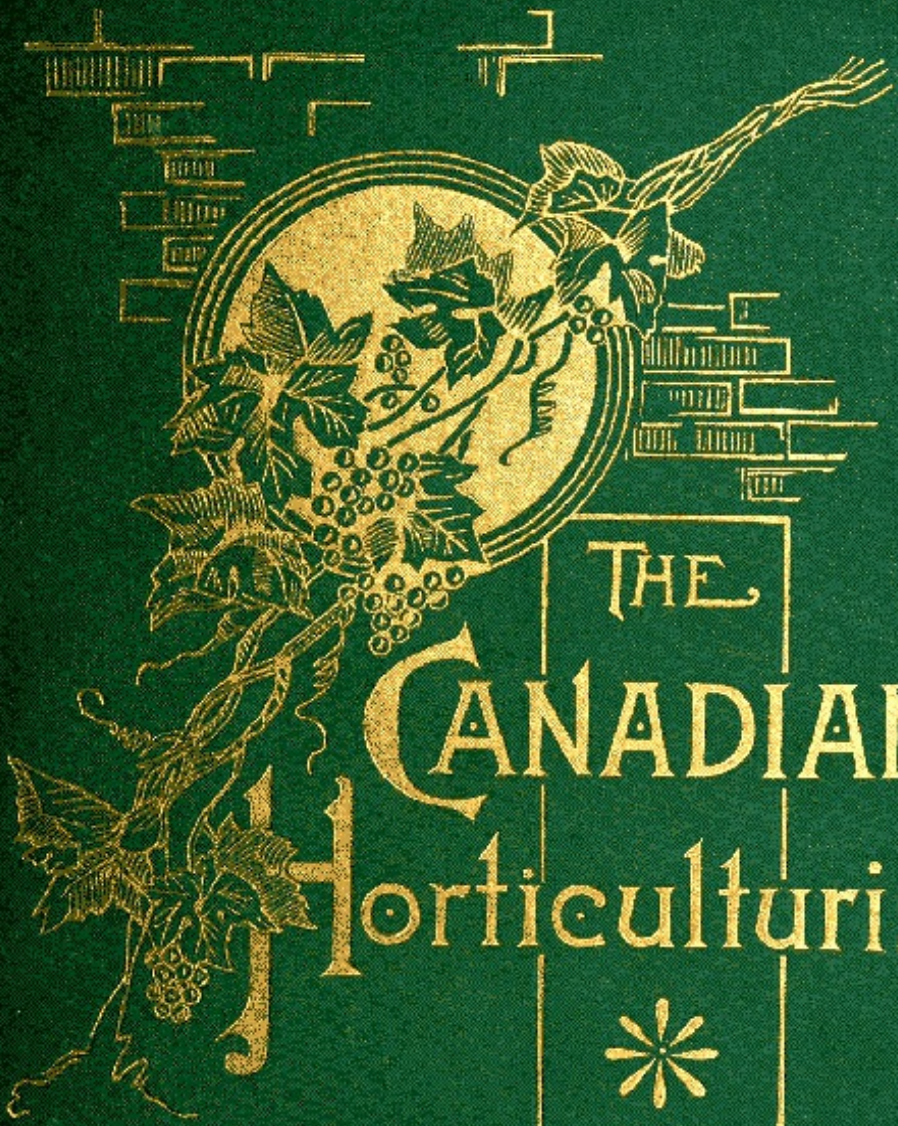

THE CANADIAN Horticulturist.

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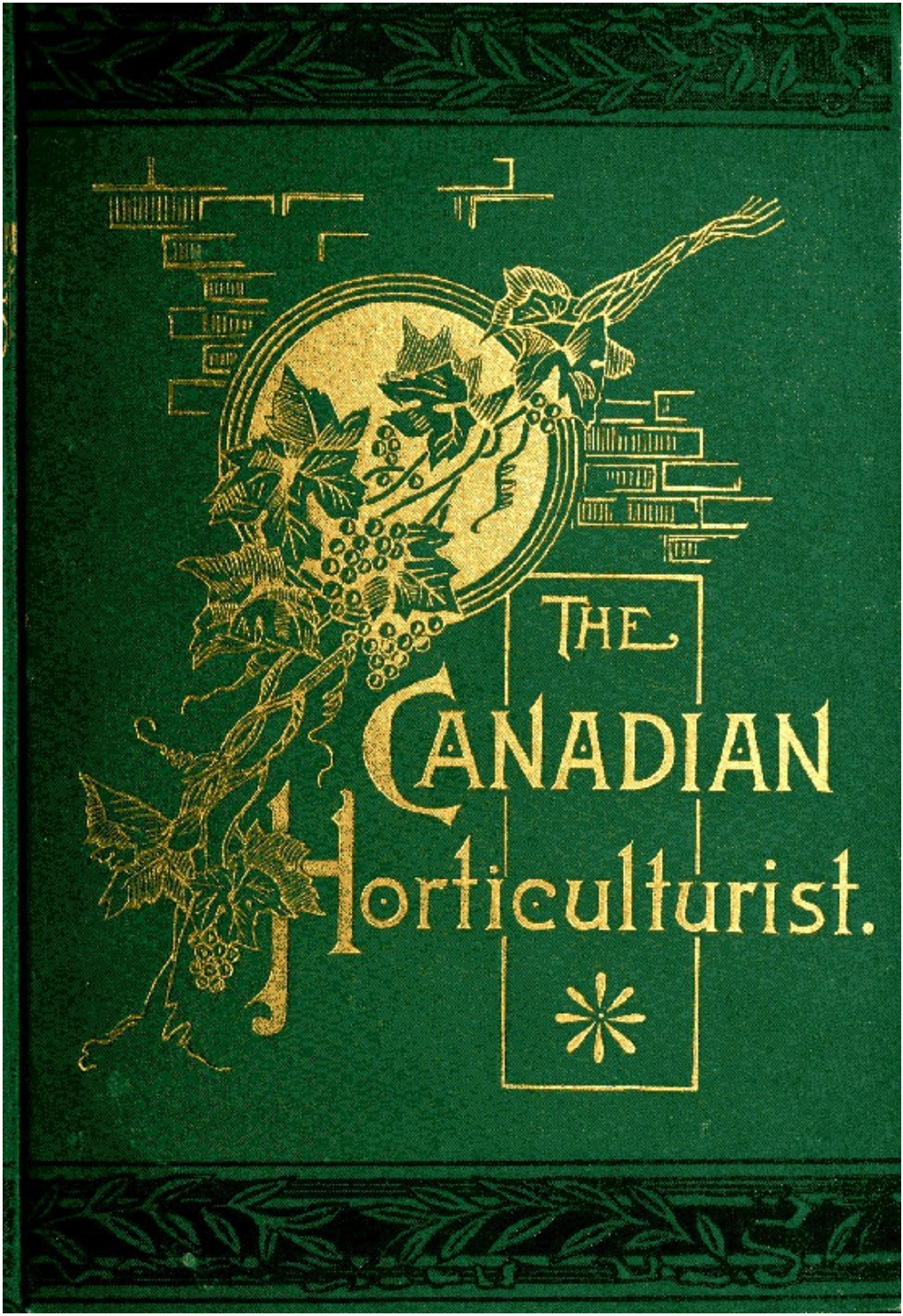
Title: The Canadian Horticulturist, Volume 5, Issue 9
Date of first publication: 1882
Author: D. W. (Delos White) Beadle
Date first posted: June 1, 2016
Date last updated: June 1, 2016
Faded Page eBook #20160602

This eBook was produced by: Marcia Brooks, Stephen Hutcheson & the online Distributed Proofreaders Canada team at http://www.pgdpcanada.net


THE
CANADIAN
Horticulturist.

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SECKEL PEAR AND ORIGINAL TREE

A PENNSYLVANIA SEEDLING

THE

Canadian Horticulturist.

VOL. V.] SEPTEMBER, 1882. [No. 9.

THE SECKEL PEAR.

Our readers are presented this month with an accurate colored picture of the venerable original pear tree from which the thousands and tens of thousands of Seckel Pear trees now growing in Canada and the United States have sprung. It is a tree to be held in remembrance, one to which the lovers of pears of high quality might well make a pilgrimage, and standing with bared heads in the presence of this ancient tree, reverently look up upon its time-scarred branches, and count the generations that have gathered its luscious fruit for mayhap two centuries gone. This picture is copied from a photograph taken in 1880, and published in the *Gardener's Monthly* for September of that year. At that time the trunk was a mere shell, one-half of it entirely gone, but Mr. Bastian, the owner, who first knew it forty years ago, said it was much the same when he first knew the tree as now. It measured at three feet six inches from the ground, five feet four and a half inches in girth around the half trunk and across the exposed diameter, and was twenty-six feet high. No one knows who planted this old pear tree. Perhaps it was never planted, but Topsy-like, it "growed;" and the imaginative reader may draw such portrait as fancy pleases of the one who dropped the seed in the fertile soil, in the long time ago, whence sprang this tree. Downing says that the late venerable Bishop White used to say that when he was but a lad, a well-known cattle dealer of Philadelphia, known as "Dutch Jacob," used in the early autumn to present his neighbors with pears of an unusually delicious flavor, but would never divulge the place where they were procured. In course of time "Dutch Jacob" purchased from the Holland Land Company the parcel of ground on which stood

his favorite pear tree; but as time rolled on it came at length into the hands of Mr. Seckel, who introduced the pear to public notice, and after whom it was named. The farm now belongs to Mr. Bastian, who has owned it for more than forty years, and was told when he moved there that the Seckel family had known the tree for eighty years before.

In 1819 this pear was sent to Europe, and the fruit pronounced by the London Horticultural Society to exceed in flavor the richest of their autumn pears. Downing, who is esteemed to be the highest authority in regard to American fruits, thus speaks of this pear:—

"We do not hesitate to pronounce this American Pear the richest and most exquisitely flavored variety known. In its highly concentrated, spicy and honeyed flavor it is not surpassed, nor indeed equalled, by any European variety. When we add to this that the tree is the healthiest and hardiest of all pear trees, forming a fine, compact, symmetrical head, and bearing regular and abundant crops in clusters at the ends of the branches, it is easy to see that we consider no garden complete without it. Indeed, we think it indispensable in the smallest garden. The stout, short-jointed, olive-brown colored wood distinguishes this variety, as well as the peculiar reddish-brown color of the fruit. The soil should receive a top-dressing of manure frequently when the size of the pear is an object."

We have found this tree to be quite hardy in our Canadian climate, and remarkably free from the disease known as pear-blight. Once or twice in the course of twenty years have we seen some of the twigs on the Seckel suffering from the blight; but while other varieties have perished and passed out of sight, this has continued to flourish and yield its annual crop of delicious fruit.

The Manchester Strawberry.—It can but be described in a single word—"wonderful." So fine, so beautiful, so firm, so highly flavored and highly perfumed, and so enormously productive. Plants planted but last August forming stools as large as a half-bushel measure, producing fruit in such quantities as to be literally piled about the plants.—*Farm and Garden.*

A MARKET FOR ONTARIO APPLES.

The following letter is from a life member of the Fruit Growers' Association of Ontario, who has for some time been endeavoring to open a trade with the Fruit Growers of this Province. He wants only first-class fruit, free from blemish, codlin moth, &c., and is willing to pay for such fruit whatever it is worth. But it must be strictly first-class throughout, no inferior apples in the middle of the barrel, but each apple fit to be placed on the table of any gentleman. Whoever will supply him with such fruit, securely packed and shipped in good season, will find him a constant and increasing customer.

YARMOUTH, NOVA SCOTIA,

31st July, 1882.

TO THE FRUIT GROWERS AND SHIPPERS OF ONTARIO.

GENTLEMEN,—As a member of the Ontario Fruit Growers' Association, I have for some years (since 1875) taken an interest in the introduction of Ontario Apples into this market, from the persuasion that when once well-known, reliable shipments will meet a ready and extensive sale, as well as from the more personal motive of supplying my own family and my friends with choice fruit.

I have paid $1,020 in first cost of the several lots shipped, and $487 15 in charges of transit, and have lost in all about $300 in the price received for surplus sold, owing to inferior quality of shipments, and to damage by frost and by decay. Last fall a party in Ontario shipped 25 bbls., ordered by telegram in October, so late in November that they were all frozen on the way, and did not even reply to my letter advising him of the fact.

I cannot afford to persevere in experiments with such

expensive results. At the same time I am desirous of continuing to import Ontario Apples, either in 20-bbl. lots for my own use, or in car loads for sale.

I would like to hear from any grower or shipper who will agree to supply me with strictly first-class fruit, so that I can sell without opening the barrels to examine, at what price he will ship me in October, say 15th to 25th, 20 bbls. or a car load; also what varieties, and cost of freight through to St. John, N.B., by 20 bbls. and by car load. Payment to be made through Bank draft at sight.

In a 20-bbl. lot I would prefer one barrel each—

1 Amer'n Golden Russet.
2 Baldwin.
3 Esopus Spitzenburg.
4 Fall Pippin.
5 Fameuse.
6 Grime's Golden Pippin.
7 Hubbardston Nonsuch.
8 Melon.
9 Northern Spy.
10 Newtown Spitzenburg.
11 Peck's Pleasant.
12 Pomme Grise.
13 Ribston Pippin.
14 R. I. Greening.
15 Seek No Further.
16 Swaar.
17 Swayzie Pomme Grise.
18 Talman Sweet.
19 Wagener.
20 Yellow Bellefleur.

For any of these varieties not to be had substitute additional barrels of Nos. 1, 2, 3, 6, 9, 13, 15, or 17.

For a car load say—

Nos.	1	2	3	6	9	13	15	17
Bbls.	20	20	20	15	30	15	20	10 = 150 bbls.

CHARLES E. BROWN.

MOORE'S ARCTIC PLUM.

Having formed a favorable opinion of this plum, I have made extensive enquiry regarding it, and have thought it advisable to place the facts gathered prominently before this Association. For much valuable information I am indebted to the kindness of F. P. Sharp, Esq., of Woodstock, N. B., a Pomologist of mature experience, and the originator of a system of fruit culture for cold climates that bids fair to be highly successful and largely adopted when more generally known. I hope in another paper to be able to give full details of this system to the Association.

The *origin* of the tree is traced to the grounds of Mr. A. J. Moore, of Ashland, Maine, about sixty or seventy miles north-west of Woodstock, N.B., where unprotected and exposed to arctic cold, the mercury freezes, it has for many years borne enormous crops. It is a chance seedling, but close observation of its characteristics, particularly in the foliage and wood, lead to the belief that it is a cross between the Imperial Gage and Damson.

In *growth* it is one of the handsomest of trees, being very erect when young, afterwards forming stout trunks with large heads, extremely vigorous, and forming a wonderful number of fruit spurs on the previous year's growth, down to the very base of the most vigorous shoots, even when not headed back. Carries a large quantity of foliage, healthy, of good color, and substance which never "sun scald," or, as far as my experience goes, become infested with aphis or other, insects, when other varieties growing beside them are completely covered and the growth much interfered with.

In *productiveness* this variety is all that can be desired—in fact, the crops produced are something enormous, and it has the extremely valuable characteristic of bearing *every year*, some seasons, of course, less, than others, but *every year a good crop of fruit*. Mr. Sharp says: "Nothing I could say to you would convey any idea of its real qualities in this respect, but if you will do me the pleasure of a visit to Woodstock, I will show you a nursery of thousands of trees *blue with fruit*." I have 30 trees planted in a permanent row now in the fourth year from bud, and where they have not been cut hard back for scions are loaded with fruit.

I would not go so far as to say that it is *Curculio proof* but it is so to a limited extent, as I find that in many of the specimens on the trees that have been severely "stung" by the Curculio, the eggs have failed to produce the young, and the fruit will come to perfection. Why this should be the case I am at a loss now to say, but hope to be able to define another season. Added to this its enormous productiveness, and we have in it a plum on which we can depend for a crop after the Curculio has taken its share, where jarring the tree is not practiced. I believe thinning the fruit in most seasons will have to be resorted to.

In *early bearing* it is without a rival, as it will, in many cases, bear fruit in the nursery rows the second year from bud.

In *color* it is a deep blue, with a fine heavy bloom, that gives it a handsome appearance which will make it sell in any market at sight.

Its *keeping qualities* are remarkable, beating Coe's Golden Drop in this respect. Last year I had about a peck of the fruit sent to me by express from New Brunswick, and after this long carriage, at the expiration of one month from the time of taking from the tree they were in a perfect state of preservation.

In *quality* I would class it as at least *good*. On this point Mr.

Sharp says: "If I were to express the popular opinion here, I should say it is first-class, as nearly all prefer to eat it in preference to all the finest plums; and perhaps I grow as fine plums as are grown in the world by a method of my own, bending them down in Fall so that the snow covers them, and by fair training and close pruning, get very large and high colored fruit. But I cannot say that it equals the McLaughlin or some other fine plums, although I frequently eat it in preference where they grow side by side."

For *hardiness* there is nothing in the list of good plums at all approaching it. On our grounds this spring the terminal buds were in every instance in perfect condition, when the Bradshaw, within a few feet of them, was killed to the ground, and the Lombard badly injured. I have learned that an orchard of one thousand trees has been planted at Dominion City, Manitoba, and the trees have stood the last two winters there perfectly. I again quote Mr. Sharp where he says: "In hardiness they are unrivalled, as it originated 50 or 60 miles north of Woodstock, where I found it bearing great crops unprotected. This is the more remarkable when I tell you that we are *at Woodstock* north of the isothermal line upon which *any* cultivated plum will stand up and bear fruit. It will, with fair treatment, be the means of furnishing all sections and soils where civilized man resides in the north with an abundance of fine plums that the best judges would eat." He further adds: "I stake my character as a skilled Pomologist in recommending this plum."

And I would say in conclusion, that I believe this variety to be worthy of very extended trial, not only in the colder parts of our country, but where the very best and tenderest varieties succeed.

GEO. LESLIE, jun.

MOST PROFITABLE STRAWBERRIES FOR MARKET.

BY A. M. SMITH, ST. CATHARINES, ONT.

The most profitable varieties of strawberries for market depend greatly on the markets to be supplied and the distance the cultivator is from market. Formerly the Wilson was considered by most growers the only strawberry fit for market, and many cling to the idea still; and perhaps, taking all parts of the country, and considering all of its good qualities—its hardiness, productiveness, shipping qualities, &c.—there is no other variety that will excel it in its season. But, for local markets, and markets where size and quality are taken into consideration, there are many varieties which will pay better. Some varieties are much earlier, some later, some larger and more attractive in appearance and better flavored; and I think it just as absurd to claim the Wilson as the only market berry as it would be to claim the Baldwin as the only market apple, because it is the best shipper. Besides, when we can have as good a berry a week earlier and another a week later, it is a great advantage, not only to the producer but to the consumer, to have a succession of varieties, and thus prolong the season. In growing berries for profit, some people forget that it is not always the variety that produces the most fruit, or even sells for the most money per acre, that is the most profitable. For instance, if an acre of Wilson's produces say 3,000 quarts, and sell for 10 cents per quart, that is $300, and it costs a cent a quart to pick them, $30, and $20 for crates and baskets, there would be more profit in an acre of Dominions, yielding 2,000 quarts and selling at 15 cents per quart, $300, because there

would be a saving in picking of 1,000 quarts, besides baskets and crates, transportation, &c., which would amount to about $20. My experience with these two varieties would be in just about that ratio; and I think there would be a greater difference still with the Sharpless in some of our large towns and cities, where people are willing to pay fancy prices for extra fruit. In regard to early varieties, we all know that the first fruit of the season, particularly strawberries, brings the best price; and when you can get a berry that will produce as much fruit as the Wilson, and get it into market four or five days ahead of that variety, you certainly have a more profitable one. And I am quite sure we have at least one or two varieties that will do this: the Early Canada for one, and one of Arnold's Seedlings for another, though the latter is not quite firm enough perhaps for shipping long distances. Again, if we can get a berry that will produce as much fruit, and sell for as much money at a much less cost of production and cultivation, we can make a profit in that direction; and I think we have this in the Crescent Seedling, which, I believe, will produce more fruit at less expense than any other variety yet tested. It should be called the Lazy Man's Berry, for when once started it will almost take care of itself. I have fruited several new varieties the present season, which, I think, will take a front rank as profitable for market where they will not have to be shipped too far. Among these are two or three sent out by our veteran hybridizer, Charles Arnold. One has already been mentioned as an early kind. There are two or three more, which, for productiveness, I think, are fully up to Wilson, while for size and beauty of appearance they are head and shoulders above it; but, like most large berries, they are not firm enough for long shipment. In regard to their flavor, that depends upon tastes: those who admire a tart, sprightly berry would not be satisfied with them perhaps, while those who like

bannanas would. But flavor in strawberries, in a money point of view, is of but little consequence: it is size and color that tells. But if flavor is desired in connection with the other good points, I think we shall get it in the Bidwell, which I regard as a very promising variety. There is another new one clamoring for public favor, called the Manchester, said to be enormously productive and of excellent quality. I have only fruited it enough to judge of the quality, which is good. If asked which of all the strawberries I have grown combine in the greatest degree the excellencies of size, color, flavor, firmness, and productiveness, I should say the Bell. I have only fruited it one year, however, and may be obliged to change my mind another year, as we often do with new kinds. For a late berry to ship long distances, I know of nothing better than the Glendale. I might mention the Windsor Chief and Miner's Great Prolific as very fair market berries, the latter perhaps a little soft for long shipments, but both productive and showy berries.

But, without taking more of your time, I will enumerate what I consider the most profitable, hoping to hear the experience of others with them. For distant markets, I would take Early Canada, Wilson, Sharpless, Bidwell, and Glendale; and with these, for near markets, I would take Arnold's Seedlings, Miner's Prolific, Crescent Seedling, and Dominion.

GOOSEBERRIES AND OTHER FRUITS AT CAMPBELLFORD, ONT.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—I forward you by express to-day a sample of two varieties of gooseberries. I got the cuttings originally from the garden of the late Rev. Dr. Buchan, of Stirling, some eight or ten years ago. They were said to be English varieties that did not mildew. I felt interested in them and tried them. So far they have never shown any signs of mildew, and I have had them bearing for about eight years. They yield much heavier than Houghton or Downing; in fact, I do not consider the two latter worth growing as compared to the former. They overbear with me every year; you will see from the branches sent that they are overbearing this year, also, and consequently there is but little growth of new wood, the bushes yielding eight to ten quarts each, and they sell for one half more than Houghtons.

On young and cultivated plants, not allowed to overbear, I have had them more than double the size of those sent, which are smaller than usual, owing to inferior cultivation, &c., and no manuring the past three years.

The heaviest crops of strawberries I ever raised never paid anything like as well as these gooseberries.

I intended to exhibit them at Trenton at the late meeting of the F. G. A.; but it was raining that morning, and consequently too good a day to lose, as I set out 3,000 cabbage and cauliflower successfully.

Apples in Northumberland Co. are a failure, and will be very scarce. The fruit did not set properly. There was any

amount of blossoms.

Pears are also a poor crop. Cherries none. Plums none. Currants and gooseberries good. Strawberries a partial failure. Raspberries, tame and wild a failure.

Yours truly,

J. W. J.

P. S.—The gooseberries sent are not yet quite ripe.

The sample of gooseberries came safely to hand. The fruit was not sufficiently ripened to enable one to form an opinion of their quality, but the fruit and leaves exhibited no sign of mildew, and the branches were indeed heavily laden. There is no question but that the plants are exceedingly productive. One of the varieties bears some resemblance in form to the well known Whitesmith; the other is more decidedly oval in shape, and the color more of a yellow tint.

We require gooseberries of larger size and better in flavor than either the Houghton, Smith's Improved, or Downing, and which will thrive in all soils and locations. The English varieties are subject to mildew in our climate, and cannot be successfully grown here, except in a few favored localities, where there is more than usual humidity of the atmosphere. The Downing gooseberry is the largest of the American varieties that has been disseminated. The Fruit Growers' Association gave a plant, of this variety, some years ago, to each of its members, and the general testimony has been that although inferior in size and quality to the English varieties, it was not as subject to mildew; indeed, with rare exceptions, it was exempt from that destroyer. But we want something better, and everything that gives indication of being a step in this direction should be thoroughly tested. It may be that these two

which we have received from Campbellford will be found to suffer from mildew when grown in other localities; but if they do not, they certainly are worthy of wide dissemination.

REPORT FROM MUSKOKA FALLS.

I have received three numbers of the *Canadian Horticulturist*, also Annual Report for 1880, and must say they are worth the money spent; they are read with much interest as well as profit. The grape vine, Moore's Early, I received has made very little growth, owing to the weather being cool. I have two Moore's Early, one Pocklington and one Champion; none of them have done well so far. They are all planted in a sunny exposure, and the soil is tolerably rich. I don't care to make it too rich, as I like well ripened wood to stand our cold climate. The Flemish Beauty Pear, which was planted this last spring, has made very little growth. The Plum has done fairly; how it will do I shall report again. My father has several apple trees bearing this season—five years from planting; they are the Haas, St. Lawrence, Peach Apple, Hawthornden, Alexander, Golden Russett. He has several grape vines, the Clinton, Agawam and the Concord; two others, names not known.

I shall report again.

Yours respectfully,

HARRY CLIFFORD.

Muskoka Falls, July 31, 1882.

SUMMER MEETING OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

This meeting, which was held at Trenton, was exceedingly well attended, and the discussions were deeply interesting and animated throughout. Our short-hand reporter was present, and took down the various items of information, and will have them fully written out so that they will be given in their completeness to all our members in the Annual Report for 1882. The programme as published was nearly all gone over, and many valuable papers on most of the subjects were presented, which will also appear in full in the Report.

The citizens of Trenton and vicinity attended the meetings in large numbers, and through their Mayor invited the members to dine with them on the evening of the first day. This social re-union was a most enjoyable occasion, enlivened with sentiment and song and many earnest and telling speeches. The second day they arranged an excursion for the members to Picton and the famous Sand-banks, thus enabling them to have an opportunity of inspecting the fruit-producing capabilities of Prince Edward County. After returning from the excursion, the evening was spent in the discussion of shrubs and ornamental plants suited to the climate of that section, and desirable to be planted for the adornment of our country homes.

The Association adjourned at the close, to meet in Kingston on Tuesday, the 19th day of September next, much gratified with the kind attentions they had received, and feeling that it had been a very instructive and enjoyable occasion.

CAULIFLOWERS.

Among the unsolved problems which still puzzle the minds of the intelligent American market gardeners, stands prominently the one how to succeed every year in raising maximum crops of well-developed Cauliflowers. The practical and trained gardener gives himself no trouble of mind about growing paying crops of early Cabbages, Lettuce, Beets, or Onions, with the present well-established practices now in common use. But with Cauliflowers the matter is different. They are capricious, becoming very responsive to good treatment one year, while the next year the crop, grown with the same care, results in failure. Very often, not more than fifty per cent. of the number planted will make large, compact heads. This uncertainty is not in consequence of any neglect or oversight in preparing the ground, nor in the methods of cultivation, for I have known dozens of instances of failure where the ground was rich and the culture thorough, from planting-time to the close of the growing season. This serious and expensive obstacle has been partially overcome, of late years, by the introduction of some newer varieties, which are surer to head than the older kinds under the same treatment.

In growing Cabbages, one may get a fair crop with light manuring and indifferent cultivation. But it is a waste of time and money to risk this plan with Cauliflowers, no matter whether the old or newer varieties are planted. To start right, the soil *must be deep, mellow, and rich*. This will be the first step toward insuring success in raising a crop of full-sized Cauliflowers.

For the fall crop, the seed is sown, in the latitude of New

York, from the first to the fifteenth of May, in a seed-bed in the open ground. The rows are usually a foot apart, and the seed sown thickly and covered lightly. When the young plants come through the surface they are very frequently attacked by the "black fly," and, unless these are checked, they will destroy every plant. My plan is, and has been for years, to soak some tobacco stems in water, and add to this some soft-soap and urine. With this mixture, diluted with water, the plants are syringed early in the morning, and then dusted with air-slacked lime. One or two applications of this mixture, in the way described, never fail to save the plants. It is simple, and not expensive.

In former years, the varieties which were generally grown included the Half-Early Paris, Early Paris, Early London, and Walcheren. Of late years, the Erfurt Early Dwarf, Early Snowball, and the Algiers, have taken the place of those named first, and, on my own farm, and wherever I have seen them growing, I have become thoroughly satisfied that they are more reliable for a crop. While they attain an equal size, they are fully up to the standard in quality. In a lot of 3,000 plants of the Algiers planted on my farm last year, over eighty-five per cent. grew to full size, and made large, firm, compact heads, many of them measuring eighteen inches in diameter.

As mentioned before, to grow Cauliflowers to full size, the soil must be rich and mellow. We usually plant them on ground after early Potatoes. The ground receives a liberal dressing of manure in the spring, at the time of planting the Potatoes. The Potatoes are dug and marketed early in July, after which the ground is again manured, ploughed, and harrowed. The plants are then set out in rows two and a half feet apart, and two feet apart in the rows. They are planted with the ordinary dibble, in precisely the same way that Cabbage plants are set. From

this time on, the surface of the ground is kept loose and free from weeds and grass—in the open field by horse-tools, and in the garden with the common hand-hoe.

The time of planting Cauliflowers for fall and early winter use, in the Middle and Northern States, may be extended from the end of June to the latter part of July, and even up to the first of August. As a matter of course, common sense would dictate that the plants should be set out when the weather is cloudy and moist, and the soil damp. Cauliflower plants are not so hardy as Cabbage plants, and will need a trifle more care when set out in the garden or open field. Once started, they will grow rank and thrifty. When grown solely for home consumption, it is the best plan to set part of the plants on or before the first of July, and the balance a couple or three weeks later.

In the latter part of September, when the heads are forming, they need some protection from the hot sun. If left exposed, many of them will "button," as gardeners term it. A simple, effective, and cheap method of avoiding this is to go through the growing Cauliflowers, and, when there is a head forming, turn a few of the long outside leaves over the centre or head. By doing this they will grow compact, and become more sightly and valuable, either for home use or market purposes.—*American Garden.*

A Good Way of Cooking Onions.—It is a good plan to boil onions in milk and water; it diminishes the strong taste of that vegetable. It is an excellent way of serving up onions to chop them up after they are boiled, and put them in a stewpan with a little milk, butter, salt and pepper, and let them stew about fifteen minutes. This gives them a fine flavor, and they can be served up very hot.

THE LINDLEY GRAPE.

This superior variety must have been a great favorite with its originator, for he christened it after one of England's greatest botanists and horticulturists, the illustrious author and editor, John Lindley. Had Mr. Rogers given us only the Lindley grape, his name would have been famous; yet this, the best of all his valuable seedlings, is scarcely known to the masses. It has been crowded aside and overlooked, while those inferior were applauded. Mr. Barry says it is the *best red grape we have*. Mr. G. W. Campbell gives it preference over the Wilder, Salem, Merrimack or Agawam. Mr. T. S. Hubbard thus describes the Lindley:—"Bunch medium long, sometimes shouldered; berries large, red or Catawba color. Flesh tender, sweet, with high aromatic flavor. Very healthy, vigorous and hardy. Ripens with Delaware. Best quality for table or wine. It is a very good keeper, with firm, tenacious skin. Resembles Catawba in some respects. Is here regarded as one of the best, if not *the* best, of Rogers' Hybrids. Should be more extensively planted." President T. T. Lyon says the Lindley is a vigorous and productive grape, of good quality, but little grown in Michigan. Of course it is but little grown. Probably not one fruit grower in one hundred there ever saw it.

Since writing the above, I notice the following in the *Rural New Yorker* from Marshall P. Wilder:—From the first introduction of Rogers' grapes I have considered the Lindley one of the most reliable varieties. Its quality is but little below that of the Delaware with me; while in size, beauty, vigor and hardiness it is superior. As a proof of its excellence, I selected samples of both, taking small berries of the Lindley, so as to

have them in appearance as much alike as possible, and had them tested by connoisseurs. Nine out of eleven persons preferred the Lindley.—*Prairie Farmer.*

THE RELATIONS OF FORESTRY TO AGRICULTURE.

BY JOHN A. WARDER, M.D.

[*Journal of American Agricultural Association.*]

The plodding farmer of our country will ask what possible relation can exist between the wild, unbroken forest and the smiling, fruitful farm. Nor is such a question at all surprising, especially from any of that large class of American farmers who have spent their lives and bestowed their strength in the laborious efforts connected with the clearing of our broad tracts of arable land. Most naturally, and in all simplicity, may one of the pioneers of our country ask such a question? These forests have been an obstruction to his progress; he has been taught to consider them hindrances to agriculture that must be removed at any cost, before he can bring into play the very first appliances of his art! Yes, truly, they are so; and yet it is equally clear to those who can look beyond the limits of the corn field, that most important relations do exist between the so very different conditions of the earth's surface, as are seen in the forest and field. Their relations are manifold and most intimate, and the dependence of the latter upon the former becomes more and more important, and is more and more manifest, as we advance in our study of the scope of the broad field of agriculture, and we appreciate that forestry is indeed, but a province of agronomy—and that the one is embraced by the other—of which it is a most important component part. Thus we may learn the relations of forestry to agriculture.

Let us reply to the query by asking: What were agriculture

without forestry? * * * Simply, an impossibility; or, at the best, a constantly increasing struggle against difficulties and hindrances whenever in any extensive region the transformation of the natural woodlands into open tillage fields passes beyond a certain limit. To that point, be the ratio greater or less, according to the natural formation and surroundings, as well as the breadth of the territory in question, forests are a stern necessity, and they are an absolute requisite to our permanent success in any well regulated system of agriculture.

And why so! is it asked? * * * Because forests modify the climate; because they are the great regulators of the temperature and of the moisture of the atmosphere about us, and these are elements of necessity to our success in the management of vegetable life, for which agriculture exists.

Forests are the reservoirs and the conservators of moisture, and the source of continued supply to the springs and streams and rivers of the continent. Without their presence, in due ratio, these essential and life-giving currents would soon suffer in their continuous flow, and would eventually disappear, leaving desolation in their track.

Mahomet was right when he uttered that forcible apothegm —"The tree is father to the rain," by which he meant, of course, trees in the aggregate. * * * Trees in forest masses attract, receive, and retain, and then gradually diffuse, moisture. The precipitated water is thus husbanded instead of being wasted by rapidly escaping, as it must do, from a bare slope, and carrying with it the accumulations of a soil that has required ages in its preparation for our use.

The true and proper forestal conditions of the surface of all well-regulated woodlands, render mountain forests the especial guardians and reservoirs of moisture, to supply the springs and streams and rivers of the world.

Locally, woods of greater or less extent exercise a most happy influence by breaking the force of the winds, and thus, in a marked degree, they modify the climate; they provide a kindly shelter to our crops and to our cattle from the rude blast, and from its chilling influence produced by the increased evaporation.

In this respect it is surprising how great benefit may be derived from single lines of trees. This is still more manifest when wider strips are planted, as shelter-belts around the farms in the broad expanses of an open country, like that of our Western prairies.

Intelligent nations who have learned to appreciate the value of forests, and who have acquired the knowledge that enables them to build up and to maintain a well-regulated system of woodlands, endeavour to keep from one-fifth to one-fourth of their superficial area covered with trees. These are best and most effective in their climatic influences when they are properly distributed, but it often happens that extensive tracts are devoted to tillage, while the forests are clustered in large masses on the crests of hills and on mountain ranges which are not adapted to farm crops.

In the brief period of our occupation, the energy of our people and the demands of our civilization have accomplished a most terrible and wasteful destruction of the beautiful forests bestowed on our land by the bountiful hand of the Creator. Counting upon what we have considered an inexhaustible supply of woods, we have wasted them sadly—and now we have reached a point where it becomes us to halt. Moreover, it is important for us to recognize that, while clearing the land for our farms, we have also culled out the best of the trees from the remaining forest which is thus greatly diminished in value; and already, in many places, the shrunken streams give us warning

that we have approached the point of danger to the climate. Meanwhile, there has been no reparation to the woods, the destruction of the young trees caused by the browsing and tramping of cattle, and the introduction of grasses in place of the natural undergrowth, have not only destroyed all hopes of natural reproduction, but have so changed the physical conditions of the soil and atmosphere that even the trees, which have escaped our cupidity and remain in possession, are themselves suffering from the change—they are dying in large numbers, and compel us to extend our inroads upon the forest areas by their removal.

Now is the time to begin at least the *conservation* of our woodlands, and to aid them in the process of self-renewal. In this work natural forces most happily come to our assistance—the bountiful provision of nuts, acorns, and other seeds, is sown with a liberal hand, and we may count upon a full supply of young trees to maintain the succession, if we but furnish them the needful protection. Where they do not come in sufficient numbers, it is an easy matter to sow or plant such as may be most desired and most profitable; and we may also have to remove some of Nature's planting which are of undesirable kinds; but we must carefully exclude all animals from the woodland, which should never be used as a pasture-field. This is the first great axiom of Forestry.

In our beginnings of the future systematic forestry of America, we must all soon realize our ignorance of the subject; and with many of us this need of information extends even to a want of knowledge in regard to our own native trees themselves.

PICKLES.

Thrifty housekeepers are pleased to have an abundance of pickles, as they are convenient to help make out a variety when one is obliged (as is often the case) to get up a meal unexpectedly. They are delicious, and wholesome too, if properly prepared. It is a mistaken notion that fruit which is too poor for canning or for other uses, will do well enough for pickles. A good quality of fruit should always be chosen, large and well ripened, but not mellow. Perhaps the most generally used of all fruits for pickles are peaches and pears. A thin peeling should be taken from the latter with a sharp knife, and, if large, cut in halves and the core removed. If small they may be pickled whole and the stems left on if desired. The peaches must also be pared or rubbed very thoroughly with a flannel cloth to remove the fuzz or down which is very unpleasant to the mouth.

A very good receipt for a plain, sweet pickle, is this: To every quart of good cider vinegar—and nothing except good vinegar should ever be used—add two heaping teaspoonfuls of white or best brown sugar, with two level tablespoonfuls of ground cinnamon, and one of cloves. Tie the spices up loosely in a thin piece of muslin and put them along with the sugar into the vinegar, and heat all together. Add some of the fruit and cook till tender, then remove to a fruit jar; add more of the fruit, and so continue till all has been cooked and removed to the jar, then turn the boiling vinegar over. After three days turn off the vinegar and boil it for half or three-quarters of an hour, turn again over the fruit, then tie a cloth over the top and set away in a dry, cool place. There must always be vinegar enough to fully cover the fruit.

Cauliflowers and sweet apples also make delicate and wholesome pickles. The cauliflower should have the leaves stripped off and the heads broken in pieces, steamed till partially tender, and then served as above. Sweet apples, unless a very tender kind and mellow, should also be steamed a few moments before putting into the vinegar. For the latter, a vinegar not quite so sweet is preferable. About one coffee-cupful of sugar to every quart of vinegar will be found to make a very delicate and toothsome sauce. Green tomatoes make an excellent pickle if properly and carefully put up, but quite worthless otherwise. They are more difficult to keep than most other fruits, but in country households, where cider vinegar is abundant and cheap, this difficulty is easily obviated. Gather large, well-grown tomatoes that have turned white, but none that are beginning to soften or turn red; slice through the middle, and put into a weak brine. Let them lie in this over night; then take out, rinse in cold water, and steam a few moments; then put into clear, cold vinegar and cook till tender, or till a straw will pierce them easily; then drain and put into a pickle jar. Throw out the vinegar in which the tomatoes have been cooked; take enough fresh to cover them; add sugar and spices about as for peaches and pears, boil and turn hot over the fruit. Pickled in this way tomatoes will keep for any length of time desired.

Ripe cucumbers make a very good, sweet pickle also. They must be pared, cut in quarters and the inside scraped out, then treated much the same as tomatoes. To make green cucumber pickles, cut—not break—the cucumbers from the vines; wash them carefully and put into a jar; pour boiling water over them for three or four days in succession, then put into the jar in which they are to be kept, and pour boiling vinegar over them. Let them stand for a week, then turn off the old vinegar and add new, boiling hot. Cover with horse-radish

leaves, and if the vinegar be good they will keep for a year. Or they may be laid down in salt; then when wanted for the table freshened with boiling water turned over them several successive days; then put into cold vinegar with a very little sugar, and in a couple of days they will be ready for the table.

The following is a mixed pickle, or piccalilli, of which many are very fond: Chop one peck of green tomatoes, add one pint of salt, cover with water and let stand twenty-four hours. Squeeze out this juice, put in fresh water and drain off. Chop one firm head of cabbage, then chop all together fine. Put into a kettle, cover with equal quantities of water and vinegar, bring to boiling heat, and drain off. Add the skins of ten peppers, one tablespoonful of cloves, one of allspice, half a pint of mustard seed, six onions, one pint of molasses, and half a pint of grated horse-radish. Put into a jar and cover with cold vinegar. —*Country Gentleman.*

PACKING APPLES.

I have before made allusion to the discreditable manner in which some parties pack apples for the English market. Since then the complaints have grown louder and more frequent, and always coupled with the statement that our Canadian neighbors thus far pack fairly. Investigation, I am sorry to say, shows these complaints to be, in many cases, well founded. All, of course do not resort to this reprehensible method, but all should feel an interest in exposing and correcting the evil as far as may be, for the sake of our common reputation. It will only result in hurting the trade, and this trade is already of such dimensions as to be worth preserving, apples now forming an important item among our exports. It is officially stated that 1,203,670 barrels of apples were received in England from the United States during the year 1880. These figures will surprise many, but there can be no doubt that they may be greatly increased if some regard be paid to the much neglected "golden rule," which is just as good in trade as anywhere else.—*Rural New Yorker.*

HOW TO COOK SALSIFY.

Some of our correspondents say that they have followed our advice to grow Salsify—or Oyster Plant, as it is often called—and that we should now tell them what to do with it. To those unacquainted with the plant we may say that it is perfectly hardy, and if any has been left in the ground, it will be just as good in the spring, or if dug during a thaw. The roots, whether of Salsify, or of Scorzonera, often called Black Salsify—have a milky juice, which, when exposed to the air, soon becomes brown. In preparing them they should be quickly scraped, to remove the skin, and at once dropped into water to prevent discoloration. In the following recipes it is presumed that the root has been thus prepared.

Stewed Salsify.—Cut the root into convenient bits, and throw them at once into water enough to cover them. Add salt and stew gently until quite tender, pour off the water, add sufficient milk to cover, a good lump of butter, into which enough flour to thicken has been rubbed, season with pepper. When the butter is melted, and the milk boils, and is sufficiently thickened, serve.

Salsify Soup is essentially the same as the foregoing, only adding a large quantity of milk to form a soup, and omitting the thickening. To increase the resemblance to oyster soup some add a little salt codfish picked fine.

Fried Salsify.—The root cut crosswise in halves or shorter, is boiled until quite tender; remove from the water and allow to drain. Dip each piece in batter, and fry quickly in plenty of hot lard to an even light brown.

Salsify Fritters.—Boil tender and mash fine. Mix with

beaten eggs and flour, thin enough to drop from a spoon, and fry as other fritters. Some prefer to mix hard enough to make into balls, and fry on a griddle, with very little fat, browning one side at a time.—*American Agriculturist.*

PRESERVING GRAPES FOR WINTER.

As autumn approaches, we receive a number of inquiries as to the method of preserving grapes for winter use. It is not generally understood that there is as much difference in grapes, with respect to their keeping, as there is with other fruits. No one would expect to keep Early Harvest apples or Bartlett pears for the holidays, and it is so with the most generally cultivated grape, the Concord; it can not be made to keep in good condition long after it is fairly ripe. With other varieties it is different. There are some localities where that grand old grape, the Catawba, can still be cultivated with success, and, where this is the case, one need hardly to look for a better variety. The Isabella still succeeds in some places, and is a fair keeper. Better than either, if not the best of all grapes, the Iona gives good crops in some places, as does the Diana. Where either of these, the Isabella, Catawba, Iona, or Diana, can be grown, there is no difficulty in keeping them until the first of the New Year, or later. The grapes are allowed to ripen fully; they are picked, and placed in shallow trays, in which they remain in an airy room to "cure." The operation of curing consists merely in a sort of wilting, by which the skin becomes toughened, and will not break when the fruit is packed. The clusters, when properly "cured," are packed in boxes, usually of three or five pounds each. The bottom of the box is opened, the larger clusters laid in carefully, and smaller bunches packed in upon them in such a manner that it will require a moderate pressure to bring the cover (or, properly, the bottom), of the box to its place, where it is nailed down. The pressure used is such that when the top of the box is opened, the grapes next to it are found to be somewhat

flattened. The fruit must be pressed in such a manner that it can not shake in travel, and this can only be done with grapes the skin of which has been toughened by being properly cured. If clusters were placed in the box as they come from the vines, and subjected to the needed pressure, the skin would crack around the stems, liberating the juice, and the whole would soon pass into decay. Towards Christmas and New Year's, many tons of the varieties we have named come to the New York market in excellent condition. New varieties of grapes, of great excellence, have recently been introduced, but we have yet to learn as to their keeping qualities. With the Concord and related varieties, the skin is too tender to allow of long keeping, and it does not seem to toughen in the curing process. Still, with these, the season for home use may be considerably prolonged. The late Mr. Knox found that he could keep the Concord for some time by placing the thoroughly ripened clusters in baskets or boxes, with the leaves of the vine below and between them. We do not know how long this will keep these grapes, but we saw some in excellent condition several weeks after the harvest was over. Those who set grape-vines should be aware that no one variety will meet every requirement, and that the earlier the variety, the less likely it will be to keep.—*American Agriculturist.*

WHAT TREES TO PLANT FOR FUEL AND TIMBER.

The attention of our people in the older States is being very properly turned to planting rocky ridges and worn out pastures with forest trees. This work is done by those who have no expectation of cutting the timber themselves, but with a view to improve their property for future sale, or for their heirs. These old pastures now are worth $10, or less, per acre. Forty or fifty years hence, covered with heavy timber, they would be worth $300, or more, per acre. Two elements may safely enter into this calculation of the profit of tree planting: the steady growth of the trees and the constant increase in the price of fuel and timber. There is great difference in the price of the varieties of wood, but still more in the rapidity of their growth. Hickory grows more rapidly than White Oak, and in most markets is worth a quarter more for fuel. Chestnut grows about three times as fast as the White Oak, and for many purpose makes quite as good timber. It is in great demand by ship-builders, and cabinet-makers. The Chestnut, the Tulip Tree, and the Hickory, attain a good size for timber in 20 to 25 years, and the Spruce and Pine want about 50 years. The Maples grow quite rapidly, and are highly prized, both for fuel and for cabinet purposes. On light sandy land, the White Pine will grow rapidly, and cannot fail to be a good investment for the next generation. As a rule the more rapid growing trees, if the wood is valuable, will pay better than the Oaks.—*American Agriculturist.*

NARCISSUS.

The Narcissus is a very fine class of early blooming flowers including the well known Daffodil and Jonquil. Most of the varieties are hardy, and should be planted in the autumn, like the Hyacinth, but may remain in the ground a number of years, after which they will become so matted together as to make a division of the roots necessary.

The *Single Narcissus* is extremely hardy and popular as a border flower, and the central cup being of a different color from the six petals, makes the flower exceedingly attractive. Some have the petals of a light yellow and the cup orange; others have the petals white and the cup yellow; while the Poet's Narcissus (*Narcissus poeticus*,) sometimes called Pheasant's Eye, is snowy white, the cup cream color; with a delicate fringed edge of red, which gives its latter name. The *Double* varieties are very desirable. The common Daffodil is well known under that name, though not so well by its true one, *Van Sion*.

The most beautiful class of the Narcissus family, however, is the *Polyanthus Narcissus*. The flowers are produced in clusters or trusses of from half a dozen to three times this number. Like the others, they show every shade of color, from the purest imaginable white to deep orange.

The *Polyanthus Narcissus* is not quite hardy in this climate, unless planted in a sandy soil, and well covered before winter, and then often fails; further South it does well. For flowering in pots in the house the Polyanthus Narcissus is unsurpassed, and nothing can be more satisfactory for this purpose. The *Jonquils* are also desirable for winter flowering. Three or four may be

grown in a small pot. Try them in the house next winter; you will find nothing sweeter. The *Polyanthus Narcissus* will also flower well in glasses of water, like the Hyacinth, and it is desirable to grow a few in this way, yet nothing looks so natural and nice as a good healthy plant in a neat pot of earth, and no other method leaves the bulb in a sound, healthy condition for the next season. The Polyanthus Narcissus succeeds admirably in gardens where winters are not very severe, and is prized for house culture everywhere. The Chinese, of California, brought over bulbs, and they created a great wonder on the Pacific coast and elsewhere, and were called the Chinese National Flower, though the same could be had at any respectable seed-house in America.—*Vick's Floral Guide.*

MELON CULTURE.

An Ohio farmer says:—"During the Winter and Spring I gather together all the fine manure I can, such as hog manure, with the cobs raked out, hen manure, barnyard scrapings, etc. After the melons are planted I load this mixture on the waggon, and if not wet enough I throw a few pails of water on it, drive into the field and straddle one row, and with another hand take two rows one on each side of the waggon and put a small shovelful of this mixture on each hill. By soaking the seed overnight before planting, it will be necessary then to examine a few hills in the course of five days, to see if they are making their way through the inch of dirt that was first covered over the seed; if so, then the manure should be shoved to one side with the back of a rake. After the melons are beginning to get the third leaf, I take a mixture of two-thirds of slaked lime, one-third plaster, and dose each hill with about half a spoonful, getting the greater part on the dirt around the plants. With this method I get 1,000 melons per acre, and always get a premium at our county fairs."

THE CULTURE OF STRAWBERRIES.

Messrs. Ellwanger and Barry of the Mount Hope Nurseries, at Rochester, give the following directions in their Strawberry Catalogue:

The Soil and Its Preparation.—The strawberry may be successfully grown in any soil adapted to the growth of ordinary field or garden crops. The ground should be *well* prepared, by trenching or plowing at least eighteen to twenty inches deep, and be *properly enriched* as for any garden crop. It is unnecessary to say that if the land is wet, it must be thoroughly drained.

Season for Transplanting.—In the Northern States, the season for planting in the spring is during the months of April and May. It may then be done with safety from the time the plants begin to grow until they are in blossom. This is the time we prefer for setting out *large plantations*.

During the months of August and September, when the weather is usually hot and dry, *pot-grown* plants may be planted to the best advantage. With the ball of earth attached to the roots, they can be transplanted without any failures, and the trouble and annoyance of watering, shading, &c., which are indispensable to the success of layer plants, are thus in a great measure avoided.

GARDEN CULTURE.

To Cultivate the Strawberry.—For family use, we recommend planting in beds four feet wide, with an alley two feet wide between. These beds will accommodate three rows of plants, which may stand fifteen inches apart each way, and the

outside row nine inches from the alley. These beds can be kept clean, and the fruit can be gathered from them without setting the feet upon them.

Culture in Hills.—This is the best mode that can be adopted for the garden. If you desire fine, large, high-flavored fruit, pinch off the runners as fast as they appear, repeating the operation as often as may be necessary during the summer. Every runner thus removed produces a new crown at the centre of the plant, and in the fall the plants will have formed large bushes or stools, on which the finest strawberries may be expected the following season. In the meantime, the ground among the plants should be kept clear of weeds, and frequently stirred with a hoe or fork.

Covering in Winter.—Where the winters are severe, with little snow for protection, a slight covering of leaves or litter or the branches of evergreens, will be of great service. This covering should not be placed over the plants till after the ground is frozen, usually from the middle of November till the first of December in this locality. Fatal errors are often made by putting on *too much* and *too early*. Care must also be taken to remove the covering in spring just as soon as the plants begin to grow.

Mulching to Keep the Fruit Clean.—Before the fruit begins to ripen, mulch the ground among the plants with short hay or straw, or grass mowings from the lawn, or anything of that sort. This will not only keep the fruit clean, but will prevent the ground from drying and baking, and thus lengthen the fruiting season. Tan-bark can also be used as a mulch.

A bed managed in this way will give two full crops, and should then be spaded or ploughed down, a new one having been in the meantime prepared to take its place.

FIELD CULTURE.

The same directions with regard to soil, time of planting, protection and mulching as given above, are applicable when planting on a large scale.

The Matted Row System—the mode of growing usually pursued—has its advantages for field culture, but cannot be recommended for the garden. In the field we usually plant in rows three to four feet apart, and the plants a foot to a foot and a half apart in the row. In this case much of the labor is performed with the horse and cultivator.

How to Ascertain the Number of Plants Required for an Acre.—The number of plants required for an acre, at any given distance apart, may be ascertained by dividing the number of square feet in an acre (43,560) by the number of square feet given to each plant, which is obtained by multiplying the distance between rows by the distance between the plants. Thus strawberries planted three feet by one foot give each plant three square feet, or 14,520 plants to the acre.

THE LILIUM AURATUM AT HOME.

The "Queen of Lilies" is thus described by a correspondent of the *Gardener's Chronicle*:

"Coming from the south of Japan I saw for the first time the Lilium Auratum, a little after passing the gate of Hakoni, three days before arriving at Yokohama. They were grown in fields, as our Onions are, and quite as close to each other. As the flowers were beginning to expand the sight was magnificent, and the scent overpowering. It was much later, and far north of Tokio, that I saw them wild, coming out of the margin of the natural shrubberies, generally with a single huge blossom, sometimes two, rarely three. It is no wonder we got at first notice such quantities of them, as the bulbs are a common article of diet with the natives, and are sold everywhere as a vegetable in the markets. I have eaten them pretty often, and rather relished them, as they are, when cooked, sweet, mucilaginous, and without any taste to make them objectionable to a new comer."

BLACKBERRY CULTURE.

The home of the blackberry is in a deep sandy soil, not over-rich, the climate cool and moist rather than hot and dry. In such a soil the roots are safe from the influences of the weather, as they penetrate deep, the water in a wet season passing off readily, and the heat and drouth not reaching them to seriously affect them, unless unusually severe, then only checking the growth and shrinking the berries. Thickly mulching the ground in such case is a great help, using some vegetable material, like muck or leaf mold, which, worked afterward into the soil, is of great benefit. Partial shade from shrubs, or occasional trees, or other means of preventing the direct heat of the sun, is an advantage in our drouthy climate. Better still is a northern inclination of the ground, as it favors moisture and secures a more uniform temperature, having also the whole benefit of the soil. The only danger would be from a great growth of stalk in a moist, growing season, the wood not sufficiently maturing to withstand the cold of winter, especially if severe. This is readily avoided by pinching off with thumb and finger, the tips of the canes, which is best done when a height of three feet or more has been reached, depending upon the thickness of the stalk, as stockiness is required to sustain the weight of the fruit, thus dispensing with stakes for support. This diverts the growth into the side shoots or arms, which in like manner must be stopped when the proper length has been reached, which may vary from fifteen to eighteen inches. These laterals make an unequal growth, some reaching the proper length for stopping sooner than others; hence frequent attention is required, so that no unnecessary loss of wood results from excess of growth. If

any are tardy and threaten to make too late a growth to stand the winter, pinch them back whatever their length to give the wood a chance to harden. In this way the whole plant becomes fortified against the cold, and is the better able from its increased stockiness and shortening of length to bear its fruit, the size and quality of which will also be improved. In this operation there is nothing rash, the plant receives no shock from severe pruning; only the direction of growth is somewhat changed, favoring the parts that most need it—the laterals, which bear the fruit.

One of the faults in blackberry culture is an excess of growth or too high manuring, favoring a tendency to produce stalk and leaf growth at the expense of fruit. But while less push is required for the canes, more is demanded to round out the growing crop of fruit, the two principles, unfortunately, being in antagonism. The only course is the medium, which produces a good cane and a fair to good crop of fruit, the lack to be made up by planting closer, which the lesser growth will allow. Rank manure should be discarded, stirring lightly the surface of the ground and mulching with fine vegetable material to be finally worked into the soil, is better treatment—well-rotted stable manure, if needed, preceding the mulch. The time for applying the manure is after the fruit is set, or at the blossoming period, or, if the soil is quite poor, earlier still, which will push the canes, that can then bear it, and improve the fruit. The manure mostly exhausted, the canes will grow more leisurely and slowly, thus getting a chance to ripen their wood and favor the formation of fruit buds. Treated in this way the largest and finest berries and greatest and most profitable crops are grown. Otherwise, with the too general treatment, the berry will be small and seedy, and lacking in flavor. The excellence of the blackberry, as of other berries, is obtained by growing it

well. To develop the flavor requires a certain amount of sun. Excess of heat, however, must be avoided. It is best therefore to have the berry favored with the forenoon sun, and somewhat protected against the increased heat of the afternoon, especially the first few hours, when I have known exposed berries to get scalded. With a little attention to locality and treatment much can be done to favor this fruit.—*Country Gentleman.*

THE NEWER RASPBERRIES.

In answer to frequent inquiries, we give in condensed form some of the results of the experiments which have been made with most of the newer varieties of the raspberry, with the opinions which have been given by different cultivators as to their character and general value. Raspberry culture generally, and the production of new sorts in particular, have received much attention of late years, and deserve still more. Every owner of a garden may have a sufficient plantation of this wholesome and delicious fruit to supply his family, with no more expense and labor than he bestows on his onions and cucumbers, provided he makes a good selection of varieties and gives them as intelligent culture. He wants hardy sorts which will not be winter-killed; they must be so productive as to furnish good crops; the quality must be good, and if they are of large size they may be more rapidly picked. Another important requisite, good bearing, would be more frequently reached if cultivators would bear in mind that suckers are as detrimental to productiveness as a heavy mass of weeds is to a crop of potatoes or corn. The trouble is, they do not cut out the suckers at the right time, but they are allowed to grow till they have choked the crop before they are thinned out. Select in spring the few shoots which are to grow, not over four or five to the hill at most, and cut out with a sharp hoe every other plant before it is three inches high, and keep all cut the season through. Again, the hardiness will be increased by planting on a well-drained soil with dry bottom.

There are nearly a hundred old sorts which have been described in books and tested in this country, some of which are

perhaps as good as anything we have that is new; but the new ones may afford among their large number some better adapted to our wants. We furnish the following brief notes, with the hope that our readers may give additional information from their own experience. Among the red or suckering varieties are the

Herstine, not a new sort, but imperfectly known to cultivators, and for quality hardly equalled by any other. It is quite productive, and the berries are of large size. It is too soft for conveyance to distant markets, but excellent for home use. The chief drawback is its want of hardiness in many localities. But we find by selecting a soil, and giving it cultivation which will prevent late growing and favor early ripening of the wood, that it is scarcely ever injured beyond the tips of the shoots, and in any case laying down for winter would be a sufficient remedy.

Clarke is another sort which has been known for a number of years, but is now passing out of cultivation, on account of its moderate productiveness and the frequent imperfections of the berries. It suckers very freely, and requires the prompt removal of the suckers on their first appearance. With this care, and with pinching back the canes when half grown, it bears well. In some localities it has proved partially tender.

Cuthbert is newer, and is becoming one of the most popular of all varieties. It is regarded by prominent cultivators as the most valuable raspberry cultivated. The fruit is large, roundish-conical, red, firm, and of fair quality. It is generally supposed to be identical with Queen of the Market, or scarcely differs from it.

Turner, raised by Prof. Turner, of Illinois, is very hardy, the fruit medium or large, of fine quality, but too soft for long conveyance to market, and it appears to be remarkably adapted to many localities. It ripens early. E. P. Roe says he does not

know a single good raspberry that is perfectly hardy except the Turner, which is, however, not equal in quality to the Cuthbert.

Brandywine has been a very popular market sort in Central and Southern New Jersey, and in Delaware and Maryland. Although the quality is poor and the size is not large, its bright color and firm flesh and bushy growth have been much in its favor, but its popularity is waning. It suckers enormously, and needs prompt and early thinning.

Thwack is like Brandywine, but larger, and is also poor in quality: its value is for market, for which purpose some western cultivators prefer it to all others. It suckers badly. Ellwanger & Barry describe its quality briefly in the words, "large, red, insipid."

Reliance is a seedling of the Philadelphia, and much better —hardy, vigorous and productive, quite large, firm, not high in flavor.

Montclair—raised by E. Williams of Montclair, N. J.—a strong grower, hardy, productive, berries red, firm, of fair quality. It suckers quite moderately, which is much in its favor.

Highland Hardy, valuable only for its extreme earliness; although small it has a handsome appearance, and it is quite productive. It is rather poor in quality. Roe says "it has had its day," but it will still be cultivated moderately.

Pride of the Hudson, when in perfection, is large and very fine, but this so rarely occurs that it will be generally discarded.

Caroline appears to be between the suckering and tip-rooting sorts, suckering freely and rooting sparingly at the tips of the shoots. The fruit is orange yellow, resembling Brinckle's Orange, but not equal to it in quality. It is hardy and productive, and is much valued by some cultivators.

Marlboro is a new sort, raised by A. J. Caywood of Ulster County. It appears to be quite large, is bright, and of good

quality. The canes are strong growers. It has been proved in only one locality, and needs further testing.

Lost Rubies is a temporary name for a large, fine and productive sort cultivated by Charles A. Greene of Monroe County, N. Y., the origin of which and its identity with any other sort he has not been able to ascertain. It is handsome in appearance, firm in texture, and excellent in quality. It does not resemble Cuthbert, and, although about the size of Franconia, is unlike it in character.

Among the newer Black Caps are the following:

Gregg (from Indiana), one of the largest of its class, the berries roundish oblate, black, with a slight bloom, firm, of good but not of the highest quality. A strong grower and very productive. Although not new, it is newly introduced in some places.

New Rochelle, a seedling of the Catawissa, very productive; the berries medium or large, dark dull red, firm, acid—excellent for canning. It is intermediate between the suckering and tip-rooting sorts, the latter quality predominating.

There are some other cap varieties requiring further testing, such as the Surprise and Elsie, which are large and of bright color, Duncan's Blackcap, reputed quite large, and Hamilton Blackcap, also said to be very large and fine.

The Ontario, which originated many years ago at Fairport, N. Y., and which is a good and productive variety, failed to become popular on account of its dull color, and is now little cultivated. Nearly the same remark will apply to the Ganargua. —*Country Gentleman.*

SOME NOTES ON A FARMER'S EDUCATION.

At the Farmers' State Convention, held at New Britain, Conn., the leading topic was: "What the Farmer Ought to Know, and How he may Learn It." The following remarks are extracts from our notes taken upon the lectures and discussions:

The old view that anybody could be a farmer is passing away. Farmers are "looking over the fence" more than ever before; they observe, and imitate when it seems desirable. This awakening of thought has developed into the establishment of various agricultural schools, many of which have been unsuccessful, and for various reasons. Too much was expected of them; the teachers were not trained to their work, and the pupils, in many cases, have been educated away from the farm. The love for farming and farm life must be developed in the child. The home teachings mainly shape the farmer boy's future. Object lessons, instead of book lessons, most interest and instruct the young—and the farm with all its plants and animals offers the very best opportunities for this training of the powers of observation. Study nature and refer to books, and not study books and afterwards refer to nature.

The great lack in the farmer's education is system and balance. In no occupation is there greater demand for independent thought and accurate judgment. To obtain these he must read the best agricultural papers, establish and attend farmers' clubs, take part in the annual exhibitions, and in every way possible meet his fellow farmers, that by so doing he may increase his knowledge.

There is much work for agriculture to be done in the

common school. The apparatus required is simple and cheap, and plants, etc., are always at hand. A text-book of the rudiments of farming could be put into every common school with great advantage to every child, and as Professor Johnson remarked, we should then have "more broth and less dish-water in our schools." Scientific *methods* should be cultivated in youth; the method is as valuable as the facts. The only reason for this lack of agricultural instruction is the indifference of the people. Boards of Education and Boards of Agriculture should put their heads together and help to bring in this new dispensation. The village and city school should share in this work; the whole system leading up to the Agricultural College, where the highest and most thorough education can be obtained. As a stimulus and an aid in bringing about this system in agricultural education, schools of a few months' duration, in the winter season it may be, might be held at various points. The nation is safest only when the youth are educated thoroughly—and agriculture is on a sound and permanent basis only when the boys, and girls too, are instructed in the elements of farming.—*American Agriculturist.*

THE BLACK KNOT.

As the leaves fall away from the Plum and Cherry trees, conspicuous excrescences are frequently seen upon the branches, which, from their shape and color, have appropriately received the name of Black Knot. This is an old enemy of the fruit garden, and its ravages have been so severe in some parts of the country, especially the older sections, that the raising of Plums has been given up. Though known as a very destructive growth upon the trees for a long time, it is but within the last few years that its nature has become known beyond a doubt, through the careful and prolonged study of scientific men.

The history of the investigations into the nature of the Black Knot would make a volume of no small size, and of interest in more ways than one. The insect theory prevailed for a long time; and there seemed to be very strong indications that the Knot was similar in origin to the galls of the Oak, Willow, etc. The fact that the excrescences, especially the old ones, contained living insects, their eggs, and remains of the dead, was taken as positive evidence that the "house" they occupied was built by the indwelling insects. The Knot is now known to be of fungus origin, and therefore is related to the Peach curl, Potato rot, Wheat rust, and a long list of other microscopic plants too small to be seen, except by their destructive effects, as they prey upon the higher forms of vegetation. The fungus, or parasitic plant, was first described in 1838, but it remained for Dr. Farlow, of Harvard University, to publish a full account of the minute plant, and its methods of propagation and growth. I can do no better than to give the argument against the insect theory, or for the fungus nature of the Knot, as briefly presented by Dr. Farlow:

"First, the Knots do not resemble the galls made by any known insects. Secondly, although insects, or remains of insects, are generally found in old Knots, in most cases no insects at all are found in them when young. Thirdly, the insects that have been found by entomologists in the Knots are not all of one species, but of several different species, which are also found on trees that are never affected by the Knot. On the other hand, we never have the Black Knot without the *Sphæria morbosa* [the scientific name of the fungus], and the mycelium of that fungus is found in the slightly swollen stem, long before anything that could be called a Knot has made its appearance on the branch; and, furthermore, is not known to occur anywhere except in connection with the Knots."

The Knots range in size from an inch to a foot in length, usually growing upon one side of the branch, causing it to bend away from that side, or twist irregularly. The parasite first makes its appearance in the spring, when the affected branch increases rapidly in size, and becomes soft in texture. The bark is soon ruptured in various places, and the soft interior comes to the surface, expands rapidly, and soon turns green. Multitudes of minute spores are formed on this exposed green surface, which fall away and are carried by the winds, etc., to other twigs, thus propagating the disease. These spores continue to be formed until late autumn, when the surface of the Knot takes on a dry and black surface; in the meantime, insects may have taken possession of the soft tissue within, and so eaten and destroyed it that at the end of the season only a thick, hard crust, or shell, remains. Another kind of spore is found in small pits and sacks of the crust, and as they form late in autumn, they are the winter spores of the fungus, and the form in which the pest is carried through the winter. These spores germinate in the spring, and thus continue the Black Knot. The same Knot lasts

for several years, or until the branch is killed, it spreading from the old growth up and down the branch.

The only remedy is the knife. A branch once affected is beyond recovery, and as long as it remains is a seat of propagation of the spores of the fungus. The Knots should be cut off some inches below the main part, because the wood for some distance is filled with the threads of the fungus. I have seen cases where the Knot was thought to be entirely removed by the knife, and a new one would form at the cut end of the stump, thus showing that the work was not properly done. The removed branches should all be burned, as the Knots contain spores which will otherwise become detached and spread the disease. The best time to cut the Knots is in late autumn, because, the leaves having fallen, the excrescences can be more easily seen.—Byron D. Halsted, *in the American Garden*.

AMERICAN APPLES IN ENGLAND.

The New York *Commercial Bulletin* lately published the following statement from Mr. W. N. White, Covent Garden, London, as to the relative qualities and desirableness of American apples for exporting to the English market:

Baldwins—Free seller; bright color preferred.

Cranberry Pippins—Sells fairly well; bright color preferred.

Fall Pippins—Bad keeper.

Fallawater—Free seller, and commands good prices in the spring.

Golden Pippins—Soft, dangerous apple; no use here this season.

Golden Russets—Free seller, and when clear makes good prices.

Gravenstein—Soft apple; dangerous.

Greenings—Free seller; well known.

Gilliflowers—Poor; should not be sent to England.

Holland Pippins—Good apple, but soft.

Jennetings—See remark against Gilliflowers.

Jonathans—When of good color, command fair prices.

Kings—Good seller, but should not be sent ripe.

Lady Apples—Sell well at high prices.

Maiden's Blush—Good apple; properly colored commands high prices.

Montreal Fameuse—Highly colored, sells fairly; green, bad seller.

Newtown Pippins—Large, selected fruit commands high prices; small, speckled fruit, bad to sell, even at low prices.

Nonpareils—Nova Scotia and Canadian always command fair prices.

Nonsuch—Soft, dangerous.

Phœnix—When clear, sells fairly; very liable to turn black on one side, which spoils the appearance.

Pomme Grise—Sells well, particularly when clear.

Pound Sweet—Dangerous.

Rambo—Medium only in price and quality.

Ribston Pippins—Good seller, but must never be sent ripe; loses its crispness, which is essential.

Roxbury Russets—Useful apple; medium price.

Spitzenburgh—Good apple, but quickly decays when ripe.

Spys—Must be large to sell well.

Swaars—Must be large to sell well.

Talman Sweet—Medium apple; fair seller when large size.

Twenty Ounce—Good medium apple.

Vandeveres—Fair seller.

Wageners—Good color, fair prices.

Woodstock Pippins—Good color, good prices.

Muslin Sashes.—Rufus Mason, of Nebraska, says: Three years' experience with muslin sashes where the thermometer ranges from 20 degrees below zero to 70 degrees above, satisfies me of their superiority. I make a square frame of 1¼ inch stuff, with a single bar of the same size down the middle, cover it with common, heavy, unbleached muslin, paint it over with two coats of boiled linseed oil, and find it far better than glass. Have had no freezing or scalding, but better colored plants, more stocky, and better able to withstand early transplanting. After the hotbed is filled with manure, lay in the soil so as to come within three inches of the muslin, sloping exactly as it does. As the season advances, the bed will settle

about as fast as the growth of the plants require it. This plan prevents the plants from becoming long-legged, which is the main cause of the slow after-growth, and in the cabbage family of so many plants failing to make solid heads.—*Michigan Farmer.*

A Potato Experiment.—A writer in the *Rural New Yorker* says as follows: Last spring when planting my Beauty of Hebron potatoes, I planted one row through the piece as follows: I took potatoes below medium size, cut off the seed and stem ends, cut out all the eyes but two; planted them and gave them the same care as the rest of the piece. The "seed" for the rest was of the same sized potatoes cut in two, and planted one piece in a hill about eighteen inches apart in the row. Now for the result: The first row, containing seventy hills, gave one hundred and ninety-five pounds; one row by the side of it with eighty-six hills gave one hundred and forty-three pounds, a difference in yield per hill of over fifty per cent. in favor of the whole potatoes with two eyes. This row could be distinguished from the rest as far as the piece could be seen, until the dry weather dried up the vines. The whole piece yielded a splendid crop, as did a piece of Snowflake in another part of the field.

Queer Farming.—The latest novelty in the "live stock" business is leech farming, as carried out on a thirteen acre tract near New York city. The tract is devoted to small ponds having clay bottoms, and are margined with peat. The leeches form their gelatinous cocoons in these peat margins, crawl into them at the open end, and deposit their eggs during the month of June. By September the warmth of the sun hatches out the young, varying in number from thirteen to twenty-seven from each cocoon. During the summer months the water in the pond is kept at about three feet; in winter the depth is increased to prevent freezing the leeches. Leeches are not expensive feeders, a meal

of fresh blood once in six months being their only diet. The blood is put in linen bags and suspended in the water. The leeches attach themselves to the bag and remain until gorged with the blood, when they drop into the water. The owner reports that his sales amount to about 1,000 leeches per day, the most of them going to the West and South. He makes this new branch of farming quite profitable.

KEEPING GRAPES ON THE VINES.—I have discovered that by the use of strong manilla paper bags, grapes may be kept on the vines in splendid condition long after the season for grapes out of doors has gone by. Passing through the vines, Oct. 31, three weeks after the frosts compelled me to gather the crop, and after the leaves had all fallen, I found a few clusters protected by bags that had been overlooked, beneath the leaves. Clusters of the Lady grape were slightly faded, and the quality not improved. The Brighton appeared as fresh, bright and beautiful as I ever saw it, with bloom undisturbed, the color a dark rich maroon. I have never eaten such rare specimens of this fine grape, and yet the freezing had been severe. They were the nearest approach to a raisin I ever saw on vines. The juices near the skin had condensed, and there was a temptation to chew the skin to secure the fine flavor. It would seem that by the use of such stout paper bags we may keep grapes on the vines several weeks later than otherwise would be possible, and that we may enjoy ripe specimens in this way, from varieties not usually fully matured in this latitude.—*C. A. Green.*

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Transcriber's Notes

- Inserted a table of contents, with links in HTML and ePub versions.
- Corrected obvious printer errors, leaving inconsistencies and spelling variations unchanged.

[The end of *The Canadian Horticulturist, Volume 5, Issue 9* edited by D. W. (Delos White) Beadle]