed, except in a green house, or hot bed.

RASPBERRIES FOR MARKET.

BY W. W. HILBORN, ARKONA.

To grow the Blackcap raspberry for market I plant them in rows eight feet apart and three feet apart in the row.

If the soil is as rich as it should be for Blackcaps, this will not be too great a distance.

When they get to be full grown plants there will only be space enough left between the rows to gather the fruit and work around the plants.

When the new growth of the first year reaches twelve or fifteen inches in height, pinch it back; the second year after planting, allow it to grow about two feet high before pinching back. There is more danger of letting them get too high before pinching back, than there is in heading back too soon.

By keeping the plants down low the wind does not break them down so much and they will produce a larger crop of fruit.

Give them good cultivation early in in the season, stirring the soil often, and do not wait until the weeds spring up and force you to cultivate them. By moving the soil often, you promote growth, and weeds have no chance to get a start.

Cut out all old wood as soon as the crop of fruit has been gathered. Cultivate and plough the land, throwing the soil toward the plants.

By stopping cultivation early, the new wood or canes will ripen up well before winter comes on, thus enabling them to stand lower temperature without injury.

They will require nothing more until spring, when the bushes will need pruning back.

They should be well cultivated as early in spring as the soil will permit, and the cultivator kept going through them often, (once a week is none too often) until the fruit begins to color. Where mulch of either coarse manure or straw can be procured it should be placed around the bushes, on the land that cannot be reached by the cultivator, immediately after cultivating out the first time in spring. This will help to keep down weeds and retain moisture.

VARIETIES TO PLANT.

In recommending varieties to plant for market, I will only speak of those that have been well tested in many parts of the country, and say nothing about the new varieties, some of which are very promising.

Tyler and Souhegan are the best for an early crop, Mammoth Cluster for medium, and Gregg for late. The Gregg is a very large and productive berry, but it is not quite hardy in some localities.

Shaffer's is the best cap variety, all things taken into consideration, with which I am acquainted for canning purposes. It is a purple berry, and if left to get a little over-ripe it turns brown, which will materially lessen its sale in any market where it is not known.

RED OR SUCKERING VARIETIES.

These should be grown in about the same way as the cap varieties, but the rows should be only six feet apart. Do not, on any account, neglect to cultivate them as early in the spring as the soil will permit. Suckers form almost without number on their roots in the fall, and come almost to the surface of the soil (sometimes even showing above), and they begin to grow very early in the spring, and almost before you know it the ground will be covered with young plants, which take the substance away from the bearing ones. They should be cut off as weeds; and, if not allowed to grow in the fore part of the season, they will give very little trouble later.

Hansell is the earliest. It is not large, and it resembles the wild raspberries in its habits of growth, and it is not the best in quality. Yet, with all its faults, I believe it is the best early market red raspberry we have. It requires rich soil. Turner is not quite as early, but good in quality; it is larger and the hardiest of them all. It is not firm enough to ship to a distant market.

Cuthbert is the largest, latest and best market berry where it does not kill too much back with the winter.

OUR GARDEN AND ORCHARD.

BY JOHN CROIL, AULTSVILLE.

(*Concluded.*)

GRAPES.

With an assortment of fifteen kinds we have the same tale to tell. A large crop, beautiful bunches, but only about one-quarter of them reaching maturity. No vine is worth planting in our cold North that does not ripen its fruit by the middle of September. The Champion, of course, always does—*better it than none*,—the Hartford and Delaware generally. Moore's Early and Worden ripened well with us this year, and are a decided improvement on any we have had. All Rogers' Hybrids we have tried are too late in ripening—beautiful, many of them. Salem, Wilder, Agawam, Brighton and Massasoit, heavily laden and beautiful. All the more tantilizing to have them all destroyed by frost when just on the eve of ripening.

STRAWBERRIES.

We had seven kinds on three quarters of an acre. In future we will confine ourselves to the Wilson, Crescent and Early Canada. The latter for its only recommendation has earliness. It is a poor berry, and is liable to be destroyed by frost when in blossom. Our plants wintered well, and promised a good return; but we are far from boasting of the same. I'll venture to boast, however, of my friend Mr. Beall's crop—too modest he to boast of his own. He

had 1,600 quarts on one-eighth of an acre—just what I had on three-quarters of an acre, *i.e.*, mine six times told.

BLACK SPOT ON THE APPLE.

For many years this disease has been going on from bad to worse, till now our orchard hardly deserves the name.

Mr. E. P. Powell, of Clinton, the writer of a sensible letter on apples which appeared in the New York *Independent* of 23rd Sept., says :—

"If anything can be more gratifying "than to see a row of these lovely "apples in October it must be outside "of the apple orchard. The fruit is "superb in quality as well as beauti-"ful."

So said I ten years ago, but a different tale we have to tell to-day. Our once noble Fameuse seems to be played out. Spotted is no name for mine. Shrivelled up and black nearly all over, it is a cumberer of the ground and entirely worthless. In 1877 I gathered from two trees seventeen barrels of apples as beautiful as Mr. Powell describes, and sold them for $51. My 200 trees will come short of yielding me such an amount this year. The St. Lawrence and McIntosh Red are not much better. The Tolman Sweet, which till this year escaped, is badly spotted. I am sorry to say even the Wealthy is spotted, although not to the same extent as the above kinds. The American Golden Russet is about the only healthy tree I have. They are entirely free from the spot, and bore heavily.

My own orchard and a few adjoining are more affected by the disease than any I know of, but the following reports, which I received in answer to enquiries concerning the progress of the disease from parties in different sections, show the disease to be general :

Toronto.—Messrs. Stone & Wellington say : The spot on the Fameuse is worse this year than usual, and the fruit is much smaller. Our Wealthy apples at the nursery are not spotted at all.

Lindsay.—Thomas Beall : My Fameuse is much worse than ever before. I may possibly be able to see one-half of them, but I think I could not find one per cent. clear. The St. Lawrence are equally unsalable, caused by cracking. The Wealthy injured, but not to the same extent. Alexander both spotted and cracked.

Iroquois.—Dr. Harkness : The Fameuse are badly spotted ; quite free in 1885. Have only a few Tolman ; they are not spotted enough to injure them seriously. My Wealthy are not bearing yet ; a neighbor had a few *almost* free from spots, a beautiful apple.

Montreal.—James Morgan, jun. : Fameuse apples are badly spotted in this section, especially on old trees. Wealthy, I think, are all right. Any that I have seen are clean and large, and I think will supersede the Fameuse in time.

Village des Culnaies, Co. L'Islet, P. of Q.—Auguste Dupuis : Our Fameuse are less spotted this year than last. Some native varieties are greatly spotted. Farmers whom I met at the horticultural county fairs complained bitterly of the great damage to their apples. They say that the spots are caused by the dampness of the temperature in

July, and the mists which cover the sand. We are near the St. Lawrence, which is twenty-four miles wide here; mists occur often when the breeze comes from the east.

Windsor, N. S.—I expected a report from Professor Hind, but it has not yet come to hand. From a friend, however, who visited him this summer, I learn that the disease is bad in that locality. He (the professor) says its iron the trees want, and claims to have found a cure by its application, of which we will report when we hear from him. Meantime, we are safe in trying the experiment.

WINTER PROTECTION OF GRAPES.

In reading the *Rural's* report of the meeting of the A. H. Society we notice that Mr. Geo. Campbell, a veteran grape culturist, spoke thus on this subject: "I advise winter protection for all vines. In mild winters they are improved, and in severe ones they are saved by it. I have long been convinced that winter protection is often the turning point between the brightest success and a complete failure. Nothing pays better. Injury from cold leaves the vine more susceptible to mildew and disease. In a general way, I advise growing the best kinds. These with the additional care can be readily grown, and they bring good prices, while others are a drug in the market."

Mr. Green said: "All have room for a grape-vine, No man with a house is without room for a grape-vine. There is no cheaper food for farmers, or their help, than grapes." Mr. Ohmer: "Grapes should be grown by everybody. (Applause.) I find great advantage in winter covering. I have 17 varieties, and lay them all down in winter." Mr. Campbell: "Grapes upon walls often escape the effects of cold and disease when others do not." Mr. Ford also believed in wall training and winter protection. "I grow grapes on three sides of every building I have. I never saw rot or mildew on vines near a building. I intend to plant along a high board fence and build a shed to extend partly over the vines." Mr. Vandemann said: "The north side of a building is the place to put any tender thing; it will succeed there when it will not on the south side, where the evaporating influences are greater. In nature we find that all tender plants grow on the northern hill slopes, none on the southern slopes." Several members spoke of the advantages in training grapes on walls and buildings, also on trees. Mr. Pierce: "Grapes will not grow in Ohio on the north side of houses."

[We may add that some of the finest vineyards in the Niagara District of Ontario have a northern exposure, with the Niagara Escarpment on the south side of them.—Ed.]

PRUNING GRAPE VINES.

The *Floral Instructor* says: "The best time to prune grape vines is as soon after the leaves have fallen as possible. If left until spring it is apt to be too late before it is attended to, and there is always some loss of vigor in vines encumbered during several months with a large mass of useless wood."

[There are no doubt some advantages in pruning grape vines on fine days in the fall or early winter before severe cold has come. March in Canada is a very unpleasant month for the work; and if cut in April there is much loss of strength in "bleeding." But we much question the loss of vigor from the cause mentioned by our exchange.—ED.]

THE GOLDEN QUEEN.

Mr. W. W. Hilborn, of Arkona, O., writes as follows concerning the Golden Queen Raspberry, and we are glad that some one in Canada is giving it a fair trial, so that we know for a certainty whether it is adapted to our climate. Mr. Hilborn says:—

"The Golden Queen has not been grown in Canada long enough to know how it will stand our winters. I planted two hundred of them last spring. They grew well, and bore quite a quantity of very fine fruit, about the size of the Cuthbert, and the nearest approach to Brinckle's Orange in quality of any yellow raspberry I have seen.

"They resemble Cuthbert in habit of growth, leaf and cane, except that they are lighter in color. Should they prove to be hardy they will, no doubt, be the best yellow raspberry we have."

NONSENSE.

(A humorous letter from Mr. D. W. Beadle.)

MR. EDITOR,—Do you not think it desirable that our horticultural papers should place their funny paragraphs in a column having an indicative heading, such as "FACETIÆ," or something of the kind, and not scatter them promiscuously through the paper in such a manner that the unwary reader might mistake the paragraph for downright earnest? It is certainly allowable in an agricultural or even horticultural periodical to print nonsense occasionally, for you know

> "A little nonsense now and then
> Is relished by the wisest men,"

yet, unless properly headed, it may sometimes become misleading. For instance, I read the other day, in a very popular gardening paper, that we should "instead of selling old cast-iron at half-a-cent per pound, put small pieces near the roots of grapes, currants, gooseberries, and fruit trees; it is very beneficial." As a bit of facetiousness, this is all very well, but as a piece of practical utility it is sheer nonsense. It is hardly possible to find a soil in which there is not already a super-abundance of iron, so far as that mineral is required by vegetation; and the planting of small pieces of cast iron near the roots of trees is a veritable "carrying of coals to Newcastle."

Again, in the same paper, we find the inquiry, "What can be done to prevent the ravages of the currant borer?" answered as follows: "Scatter salt, say a teaspoonful, close around each bush two or three times through the season." This surely must be intended for a huge joke. It is a forcible reminder of the advice so often given to the small boy who is trying to catch a bird, namely, to "put salt on his tail." Yet this answer is printed in such a manner that the unsuspecting reader might be entirely misled by the

arrant nonsense; and surely this is not justifiable.

It is not often that persons who are troubled with currant borers are familiar with the habits of the little pest, and, supposing this advice to have been given seriously by some one who knows, they may waste their time and patience sowing salt on the ground, close around each bush, two or three times through the season. It is very doubtful if it were sown directly on the backs, or applied to the tails, of the borers that it would cause them the least inconvenience, but sown on the ground, as close to each bush as possible, it most certainly would never come in contact with or even very near them, and could not by any possibility affect them in the least.

Once more. In the same number we are told, in answer to an inquiry, that the Schumaker Peach "is a free-stone and ripens about with Crawford's Early." Probably this is not intended as a joke, but is merely a specimen of the knowledge of the person who penned the answer. Now, the Schumaker Peach is not a free-stone, but is one of the semi-clinging stones, such as the Alexander, Amsden, Early Canada, and all that class, and ripens nearly a month before the Crawford's Early.

Nor is this all. The paper answers another enquirer and tells him that seeds of Walnut, Ash, Catalpa and Box Alder, *i.e.*, *Negundo Aceroides*, "must be planted in the fall or else mixed with earth and put out to *freeze* through the winter, and planted in early spring." This is just another bit of nonsense, quite misleading if taken in earnest. There is no more need of freezing any of these seeds than there is of roasting them. In the case of the Walnut, it is important that the seeds or nuts be not allowed to dry, hence they should be mixed with moist earth and kept moist until planted, but they will grow just as well if kept in that condition in the cellar as if they are "put out to freeze." The Ash, Catalpa and Box Alder seeds may be kept in a paper in your drawer all winter and sown in the spring with just as much certainty of growing as if they were mixed with earth and put out to freeze.

Having grown all these from the seed and found them to germinate freely when treated in this manner, it seems unkind to advise a novice to take so much unnecessary trouble.

St. Catharines, Nov., 1886.

A NOVA SCOTIA LETTER.

The last few mails have brought us several kind letters from Nova Scotia showing how wide spread is the interest taken in our *Canadian Horticulturist.* Among these letters is one from a very old friend of our Association Mr. Charles E. Brown, of Yarmouth, from which we make one or two extracts. Speaking of the

SHIAWASSEE BEAUTY

he says:—"It is surprising what a number of valuable varieties of apples are accredited to the Fameuse as a parent. Of sixty-four kinds sent me from Michigan, the Shiawassee Beauty, a seedling of the Fameuse, appeared to me the most beautiful. The color is a lovely

shade of carmine, unlike any other apple I ever saw. The tree is said to be hardy, and the fruit to keep longer than the Fameuse, and to be free from from spots and blemishes."

It is a most startling fact to apple growers to find how universally prevalent is that scourge of the orchard, the

FUNGUS SPOT ON THE APPLE.

We find from Mr. Brown's letter that not even the salubrious sea breezes can ward off this plague. He says :—"The crop of apples in this Province is very large this season, and in most kinds of high quality, with good color and size. Of late years, certain kinds, the Yellow Bellefleur for instance, formerly always exempt from spots, have become so much disfigured that they are worthless for export; the Fameuse is another of these and going out of use in the best fruit counties. At an exhibition in Digby County last week, I saw one collection of some twenty-five kinds, nearly all of which were more or less spotted, the apples were also small in size for the kinds. In this case I came to the conclusion that the trees were old, unpruned and neglected, and that the fungus disease was communicated to all kinds alike because unthrifty. It would be a wise man however who could give an exhaustive statement of the cause of, and remedy for, these fungus spots. I have the Early Harvest and the Fameuse in good soil and well pruned, the former utterly worthless, the latter will give me a small proportion of its crop in fair, clear fruit, but the great part will be spotted. Full exposure to sun and air is essential to clear fruit, and perhaps severe pruning would be in many cases the sole remedy needed"

Let us hope that the late discoveries in science concerning these low forms of plant life, may give some basis upon which our scientific students of horticulture may solve these mysteries and provide us with a remedy. *(See editorial under "Scientific.")* This spot is spreading in Ontario from one kind to another. Beginning with the Fall Pippin and the Fameuse it has extended to the Rambo, Greening, Spitzenberg, Early Harvest, and even the Northern Spy. It utterly unfits an apple for foreign shipment, indeed a spotted apple can hardly be sold at home.

HONOURABLE APPOINTMENT OF MR. WILLIAM SAUNDERS,

FORMER PRESIDENT OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

Our readers will all be pleased to read the following letter to the *London Free Press* from an Ottawa correspondent :—

"Prof. Wm. Saunders, of London, Ont., has just been appointed Director of the Experimental Farm Stations of the Dominion, and will assume the duties of his important office at once. His jurisdiction will extend over the stations in all parts of the Provinces, under the direction of Hon. Mr. Carling, Minister of Agriculture. He was engaged last fall in visiting institutions of a similar character in the United States, and prepared an exhaustive report on his observations. That report was laid before Parliament at its last session, and not only there, but from

the press of America and Great Britain, received the highest commendations for its comprehensiveness and general excellence. Since that Mr. Saunders has visited England in charge of the Canadian fruit display at the Colonial and Indian Exhibition, and since his return has undertaken several experiments, at the instance of the Minister of Agriculture, in the shipment of early varieties of apples and other fruits and vegetables in refrigerators. In these undertakings his efforts were crowned with the success which generally follows intelligence and well directed efforts. Mr. Saunders, in fact, is a gentleman singularly well qualified for the position to which Mr. Carling has appointed him. He was for years President of the Ontario Fruit Growers' Association—a position which he held by reason of his superior knowledge of all that appertains to the cultivation of fruit. He is recognized as one of the leading chemists of the Dominion, and was at one time one of the chief officers of the American Society for the Promotion of Science. He has been for years the leading entomologist of the Dominion, and to that branch of natural science has made many valuable literary contributions. He is a member of the Executive Board in charge of the Provincial Agricultural College at Guelph—a position which shows in some degree the extent to which his knowledge of scientific agriculture is recognized by the Ontario Government. He has, to an extent more generally perhaps than any other man in the Dominion, conducted delicate experiments of an agricultural character, and in assuming the directorship of the new farm stations will be following in the groove to which his efforts and education have for years tended. He also combines with rare executive ability the faculty of intelligently communicating his ideas to others. Just such a man was wanted. Mr. Saunders is at present visiting the Maritime Provinces for the purpose of reporting on a site for the Central Experimental Farm Station for the three Lower Provinces. It is also probable that he will visit Manitoba, the North-West and British Columbia at an early date, or in the spring, for the purpose of selecting sites for the stations in those Provinces. In the meantime work is going on briskly on the Central Farm here, and the introductory operations have begun in earnest. Mr. Saunders' home will in future be in Ottawa, although he may not leave London for some months to come.

FRUITS IN MANITOBA.

It is interesting to notice in the Manitoba Crop Bulletin of 15th October, sent us by Mr. Acton Burrows, what a number of fruits grow wild in that country.

There are very few cultivated fruits except raspberries, currants, gooseberries and strawberries; these succeed well, especially the currants and gooseberries: but the varieties of plums, crab apples and cherries, which we grow in Ontario, are for the most part a failure in Manitoba.

It is especially worthy of observation, however, that there are wild varieties

of many fruits indigenous to the soil, and suited to the climate; and that these grow there in considerable abundance. Wild plums are reported from 84 townships, wild cherries from 104, wild grapes from 11, blueberries from 40, cranberries from 136, and june berries from 3.

Now here is a field for the enterprising and scientific horticulturists in the North-West. Here is a chance for them to take those hardy bushes and vines, placed there for them by a kind Providence, and by high cultivation, and by hybridizing, to succeed in producing varieties of great excellence that will at the same time endure the climate.

We have even more confidence in this course for our cousins in the North-West than in Russian importations.

A NEW FRUIT PICKER.

A good many tools have been invented to lessen the arduous labor of climbing up and down trees in gathering fruit. However, for the general work of gathering our heavy crops of apples and pears, we do not think any instrument can equal that old-fashioned one invented, about six thousand years ago, for gathering the fruit in the Garden of Eden. A man, with his two hands is about the best and most reliable of all instruments yet invented.

But there are cases in which one of these tools may be used to great advantage and save much labor. For instance, in gathering choice specimens of fruit for exhibition, such a tool is almost indispensable. And, where the fruit is somewhat scattered upon the tree, the use of an apple picker would save much climbing, and moving of a heavy ladder.

Again, in case of early apples and peaches, which must be picked as they ripen or get their color, where a great amount of climbing is made necessary and consequent injury to the tree, together with the knocking off of much green fruit, some such tool would save many times its cost in a single season to the professional fruit grower.

Most of the fruit pickers, that have been invented have a linen bag, with a mouth of wire so arranged as to catch the apple by the stem, or having a cover to open and close by means of a small iron rod running down the handle. Such kinds are very convenient for gathering single specimens; but, as one hand is required to pull the iron rod, it is evident that to gather much fruit in the bag at one time would be very tiresome. Another objection to the bag, in our opinion, is the danger of bruising the fruit against the limbs in working the picker.

POINEER FRUIT PICKER.

The cut shows a new fruit picker, just invented by Mr. Walter Burgess, Parkdale, Ont. Having tried it in our own orchard, we note the following advantages which it has:—

(1) It is so arranged that it will catch the apple or pear on any side by the stem, and bring it off with the slightest twist of the pole.

(2) The receptacle being made of tin and not of cloth, there is no danger of the most delicate specimens being bruised against the limbs.

(3) The picker being used in an upright position with both hands, about a dozen apples can be picked at a time without difficulty.

Of course, it is tiresome to use any such tool for steady and long continued work, but we think the Burgess Fruit Picker has merits which render it worthy of this notice.

CANADIAN FRUIT AT SOUTH KENSINGTON.

One of the most comprehensive displays of Canadian fruit ever made in Europe is now on view in the conservatory of the Colonial and Indian Exhibition. Contributions are made by every province of Canada, from Nova Scotia and New Brunswick to Quebec and Ontario, and even by Manitoba and British Columbia, the greater part of the exhibits having been collected, under the direction of the Canadian Government, by Prof. Wm. Saunders, of the Western University, London, Ontario. From Ontario and Quebec excellent specimens are shown of the varieties of apples mostly shipped to British markets, and the body, texture and flavor of these must command general admiration. The pears are specially noteworthy for size and color; while an excellent display of vegetables, and even Canadian out-door grapes, is made. The Nova Scotian display comprises some fifty varieties. The British Columbia and Manitoba varieties are also interesting, as coming from parts of the Dominion but little known in England for their fruit growing capabilities. It is, moreover, important to note that the shipment of many of the early soft varieties of fruits now shown was made from Canada in refrigerators, and the perfect condition in which they arrived is considered to fully establish the value of this means of transit.—*Farmers' Gazette, England.*

Scientific.

MICROBES, FERMENTS AND MOULDS.

This is the title of a new book just published by Kegan, Paul, Trench & Co., London, Eng. It is written by E. L. Truessart, a Frenchman, and is designed to bring this interesting department of microscopic study, which has been so successfully pursued by M. Pasteur, within the reach of the general public.

The book is an interesting one to fruit growers, because by means of the principles there revealed, no doubt many of the puzzling questions concerning blight, yellows, mildew, rust, &c., will be solved.

The word microbe simply means a small living being, without defining whether it is a plant or an animal; and indeed scientists cannot agree in which kingdom to place it. Anyway, it is parasitic, deriving its nourishment from other plants or animals, and is either the cause or the accompaniment of very serious diseases. The word bacteria has been employed synonymously with microbe, but it properly refers to only one variety of these organisms.

It almost makes one shudder to be

told what multitudes of these infinitesimal creatures there are about us; and it is some comfort to know that they are too small for our natural vision, and that we need the most powerful lenses in order to see them properly.

Neither is it pleasant to be told that many of our diseases are due to the presence of these microbes in the blood, as intermittent and typhoid fevers, smallpox, measles, leprosy, erysipelas, &c.; or that there are kinds which infest the human teeth, causing decay, and the scalp of the head, causing baldness, and the saliva, causing madness. Other kinds, again, are useful, as, for instance, those causing fermentation in wine or in yeast.

But it is the chapter on *Parasitic fungi* that most interests the fruit grower. There we are told that the grape vine is attacked by at least one hundred different kinds of these minute organisms.

Among them is the *Oidium or White disease* imported into England and France from America, and which has nearly destroyed the vineyards of Madeira.

Another is the *mildew*, only too well known among us, and to which the technical name Peronospora Viticola has been given. This also was imported into Europe from America. There are, it seems, both summer and winter spores of the mildew, which are the means of its dissemination. The white filaments, or hyphae, bear numerous summer spores which are diffused through the air; while the withered leaf which falls in the autumn contains the winter ones. These latter are oospores, or egg spores, and will germinate the following spring.

Therefore it is evidently wise to destroy the leaves in the autumn, and with them these oospores; and in the summer the vines should be early dusted with sulphur, from which sulphurous acid is gradually set free to the total destruction of the summer spores.

Sulphate of iron mixed with lime, and dusted on is also effective in burning up this minute form of vegetable life. It should be mixed in the proportion of four parts sulphate of iron to twenty parts of lime.

Review.

We will gladly give our candid opinion of any books, magazines or catalogues received, especially if they are likely to interest or benefit Canadian fruit growers, but will not insert cut and dried reading notices in favor of any publication whatever.

REPORTS OF OTHER SOCIETIES.

Montreal Horticultural Society, E. J. Maxwell, Secretary, Montreal P.O.—The Eleventh Annual Report of this society has just come to hand. It includes the report of the Fruit Growers' Association of Quebec for the year 1885, and is of great value. It is about double the size of their report for 1884, and contains ably written papers upon such subjects as "Grape Culture in Quebec," "Window Gardening," "Ornamental Trees," Garden Roses," "Apple Culture," "How to Grow and Flower Chrysanthemums," &c. It also contains reports of local societies.

About fifty copies have been kindly sent to this office for the benefit of the Fruit Growers' Association of Ontario.

Transactions of the Maine State Pomological Society, D. L. Boardman, Secretary.—This report contains a series of essays contributed by able horticulturists and florists on quite a variety of subjects, including the following:—"Making Coleus Beds," "Small Fruits in Maine," "Trapping the Codlin Moth," "Picking and Shipping Apples." The report of discussions at the meetings forms but a small part of the book.

Transactions of the Massachusetts Horticultural Society for the year 1886, Part I., Robert Manning Secretary.—This contains essays and addresses of a very high order of merit. Among other subjects we notice: "A Trip to the Tropics," "Promising Fruits," "Forestry," "Gladioli," "Plants for Out-door Culture," "Vegetable Growing," "Orchid Culture," "Homestead Landscapes," "Embellishment of Cemeteries," and "Ripening and Preservation of Fruit."

MAGAZINES AND PAMPHLETS.

L'Agriculteur Canadien is a new monthly illustrated journal, published by H. A. Chaput, 1,623 Rue Notre Dame, Montreal, at $1 per annum. It is written in French, and is devoted to the interests of farmers and fruit growers.

The Southern Cultivator and Dixie Farmer, published at Atlanta, Georgia, comes out in an improved dress and contains an immense amount of reading matter just suited to Southern farmers and fruit growers, and well worth the $1.50 subscription price.

The Sugar Beet is published at Philadelphia, and devoted to the cultivation of that vegetable and the process of manufacturing beet root sugar.

Home Life is a new illustrated monthly magazine, published in New York City. The first number is certainly got up in excellent taste and finely illustrated.

Popular Gardening, advertised in this Number, is certainly a very interesting journal for gardeners. It now incorporates in itself *The Floral World* (Chicago), *Purdy's Fruit Recorder* (Rochester), *The Garden Review* (Windsor, N. Y.)

CATALOGUES.

Winona Nursery, Smith & Vanduzer, Winona, Ont., Price List of fruit trees, grape vines and small fruits.

Lovett's Guide to Fruit Culture, Spring, 1886, is got up tastefully and finely illustrated. It is a pamphlet that is interesting and valuable aside from its business relationship.

Lovett's Illustrated Catalogue of Trees and Plants, Autumn, 1886, issued by J. T. Lovett, Little Silver, N. J.

Uses of Fruits

Feeding Apples to Cows.—Owing to the tendency of cows to over-eat when they can get food which they like, and to which they are unaccustomed, the *Live Stock Journal* thinks that probably there is nothing more dangerous for them to help themselves to than apples, yet they readily become accustomed to them, so that they can be as safely trusted in an orchard as a sheep or horse. They should be fed moderately at first, and the quantity be gradually increased till, at length, they learn to measure the quantity their stomachs can manage.

Give the horses half a peck of ripe apples every day; they will do them more good than a bucketful of medicine.—*Rural N. Yorker.*

Apples for the Sick.—Dr. Whitman, of Beaufort, S. C., says:—"I find good, ripe, fresh apples one of the very best articles of diet where the patient wants a little something to eat, and only a little. I presume there is more fault in the manner of giving them than in the article itself, where faulty digestion results. If the attendant will pare the apple, and then scrape it with a spoon or common case knife, and give the soft pulp of a fresh apple, it will hurt no one. To the contrary, the stomach will frequently retain it, and the patient enjoy it, when nothing else can be taken. I have used the pulp of ripe apples for a relish in fevers, when nothing else would seem to satisfy the patient's craving, and would not like to have to discard it, on the score of indigestibility. Great chunks of half ripe apples are good for no one, but the scraped pulp of a good apple will harm no one."

Tin canned goods, when opened, should be immediately transferred to glass or earthenware receptacles. Recent investigations show that cases of poisoning from eating canned goods have arisen from the acid of the canned food attacking the solder of the tins, and sometimes from decomposition accelerated by an electrical action between the solder and the iron of the tin. Never leave canned fruits, meats, or fish in opened tin cans. —*The Independent, Grimsby.*

Apples vs. Roots.—Nothing else will so help the flowing milk of the cows just now as a pailful of ripe apples chopped into slices and sprinkled with the meal. It pays as well to grow apples for the stock—if not better—as to grow roots in the field.—*R. N. Y.*

Miscellaneous.

As whole acres of Persian roses are required to make one priceless ounce of the pure attar, so the soul's balm is the slow product of a long course of right living and thinking, every separate thought and act contributing its own minute but precious particles of sweetness to the rich result.—*Rural New-Yorker.*

A Warning.—Mr. Benjamin Bower, a resident of Pleasantville, N.J., sprinkled Paris-green on his grape-vines. The wind blew some of it in the face of Miss Allie Bower, his twenty-year-old daughter. She inhaled it unconsciously, and soon after became violently ill. A physician, who was summoned immediately, could do nothing for her, and she died in a few days.

Apple Trees live to a good old age and bear fruit to the last. One in Mercer County, Kentucky, said to be ninety years of age, has borne fruit every year for sixty years. Five feet from the ground it measures round the trunk ten feet nine inches. We have several in our orchard at Grimsby approaching one hundred years of age, and still in bearing. They were fine young trees, already planted out as an orchard, when Mr. Dennis Woolverton came here in 1798.—Ed.

Notices.

THE WINTER MEETING.

The winter meeting of the Fruit Growers' Association of Ontario will be held at Chatham on the *Second Wednesday and Thursday of February, 1887.*

A good time and an enthusiastic meeting is expected.

Members should lay aside fine specimens of fruit to bring along, and contributions of plants and floral decorations are always in order.

Further particulars will be given in January Number.

"THE CANADIAN HORTICULTURIST" FOR 1887.

We hope to make the volume for 1887 more fully illustrated than any previous one. The beautiful colored plates will be continued, and a large number of cuts used to illustrate the subjects treated of. No horticultural paper in the world can be so useful to Canadian fruit growers, because it contains information just adapted to Canada.

THE PREMIUMS FOR 1887.

We offer every Canadian subscriber for 1887 a choice between: (1) *Niagara Grapevine*, (2) *Tree Vladimir Cherry*, (3) *Two Plants Hilborn Raspberry*, (4) *A New Single Flowered Geranium*, (5) *Dahlia*, (6) *Three Packages of Flower Seeds—Primula Cashmeriana*, and two other kinds. Please name your choice when you send your subscription. They will be distributed in April or May next.

THE REPORT.

The Report of the Meetings held by the Fruit Growers' Association of Ont. during the present year is full of interesting subjects for fruit growers and gardeners. The discussions being taken down *verbatim* by a short-hand reporter doubles their value over the old way of reporting these meetings. This valuable Report will be sent free to every subscriber to the *Canadian Horticulturist* for 1887.

SPECIAL CLUB RATES TO LOCAL ASSOCIATIONS.

Members of local associations in clubs of not less than ten can have the *Canadian Horticulturist* at a reduced rate, and at the same time become members of the Fruit Growers' Association of Ontario. We want to cultivate sympathy between it and the local societies. We shall be glad to incorporate in the Annual Report any interesting reports or papers from local associations, and to publish items of interest from them in our *Horticulturist.*

Will *secretaries of local associations* please send us notices of their meetings, so that, when possible, we may be in attendance.

AGENTS.

We would like some friend in every town to show samples of *The Canadian Horticulturist*, and take names of subscribers. We will send *free samples* for this purpose to any one who will write for them, and pay a commission on new subscriptions obtained by any one acting as Agent. Address all communications,

L. WOOLVERTON, *Grimsby, Ont.*

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