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№ INTOSH.

THE  
Canadian Horticulturist

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THE McINTOSH RED.



**T**HIS is a Canadian seedling of great value, not only for the north, for which section its great hardiness is a valuable characteristic, but also for the southern portions of Ontario, on account of its gorgeous coloring and excellent quality. The Fameuse has usually held the first place as a dessert apple, but the McIntosh Red, a winter apple which resembles it in texture of flesh, even surpasses it in coloring, size and quality. In its perfection, it may be described as being magnificent in coloring, a sort of rosewood red with a heavy blue bloom.

Dr. Hoskins, the best authority we have on hardy apples, speaks of the McIntosh Red as the best and most beautiful apple of its season, and, on account of its thick skin, an excellent shipper.

How unfortunate that it should have two serious faults: one, in that it scabs almost as badly as the Fameuse, and another, in the fact that, while its wood is as hardy as the Fameuse, or Wealthy, its fruit-buds are more tender, so that in cold sections it becomes a shy bearer!

Our committee on apples have only given it six marks for dessert and seven for market. Possibly they would have ranked it higher, were it not for the fact that it is a new and comparatively little tested variety.

The apple takes its name from a Mr. McIntosh, who lived at Dundela, forty-five degrees north latitude, in the county of Dundas. The original tree still stands. It is eighty years of age, and still in a vigorous condition.

## NORTHERN SPY APPLES.



O kind of apple varies so much in quality as does the Northern Spy. Ever since it began to be disseminated, about forty years ago, it has required more thorough manuring and more care in pruning than other varieties. Because it is naturally an exceedingly thrifty-growing variety there is a popular belief that it succeeds best on poor soil so as to stint growth and induce early bearing. But the Spy thus grown is not of the best quality. It blossoms too freely, sets too much fruit, and unless the inside of the tree has been pruned, most of this will be shaded and never be well colored. There is so much difference between these poor immature specimens and the highly colored, large and delicious fruit grown on well manured and well pruned trees as can be imagined. A stranger to the fruit seeing these different specimens can hardly be persuaded that they are of the same variety.

The erect habit of the Northern Spy is probably the cause of its delay in bearing. If while the tree is young its limbs are weighted at the ends so as to cause them to bend down, the obstruction of sap will cause fruit buds to form and fruit to set the following season. We once saw a curious illustration of this. A young Northern Spy tree was located in a corner near a barn, where a snow-drift piled over it, bending down many of its lower branches. So flexible were they that they did not break; but after the snow went off these branches continued to grow horizontally with their ends bent down. Two years later these branches fruited and continued to bear fruit regularly, though it was several years before the upper part of the tree came into bearing.

For regrafting old orchards lacking in vigor, there is no variety better than the Northern Spy. It comes into bearing quickly under such conditions, and bears large, well-colored fruit of the best quality. Such trees have, however, a habit of bearing a very full crop one season and a light crop the next. Probably this might be remedied by thinning the crop the years when the trees set the fullest.—American Cultivator.

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**Pickled Pears and Peaches.**—Seven pounds of pears,  $2\frac{1}{2}$  pounds of sugar, one quart of vinegar, one cupful of water, one ounce of cloves and one of cinnamon. Boil vinegar, water, spice and sugar a few minutes, then put in the fruit and cook till done. I use the same recipe for pickled peaches. Last summer just before the peaches began to ripen, we had a quantity of wind-falls. I made sweet pickles of the green fruit. We thought them fully as good for pickles as ripe ones.—N. L. P.

## FRUIT GROWING IN ANNAPOLIS VALLEY.



IN the western part of Nova Scotia is a valley of uncommon beauty and fertility. It is formed by two mountain ranges, one called the North Mountain and the other the South. It begins at Hantsport on the east, and extends to Bear River on the west. The North Mountain begins at the celebrated promontory of Blomidon, which is the easternmost point, and runs to Victoria Beach, where it is terminated with equal abruptness by Digby Gut, an outlet of the Annapolis River and basin, into the Bay of Fundy. The South Mountain is first seen at Horton, and it extends to Bear River, where for the most part it is either lost or merged in a chain of hills which extend throughout Digby county. At its easternmost point the valley is several miles in width, but towards the west it grows continually narrower.

This valley is drained by the Annapolis River, which begins about midway and runs westwardly, developing gradually from a mere rivulet into a large navigable river, which flows into the Annapolis basin, a fine sheet of water which empties through the narrow Digby Gut into the Bay of Fundy. At a point in Aylesford where this Annapolis River begins and flows westwardly, the Cornwallis River takes its rise and flows eastwardly, emptying into the Basin of



FIG. 388, —THE ANNAPOLIS VALLEY.

Minas. Both of these rivers are under the influence of the Bay of Fundy tides, and are consequently tidal rivers, each flow bringing enormous deposits of alluvial mud which has created the soil, and given it superior fertility.

This Valley, so-called, is the fruit-growing belt of Nova Scotia. In almost every other county in Nova Scotia fruit can be grown and is grown. Especially is this the case in Lunenburg, Yarmouth, Inverness and Cape Breton, and in consequence of the fine qualities of the fruit which are grown in other parts of the province, the impression has been formed that these other parts could compete successfully with the Annapolis Valley in fruit culture. But the history of the fruit growing of the world indicates that while fruit can be grown in many places there are certain special belts where fruit can be grown prolifically and at permanent profits. The State of Michigan is a fruit growing State, but the fruit belt there in which fruit is grown permanently with large profit, occupies but a comparatively small portion of the area of the State. The same statement is true of Ontario and the State of New York, and other fruit growing sections. The Annapolis Valley seems to be the natural home of all kinds of fruit. The

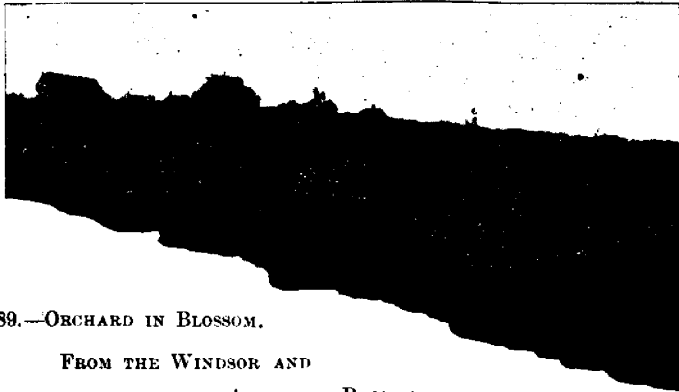


FIG. 389.—ORCHARD IN BLOSSOM.

FROM THE WINDSOR AND  
ANNAPOLIS RAILWAY.

great staple fruit grown now for export is the apple, but pears, plums, cherries, and even grapes, are grown luxuriantly, and in the domain of small fruit, such as strawberries, raspberries, gooseberries, currants, and cranberries, the capacity for production is practically unlimited.

A few years ago the fruit industry was scarcely appreciated in the Annapolis Valley. Its qualities as a fruit raising country were comprehended by the French in their early settlements. Annapolis Town, old "Port Royal," one of the oldest and most interesting historical points in North America, is in the very centre of the fruit garden, and in this settlement, during its occupancy by the French, as well as in other sections of the Valley, including Grand Pré, apple trees had been planted by them, and many of these trees are still living, though

considerably more than one hundred years old. The land being fertile, all sorts of agriculture can be profitably carried on, and during the period of Reciprocity potatoes sold at high prices, very often as much as one dollar per bushel being obtained.

Potatoes can be produced with very great ease in the Valley, and were for a time a source of large profit, many farmers growing wealthy from their production and export. The splendid marshes along the banks of the rivers make it also a cattle-raising country, and excellent specimens of fat beef have for years been sent out of the Valley for market. It was not until the year 1863 that any genuine interest was taken in fruit-growing. Most of the farmers had some apple trees on their farms, which supplied their own wants and afforded the means of supplying the Halifax and St. John markets. In 1863 the Fruit Growers' Association was formed, with Mr. R. G. Haliburton, a son of Judge Haliburton—"Sam Slick"—as President, and Mr. D. H. Starr, as Secretary. This society had a very small beginning, but its avowed aim was to stir up the farming population to a sense of the importance of the fruit industry, and to show that it could be carried on to a much greater degree. That Association has continued ever since, and during the whole period of its history there has been a steady and marked increase in the production of fruit in the Valley, as a few statistics which I shall give amply demonstrate. It must be understood that in most cases the figures that are given are only approximate, but they may be relied upon as being very nearly accurate, and have been verified by the highest fruit authorities in the Province. The probable acreage in fruit culture in the whole Valley in 1860 was about 2,500 acres. Most of these orchards, however, were old and not properly cared for, and were producing in a very limited way and only a few varieties, and an inferior quality of fruit. The total acreage at present is estimated at 12,800 acres, with at least 8,000 acres covered with young trees which have not yet begun to bear. The product in barrels in 1860, as nearly as can be estimated, would not exceed 30,000. The product for the year 1893 will be at least 300,000 barrels, and is necessarily increasing at a

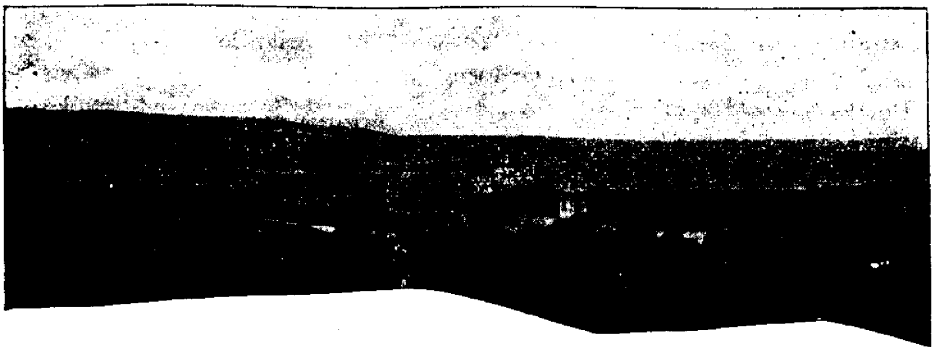


FIG. 390.—BLOMIDON AND MINAS BASIN, FROM WOLFVILLE.

rapid rate each year. As the product began to increase after the formation of the Fruit Growers' Association, the necessity for a market, permanent and unlimited in its scope, was felt. In 1871 the first effort was made to place Nova Scotia apples in the English market. Of course, many difficulties had to be overcome. Nova Scotia apples were unknown, and the English people could not discriminate between them and Canadian, or even American, apples. The farmers were not accustomed to packing them in a form that entirely suited the English market. All these things had to be met, and have been met, and, to a very great extent, overcome, until now there is a large and increasing export.



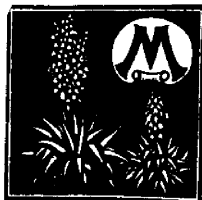
FIG. 391.—AN APPLE ORCHARD, ANNAPOLIS VALLEY.

To show the development of this English trade, I may state that the estimated export to Great Britain in 1873 was less than 10,000 barrels; the export last year was over 130,000 barrels. It is estimated that the total export to Great Britain from 1871 to the present year would not be less than 1,400,000 barrels. Formerly the export to the United States was very large. Latterly, however, the competition of American fruit was so keen in the United States that the Nova Scotia producers had scarcely a fair chance, except in certain special lines. Besides, under the McKinley Bill, a heavy duty on apples was imposed, which still further interfered with the trade. For the past twenty years, however, it is likely that the total export to the United States has not been less than 400,000 barrels, an average of 20,000 barrels a year. The product during the past twenty years has not been less than two and one-half million barrels—which indicates a considerable local market.—HON. J. W. LONGLEY, Attorney-General of Nova Scotia, in *The Canadian Magazine*.

*(To be continued.)*



## FRUIT GROWING COMPARED WITH GRAIN GROWING.



Y own experience has taught me that the fruit-raiser finds plenty of hard work to do. He often fails to produce a good crop, and prices are not always what he thinks even moderately good. But if he will candidly compare notes with the grain-raiser he will feel like "thanking his stars" that he is a fruit-grower.

Although the underlying reason may not be apparent, it is in most cases because the fruit-grower sells water chiefly instead of starch and potash. Water is cheap, except in rare cases, and what the market demands is, that it be put up in attractive and delicately flavored packages, for which a good price will be paid.

Wheat, corn, oats and all the grains are largely composed of materials that are costly to produce and contain but little water. They take from the soil fully 90 per cent. more of its costly elements than do fruits. It does not require very deep reasoning to convince a thoughtful person that if he sells water from the soil of his farm he is not drawing heavily on its resources.

Who does not know that the grain-grower is each year making heavy drafts upon the bank deposit in his farm, and that only by frequent replenishing can it be kept up. This is, in a measure, true of the fruit-farmer, but in a far less degree. He must keep his soil rich, but it requires far less manure to keep it in condition to yield a big crop of fruit than a medium crop of grain. If anyone does not believe this let him try it.

I never knew a farmer who sold the grain off his farm year after year who did not so deplete his soil that he could not make it profitable even for a single crop. In fact, observation has taught me that, with few exceptions, such farmers are on the road to failure. If not financial failure, it is absolutely certain that their farms are being impoverished. Thousands of abandoned farms all over the country are the silent and solemn witnesses of this truth. Some of them are so from other causes, but excessive grain farming is the one most common.

Many cases have come under my personal observation in which rich and valuable farms have been literally robbed of their native wealth by grain growing. It is true that if the grain fodder and hay be fed to stock and the manure saved and returned to the fields, their fertility will be preserved, or possibly increased. Even in such a case, is it true that the fat stock sold (and no other should be) is largely composed of water.

When we think of it, there is nothing the human system needs and craves so much as good water. If it is inside beautifully tinted wrappers, the skins of strawberries, peaches, plums, pears, apples, oranges, lemons, etc., combined with nutritious food and healthful acids, it is the more relished. Think of the price

we pay for what is little else than water colored and flavored by nature so as to be pleasing to the eye and the palate.

To the fruit-grower let me give encouragement to go on supplying the public demand. Try to make your fruit as large and luscious as possible, and be assured that it will be appreciated, and, in most cases, well paid for. Keep your land as rich as possible and you will thus produce fruit at the least cost. The most expensive fruit to the grower is the poorest he raises.—H. E. VAN DEMAN, in *G. Fruit Farm*.

**House Flies.**—Prof. A. J. Cook, in the *New York Weekly Tribune* for July 30th, says: "If wire-gauze window-screens are hinged at the top so as to readily swing outward, it is very easy to drive the flies out of the window of a darkened room. With such screens supplemented by an occasional use of fresh and good insect powder (bubach or California pyrethrum) it is not difficult to keep the house almost entirely free of these pests. The only possible objection to the powder is that if much be used it leaves a fine dust on the furniture and about the room; this however, is certainly a minor disadvantage." I may add to this by saying that if the powder is used the rooms should be darkened with one exception. The flies will congregate in this room. In the evening throw some of the powder in, as a dust, and close the room tightly. In the morning when the husband builds the fire, as all true husbands do, he should sweep up the flies and burn them, or they will revive and be as great a nuisance as ever.

**In Setting a Grindstone.**—It is no use to have rickety frames or to have them out of doors uncovered and with water in the trough. That part of the stone standing in the water becomes soft and is easily worn away, while that exposed to the snow is continually hardened and wears out of a true circle so that no tool can be properly ground upon it. The cut shows a well-seasoned piece of timber 1 ft. square and 3 ft. or more long with a trough cut in the top, 8 or 10 in. deep, and thoroughly coated with hot oil or coal oil

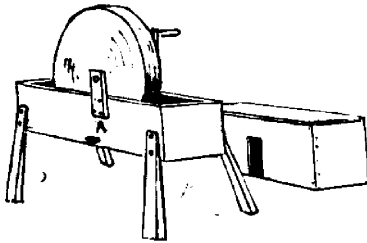


FIG. 392.

several times before using. Make the legs of 3 x 4 in. scantling beveled at the top and firmly nailed on. The shaft can be supported by wooden boxes attached or friction wheels that often come with the stone. Make a good solid cover and keep it on the stone when not in use. A plug at A fills the hole used to run the water off.

## FRUIT HOUSES AND FRUIT ROOMS.



UCH houses may be constructed at moderate expense, which, with properly selected varieties, will afford fruit through nearly the whole year, if the circle is completed by early cherries and early strawberries. It is not necessary to employ ice for maintaining a low temperature in hot weather, such houses being adapted to large establishments and requiring constant care and much skill in their management. For the smaller and cheaper structure the essential requisites are non-conducting walls and ventilating windows, provision being made for the admission of cool air on cool nights, to maintain a temperature slightly above freezing, and thus preventing decay during warm seasons. With such a provision we have found no difficulty in keeping such apples as the Baldwin and Newton Pippin, through winter and into the middle of June, and such winter pears as Nelis, Lawrence and Malines into February and March. A common practice is to erect a frame of six-inch studs, and cover both sides of these with boards, filling the space between the boards with sawdust; but a better way is to nail on the building-paper studs before the boards are applied, the studs being placed just far enough apart to give a slight lap to the paper as the rolls are successively applied. The sawdust is omitted, as it is liable to cause crevices by setting, and to be attacked by rats and mice. If this air space and the two covers with boards and building-paper are not sufficient to make a good non-conducting wall, nail vertical strips on each lat and add another covering of paper and another boarding. The roof is to be made non-conducting in a similar way, and the room is to be protected with double doors and double windows. The natural heat from the earth floor, with these protecting walls, will prevent the room from freezing. Fig. 393 in illustration represents the cross-section of a fruit-room, showing the ventilation. The dotted lines and arrows show the entrance of the cold air at a side window, and

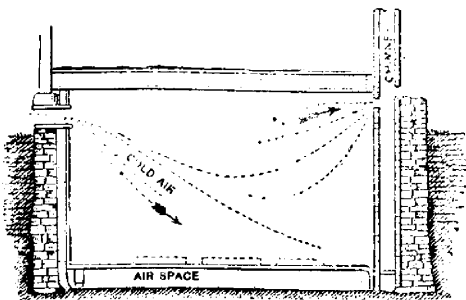


FIG. 393.

FRUIT HOUSE AND FRUIT ROOM.

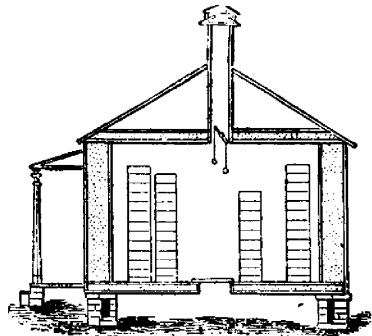


FIG. 394.

the escape of the warmer air into a vertical chimney in which some upward current is kept by a stove above, or by the ventilator cap at the top. This window is closed as soon as enough air is admitted. The air space beneath the slatted floor receives the warmth of the earth during cold weather in winter. This figure more particularly represents a fruit-room in the dwelling; the floor is double to prevent the passage of heat. Fig. 394 is the cross-section of a fruit-house built wholly above ground. The under-pinning is double, with an air-space as a non-conductor of heat, and with a free connection with the earth below through board registers or through slatted work. The ventilator is readily controlled by the hanging buttons. The piles of fruit boxes are filled with fruit, and being placed one above another, operate as separate covers for each other, and whenever assorting is necessary for removing decayed specimens, they are successively lifted off and new piles thus formed.—Country Gentleman.

### ROADS AND WALKS.



**D**RIVES and walks leading from the street to the house and outbuildings are things of utility and necessity, and are not primarily intended as ornamentations to the grounds. This idea seems to be lost sight of in studying how to make these walks and drives graceful and attractive. Landscape gardeners have made quite a hobby of this work, and the consequence is, that in many cases the driveways and the walks form altogether too prominent a feature to the lawn and grounds. To be sure we would not have these indispensable accomplishments made in any way crude, awkward or ungraceful. So long as they must form a part of the grounds, they should be so constructed that they will not mar the general effect of the whole. But in laying them out we should not fail to bear in mind the fact that they are simply a necessity, and, as such, should be made as nearly in harmony with their surroundings as is possible in their nature to be. Many walks and drives are laid out with no especial destination in view. They seem to have no particular starting point, and no definite object, destination or terminus ahead. They usually terminate at the starting point without accomplishing anything more than a mass of serpentine twistings and crawlings that weary the eye and puzzle the understanding. Such walks and drives are worse than superfluous; they are positively in bad taste. When we consider the province of the walk or road, common sense will tell us that the most direct course to the point in view is most natural and pleasing. Straight dead lines, without a blink or a turn, are not always agreeable to the eye, and shou'd usually be avoided in landscape gardening.—Wis. Farmer.

## ICE AND COLD STORAGE ON THE FARM.



HANDLING of fresh meat is directly dependent upon artificial refrigeration, and in no other direction are its benefits more marked or widespread. The cattle of the Western plains have become the daily food of those living at the antipodes. In ten years, from 1880 to 1891, the imports of fresh beef and mutton into Great Britain increased from 400 to nearly 3,300,000 carcasses. During the same period the beef exports alone from the United States advanced from 50,500 to 101,500 tons. Not only are meats carried in refrigerator vessels from America and the antipodes to England, but within a year Australian milk has been shipped in frozen blocks in such quantities as to be retailed in the streets of London for four cents per quart. Butter, cheese, eggs, fruits and other perishable products are likewise transported enormous distances by rail or water, without injury to the quality and at a low cost for freight.

It is well known that cellars which are dry, cool and well ventilated, are of great service in preserving fruit and vegetables, and storage cellars without ice have been in use for years with profit and convenience to their owners. A convenient place is to locate them in the side of a slight hill, as shown in the following figure.

An excavation the width of the cellar is made, the earth being thrown up against the outside of the stone wall, which is built on the lower hillside. The opposite wall is formed by the cut face of the hill. The rear end is constructed in the same manner as the lower hillside. The front wall and

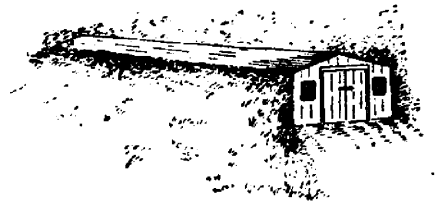


FIG. 395.

doors are made of a double thickness of boards, with six inches inclosed space filled with sawdust. For a cellar one hundred feet deep the estimated cost is \$100, no skilled labor being required. Large storage room is provided in such a cellar; 50,000 celery plants have been accommodated, and hundreds of bushels of vegetables, apples and other fruits have been held during the fall and winter. On large fruit farms, such a building designed to properly care for fruit during shipping and packing, and as a storehouse for temporary use, is a necessity. It is at times of great market gluts that the cold storage shed is of the greatest value. Oftentimes, by saving a crop for a week, the prices realized will be double what would otherwise be obtained.—Farm and Home.

## CHEAP STORAGE FOR APPLES.



ONE of the easiest and most rapid profits that a horticulturist and farmer can take advantage of is in the proper storage of the apple crop. The October and November price of good winter keepers is seldom more than one-third to one-half what the same fruit commands in the latter part of the winter and early spring, so that a moderate amount of shrinkage from rotting, etc., may easily be met in the largely increased profit of late selling. In earlier times quantities of apples were preserved for the spring market, by simply burying them in conical heaps, first placing straw over the heaps, then enough earth to prevent freezing; and even at the present time some of the choicest apples that reach our late spring market are preserved in this well-known manner. Simply a modification of this old and well-tried process is the method that I make the heading of this article. Down a hillside an excavation (see Fig. 396) is made, which may be several feet deep, and 8 or more feet wide at the top and in the bottom, extending its full length, a trough is placed,

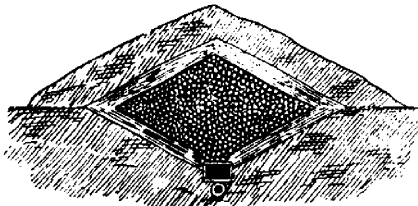


FIG. 396.—APPLE STORAGE: CROSS SECTION.

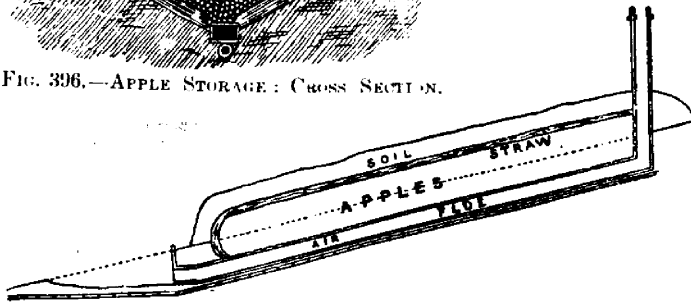


FIG. 397.—APPLE STORAGE: THE SIDE HILL OF IT SEEN LENGTHWISE.

made of a board one foot wide for the bottom, and boards 8 inches wide for the sides, with a little drain immediately below.

This trough, extending up the full length, and in the bottom of the excavation, is covered with slats 1 or 2 inches wide, nailed across not over 1 inch apart. The sloping sides are then covered with rye straw, and apples by the wagon load are placed therein and covered with straw and earth from above to prevent frost from reaching them, as is done in the old way of burying fruits.

The trough below gives a circulation of cold air through all the apples stored above it, and ends in a draught chimney at the upper end. In the very coldest weather the mouth at the lower end of the excavation may be closed, though while the thermometer remains  $12^{\circ}$  or  $15^{\circ}$  above zero it has proved an advantage to let the cold air circulate through. But in warm weather it is an

advantage to keep the draught closed, thus retaining the cold that is already there. This simple and inexpensive arrangement has preserved apples until late in the spring, with scarcely any loss, and they come out for market bright, crisp and fresh, with no appreciable loss of flavor, and brought often treble the price they would have commanded in the best fall or early winter market.—MR. J. JENKINS, before the Ohio State Horticultural Society.

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## HOW TO RAISE RASPBERRIES SUCCESSFULLY.

Plow the ground in the fall, and haul all the manure one can get during the winter and leave in small piles all over the ground. In early spring, spread the manure evenly all over the soil. This may be done just before time for plowing. It should then be plowed in deep with a two-horse plow and thoroughly harrowed and planked. I have a planker about 8 feet long, made from 2-inch plank, three planks being lapped and spiked together. Hitch on the horses, stand on it and work the soil into a fine condition. A one-horse plow may then be used for plowing out rows 7 feet apart. Care should be taken not to plow too deep. Set the plants in the rows  $3\frac{1}{2}$  feet apart and cultivate the season through. I find the Planet, Jr., the best machine to use for this purpose. When the plants are 2 feet high, nip the tops, to cause lateral growth and stockiness. In the fall, with the one-horse plow throw a couple of furrows toward the plants to prevent their heaving out of position by frost the next spring. In early spring, the rows thrown up should be leveled back.

For early fruiting, I have found the Souhegan to be the best; these I have set on a hillside sloping to the south. For a late variety, I have found none to excel the Gregg. Planted on a northern slope, these will be retarded considerably so that when the Souhegan are past, the Gregg will be just about coming into bearing. During the first season, vegetables may be put in between the rows, such as cabbage and potatoes. I find potatoes yield well and force cultivation to about the desired amount for the good of the young raspberry canes.—Farm and Home.

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PROPAGATING GOOSEBERRIES from cuttings has a decided advantage over the process of layering. In the former case the suckers can be entirely done away with, while in the latter, they cannot be prevented. Layering is a sure mode and may be resorted to when any particular variety is required to be speedily obtained, though the plants will not be as handsome as those raised from cuttings. The best time to put in cuttings is in the fall; vigorous, firm wood should be selected. If the cuttings can be taken of close to the branches from which they spring, so much the better. The joints should be cut off so as to leave from 10 inches to 1 foot in length. The buds on the lower end of the cuttings must all be removed. This disbudding should be carried to a height of 6 or 8 inches from the base. By so doing, suckers may be prevented. If cuttings are inserted early in the fall success is almost certain.—Farm and Home

## ABOUT FRUIT CELLARS.

A subscriber writes: I have a fruit cellar under my bank barn size 39x44, about 8 feet high with solid clay bottom. What kind of a floor will be best? I use it for nothing but fruit. Will pine planks on sleepers or joists be best for fruit keeping, or a grouting cement floor. If the latter, how made—coarse stone first and gravel and cement, or put the cement directly on the clay bottom?

*Reply.*

Y all means put in a grout floor. Plank would be objectionable on several accounts. They would take up unnecessary room; would harbor vermin; would by absorbing moisture generate mold; would soon decay and through this unfavorably affect the fruit. Put in first a grout made of coarse gravel mixed with one-fourth fine sand. If these can be got from the border of some lake or stream where they have been washed, the better. Mix with 1-7th to 1.6th good water-lime and put on two inches thick at least. Finish with one inch of grout made of a finer gravel and the same of sand mixed with water-lime, one part of lime to two of sand. Put on the clay bottom, if all is hard and firm. If any places are soft, pound in stones for foundation.

As this cellar is designed for a fruit cellar especially, it may be to the advantage of the proprietor, and also to others who hold their fruit over, if I make some suggestions as to the further equipment of such a cellar; also as to the best method for handling the fruit in it, as gathered from an extended experience of many years in handling and keeping fruit in a cellar of my own. It has, probably, not occurred to the fruit grower in general that he can, to a large extent at least, take advantage of the same principles which are so successfully used in the large cold storage establishments in the preservation of his own apple crop.

It is probable that both the theory and its practical application will be more readily grasped if I simply describe my own cellar, with my method of handling the fruit, than by any more extended description. This cellar is under my home dwelling house. It is 26x24 feet, with an L. nearly as large. This cellar has an elevation of over two feet. It has six windows of six lights each which are hung on hinges, with shutters on the inside and blinds on the outside. Not only is the floor cemented, but the whole cellar is lathed and plastered overhead to shut out the heat from the rooms above, and promote an even temperature. The object sought is to give the fruit all possible conditions favorable to its keeping. These are: Dead air, dry air, and as low and equal a temperature as is possible, above freezing. So much for the appointments of the cellar. Now for the handling of the fruit.



Barrels, while suitable to keep such kinds as the Baldwin, are not the best packages to hold the majority of kinds. I use crates made on purpose. These are three feet long by 14 inches deep and wide, and hold  $2\frac{1}{2}$  bushels each. I put my apples in them when taken from the trees, drawing them near the cellar and packing them three to five high, covering securely from the storms. Here they go through the sweating process. Being in the crates, the vapor generated passes off and does the fruit no harm, as often happens when in barrels. I hold the fruit out doors as long as is safe; then assort with care, and run them into my cellar. To facilitate this work, I have a small tram which I put on a light movable track, that extends into the cellar and out to the pile of crates. I attach a small rope to the tram, and run it through a one-wheel tackle-block, and fasten the tackle-block to end of track. On this tram I place two crates of apples and by giving the tram a push it runs into the cellar. There I have two men to unload and put up the fruit. In this way I can fill my cellar full in less than ten hours. And I have often taken out of this cellar in spring five hundred barrels of sound apples. After the cellar is full, it is shut up until the condition of the atmosphere is favorable,—dry and cold. Then it is opened up, and the cold air let in. It is no unusual thing to leave the windows or some of them, open for a week, when the thermometer is down to zero or below. It is quite remarkable how much cold a cellar full of apples requires to keep the fruit down to the degree most suitable for their keeping. When this point is reached I shut the cellar again, and hold it until the thermometer indicates that more cold is needed, when it is opened again. In this way I have been very successful in keeping my apples for a spring market, especially such kinds as the Northern Spy, which has been my only profitable apple for the last fifteen years. It is a good keeper, when well grown, in this manner, but not a good keeper in barrels, as usually kept. In closing I will say: A cellar to keep fruit well, should be devoted to fruit alone. There should be another cellar for kitchen purposes.—Orange Judd Farmer.

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**Cultivate the Orchard.**—Plow the orchard, but be careful of the trees. Plows and whiffletrees cause more damage to the trunks of young fruit trees in one cultivation than months of care and growth can cure. A device in successful use at Rochester, N. Y., is made as follows: Take the plow where it is wanted with least danger from the teams. To the front of a bob-sled is lashed an arm which projects a foot and a-half on either side, and is heavily wrapped with an old blanket. To one end of this arm the plow is attached by a clevis, and before the main plowing of the orchard is attempted, two bouts are made for each row of trees. When back furrowing from the trees, two furrows are left and finished with the plow attached as before to the bob. This permits thorough plowing and close and safe cultivation, which does not leave over one square foot of unplowed earth about each trunk. This saves a great deal of hand labor, as well as broken bark and limbs, while the equipment can be arranged in ten minutes from materials always at hand.—Farm and Home.

## APPLES IN NOVA SCOTIA.



L. WAKEMAN, in a letter to the Cincinnati Times, during a trip through Nova Scotia, says of the famous Nova Scotian orchards: I have more faith, however, in Nova Scotia apples than in her gold. The Annapolis and Gaspareau valleys contain about 600 square miles of cultivable land. At the present time one-tenth of the area, or nearly 40,000 acres is planted with apple trees. Almost a half-million barrels of Gravenstein, Baldwin, King of Tompkins, Nonpareil, Russets, Ribston Pippins, and other varieties of apples are now annually yielded and exported. Over three-fourths of the area is yet in young trees. From 5,000,000 to 10,000,000 barrels of apples will certainly be raised annually in these two valleys within ten years' time. They are proven to be the finest and hardiest varieties in the world, and the demand is never met. In the fall, American buyers fill the region, purchasing in 1,000 barrel lots. Experience has proved that the European markets are just beginning to know this fruit region, and, as every barrel which can now be secured is taken there, the competition between American and English buyers will always insure the Annapolis Valley apples raisers from \$3 to \$5 per barrel in gold. The method of English shipment is highly interesting and is additional good luck to the Nova Scotia apple farmer. He has only to pack his apples carefully, stencil and brand his name upon it, mark it "John Doe," or "John Roe, London," and deliver it at any depot of the valley railway. If he send 100 or 1,000 in this way he has no further trouble or anxiety. His apples go direct to Halifax. There steamship agents, who are practically agents of London buyers, care for them. In three weeks' time the apple grower receives by mail exchange on London for the apples he has left at the station platform, and the price is the highest paid in the world. These conditions are giving a great impetus to the apple culture in this wonderful valley. About forty trees are planted to the acre, and at maturity yield from three to seven barrels of apples, for which never less than \$3, and often more than \$5 per barrel is secured. The whole valley is a vast orchard and every farmer is rich, or rapidly getting rich.

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THE APPLE CROP is acknowledged to be almost a universal failure in the Continent of North America; possibly reaching about quarter of the average quantity. Surely apples will be very high priced this winter. The Commercial Circular speak discouragingly of the prospect of the English market; but when England's crop is exhausted, where then will apples be had, but from Canadian sources.

## RHUBARB.



HE garden rhubarb, or pie-plant, is a perennial of the same natural family as the common dock. The varieties now cultivated are hybrids and have supplanted the original species, *Rheum rhabonticum*, *palmatum*, and *undulatum*, excelling them in size, earliness and delicacy of flavor. The best sorts are the Early, which is of but medium size; Myatt's Linnæus, rather early, and yielding large crops of large leaves, and the best flavored of all, Myatt's Victoria, which is two weeks later; stalks very large and good; Downing's Colossal, and Cahoon's Mammoth. very large varieties of good flavor.

Rhubarb is remarkable for the quantity of phosphates and soda it extracts from the earth. Crude soda might be added to the soil. Guano and bone dust are very beneficial. Rhubarb succeeds best in a rich, deep, rather light loam and in a situation open to the air and light. It may be raised from seed, but thus grown, sports into new varieties. It is best propagated by dividing the roots, reserving a bud to each piece. These may be set about two inches deep, in rows three feet apart, and from eighteen to thirty inches (according to the sort) in the row. All the culture required is to keep the surface soil light and free from weeds. The plantation may be made in the fall, after the leaves are killed by frost, and protected by litter, or as early in the spring as the weather and soil permit. It should not be disturbed after growth commences. Pluck no leaves the first year, after which the crop will be abundant. Make a new plantation about once in five years. If a plant or two in summer dies out, as it is apt to do in the South, it is best to remove next autumn the old plant, together with the soil in which it grew, and supply fresh soil. New plants to reset the vacancy can be obtained by uncovering an old crown and cutting from it a bud with a piece of root attached.

To obtain the largest product, the flower-stems should be broken off when they appear, for the plant is weakened by permitting it to seed. A yearly surface dressing of well-rotted manure should be given, for the stalks to be good must be quickly grown.

This plant is forced by placing a large flower-pot over the roots, and covering with stable manure. The more common way is to surround the plant with a small barrel without a head; a cover is placed over it at night and in cold days, and it is then surrounded with a pile of stable manure built up in as sharp a cone as it can be made to form. If the root is good, it will soon fill the barrel with shoots. The plant should be permitted to rest after this crop through the season, and others be selected for the purpose next year. This operation at the North, is common enough, but at the South it is generally death to the plant.—White's Gardening.

## PROMINENT CANADIAN HORTICULTURISTS.—XXIII.

J. K. McMichael, of Waterford, Ont.



HOUGH more widely known as a successful stock farmer than as a fruit grower, yet Mr. J. S. McMichael grows more fruit, and that of a finer quality, than some whose names are prominent before our readers. It was in recognition of his experience in this direction, that in the year 1889 he was chosen director of the Ontario Fruit Growers' Association for his electoral district, a position which he held until December, 1892.

The old homestead, of which Mr. McMichael is still the occupant, was purchased by his grandfather in 1797, who had just come from old Scotland. The first orchard was planted by his father, Mr. George McMichael; and the trees were seedlings of his own raising. He planted an acre of ground with apple seeds, and so raised a sufficient number of trees not only to plant an orchard for himself, but also to supply many neighboring farmers with their first apple trees. These were afterwards top-grafted, and are now the old orchards of the township.

On the death of his father in 1856, Mr. J. S. McMichael came into possession of the farm, and having a fancy for the cultivation of fruit, he soon enlarged the orchard from four acres to twenty five. In his planting, he included about twelve hundred pear trees, and nine hundred apple trees, besides plum, cherry, peach trees, and small fruit plants.

His success as a farmer is shown by the fact that, in the year 1887, he received the first silver medal for the best kept farm, from the Agricultural and Arts Association of Ontario, his orchards being especially commended.

He has also contributed to our meetings some valuable experiences, in his papers on spraying fruit trees for apple scab, and other subjects; all of which were helpful in encouraging others to aim at the same success in the use of fungicides achieved by himself.

**A Remedy for Cabbage Worms.**—Insect Life credits Mr. A. S. Fuller with the following treatment as a means of deterring the cabbage worm: Two quarts of coal-tar are put into an open vessel, which is set in the bottom of a barrel, and the barrel is filled with water. In forty-eight hours the water is impregnated with the odor of tar, although tar is not dissolved in it. The water is then sprinkled abundantly on the cabbages, and the odor penetrates every portion of the head, killing or driving away the worms. As the water evaporates, no stain or odor remains on the cabbage. The same quantity of coal-tar can be made to impregnate several successive barrels of water.



J. K. McMICHAEL, Esq.

## CANNING AND EVAPORATING FRUIT.



AS this paper is prepared partly from experience, I trust you will bear with me while I make mention of a little of my experience in connection with canning fruit in glass jars. Spending the winter of 1891 in one of the best fruit regions of Ontario, and having opportunity for observation as well as mental reflection, my mind would wander back to this valley, and the favorable opportunities we possessed in comparison to other portions of the Dominion for fruit growing. I felt confident then if the fruit growers had a factory such as I have alluded to, it would be a great boon to them. So sanguine was I in the belief, that after a careful study of the subject, together with some practical and well tested information (which I was so fortunate to obtain), I decided upon arrival home to try the experiment on a small scale. I put up about one thousand jars. The results I am pleased to say far exceeded my fondest hopes. My stock is disposed of and orders turned away.

Frequently I am asked will your goods keep in glass jars? I think they have been well tested on that point, as they have stood a journey to India, and at last accounts were keeping perfectly. It takes time as well as skill to reach perfection. I see where I can make improvements next season, when I know I can put on the market an article equal to any, and superior to many. I mention this simply to show that they are all possibilities. People are daily becoming more particular with regard to this line of fruit, and are willing to pay the price if the article suits. It is only a matter of time when all lines of fruit, to find a ready sale, will have to be prepared in glass jars.

From the following prepared table I shall endeavor to substantiate the fact, that canning and evaporating should go hand in hand, one is incomplete without the other. 1st, we will take the apple. I have already stated that the time has passed for flooding our market with inferior fruits. I also emphatically state that they should not find a market at the canning factories. How can a factory place upon the market a first-class article from refuse fruit? I contend it cannot be done.

The line of thought I take with reference to this is, place nothing but No. 1 fruit on the market in its natural state; and the No. 2, which by the way should equal the No. 1 in every respect but size, to the canning factory, and the balance to the evaporator. If this uniform system was carefully followed I feel confident we would realize greater prices for good fruit, and dispose of our inferior to better satisfaction than filling our markets with a general mixture. Here the canning and evaporating department each have their own work to perform, with the apple, the "King of Fruits."

2nd, we will take the different kinds of small fruits that are extensively cultivated within the Province. In the following table I have taken as my standard 100 quarts, with the evaporator as my first illustration :

Kind of Fruit.	No. of Quarts.	Average Fresh value.	Yield in lbs. evaporated.	Cost to prepare per 100 qts.	Market value.	Net Profit.
Raspberry.....	100	\$8 00	35	40c.	30c. lb.	\$2 10
Blackberry.....	100	3 00	30	15	15	1 35
Cherry.....	100	5 00	23 pitted.	50	30	2 00
Strawberry.....		same	proportion.			
Gooseberry.....		"	"			

We will now take 100 quarts of the same fruit canned.

Canned Rasp- berry.....	100	8 00	No. qt. jars when canned, 66.	10 00	34c. per jar.	4 44
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A single glance will be sufficient to see that the canning is far more profitable than evaporation of small fruits, as other lines run in about the same proportion as the raspberry. Plums, which by the way are receiving a great deal of attention at the present time, are undoubtedly more profitable canned, and when we see orchards all the way from one hundred to three thousand of this choice fruit being planted, does it not stand us in hand to make the preparation for seasons of overproduction? They are sure to come, then why not as intelligent men make preparations for the same. —J. E. SHAEFFNER, before Nova Scotia Fruit Growers.

### COLORING WHITEWASH FOR INTERIOR WALLS.

Please publish directions for coloring whitewash to be applied upon rough plastered interior walls. The special colors desired are pale blue, red, green, light gray, light pink and cream.

R. A. M., Ridgeway, S. C.

*Reply.*

Coloring matter may be stirred into whitewash to make any desired shade. Spanish brown will make a red-pink, more or less deep according to quantity used. Finely pulverized common clay mixed with Spanish brown makes a reddish-stone color. Chrome yellow for yellow color, and if small quantity is used, a cream. Use indigo for different shades of blue, and indigo and chrome-yellow for green. Green pigments cannot be safely used with lime, as the lime will injure the color and the green will cause the wash to peel off. For different shades of red mix Venetian red and Spanish brown in various proportions. Lampblack will give a pretty gray if used in proper proportions with the white-wash.—Atlanta, Ga., Southern Cultivator.

## FRUIT AND INSECTS.



HE Maine Report, containing in one compact volume the many essays, reports and addresses on the various departments of farming, the proceedings of the Agricultural Experiment Station, and the annual report of the Maine Pomological Society, is a volume of much value, and replete with important matter. We can only notice briefly some portions.

The Apple Maggot (*Trypeta*) receives a large share of attention, and the statement of the observations and experiments made at the Maine Experiment Station by Prof. F. L. Harvey, the entomologist, occupy over fifty pages, with some twenty engraved figures or more. This insect is properly regarded as a worse enemy to the apple crop than the codling moth, inasmuch as it perforates the whole interior of the fruit, while the codling worm is mostly confined to the core. It cannot be reached by spraying, coming too late in the season, and being shielded under the skin. It has been known to entomologists more than twenty years, was introduced into Maine from adjoining States eight or ten years ago, and its ravages have gradually increased, so that it has spread over most of the counties of the State. From careful observations, it appears that the fly deposits its eggs early in July and so on into August, and early in September the worms are found in abundance. When the infested fruit drops they go into the ground, but not over an inch in depth. They have little power to penetrate hard soil, and prefer sandy ground. Prof. Harvey examined them in connection with more than sixty named varieties of the apple, and found that such early apples and autumn varieties as Benoni, Oldenburg, Early Harvest, Porter, Red Astrachan, Gravenstein, Golden Sweet, and, in fact, all the early varieties were badly infested by them, while most but not all the winter varieties were more sparingly attacked. Hence the remedy proposed by some entomologists, to cut down all the early trees and thus avoid them, is objected to, and would still leave enough of the winter apples for their increase, among which Tolman's Sweet, Wagener, Esopus Spitzenburg and Northern Spy are mentioned.

The insects have sharp ovipositors, and penetrate the tough skin of the fruit, placing the eggs beyond the reach of any sprayed insecticide. Prof. Harvey remarks that "there is no lazy way to check trypeta," and that it will have to be done by a direct, squarely fought battle. He places the chief reliance on *destroying the windfalls*. The larvæ do not leave the apples till they drop, and if these are daily gathered and fed to animals, or still better if sheep run in the orchard, they promptly gather the windfalls as soon as they drop. This method is strongly recommended by other entomologists. Prof. Harvey also suggests "that the making of cider from maggoty apples might



be profitable, and would afford those who drink it both meat and drink at the same time."

We also suggest the importance of giving a hard and smooth surface to the ground under the trees, as the insects appear to have little power to penetrate a hard crust. A loose sandy soil favors their transformation; a clayey soil has a retarding effect. The growth of grass in the orchard, making a tough soil, increases the difficulty of their penetrating the soil, and when the grass becomes dry it may be burned with them. As they enter the earth only an inch, some systematic mode of turning them under half a foot may be the means of placing them where they will stay.—Country Gentleman.

### SOME JOTTINGS IN PEAR CULTURE.

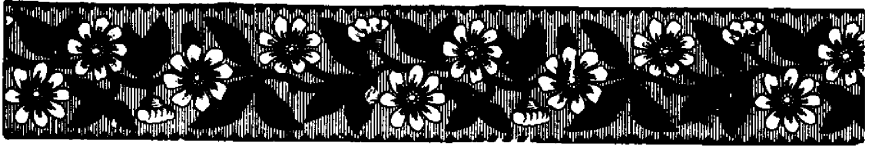
This season we have secured a fine crop of pears, grown in two small orchards of about two hundred trees. Each year the ground is tilled and enriched by the liberal application of wood ashes. The trees were sprayed three times with copper carbonate and Paris green. In August, about one-third of the fruit was thinned out. In these orchards there is more or less blight every year, but in an orchard of ten acres, standing in sod for two years, there is not any blight this year and scarcely any fruit. Five years ago this orchard was coated with barnyard manure and thoroughly tilled. For two or three years following the trees were so injured from blight that a number of them were completely killed, and the others averaged the loss of half of their branches.

A very successful remedy for pear blight is to seed down the orchard and to watch closely for the first appearance of blight, and remove the diseased branches and burn them, coating the wounds with raw linseed oil; and be very careful not to injure the buds or bark on the healthy branches, and do the least possible pruning during the seasons of blight.

*Waterford, Ont.*

J. K. McMICHAEL.

**Pruning Peach Trees.**—Peach growers are gradually learning that the peach tree will not only stand very severe pruning, but that it does best under such treatment. Where this is not practiced, long, slender branches form, and these produce fruit mainly at their outer extremities. This overloads the branches and causes them to break down even when the tree is producing no more fruit than it could easily carry if properly distributed. If the branches were cut back to within two feet of the trunk, they would throw out numerous fruit spurs and produce fruit close to the trunk and main branches, where it could be easily supported. Trees handled in this way will also produce more perfect fruit. Such severe cutting back may be done without any injury whatever, if performed while the tree is dormant. Although peaches are reckoned an uncertain crop, it is still one of the most profitable fruits that can be grown in localities adapted to it. Select the finest varieties and give high culture, and it will require but little fruit to give you a good money return.—Am. Farm News.



## ❖ The Garden and Lawn. ❖

### CANADIAN WILDFLOWERS.—IV.

#### The Buttercup Family—(Continued).

##### THE MARSH MARIGOLD—*Caltha Palustris*.



HIS showy, marsh-loving plant is very common in Ontario, growing in wet places and often so abundantly that the ground is fairly a sheet of gold during the time that it is in bloom, which is usually in the month of May. It has no petals, but the sepals, which vary in number from five to nine, and are broad oval in form, are of a brilliant yellow. The pistils also vary from five to ten, and the stamens are numerous. Its leaves are large and kidney-shaped or round, smooth and shining, and are often cooked as greens. It can be easily transplanted into any low, marshy ground. Whether it will flourish in common garden soil, the writer cannot say, not having tested it in such a situation long enough to decide the question.

THE THREE-LEAVED GOLDTHREAD, *Coptis trifolia*. This pretty, little, white-flowered, May-blooming plant, loves the cool shade and damp, mossy places. It is doubtful if we can coax it to grow in any other situation or soil, yet the writer is making the experiment of transplanting it to a shady border possessing conditions of soil and moisture approximating those of its native haunts, with what success time will show. Its three leaflets are sharply toothed and obscurely three-lobed, evergreen, but often in the spring with an almost purplish hue. The sepals are from five to seven in number, and there is the same number of small, club shaped petals. It has numerous stamens, and from three to seven pistils. The root is a long, bright yellow thread, very bitter, which is often used to make a wash for sore mouths, with good effect.

THE COLUMBINE, *Aquilegia Canadensis*. Of all the varieties of columbine in cultivation we know of none more beautiful than our own wild Canadian species. The combination of scarlet and yellow in the flowers, nodding so gracefully on their slender stalks, is just charming. It is by no means particular as to soil or situation, and when once established continues to flourish for many years. Its five sepals are colored like the petals, which are also five, the latter being lengthened backwards into hollow spurs which are nearly straight. The

flowers are about two inches long, nodding, scarlet on the outside and yellow within. In bloom in May and June.

THE RED COHOSH, *Actæa spicata*, var. *rubra*, also called Red Baneberry. The flowers are white, borne in a short raceme or cluster, on slender pedicels, having from four to ten small, flat petals; the sepals, which are four or five in number, drop off when the flower opens. There are numerous stamens, having slender, white filaments or stalks, but only one pistil. The leaves are twice and some thrice divided into threes, the leaflets sharply cleft and toothed. It grows about two feet high, blooms in May, and bears berries that become a bright cherry-red, in which are many smooth, flattened seeds.

THE WHITE COHOSH, *Actæa alba*, also called White Baneberry. This much resembles the Red Cohosh, growing somewhat taller, petals more slender, and usually the pedicels become as thick as the peduncle, or main flower stalk, and of a red color, while the berries are white. Sometimes the pedicels are slender, like those of the Red. It blooms about two weeks later.

These plants are more ornamental when in fruit than when in flower, the showy berries remaining a long time. The berries are unwholesome, if not actively poisonous.

D. W. BEADLE.

450 Markham Street, Toronto.

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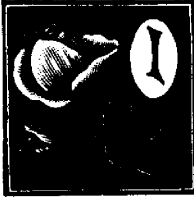
**Where and How to Prune.**—The time to prune deciduous trees is when the sap is down and leaves off the tree. Plums are generally the first ready and are followed by pears, apricots, peaches and lastly apples.

Close pruning when the tree is dormant induces tree growth. Hence if a tree is feeble, or has not grown as could be wished, it should be closely trimmed in the winter season, always cutting just above a healthy bud. A severe shock to the tree, while the sap is flowing freely, causes the tree to throw out fruit buds and spurs for the next season, and pruning while the tree is in blossom will cause that crop to set. When tree growth is desired, prune while the tree is dormant; but if fruit is desired, prune either root or top while the sap is flowing.

For plums, prunes and apricots, leave all the small spurs growing along the branches, no matter whether the tree is young or old, for on them the bulk of the fruit is grown. Head in well from the outside, which tends to develop these spurs, and also strengthens the tree, and the fruit will grow where the tree is best able to bear it. Apples, peaches and pears are inclined to bear nearer the tips, and young trees should be well headed in during the winter season, both to give the tree symmetry and strength, and also to induce a more vigorous wood growth, and prevent a premature bearing of fruit, a fault that fruit-growers do not seem to appreciate, but which is, nevertheless, a very serious one.—Farm and Home.

## THE AMERICAN LINDEN, OR, LIME TREE—(Basswood).

(*Tilia Americana*.)



If a person were to order lime trees from some nurseryman he would certainly receive trees of the sour lemon (*Citrus medica*), generally known as limes. Other nurserymen would send lindens (*Tilia Americana*), or, perhaps some of the European varieties of lime, while others would return the query: "What kind of lime trees are wanted?"

This confusion of names is unfortunate, and should be rectified. However, the tree I wish to mention particularly just now, is that commonly known in Canada as the Basswood. There is no doubt the tree was given this name in Russia, where bast-mats are extensively made from the inner bark or fiber.

In England, and some other countries, the basswood bark has long been used for making ropes, not of the strongest quality, but which serves many useful purposes.

Basswood strings are peculiarly suited for tying up plants which need stakes, or trellises, and for tying buds; and I have handled tons of it for those purposes.

This bark is easily separated by a process of maceration, when it comes apart in thin layers, which, when properly dried and cared for, can be kept in good order for a long time.

In Europe there are several varieties of the lime or linden, the chief difference, however, being in the size and smoothness of the leaves. I have seen many trees of the European varieties growing in America, but for symmetrical form and beauty of foliage, they do not compare favorably with our own native linden. Its large, green, glossy leaves, and the fragrant of its flowers, which furnish nectar for the honey-bee, make it an elegant detached object, when planted singly in open lawns or pleasure-grounds. It has also this advantage, that it is hardier than any of the European varieties; therefore I decry the assumed wisdom of some importers who continue to recommend foreign trees, which are in many respects inferior to those which we can easily have in abundance.

This valuable tree will grow and thrive in almost any soil or situation, but in thin soils in dry seasons, the leaves drop early in autumn.

*Propagation.*—In Germany the linden is propagated largely from layers and cuttings, as well as from seed. Of the different methods in Canada I have found that of raising from seed to be the more economical and satisfactory.

The seeds should be sown soon after it ripens, or early in autumn, because if allowed to dry for the winter and sown in spring they will not germinate until

the following spring. The soil in which the seed is to be sown should be light and porous, kept moist and partially shadowed. Linden seeds will never push up through a hard crust of clay.

After growing one year in the seed-bed, the seedlings should be set out in nursery row to grow for two years, after which they should be planted where they are to remain.

When transplanted quite young and of small size, the linden grows and thrives much better than large-sized trees partly deprived of their fibrous roots when being lifted.

*Cataraqui, Ont.*

D. NICOL.

### REPUTATION AND VALUE.



THE way to sell good grapes for what they are worth, is to so put them up and brand them that anyone may know at a glance that they are good grapes. For a good, honest article the consumer is not only willing to pay a price based upon the value of the goods, but also a considerable margin for the assurance that the commodity is all right. This fact is proven by the history of hundreds of well-known brands of various commodities. Brands that have become household words. In the case of grapes, what does this involve? It simply requires that the brand placed upon good fruit never be allowed upon any but good fruit, that the trade mark be sufficiently conspicuous to tell its own story, and sufficiently familiar to consumers to be recognized and understood at a glance. No one doubts that the first requirement is good, well-packed fruit, that will pass a rigid, impartial inspection. But such grapes may knock about the market and sell for third-rate price, if they are not so branded as to assure the buyer of their quality. Each package must vouch for its contents, and tell a story so plain that no one can fail to understand it. When it is generally known that only good grapes are packed under a certain brand, that brand will bring several cents per basket more than equally good fruit, sold under an unknown brand. If this is true—and anyone can confirm it who will closely observe the marketing of commodities sold under special brand—it is a very significant fact to grape growers. But how may the millions who consume Concord grapes be made to know that only good fruit is packed under a certain brand? It would be practically impossible for a single grower, even though he produced several carloads, to make his product familiar in all markets. But through a union controlling the product of thousands of acres it is a comparatively simple matter. It requires only the exercise of such business sense as dictates the management of hundreds of enterprises, where special brands of goods are produced.—Fruit Trade Journal.

## THE HOP IN GARDENS.



HERE are few things more beautiful than the common hop, which, even when seen climbing over the straight poles in the hop fields, has a gracefulness and picturesqueness inexpressibly charming. We can take some of this beauty to the garden, and use the hop for covering bowers, arbors, trellis-work, and odd nooks, especially if evergreen vegetation is not required. A good use for it is as a climber permitted to ramble at will over dead trees, amongst shrubs and stumps, as any soil is suitable. We lose much picturesque



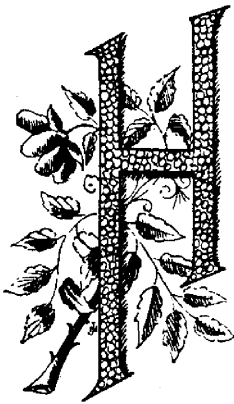
FIG. 398.—A HOP-COVERED ARCHWAY.

beauty in gardens by ignoring things like the hop because they are "common." Nothing is common if it is capable of giving the delight the hop of the field will when set in a place it can clothe with a luxuriant and rich green vegetation. I remember a gnarled apple tree on the fringe of a beautiful pleasure-ground, over which the hop had spread its vigorous shoots, and it would have been difficult to discover a prettier bit of free and picturesque growth. As with the ivy, it makes a happy contrast to clematis Jackmanni and its varieties, the mass of deep green leaves intensifying the color of the rich abundance of deep blue flowers. Nor is its charm confined merely to summer, but as autumn approaches the plant then carries its rich clusters of golden yellow hops, and receives additional beauty of no mean kind. We can judge of the rich beauty that a common climber can give when once it has become established by a glance at the illustration. There is another kind called the Japanese hop, which has been much used for covering arbors and trellises. The growth made is surprisingly rapid. Those who have not yet heard of it should give it a trial, and though resembling the common type, it has no commercial value whatever. The bunches of flowers are larger, and, therefore, the plant has an advantage for the garden.

**Money in Plums.** — It is beginning to pay to raise plums where the improved varieties are set and cared for. The Japanese plums are especially attracting attention. I have examined specimens of the Abundance plum from several localities, some as far north as Connecticut, where it seems hardy. It matures well, and nurserymen should give it a fair test. The Ogon has been sent me from Connecticut, also from the West, and I believe it will prove hardy all over the United States. Kelsey is large, sometimes three inches in diameter, but it is not hardy north of Tennessee. Burbank is a Japanese plum well worth attention. It is not much larger than the Wild Goose, but brilliant crimson-purple in color and rich in flavor. Satsuma is hardy in the Middle States, and, together with Ogon, grows well in New York. The latter is generally a poor grower, but Abundance is a good one. Simoni, Wolf and Pottawattamie are of little value and seem like wild plums. Satsuma is nearly round, dark without and cherry-red within and has a very small stone. Clyman originated in California and ripens as early as Wild Goose. It is an excellent shipper, reddish-purple, covered with a rich blue bloom, is a free stone and the size of the Peach plum. The tree is an enormous bearer, and planted in early localities nothing could be more profitable.—Green's Fruit Grower.

PROUD FATHER: "Welcome back to the old farm, my boy. So you got through college all right?" Farmer's Son: "Yes, father." Proud Father: "Ye know I told ye to study up on chemistry and things so you'd know best what to do with different kinds of lands. What do you think of that flat medder there, for instance?" Farmer's Son (joyfully): "Cracky, what a place for a ball game!"—Vermont Watchman.

## FRUIT AS FOOD.



HORTICULTURISTS, it seems to me, are doubly interested in the subject of fruit as food. If it can be shown that the substitution of fruits for bread, cereals, and vegetables results in an increase of health, it is of course a matter of great interest to everyone; and to the horticulturist and fruit-dealer this problem becomes important in a business sense.

Scientists and physicians are in substantial agreement as to the different elements of food needed by the human organism, and also as to the relative amounts of same. It has been deduced from experiments made on soldiers, and with inmates of public institutions, that, for an average adult performing healthful but not excessive labor, about 21 or 22 ounces of dried food in the twenty-four hours are requisite to keep up weight and strength. Of this nearly 17 ounces must be carbonaceous, or heat-giving, about 4 ounces nitrogenous, or that which is intended for the support of muscular action, and less than an ounce of the phosphatic to support the brain and nervous system, and a small percentage of salts for the bony structure.

If bread be analysed, after its water has been evaporated, it is found that nearly 70 per cent. is composed of starch; and the purpose that this subserves in the system is to keep up the heat of the body. It is well-known to physiologists that while it remains in the condition of starch it is non-absorbable, and non-assimilable by the system; it only becomes food when it is converted by the digestive process, first into dextrin, and then into glucose. If fruit be analysed it will be found that a large portion is carbonaceous, like the starch in bread, and is used in sustaining the heat of the body. In the dried figs of commerce there is about 68 per cent. of glucose, which is nearly the amount of starch contained in wheat flour, and nearly twice as much of glucose is contained in a pound of such figs as bread contains of starch—since bread is about half water. Dates and bananas are similarly rich in this carbonaceous element. Fruits growing in more northern regions are usually much more watery and possess a much smaller proportion of the heat-giving nourishment; but many readers will be surprised to learn that substantially all the fruits usually grown in more northern latitudes are still—when allowance is made for the great preponderance of water—quite rich in heat-giving food. The following is quoted from "Eating for Strength," a work by M. L. Holbrook, M.D., Professor of Hygiene in the New York Medical College, and Hospital for Women:

"An important part of the grape is its sugar, which may be as high as 30 per cent., or as low as 10 per cent. The warmer and drier the weather at the



time of ripening, the more sugar in the grape, and the less acid it is found to contain. There is a small quantity of albuminous matter in the grape, similar to the albumen in the blood, also some gum and dextrin. The mineral constituents are tartrate of potash, soda, phosphoric acid, lime, magnesia, and iron. From 70 to 80 per cent. of the grape is water. . . . . The physiological effect of the grape is significant. Eaten with other suitable food in quantities from one to two pounds daily, they increase nutrition, promote secretion and excretion, improve the action of the liver, kidneys, and bowels, and add to the health. The sugar of the grape requires no digestion, but is taken at once into the blood, where it renders up its force as required; so, also, of the water. . . . . Eaten moderately with a suitable diet, they will not produce cathartic effects but a more natural action of the bowels, so important to health; or, if eaten in large quantities, they are gently laxative. As soon as this occurs, obstructions disappear, and a feeling of comfort arises which is very gratifying to the sufferer."

It will be seen, since grapes have as high as 30 per cent. of glucose, and the poorer sorts as low as 10 per cent., that it is not an extravagant estimate to regard them as containing on the average 15 to 18 per cent. of this heat-giving nourishment. With a requisite amount of fish, flesh, or animal products with oil, from one to one and a-half pounds of bread daily, may be considered a liberal allowance; and a pound to a pound and a-half of grapes to each of three meals, will yield an equal amount of carbonaceous food. It will be noticed that when eating bread, one must be furnished with some fluid for drink; whereas when grapes are used instead of bread, nature provides a distilled water manifestly more wholesome than any other drink which the human being can take.

In England, unfortunately, the climate is not well adapted to grape culture, except by artificial aids; but, fortunately, the blackberry, the raspberry, strawberry, and gooseberry give bounteous yearly returns. Professor Church credits the gooseberry with being only half as nutritious as the grape. I am, however, inclined to think that if analysed when perfectly ripe, it will be found to contain a larger proportion of sugar than is at present credited to it. Blackberries and raspberries, are rich in sugar, and all these fruits may be plentifully and cheaply produced in England, and by bottling may be kept substantially fresh the year round. The fruitarian has only to add a small quantity of dried figs, dates, or bananas—and some one of these fruits is always obtainable at a low price—to obtain all the nourishing elements contained in bread, and to have, in addition, a food much more easily digested, rich in aperient and health-giving acids, and filled with the most wholesome drink known.—EMMET DENS-MORE. M.D., in Hort. Times.

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RUPERT: "I hope, mamma, that I wasn't impertinent to Mrs. Thatcher to-day?" Mamma: "Indeed, I hope not, Rupert. What did you do?" Rupert: "Why, she said I was growing like a bean-pole, and I told her bean-poles don't grow."—Harper's Young People.



## The Canadian Horticulturist

SUBSCRIPTION PRICE, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

### Notes and Comments.

THE FRUIT DISPLAY made by the Nova Scotia Fruit Growers' Association during the month of October at the World's Fair, in charge of the excellent President of that Association, Mr. J. W. Bigelow, was most creditable to that province. An excellent plan was the massing of varieties. At a world's fair little attention is given a single plate or two of a variety, however fine, but when Nova Scotia set out a hundred plates of attractive Gravenstein apples alone, and erected an elegant monument of magnificent Kings, from the Annapolis Valley, it was no wonder that people stopped and admired, asked many questions of Mr. Bigelow, and then passed on saying that it was the finest exhibit they had seen in the Building.

BRITISH COLUMBIA showed some immense samples of apples during October, so that if last, she is by no means the least among our fruit growing provinces. One red Bietigheimer, from A. Clemes, Spences Bridge, weighed  $24\frac{1}{4}$  ounces, and measured  $15\frac{1}{4}$  inches in circumference. This was for some time the largest apple shown at the World's Fair. Her Baldwins and Greenings are enormous; her Ben Davis are as large as those of Oregon and Idaho, and will make a most attractive market apple, in spite of its poor quality.

But one of the most noticeable apples in the collection was the fine samples of that high flavored old favorite, the Esopus Spitzenberg, which can no longer be grown in Ontario and New York State with satisfaction. These were not only of a fine size, but of a high color and perfectly clean. The Fameuse and the Swazie Pomme Gris too were excellent. Surely there is a wonderful future for the Fraser Valley in the line of commercial orcharding; and now that Lord Aberdeen has set so good an example by planting in it a very extensive orchard, no doubt the great possibilities of that section will soon be appreciated.

British Columbia plums, both fresh and in solution, have also been a most prominent feature of the exhibit from that country; one lot of Yellow Egg being the largest plums on exhibition.

QUEBEC has been quite to the front all through the Fair with her fine collections of Fameuse and Alexander apples, and the numerous excellent hardy varieties not shown by any other country. We have noticed her fine collection of bottled fruits in a former issue.

ONTARIO surpasses every other exhibitor in the number of varieties and collections of fruit shown. Although occupying one-half of the space allotted the Dominion, the amount was entirely too limited to accommodate the fruit sent in from all parts of this fair province, and it was necessary to secure an extension to receive the overflow. Through the faithful services of the President of our Association the fruits of Ontario have been shown to the best advantage, and numerous awards made to the province, and to the individuals contributing to the exhibits.

EVEN PRINCE EDWARD ISLAND puts in an appearance with about twenty varieties of well formed, clean looking apples, much smaller in size, of course, than the same varieties grown in Ontario.

THE CENTRAL EXPERIMENTAL FARM at Ottawa makes a fine exhibit of grapes, embracing about 133 varieties, and forming one of the most complete collections shown. It includes some valuable hybrid seedlings raised by Prof. Saunders, and a variety called the Emerald, which was pronounced of very high quality by the jurors at the Colonial and Indian Exhibition.

Another interesting collection is that of New York State, containing two hundred and ninety-seven varieties. Among these later is the Barbarossa, a sample of which, grown by D. M. Dunning, of Auburn, N.Y., weighs 9½ lbs.

THE PRINCESS LOUISE (or Woolverton) according to Prof. Budd is hardier than the Duchess which it resembles in wood and in bud. It is perfectly hardy in Iowa. Some fine samples were shown at the Chicago Exposition by Mr. A. M. Smith, of St. Catharines. The excellent quality of this apple and their extreme beauty as grown on the original tree at Maplehurst, make it a most promising variety. The question is—What effect will grafting, and environment have upon it. So many differences are brought about by varying conditions, that one can never predict with any certainty the future of any variety if removed from its natural habitat.

STOCK ALSO INFLUENCES THE SCION greatly in some cases. Prof. Budd told us at Chicago that he knew a case of the Bethlehemite being grafted on a wild Crab in which the variety retained its distinctive quality for five years, but

after that it began to take of the flavor and acidity of the wild Crab, until it became almost valueless.

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IS THERE A GOOD WINTER RUSSIAN APPLE, is a question often asked. Certainly, said Prof. Budd, the Boiken is a Russian apple about the size of the Greening or larger, is a better keeper, and the tree is as productive as the Willow Twig. Even small trees early begin bearing loads of fruit.

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THE DEMPSEY PEAR, one of the good things bequeathed this country by the late P. C. Dempsey, is a cross between the Bartlett and Duchess. A fine sample was forwarded us at the World's Fair for exhibition and testing the flavor, and we are persuaded it is a valuable variety.

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THE "News" of St. Johns, Que., says: "Efforts for some years past have been made at Clarenceville, Que., to test under cultivation the New England wild mammoth red grape of Connecticut (one of the parents of Rogers' finest hybrid varieties), and they have been so far successful that this grape can now be seen at the vinery of Wm. Mead Pattison, those measuring one inch in diameter, and fully ripe October 1st. Its strong foxiness, however, precludes its use for table or wine, though it is useful for other domestic purposes."

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THE RECUMBENT apple, shown in quantity by the State of Washington Oct. 16th, was pointed out to us by Professor Budd, of Ames, Iowa, as one of the most promising Russian apples for the cold North. Mr. W. B. Harlay, of Como, Montana, is growing the apple on a large scale for commercial purposes. It has been fully tested in Minnesota, in Northern Iowa, and has even been fruited at Winnipeg, and reported quite hardy there. It is hardier than the Duchess, and in quality is excellent. Mr. T. T. Lyon, on visiting Prof. Budd, and eating the apple served up in pies and sauce, said of it, "I have tasted a good many apples in my time, prepared in various ways, but this is the richest I have ever tried." So much for its cooking qualities; while even as a dessert apple it is passable. It is larger than the R. I. Greening, of a lighter green, and much russeted about the stem. Mr. Budd thinks this apple will be of great value to us in Northern Canada.

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PROF. BUDD also recommends for the North a trial of the *Ostrakof Glass* (4 M). It is hardy, a good keeper, iron-clad, above medium size and an annual bearer. Also the *Red Aport*, of the Alexander family, an apple that succeeds well everywhere. It surpasses the Alexander in size and beauty, and it keeps a month longer than that variety. The tree is free from blight, and succeeds well almost everywhere.

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OF THE LARGE LIST OF GRAPES shown by the Central Experimental Farm, Prof. Saunders, who arrived on the 17th of October, pointed out several

which he considers worthy of trial in Ontario, and among them *Kensington*, *Emerald*, *Peabody*, *Canada*, and *Black Elvira*.

The *Emerald* was shown at the Colonial and Indian Exhibition, and pronounced the best grape in our exhibit for quality.

The *Kensington* is a white grape, a cross between the Clinton and the Buckland Sweetwater. It is about equal to the Niagara in productiveness, and fully earlier.

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THE VISIT OF LORD AND LADY ABERDEEN to the various Canadian Courts will long be cherished as a pleasant reminiscence by the Superintendents of the various departments. Their Excellencies were especially interested in the Horticultural Department, because Lord Aberdeen has a large fruit ranch in the vicinity of the Fraser river in British Columbia. It was, therefore, a pleasure to him to see the fine size and clear skin of the apples from that province. In the evening two baskets of characteristic samples of fruit from the various provinces were sent to him to the Virginia hotel, in care of his A. D. C., and in response the following letter was received :

*Virginia Hotel, 19th Oct., 1893.*

To L. WOOLVERTON, *Superintendent Horticulture, Canadian Section.*

DEAR SIR,—I am commanded by His Excellency the Governor General, to convey his thanks to you and the Provincial Superintendents for the baskets of magnificent Canadian apples and grapes which you have had the kindness to send him.

I remain, yours faithfully

DAVID E. ERSKIN, A. D. C.

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THE ANNUAL AND WINTER MEETING of the Fruit Growers Association of Ontario will be held in the Town Council Chamber, Peterboro, beginning on Tuesday, the 19th of December, at 1 p.m., and continuing two or three days. All the meetings are public, and everyone interested in the orchard or garden is invited to take part. Questions will be answered by expert fruit growers, and every effort made to encourage the practice of the best methods of cultivation in order to bring about the best success, and thus increase the wealth of our country.

Samples of all kinds of winter apples grown in various districts may be placed on the table for comparison.

"Papers to be read and discussed :—(1) Fruit Growing in Ontario in the Future, and How to Make it Pay," A. M. Smith, St. Catharines. (2) "Peterboro' as a Fruit Growing Country," E. B. Edwards, Peterboro'. (3) "The Necessity of a Change in our Methods of Obtaining and Introducing New Varieties of Fruits," Thos. Beall, Lindsay, Ont. (4) "A Trip Through the Fruit Section of Western Ontario," Prof. Hutt, Horticulturist at the O. A. C., Guelph. (5) "Some Desirable Ornamental Trees, Shrubs, and Plants for Planting in Ontario," Mr Wm. Saunders, Director Experimental Farm, Ottawa.

Papers will also be contributed by Prof. Craig and Prof. Fletcher, Ottawa, by representatives of affiliated associations and others.

## OUR FRUIT EXHIBIT.

The accompanying tables showing the number of varieties of fruits shown by Canada's Provinces at the World's Fair, are now for the first time given to the public. Similar tables of the vegetable exhibit are being prepared.

Every Canadian visiting these exhibits tells us that he is proud of his country; and when one considers that the total attendance to date, at the World's Fair, has now reached about 25,000,000, it is evident that much good must result.

### FRUITS OF 1892.

Number of varieties shown by Canada and her Provinces, at the World's.  
Columbian Exposition.

	Ontario.	Quebec.	Nova Scotia.	British Colum- bia.	Prince Edward Island.	North West Territory.	Central Experi- mental Farm.	Nappaw.	Indian Head.	Brandon.	Total by Canada.
Apples .....	52	140	86	27	27	.....	.....	.....	.....	.....	292*
Pears .....	59	12	13	.....	2	.....	.....	.....	.....	.....	73
Peaches .....	19	.....	1	.....	.....	.....	.....	.....	.....	.....	19
Plums .....	55	14	17	20	12	.....	13	.....	1	.....	86
Cherries .....	16	3	10	.....	.....	.....	22	.....	.....	.....	39
Grapes .....	53	30	10	.....	.....	.....	111	.....	.....	.....	139
Strawberries .....	59	.....	.....	.....	4	.....	.....	.....	.....	1	61
Currants .....	16	3	4	.....	1	8	.....	.....	5	9	25
Gooseberries .....	19	.....	7	.....	3	.....	13	1	1	1	37
Raspberries .....	13	.....	1	.....	.....	.....	13	.....	5	3	18
Blackberries .....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
<b>Total of all kinds. ....</b>	<b>365</b>	<b>199</b>	<b>142</b>	<b>47</b>	<b>49</b>	<b>8</b>	<b>182</b>	<b>1</b>	<b>12</b>	<b>14</b>	<b>793</b>

### FRUITS OF 1893.

Number of varieties shown by Canada and her Provinces at the World's  
Columbian Exposition.

	Ontario.	Quebec.	Nova Scotia.	British Colum- bia.	Prince Edward Island.	North West Territories.	Experimental Farm, Cent., at Ottawa.	Experimental Farm at Nap- paw.	Exp. Farm at Indian Head.	Exp Farm at Brandon.	Total from Canada.
Apples .....	144	119	144	51	.....	.....	.....	.....	.....	.....	308
Pears .....	67	2	23	.....	.....	.....	.....	.....	.....	.....	82
Peaches .....	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
Plums .....	75	.....	10	17	.....	.....	.....	.....	.....	.....	99
Cherries .....	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	24
Grapes .....	79	7	.....	.....	.....	.....	133	.....	.....	.....	188
Strawberries .....	40	.....	.....	.....	.....	.....	.....	.....	1	.....	41
Currants .....	10	.....	.....	.....	.....	.....	.....	.....	9	.....	12
Gooseberries .....	24	.....	9	.....	.....	.....	.....	.....	2	.....	30
Raspberries .....	7	5	.....	.....	.....	.....	.....	.....	5	.....	13
Blackberries .....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
<b>Total number of varieties. ....</b>	<b>517</b>	<b>142</b>	<b>177</b>	<b>68</b>	.....	.....	<b>133</b>	.....	<b>17</b>	.....	<b>843</b>

\*These are not the totals of the figures given, for there are many duplicates.

## ❖ Question Drawer. ❖

### How to Make a Rockery.

*Answer to H. H. Bradfield, Esq., by Mr. John Craig, of Ottawa.*

The ground space at the disposal of your correspondent is so limited that it will be quite difficult to construct a rockery which will be effective without being formal. Having a space 5x18 feet, and with a tree in the centre of it, the ends only of this become available for constructing a rockery.

Rockeries are built by throwing up a mound of good, friable earth, to the height and size which the situation calls for. In this case it would necessarily need to be small. Upon this mound the stones are imbedded, leaving spaces between them large enough to receive roots of plants or flower-pots, as the case may be. The openings between the stones should be so arranged as to admit of water without allowing the soil to wash away. Larger spaces should be left at the top for some goodly sized plants which are designed to crown the mass, such as ferns.

If water pipes can be run through the centre with a tap at the top, screened by plants, so that a liberal amount of water can be supplied as often as desired, it will add much to the ease with which the plants may be retained in a healthy and vigorous condition.

I am furnished with the following list of plants suitable for such work, or for shady positions, by Mr. Fletcher, Botanist to the Experimental Farms at Ottawa.

*Plants Suitable for Growing on a Rock Work and in Shady Positions.*—*Aquilegia Canadensis*, *Saxifraga Virginiensis*, *Sedum acre*, *Arctostaphylos uva ursi*, *Linnaea borealis*, *Mimulus moschatus* (musk), Ferns—natives. *Begonias*, *Crassulas* and *Sedums*, English violets, lily of the valley, periwinkle (*vinca*) variegated, *Lysimachia nummularia*, *tradescantia*, *Linaria cymbalaria*, bulbs in pots.

*Climbers for Back Ground.*—*Adlumia cirrhosa*, *apios tuberosa*, *amphicarpia monoica* (this delicate creeper will also do for the front).

### Bingham and Beauty of Naples Plums.

585. SIR.—Would you kindly give me an idea of the respective merits of Bingham and Beauty of Naples plums. Also, is there an apple by name of Indian Rareripe? Is it known by any other name?

DAVID A. BLACKADDER, *Windsor, Ont.*

*Reply by G. W. Chin, Winona, Ont.*

I would recommend the planting of the Bingham as a worthy plum for the orchard, but would not plant Beauty of Naples, except for trial, as it does not succeed in all soils or parts of the country. We have so many choice varieties of plums that it is hardly necessary to try all the varieties catalogued, unless as sample trees, an experiment which is well enough for those who can afford it.

### The Wagener and other Apples.

**586.** SIR,—I intend setting out an orchard of winter fruit next spring, and have been advised to consult you with reference to the best varieties. I am in the County York, north of the Ridges, where all kinds will not thrive. Our soil is sandy loam, well protected with trees. What do you think of the Wagener apple? Could you send me a copy of the latest Fruit Growers' Report?

A. RAMSDEN, *Mount Albert.*

The Wagener is a variety of high quality, valuable for both dessert and cooking. It does not, however, succeed everywhere. It is an abundant bearer every alternate year, and is inclined to overload, when the fruit is small. Perhaps some of our readers in York County have tried it there and will give us the benefit of their experience. If Gravenstein, Blenheim, Wealthy, King, Ontario and Golden Russet succeed in your district, they are excellent varieties.

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### Various Questions Answered.

**587.** SIR,—What are the best size fruit trees for planting, also black raspberry bushes, two-year-old stock or tips (prices considered)? Are the roots of the Crawford peach more penetrating than other varieties? If so, would not the pits of the same be good to plant to bud upon? And is there better seed to plant than the Talman sweet apple?

Some say that the Sheldon pear is not a good bearer. It is with me. Soil, rich clay loam surface; at a depth of about three feet there is a stratum of sand about one foot, then clay. Yours truly,

NORRIS MALLORY, *Guilds, Ont.*

Apple trees are easily moved at three and four years of age; after that age there is too much loss of roots in the digging. Tip plants of raspberries are quite satisfactory; the first year no crop is expected, even if two-year stock is planted.

We have never observed that the roots of the Crawford peaches are more penetrating than other varieties; and for stock we usually count it less vigorous than pits of natural fruit.

For raising apple stock probably nothing is better than the seeds of the Talman Sweet. Some varieties bear more freely when this stock is used.

The Sheldon is a scant bearer at Maplehurst.

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### The "Woolverton" and Fruit Ripening.

**588.** SIR,—You will be glad to learn that the "Woolverton" strawberry plants I received from the Society have been very successful. It is a fine berry. I prefer it decidedly to the "Williams," or, indeed, to any other strawberry that I have. It is symmetrical in shape, firm in flesh, and good in color. It is also strong and vigorous in growth and a profuse bearer. I have now a large number and am propagating only from them.

All my fruit crops have been very large this year, especially grapes. I have also been very successful in ripening my pears in the house under woollens, and I wish to ask you if this mode of treatment could not be applied on a large scale to this most delicious of fruits, so that it might be sent to the U.S. and the British markets? Mine were gathered green, and were in perfect condition in ten or twelve days, and if carefully handled and packed in



very large cases, they might reach the British market in good condition. Suppose this were practicable, what a boon it would be to our fruit growers. What think you of the suggestion?

Another question I wish to have an answer to is this: Can apples, or any other fruit, be ripened in the same way? Perhaps some of your correspondents may have tried it. If so, would they oblige me with their experience through the columns of THE CANADIAN HORTICULTURIST? Yours very truly,

J. L. THOMPSON, 86 Howard St., Toronto.

October 9th, 1893.

## ⇒ Question Budget ⇐

1. What apples should we grow for the British market?
2. Are there any other good markets for Canadian apples beside Great Britain; and what varieties are wanted?
3. How should apples be packed and shipped to foreign markets? Experiences of some present.
4. What is the value of apples as cattle food, compared with turnips at 8c. per bushel?
5. Why are so many persons injured by eating foreign canned vegetables and fruits?
6. Has the color and quality of our fruit during the past season been as good as usual? If not, why?
7. How may better results be obtained for the time and money expended in getting and advertising new varieties of fruit, than has been realized during the last ten or fifteen years?

## \* Our Book Table. \*

### CATALOGUES.

WHOLESALE PRICE LIST, FALL, 1893. Stark Bros. Nurseries and Orchards Co., Louisiana, Mo., U.S.

ILLUSTRATED FLORAL CATALOGUE—Fall and Winter Bulbs, Roses, Plants. Champion City Greenhouses, Springfield, Ohio. The Good & Reese Co., Proprietors.

LOVETT'S ILLUSTRATED CATALOGUE OF TREES AND PLANTS, Autumn, 1893. J. T. Lovett Co., Little Silver, N.J.

CATALOGUE OF J. V. MUNSON'S NURSERIES, Denison, Texas, U.S.

ANNUAL FALL CATALOGUE OF BULBS AND PLANTS, Autumn, 1893. Illustrated. Webster Bros., Hamilton, Ont.

SPECIAL TRADE LIST, Roses, Peonias, Fruit Trees, etc. Louis Paillet, Nurseryman, Vallée de Chatenay (Seine), near Paris, France.

PLANTING TIME, FALL, 1893—A Reminder. Ellwanger & Barry.

FALL, 1893. American Grape Vines, grown and for sale by Bush & Son & Meissener, Bushberg, Jefferson Co., Mo., U.S.

### BOOKS.

ANNUAL REPORT OF THE BUREAU OF INDUSTRIES FOR THE PROVINCE OF ONTARIO, 1893. Parts I, II and III.

BIRDS OF MICHIGAN. By A. J. Cook. Issued by the Michigan Agricultural College.

JOURNAL AND PROCEEDINGS OF THE HAMILTON ASSOCIATION for Session 1892-93. Secretaries—Thos. Morris, jr., Hamilton, and C. R. McCullough, Hamilton.

SECOND BIENNIAL REPORT of the Oregon State Board of Horticulture, 1893. George I. Sargent, Chamber of Commerce, Portland, Oregon, U.S.



## AUTUMN THOUGHTS.



GONE hath the Spring, with all its flowers,  
And gone the Summer's pomp and show,  
And Autumn, in his leafless bowers,  
Is waiting for the Winter's snow.

I said to earth, so cold and grey,  
"An emblem of myself thou art."  
"Not so," the Earth did seem to say,  
"For Spring shall warm my frozen heart."

"I soothe my wintry sleep with dreams  
Of warmer sun and softer rain,  
And wait to hear the sound of streams,  
And songs of merry birds again."

"But thou, from whom the Spring hath gone,  
For whom the flowers no longer blow,  
Who standest blighted and forlorn,  
Like Autumn waiting for the snow :

"No hope is thine of sunnier hours,  
Thy Winter shall no more depart ;  
No Spring revive thy wasted flowers,  
Nor Summer warm thy frozen heart." — *Whittier.*

