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The Canadian Horticulturist.

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CANE SUGAR. No. 3.

BY P. E. BUCKE, OTTAWA, ONTARIO.

Having grown the cane, the next thing is to proceed to make the sugar. It is found, as I before stated, that the storing of cane for any length of time after it has been cut is highly detrimental to the crystalization of the syrup; therefore in order to prevent failure, it should be insisted upon as a general rule that the stalks should be worked up within twenty-four hours after being cut in the field. All the operations of cutting, blading, topping, removal from the field, extraction of the juice, defecation, evaporation and crystalization, should follow each other with the least possible loss of time, as in every stage any delay will cause a proportionate loss to the manufacturer. The only point at which the operation can rest after the cane has been cut, is when the syrup has reached a density of 25° Baume. It will therefore be seen that shed room need not be provided for more cane than can be used up in a single day.

It is not desirable that the crushing mill should work at a too high rate of speed. The best results appear to be obtained by rollers which develop a surface of from four to five yards per minute, so that a roller of two feet in diameter should make about two to two and a half feet per minute. An increase in the capacity of the mill can only be given by adding to the length of the rollers. It is found by analysis that fresh undried canes contain eighty-five per cent. of saccharine juice, but as a rule only from fifty to sixty per cent. is extracted. So great a loss throws open a wide field for some inventive genius, to discover either a more perfect mill, or some new method of extracting the saccharine matter from the cane. An increased yield of syrup may be obtained by running the canes through the mill a second time. The mill should be placed so high that the juice may drain from it by a pipe into the defecating tanks, and from there into the evaporating pans. A strainer of wire gauze should be so placed that the particles of pith and cane may not be allowed to run into the tanks.

Two heating tanks, each of a capacity of a hundred gallons, to be used alternately, should be prepared to receive the juice as it flows from the tank at the mill; and these should be so situated that the juice may be let out of them into a cooling tank, which may be made of two inch plank, and of sufficient capacity to hold as much as the other two. The evaporating tanks may be made entirely of metal, or the bottom may be of sheet copper, and the sides of wood. These should be placed over a separate flue of a furnace, or, what is perhaps better, be heated by a steam coil or jacket arranged so that the steam may be turned off when the scum has formed on the surface. If however an open fire is employed, an arrangement should be made so that the heat could be turned off into another flue when the proper temperature is reached. The

heaters should be of such a capacity that they will contain all the juice received from the mill in an hour.

The evaporater may be of any capacity or shape, provided a thin sheet of juice is spread over a large even surface, with a continual descent; but it must be so arranged that the scum, which forms immediately the juice enters, may be easily removed. Sometimes an endeavor is made to finish the sugaring off process in this pan, but it is best to have a separate furnace with a finishing pan attached; or if a steam jacket is used in the other tanks, it is only necessary to have one for this process also. Steam is found to be decidedly the best heat to use, as it is more under control, and not so liable to injure the sugar. The coolers, of which there should be two, into which the finishing pan discharges, should be close jointed wooden troughs, broad and flat, and large enough to contain a day's boiling; these may each be used on alternate days.

The crystalizing vessels may be tubs or half barrels, with plugs in the bottoms which may be easily removed, to secure drainage; these must be kept in a room of 80° or 90° fahrenheit. They should be placed so that they will drain into some convenient vessel to catch the molasses.

The necessary apparatus above described is in use in many of the neighboring States, from whence either they, or patterns of them, could be procured. One of our members who is going into the experimental cultivation of the cane here, informs me that he expects to visit the Western States next autumn, and bring with him some utensils for the prosecution of this industry, and at the same time gain such a practical knowledge of the system there employed as will enable him to direct the operation of sugar making on his own farm.

An acre of sorgum will give from two hundred to three hundred gallons of syrup, so that the capacity of the apparatus employed should be gaged by the area sown.

NEW CHERRY, "*NE PLUS ULTRA*," THE UTTERMOST POINT.

BY CHARLES ARNOLD, PARIS, ONT.

Some four or five years ago our venerable friend and fruit grower, Mr. John Mosely, of Goderich, sent me prepaid a small box of cherries, with the above latin phrase as the name. After reading over the name and examining the fruit very critically, I of course wrote a letter to friend Mosely, thanking him kindly for the fruit, and for his kind offer to send me scions. The whole family tasted the fruit, and pronounced it "not bad," with a strong resemblance to Napoleon Bigarreau, but smaller, and in no way superior to it. Again looking at the name, I exclaimed, "What! the uttermost point of perfection? Never. '*Ne Plus Ultra*.' Nonsense." A few of the cherries were again tasted, and the rest left in the basket in which they were sent without further notice for near a week. The cherries at this time, and for several days after, were perfectly sound, while all varieties of cherries with me, including Napoleon, rotted; the half of them after being picked only a few hours, and some of them rotted upon the tree. The *Ne Plus Ultra* was again tasted, and pronounced "good." This cherry was but little more thought of until the next spring, when Mr. Mosely kindly sent me (unsolicited) a few grafts. The grafts were immediately used; three or four of them grew, and last year one of them bore fruit. The only thing remarkable about these cherries up to their time of ripening, was their manner of growth. The fruit did not, like most other cherries, grow in large clusters on strong spurs, but singly or in pairs, along the last year's or the previous year's branch, upon very small spurs, and in some instances upon no spurs at all. But the ripening season again comes round. The fruit of all others is again gathered; much of it rots shortly after being gathered, and some of it rots upon the tree before it is ripe. Our attention is again called to *Ne Plus Ultra*, which still hangs upon the tree, perfectly ripe and perfectly sound, and is now pronounced "very good."

Now, Mr. Editor, I have a kind of dreamy premonition that some others of the Directors of the Fruit Growers' Association, and perhaps yourself, sir, had the *Ne Plus Ultra* cherry sent to them. And I sincerely hope that no one has even wispered to himself naughty words about an excellent fruit because he did not like the name, as I begin to fear that I have done. And to make amends for not giving Mr. Mosely credit for producing what I now believe to be a great acquisition to our cherries, I will promise that if after another year's fruiting this cherry shall resist the rot, and all other cherries shall be injured by it, I will freely join friend Mosely in loudly proclaiming its praises. And if our friend is still desirous of using a latin phrase, I will join him in saying "*Optimates*," (of the first rank), or any other name that he chooses that shall express this meaning; but I do sincerely hope, that until the millenium shall come, no one will venture to name a fruit *Ne Plus Ultra*, because it is doubtful if fruit or anything else will attain perfection before that time.

[The Editor did not have the pleasure of seeing Mr. Mosely's cherry, and hopes, if they both live until next cherry season, that Mr. Arnold will favor him with a small sample.—ED.]

THE ENGLISH SPARROW.

BY J. NEWHALL, TORONTO.

I have always been a great advocate of the English Sparrow, and have had many notices published for their benefit. My wife has been feeding them regularly, sweeping the snow away first when necessary, and many citizens of Toronto I know have treated them similarly, and now we have thousands chirping all over the city. Now it so happens that I have a red currant patch of about a dozen bushes, and I noticed that the sparrows paid a great deal of attention to them lately. Being curious to know what they were doing, I went to investigate. Lo! a change comes over the spirit of my dream, for what was my consternation on finding every bush entirely denuded of every fruit bud, as clean as if they had been rubbed down with leather-gloved hands. Not a bud left! On further investigation I found my Glass' Seedling Plum nearly stripped of every bud also, and a Mayduke Cherry considerably damaged. I am not an alarmist, but am satisfied that if the English Sparrow increases in the same ratio the next three years that it has for the last three years, no one here need attempt to grow small fruits. I therefore think that this is a fit subject for the consideration of the Fruit Growers' Association. I shall be happy to have any member examine my garden, at No. 21 Caer Howell Street.

CORRESPONDENCE.

Jonas Neff, of Port Colborne, writes that the Wagener Apple has not done well with him; it is scabby and knotty. The apple crop was below an average, except the Early Harvest and Red Astrachan, which yielded more than usual. The Codlin Moth injured more than two-thirds of his apple crop the past season. He mentions hearing the Whippoorwill on the evening of the fifteenth of March last, a very unusual occurrence, the bird usually migrating early in the fall and returning late in the spring. He further says:—

* * * "The grub of May-bug, (*Phyllophaga quercina*), appeared in countless millions, causing acres of pasture land to look like fallow ground. I had two acres of corn from which I harvested forty bushels of ears. Clover, wheat, potatoes, turnips and strawberry plants shared the same fate. I know of but two animals that feed on this grub, the skunk and the hog. The Robins and Yellow-winged Woodpeckers congregate in flocks on the fields where the grubs are; they turn their heads close to the ground, then straighten up, cut a small hole through the sod and pull out the grub. The Robin is a very much abused bird by fruit growers generally."

FRUITS IN ALGOMA.

We have received a letter from Mr. W. Warnock, renewing his subscription to the Association, and stating that he has changed his residence from Gorrie to Blind River, Algoma. He says:—

* * * "I am sorry that I have not yet been of any benefit to the Association, but I hope that I may be able to do something in return for all the valuable information I get from the CANADIAN HORTICULTURIST and the Annual Report. There were no fruit trees planted on this the north shore of the Georgian Bay by the first settlers, but there are a few who planted some last year, and they have made a fine growth this summer; and I am satisfied, so far as my experience goes, that we can grow all the hardy apples and some pears. I am forty miles east of Bruce mines, and have explored all the Townships between. They are all filling up very fast with settlers, and in a few years the question of whether fruit can be grown here or not will be settled. I am living in the Township of Gladstone, which has just been surveyed the past summer. I am in the valley of the Missisaga River. We have no wild grapes in this region, and very few plums. I do not believe that the plum tree will do well here, for I see the wild red cherry struggling to make a growth, but it is stricken with black-knot when a mere bush in every case; but strawberries, red raspberries, whortleberries and cranberries abound. The latter are gathered from the marshes in great quantities by the Indians, and sold at Blind River and other places, where they are barreled up and shipped away, to the great profit of the trader. All these berries are a sure crop every year."

THE DIADEM RASPBERRY, AND NO. 40 STRAWBERRY.

Mr. G. Wilgress, of Cobourg, writes:—

"I hope I shall like the new Saunders' Hybrid Raspberry better than the Diadem received two years ago. The fruit was small and poor, though sweet, pink color, and no great bearer; the canes were rather stunted in height, with many side branches, rough or prickly all over. The strawberry No. 40, received at the same time, did not spread much. The fruit was of fair size, wedge shape, but of no flavor at all. In my opinion they were neither of them worth keeping in the garden at all."

THE D. B. HOOVER APPLE.

We have received a medium sized red apple from Mr. D. B. Hoover, of very pleasant flavor and tender flesh, which we think will rank from "very good" to "best." He says of it:—

"When I first, after leaving my babyhood, saw this tree, it was a good sized bearing tree, and it has borne its fifty or more crops of apples in our twenty-five-miles-north-of-Toronto climate. This tree has always been

exceedingly healthy until a few years ago, when there was a kind of black bark blight on the limbs of our apple trees, which also killed a few limbs on this tree, but it is now reviving again. I hardly know what to make of you nurserymen. I had the privilege not more than a year ago to take an agent from a nursery through my old ragged orchard, just when apples were full grown. I showed him my favorite, which pleased him so much that he asked me for a sample of these beautiful winter apples to show to his boss, which I gave him very liberally; he thanked me for them, and off he went. After the season of the apples he got from me had gone past, my friendly agent came back again, stating that his boss liked my favorite apples so well that he would like to have about two hundred grafts to put on some of his old trees for trial, and that they would give me in exchange grafts of any of their stock, if I would make a list of what kinds I wanted, and he himself would put in some new kinds for me which were not in their catalogue. This settled the agreement on the graft exchange. I went to work and cut for him a bundle of splendid scions, and sent them to the place where I was directed, and where he afterwards received them. I also sent with the bundle of grafts my list, with my address, for a few grafts to lengthen out my fruit season, but up to this minute I have not seen any grafts from the friendly agent's boss. All I received from them was "much obliged!" This was not a Yankee trick, but a Canadian. No doubt this nurseryman will soon have any amount of trees to sell that he will now raise from the grafts I sent him, without having given me one cent for my trouble."

SALEM GRAPE.—CLAPP's FAVORITE AND GOODALE PEARS.

Samuel Hunter, Scotland, County of Brant, writes:—

"I like the Salem Grape, although not as hardy nor productive as the Concord, yet larger and better flavored. I had about a peck of pears from off my Clapp's Favorite tree. Fruit not as good as the Flemish Beauty, nor near so large, but early. I had one pear from off my Goodale tree gathered before frost, and eaten December 4th. I consider it very good. I am glad for myself, and others that I meet with occasionally, that you have decided to send us a raspberry this year."

THE WINTER GARDEN.

BY JAMES MACPHERSON.

I am pleased to observe that the term "Winter Garden" is employed in British America in its proper sense, and that it here means a garden for the preservation and growth of plants and flowers, and not a mere shamble for the exhibition of athletes and the sale of lager beer. During the long Canadian winter, there are few things more calculated to afford a high degree of refined pleasure than a properly managed conservatory of flowering plants, whether it be large or small. It is one of the most common complaints of housekeepers that they cannot keep their plants in health in their living rooms. How easy it would be for such to contrive glazed porches, or bay windows isolated from the room by folding doors, and having a glazed instead of an opaque roof. An independent heating apparatus, or a coil from the furnace, (where employed), could quite easily be arranged, and a collection of plants from any zone kept in perfect safety from frost, while the necessary humidity could be maintained without inconvenience to the family. Even without artificial heat such a glazed porch could be kept cheerful with the broad leaved evergreens from the colder portions of the warm tempered zone. For instance, the Ivies, Hollies, Viburnums, Bays, Laurels, Aucubas, Daphne laureola, Ulex, Genistas, Rhododendron catawbiense vars, Mahonias, Ruscus, Buxus, Cotoneasters, and a host of similar plants hardy in Great Britain, would be perfectly safe in such a structure, in localities where its temperature would not fall below say 20° Fahrenheit.

For those who would afford some means of heating, a far greater choice of material would be available. The following plants of the warm temperate regions could be kept in perfection in such structures with a night minimum of 45° to 50° fahrenheit, always raising by day from 60° to 70° with sunshine. The possessor of such a window might easily keep it gay all winter at an outlay of from three to four dollars per month, if judiciously expended in such plants as the following:

October.—Begonias, Plumbagos, Geraniums, Mesembryanthemums, Oxalis and Roses.

November.—Bouvardias, Chrysanthemums, Jasminums, Salvias, Abutilons, Crassulas.

December.—Chimonanthus, Oleas, Cupheas, Hibiscus, Heliotropes, Veltheimias.

January.—Richardias, Camellias, Begonias, Primulas, Siphocampylos, Salvias.

February.—Cyclamens, Lopezias, Callas, Ornithogalums, Fuchsias, Ageratums.

March.—Cinerarias, Hyacinths, Crocus, Geraniums, Azaleas, Ixias.

The above plants, with the single exception of the Camellia, are rapidly and cheaply produced, and might readily be sold in good blooming size at from twenty-five to seventy-five cents each. The object should be to teach the public how to keep them in fair condition when produced.

BENEFITS RECEIVED.

C. J. Fox, of Delaware, writes:—

"Enclosed find four dollars, subscriptions for the Fruit Growers' Association. I am only sorry I cannot now send more, but I will still see what I can do; but if every old member would add three to the list it would help some. I consider the benefits received by the members to be ten-fold."

RANDOM RASPBERRY NOTES.

BY T. C. ROBINSON, OWEN SOUND.

I have not given the raspberry a fair trial, and so place little value on my experience as a test of the value of the berry as a market crop. But I have had a partial trial of a good many varieties of this delicious small fruit, and as my experience of the relative value of these varieties may be of some assistance to those who seek for something better than the commonest kind, I give it for what it is worth.

Varieties of the raspberry as well as of the strawberry can readily be had that will grow on any kind of soil, and will, with or without any kind of culture, produce a supply for the family that will be a welcome innovation on a diet of unmitigated pork and potatoes, so that no man who owns a rod of land has any excuse for being without these natural preventatives of disease. But if any man thinks to grow either raspberries or strawberries without manure on land so poor that it will scarcely sprout white beans, and hopes to make money by selling the crop, he has got a hard row to hoe. My land was not so bad as that, but it was decidedly too sandy for success without abundance of manure; and without experience, as I was, it took several seasons, with their attendant bitter lessons, to awaken me to the fact that I must fertilize the ground or give up the idea of profits.

Starting on this sandy soil with the Wilson Strawberry and the Philadelphia and Franconia Raspberries, I set out to find by experiment varieties as productive as the first two, and at the same time possessing greater advantage as to size, color and flavor. Of course I have not succeeded as yet, and may never do so. Nature is not given to combining all possible excellencies, either in individuals, or articles in the vegetable world, but the search is as fascinating as ever, and I hope before long to find a variety of raspberry much ahead of the Philadelphia for market.

Among the first that I tried was the Turner. I am very fond of this fruit. Of fine bright color, good flavor, excellent bearing qualities, with the plant as hardy as I desire, it makes quite an effort to "fill the bill." It seems to be about the size of the Philadelphia, but looks a little tame beside Franconia; besides, it is not much firmer than the Philadelphia, and is considered behind that old standby in productiveness, though it seems to excel Franconia in this particular. It has not the high flavor of the Clarke, but it is as sweet or sweeter, with a refreshing "smack" to it that used to tempt me to be late for dinner oftener than any other bush on my grounds. Some Turners we preserved retained their shape in the jar beautifully. Ladies, is this common with preserves of this fruit?

Highland Hardy is another of my old pets. The bush is not so stocky as the Turner. It has a tendency to grow tall and spindling on my soil, which I divert by pinching when between two and three feet high. The winter seems to have no effect on the crop, and the first pickings come in before my strawberries are all gone. Perhaps it is this prime quality of earliness that makes this berry seem of better flavor to me than many fruit growers assign it; at any rate it tastes very good. The fruit is about the size of the Turner, and resembles in appearance and firmness poorly grown Franconias, but is sweeter. The crop is not so large as the Turner I think, but from its firmness and earliness it may prove a valuable market variety, and I have set out quite a patch.

Brandywine fell into speedy neglect with me. The poor quality of the few berries I got, and its low reputation for flavor, led me to let it choke with weeds.

Knevet's Giant ought to be a formidable rival of the Clarke for the first place in the

amateur's garden. I only got four or five plants of this variety to try them, and as soon as I realized how good they were I cut the roots up badly for new plants, and when well grown again a passing wagon broke them down, so that I have had no fair chance to test the productiveness on two year old plants. The berry is very fine, larger apparently than Franconia, with frequent tendency to grow double; not quite so sweet as Clarke perhaps, but with something of the same refreshing taste which I noticed in Turner. Too soft for market, and not any hardier than Clarke.

But I must not forget E. P. Roe's Pride of the Hudson. Having only nine plants, which cost half a dollar each, I put them on better soil, and set to work to pet them with applications of home made superphosphate, wood ashes, &c., hoping to get a lot of young plants to set out a large patch, and have a good taste of the berries too. I got the suckers indeed, and so of course weakened the bearing plants, and did not give them anything like a fair chance to show what they could do. The berries were certainly very large and bright colored, and, considering circumstances, a good many of them; but the quality was not so good as I had expected. The bushes too have not grown so well as I think they ought to have done since cutting away the old canes; and altogether, while I shall watch the Pride of the Hudson with much interest during the coming season, I cannot help expecting it will only prove valuable as an experience. It seems hardy.

But I had not, and have not, lost faith in the originator of the above doubtful variety—a faith confirmed by many previous trials of other plants from him, and so, on his recommendation, I made a larger investment in the Cuthbert, and also in that new and much lauded blackcap the Gregg. These are both growing finely, and I got a berry or two from the Cuthbert that gave considerable promise as to flavor.

Clarke, Franconia, and Philadelphia ought to be noted in this article, not for the sake of giving information, but by way of comparison. The first is a fine home berry, rich in flavor, large in size, and vigorous and productive as to plant, but soft, and not hardy enough. The second is the finest market berry I can raise, *considered in the crate*; large, firm, and bright colored. But it does not bear well enough to "fill the bill," and I want a sweeter berry. It winter-kills sometimes. The Philadelphia everybody relies on for quantity and hardiness, but in nothing else does it come up to the standard.

If one were to ask me which I considered to be the best market berry out of those I had tested, I should reply, Don't depend on one kind, plant Highland Hardy for early, and Franconia for late, if your climate is mild; if your climate is severe, put in Highland Hardy and Turner, as the last named appears to be the hardiest in cultivation. For home use I recommend the above list, with Clarke substituted for Franconia.

In point of earliness, Highland Hardy comes in a week before any of the others. Then follows Turner, although it yields a few stray berries almost as soon as the first. Nearly a week after Turner all the others come in. Highland Hardy and Turner seem to be seedlings of our native wild raspberry—much improved of course—which we all know comes in bearing some time before the ordinary tame sorts, which originally came from Europe, either directly, as Franconia, or indirectly, as seedlings such as Clarke.

SOME OF THE NEWER VARIETIES OF POTATO.

We have received from Mr. James H. Boyle,—who has long been a member of our Association, and takes a deep interest in horticultural matters—a number of samples of the

newer sorts of potatoes, accompanied with a letter giving his opinion of the merits of each, for the purpose of imparting to the readers of the Canadian Horticulturist the benefit of his experience. He procured his seed from B. K. Bliss & Sons, and presumes that it is correct.

Alpha.—The samples sent us are of medium size, roundish-oblong in form, eyes small and shallow, skin white, flesh white. Of this Mr. Boyle says that the quality is good, but he would not recommend it for a general crop. Is one of the early sorts.

Triumph.—-Another early variety. Nearly round in form, with flattened sides; eyes medium, and moderately sunken; color reddish; flesh white; size medium. He finds the yield middling, and quality good.

Early Ohio.—This is a very handsome flesh-colored potato, of good size, roundish-oblong, largest at the stem end; eyes small, and deeply set; flesh white. Of this Mr. Boyle says, "first class in every respect."

Extra Early Vermont.—Of this he says, "it is impossible to distinguish it from Early Rose."

Snowflake.—A white potato, with a somewhat russeted skin; oblong, flattened, tapering, but more pointed at the seed end; eyes large, but shallow; flesh white; size large. Mr. Boyle considers this to be without exception the best potato for the table. It is marked "medium" in time of ripening.

Brownell's Superior.—In appearance very much like the Early Rose, having a similar form and color, though perhaps a little more tapering at both ends. The eyes are of medium size, moderately sunken; flesh white. This he calls a good potato, giving the largest yield of twelve varieties grown by him last year. He would not advise any one to plant it in low ground.

Ruby.—One of the prettiest colored potatoes in cultivation, and rightly named Ruby. Of medium size, roundish-oblong, tapering towards the seed end; eyes scattered over the whole surface, medium size and shallow; flesh white. Mr. Boyle considers it of but medium quality, though the yield is good. Its time of maturity is intermediate between early and late.

Trophy.—This is one of the late maturing sorts. Very handsome in appearance, of large size, skin peach-blow color, russeted all over; eyes distributed very evenly over the whole tuber; large but shallow, in form resembling the Early Rose. Of this Mr. Boyle says that the quality is good and the yield large, but it is apt to grow a large number of prongy potatoes.

Bliss' Improved Peach Blow.—A late variety. In appearance like our well known Peach Blow, nearly round in form; eyes deeply sunken; flesh yellow. Mr. Boyle says this is claimed to be a rejuvenated Peach Blow; that he planted it the first of July, and obtained a large yield, and that the quality is first-class.

Brownell's Beauty, he says is a large, coarse-grained potato, which rotted very badly with him in 1878; of fair quality and average yield, but he did not grow it in 1879.

Such notes as these are exceedingly valuable and interesting. We thank Mr. Boyle for his kindness in placing them at our disposal for the benefit of our readers, and hope that others will be stimulated by his example to give to the Canadian Horticulturist the benefit of their experience with any vegetable, flower or fruit they cultivate.

QUESTION DRAWER.

(1.) What is the difference between Ironclad apple trees and Russian? (2.) Why are they so called?

There is a great deal of confusion on this subject, much of which is owing to the ignorance of those who are selling apple trees through the country. Strictly, a Russian apple is one that has been imported from Russia. Of these, the Alexander, Red Astracan, and Duchess of Oldenburg are familiar examples. Ironclad is a name given by fruit growers in the North-Western States, Minnesota, Iowa, &c., to those varieties which have been found to endure the rigors of their severe climate, where only the very hardiest survive. These may be varieties obtained from Russia, as the Duchess of Oldenburg, which is the only one of the three above named that is considered an Ironclad, or they may be of American origin, as the Wealthy, which is the only American variety recommended for general cultivation in the State of Minnesota, and Duchess of Oldenburg the only Russian. There are many other Russian sorts that have been imported into America and are offered for sale, more or less hardy, and many other American sorts which are sold for Ironclads.

The more hardy sorts of apple will doubtless thrive best in the County of Grey, but it is hardly necessary to be confined to the Ironclad class. The Red Astracan, St. Lawrence, Snow Apple, Mann Apple, Keswic Codlin, Ben Davis, Grimes' Golden, Ribston Pippin, Talman Sweet, and others of like hardiness, are surely able to endure the climate of the Township of Osprey. Thus far these very hardy varieties from Russia and elsewhere have not been as high flavored as those named above. The new Russian and Ironclads are offered for sale by the dealers in trees, at prices ranging from one dollar to two dollars per tree, and they find many purchasers. But wise men will let them alone until they have been pronounced worthy of general cultivation by the Fruit Growers' Association of Ontario. It is the business of this Association to disseminate information on these subjects, and it is doing it by means of the CANADIAN HORTICULTURIST and the Annual Report, so that there is no need of our farmers buying new fruit trees at high prices, only to be disappointed in the end. It will be quite time enough for them to experiment when the price has fallen to twenty-five cents per tree. If our farmers would all of them become members and read the publications of the Association, they would be saved much more than one dollar a year.

(1.) What is the matter with our apples; they are all decaying so early in the season that when spring comes, we shall hardly have an apple to eat? My Roxbury Russets that should keep until June or July are ripe now.

This is a very general complaint. We believe that the very protracted warm, almost hot, weather of October caused the fruit to mature prematurely, so that it was much riper when harvested than we have known it to be for many years.

(2.) What tree or plant will be distributed next spring to members by the Association?

It is the intention of the Directors to send plants of Wm. Saunders' Hybrid Raspberry, which should have been sent in the spring of 1877, but which they were unable to procure owing to the difficulty of propagating it. It was produced by fertilizing the flower of the Doolittle Blackcap with the pollen taken from the Philadelphia. The blending of the characteristics of the two parents in this hybrid is very remarkable, both as to the flavor of the fruit and the general appearance. The color of the fruit is a dark purplish maroon. The plant is exceedingly productive and very hardy. The berries in size and form are intermediate between

the Philadelphia and the Black Cap, and the flavor intermediate also. The foliage and wood are like those of the Black Cap, and the mode of propagation, namely, rooting at the tips of the young shoots, is also like that of this one of its parents. Those members who have the Report for 1873 will find on page 55 the opinion of the committee who examined these hybrids at that time. They were very strongly of the opinion that some of them would be very decided acquisitions to our list of hardy sorts; and we believe that those whose raspberries often winter-kill, will find the variety they will receive this spring to be able to endure the winter, and bear large crops of fruit.

(3.) "What is the best way to keep grapes?"

The keeping quality varies very much; some varieties will not keep but a very short time, others keep till quite late in the winter. The best method of keeping them is to gather them when perfectly dry, and lay on a table in a cool, airy room for a few days, to toughen the skin. Then examine each bunch, remove with sharp pointed scissors all green, unripe or defective berries; put up in small packages, baskets or boxes, and store in a dry, cool room, free from frost—the colder the better so long as it does not freeze. The best keeping variety is the Clinton. Isabella will keep for some time. Salem also keeps until after New Years.

SPLITTING OF BARK AT THE COLLAR.

Robert Scott, of Hopeville, in the County of Grey, writes:—

"I would ask, Will hilling up young trees in the fall cause the bark to split near the root in the spring? If not, what is the cause, and what will prevent it?"

We have not been troubled much with this splitting of the bark at the collar. We once had a few rows of very thrifty young trees, growing in a rich piece of black soil, that we found to be nearly all split in the bark just at the collar. The winter had been very severe, with very little snow, and we attributed the splitting of the bark to the very severe cold freezing the sap, which was abundant in young trees, and causing the bark, which is more tender just at the collar than anywhere else, to burst by the expansion of the sap in freezing. We have never tried the experiment of hilling up the earth around the trunks of the young trees to see if it would prevent this splitting, but we think if a sufficient quantity of earth is thrown against them in the fall to protect them from severe freezing at the collar, it would prevent the splitting of the bark.

"Will you oblige by informing me through the HORTICULTURIST the best way to utilize pigeon dung as manure?"

We have not had any experience with pigeon dung, but knowing that it is very like guano in its qualities, should advise that it be used with prudence, a very small quantity being sufficient to produce beneficial effects, where a larger quantity would only be injurious. If dissolved in water, four ounces to the gallon will be quite strong enough for plants growing in the open ground, but plants in pots do not require more than one ounce to the gallon. Will those of our readers who have had experience in the use of pigeon dung have the kindness to answer this inquiry.

Our Meaford correspondent says of the answer to his inquiries, that there is one thing yet lacking, a very simple and apparently trifling thing, but to him, and it may be to others, of great importance, viz:—

"How shall we empty the apples from the basket into the barrel? Most of the people hereabouts put their hand in front of the basket and let them roll in, of course after lowering it down. I empty with my hands as I would eggs, but it takes a long time, and if not necessary I would abandon it."

It is the practice of the writer to have the bottom of the barrel laid with apples carefully by hand, placing the apples stem downwards; this being done, he lowers the basket into the barrel, and gently rolls the apples out in the manner above mentioned into the barrel; then when there are sufficient apples in the barrel to admit of settling them by a gentle shaking of the barrel, he settles them in this way three or four times in filling up the barrel. He has never found that this method in any degree injured the fruit. Will our readers who are in the habit of barreling apples for shipment please to describe their method of procedure for the benefit of others.

[The end of *The Canadian Horticulturist Volume 03, No. 03* edited by D. W. Beadle]