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The Canadian Horticulturist.

VOL. II.]

MARCH, 1879.

[No. 3.

WESTERN NEW YORK HORTICULTURAL SOCIETY.

This body has recently held a very interesting and profitable meeting in the city of Rochester, continuing in session for two days. There was a fine exhibition of fruits; Messrs. Ellwanger and Barry exhibiting a collection of forty-eight varieties of apple and sixteen of pear, and other gentlemen exhibited smaller collections. Two white grapes were shown which attracted considerable attention, the Pocklington, shown by John Charlton, and the Prentiss, shown by T. S. Hubbard. Mention was also made of a Quince known as the Bentley, which came from Connecticut, and was grown at Byron, N. Y. It is larger than the Orange Quince, and ripens some two or three weeks later; and the question was raised, but not definitely settled, whether it was the same as the variety grown in some parts of Connecticut and known as the Champion Quince, which also ripened later than the Orange variety. The Stark Apple was on exhibition, a new sort, which is thought by some to promise well as a valuable late keeping market apple.

Upon the question whether we are in danger of an over-production of fruit, and how to increase both the home and foreign demand, there seemed to be great unanimity of opinion that there was no danger whatever of an over supply of really first-class fruit, and that the demand for fruit at home and abroad could be largely increased by a steady supply of first quality fruit, put up and marketed with care, in a neat and attractive manner. The eager haste for quantity ~~must~~ give place to careful attention to quality. To secure this, attention must be paid in planting the trees, to set them upon land suitable for the production of the particular fruit planted, whether it be apple or pear, or peach, or plum. Not all land is suitable for fruit trees, and some varieties of fruits do better on soil of one kind than that of another. The plum delights in a strong clay soil, the peach in a light sandy or

gravelly soil, and so each variety of fruit should be planted in the soil and situation best adapted to the perfect development of that particular fruit. Care must also be taken to keep the trees in a healthy and vigorous condition by proper cultivation and pruning, and when they bear fruit must not be allowed to carry more than they can bring to perfection. Nothing is more injurious to the appearance and quality of the fruit than over-loading. Thorough thinning out of the crop soon after the fruit is fairly set is essential to the production of fruit of first quality.

And after the fruit is grown it must be picked with care and carefully sorted, and put up in neat and attractive packages, and honestly packed, with no inferior specimens hidden away from sight, but uniformly good throughout. There is always a market for such fruit, both at home and abroad, and yet there is much in knowing the tastes and demands of different markets, and in putting on to each market those varieties, and put up in the way that sells best in that particular market. Not only does the planting and growing and packing need to be systematized, but the marketing. If a number of growers would combine together and send their agent to the great markets of Europe and ascertain the varieties that sell best in the several markets, and in what style of package they are most acceptable, and then pack and ship their fruit accordingly, they would find it greatly to their advantage. In discussing the subject of fruit packages, it was very generally admitted that the law of the State of New York regulating the size of the apple barrel, and fixing it at one hundred quarts, had operated prejudicially to the interests of the fruit growers of that State, inasmuch as other States and Canada had not adopted the same standard, and their apple barrel being larger, those from the State of New York could not be sold while the larger barrels were to be had, except at a difference in price greater than the difference in capacity would call for. Much stress was laid upon having the packages present a neat and tidy appearance, especially those in which grapes and small fruits were marketed. Objection was made to the packing of choice peaches in crates, so much of the fruit was injured by the sharp edges of the slats. Some spoke favorably of marketing peaches in baskets made with wide splints and having a board cover. Grapes were best marketed in straw-board boxes holding either two or three pounds of grapes, and these packed securely in crates. The two-pound boxes cost twenty-

five dollars per thousand, and the three pound boxes cost thirty dollars per thousand, and as the box was weighed with the grapes there was no loss to the shipper. Yet there is inquiry for a still cheaper package.

Considerable time was spent in discussing the different methods used to destroy insects injurious to fruits and fruit trees, particularly the Codlin Moth, and the Apple and Peach Borers, and the Canker Worms. Experiments had been made with the view of ascertaining whether the Codlin Moth larvæ came down the trees or went up the trunks. Two bands had been tied around the trunks of the apple trees, the one a little distance above the other, and on keeping a careful account of the number of the larvæ found in each band it was ascertained that there were three in the upper bandage to two in the lower. Experiments had also been made with the medicated bandages, and it was found that the medication was repulsive to the larvæ, so that comparatively few went under them to die, hence these were not likely to be successful. Three years trial of bandages put on when the Wilson Strawberry is in blossom, and examined every ten days until September, has resulted in the destruction of such a number of the Codlin Moths as very considerably to lessen the number of wormy apples, so much so as to make the crop of fruit valuable that had previously been rendered nearly worthless. The Canker Worms could be overcome by smearing some sticky substance on the trunks of the trees to catch the female moths in their ascent, and by sprinkling the trees just as the buds were bursting with paris green and water. For the borers it was recommended to wash the trunks of the trees with soft-soap mixed with carbolic acid. It was also stated by several that if hogs and sheep were turned into the apple orchards they would destroy a great many insects. To prevent the sheep from gnawing the trees it was necessary that they should have free access to plenty of fresh water, and some thought that it would be advisable to paint the trunks of the trees with whale-oil soap mixed with sheep dung in addition.

The discussion on new Peaches elicited little information beyond the fact that a great many new varieties had been brought out during the last year or two, the most of them early sorts, bearing a close resemblance to Hale's Early, but ripening before that variety. The Salway ripened too late for the climate of Western New York.

Some new white grapes were mentioned, giving promise of being valuable, the Pocklington, Prentiss, Niagara, and Duchess.

With regard to the Russian apples, P. Barry stated that none of them were as valuable and as high flavored as our well known American varieties. The Red Astracan, Duchess of Oldenburg and Alexander were among the best of them. Their value consisted in the hardiness of the trees, enabling them to endure the rigours of very cold climates, but they would not be grown where the higher flavored American sorts succeeded.

The following varieties of plum were named as being valuable for planting for market, Reine Claude de Bavay, Lombard, Bradshaw, Coe's Golden Drop, Hudson River Purple Egg, Monroe Gage, and Shropshire Damson.

Several very interesting papers were read, to which we hope to refer at some future time.

FRUIT TREES IN THE OTTAWA VALLEY.

LETTER FROM HUGH H. MCLATCHIE, TEMPLETON, PROVINCE OF QUEBEC.

I did not spend a dollar last year from which I got a better return than from my subscription to the Fruit Growers' Association.

I enclose a small piece of Fameuse wood showing how it is affected by the frost. In the spring the sap flows up between the bark and wood, the buds start, (except the tops of the branches,) but the wood dies, turns white, and is soft in the centre, and the bark turns black. The Red Astracan, Alexander, and Montreal Waxen do the same. The wood of the Talman Sweet turns black, but does not rot the same as the others mentioned.

Does that not account, at least in part, for the fact that Ottawa has imported seventeen thousand barrels of apples early this fall, and the country around Ottawa annually import and plant thousands of trees, yet the importation of fruit goes far to show that orchards are scarce.

When I first planted apple trees I thought the ironclads, such as grow about Montreal, were hardy enough for this section, but I find it is steel-plated armor that is needed. I have tried dozens of varieties, and have not found one winter apple sufficiently hardy to stand

our winters, but have succeeded better with summer and autumn sorts. The Tetofsky and Duchess of Oldenburg seem to be proof against almost any degree of frost. Montreal and Irish Peach Apple, quite hardy; and most of the Crabs, but some of the Crabs fail too.

Summer apples ripen their wood and drop their leaves early, consequently they are better prepared for the extreme frosts of this section of country. Perhaps my test is rather hard; our orchard is a rich clay soil, underdrained over four feet deep, and I thought rank growth and deficiency of lime were the cause of failure, but I have seen the Fameuse in Ottawa city, on lime-stone soil, doing no better than my own. I do not say the amateur cannot grow these varieties by proper summer pruning, slow growth, and suitable soil, but what is wanted for general cultivation are sorts as hardy as the Duchess of Oldenburg Apple and Transcendant Crab, that will thrive on any soil. As far as my experience goes, I am convinced that Ottawa must find new sorts, either of named varieties which have proved hardier in the north-west than the Fameuse, or seedlings grown on her own soil.

The Common Red Plum does well here; but Mr. Bucke gives a wrong idea, on page 168 of the HORTICULTURIST, about the Curculio; they are here in abundance. We smoked the trees with gas tar this year, they were less damaged than usual; but some trees left to test the tar theory seemed to be no worse injured than those that were smoked. The abundant crop this year was perhaps due to some peculiarity in the season, or it may be the Curculios overdid the thing the last few years and starved themselves out.

THE GREEN GRAPE VINE SPHINX. (*Darapsa myron.*)

BY W. SAUNDERS, LONDON.

This insect is common almost everywhere throughout Ontario, and must be familiar to every grape grower. The larva is rather a formidable looking creature, with a bull-dog sort of look about the head when at rest, arising from its power of drawing the head and two anterior rings of the body within the next segments, and thus unnaturally distending them. In this appearance it simulates the way of a well bred

porker, with its fat cheeks and small head, and hence has sometimes been

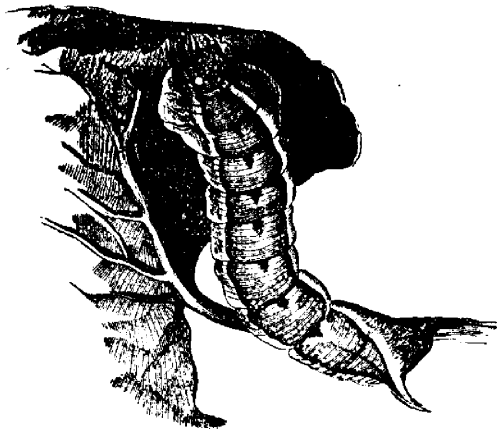


FIG. 2.

called the Hog Caterpillar of the vine. It is well represented in the accompanying figure 2.

When full grown it is about two inches in length, of a green color, dotted with pale yellow dots or granulations, with a row down the middle of the back of seven reddish or lilac dots, varying in intensity of color, and surrounded by irregular

patches of yellowish. There is also a pale lateral line, bordered below with a darker green, which extends from the head to the horn at the tail; the yellow dots on the body are also so arranged as to form along each side a series of oblique lines or stripes extending backwards. The horn is pale reddish, thickly covered with minute black points.

This larva is very destructive to the foliage of the vine, its appetite is so enormous that one or two of them, when nearly full grown, will strip a small vine of its foliage in two or three nights. On this account they are easily discovered, and should be at once picked off the vines and destroyed. Sometimes when the foliage is dense they may be more readily detected by their large dark-brown castings, which strew the ground under their places of resort.

But nature has provided a remedy, in a minute parasitic fly, which, though small is an effectual check to the otherwise alarming increase of this injurious insect. In figure 3 the larger drawing is a magnified view of this fly, the smaller one showing it of the natural size. This little friend punctures the skin of the caterpillar, and deposits her eggs underneath,



FIG. 3.

where they soon hatch into young maggots, which revel on the fatty portions of the body of their victim until they are full grown. When the larva is nearly matured, and apparently in a thriving condition, suddenly numerous little heads may be seen forcing their way through the skin of the back and sides, and within

an hour's time the entire brood of grubs have emerged. With their hind extremities still remaining in the openings through which their bodies have escaped, they at once commence to build about themselves small, firm, snow-white cocoons, which, standing on end, are usually so abundant as almost to cover the entire body.

This wonderful and curious change in the appearance of the worm is completed in about two or three hours. Fig. 4 represents one of



FIG. 4.

the larva thus infested with its attendant crop of the cocoons of the parasite. After so many active creatures have escaped from its body, the larva, as might be expected, is much reduced in size, and so weakened that it invariably dies. From the shape and color of the parasitic cocoons, they are sometimes thought to be the eggs of the caterpillar, and the very thing that should be preserved and cherished is destroyed, thus showing the importance of correct information on these points, so that all may be able to distinguish friends from foes among the insect tribes. A very large proportion of these larvæ are thus annually destroyed by this friendly parasite.

The few caterpillars which escape all the perils to which they are exposed, when full grown descend from the vines and loosely draw together a few fragments of leaves, bind them with silken threads, and

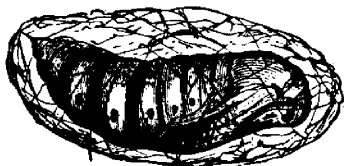


FIG. 5.

within these rude enclosures change to chrysalids; often about or near the base of the vines on which they have fed. In this state they appear as represented in figure 5.

The chrysalis is of a pale brown color, dotted with black and with a row of prominent oval black spots along each side.

The perfect moth, which in due time bursts the bonds of this death-like sleep, appears in a beautiful garb of green. Its wings, (see figure 6,) when fully expanded, measure about two and



FIG. 6.

a half inches across, and are long and narrow. The anterior pair are of a dark olive green, crossed by bands and streaks of greenish-grey and shaded on the outer margin with the same. The hind wings are dull red with a patch of greenish grey on that part of the hinder margin nearest the body. The antennæ or horns are dull white above with a rosy tint below. The head and shoulder covers are deep olive green, the remainder of the upper surface of body pale-green, the under side dull grey.

The moth remains at rest during the day time, taking wing at dusk. Its flight is very swift and strong, and its muscular structure so powerful that when captured it will almost beat itself to pieces by its constant fluttering. The insect is double brooded, the first brood of moths appearing on the wing about the middle of May, the second during August. The eggs are laid by the moths singly, on the under side of the leaves of the vine, and hatch in five or six days.

RIBSTON PIPPIN AND ROXBURY RUSSET.

BY REV. R. BURNET, LONDON, ONT.

How Ribston Pippin recalls the well remembered scenes of youth-hood, when anything in the shape of fruit was agreeable whether or not it was first class. The "Ribston," however, has always been first class. No English apple perhaps has attained such universal approbation. In its characteristics there is presented to us the wide divergence there is in American and English tastes. In England acid and sub-acid apples, as a rule, are in great repute. In America the sweet and soft suit the majority of palates.

The Ribston has always stood in deserved favor with fruit growers on both sides of the Atlantic. Here it is brought into comparison with the Newtown Pippin, the Swaar, the Spitzenburgh, and even with the Baldwin. In the English market it stands the foremost among apples. Canadian and American grown apples of this variety bring the very highest prices at home. With us it has the drawback of water-coring, which is of itself a considerable qualification to its superior excellence. Around Hamilton it attains to great beauty, being large and handsome. Up Yong Street, in Markham, Scarboro', and

Eramosa, it may be said to attain a monstrous size. In flavor it is faultless, and however large in size retains its shapely and symmetrical appearance, beauty in shape going hand in hand with excellence of flavor. Owing to the extent of our country, its season of ripening greatly varies. About Windsor, Mr. Dougall tells us it becomes a late fall variety. In the neighborhood of Owen Sound it retains its normal and winter period of ripening. Like all good, first-class apples, it is easily known: "Fruit of medium size, roundish, greenish yellow, mixed with a little russet near the stalk, and clouded with dull red on the sunny side." It is crisp, juicy, and sprightly. It fully ranks with any variety yet mentioned in these brief suggestive papers, and will amply repay the care of the husbandman. No collection, however small, should fail in having it represented.

The Roxbury Russet is an American Apple of the greatest excellence and value. It is often called the Boston Russet, and is a native of Massachusetts. While there may not be millions in it, yet it is most valuable as a market variety. It will yield as much money value as any known variety of apple. Its popularity is undoubted as it is unbounded. Ellwanger & Barry say that "its great popularity is owing to its productiveness and long keeping." It may be brought to market in June. The fruit is large, surface rough, greenish, covered with russet; the flesh is greenish white, moderately juicy, with a rich sub-acid flavor. Like its accompanying fellow-apple, the Ribston Pippin, it cooks well, and as well as it serves for winter dessert. In some portions of Canada, in the south and west of the United States, it too loses its season, and appears as a late autumn apple; mostly in our country, however, it retains its parental instincts, and delights the cultivator with its rich prices, almost within reach of the Early Harvest. Our duty to our fruit growers induces us to strongly recommend the cultivation of these two varieties. In all competitive tournaments they hold a first place, and woe betide the wight who has not secured their representation among his 10, 20, or 30 varieties. Few apples are more diffused, and few deserve diffusion more, than the Roxbury Russet.

Mrs. R. H. writes, "I have a fine young Orange Tree, two feet high, three years old, grown from seed. Will it bear flowers and fruit; if so, when?" It will, but no one can say when, save that it will when the tree has attained sufficient age or arrived at its maturity.

THE WINTER MEETING.

The winter meeting was held in the Council Chamber, Hamilton, on Wednesday, February 5th, 1879. President Burnet in the chair. After the usual routine business, the President called upon the Secretary to open the discussion upon the first subject, "Quinces, how to cultivate, and can they be grown with profit." The Secretary's views having been already given in the first volume of the HORTICULTURIST, at page 121, our readers will be the gainers if we lay before them Mr. P. E. Bucke's paper on this subject.

THE QUINCE

is a native of the south of Europe, (*Cydonia Vulgaris*), and takes its name from Cydon, the modern Canea—the capital of Crete—near which place the tree grew in great abundance.

Three kinds are usually cultivated. First, the apple-shaped, known as the Orange Quince. This variety is of a rich golden color, very productive, and ripening in a less favorable climate than the other sorts. Second, the pear-shaped. Leaves long, ovate, downy beneath; fruit rather larger than the Orange, pyriform, or sometimes roundish, with a short neck, ribbed towards the eye, of a pale color, and ripening later. Third, the Portugal Quince. Leaves downy on both sides, but very downy beneath; the fruit of this variety is very large, measuring four inches in length and three to three and a half in diameter, skin thickly covered with a gray wool, beneath which is deep yellow. The flesh of this kind is more tender and juicy, and is better for every purpose than the other sorts. The tree is taller and more vigorous, but not so hardy, neither does it bear so abundantly; it is an exceedingly handsome tree, and is often planted in Europe for its ornamental appearance and the beauty of its flowers and fruit. It might stand our winters on the less exposed places along the banks of Lake Erie at its western end.

The quince propagates readily from cuttings and layers. Cuttings should be made like the rose or the currant, in the autumn, of wood of the same year, with a heel of the previous year's growth; these may be set in the fall, or tied in bundles and buried eighteen inches deep in the soil, or kept in sand in a cool cellar and planted in the spring, and if watered in dry weather they will soon strike root; the best plants are obtained in this way, though not so quickly as by layering. This operation is performed in a similar way to the propagation

of the Paradise Apple. The stem is cut off a few inches above the ground, and a number of suckers are then thrown up; the following year these are mounded up and readily strike root; in the autumn of the succeeding year they may be separated and planted out in rows. The stool will soon produce fresh suckers, which may be treated in the same manner.

The fruit ripens in the end of autumn, and should be allowed to hang on the trees until there is danger of frost. This fruit, though hard, does not keep from decay longer than a month or six weeks. It is principally used for a conserve by itself, but it is also added to flavor apple jam and jelly. In Michigan it is claimed that 300 bushels may be grown to the acre, the trees to be planted eight feet apart each way. This fruit readily sells there for \$2 per bushel and sometimes \$3. The trees yield regularly every year, and are not much trouble to grow. They have a considerable recommendation in that the trees bear early, that is from three to four years after they are set out. The tree, however, is not always hardy, nor do all soils suit it; as a rule it does best in a damp location, and light sand is the worst soil for its cultivation. In entering into the cultivation of this fruit it would be best to plant a few at first, and if these succeeded more could be easily added, as they are so readily propagated, and there will be little expense in raising new trees. I am of the opinion that any locality suitable for the peach, in point of climate, would also answer for the quince; or at all events, well sheltered spots from northern winds would be suitable for the Orange variety, and this is the one usually grown in this country and the neighboring republic.

L. Woolverton, Grimsby, said he had confidence in the quince as a profitable fruit to cultivate, and is gradually working into it. He sent some to Guelph, and at first the consignee had some difficulty in disposing of them, but the demand has steadily increased at paying prices.

P. C. Dempsey, Albury, Prince Edward County: We cannot grow them in our part of the country.

P. E. Bucke, Ottawa: Quinces are sold in Ottawa at four dollars per bushel, and I believe it has not been sufficiently grown to meet the demand.

A. M. Smith, Drummondville, quite agreed with what the Secretary had said about high culture for the quince, that the fruit will be larger, and higher colored.

C. M. Honsberger, Jordan Station: I came here to listen to this discussion on the quince. It thrives well in my section, and I shall plant more largely of it, believing that it will pay as well as any fruit crop. The soil that I have selected for my quince orchard is a gravelly clay loam.

Thomas Beall, Lindsay: I live too far north to grow quinces. A few are brought to our market and sell at from eight to ten dollars per bushel.

Chas. Arnold, Paris: Cannot sell them, believe that a very few would be sufficient to supply the market.

A. McD. Allan, Goderich: But few are grown in Goderich, and these find a market there. They succeed best in clay loam, thoroughly drained, and manured with plenty of salt.

W. Roy, Owen Sound: I have the Portugal variety, it ripens very late, quite into October. Quince preserves is a very favorite article on all the ocean steamers.

Dr. Watt, Niagara: Would go into the cultivation very cautiously, fearing that the market might easily be overstocked.

"The best twenty varieties of apple for cultivation in Ontario."

Chas. Arnold, Paris, read the following paper:

In expressing an opinion as to the best twenty varieties of apples, it is not likely that any two of us will agree, as each person will view the matter from a different stand-point, and we all have different tastes. Some of us have not ground for more than five or six apple trees, and yet are desirous of having at least twenty varieties of apples, in such cases the only way would be to graft several varieties upon one tree. I do not know of any twenty sets that would afford more pleasure than the twenty varieties of apples that I am about to name, or any twenty varieties that would be more profitable. Now, from my stand-point, the sorts which I will mention would be my twenty varieties, whether I were confined to five trees, with twenty varieties grafted upon them, or whether I had five thousand trees. In the latter case of course it would be necessary to know your place of marketing, and be governed by the likes and dislikes of that market, in regard to the number of the different varieties to be planted.

Many persons will, no doubt, be surprised at the large proportion of early apples in my list, but I would ask, is there any more difficulty in shipping early summer apples to England than there is in shipping

fresh meat? If thirty years ago, at a meeting of intelligent Canadian farmers, some one had predicted that in 1878 Ontario would ship half a million dollars worth of fresh meat to England, he would have been laughed at, and set down by some as a fit subject for a lunatic asylum; and yet such I believe has been done in the fresh meat trade of our country. And for my part, I see no reason why we should not have steamers fitted up for carrying beautiful, blushing, bright Benoni, Early Strawberry, Dora, and Gravenstein apples to Europe; and were I a young man I would not wish for a better speculation than planting fifty acres of land with the above named four varieties of apples. I speak from an experience of over twenty years, when I say that I always make more out of my early apples than my late ones. Not that I would advise any farmer who has a large quantity of grain to harvest to plant more than two or three trees of each of the above named early apples, unless he is prepared to plant quite a number, and then to look out for a market for them before they are ripe, and also to see that they are properly picked, and barreled at the proper time.

The following are my twenty varieties, placed in their order of merit :

Benoni, Early Strawberry, Wagner, Swayzie Pomme Grise, Beauty, Gravenstein, Ontario, Fameuse, Dora, Golden Russet, Red Astracan, Lady Apple, Spitzenberg, Moyle, Melon, Cox's Orange Pippin, Roxbury Russet, Pomme Royal, Ella, Northern Spy, Baldwin.

Linus Woolverton would prefer the following :

Benoni, Early Harvest, Sweet Bough, Red Astracan, Fall Pippin, Duchess of Oldenburg, Gravenstein, King of Tompkins Co., Lady Apple, Swayzie Pomme Grise, Golden Sweet, Esopus Spitzenberg, Fameuse, Baldwin, Greening, Golden Russet, Swaar, Northern Spy, Mann, Ribston Pippin.

A. H. Pettit, Grimsby, named the Early Harvest, Red Astracan, Gravenstein, Duchess of Oldenburg, King of Tompkins Co., Fall Pippin, Fameuse, Newton Pippin, Northern Spy, Baldwin, Swaar, R. I. Greening, Wagner, Swayzie Pomme Grise, Cayuga Red Streak, Lady Apple, Roxbury Russet, Golden Russet, Esopus Spitzenberg, Talman Sweet.

Jesse C. Moyer, Jordan Station, gave the following :

Early Harvest, Red Astracan, Duchess of Oldenburg, Chenango Strawberry, St. Lawrence, Gravenstein, Twenty Oz. (Cayuga Red),

Fameuse, Fall Pippin, R. I. Greening, Wagner, Am. Golden Russet, Baldwin, Esopus Spitzenberg, Swaar, Pomme Grise, Swayzie Pomme Grise, Northern Spy, King of Tompkins Co., Talman Sweet.

Alex. McD. Allan, Goderich, said, my list is framed from actual experience in my section of country; I give it as such, and not as expressing my personal preferences. In compiling the list, consideration is given both to home use and commercial value.

Summer—Red Astracan, and Primate; Fall—Fameuse, St. Lawrence, and Keswick Codlin; Winter—Northern Spy, R. I. Greening, Baldwin, Ribston Pippin, King of Tompkins Co., Twenty Oz. Pippin, A. G. Russet, Roxbury Russet, Esopus Spitzenberg, Hubbardston Nonsuch, Bourassau, Swaar, Wagner, Newton Pippin, Beauty of Kent.

P. E. Bucke named the following sorts for his section:

The Alexander, Red Astracan, Duchess of Oldenburg, Brockville Beauty, Grime's Golden, Gatineau Belle, Talman Sweet, Fameuse. Arnold's trees doing well, but have not fruited.

John McGill, Oshawa, gave the following list:

Summer—Early Harvest, Red Astracan, Sweet Bough, Benoni; Fall—Alexander, Gravenstein, Colvert, Fall Pippin, Chen. Strawberry; Winter—Baldwin, R. I. Greening, Ben Davis, Spy, Yellow Bellfleur, A. G. Russet, King of Tompkins Co., Red Canada, Talman Sweet, Fameuse, Ribston Pippin, Wagner.

The President gave the following list:

Pomme Grise, Swayzie Pomme Grise, Green Newton Pippin, Rhode Island Greening, Roxbury Russet, Ribston Pippin, Esopus Spitzenberg, Northern Spy, Baldwin, Gravenstein, Golden Russet, Fall Pippin, Cayuga Redstreak, Norton's Melon, Swaar, Wagner, Peck's Pleasant, Seek-no-Further, Duchess of Oldenburg, Fameuse.

P. C. Dempsey, Albany, said Ben Davis does well with us, not of high flavor, but keeps until July, bears early, and continues to grow and bear; it is profitable. Montreal Pomme Grise sold in the Liverpool market for five dollars per barrel, and an extra sample brought forty-five shillings sterling. Bailey Sweet is valuable for the Edinburgh market.

Thomas Beall, Lindsay: We can only grow the more hardy varieties, such as the Red Astracan, Duchess of Oldenburg, St. Lawrence, Golden Russet. The Baldwin, and even the Snow cannot be successfully grown.

W. Holton, Hamilton, thought highly of the Ribston Pippin for cooking. The Ohio Nonpareil bears well, does not drop from the tree, and resembles the Gravestein. The Perry Russet is a western apple that does well.

John Croil, Aultsville: The Fameuse never fails, but the fruit spots badly at times. St. Lawrence is very hardy and a fair bearer. Would also plant Golden Russet, Talman Sweet, Pomme Grise, Duchess of Oldenburg, Red Astracan, Seek-no-Further, Alexander, Early Harvest, McIntosh Red.

"The best twelve varieties of pear for cultivation in Ontario." This subject was introduced by the President with a very interesting and valuable paper, which will be laid unabridged before the members hereafter. He named the following sorts, placing them in their order of merit:

Bartlett, Beurre d'Anjou, Beurre Superfin, Beurre Bosc, Beurre Clairgeau, Louise Bonne de Jersey, Belle Lucrative, Flemish Beauty, White Doyenne, Sheldon, Lawrence, Winter Nelis, and Josephine de Malines.

L. Woolverton, Grimsby, would substitute Duchess d'Angouleme for the White Doyenne.

John McGill, Oshawa, submitted the following varieties:

Bartlett, Clapp's Favorite, Tyson, Flemish Beauty, Belle Lucrative, Louise Bonne de Jersey, Beurre Bosc, Beurre Clairgeau, Duchess d'Angouleme, Mount Vernon, Winter Nelis, St. Lawrence.

Alex. McD. Allan, Goderich, would plant the following:

Doyenne d'Ete, Bartlett, Flemish Beauty, White Doyenne, Howell, Duchess d'Angouleme, Louise Bonne de Jersey, Stevens' Genesee, Seckel, St. Lawrence, Beurre Clairgeau.

W. Roy, Owen Sound, named for that section Flemish Beauty, Bartlett, Beurre Diel, Duchess d'Angouleme, Louise Bonne, Beurre Clairgeau, Glout Morceau, Graslin, Clapp's Favorite, Sheldon, Easter Beurre, Winter Nelis, Beurre Superfin, Beurre Bosc.

"The berberry, its value as a hedge plant and for fruit." A paper prepared by P. E. Bucke on this subject was read by the Secretary, Mr. Bucke having been obliged to leave.

THE BERBERRY

in its wild state is wide-spread in its growth, being a native of Britain, of Europe, and North America. It used to be grown in the hedgerows

in England, but a popular belief was entertained that it occasioned a disease known as rust in wheat growing in its vicinity, and it was consequently entirely removed. It is now known that this was no mere superstition, but modern scientific investigation has proved that the berberry rust and wheat rust are the alternate generations of one species. That *Puccinia graminis* and *Oidium berberis* are specifically identical, thus confirming the opinion held by farmers, but rejected as superstitious by most naturalists, except Sir Joseph Banks. The fruit has a pleasant acid, and is largely used in Europe for preserves and jellies. A celebrated conserve is made from a stoneless variety grown at Rouen, France.

Of the berberry proper there are four kinds, Common Red, Large Red, Purple, White. The stoneless is sometimes considered to be a distinct variety, and is propagated by layers, the others are usually raised from off sets or seeds, the latter method being usually practiced where large quantities are required, as for hedges, &c.

The berberry is an exceedingly hardy plant, withstanding the rigorous climate of Ottawa, which makes not the slightest impression on the smallest twig. In making hedges the plant need not be guarded from cattle, as they do not appear to relish it as an article of diet. As an adjunct to a board fence for the exclusion of boys from the fruit garden and the orchard, its thorny stems would be of great service. In the State of New Hampshire, where it has been extensively tried, it is considered the best hedge plant in America. The berberry grows best on a moist soil, but will do very well on a light sand, though it is not perhaps so vigorous there. The best way to prepare a hedge is to sow the seeds in a nursery, and afterwards plant out where required.

The berberry is a highly ornamental plant, both in flower and fruit. In early summer the graceful weeping branches are covered with the golden bloom, and in the autumn the shrub is ornamented with clusters of coral-like berries on long racemes, which remain attached to the boughs until the end of winter if not gathered. At the approach of frost the leaves change to an orange scarlet color, which greatly enhances the appearance of this beautiful plant. Besides being hardy, it is a very quick grower, is long lived, easily transplanted, and will stand cutting well.

(Concluded in next number.)