THE CANADIAN Horticulturist.

Title: The Canadian Horticulturist Volume 04, No. 05
Date of first publication: 1881
Author: D. W. Beadle
Date first posted: Mar. 17, 2015
Date last updated: Mar. 17, 2015
Faded Page eBook #20150354

This ebook was produced by: Marcia Brooks, David Edwards, Paulina Chin & the online Distributed Proofreaders Canada team at http://www.pgdpcanada.net

The Canadian Horticulturist.

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VOL. IV.] MAY, 1881. [NO. 5.

ONTARIO AGRICULTURAL COMMISSION.

The Report of the Commissioners appointed by the Governor in Council in April last "to inquire into the Agricultural resources of the Province of Ontario, the progress and condition of Agriculture therein, and matters connected therewith," is now before the public. It is divided into several parts for the sake of convenient reference, Part I. being the Report proper of the Commissioners, setting forth their doings and the results of their inquiries under the heads of Fruit Culture; Cultivation of the Grape and Native Wine Making; Forestry and Arboriculture; Insects, injurious and beneficial; Insectivorous Birds; Bee Farming; General Farming; Dairying; Horse Breeding; Poultry and Eggs; Salt in connection with Agriculture; Gypsum; Bone Dust and Phosphates; Special Crops; Agricultural Education and Farm Accounts; Meteorology; Muskoka, Parry Sound and Manitoulin; Diseases of Stock, and Stock Registers; Stock Laws; and some concluding remarks on other points of interest. The remaining parts contain the evidence taken by the Commissioners upon the several subjects embraced in their report, so brought together under appropriate heads that anyone can readily find the testimony upon any given subject which he may desire to investigate.

Part III. will more immediately interest the readers of the Canadian Horticulturist, in which will be found the evidence relating to Fruit Growing and Forestry; Grape Growing and Wine Making; Insects and Insectivorous Birds; and Bee Farming. In obtaining the evidence relative to fruit growing, the Commissioners have endeavored to procure the evidence of planters resident in all parts of the Province, and by recording the name of the person giving testimony, his place of residence and section of the country with the fruits of which he is familiar, every reader will be able to form an intelligent opinion with regard to the fruits he may hope to be able to grow successfully where he resides.

It will be quite easy to follow the grouping adopted by the Commissioners in their Report, and ascertain with considerable minuteness what varieties are found to be adapted to the Niagara district; to the Counties of Norfolk and Elgin; of Kent, Essex and Lambton; of the Huron district; of the Owen Sound district; of the Counties of Perth, Middlesex and Oxford; of the Brant district; of the Toronto district; of Durham and Northumberland; of the Bay of Quinte district; of Dundas, Stormont and Glengarry; of Renfrew; of the Lindsay, Ottawa and Muskoka districts; and of the Manitoulin Islands. This will be found to be sufficiently minute for all practical purposes, and to give the present state of information upon subjects of great interest to everyone desirous of cultivating fruits.

All praise is due to the Honorable the Commissioner of Agriculture of this Province, for the labor and thought he has bestowed upon this matter, in asking for such a Commission, and carrying it out to a successful issue. The information here brought together is worth to the agriculturists and fruit growers of Ontario, if they will only make use of it, many times its cost to

the Province; and there will ever remain the debt of gratitude to the Commissioners who have so faithfully performed the task assigned to them, and laid before the country as the results of their labors a report of which both they and we as a people may justly feel proud.

THE BRIGHTON GRAPE.

It seems that this variety does well at Trenton, County of Hastings. Dr. Henry W. Day, of that place, writes: "I have now in my garden a Brighton grape vine planted in 1877. It is an excellent grower, and has wintered well by having ordinary winter protection. The fruit is of excellent quality, and the vine is an early and abundant bearer. I think the vine is one that should be cultivated in this section, as it appears quite hardy enough, and the fruit ripens early and well."

DISTRIBUTION FOR 1882.—One of our friends, a lady, suggests that one of the articles for distribution in 1882 should be a rose. A member says, "I am very much pleased to see the Directors giving members the privilege of selecting a certain plant from a given number, it is sure to give satisfaction."

AN ABRIDGED FOUR HUNDRED YEARS HISTORY OF THE STRAWBERRY.

BY CHARLES ARNOLD, PARIS, ONT.

Shakspeare informs us that the Bishop of Ely's garden in Holborn was distinguished for the excellent strawberries it produced, even as far back as the reign of Richard the Third (1483). And judging from the remarks of an old writer in 1578, it would appear that the only strawberries known at that time were the Wood strawberry and perhaps the White Alpine. He says, "Strawberries grow in shadowy woods and deep trenches, and banks by highway sides. They be also much planted in gardens. The fruit is green at first, but red when it is ripe. Sometimes also you shall find them verry white when they be ripe; in taste and *savour* very pleasant." Another old writer in 1597 speaks of the "Red and White Wood and the Green Fruited; the two last not to be found save only in gardens." Johnson, in his edition of the work containing the last statement, published in 1633, does not mention any other variety. Another writer in 1656 mentions the Virginia Scarlet (or Canada) and the Bohemian. This last variety is supposed to be the Hautbois, and he says, "this variety hath been with us but of late days, and is the goodliest and the greatest."

It would seem that up to this time no attempt had been made to grow new varieties from seed or from crossing the different kinds. And no mention is made up to this period, so far as I have been able to read, of strawberries being imperfect in their flowers, except when attempts were made to grow them under glass. Then some gardeners used to complain bitterly of their strawberries "running blind," as they called it.

The first improvement made by growing strawberries from seed was about the year 1660, a variety called at first the Clapperon, and grown by a person by the name of Fressant, a Frenchman. This variety was obtained from the seed of the Wood strawberry.

But little attention seems to have been paid to growing improved varieties by hybridizing until the time of Andrew Knight, about the beginning of the present century. In order to show what confused ideas occupied some men's minds with regard to strawberry blossoms, and to show also what progress has been made the last forty years in growing new varieties with perfect flowers from hybridized seed, I will give a quotation from the English Gardeners' Chronicle of 1843. The writer says: "We have observed in almost every variety of strawberry that we have seen in cultivation, that some of its plants occur occasionally bearing all male blossoms, and others none but female blossoms." "By far the greater number of plants in each variety have separate *male and female flowers on the same plant*." I will simply remark, with regard to the last quotation, that no such imperfect flowering strawberries have ever been grown by any Canadian in my time, and I question very much if any person has ever seen in America perfect female and male flowers growing separately on the same plant. But it may be just as well to remark that very few if any strawberries of English origin have ever proved perfect or satisfactory in their flowers in this country, and not until 1834, when Hovey, of Boston, Mass., introduced his seedling, was any real progress made in growing strawberry seedlings in America. Even this was a pistilate variety, and was very apt to be barren, or bear very imperfect fruit, unless some staminate variety was grown near by. But with a portion of the bed being planted with our wild strawberries, Hovey's Seedling would produce a very fine crop of large and delicious fruit.

The great improvement of the Hovey over all others of its day caused many intelligent

persons to grow seedling strawberries, with a view to getting hermaphrodite varieties, (that is strawberries bearing flowers with stamens and pistils in each flower, instead of in separate flowers,) and thus prevent barrenness. It will no doubt sound strange to many readers of the HORTICULTURIST to be told that in this year, 1881, there are such things in Canada as barren strawberry beds; and yet that there are a great many of these barren beds in every county in Ontario I have no doubt. The only cause of this barrenness that I know of is the imperfection of the flowers, *i.e.* purely staminate or purely pistilate flowers.

In every old strawberry bed there will be sure to be a number of seedlings spring up, and it often happens that many of these plants bear such imperfect flowers as never to bear fruit of any kind; yet they are very prolific in runners, and these runners are frequently the largest and healthiest plants in the bed. Now it will easily be seen that to plant a new bed from runners grown in such a bed as this will be at the risk of having a barren strawberry bed. Although such plants from an old bed can frequently be got from some kind neighbor for nothing, they may in the end prove very expensive plants, and the persons using them will be very apt to amuse themselves practicing false economy.

To attempt to enumerate all the varieties of strawberries that have been originated, named and thought worthy of cultivation in Europe and America since the introduction of Hovey's Seedling, to say nothing of the tens of thousands that have been raised and rejected after a year or two as unworthy of even a name, would fill a whole number of the HORTICULTURIST. Downing alone, in his late edition of "Fruit and Fruit Trees of America," describes some four hundred varieties. As the names of all the leading varieties in cultivation at the present day can be found in most nurserymen's catalogues, I will not name them, but will merely remark that strawberries, like many other of our best cultivated fruits, seem to arrive at a certain degree of perfection, health, vigor and productiveness, and then to degenerate to such a degree as to become comparatively worthless in a few years; therefore a constant renewing by cross-bred seedlings seems necessary to keep up the health, vigor and fruitfulness of the species.

The progress that has been made in flavor and productiveness the last three hundred years is very difficult to ascertain, but the difference in the size of the fruit and value of the seed is very remarkable. In 1593 Thomas Hyll writes: "Strawberries be much eaten at all men's tables in the summer with wine and sugar, and they will grow in gardens until the bigness of a mulberry." The English mulberry is about three-quarters of an inch in diameter, and some of our newest and best varieties of strawberries will grow from one inch and a half to two inches and a half in diameter. There can be no doubt therefore that we have made great improvement in the *size* of the fruit in three hundred years.

But if, as an old writer says in 1578, strawberries were "in savour (or fragrance) very pleasant," and we should judge alone from the fragrance of that very popular variety of late years, the Wilson's Albany, most persons would incline to the belief that we had retrograded on this point. We are thankful, however, that many of the newer varieties have a delicious fragrance as well as taste.

In regard to seed, the Alpine strawberry is said to have been introduced into France and England about the year 1764, and Mr. Duchesne, writing in 1766, says: "The King of England was understood to have received the first seed from Turin." "It was such a rarity that a pinch of the seed sold for a guinea."

CRANBERRY PIPPIN.

A member asks, “What kind of an apple is the Cranberry Pippin; give a general description of it.” The following is the description given by Downing, the best authority we have. “Fruit medium, roundish oblate, regular; skin very smooth, light yellow, with a bright scarlet cheek; flesh white, moderately juicy, brisk subacid. It is only second rate in point of flavor, but it is an excellent cooking and market apple. Good from November to February.”

Your Editor grew this variety some years ago, but he found the young trees to suffer severely from our winter frosts. J. J. Thomas, the horticultural editor of the *Country Gentlemen* says the quality is poor.

JAPANESE SQUASH.

A new squash has recently been introduced into this country from Japan. It is a very distinct variety in every particular, and has thus far proved a valuable acquisition to our list. It is of the turban class, and grows of moderate uniform size; stem very long and thin, woody and angular, set in a rather deep, circular depression; surface deeply ribbed; skin warted in its early stages; color dull orange green when fully ripe. The flesh is of the deepest orange hue, and flavor most exquisite, dry, sweet, fine grained, and has positively no fibre, a quality not found in any other variety. Another peculiarity of this valuable variety is its thick solid flesh, leaving very little room for pulp, and having very few seeds, which are small and not so white and plump as the Hubbard. It is also a late keeper, though not so late as the latter, not having such a hard and shell-like skin. For pies it cannot be surpassed.—*Michigan Farmer.*

An Orchard may not do well for various reasons. Sometimes the land needs draining, and the putting down of a few rows of tile will be all that is necessary. The soil may be either originally poor, or made so by excessive cropping, and the trees are suffering from partial starvation. If the orchard is in sod—and such orchards frequently are—spread a heavy coat of manure upon the surface, or spread ashes or lime upon the soil. Try this treatment and note the result.

THE PANSY.

BY REV. VINCENT CLEMENTI, PETERBOROUGH.

Permit me to make one or two additions to the interesting paper by Mrs. James Davidson on the Pansy, comprised in your last number.

I have always found that *piping* is a very satisfactory method of propagating pansies, where the blossoms are really fine. This operation should be performed yearly, in the month of August, and the pipings should be planted, as Mrs. Davidson suggests, in a bed exposed to the north, and protected by a pot, or a box with a sliding glass top. This latter may be made any convenient size, and I have found it very useful for protecting a variety of plants, especially the choicer and tender vegetable plants, when first removed from the hot-bed. After the pipings have taken root they may be potted. The pansy, however, ought to be able to stand any amount of cold, as it is, I believe, a native of Siberia.

Another suggestion I would offer, is not to plant pansies in the same place, even for two consecutive years; they like constant change. Perfect drainage, especially if the soil be not percolating, is essential to their health, as the chief disease they suffer from is rottenness or decay in the roots.

I have never seen pansy blossoms in Canada anything like as large as those that are found in English gardens,—why, I cannot tell. I recollect, however, that a friend of mine, who was a great pansy fancier, usually rejected all but about a dozen plants from his bed of seedlings some yards square, after the appearance of the blossoms. He used to say that the pansy had as many “points” as a horse.

THE CULTURE OF HOUSE PLANTS.

BY N. ROBERTSON, GOVERNMENT GROUNDS, OTTAWA, ONT.

Almost daily I receive letters enquiring about treatment of plants, and having visited many of the complaining parties, I find that the troubles arise from various causes, for the prevention and treatment of which I will endeavor to explain with as much simplicity as possible.

The prevailing practice seems to be potting with old worn-out soil from the garden, with little nourishment, hard, stiff and full of insect life. Others use black muck from a swamp, or surface soil from the woods; these two are light without substance, and generally poor. Portions of them might be useful mixed with other soils if done by an experienced hand. I am aware that it is very difficult in cities to procure suitable soil, but some trouble must be experienced if you expect to be successful. Then instead of going to the woods or swamp, go to some old pasture, or place where you can find a nice pliable loam. Procure this soil some months before you require to use it, mixing with half rotted manure and one-fourth clear warm sand (avoid cold, stoney sand), and put it away in some corner or cask. Turn it over a few times before using, and mix it as well as possible. Never use stiff clay soil. Make your compost so that it will not bind in the pots, and let the soil be clean and free from coal ashes and such like.

No difficulty need be experienced in the country with respect to soil. Take a load or two of turf two inches deep from some old pasture, in the corner where cattle lay down at night, and pile it up, adding between the layers of turf as much rotten manure. This should be done twelve months or more before wanted. As much can be made at one time as will serve for a number of years. After lying for four or five months, slice the heap downwards as thin as possible with a spade, and gather compactly into the heap again, exposing as little of the turfy substance as possible. Add sand to this as before directed, so as to make the soil nice and free to handle. Never put the heap where leaves will drop upon it. There is also danger of the soil being too light, in which case the plants will grow, but the flowers will be few, small and of little show. Soil, then, is one great point of success, and if you have good soil other difficulties will be easier to overcome, and will well repay your extra trouble.

Potting is another thing of great importance, and should be attended to with great care. I will describe the mode of potting so simply that no one can make a mistake. Wash the pots if they have been in use before, no matter how clean they may look, as insect life may be lurking about that will soon find out your plants when they are taken into the house. By doing this you may save yourself much trouble. After washing the pots let them dry, and then place a piece of broken pot to well cover the hole in the bottom. Now break a lot of pieces of old pot as small as ten cent pieces; into a five inch pot put one and a half inches of these; more in larger ones. Over this place some fibre or moss, to prevent earth getting in through the drainage. Have the soil moist, neither dry nor wet. If the soil is very dry and the plant roots very plentiful you would have difficulty in wetting some of them; if wet, then the packing will make it close and hard. Now put soil enough in the pot to bring the plant in a proper position when filled; pack the soil as you fill, knocking the pot on the bottom, so that you shake the soil perfectly among the roots. As winter is the time house plants are most looked to, if the plants have been where worms can get at them, be sure that you take them all out, or your drainage will be stopped, the soil soured by stagnant water, and the plant become unhealthy. The health of the roots is the first and most important point. Without healthy roots you may never expect healthy tops. Plants are frequently destroyed through the summer months. Some are plunged out into beds in

the spring and recklessly torn up in the fall; as the feeding roots are either through the bottom or over the top of the pot, it is impossible to save them. Others are kept on a stand basking in the sun, so that the strictest attention cannot keep them from being dried up and ruined. Many are potted in this way with the appearance of good roots when they are already dead and dried up. The best plan for winter plants is to stand them in some cool sheltered corner, away from the direct rays of the sun, during the summer, giving little or no water, but just sufficient to keep them from flagging. Do not set them under trees or other places from which water may drip upon them.

Potting should be done early in September, shaking away as much of the old ball as you can without breaking the roots, and repotting with fresh soil. Beware of over-potting; many plants suffer more from this cause than any other. Give room to allow fresh soil around them if the ball is well matted with roots, if not reduce the size of your pot. It does no harm to knock the plant out on your hand and examine the roots. If you see at any time the appearance of worms, look round the ball or under the crocks and you will be sure to find them. When you have finished potting, stand the plants back in some warm shady corner, and keep from the sun for ten days. Give a good watering by thoroughly wetting the ball, and then give no more than will keep them from fading until you see them starting into growing order. Before putting them in the house be sure that they are free from insects. Lay the leaves flat upon your hand, and wash with a soft brush or sponge and warm water, especially the underside of the leaves and stems, taking care not to break the foliage. This is sure to keep them from insects for a considerable time, which are so hard to overcome in the house.

"How often should I water my plants?" Not until they are dry, which can be ascertained by seeing if the top of the pots look dry; or if you will weigh them in your hand, you will find by practice whether they are wet or not by the weight. Too much water is the greatest cause of poor success with house plants. If a plant becomes unhealthy, drops its leaves or turns yellow in color, you have been giving too much water. But this difficulty may be easily overcome if the drainage is proper. If the plant appears as described withhold the water; do not let it fade, but give no more than will keep it from doing so until you see it fairly started into good health.

You cannot expect plants grown in the dwelling house to look as well as those in green-houses, as they do not have the same light overhead, nor the moist air and good washing with the syringe, and yet I have seen many that nearly come up to the best of green-houses. You can do much towards keeping the foliage clean by standing them in a tub occasionally, and sprinkling them with the watering-can, which not only adds much to the appearance, but also to the health and vigor of the plant. When sweeping the house, dust will gather on the leaves, and you will also find it beneficial to wash them with a sponge several times during the winter. Do not make a practice of watering your plants at stated intervals, but first ascertain whether they require it. Let the plants have plenty of room, and turn them around occasionally, so as not to have one side always to the light, and they will have an equal, bushy appearance, and not be all one-sided. Many attempt to ventilate their plants by opening a window and allowing the cold air to rush in upon them. Avoid this, unless the outside air is warm and without cold winds, as they are rendered very tender by their indoor treatment, and are very easily injured by any sudden change. If you use saucers under the flower pots, never allow water to stand in them.

The green-fly is perhaps the most troublesome insect enemy of the house plant cultivator, but they can be overcome in various ways. Take a piece of paper large enough to cover the top of the pot, cut it across to the middle, and then draw it over the pot, bringing the stem of the plant in the centre of the paper. Then commence at the top of the plant, and brush the insects off with a soft hair brush. When done, remove the paper with the insects on and destroy them. It is always well to remove some of the old soil, and put fresh on the surface. Another plan is to procure a close box with a lid (if not tight make it so by pasting paper over the cracks). Make a

hole in the side to insert a tube, and puff tobacco smoke into the box until it is full. Now stop the hole and let the plants stand for an hour or more. Then take them out and shake them well, removing the soil from the surface of the pots as before directed. This will have to be done in a warm place, (a cellar will do,) so that the smoke will not get through the house.

The red spider is not so well known; being very minute it is not easily detected until much damage is done. If you see small yellow spots on the leaves of the plants, and if they are getting dry and burnt looking, turn the underside of the leaf up and you will see small red dusty specks. Take a brush or sponge and wash with warm water, as he does not like moisture. In a greenhouse, where the place is kept moist, he never appears. Thrip and scale are not found very often on house plants, neither is mealy-bug. Cleanliness will mostly prevent all these.

It may seem to some to be a great deal of trouble to follow all these instructions, yet I find people every day that would do twice as much to see their plants prosper. Gishurst Compound, Fowler's Insecticide, hellebore powder, &c., are used with much effect for the destruction of insects, but I prefer frequent washing to any of them, as it not only destroys the insects but gives fresh life to the plants.

I shall at some future time treat of plants best adapted to house culture, and their treatment for winter flowers.

QUESTION DRAWER.

DEAD BARK.

Last spring some of my trees had dead patches of bark on them, what could be the cause? Would lack of drainage cause it?

Anything that would render the tree unhealthy would be the remote cause, and nothing will make an apple tree unhealthy more surely than insufficient drainage.

THE VICAR OF WINKFIELD PEAR.

BY JOHN M. McAINSH, NISSOURI.

As the Vicar of Winkfield pear has been widely disseminated throughout the country, and is offered for sale by our leading nurserymen, it is well that intending pear growers should be acquainted with its true character—its merits and faults. My description is given from some fifteen years experience with it. To begin with, the tree is a good healthy grower, and naturally forms a beautiful shaped tree. Although not ranking among the very hardy sorts, it is sufficiently hardy for a large part of Ontario; at least I find that it is sufficiently hardy for this section of country. It is an enormous bearer; in fact this is one of its faults, for if allowed to bear at will, every second year it will be loaded with a larger crop than the tree can bring to perfection; consequently they are of poor quality and small size. But where the fruit is properly thinned out, and good cultivation given, it will be of good size and handsome appearance.

If the quality of this pear was equal to its good growing qualities and its productiveness, it would deservedly stand in the front rank, but unfortunately this is not the case. As a dessert pear it is generally of poor quality, but occasionally is good; in this respect it is very variable. As a cooking pear or for preserving it is very good, and this I think is the only purpose for which it can be profitably grown. There is one peculiarity about this variety which it is well to know, and that is that when the trees are young and just coming into bearing the fruit is of very poor quality, but as they acquire age the quality improves. If my Vicars improve as much in the next ten years as in the last ten I will be pretty well satisfied with them. The productiveness of this variety, its preserving qualities, and the season of its ripening (Dec. and Jan.) will recommend it for cultivation in a limited degree, but those who want a pear of good quality in all respects must turn their attention to some other variety.

PRINCESS LOUISE APPLE.

We have received from Mr. Linus Woolverton samples of this apple, which was exhibited at one of the winter meetings of the Association, and very highly commended in the Report of the Committee on new fruits. In form, this apple is nearly conical, flattened somewhat at both ends. The stem is not very stout, and projects beyond the cavity, which is deep and regular. The calyx is closed, and set in a shallow, slightly wrinkled basin. The skin is smooth, free from all blemishes, and has a very bright waxy lustre, as though it had been highly polished. The color is a clean, bright carmine, on a transparent light yellow ground. The surface is moderately sprinkled with light grey dots. No description will convey any adequate idea of the extreme beauty of this fruit, which is so very striking that it would command attention in any market from its attractive appearance. But to this rare beauty of appearance it adds excellence of quality. The flesh is pure white, like that of the Snow apple, tender, juicy and nearly as melting, with a richer flavor and higher aroma; indeed, one of the most fragrant of apples. Mr. Woolverton informs us that the tree is about eight years old, is a chance seedling of the Snow apple, has borne for three years, the crop being heaviest in alternate years, and that it has established its character for uniform beauty and excellence of fruit. He considers it to possess all the good qualities of the Snow apple, besides being more beautiful and a better keeper. We fully coincide with him in the opinion that it is destined to take a leading place among our Canadian varieties, and are confident that this fruit will command attention in the English market whenever it may be produced in sufficient quantity.

How often it is that our best fruits are nature's waifs, springing by chance from some neglected hedge-row, as if to laugh at our scientific processes of cross-fertilization, and mock our boasted skill.

LETTER FROM AN OLD MEMBER.

BY W. C. SEARLE, CLINTON.

As an old subscriber I thought I would give my views on the paper, and also a few things in connection with fruit growing in this section. I am much pleased with the HORTICULTURIST, as it is the means of getting at the views of some of the fruit growers, but am sorry to see that so few take such an excellent publication. I have found that during recent years the growing of fruits, except apples, in this part of the country has not been profitable, owing to the late spring and early fall frosts, which are so injurious to grapes particularly, and the thermometer going down to 20 degrees below zero. Last season was the most favorable one we have had for some time for ripening grapes; I ripened a fine lot of the Isabella. The plum trees are fast dying out, and the crop getting less, except on young trees coming in to bearing. The old trees are affected with the rot, black-knot, the borer, and curculio. Pear trees are somewhat affected with the blight, a good many being destroyed. The peach trees have also been badly attacked by the borer, and parties do not seem to know anything about remedying this as they do not attend to them. Some medium peaches were raised last season in Goderich township, near Lake Huron; peaches near the water seem to grow better than those further inland. Apple trees are also affected by the bark insect, codlin moth, tent caterpillar, leaf curler, and also the one that lays its eggs in a cluster, but not so bad as they have been before. Large quantities of apples have been sent from this section to the east, west and north-west. The common cherries do well, but the caterpillar and leaf slug affect them. I notice in numbers of gardens that the red and white currants are neglected, and consequently dying out, they are afflicted by the saw-fly and pith worm. What is good to destroy the green aphis on the black currant? I have tried the tree form, but the snow breaks them. The borer is busy in the maple and locust street shade trees. The raspberry bush I received last year from the Association is growing fine, as is also the Ontario apple. Last year my Burnet grape had on a peck of grapes, but most were mildewed; I used sulphur, but it was no use. The quality of the grape was not bad. I kept some till 14th February. The Flemish Beauty and Clapp's Favorite pears both fruited two seasons; the Grimes Golden Pippin apple has twice fruited; the Salem grape has fruited twice, also Downing gooseberry and Glass' Seedling plum, but I lost some of the latter before maturity. I have 12 varieties of the large English gooseberry, imported, which I am testing; those already fruited are subject to mildew. To prevent gooseberry and currant bushes breaking down with the snow I grow them in bush form, with three stakes dipped in tar, round the large bush, wired through the stakes for bushes to rest on. The small bushes I tie up with wire in the fall. I have over twenty kinds of grapes fruiting, some bunches of which weighed 12 ounces. I prune them in the fall, lay down, and cover with leaves, straw and earth. When up they are protected from the north winds by an eight foot fence. Very few varieties will live and fruit with the general culture given them here. I trim my currant bushes by cutting them down to the roots with a chisel. Many tree pedlars are no better than swindlers, in selling trees adapted only to a warmer climate, and offering rewards for the best fruit grown therefrom, when there is no chance whatever for the fruit to properly mature in a northern climate. I am testing seven kinds of raspberries. I think that the Fruit Growers' Association should go in for cheaper freights; it cost me $1.00 to get a bushel of peaches from St. Catharines or to send a bushel of plums there. Many mistakes are made in reference to the names of different fruits, by nurserymen at different places using different names for the same kind of fruit. I noticed recently that a nurseryman giving evidence before

the Agricultural Commission stated that black currants were worth $4 per bushel. If the statement refers to country places he is wrong, because all they can generally be sold at is 5 cents per quart. I have found bees and wasps injurious to grapes, and also saw them destroying early peaches. Should fruit growers encourage the raising of bees, or would it not be to their interest to enter on a bee crusade? Give us your opinion on the matter, Mr. Editor. I agree with one of your correspondents, who states that the Provincial in giving prizes for fruit should make some discrimination between cold and warm climates, for it is not fair that fruit grown under unfavorable circumstances in a northern latitude should be required to compete on equal terms with that grown in a southern climate. The English sparrow destroys fruit buds when the ground is covered with snow and it has no other food, the opinion of Mr. S. Hunter, of Scotland, Ont., to the contrary notwithstanding.

CORRESPONDENCE.

APPLE TREES ROOTING IN SUBSOIL,—BURNET GRAPE, &c.

I notice Mr. J. A. McKay's suggestion to put flat stones under apple trees when planting. This might prevent the roots getting into the clay for a few years, but it no doubt grows over the stones into the clay afterwards. My trees have not suffered yet from the clay soil, and I don't think it will do them any harm. The Burnet Grape has not fruited this year; I don't think it will succeed here. I planted in the same ground last year two Hartford Prolific, two Agawam, two Salem, two Beaconsfield, five Concord, nine Champion, all two year old vines, and I find this year the Agawam and one Beaconsfield dead; the other Beaconsfield has done well, and looks very like the Champion. The Salem and Concord have not fruited yet, but the Champion grew vigorously—one had twenty bunches on it, but I only allowed six to ripen, the weight of which were three ounces each. They were ripe 27th August, and seem to be best suited for this district for hardiness, fruitfulness and early ripening. The Saunders Raspberry was accidentally cut when a foot high, and is not likely to succeed. I have tried several kinds of raspberries, but cannot grow them either on sandy or clay soil; the new shoot always dies away. There are plenty of wild ones growing on the sides of banks and creeks, so I suppose they require shelter. I have about 1200 Houghton Seedling Gooseberries, four years old, planted on clay loam five feet apart, and am surprised to find a good deal of the fruit mildews, although I have seen it often stated that this variety never mildews.

J. W. Cumming, *St. Hilaire, P. Q.*

REPORT ON PLANTS RECEIVED.

The Swayzie and Ontario apples have done well, as also have the Clapp's Favorite pear and the Diadem raspberry. Saunders has done rather better, but I have seen no fruit yet on any apple, pear or raspberry. The Burnet grape vine is growing, and set a few bunches of fruit last year, but it all dropped off without ripening; if it does the same the coming season I will consider it unsuitable for this section.

Alexander Lawrence, *Drumellie, Port Elgin P.O.*

GRAFTING IN THE TOP.

Mr. D. Bell has a farm about six miles north-west from Cobourg. Last fall he called on me offering some very fine Spitzenburg apples. I asked him how many he had. He said thirty-two barrels. I then asked him how many trees he had gathered them from. He said five. And how many did you get from the five trees last year? He said eighteen barrels. As I knew the Spitzenburg to be a poor grower, I asked him to explain. Mr. Bell said, about twenty-six years ago he planted about three and a half acres of apple trees, consisting of Golden Russet, Spitzenburg, Northern Spy, Greening, Red Canada, Talman Sweet, Baldwin, &c., &c. Twelve or fifteen years ago he cut back to about four or five feet from the ground five seedling apple trees that were growing in the garden, (they were about eight years old,) and grafted them with the Spitzenburg, hence the above result. He stated that the Spitzenburgs that were planted twenty-

six years ago are nearly all dead, as are also the Baldwins, but the Spitzenburgs that were top-grafted are almost as large as the Talman Sweet that are in the Orchard, and are fine and healthy. Mr. J. W. Johnstone, Campbellford, called on me a few days ago, and I stated to him Mr. Bell's success in top-grafting. He then told me how he had succeeded with the Northern Spy. Seven years ago he cut back a seedling three or four years old and grafted the N. Spy on it. The fifth year after grafting he gathered 1¼ barrels, the sixth year 1½ barrels, and last fall 1¼ barrels. Four years ago he top-grafted three seedlings, and last fall he gathered about half a barrel from each, showing that top grafting is best for some varieties. Through Mr. Johnstone's recommendation, a Mr. Burgess, of Baltimore, (five miles from here) planted ten acres of seedlings last spring. When they are three or four years old he intends to top-graft all of them. If any one wishes to try top-grafting let him sow the apple seeds next spring. The following spring select such as have made a good growth and have healthy stocks, and I think they will find top-grafting to be superior to root-grafting, especially for the north.

J. D. Roberts, *Cobourg*.

ENLARGING THE HORTICULTURIST.

I am pleased with the Horticulturist, which comes quite regularly, but I would like to see it enlarged, even although we should be obliged to pay more for it. Send me the *Hydrangea paniculata*. I would have taken the Wealthy apple, but last year I bought a number from Dr. Hoskins, which so far have done well. I will report later on, as this is the place to try them, as while I write the thermometer stands at 22 degrees below zero, and it sometimes goes to 40.

A. A. Wright, *Renfrew*.

Several valuable communications are unavoidably crowded out of this issue. They will appear in the June number.

TRANSCRIBER'S NOTES

A table of contents has been added for convenience.

Obvious printer errors including punctuation have been silently corrected.

Inconsistencies, variations and possible errors in spelling have been preserved, with the following exceptions:

"Meterology" to "Meteorology" on p. 63,
"rotteness" to "rottenness" on p. 69,
"calix" to "calyx" on p. 74,
"sulpher" to "sulphur" on p. 76, and
"Saunders" to "Saunders has" on p. 77.

[The end of *The Canadian Horticulturist Volume 04, No. 05* edited by D. W. Beadle]