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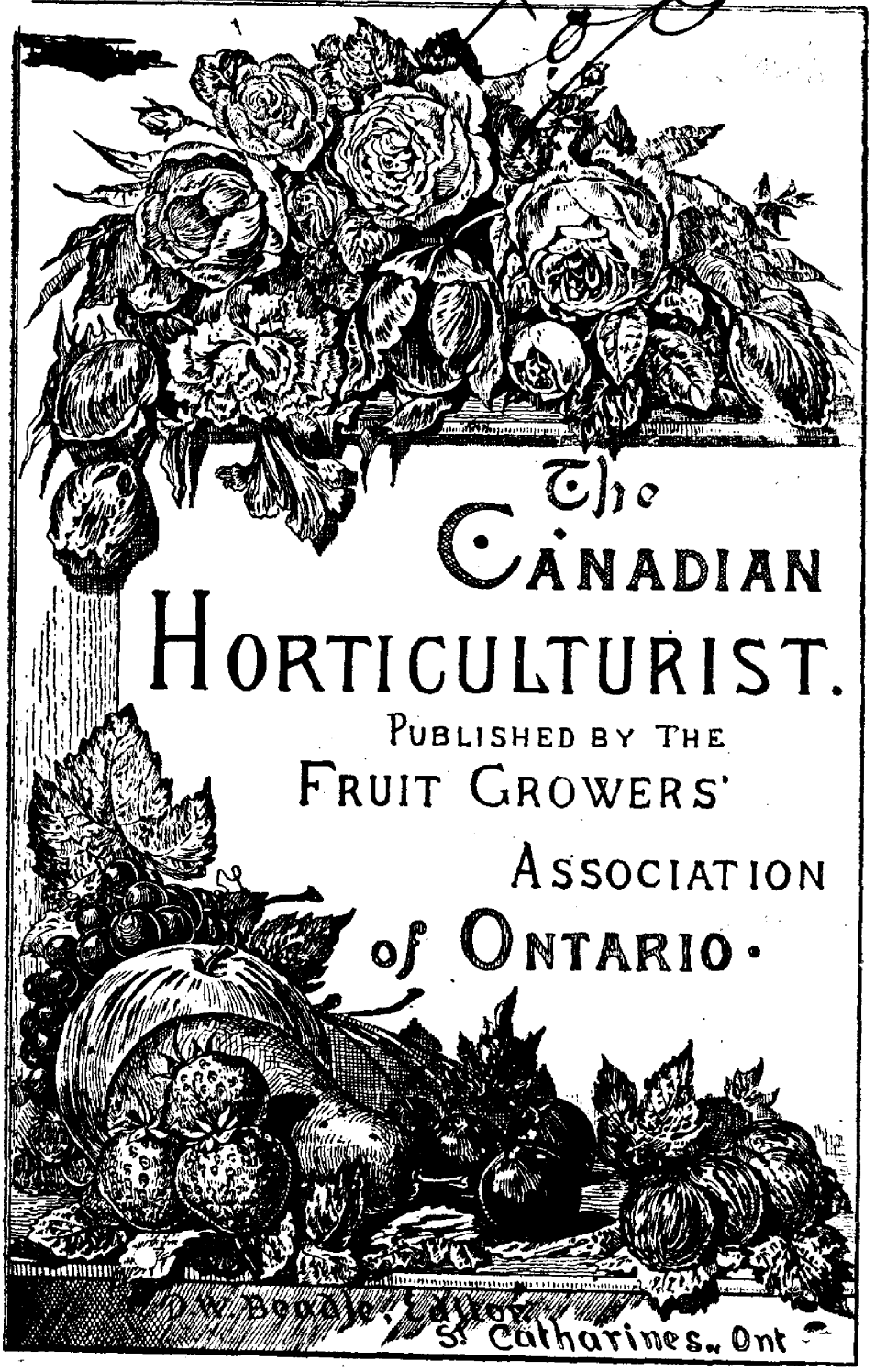

The CANADIAN HORTICULTURIST.

PUBLISHED BY THE

FRUIT GROWERS'

ASSOCIATION

of ONTARIO.

D. W. Beadle, Editor, St. Catharines, Ont.

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Free Descriptive Catalogue for Spring of '85.

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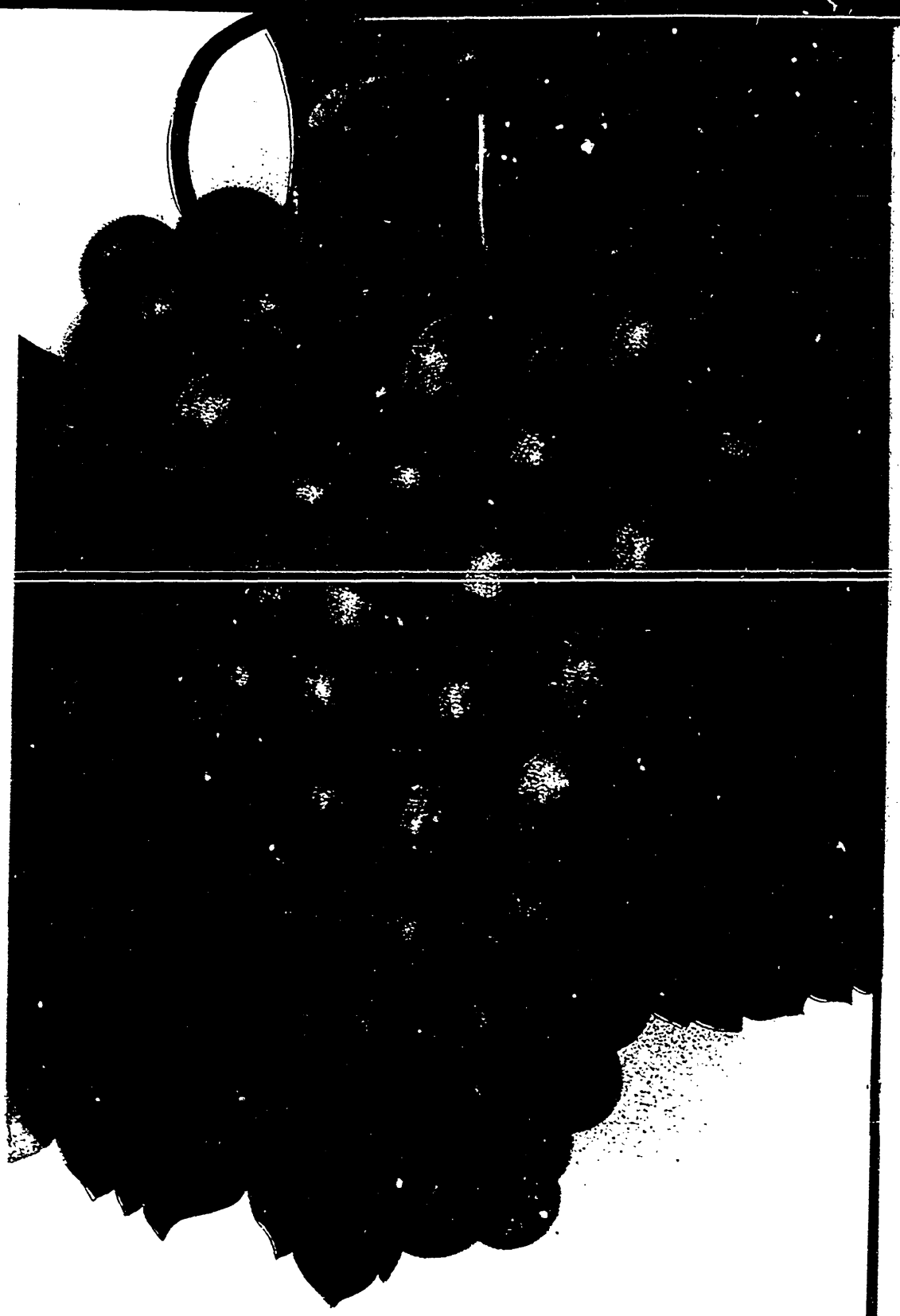


JEFFERSON GRAPE.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. VIII.] AUGUST, 1885. [No. 8.

THE JEFFERSON GRAPE.

Such is the excellence of this grape that we hailed its introduction with more than usual satisfaction. The fruit that it was our privilege to test was not only very pleasant to the eye, but also delicious to the taste; the flesh, while somewhat meaty, was tender and juicy, with a rich, aromatic and slightly vinous flavor. The fruit possessed also the very desirable quality of maintaining its freshness for a long time after being gathered. The vines also are healthy and very vigorous, and the leaves thick and downy, and as it was reported to ripen with, or very soon after the Concord, it was expected that the Jefferson would be a very desirable acquisition.

The object specially in view in thus calling attention so prominently to this grape, is to obtain from our readers their experience with it thus far, and to request them to note carefully its performance this season, and to communicate their observations to the *Canadian Horticulturist* for the benefit of others. We are entertaining some fears lest this excellent grape shall be found to ripen too late for any but the warmest sections of Ontario, and are desirous of laying before our readers all the information that can be obtained with regard to its adaptation to our climate. It is disappointing to plant an otherwise very desirable fruit if it turns out at last that our summer season is too short or too cool to admit of its ripening perfectly. If, on the contrary, experiment shall have demonstrated that the Jefferson will thrive and bring its grapes to perfection in any considerable part of Ontario, those who desire to plant choice fruits of the finest quality, will be greatly gratified to know the fact.

Fortunately, we have some excellent grapes that do ripen sufficiently early to be planted with confidence over a very large part of Ontario. The *Early Victor* is one of these. It is a chance seedling, having no known parentage, that has been cultivated and disseminated by Mr. John Burr, of Leavenworth, Kansas. We have found the vine to be perfectly hardy here, healthy, vigorous, and very productive. The bunches and berries greatly resemble the Clinton in size and color. The flesh of the grapes is slightly pulpy, has a most agreeable sprightly vinous flavor, without the least trace of foxiness whatever. The fruit ripens a

little earlier than the Hartford Prolific. We can confidently commend this variety to the attention of our readers.

The *Brighton* is another good grape that ripens before the Delaware; but larger, both in bunch and berry. It is of a dark maroon color when fully ripe, juicy, sweet, and slightly aromatic. It should be eaten as soon as it is gathered, for it loses its sprightliness if kept. This variety is reported as doing well at Trenton, Ont., and other places of similar climate.

There is no need of enumerating here all the early ripening varieties that may be planted without hesitation. What is needed more than a list of such varieties is the conviction on the part of planters, that if they would enjoy good ripe grapes they must take care of their vines, and particularly not allow them to over-bear. Proper thinning out of supernumerary bunches will make fully a week of difference in the time of ripening; nay, more. We have often seen vines so over-loaded with fruit that they could not and did not ripen their crop at all.

THE AMERICAN POMOLOGICAL SOCIETY.

The next meeting of this Society will be held at Grand Rapids, in the State of Michigan, on the 9th, 10th, and 11th of September next. The Michigan State Horticultural Society and other kindred associations are putting forth combined efforts to make a grand display of fruits on the occasion. Doubtless Secretary Garfield, so favorably known to many of our readers as an enthusiastic and indefatigable worker in horticultural matters, will shew the world what Michigan can produce in the way of fruits, and possibly flowers as well. The State Legislature appropriated one thousand dollars for the purpose of defraying the expenses incident to the collecting and exhibiting of the fruits of the State at this meeting, which will be attended by representative men from all parts of the United States and British Provinces. Lectures will be delivered by some of the highest pomological authorities on the continent, profusely illustrated with charts and diagrams.

The Secretary of the Fruit Growers' Association of Ontario is authorized to issue a certificate to any member who intends to attend the meeting at Grand Rapids, which will make him an accredited delegate of our Association to the American Pomological Society, and entitle him to a seat in the Assembly, and all railway and hotel commutations. Members intending to attend will please apply for credentials to the Secretary, D. W. Beadle, at St. Catharines.

THE TORONTO INDUSTRIAL FAIR.

We have received from Mr. Hill, Secretary of the Toronto Industrial Fair, which is to be held this year from the 7th to the 19th September, a copy of the Prize List, in which is offered over $25,000 in premiums, a large proportion of which is for Live Stock and Agricultural Products, &c. The Directors announce that they are preparing an immense programme of Special Attractions, which they promise will eclipse any of their previous efforts. Any one desiring a copy of the Prize

List or other information in connection with this Exhibiton, will secure it by dropping a post card to the Secretary, at Toronto.

CALIFORNIA FRUITS.

A subscriber residing in California writes to us that their fruits are obtained from all countries. The Japan plum is a dwarf tree with very large fruit, dark color, peculiar flavor and productive. We have no finer apricots than the old Moor Park and Royal. There are a good many California seedling peaches, but Early Crawford and Foster are most in demand, Susquehanna, &c. In extra early nothing better than Alexander and Waterloo. Our best plums are Pond's Seedling and Victoria, very productive, Reine Claude de Bavay, Purple Gage, Imperial Gage, and for canning the Yellow Egg. If you know of any cherry that is superior in keeping qualities to the Napoleon Bigarreau please to let me know.

PEACHES IN NEW JERSEY.

Julius Johnson has fifteen acres in peach trees, planted twelve years ago. He grows no crop in his orchard, cultivates the ground thoroughly and manures with wood ashes and stable manure. He has netted eighteen thousand dollars from this orchard. W. J. Case has an orchard of eleven acres, planted in 1874. Since 1879 he has applied annually four hundred pounds of ground bone to the acre, and obtained for the fruit eleven thousand three hundred and sixty-eight dollars net. Soil clay. S. K. Everett uses bone and muriate of potash in equal quantities at the rate of 350 pounds per acre. Soil clay loam, cultivated without any other crop. For four years past he has realized $900 per acre. The *Country Gentleman* is our authority, who gleaned the facts from the fifth annual report of the New Jersey Experiment Station.

VERY HARDY FRUITS.

The *Home Farm*, published at Augusta, Maine, states that the following varieties came out all right this season; having endured, during the winter, a cold of thirty-five, thirty-eight, forty, and once forty-two degrees below zero, and on the seventh of June were making a strong growth: Of Apples, they are, Charlottenthaler, Duchess of Oldenburg, Golden White, Grand Sultan, Green Crimean, St. Peter, Switzer, Tetofsky, and Yellow Transparent; which all ripen in the summer and fall; and Antonouka, Arabka, Bogdanoff, Longfield, Red and Yellow Anis, Titouka, and Winter Aport; which ripen later. The varieties such as Red Astrachan, Alexander, McIntosh Red, Pewaukee, Ben Davis, Fameuse, Mann, etc., which have been often styled "Iron-clad," are stated to be not anything like iron-clad. To the above named Russian apples the writer adds Wealthy and Scott's Winter as perfectly hardy in the coldest parts of New England; likewise Walbridge and Wolf River.

Of Pears, he says Clapp's Favorite and Flemish Beauty, and some others, not named, which have for the past seven years seemed to be unharmed, are this season dead or dying; but of his dozen or more sorts from Eastern Europe, not one was injured. He names only two of these, the Bessemianka and Sapieganka.

Of Cherries, the following have wintered well, viz.: Double Natte, Griotte du Nord, Lieb, Large Montmorency, and Ostheim.

Of Plums, the writer says, "last winter was a scorcher for Moore's Arctic, all my trees are badly hurt;'

and adds that of all the older sorts only the Blue and Yellow Orleans, cooking varieties from the Island of Orleans, below Quebec, came through unharmed. Two Russian trees received by him from Prof. Budd, without name, are quite uninjured.

The writer concluded by saying "that in the experience of this test-winter of 1884-'85 the value of the tree fruits of North-Eastern Europe, and especially of Russia, looms up grandly as the only salvation for the fruit growers in the cold north in America."

PERMANGANATE OF POTASH.

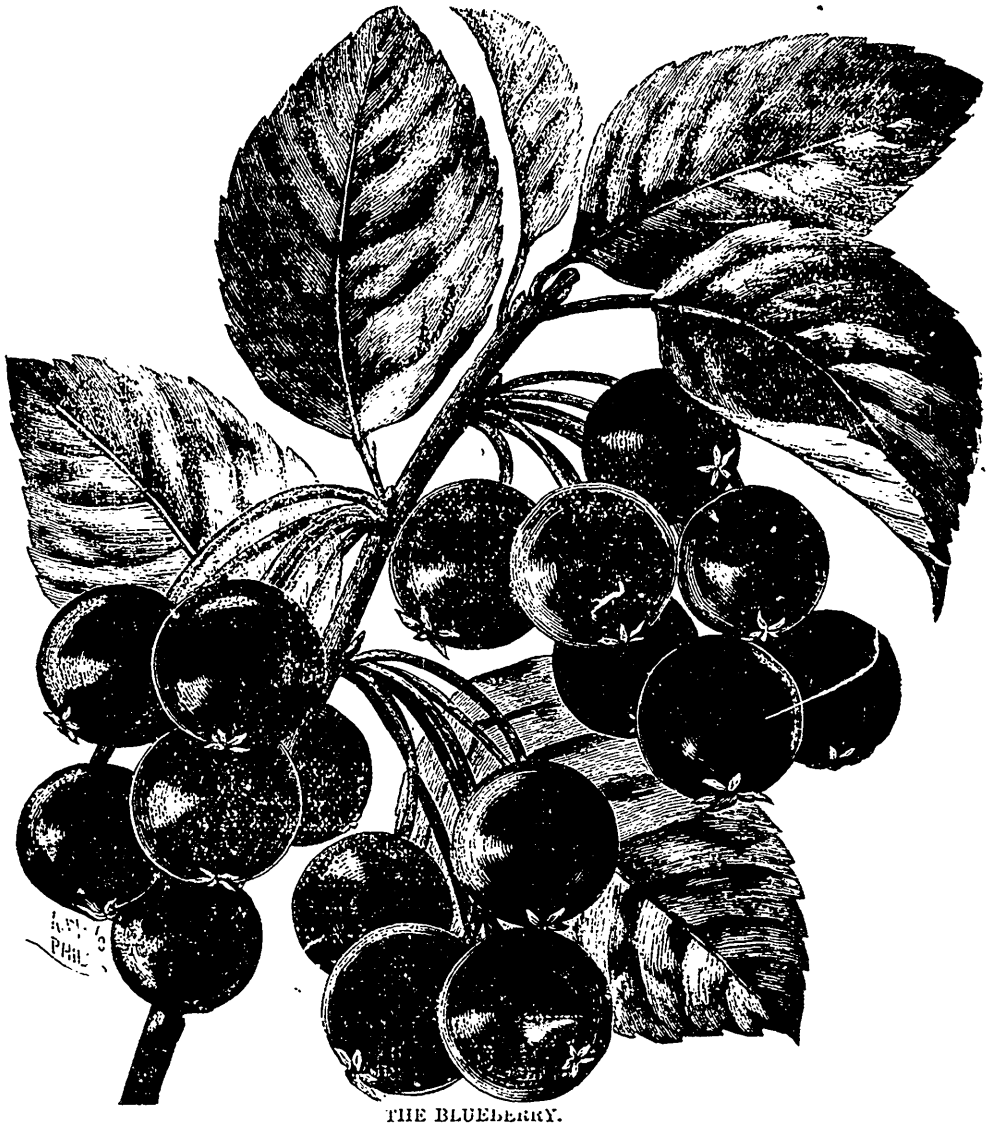
Mr. N. Robertson, Superintendent of Government Grounds, Ottawa, writes to the *Gardener's Monthly* that after reading in the *Canadian Horticulturist* the extract which was taken from the *Garden*, England, giving the beneficial effects of watering plants with a solution of Permanganate of Potash, he was induced to give it a trial. The result of his trial fully corroborates what was said of it in the extract from the *Garden*. He says an amateur of considerable experience told him that his plants never looked as well as they do this year, and adds that his primulas are especially fine. Green fly has entirely disappeared. He has doubled the quantity and syringes with it every second night. Mildew on roses has disappeared, and the plants seem to have renewed vigor. In using it for syringing he finds that when it is allowed to stand mixed for any time it is liable to leave marks on the leaves, but not if it is newly mixed. Although it kills green fly, he says that it will not prevent new broods from coming, and every one ought to know how fast that is. Permanganate of Potash is a cheap article, and can be easily procured. Will not other gardeners give it a trial, and give the public the benefit of their experience. The English gardener took as many crystals as covered a six-penny piece and dissolved them in one gallon of water for watering the soil, but for syringing used double the quantity of water.

THE CABBAGE AND ONION MAGGOT.

Professor Lintner, New York State Entomologist, in a communication to the *Country Gentleman*, says, "perhaps nothing better for the purpose of killing the pupæ could be used than gas-lime, fresh from the works, spread upon the ground after the removal of the crop, at the rate of two hundred bushels per acre." This is suggested because the maggots pass the winter in the ground in the pupa state near the place where the cabbage or onions grew, and the gaslime would be strong enough to kill them. The professor adds that thorough ploughing and harrowing the ground several times, with intervening intervals, would kill a large proportion of the pupæ.

A PROMISING NATIVE PLUM.

At the last meeting of the Fruit Growers' Association several of the members spoke of a red plum of good quality, especially valuable for canning, the tree of which was very hardy and very prolific. It was described as being of good size, nearly as large as the Lombard, sweet and ripening early. From what we could learn on further inquiry we believe that this is a variety of the wild plum of the Country which has been cultivated by the inhabitants of that section on account of its good qualities, and that it deserves attention. It will be much more valuable to us than the Miner or Wild Goose which are shy bearers here, and ripen late. We hope to receive some samples of the fruit when ripe, and if we do shall give our readers a more complete description of its appearence and quality.



THE BLUEBERRY.

THE BLUEBERRY.

We clip from the *Prairie Farmer* the following communication regarding this berry, and at the same time give an illustration which the writer of the communication seems to regard as a good representation of the fruit. It appears to us that the berries are larger than those found growing in our swamps, but cultivation and care may make much difference in the size of the fruit. If any of our readers have grown it in their gardens or fields, we should be much gratified to learn the results :—

The blueberry is one of the most valuable fruits grown, and in extreme northern latitudes, where most other fruits

winter kill, is perfectly hardy and a regular bearer; yields a full crop in seasons when all other fruits fail. The fruit ripens in this latitude about the 1st of July, and is borne in clusters, like the currant. The fruit is about the size of the wild gooseberry; shape, round; color, a bluish-black. When fully ripe, the flavour is equal to the raspberry, a very mild, rich sub-acid, considered by most people delicious. Single bushes will often yield ten and twelve quarts in a season. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. It commences bearing the first year after setting out, and furnishes a full crop the second and third years. Spring, during April and May, is the best time for transplanting. The plants are propagated from root-cuttings, the same as blackberries, but unlike the latter, the canes will continue to bear five or six years. The berries are very firm, being successfully shipped hundreds of miles. The demand for the fruit is great, and it brings on an average fifteen cents per quart wholesale.

DELOS STAPLES.

IONIA Co., Mich.

THE ANNUAL REPORT

Of the Fruit Grower's Association for the year 1884 is published at last, and before this reaches the readers of the Canadian Horticulturist the Report will have been mailed to all the members. We commend it to their careful study, believing that it will richly repay them. The discussions at the several meetings have been accurately taken down by a competent stenographer and will be found to express the opinions of men whose views are the outcome of long experience, coupled with habits of observation and reflection.

The range of subjects discussed will be found to be very great. Fruits of every sort usually grown in our climate, many of the vegetables, flowering plants, ornamental shrubs, trees, injurious insects, birds, &c., are spoken of in a way that cannot fail to be helpful to any one who takes the least interest in the cultivation of any of the fruits or flowers.

The last fifty pages contains in tabulated form such information in regard to the several varieties of Apple, Pear, Plum, and Grapes that are grown in the different counties, as the Directors of the association were able to obtain.

This Report, so full of important information, and the *Canadian Horticulturist*, which is issued on the first of every month, are supplied to any one on payment of one dollar a year. Is there any cultivator of even the smallest garden who can get a better return than this from the expenditure of One Dollar?

FLORICULTURE IN THE SCHOOLS.

Perhaps some will say that the Fruit Growers were going very far beyond their proper limits when they took up the discussion of the cultivation of flowers in connection with our common schools. But it was high time that it should be discussed somewhere by some persons competent to discuss it, and one will go far and search long without finding a body of men more intelligent or more competent than the fruit growers of Ontario.

Our boasted system of common school education is far from being perfect, far from being abreast of the times. The scholastic ideas of the past ages have great need of being thoroughly re-examined in the light of the needs of the present time. Mental discipline can be secured by other means than by abstruse arithmetical conundrums. Habits of observation and some knowledge of things about us, are of more importance than much of the teaching now in vogue. Live, wide awake, observant, practical men and women

are the men and women that the times demand, and our present system of common school education is not as well calculated to produce such as it might be, as it ought to be. It needs to be made vastly more practical than it is at present.

It is to be hoped that the discussions under this head, which will be found from page 45 to page 53 of the Report of 1884, will be read and weighed by every parent in the Province, and that our educationists and our Minister of Education will see that there is room, nay necessity, for improvement in the direction here indicated.

PEACHES IN NIAGARA DISTRICT.

The crop of peaches in this far-famed fruit region will not be a full average, but the sample promises to be of very fine quality. We called recently to see the orchard of Mr. Osmond, who is one of the most successful peach-growers anywhere, and found many of the trees well laden with fruit. He cultivates the ground thoroughly, not allowing a weed to be seen, and never grows any crop but peaches in the orchard. His fruit is always fine and commands a ready sale at the highest price. His orchards are on high ground that is perfectly drained, and the soil is a strong loam.

CRANBERRIES.

At the summer meeting of the Fruit Growers' Association some one asked for information concerning the cultivation of Cranberries. Reply was made by the Secretary and such information given as could be imparted in a few words condensed into the short space of time that can be given to the answering of questions. We mention this to call the attention of those who are desirous of further information on this subject to the excellent paper of Mr. A. McD. Allan at page 149 of the Report of the Fruit Growers' Association for 1884, where they will find the needed information given in the fewest possible words.

THE CHAMPION GRAPE.

The hardiness of this grape is something remarkable. Mr. Francis Coleman residing in Hamilton, writes to us that the past severe winter killed some of his vines and trees, but the Champion grape vine is as full and promising as ever. If this grape were of better quality it would be the most valuable variety we have for this climate.

PARIS GREEN FOR CURCULIO.

Three fruit-growers have recently told us that they sprayed their plum trees this season with Paris green, using a teaspoonful to two gallons of water, and that their trees are now loaded with fruit.

QUESTION DRAWER.

DEAR SIR,—I have taken your valuable monthly for the last two years, and am well pleased with it. The Worden grape I got for premium for 1883, I may say I killed it with kindness, as a friend of mine told me that a little ashes was good, so I gave it a little, but I think my little was a little too much; but the Prentiss I got in the spring of 1884, did far better last summer than some I planted the fall of 1883.

I have only a small garden, but to keep things doing well I can always see something wants doing. I think there is a good bit of truth in the letter from *Farmer and Fruit Grower* in last number, as no matter how small the garden or farm, if it will pay at all, it will pay to work it well.

Will you kindly inform me, through your next monthly, when is the best time to chop down a black ash swail to keep them from budding again.

I trust the *Horticulturist* will get greater success than ever, as it should be in every household.

WM. BARNHOUSE.

Flesherton, March 9th, 1885.

REPLY.—Will some of our readers who have experience in chopping black ash please reply.

WHAT THE PEOPLE SAY.

STRAWBERRIES BEARING THIS YEAR.

BY T. C. ROBINSON, OWEN SOUND.

(For the Canadian Horticulturist.)

The fruiting season is very late with us this year; so that at this date, July 9th—beyond which I must not wait if I am to reach the columns of the *Horticulturist* for August—the crop is not half ripe. This fact makes me cautious in judging of the later sorts, which are just coming in. (Notice that my land is sandy-loam, and all kinds grown for fruit are cultivated on the "Hill System.")

The first variety to ripen in quantity was the *Crescent*, as usual. On the last day of June it gave a good picking of very choice fruit, which sold rapidly at highest prices.

Early Canada appears to be slightly earlier than Crescent, but the demand for plants has so restricted my fruiting of this sort that I could not make a fair comparison of it with others. The berry is about the size of Wilson, of about the same color, but not so glossy, and I think the crop about equal, but the berry is less firm than Wilson. Early Canada appears to have decided value as an early berry for a not too distant market.

The Wilson followed on the 3rd of July, having allowed two clear pickings of Crescent before it came in. As picked for sale there is practically no difference noticeable between these varieties. The Wilson is slightly sourer and darker colored, the Crescent a little softer and not quite so rich; both kinds retail by dealers for "Prime Wilson" while the size is large, and job off for "Small Wilsons" when the size runs down. On sandy loam the Crescent appears the more productive, and increases its relative superiority as you plant on higher land, but on clay loam I would prefer Wilson. The two earlier pickings of Crescent make it much more profitable than Wilson on sandy soil; but the Crescent blossom is deficient in pollen, so that we plant every sixth row with Wilson or Early Canada, which have perfect blossoms.

The Bidwell gave us its first picking the day after Wilson came in. The berries show the usual defects of irregular shape, especially at first, greenness at the tip after the body of the berry is ripe, and lack of firmness fo long shipment. But the plant grows *double the size* of Wilson, the foliage is remarkably healthy, the berry is much larger and sweeter, and the crop promises to exceed Wilson and Crescent per acre to even a greater extent than last year. We find that when people get used to the green tip they will ask for Bidwell in preference to others. This variety has given me the most profit of all from equal areas.

Seneca Queen came in about with Bidwell, perhaps a day earlier. It is also a magnificent sort for a near market. Last year I thought it decidedly behind Bidwell in productiveness: it may prove so this year before the season is over; but it certainly is well to the front just now. Like the Bidwell it makes a very large plant, but the foliage is darker and more upright. The

berry ripens up more evenly than Bidwell, is about equal in flavor and in firmness of texture, but is larger, really rivalling the famous Sharpless. The shape of the berry is just the opposite of Bidwell, being rather flat and very wide and circular, not a pretty shape you would think before seeing it, but the men say it sells best of all early varieties. About the 6th inst. we found Sharpless and Windsor Chief fit to pick. The former maintains pretty fairly its reputation of the *biggest* strawberry in the patch. But the crop seems to me only about half as large as Bidwell, and the big berries are rather soft, and of all shapes as usual. Still it will not do to pooh pooh the Sharpless; its size and sweetness must long keep it in favor; it is really a vigorous grower, and is not at all to be called unproductive. I have seen it bearing great crops on rich clay loam.

If vigor of growth, great productiveness of large and very smooth, handsome fruit was all we wanted in a strawberry, then, perhaps, the Windsor Chief would stand first of all. But we want a berry that tastes good, and that has some firmness, while this variety is both soft and sour with a flattish, half-smoky flavor thrown in. Yet it sells so well, with its beautiful gloss and fine size, and it keeps in heavy bearing so long that it is quite profitable. Leave it on the plant till it is nearly black with ripeness and it tastes very good indeed, in the absence of other sorts. Blossom imperfect.

Longfellow, planted in every sixth row among Windsor Chief, to pollenize it, is a most utter failure. It grows well enough, and the berries are large and delicious, but I think a row of a hundred plants does not contain as much fruit as I can find on *three* plants of Windsor Chief.

About with Bidwell and Windsor Chief began to ripen all remaining varieties on the place, except Manchester, James Vick, Atlantic, Jersey Queen and Marvin. The latter has not ripened a berry yet. The others just mentioned have just come in, and will be described in due order. First let us notice some of the newer varieties.

Moodna, Polopel, Legal Tender, Nigh's Superb, Vineland, Grand Duke, and *Belle*, do not appear of any special value on my place. The first two seem quite unproductive; Legal Tender bears pretty well, but is rough in outline (seeds deeply sunk), and is inferior to many old kinds; ditto Vineland and Nigh's Superb; and Grand Duke is too aristocratic, with his smooth rich berries, to do much without very rich soil and careful petting; so also the Belle. Let us drop from sight, and try hard to forget, all new sorts that are not superior to old varieties in important particulars.

Cornelia is a fine large berry, quite firm too, but rather acid. It seems to go in for fruiting vigorously, and it makes a fine plant; but I mangled the roots too sorely in taking up young plants to let it have a fair chance. It is certainly promising, but I feel as if I don't know enough about it to praise it much.

Prince of Berries is a most interesting member of a high-toned family from New Jersey. The Great American, I think, was the first of the strain that I became acquainted with—it was a *dude* that would barely average three berries to the plant! Another of the family, the Essex Beauty, attained a temporary celebrity, but I fought shy of the breed till the Jersey Queen tempted me with an extra flourish of trumpets. The Jersey Queen was really good, nearly as large as Sharpless, and truly delicious, while with good cultivation it would bear fairly. In the Prince of Berries this aristocratic line has made a still nearer approach to the wants of

the people. The Prince of Berries is a fair grower, bears more, I think, than Jersey Queen, and though not so large, has the further superiority of perfect blossoms and greater firmness, while it impresses me as the most delicious berry I have ever eaten. Yet it is a berry for a gentleman's garden. Those who grow strawberries mainly for the *quantity* of fruit will do well to let it alone. I am so interested in the behavior of this variety that I hope the originator will go on with his work of raising new varieties till he gets the fine flavor of his seedlings down to the level of the people's gardens as to productiveness.

Atlantic has ripened a few fine berries of good color and quite firm; but it is quite late, and so I cannot say much about it. It sets a large quantity of fruit, which, if a fair proportion ripens up to good size, must establish its character for productiveness. The berry is about the shape and size of Bidwell, but it ripens up without the "green tip." I regard this variety as quite promising.

Of all new varieties—previous to introductions of this season, which, of course, I have not tested—I am most impressed with the value of the *Lacon*. Not that it is so very large, or so very handsome, or so delicious; but it combines *above the average* of these points with about the highest degree of vigor, health and productiveness, that I have seen. The berry is conical, about the shape of a large Wilson, but not so irregular as the largest specimens of Wilson. Color very like Wilson when Wilson first reddens and is fit to pick, but it stays that color, instead of assuming the dull dark tint of fully ripened Wilson. Size about equal to Bidwell, or say half-way between Wilson and Sharpless. Flavor about as rich as Wilson (the Wilson is really a richly-flavored berry), with a little more sugar than Wilson when Wilson is at its best. My fruiting plants are between rows of black currant bushes which are six feet apart. There, starved by the roots of the currants, and weakened by all the plants possible having been propagated and removed, to the mangling of root growth, during both 1883 and 1884, it yet makes about the largest plants on the place, covers itself with blossoms and faithfully develops them into berries such as above described. How can a plant do more, and what more is needed for a commoner's strawberry patch? Furthermore, why is it that some nurserymen cannot stop from puffing up their novelties to give this choice sort its just meed of praise? Of course there is not so much money per dozen in selling Lacon, but then it pays to sell the people a really good thing. I must not omit to remark that the Lacon does not seem firm enough for long shipment—hardly up to Crescent, perhaps, in this respect; and it is not so smooth and glossy as Wilson. But I believe it will sell better for home market, and I shall be surprised if it does not outyield Bidwell or Crescent.

Mrs. Garfield bears a pretty berry, but will not grow well for me, and yields poorly.

Daniel Boone grows well, and bears freely of large, handsome, moderately firm, rather acid berries. It is a better variety with me than many others, but does not reach the front rank.

Arnold's Pride has done a great deal better for me this year than ever before. I think it rather insipid, but it is certainly very large, and the few plants left from the destruction with which I visited so many have really set a great crop. It makes a large plant, and the berry is very handsome.

Maggie, a sister of the last named, sets, as usual, more fruit than it can carry to maturity. The plant is about

the size of Wilson, and I think it bears a little more, but the fruit is rather rough and unattractive. It deserves a better chance also.

James Vick has not yet received a fair trial with me. I was so anxious to get all the plants I could, that I suffered the runners all to grow; and, thus encouraged, it forms more strong young plants than I have seen made by any other variety. The taking up of these, or in some places the hoeing of them out, of course injured the roots to the shortening of the supply of sap. Certainly no plant could mature a large crop of fruit under such circumstances. Yet nothing seems to discourage the James Vick from the attempt. Every plant covered itself with blossoms, and persists in putting out new blossoms for a whole month. I could not expect berries of any size under such conditions. Here and there I got one an inch and a quarter in diameter, but I am utterly unable from experience to give a fair idea of the normal size of this variety. But the size is the only questionable point. It is one of the handsomest berries—uniform in shape, smooth in outline, bright in color; and it is a very strong healthy grower, and remarkably productive, setting far more fruit than Wilson. It ripened with me about four or five days after Wilson began. I think it *firmer* than Wilson.

Manchester stands again about head of the class in value. It began to ripen about with James Vick, or say July 8th, and so it is too early to say how the berries will hold out in size; but in respect of size, so far, it seems to be outdoing even its fine record of last year. Why I have hardly ever seen a Sharpless that would excel the first specimens of Manchester in bulk. True, scattered specimens of Sharpless would measure more in diameter or circumference, and now and then one will weigh an ounce and a half; but here, on almost every plant, are Manchesters that would crowd the weight of all, but the one or two selected Sharpless. I have never seen anything average so large as these Manchesters on rich loam, and the quality tastes better to me than Bidwell or Sharpless. I do not consider the Manchester a good shipper, though it may travel a little better than Bidwell. The color is a shade too light to suit me, but most people do not mind. Productiveness about like Crescent. It is very smooth and regular.

Jumbo appears to be only Cumberland Triumph with a new name.

Park Beauty is just Crescent rechristened.

Jockey Cap and *Howell* also appear to be old sorts out with new names. It may be too soon to judge from specimens grown on plants set this spring. But in color, shape, texture and quality, as well as in habits of growth, *Jockey Cap* too much resembles the old *Miner's Prolific*, and *Howell* the old *Jucunda*, for me to have much interest left in either of them.

Parry, set out this spring, bore a few berries, that were very large for such young plants, firm, and exceedingly glossy and handsome. The flavor also was excellent, and if the Parry can do much of that sort of thing when full grown, there are lots of varieties that will have to get out of the way for it.

Beyond all doubt the most beautiful berry I have seen, grew this year on a new variety which I got from New Jersey this spring, and which is to be sent out next fall (this midsummer in fact) by Mr. J. T. Lovett, with a flourish of trumpets, I suppose, that will leave my praise of it in the rear. Well, anyway, the fruit was about an inch and a quarter long (large for a plant only set this spring) about the shape of the best formed berries of Atlantic shown in the colored plate

issued in the *Horticulturist* some months ago, and of the most attractive tint of rosy-scarlet upon a glossy surface like wax. If I could only know how productive it is it would be well worth my while to say so perhaps; but I must wait another year for that. The plant is a fine, strong grower with handsome foliage.

Other novelties this spring, such as Daisy Miller, May King, Sucker State, &c., have not fruited yet, so I must not criticise them.

I trust other growers will not hesitate to give the results of their experience with varieties this year. By thus exchanging conclusions we are certain to gain in knowing what to reject as well as what to plant.

I am sorry that the stage of ripening of my crop will not permit greater accuracy in describing my own observations in this paper.

THE LOCUST TREE.

BY L. WOOLVERTON.

Probably in no part of Ontario are there finer specimens of the "Locust" tree than about Grimsby. The writer has seven magnificent specimens in front of his lawn, which he would not part with for any money. Planted some forty or fifty years ago they now tower up to a height of fifty or sixty feet, like giant sentinels on guard, or like the columns of some huge temple. Any other tree would hide from view the lovely mountain side across the way, but the tall leafless trunk of the locust gives most interesting glimpses of the beautiful landscape.

This tree is a native of North America, but since its discovery in the early part of the seventeenth century immense numbers have been planted in England and on the Continent, and it is much valued as an ornamental tree. The first seeds were sent to France in the year 1635, and the botanical name Robinia was given the genus from Vespasion Robin, who first cultivated it in Europe. The specific name Pseudacacia means False Acacia; the name Acacia having been first given through a mistaken notion that it was similar to the Egyptian Acacia, because of its prickles, and the resemblance of its leaves.

Its common name, Locust tree, was given it from a notion that it was the tree so-called in Scripture.

The white, or yellow, flowers are very numerous, and are called papilionaceous, from their fancied resemblance to a butterfly; they hang in showy racemes, and are very fragrant. At the time of writing (23rd June) the air is laden with their perfume which is "too sweet by half," like some people, but it is not wasted for the bees are most industriously transforming it into honey.

The ovate leaves are arranged along a common petiole in such a way as to give rise to the term *odd-pinnate*. They have a peculiar habit of folding over each other at night, and it is said that a child, who had noticed this habit once said, "It is not bedtime yet, for the Acacia has not begun its prayers."

There are some objections to the tree for lawn planting. Its deep corrugated bark is not pretty, though peculiar; the branches are very brittle, and are frequently broken by the wind, strewing the lawn with fragments; the foliage appears very late in the spring, and falls very early in autumn, giving much rubbish for raking, and suckers are almost sure to appear wherever the ground is broken up by a plough or spade.

It is a most useful timber tree, and grows with astonishing rapidity, forming heart wood at a very early age. No wood excels it for certain purposes, being more durable than that of any other tree, unless it be the Yew. Stakes

made of acacia wood have been known to stand exposure for a hundred years; and, when shipbuilders wish to use wooden pins in place of iron bolts, they select acacia wood, and call the pins tree-nails. No wood is so valuable for posts, hoops, cog-wheels, or carriage axles.

The North American locust tree is not so very long-lived; but Von Martius, a traveller, states that in the South American forest he found the Great Locust Tree, a variety that lives to an age of three or four thousand years. He speaks of one specimen so lofty that the forms of the leaves could not be made out, and having a trunk so immense that fifteen Indians with outstretched arms could only just embrace one of them.

In some parts of the country the locust tree borer (*clytus robiniæ*) has done great damage. It is one of the long-horned beetles, and may frequently be found upon the Golden-rod; it may be identified by the peculiar markings of its back, where at the base of the wing-covers a figure like W is easily discernable. In some sections the locust tree cannot be grown on account of this borer, but at Grimsby it flourishes thus far in spite of him, and is the admiration of travellers who are at all interested in arboriculture.

PLUMS AT PORTSMOUTH.

I have about 100 plum trees grown from suckers, some about ten years old. The fruit is red. Large size, fine for dessert or cooking. Trees very hardy, fast growers, and free from knots. Trees grown on strong clay soil. I will send a sample of the above to the Fruit Growers' Association the first opportunity.

Yours truly,

S. N. WATTS.

Portsmouth, Ont.

STRAWBERRIES.

Strawberry plants have come through the winter in splendid condition. Of the new varieties, Connecticut Queen appears to be the most hardy; in fact, no other variety, either new or old, has withstood the winter as well. Should it prove to be productive, firm, and of good size, it will be a valuable addition to the list.

Mrs. Garfield was injured most of any by the winter, although it is picking up well now.

In the May number of the *Horticulturist* T. C. Robinson gives a good article on "hill culture" of strawberries, and asks those of the "matted row leanings to speak up." As I belong to that class, I will have to "speak up."

My object in growing strawberries for market is to make money, and the method that will give me the greatest net returns for expenditure in labour, etc., is the method I will follow. For my section of the country, that is the "matted row system."

Mr. Robinson will no doubt succeed in his locality with the "hill system," where they nearly always have the plants well covered during the coldest part of winter. He can also grow and fruit Taylor's Prolific Blackberry, while with me they kill down so far every winter that I have never been able to get a pint of fruit from it. My soil is a strong clay loam, and when I grow in hills they often kill out during the severe cold of winter and freezing and thawing of early spring to such an extent that the crop is not nearly so large as from those grown in matted rows right by the side of them.

There is no doubt but finer fruit can be grown by the "hill system," where they are well protected either by snow or heavy mulching, especially on light soil; but the labour required to keep the runners cut adds so much to the expense of growing, together with the

danger of losing them by cold of winter and ravages of the white grub, that I am convinced I can grow more fruit for the same money by the "matted row system."

The only way the question can be decided is for each one to test both ways for himself, as locality, varieties grown, soil, market you wish to supply, and many other questions have to be taken into consideration. Hence, my advice would be, to plant most of them in matted rows, with a few in hills for trial, and the way you can make most out of them one year with another will be the best for you.

W. W. HILBORN.

Arkona, May 29th, 1885.

THE RUSSIAN MULBERRY.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—Samples of the fruit of the Russian Mulberry were brought to me to-day by Mr. W. S. Short, 114 York street, London, gathered from a tree planted by him three years ago. This tree has during this time grown to be about eight feet high and has had a crop this year of six or eight quarts on it. It had not shown any sign of tenderness until last winter when the new wood was killed back from one to two feet. The tree made a vigorous wood growth late in the season which Mr. Short thinks may account for the winter killing last year.

The fruit is black, about the size of the common wild blackberry, juicy, sweet, and of a pleasant, rather sprightly flavor. It is an agreeable fruit to eat, and would I believe be good also for cooking. The crop on the tree referred to is now nearly all gathered, while on a second tree grown by Mr. Short the berries are only just beginning to ripen. If it is found that the Russian Mulberry produces generally fruit equal to the sample referred to, I do not think that anyone will regret growing it.

Yours truly,

WM. SAUNDERS.

London, Ont., July 9, 1885.

ABOUT MAXIMS AND PROVERBS.

BY PETER PRUNING KNIFE.

It has been said that the man who causes two blades of grass to grow where only one grew before, is a "benefactor of his country." The above don't apply to *Quack Grass* or Canada Thistles.

Trim up a tree in the way it should grow, and when it is old it will not require trimming. As the twig is bent the tree is inclined. This don't mean that you can grow scythe sticks, ox yokes and apples on the same tree with profit.

To grow good corn, give it plenty of room. To prevent corns getting pinched, have large (souls) and corresponding uppers, and keep your feet in the right path.

If fruit growers get the same measure they mete, they won't require the Imperial quart when they are paid off.

FRUIT PROSPECTS IN GREY.

We have had a hard winter. Peach trees have suffered much. Pears and grapes will be a good crop. Strawberries and small fruits look well. I put a Glass seedling graft on a sloe thorn when we got the tree, and it has borne heavy and broken down every year, and what was left was heavy blossomed this year, and nothing seems to hurt it. Apples will be a good crop.

Yours truly,

WILLIAM BROWN.

Annan, June 15th, 1885.

THE LEAF AS A STUDY.

At a meeting of the Massachusetts Horticultural Society, Dr. G. Austin Bowen, of Woodstock, Conn., read a paper on "The Leaf as a Study." After speaking of the apparent insignificance, to general view, of a leaf, he passed to the consideration of it from the point of view of the physiologist, who looks on it as a part of matter having its function to perform, and its relationship to other great creative powers of nature. Before we have the leaf we have the bud, which consists of a brief cone-shaped axis with a tender growing point, bearing a protective covering of imbricated scales and incipient leaves. Within this bud the botanist will point out the rudimentary leaf and bud envelopes, and classifies with the greatest minuteness the various characters therein presented. A day could be profitably spent with him in considering the vernation of the bud. With the coming of spring the bud swells and throws off its now useless scales, and we have the miniature leaf, tender in its fibre, delicate in its tracery of outline, and beautiful beyond the painter's art in its softened coloring. A few days of warm sunshine, and every shrub and tree is loaded with verdure; hundreds of thousands of tons of foliage have appeared—from whence? The leaf is fullgrown, and from now to fall carries on its peculiar functions, which present questions of intense interest to the student of Nature.

Anatomically considered the leaf is an expanded portion of the substance of the bark, extended into a broad, thin plate, by means of a woody framework or skeleton, issuing from the inner part of the stem. and called the lamina, or blade of the leaf, and consisting of two parts, the framework and the parenchyma. The framework is made up from the branching vessels of the footstalk, which are woody tubes, pervading the parenchyma, and carrying nourishment to every part. From the analogy of their functions these vessels are called veins. The parenchyma consists of two parts, or strata, more or less distinct, and arranged differently in leaves, whose natural position is horizontal or vertical. Externally the leaf is covered with a layer of empty united cells, mostly tubular, forming a superficial membrane, called the epidermis, and is analogous to the cuticle that covers our own bodies; its office in the leaf is to check evaporation. The portion of the parenchyma immediately beneath the epidermis—the upper side, or that which faces the sun—is composed of one or two layers of oblong cells placed perpendicularly to the surface, and more compact than the layer of cells beneath them, which constitutes the lower stratum, and which also contains, in common with the whole epidermis, the stomata or mouths, which are little clefts through the epidermis, and are always placed over and communicate with the inter-cellular passages. These little openings are guarded by valves, which are supposed to regulate transpiration. The number of these stomata is astonishing; a single square inch of surface of the leaf of our common garden rhubarb contains 5,000, the garden iris 12,000, the pink 36,000, and the hydrangea 160,000. Our leaf also possesses glands, which are cellular structures serving to elaborate and contain the peculiar secretions of the plant, such as aromatic oils, resins, honey, poisons, etc.

The beautiful green of the leaf, so restful to the eye, is a waxy substance, termed chlorophyl; which floats in the fluid in the cells as minute granules. The light of the sun seems to be essential to its formation. Although found in vast abundance in the vegetable kingdom, hundreds of tons being everywhere around us in the growing season,

chemists can tell us very little about it. They have not yet ascertained its component elements, and cannot tell whether it contains iron or nitrogen; but can only say that it is never produced in the absence of compounds capable of supplying these elements. It is possible that it may consist of more than one substance, or that the leaf green of all plants may not be identical in every respect. Chlorophyl is found in those cells of plants where the absorption and decomposition of carbonic acid gas goes on, with which process of vegetable life it is closely connected.

A second coloring matter is found common also to fruits and flowers, as in the leaves of the red cabbage, the skin of the grape, and in the dahlia, and is called *colein*, from *Coleus*, a genus of plants in many species of which it occurs abundantly. It is very irregularly distributed, and might be called one of the curiosittes of the leaf, as it has no important offices to fulfill therein. In chemical composition it is identical with the coloring matter of red wine, most red, blue and purple flowers and fruits, and the red pigment of some of the varieties of the beech. It should not be confounded with the coloring material of the well-known madder, so long used to dye Turkey red, which is a principle of the root and not the leaf—at least it is never stored in the leaf.

Thus we have the leaf, beautiful in its design, elaborate in its construction, presenting the same general characters, whether grown on the land, in the air, or in the water, and varying from the diminutive leaf, almost microscopic, to that of the renowned *Victoria regia*, which in the waters of its native Guiana presents a surface of from eight to twelve or even fifteen feet in diameter. The attenuated leaves of the far Northern forests, counterbalanced by the profuse unfolding of those of the heated tropics, with their unending variety of form and coloring, and anomalies of structure and habit, all give us the same physiological conditions, which, briefly stated, are as follows, and are all included within the term aeration, or respiration, which is of the same vital importance to the vegetable world as it is to the animal:

First—The absorption of carbonic acid from the air under the stimulating influence of the sun's light.

Second—The absorption of oxygen when the influence of the sun's light is obscured or removed.

Third—The formation of carbonic acid by the union of this oxygen with the free or nascent carbon already in the tissues.

Fourth—The assimilation of carbonic acid from whatever source it may be derived, which process, under the sun's light, decomposes the carbonic acid, retaining the carbon, and

Fifth—One of the greatest functions of the leaf, eliminating the oxygen.

Sixth—The exhalation of carbonic acid when the sun's rays are obscured or darkness prevails.

Seventh—The reduction of the volume of sap by transpiration.

We see by this enumeration that there are two phases of respiration, seemingly directly opposed to each other, and evidently occasioned by the light and heat of the sun. Surely we ought to derive satisfaction from the thought that as we till our fields during the intense heat of the summer sun, the same sunlight that exhausts us is giving us more oxygen to breathe, and is storing up food for our future sustenance in the plant we cultivate. The thought may not render the toil less fatiguing, but the consolation comes from the knowledge that we shall get the upper hand of Nature when we harvest the crop.

To understand the full office of the leaf we must know that the sap which

flows so freely in the spring is composed largely of water absorbed by the roots of the plant. This water holds in solution minute quantities of gas and mineral salts, and adds thereto, on its upward way, dextrine and sugar, which it dissolves out of the cells as it comes in contact with them, gaining in density as it nears the leaf. Within the leaf it parts with much of its water, having no longer a use therefor, receiving in its place carbon and the digested juices acted upon by the chlorophyl, as it passes through the surface of the leaf, thence by the leaf stalk into the cellular and woody tissues of the bark, and continuing its downward passage, making deposits of food first in the cells of the pith, at the base of every incipient bud, then a copious store in the cambium regions, giving also a good portion to the medullary rays, some to be carried outward to the cortical layer, and some onward for solidifying the wood, and, lastly, the richest portion is sent to the root, every branch and fibre being filled. The return sap also contains nitrogen to a limited extent, and minute portions of mineral matter. From this nitrogen is first organized the protein substances analogous in composition to the living tissues of animals, and cellulose, the peculiar principle of vegetable tissue, having in it the exact elements of water. The action of chlorophyl upon this substance develops gum, sugar and starch, which are nutritive products common to all plants, and are stored away for future use, as fat is stored away in our own and all animal systems. As examples, we have sugar stored up in the root of the beet and in the stalks of corn, sugar-cane and sorghum, and starch in the tubers of the potato. These substances, with cellulose, are all composed of carbon with the elements of water, often in identical proportions, and are easily converted into one another.

The leaf is not alone an interesting study because curious, but it has had no little part in rendering the world habitable for man. If this consisted only of the mineral portion it would be only a rocky desert, but mingled with the mineral we find the organic matter, which consists of the remains of former tribes of plants and animals, and the products of this decomposition, carbonic acid and ammonia. But as this earth supported vegetable life before it did animal existence, we see the important place given to our little leaf. Age after age it went on elaborating the juices of plants, leaving for the final decay that comes to all to add their organisms to the soil, making it such as we have it to-day, a life-supporting element, giving occupation to a large majority of civilized men.

But it is not soil alone that has been created by the instrumentality of our hastily surveyed leaf. The stores of coal and petroleum, enough to last for centuries to come, were formed from gigantic pines, ferns and lycopods, which were developed through the agency of leaves. It is probable that at the epoch of growth of these enormous primeval forests the atmosphere was much more highly charged with carbonic acid than now, and that from this source the gigantic lycopods, ferns and coniferæ were developed, thus converting into organized products an immense amount of carbonic acid which had previously been liberated by some change in the mineral world, and by its removal from the atmosphere the earth was prepared for the residence of a higher class of animals than had previously existed. It is regarded by scientists as a fixed fact that the whole vast accumulation of carbon now in the earth was at one time a component part of the atmosphere.

In answer to the practical question how farmers and horticulturists are to

be benefited by a knowledge of leaf physiology, the essayist spoke of the protection against drought derived from the leaves of the forest, which protect the ground from the parching effect of the sunlight and from drying winds, making the forest soil reservoirs for water, which in times of drought keep the streams well fed. But in the opinion of the essayist the moisture transpired from the leaves affords a stronger reason why these leaf treasuries, as forests might be termed, should be carefully guarded. According to Johnston, the English agricultural chemist, a field in grain or grass will transpire from three to five million pounds of water in a season's growth, and if all this evaporated water could be returned in the shape of rain, it would amount to an inch and a half or two inches. If one acre of land in grass can give such a wonderful result, what will be the effect of large tracts devoted to forestry? The leaves of aquatic plants in no small degree contribute to the purification of the waters where they grow.

The carbon, or charcoal, derived from the decay of plants is of the highest utility to vegetation, as an absorbent of water and fertilizing matter. It also by its dark color absorbs heat from the air. The decay of vegetable matter always evolves heat, which the rootlets of growing plants realize and respond to, though it may not be sensible to our feelings.

The grasses of the world—more than six thousand species—or nearly one-sixth of all the flowering plants, come legitimately within the subject of this paper. The grass crop is the leading crop in New England, and all that pertains to it should be carefully considered. The leading point is that the leaf, when grown, never changes its form or size, and that when quickly grown its size is far larger than when its formation is slower. Hence, would we have large grass we must grow it quickly, producing a large leaf, valuable not alone for itself, but because it also adds to the value of the stem.

The fruit culturist will thoroughly consider the subject of pruning in its relation to the proportionate capacity of the leaf to the plant and the fruit, and will guard his knife accordingly.

THE ONION MAGGOT.

Miss E. A. Ormerod, an English lady of considerable note as an entomologist, says of this pest:—

"The amount of damage to onion crops from the maggot is frequently so great that for some years I have been experimenting on the subject. I found that the fly (when it could) laid its eggs on some exposed part of the bulb, often almost beneath it, which in common onion practice the exposed state of the bulb allows. On noticing this, about three years ago, I covered a plant up to the neck of the bulbs, and next morning found fly eggs deposited on the onion leaves, and dropped at haphazard on the ground — where they perished, and the onions, being saved from attack, did well. The following year I had some part of the crop in rows earthed up with success. The onions were firm and sweet, and though not as thoroughly protected by the rough earthing up as by my own hand dressing, it answered to some extent, and the onions in many cases were not injured, or grew past attack from being in favorable condition. This year I had a trench prepared as if for celery, and had the onions sown along the bottom, and as they grew the sides of the trench were filled in on the bulbs. They grew extremely well, notably better than those in the bed alongside, and on raising them to-day I find them sound and fine bulbs, very free from

any mark of insect injury. I venture to submit the plan of growing to your inspection, as though it probably could not be brought to bear in field use, it appears available for garden growth, and especially for cottage gardens, where there is only a small quantity of ground, and where the loss of the little crop is a serious lessening of comfort to the family."

THE MARECHAL NIEL ROSE.

The following story of the origin and christening of this famous rose is clipped from the *Floral World*. Like many a bit of charming romance it will not bear the clear light of day, since this lovely rose first appeared on earth in 1864. Nevertheless it is a well-written conceit:—

"In 1859, while in Italy commanding the Third Army Corps, its commander, Neil, was created a Marshal of France when the peace of Paris was made. He remained in Italy after the army had returned to France. General Neil, as his name implies, came of one of those Irish noble families who emigrated to France after the death of Charles I. He was in feeble health at the time I speak of, having suffered with wounds and that deadly fever of the Italian marshes. One day a peasant woman brought him a whole basket of roses, of which he was extremely fond, from the Campagna region. They were new to him, and thus served to amuse him until they were withered. He observed, however, that one particular shoot had not faded and died, like the others, but had grown into a beautiful green shoot of perhaps ten inches in length. When he looked to see why this one had grown and the others faded, he found that a bit of the root had been cut away with the flower, which was a single-leafed wild rose of the marshes, and palish yellow in hue. Hardly knowing why, Neil determined to keep the shoot so curiously preserved, and next spring it bore four of the loveliest buds in the world, of a pale lemon tinge. Just then Neil was sent for to receive the highest military rank then known to Europe, the Grand Cross of the Legion, and his commission as Marshal of France, in presence of three emperors and all the kings in Europe worth naming. After the solemn ceremony was ended, and he wore for the first time on that day the Grand Cross of the Legion of Honor, he went to the Empress—who was splendid in her perfection of beauty—and presented to her a curious yellowish rose of perfect form and perfume, but different from any she had ever seen, and told her its story.

"And so you have proved the truth of what the old Abbe used to say in his dreadfully tedious sermons at Pau about casting bread on the waters," said the Empress to the handsomest and most daring, as well as one of the ablest, of the Marshals of the Second Empire. "Dear me, but he was tedious, that good Abbe," continued the Empress, with the softest look of retrospection in her lovely dark eyes. "Now, *Monsier le Marechal*," said she, vivaciously, "I shall christen this rose for you." "Do so," said the Franco-Irish soldier, bowing very low, but flashing at her a glance of profound admiration. Lightly putting the rose to her lips, she said: "It is named the Marechal Neil for the soldier *sans peur et sans reproche*, as gallant in the salon as he is on the battle field." This gracious speech went straight to the great soldier's Irish heart. "You will wear it to-night, your Majesty, will you not, and afterward give it me to keep, this happy rose?" "*Monsier le Marechal!*" said the Empress, with great dignity. "I pray your forgiveness," he answered. "No, no; I am not as angry as I ought

to be," she replied, "but—but—people *might* hear." And thus it is that since that gracious day in 1859 until now, the rose which is in the first rank for romance and beauty has been called "the Marechal Neil."

A SCHOOL OF GARDENING.

Near the little village of St. Osso, which lies at the foot of the Mount Sumano, one of the most interesting localities in Europe to lovers of Alpine flowers, a horticultural school on a magnificent scale was founded last year by Senator Rossi, an enthusiastic amateur. The amount of land devoted to this purpose is about five thousand acres, the whole of which is encompassed by walls. Nothing seems to have been neglected to render this model pomological and horticultural farm, as the founder terms it, a success. Thus there are houses for the workmen, covered places for soils and manure, immense reservoirs for water, glass houses of all kinds, including an extensive range for grape-forcing, a chemical laboratory, museum, class-rooms, semi-subterranean rooms for preserving fruits and vegetables and extensive piggeries for making manure. The system of irrigation is very thorough, the ground being portioned out into squares of 3,260 feet, divided by roads, along the borders of which flow streams of water that form channels of transport. Electric lights are distributed in every part of the grounds, so that any kind of work, such as transplanting, which it would be difficult to perform satisfactorily in the daytime may be accomplished at night. The whole of the soil has been trenched to the depth of one yard. There are 8,000 square yards of wall for espalier fruits, 1,500 acres of eating grapes, which a reservoir containing 1,200 cubic yards of water and the continual flow from Mount Sumano guarantee against drought; a vineyard containing 50,000 vines, a fruit garden of 30,000 trees, a trial ground of 200 acres, and some 300 acres of asparagus. Accommodation is provided for ninety pupils, some of whom will be maintained at their own expense, while others will receive a subsidy from the various communes and provinces of which they may be natives.—*Floral World.*

THE CODLIN MOTH.

In my practice I have discovered how to destroy easily this insect in such numbers that it is no longer a pest; but I have never made this method known outside of the circle in which I live. I was instructed by a friend to place sweetened water on the bee stand to catch the bee moth. I did so, and went the next morning and found six moths, but from examination they proved to be the codlin moth. I then determined to try an experiment to catch codlin moths, and in the evening a basin of sweetened water was hung on a limb of a Harvest Apple tree; to my joy and surprise I found, next morning, the liquid in the basin was completely covered with codlin moths. I at once ordered the tinsmith to make me thirty-five or forty basins, holding a trifle over a pint each, with wire bales by which to hang them up.

The place selected to hang the basins should be open and easy of access. No more liquid should be prepared than is needed for immediate use, for if kept it will lose its ripe apple or new cider smell and taste. For thirty or thirty-five basins, take a gallon of rain water and sweeten it, and then add a little vinegar to give it aroma, for it is the ripe apple or cider smell that attracts the moths to their liquid graves. I think Sorghum molasses is best for sweetening. The time for commencing the use of the bath will depend on the season, somewhere from first to the

fifteenth of May, and it should be continued until July, when the first brood of moths will have been captured.—*From a prize Essay in Vick's Magazine for May.*——[NOTE BY EDITOR OF CANADIAN HORTICULTURIST.— We doubt the catching of Codlin Moth in this way. The Canadian species are not thus caught.]

PROFIT IN FRUIT RAISING.

With all the tons of Grapes raised, how is it there is not a gallon of Grape syrup to be had for love or money in market? If you don't know that Grape juice boiled down to a clear syrup is the most relishing thing in sickness or health, for consumptives and to keep people from getting consumptive, to be eaten as food or diluted for drink, that would banish wine sooner than the temperance societies, you have something to learn. This article, once known, would prevent all danger of an over-crop of Grapes, for it would be made and kept by the barrel, and exported for use in all climates. The new production of cider jelly, which is merely cider boiled down, without any addition till it is a solid, dark jelly, is a great gift to the housekeeper, and will be the salvation of the Apple orchards. What if Apples are fifty cents a barrel in October? Set the cider mills going, and the huge enameled evaporating pans. Perhaps cider jelly at twelve cents a pound will pay you, as there is no sugar to be used.—SUSAN POWER *in Vick's Magazine.*

NORTH WINDOWS.—To those who have only north windows which are available for growing plants, I would recommend the Chinese Primrose. This is, everything considered, the best winter bloomer for sunless windows that I know of, and can be relied on for a constant supply of flowers from November until "Nature awakes from her long sleep."—*Vick's Magazine.*

MAINE'S APPLE SHIPMENTS.

The city of Portland has now become the third port in importance for the shipping of apples of any place in America, as appears from statistics gathered by the New England *Grocer.* The shipments of apples from Portland to Europe had not been very large until the past winter, when two or three enterprising shippers took hold of the business and gave it a great impetus. It is now definitely settled that Maine apples can be successfully forwarded to Europe from a Maine port, and that it is not necessary to send them to Boston.

The total shipments of apples from the port of Portland from the opening of the season to date were 91,483 barrels, 52,497 barrels of which were carried out by the Allan line, and 33,987 barrels by the Dominion line. All these were not Maine apples, however, as thousands of barrels of fruit grown in Canada were brought to Portland by the Grand Trunk for shipment from that port. Of the total shipments, 62,974 barrels were Maine apples, and 28,509 barrels Canadian fruit. These figures come from an official source.

The following table, giving the shipments from the leading ports for the season ending April 25th, will show that Portland is now the third apple port on the continent, Boston being the first and New York the second :—

Boston—shipments.....	308,118	barrels.
New York	"	254,530	"
Portland	"	91,483	"
Montreal	"	85,479	"
Halifax	"	36,076	"
Annapolis	"	8,612	"
Total	784,295	barrels.

So Europe has consumed 784,295 barrels of American apples the past season. Of this total, 508,813 barrels went to Liverpool, the great apple mart of England, 116,226 to London, 140,875 to Glasgow, 102 to Hamburg, 586 to

Newcastle, 2,244 to Hull, and the balance to other ports in small lots.

The 62,974 barrels of Maine apples shipped from Portland to Europe do not begin to represent the total Maine exportation. Thousands of barrels have been carried by Portland to Boston for shipment. One buyer at Bridgton has forwarded 5,000 barrels, and there may be other buyers who have sent more, but his shipments afford a hint of the extent of the business. Of the 308,118 barrels exported from Boston, a large per centage was Maine fruit. The *Grocer* thinks it is probably striking under, rather than over, the actual figures to estimate the total number of barrels of Maine apples exported since last fall at two hundred thousand.

Averaging the price which the farmers received for this fruit in their cellars at $1 60 per barrel—which Mr. Isaac Berry, of Messrs. I. Berry & Bro., Portland, the leading Maine shippers, thinks is about right—then the very comfortable sum of $320,000 was received by Maine farmers for the 200,000 barrels which they furnished to Europe.

The reason why more Maine apples are shipped from Boston than from Portland is the difference in freight, which has been nearly a shilling less from the former than from the Maine port. Portland rates have run from 2*s.* 6*d.* to 3*s.* a barrel.—*Home Farm.*

TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY for the year 1884, Part II., have just been received from Mr. Robert Manning, Secretary. From it we learn that the display of plums at the Society's Exhibitions has steadily increased for several years, hence we infer that more attention is being paid to the cultivation of this fruit than formerly.

MARKET GARDENING IN THE WEST.

As a rule the cheapest manures are not the best. The competition is very keen, and you can now get fertilizers at quite reasonable prices in proportion to their real value. But can not you buy stable manure at a cheap rate? To grow celery plants, you can probably use artificial fertilizers to advantage. But for growing the crop itself, plenty of well-rotted stable manure should be your main reliance. If you had a slough that is well-drained two and a half to three feet deep, with a supply of water in August within two feet of the surface, then you could raise celery to perfection and at small cost. Celery is a semi-aquatic plant. If you cannot get the moist land, you must depend on an extra dose of manure that will, by decomposition, furnish plenty of nitrates. A supply of nitrates to a considerable extent is equivalent to a supply of water. The same remarks will apply to cabbages. For raising the plants, or for very early cabbges, artificial fertilizers may prove profitable, but for the main crop, stable manure ought to be sufficient. Do not plant too close, Cabbages pump up a great deal of water out of the soil and evaporate it through their leaves.

If you have a limited supply of water, as you undoubtedly have, it is unwise to have too many pumps. Some of them will soon "suck air," and run down, others that go deeper will hold on longer. The fewer the pumps the better will it be for you when the dry weather comes. How to conserve water in the soil is an important question for the market-gardener. Heavy manuring on the one hand and thorough cultivation and no weeds on the other hand, are the principal factors—and if you have five cabbages with only moisture enough for three, two of them are weeds.—JOSEPH HARRIS *in American Agriculturist for March.*

FLAMEN POMONALIS.

(Read at the Meeting of the Maine State Pomological Society, at Gardiner.)

BY J. M. LARRABEE.

In ancient days of myth and gnome,
When gods and goddesses in Rome,—
With temples numerous and grand,
And altars crowned on every hand,—
Held sway: When nymphs with thoughtful care,
In human labors had a share,
And loved and were beloved in turn,—
As human hearts for love light yearn,—
Pomona, fairest of her race,
Among the fruit trees held a place,
And from her garden, orchard, field
Produced by skill the highest yield;
And while she helped with cultured hand
The growing products of her land,
Or gathered fruits in garners laid
For future use; this virtuous maid
Determined in her heart that she
A celibate for life would be.
So shutting up her garden gate,
The young gods left outside to wait.

Vertumnus, sought by human guise
This beauteous goddess to surprise,
And many a cunning scheme he planned
To win her virgin heart and hand.
Sometimes a reaper lad was he;
Again a ploughman he would be;
Sometimes vine dressing was his plan;
A soldier next, or fisherman;
But all in vain: the obdurate miss
Would never grant a single kiss.

Pomona, watching, saw one day
An aged woman pass that way,
And bade her, with a kindly smile,
To stop and rest herself awhile.
The woman, talkative and gay,
Related in a pleasant way,
(As any garrulous woman would),
The gossip of the neighborhood.
Her manners gentle, unrestrained
Pomona's confidence obtained.
She, still conversing, did relate
The blessings of the marriage state;
The joys that crown a loving wife;
The evils of a single life.
The charming nymph was not amazed
To hear the god, Vertumnus, praised,
And there first felt within her heart
The painless sting of Cupid's dart;
Then saw a transformation strange,—
The woman to Vertumnus change.
The nymph of fruit, became with pride,
The god of season's lovely bride.

Pomona's worshippers with cheer,
Their sacrifices made each year
To her, that she in preservation
Would keep the best fruits of the nation.
Her *Flamen Pomonalis* stirs
The hearts of all her followers.

Fair nymphs and goddesses to-day
As deities have lost their sway.
Our "Hamadryads" by their arts
Become each one, a queen of hearts,
And pleased, each at her fireside,
As goddesses of home preside.
But still, upon the roll of fame
We find Pomona's honored name;
Her pomological relation
Is seen in your association.

Pomologists of wintry Maine,
The virtues of the nymph retain;
The super excellence of their fruit
Proclaims them members of her suite.
And many a "Pine Tree" orchardist
Pomona's "Maiden's Blush" has kissed.
Then "seek-no-farther," "Northern Spy;"
Next summer "Williams' Favorite" try,
And should you an "Early Harvest" plan,
Forget not, bright, "Red Astrachan."
And when the "Pumpkin Russet" turns,
And "Sops of Wine" your stomach yearns,
When "Moses Wood" is "President,"
When "Rambo" wins the "Beauty-Kent,"
When "Minister" becomes a "Dean,"
And "Duchess-Oldenburgh" a queen,
Then let your "Granite Beauty" meet
On "Kilham Hill," her "Franklin Sweet,"
And have your "Fameuse" "Porter" wait
Beside the "King of Tompkins'" gate.
Above his head the "Hightop Sweet,"
The "Garden Royal" at his feet,
Until he sees the "Golden Ball"
Ascend above "Tetofsky" wall,
Then "Jonathan" and he can eat
Each "Twenty Ounce" of "Superb Sweet;"
But should his "Mother" hungry get,
She'll send him off to "Somerset,"
From good "Benoni" to obtain
A "Nodhead" and "Blue Pearmain."
Should "Hubbardston Nonsuch" allow,
But chase him with a "Yellow Bough;"
Then "Sarah" will be pleased, I ween,
If he brings home a "Gravenstein."
Pomologists, if we are wise,
We all shall seek "Sweet Paradise,"
Or at "Peck's Pleasant" quarters stay
When "Gloria Mundi" slips away.
And let us, when the "Winter White"
Shuts "Winthrop Greening" out of sight;
Rest, till the "Baldwin(d)" rudely shakes
The "Golden Russet" down in flakes.
Then shall the "Ladies' Sweet" be ours
Enwreathed with fairest of "Bellflowers."

—*Home Farm.*

GARDEN TOWN.

(For the Canadian Horticulturis..)

Miss Lucy Lettuce retired to bed
One evening when the sky was red.
Bye-and-by Miss Lucy arose,
And dress'd herself in her finest clothes
Of delicate green and gauzy brown,
The sweetest maiden in Garden Town.

She called to her neighbour, Miss Polly Pea,
"Polly, I am invited out to tea."
I heard cook say to John in the stable,
"Bring Lucy Lettuce in to table."
And what do you think, that sour old sinner,
Miss Rachel Rhubarb, was out to dinner.

She piques herself on her pedigree,
And her foggie old relative "Gregory."
She's but a vulgar village fixture;
All make grimmaces at her mixture.
Bah! the meanest grubs in Garden Town
Shy from *her* with scornful frown.

But Polly, I wish that you and I
Could be as easily passed by.
I noticed this morning, when you arose,
How pale and pinched was the curl on your nose
Those loafing dudes, the worms, I fear,
Are undermining your health, my dear.

There's our cousins Cabbage, on the next block,
You know they have come of a hardy stock.
Well, those very same scamps, I hear folks say,
Revel and feast with them night and day:
So this riotous life and "do as-you-please,"
Was ended in hopeless *heart disease!*

See Celia Celery, tall and fair,
Aristocratic in her air.
She is the elite of Garden Town,
With green top-knots and ecru gown,
Why should she feel so very crusty,
I've seen her look both old and rusty.

And *she* looks down with haughty mein
On dear, wee, modest Betty Bean.
Friend of the great Bonanza King,
The muscle of stalwart western men
Was got from thee, thou peerless gem.
Could I compare you with such trash
As wishy-washy Suky Squash?

Oh, I should feel myself a felon
To equal thee to Watermelon.
Look! Pat Potatoe opes his eyes,
While I laud Betty to the skies,
And Sissy Sage, a very Plate,
With flaring red-head Tom Tomato.

Miss Onion, you are too impressive;
I'll pass you, lest I weep excessive.
Tho' mummies bowed to you the knee,
I cannot choose but turn from thee
And leave thee with thy Leeks and Garlick.
Come near me and you'll find me warlike.

Patricia Parsley, if you knew
How ancient builders copied you.
Your Gothic leaf I've traced on tombs—
Seen carved on grandly pillared domes—
And "Parsley Peel," the weaver chief,
His daughter traced thy lovely leaf;
On costly fabrics now we see
Designs of foliage all from thee.

Ah, who is he there by the wall,
Poising and bowing to old Sol?
The Sunflower, looking proudly mild
Since patronized by Oscar Wilde.
He's warning me 'tis growing late,
And Father Thyme rejects to wait—
Nurse Dolly Dew is hastening down
To bathe the maids of Garden Town.

Montreal. GRANDMA GOWAN.

THE POTATO BEETLE.—An Ohio farmer, in relation to killing the potato beetle, says:—"Take equal parts of copperas and slaked lime, using five pounds of each for twenty gallons of water, and sprinkle it on the vines with a brush. I had a field alive with beetles, and after one dose not a single live one could be found, and besides, it benefits the plant."—*Farmer and Fruit Grower.*

YELLOW TRANSPARENT.—I found out a curious thing about the Yellow Transparent Apple last year. My "original tree" (from the one cion I got from Washington in 1870) is in grass, in a rather poor spot, and bore an immense crop; but the fruit was so small that it was not gathered for market, as that of the others was, in August. The fruit hung on, growing better and better, and whiter and whiter, until the last of September, and visitors, when they came around to that tree, declared the apples to be the best on the place. They were the size of Fameuse, as white as the whitest ivory, and really equal to Early Harvest, which I cannot say they are when gathered in August, though they are very eatable then. This apple is the best shipper and keeper of any early apple I know.—*T. H., in Rural New-Yorker.*

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THE ANNUAL MEETING

Of the Fruit Growers' Association of Ontario will be held in the Town Hall, Wingham, on Wednesday and Thursday, the 16th and 17th of September, 1885.