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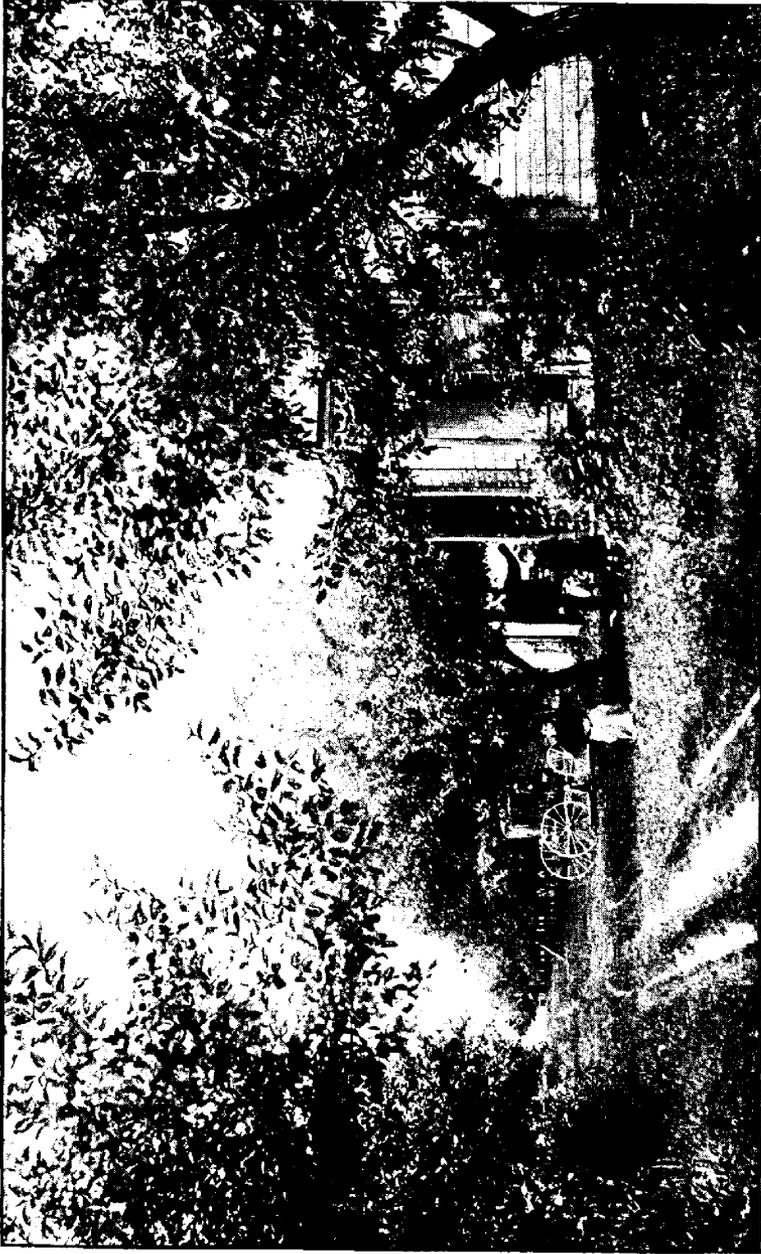
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ORCHARD OF MR. A. E. SHERRINGTON, WALKERTON, ONT.

THE
Canadian Horticulturist

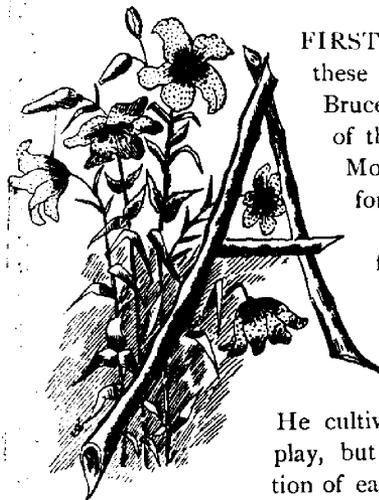
Vol. XVIII.

1895.

No. 9.



LOCATING FRUIT EXPERIMENT STATIONS.



FIRST trip made this season for the location of these stations was in the counties of Huron and Bruce. The writer, accompanied by Prof. Hutt, of the Ontario Agricultural College, set out on Monday, August 26th, taking with us bicycles for easy access to various points.

At the Agricultural College, Guelph, we found the greenhouse, the trees and shrubs of the lawn and the experimental strawberry plots objects of special interest. Prof. Hutt is certainly much to be commended for the systematic manner of his operations.

He cultivates flowers not for their ostentatious display, but with the object of completing a collection of each kind, so that his students may gradually become acquainted with their distinguishing features. The plants in the greenhouse are plainly labelled, so that both student and visitor may constantly associate the plant and name and thus learn much, quite unconscious of effort. In place of the wooden labels so much in use among florists, and on which the writing is almost illegible, he uses labels of celluloid procured from the organ factory, cut about twice the size of the ordinary label, and this is supported by a label pin. On it is written in plain characters the name of the plant. The ink which Mr. Hutt uses is indelible and is made of varnish and drop-black, with a sufficient amount of turpentine to thin it for easy application.



INTERIOR VIEW OF GREENHOUSE, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

The plants are in excellent condition, doing great credit to both Prof. Hutt and his florist, both of whom may be seen among their favorites in the accompanying picture of the interior of one of the greenhouses. There are six of these in all, enclosing an area of a little over 7,000 square feet, and may be thus enumerated: (1) The forcing house; (2) the propagating house; (3) horticultural laboratory for the use of students, provided with benches and all needed appliances for each; (4) the intermediate house; (5) the tropical house, and (7) the conservatory.

The strawberry plot, just in the rear of the greenhouses, contains over one hundred varieties in little sections side by side and plainly labelled for the information of visitors. The results of his experimental test will be made public through our report.

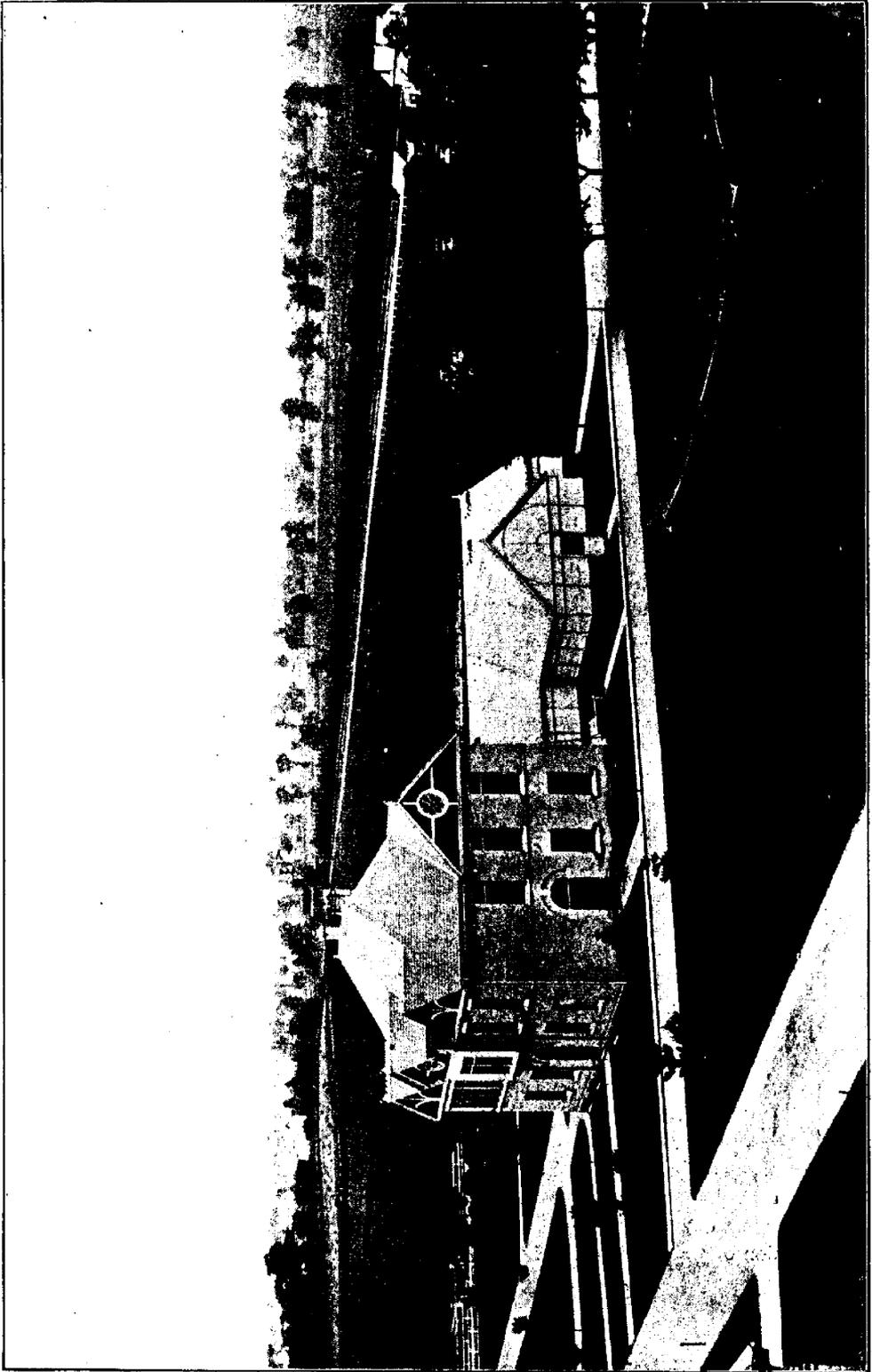
From the roof of the College building proper, a beautiful view may be had of the experimental plots of the farm, the dairy department, and the horticultural building, of which latter an exterior view is also presented to our readers.

This building includes both the botanical laboratory and the greenhouses. Here are offices and lecture rooms of Prof. Hutt and Prof. Panton, and these are furnished with every modern appliance for the performance of first class work. Prof. Panton's department is one of great value to fruit growers; he is constantly receiving plants and flowers for name, and gives ready responses to such enquiries. His laboratory for the study of microscopy is fitted up so as to afford each member of his class a separate table, microscope, and outfit. Adjoining, he has a dark room for finishing up photographs, and thus science and art are made to serve each other. Prof. Panton has just completed a work which he calls "Insect Foes and How to Destroy Them," a book which is now offered for sale at so low a price that no fruit grower or farmer need lack for the latest information on this subject.

The immense campus of about forty acres in the College front is an especial feature of the landscape, and the fine stretch of open greensward is carefully preserved according to the correct principles of landscape art, and any trees or shrubs are placed in clumps and groups in such a manner as will not conceal the many excellent views from the College.

The ribbon beds in front would deserve a detailed description, if space permitted. In one the letters O. A. C. are formed by plants of large silvery *Centaurea*, the dark background is formed with *Achyranthes*, and the border with *Mesembryanthemum*.

At Walkerton we paid a visit to one of the applicants for experimental work, Mr. A. E. Sherrington, a practical bee keeper and fruit grower, who is quite an authority in his own section in both these departments. He has a great fondness for experimental work, and has excellent soil for fruit growing. His situation is inland, well representing the conditions prevailing in a large portion of the county. Our frontispiece is a good representation of the central



EXTERIOR VIEW OF HORTICULTURAL BUILDING, ONTARIO AGRICULTURAL COLLEGE, GUELPH, ONT.

driveway through Mr. Sherrington's orchard looking from the house. The situation here being elevated about 100 feet above the town, magnificent views of the surrounding country lay before us. Mr. Sherrington has seven acres of orchard, five acres of which are devoted chiefly to the Spy, Russet, Mann, Ben Davis and Greening.

He is also trying the Ontario and Pewaukee as market sorts. He has given a good deal of attention to spraying, and is also experimenting with several varieties of pears and plums. He estimates that he has about forty-five plum trees, thirty-five pear trees, and two hundred and forty apple trees. His soil is rich clay loam and chiefly fertilized with wood ashes. He attributes the productiveness of his trees to the agency of his bees, and thinks that every fruit grower should be also a bee keeper.

A great many apple trees are grown in this section of the country, and Mr. Sherrington estimates that in a good season about forty thousand barrels would be the output; Walkerton being one of the important shipping points.

Wheeling from Walkerton to Paisley we passed through much interesting country where the crops of both wheat and oats appeared to be very heavy. At Port Elgin we called upon Mr. J. H. Wismer, who so often advertises his northern grown trees in this journal. He is well situated on the lake, and his soil is light sand, and consequently easy of cultivation. Wheeling from Port Elgin toward Owen Sound, we reached the Saugeen River crossing the road in front of us, which, by its wide valley and wandering course, affords many pretty views for the camera, one of which we print to illustrate this article.

The roads through this northern country are excellent. They are sandy, well packed with stones and gravel, so good that they may be compared favorably with the asphalt of our cities. There is just one fault which cyclists find, and that is the great number of loose stones, which are not only dangerous for the wheelman, but which must also be very wearing upon vehicles of every description. Surely here is a pointer for our friends of the Good Roads Association, namely, to agitate that the roads be raked over once or twice a year, either with a hand rake, or with some road machine, in order to remove these loose stones which will not pack, and are the only blemish upon roads otherwise excellent.

The Climbing Bitter-Sweet.—The bitter-sweet vine, *Celastrus scandens*, a relative of the burning bush, is a strong growing vine, scrambling over trees and fences, with dark green and abundant foliage. Many trees a foot through carry a less number of leaves than this vine often does, though its stem may not be more than an inch or two thick. The clustered berries, which are bright yellow outwardly, are round and smooth at first, then the shell opens in three pieces and turns back, showing the scarlet aril-covered seeds, and now brighter than before, they light up the stumps, fences and the scraggy trees along the roadside for the most of the winter. Not many woody vines are better than the bitter sweet; its growth is rapid and its shade is deep. The berries retain form and tint indoors when perfectly dry.—Vick's Magazine.



VALLEY OF THE SAUGHEN—ENGRAVED FROM PHOTOGRAPH.

THE FRUIT EXHIBIT AT THE TORONTO INDUSTRIAL.



THE fruit exhibit at the Toronto Industrial this year was unusually fine. The apples and pears were of extraordinary size and remarkably clear of blemishes, and consequently well deserved the many expressions of admiration which were bestowed upon them by the public.

The one judge system was adopted for the first time and seemed to work well, with one exception, namely, that too much was assigned in several instances to the judges. Score cards were used by the judges for the first time, especially in cases where the competition was close. The points observed were those prescribed by the

Ontario Fruit Growers' Association. For lack of a sufficient number of cards, however, the system was not carried out in full; besides it was found that score cards were adapted more to collections than to single plates.

The exhibit of the Dominion Experimental Farm, Ottawa, was very interesting, embracing a large collection of hardy Canadian and Russian varieties of fruits, and also a fine collection of native plums.

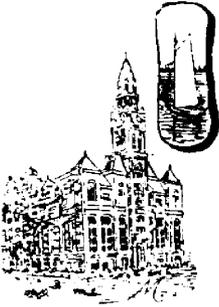
The exhibit of the Ontario experiment fruit farms was excellent, considering that it was the first attempt of the kind. The Stations have only been in operation one year, and very few of the newer varieties that have been planted at these Stations can be expected to produce fruit for a year or two yet. The varieties shown were largely those which had already been under test by the individuals selected as experimenters. The Wentworth grape Station, under the management of Mr. Murray Pettit, showed 111 plates of grapes, most of them very fine samples indeed. The Georgian Bay plum Station showed 56 plates of fruit, and the apples from that section attracted much attention. The South-Western Station, under the management of Mr. W. W. Hilborn, which is devoted to peaches, showed 80 plates of fruit. The Bay of Quinte Station, devoted to apples, under the management of Mr. W. H. Dempsey, showed 150 plates of fruit. The Secretary showed 150 plates of fruit, and Mr. A. M. Smith, of St. Catharines, 19 plates of fruit. Among the peaches from the South-Western Station was the Fitzgerald, a beautiful yellow peach of excellent quality, indeed, the flavor of this variety is most delicious, rendering it an excellent peach for dessert purposes. The tree is said to be very productive; a tree one year old in Mr. C. E. Brown's orchard at Niagara produced this season seven peaches. The Woolverton, or Princess Louise apple, was shown by A. M. Smith, and also by E. C. Beman, of Newcastle. With Mr. Beman this apple gives evidence of being very productive, and he believes it will be very profitable. He has two distinct variations in coloring, one of them striped and the other with the rich blush which is characteristic of the original samples. This

reminds one somewhat of similar variations of color in the Fameuse, of which the tree is a seedling. The Dempsey Pear, Trenton, Albury, Hastings and Walter apples were shown in the large collection from the Bay of Quinte Station. The Idaho pear, as shown by the Secretary, was much smaller than the samples which have been described in the CANADIAN HORTICULTURIST. The former description was made from samples sent from Idaho, where fruits grow to a larger size than they do in Ontario. When once our experiment stations are in full operation, we hope to be able to describe all fruits from specimens actually grown in Ontario. The Brockworth Park pear and the Geneva grape were shown by Mr. A. M. Smith, who also brought quite a collection of Russian apples from the orchard of Mr. Sidney Parnell, of St. Catharines. These are more interesting because of their novelty than because of their value. Two new seedling plums were shown by Mr. J. K. Gordon, of Whitby, one of which he has named General Brock, and the other the Whitby. The former ripens about the second week in August, and the latter is a late plum. Both of these plums present an attractive appearance.

Another year it is proposed to increase the value of the experimental exhibit by arranging the varieties in alphabetical order, and also by showing in separate lots a limited number of those varieties of each fruit which seem adapted for cultivation in the locality in which the fruit Station is situated.

Care of Shrubbery.—It is well, sometimes, to repeat advice, as it is not always properly understood when first offered,—and this is especially true of matter connected with the management of shrubbery. The practice of shearing bushes in the winter time has been repeatedly shown to be as destructive to the object aimed at as it is objectionable to good taste. The proper time to prune shrubbery is after the flowering is over, then all weak and puny branches should be cut out to the ground. In cases where the bushes are low, with such plants as spiræa, for instance, nearly all those which flower in the spring should be removed, and a new set of strong shoots suffered to come out near the ground. The result is a well formed natural specimen, which will bloom profusely the following year, and yet be kept within the limited bounds desired; or if the plant is not required to be kept down to small dimensions, but a large, vigorous bush is desired, still the summer pruning should be the rule, for if the whole branch be not cut out to the ground, the vigorous upper shoots should be checked by having the very strongest ones pinched back. No amount of theoretical advice, however, will enable one to do just the right thing. Grand success must come from experience and observation. If we keep in mind that very strong shoots rob and weaken those not as strong as themselves, and that this vigorous growth is to be checked as it is going on, we get the chief element in success. All the rest must come from experience, and the rule can be applied to each particular class, according to the object aimed at.—Meehans' Monthly.

THE HAMILTON FRUIT DISTRICT.



ON the 21st of August, 1895, I stood upon the edge of the bluff overlooking the City of Hamilton towards its eastern ramparts. Near by me stood a party of tourists from Cleveland, Ohio, who were returning from the east, having visited Montreal and Toronto on the way. After gazing for a few moments on the picture before and beneath them, one of the party, a gentleman, remarked: "I have looked upon every city of importance on the continent of America, but never before have I stood upon a spot of earth that afforded so charming a prospect as this."

There are really few Canadians who know the charms of Hamilton, and few who do know them but would readily endorse and echo the sentiments of the Cleveland tourist.

But it is of Hamilton, as a fruit centre more particularly, that I would wish to speak at present. The same language applied to the city, regarding its peculiar and attractive situation, may be applied with equal force and aptness to the district lying for miles to the eastward. One may stand upon the edge of the bluff at any point between Hamilton and Grimsby, a distance of nearly twenty miles, and, looking to the north, behold as charming a panorama of garden, vineyard and fruit farm, as the city presents in an urban sense. And what lends to this highly favored fruit district a special attraction this year, is, that it is teeming with fruit, which all or nearly all other sections of Ontario were made destitute of that highly-prized product, by the terrible frosts during the month of May.

I had the privilege, during the latter part of August, of making several trips over the electric railway recently opened between the City of Hamilton and Grimsby village, eighteen miles to the east. This trip affords a splendid view of the numberless fruit farms lying between the two points named. To one interested in fruit farming, we know of no trip of the same number of miles more attractive and interesting. In many of the farms I noted vast improvements since my visit to the same district three years ago. Orchards are better kept, the fruit seems cleaner, larger vineyards planted, the soil is kept in better order, and greater care is bestowed upon the home and its surroundings. The opening of the electric line has in fact made this whole district but a suburb of the City of Hamilton, and not only the handsome homes are assuming a city aspect in their style and outward attractions, but their owners are beginning to put on city airs. To describe the farms, and the fruit upon them, lying along this trolley line, would be too great a task, and especially so since I dropped off at only a few of them. Suffice it for the present to say, that within the distance covered by this road are the farms of such well-known fruit growers as Murray

Pettit, President of the Ontario Fruit Growers' Association ; Linus Woolverton, M.A., Secretary of the same Association, his adjoining neighbor with his magnificent home ; Mr. C. E. Woolverton, Mr. A. H. Pettit, Mr. Geo. W. Cline, with his orchard of seven thousand plum trees, Mr. E. D. Smith, with his four hundred acres of nursery stock, vineyard and peach orchard ; Mr. W. M. Orr, who, I believe, sent into the market, north, the finest samples of plums shipped this season ; and several others whom we had not time or opportunity to call upon.

To all those fruit growers, the opening of the Hamilton and Grimsby electric railway and the establishment of a wholesale fruit market at the Hamilton end of the road, must prove a great and profitable boon. We had the privilege of being present at the opening of the fruit market on the 22nd of August, and witnessed the interest taken in it by the citizens of the city and adjoining fruit districts, and saw the loads of fruit coming in by almost every car during the forenoon of that day, and were most favorably impressed with the promising auspices of the inauguration. Through the courtesy of the president, Mr. W. W. Ross, and the manager, Mr. F. W. McBeth, I was given the freedom of the market, a privilege which enabled me to judge of its capacity for handling fruit, and estimate its possibilities of development as a distributing centre, to the general advantage of grower, handler and consumer. From the enormous quantities of fruit sent in daily by the growers on all sides and distributed by this market to all parts of the province, it must have already justified its promoters in their faith in its possibilities of success. To my mind, it is an enterprise that the fruit growers of Ontario, and the HORTICULTURIST, as their publication, should give every encouragement to. With such a convenient distributing centre, and more reasonable express and freight rates, the consumption of the finer fruits so successfully grown in the Niagara peninsula must largely increase in all other sections of the province.

Mitchell, Ont.

T. H. RACE.

THE Bureau has never received more discouraging reports than during the present season. Apples have been a failure. The bulk of correspondents report none at all, or a dozen or two on a tree. A number hazard the opinion that a half bushel or possibly a bushel might be the average, while occasional correspondents have a generous yield to report. The best returns come from districts near the lakes. Plums are a poor crop, and so are peaches. Cherries did not do as well as usual, but they were not so badly troubled with black knot as in former years. Grapes, which were almost entirely cut off by the May frosts, put forth a second bud, and about half a crop is expected. Raspberries did well in the Niagara and Hamilton sections, but strawberries suffered from frost and drouth. There was a fair amount of wild fruits in the northern and eastern portions of the Province.—Bulletin 54, Ontario Bureau of Industries.

PROFIT OF RAISING LARGE FRUIT.



HE material composing large fruit is less costly than that which enters into the composition of small fruit. We use the terms large and small fruit to distinguish specimens of the same variety, as large Lombard plums and small Lombard plums, not to distinguish plums and cherries from grapes and currants.

Composition of Fruit.—Like other vegetable products, fruits are mostly composed of oxygen, hydrogen, nitrogen, carbon, potash, soda, magnesia, lime, phosphoric acid, and sulphuric acid. With the exception of nitrogen, potash, and phosphoric acid, all these elements are abundantly supplied by the air or the soil. A deficiency of one or more of these three substances impairs the fertility of the soil, which must be restored and maintained by compounds containing one or more of these three elements. Each crop taken off the land carries with it a certain amount of these three elements, and lessens by so much the raw material at the command of the farmer.

Let us apply these principles in reckoning the cost of producing large and small fruit of the same variety. An apple three inches in diameter contains twenty-seven times as much substance as one only one inch in diameter, but the skins, cores and seeds form a much larger percentage of entire substance of the smaller apple than of the larger one.

By a chemical analysis of the apple we find that the seeds, skins, and cores contain about twice as large a percentage of ash and five times as large a percentage of nitrogen as the flesh of the apple does. Not only is the ash of the refuse in greater abundance, but it is also richer in phosphoric acid. These facts show that the soil is more rapidly exhausted by the production of small fruit.

Injurious to the Tree.—The tree is more injured by a large crop of small fruit than by an equal weight of large fruit. The fruit tree which bears a heavy crop of small fruit makes very little growth of wood, while one which bears the same weight of large fruit makes sufficient wood-growth. Both the growth of the tree is retarded and its health is much impaired by an undue amount of seed.

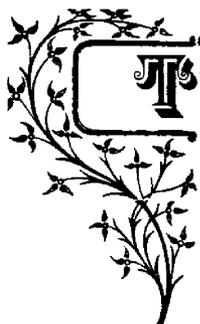
Besides this, the raising of large fruit is more profitable because it commands a higher price in the market.

Tiverton, Ont.

A. H. CAMERON.

Turnip Sprouts.—It is stated that the Swede turnip placed in comparatively warm cellars in the fall of the year will send out sprouts, which, when cooked, are equal to the best asparagus; and, in some parts of the Old World, it is becoming a regular part of good gardening to put away a few turnips for supplying the article during the winter season.—Meehans' Monthly for October

REFORM IN FRUIT PACKING.



THE following letter to the Glasgow Citizen will be of interest to every fruit-grower in the Niagara peninsula :

Sir,—In near prospect of the annual advent of the great fruit trade, timely suggestions of improvement in catering arrangements beneficial to the great consuming public, apart from the workers and dealers in the merchandise, are appropriate and necessary.

The trade is a great one and increases by leaps and bounds every year. The article itself is wanted and annual expectations are founded upon it. The fruit is being recognized as a necessary article of family food. No other apples—for one reason or another—can be made substitutes for those of American growth. The harvest prospects of the crop in America this year are well reported of. But the barrel form (containing 120 to 140 pounds) of package shipment is a failure, and is demoralizing the trade in public estimation here.

In Canada the trade is primarily commenced by orchard contractors, and then from them in bulk of barrels to the shippers and their consignees. The former are knavish, and the latter are unconcerned beyond their computations ; and both of them are ignorant and unlearned in the wants of the people here, upon whose patronage the prosperity of the trade is depending.

In packing these barrels the contractor places a few inches of select fruit on top and bottom, while the centre is filled with any sort you choose to call them. Sampling either end is no criterion of the stock. Emptying the barrel is interminable work, damaging the fruit, and the packer's knavery has not even extenuating cleverness to show for it. The result is that brokers can give no guarantee under their hammer. Even three random barrels in a shipment lot opened is no criterion—the character of a lot being so miscellaneous in itself. Dealers hesitate to purchase uncertain stock. The broker's ledger is creeping with disputed accounts in consequence of misrepresented stock, and what is worst of all and becoming fatal to the trade is that the family man will not buy a barrel at all on account of its quantity (120 to 140 pounds), and the uncertainty of the quality throughout the barrel.

Again, there are barrels known as slacks, but as a rule these proclaim themselves to an observer, and are the result of ignorance on the part of the packing orchard contractor, who puts over-ripe fruit in the centre of the barrel. The broker generally is obliged to sacrifice such lots, but all the same the good fruit is lost to the use of man, and the inconvenient barrel package is one-half at least of the primary cause of the loss.

Now, these barrels—containing 120 to 140 pounds and costing half a dollar

each (cheap enough in themselves to the cooper, no doubt, since the evaporation of the barrel-flour trade)—could be advantageously replaced by three plain, square wicker baskets or crates, containing say 40 to 45 pounds each, and costing less money than a barrel. Such packages would be more convenient to the contractor, costing no more freight and transitage, less liable to heating and waste in respect of less bulk (the normal moisture of the ripe apple being about the same as that of the potato); but, over and above all, such packages would be more convenient for family purchase and use, and the broker, dealer and consumer could all see and guarantee what they were dealing in; and the trade would then become a household word and the fruit a household article beyond limited consumption, because every family can eat cooked apples, and every land lessee in Ontario would grow apples, and find better financial results than by growing wheat.

Of course, there are diversity of trees and fruit upon them in every orchard, but the careful selection and appropriation of these would depend upon the honesty and skill of the contractor's inspector, under, say, three designations: of table, cooking and boiling apples; and were these packages thus carefully manipulated and marked by an inspector or contractor's name or trade-mark, they would soon be well known and eagerly sought after on arrival at any port, with full remunerative advantage alike to shippers, consignees and the general public.

The bazar merchants and brokers would do well to turn their usually energetic attention to these suggestions; because if they supinely overlook the wants of the public, there are others who shortly will not overlook them. I believe there are one or two enterprising persons already in Canada this season educating the packers for this or other markets, and thus this great trade, for which Glasgow might be the chief center, may pass away from it, notwithstanding its superb steamship and other advantages, to Southampton, Liverpool, or elsewhere. I am, etc.,

Glasgow.

JOHN MACLEAN.

Pruning Trees at Transplanting.—It should not be forgotten that the branches of trees have varying degrees of vital power. Strong, vigorous, healthy branches would endure unfavorable circumstances when the weaker ones would give way. In growing trees, it is always the weaker wood which we find among the dead branches. In transplanting a tree, we want all the branches that are full of life and vigor, and not those that are already half-dead. The practice generally followed, therefore, of shortening back the strong, vigorous branches, and leaving the half-dead ones, is a mistaken course. If all the half-dead branches were cut away, and the stronger ones left without any shortening, transplanting would often be more successful than it is.—Meehans' Monthly for October.

NEW PROCESS FOR KEEPING FRUIT FRESH.

(Extract from Consular Reports, Washington, D.C.)



THE great difficulty experienced in preserving fruits in their natural state is such that the dealers who make the attempt of furnishing them out of season are compelled, on account of the heavy losses they sustain, to sell their goods at prices which render it impossible for the great majority of families to place fresh fruits on their tables during the winter months. The high prices which fresh fruits command on the city markets increase day by day from the time they are gathered, and have induced orchard and vine owners to run many risks in order to keep their fruits as long as possible before offering them for sale. And it is not surprising that no pains, efforts, and sacrifices are spared to reach the coveted result, when it is known that during these last years, first-class grapes sold from 2 to 4 francs (38.6 to 77.2 cents) per kilogram (2.2 pounds) from September to November, that they were worth 8 francs (\$1.53.4), and as much as 12 francs (\$2.31.6) in February and March, and 14 francs (\$2.70) in April and May.

These exorbitant prices show plainly how imperfect are yet the means employed for keeping fruits fresh, how few must be the successful efforts and how many the difficulties encountered. The solution of this question is, therefore, of great interest to all, and the result of the experiments made in the latter part of the year 1894 and lately reported to the Horticultural Society of Soissons, by Mr. A. Petit, chief of the laboratory of horticultural research at the National Horticultural School of Versailles, deserves the attention and consideration of fruit growers throughout the United States.

Impressed with the powerful action of alcoholic vapors on the mold which generally appears on the surface of fruits in a damp atmosphere, Mr. Petit noticed that pears and apples kept for several months in a surrounding saturated with vapors of water and alcohol, even were they at the beginning in a state of decay, showing no signs of mold, while fruits in every particular identically similar to the former, stored under the same conditions, but not exposed to the action of alcoholic vapors, were entirely covered with it.

Taking advantage of this observation, Mr. Petit applied the principle to the preservation of fruits in general, and most particularly to grapes, because, more than others, the latter are subject to mold. It was to be foreseen that grapes kept, from the day they are cut off the vines, in an atmosphere saturated with vapors of water and alcohol, would, by the retarding of the sweating period, not only remain free from mold, but would even retain their natural aspect. Consequently, should the temperature be constant and low, the preservation could be maintained long and well.

On the 31st of October, 1894—that is, very late in the season and at a very unfavorable time—Mr. Petit placed, with other fruits and a bottle filled with 100 centimeters (61 cubic inches) of alcohol at 96°, some bunches of grapes known as “Chasselas de Fontainebleu,” fresh from the vine, in a brick recipient in the form of a parallelepiped, cemented inside and closed as hermetically as possible by a common wooden door. In two similar recipients contiguous to the first, one of which was kept open and the other closed, but without alcohol, were stored similar fruits from the same trees and vines. The fruits were laid on wood shavings. The recipients were built in a very damp cellar, the temperature of which varied regularly from 10° to 8° C. (50° to 46½° F.) during the whole time the experiment lasted.

On November 20, the grapes placed in the recipient left open, and especially so those in the closed recipient without alcohol, were mostly rotten and covered with mold and were immediately removed. In the recipient containing the bottle of alcohol, the grapes were beautiful; on one bunch, two grapes had turned brown, but were firm, full, and free of mold; they did not taste at all sour, thus differing essentially from moldy grapes, especially those subject to *Penicillium glaucum*. The hair hygrometer in the recipient registered 98°. On December 7, the bunches of grapes in the recipient containing the alcohol had kept their fine aspect; on most of them, however, one or two grapes had turned brown and were in the same condition as those above referred to. On December 24, same results; on most of the bunches could be seen one or two grapes commencing to decay. At the end of nearly two months, each bunch had lost but from two to four grapes each and all were in a perfect state of preservation, the stalks being perfectly green and the grapes firm, full, and savory, and having all the qualities of fresh-cut grapes.

At the conclusion of the experiment, 28 cubic centimeters (17 cubic inches) of alcohol at 60° remained in the bottle out of the 100 cubic centimeters (61 cubic inches) at 96°, but, as Mr. Petit remarks, the door of his recipient had not been built with great care and did not close hermetically, hence a useless consumption of alcohol.

This process offers many advantages. It is simple, easy of application, and cheap, and, if adopted by our fruit growers, would allow them not only to hold their fine fruits until they can dispose of them at a fair price, but would also insure them handsome profits during the winter months.

HENRY P. DU BELLET,

Rheims, France.

American Consul.

Grafting Apples and Pears on the Hawthorn.—Fashions go and come in Horticulture as in other things, and the same idea comes up and down with every ebb and flow of fashion's tide. The apple and pear will graft on the hawthorn. They keep dwarf, and bear early when so grafted. For a few years the nurseryman sells all he can raise, then for a few years he burns them all. Just now the inquiry for them seems on the rise again—for about the fifth time during the last fifty years.—Meehans' Monthly for October.

GOOSEBERRY QUESTIONS ANSWERED.



THE following questions have been received from different persons, and answered by mail, but as they are important to gooseberry growers in general, I offer questions and replies for publication.

(1) "*Do you recommend fall planting, and why?*"

I prefer to plant in the fall, because the gooseberry is often in leaf before the land can be got upon in the spring, and I have always found the bushes did better.

(2) "*What kind of soil is best adapted for raising gooseberries?*"

I find a soil composed of sand and clay, mixed by the action of water, and also a heavy clay soil, both yield large crops of fine berries. So also do a few bushes in a yellow loam five feet deep, but they have been treated liberally with hard-wood ashes and stable manure.

My bushes are planted 6 × 4 ft., and I keep the Planet Horse Hoe running between roads about every seven days—less might do. Between bushes I use a shove hoe made so  from a piece of an old cross-cut-saw. Any handy blacksmith can get one up. They are very handy for working under large bushes.

(3) "*What kind of fertilizers do you recommend?*"

Stable manure and hard wood ashes, and you need not be afraid of putting it on thick—it will pay to do so. I used some nitrate of soda last year, and was so pleased with the results that I am using it more liberally this year.

(4) "*Would offal from a tannery be suitable?*"

Being animal matter, I presume Yes, but I should prefer to compost it with stable manure before using, or even with muck or mould.

(5) "*Do you grow on a single stem?*"

I prefer the shrub form, because of the necessity of renewing the wood at least every three or four years. After about two or three good crops, the wood becomes hide-bound, and the fruit runs small. So after two good crops, I cut away the old wood, and have new wood to take the place of that cut away. I strive to have about six stems.

(6) "*Would you advise planting extensively of Industry, Autocrat and Whitesmith?*"

The first two, no! Whitesmith is a noble berry, and where spraying is practised will be satisfactory. For one's own use for eating ripe it is hard to beat the Autocrat, but it has an unfortunate habit of dropping its leaves early, and I fear will never be a very profitable berry.

(7) "*Give your system of pruning?*"

Clear away underneath. Thin out the head so that the hand can be easily inserted in all directions. This will allow of a free circulation of air. Cutting-in I do not practise much, as it induces an abundant growth of weak shoots which thicken up the bush during summer. I prune in the fall last thing.

(8) "*Are not Queen and Chautauqua very nearly alike?*"

Yes, Queen and Chautauqua are very much alike in foliage, vigor, and in shape, size, and appearance of berry, but at this writing Chautauqua shows just a little disposition to drop its leaves, as you remark, but nothing serious. Queen is as green as a leek.

(9) "*The most prolific berry?*"

Champion is the most prolific berry that I have tested so far. It is enormously productive and vigorous, but not any improvement on size on the Pearl, which for vigor is hard to beat. Red Jacket is its equal in this respect, but I cannot yet pronounce upon its productiveness.

(11) Yes, it is apparently "an American production." I am of the opinion at present that it is a native or it may be a seedling of some English variety.

(11) "*What varieties would you recommend for extensive planting?*"

Taking into consideration the price of stock, I would take Downing for main crop, with Pearl in less numbers, on account of higher price. If these varieties are sprayed for rust, heavily manured, and renewed as described above, they are fine berries. I should also get a more limited number of Champion, Triumph, Red Jacket, and Queen, and propagate them. Another point is, I would watch carefully the reports of the experiment stations, as there are quite a number of very promising novelties being tested, and some one of these may be the ideal berry.

(12) "*Have you any success in propagating from cuttings?*"

By the ordinary way it can't be done successfully. Layering will be found much more satisfactory. In a wet, warm time shoots, not suckers, will root in two or three weeks.

(13) "*Cause of Downing dropping its leaves prematurely?*"

I do not find the Downing to have this habit now. Some years ago when I did not spray, and gave but little cultivation, it had that habit, but now the leaves stay on till killed by frost. This I attribute mostly to spraying, but cultivation may be a factor.

All questions cheerfully answered through medium of this journal, or privately, when necessary.

THE FAILURE OF THE FIRST EXPERIMENTAL SHIPMENT.

LIVERPOOL, September 21st, 1895.

L. WOOLVERTON, ESQ.,
Secretary Fruit Growers' Association,
Grimsby, Ontario.

DEAR SIR,—My cable of the 17th inst. will have prepared you for a very disappointing return from the trial shipment of fruit.

I enclose the broker's report of its condition on arrival, and also a list of the sales so far effected of the remnant that was found to possess some value. The prices obtained, you will observe, were, as might be expected, for the most part only nominal. The apples were the only part of the shipment in fair condition.

Both the brokers and myself complained to the Allan Company, and they immediately cabled their representatives in Montreal that the fruit was spoiled through defective arrangements and also sent particulars by mail. It seems that an insufficient supply of ice had been placed in the cold storage compartment, hence the disaster. The fruit was quite warm to the touch after its removal from the hold. I went down to the ship, just as the unloading was completed, and my hopes at once sank when I saw the piles of wet boxes on the quay. Many of them were opened in my presence and their contents presented a deplorable spectacle.

The tomatoes in many of the boxes had literally dissolved, so that nothing remained but a mass of skin and seeds.

The grapes were all wet and separate from the stems.

The plums were in a state of decomposition, though still showing some signs of their original bloom and beauty.

The peaches were simply transformed into lumps of black rotteness.

The pears also suffered severely. Out of several boxes examined, there was not a single perfectly sound fruit. Some were completely decayed and others had retained their form and color in perfection, but collapsed on the slightest pressure and found to be internally bad.

It is a great disappointment to all concerned that, what was allowed by all who saw it, to be a very fine collection of fruit, should have turned out so unfortunately.

Personally, I had been looking forward to its arrival with the keenest interest and was prepared to utilize it to the fullest possible extent, as an important and valuable advertisement of the resources of the Province generally, and of its horticultural wealth and capabilities in particular. But of course the arrangements I had made to this end were completely frustrated by the disheartening state of the shipment. I also feel great sympathy for yourself and the other gentlemen acting with you, in the disappointment you

will naturally feel at the result of your efforts to extend a most interesting and important branch of provincial trade.

Whether it would be worth while repeating the experiment again this season, it is not for me to say. But I may remark that the present season is less favorable for such shipments than for several years past, the market here being supplied with an unusual abundance of home-grown and foreign fruits of nearly every kind.

An important point to be borne in mind in preparing future shipments of a similar kind, is to have the packages of uniform size and shape. Also that it would facilitate the sale and improve the prospects of a satisfactory result if the packages were all under one mark.

Owing to some difficulty and delay in getting the freight measurement from the S. S. Company, the account sales could not be got ready for this day's mail, but they will be forwarded in the course of a few days.

I remain, yours truly,

P. BYRNE,

Agent for Ontario.

(Copy of a letter from Woodall & Co., enclosed.)

LIVERPOOL, September 19th, 1895.

MR. P. BYRNE,
Agent for Ontario,
Liverpool,

Canadian Fruit ex "Mongolian."

DEAR SIR.—We regret exceedingly that the above turned out exceedingly wasty, the bulk of it being so rotten as to be entirely worthless, and it is certain from this and previous experience, that this vessel's refrigerators are absolutely unsuitable for the carriage of fruit, and, we fully believe, that had it come in the hold of the steamer, it would have landed in better condition.

On landing, we drew the attention of the wharfinger to the condition of the fruit, and made representations at the office of the steamship Company.

We beg to hand you herewith, note of prices obtained for what little was salable, but, as you are aware, even these, as regards the pears and grapes, were in a deplorable condition. We hope still to get a few oddments, and will let you have account sales to-morrow.

Under the circumstances, we thought the least attention drawn to the fruit, in the way of advertising, the better, as the condition of this shipment would undoubtedly pre-
judice any further experiments, which your friends might make.

The condition of the apples was good, whilst all the peaches and plums were absolutely rotten.

We strongly dissuade shipments of Canadian grapes, as the flavor is not appreciated in this country.

We shall let you have a full complement of printed catalogues, when rendering account sales.

The following is a general report of sales :

Pears,	38	boxes,	wet,	at	7d.	per	box.
"	32	"	"	"	5d.	"	"
"	29	"	"	"	1/9	"	"
Grapes,	55	cases,	containing	8	boxes	each,	at 4d. per box.
"	73	"	wet,	"	3	"	" 3d. "
Apples,	10	"	at	3/	per	case.	
"	2	"	(1	open,	1	sample),	at 2/ per case.

We remain, dear sir, yours truly, WOODALL & CO.

FALL PLOWING AND FERTILIZING.



HERE is no practice that is so beneficial on clay soils, and in a cold climate, as fall plowing of the ground. While in a mild climate, and in a sandy soil it is the worst of practices, there is nothing that gets the soil into such a good condition, where the land is locked by frost all during the winter months. Not only does fall plowing put the land in such localities in a mellow and friable condition, but it enables the farmer to get ahead of his less thoughtful neighbors with his work in the spring. It is found, too, that certain forms of fertilizing matters can then be more profitably applied than if their application is deferred until the opening of spring. This is particularly the case with the crude forms of potash salts such as kainit. There are certain forms of plant food that one need not fear of their getting away from him in the soil. While it would be imprudent to use the more available forms of nitrogenous fertilizers in the fall, even on fall planted crops, the case is entirely different with the phosphoric acid and potash salts. These will remain in the soil until some plant calls for them. In using the crude forms of potash salts, like kainit, there is frequently difficulty in using them freely in large quantities when applied at the time of planting in the spring, on account of the large percentage of chloride of sodium associated with them. But if they are applied in the fall, the action of the chloride of sodium may be of benefit in rendering soluble matters of plant food in the soil, and the potash has time to get completely incorporated with the soil. On sod land that is to be planted in potatoes in the spring, in a climate like Canada, where it is often difficult to work the land as early in the spring as is desirable for this crop, the practice of turning the sod just before the final freeze-up, and at that time applying in the form of kainit most of the potash needed, will be found one of the most economical and profitable that can be adopted. This too will be found the best time to deepen the soil by deeper plowing. An amount of the raw clay sub-soil may at that time be brought to the surface that would be detrimental if brought up in the spring. The winter freezing will put it all into such a friable state that no harm will result, but only good.

It is well known to all cultivators that no crop requires more liberal application of potash than the Irish potato crop. Some contend that the sulphate is the best form in which it can be used on the potato crop, but experiments at the New Jersey Station showed that the chloride or muriate gave the best results. But if we use kainit as the source of potash for the crop, we have not only the chlorides but the sulphates as well, and in addition we get the magnesia, which is also useful. The Southern market growers, who use potash salts in a lavish manner on the potato crop in the spring, use generally the muriate, as all their fertilizers are applied directly to the crop at the time of planting, which is

months in advance of the time for planting in Canada, and they could not use kainit at that time in large enough doses to give all the potash that they need. But with the Canada planter the case is very different. His crop is planted much later, and is to be grown all during the summer, when the conservation of moisture in the soil is one of the most important matters to be considered in connection with potato growing. It is a well known fact that kainit tends to conserve moisture in the soil. Hence it is desirable to use it in places where the crop grows through the summer. But, as we have said, the application of the needed quantity in the spring may be for the time being detrimental to the crop, we can see the importance of applying at least a large portion in the fall at the time of breaking the land. The Southern growers of the early potato crop use on an acre 200 lbs. of actual potash. To get this amount in the form of kainit would involve the use of over 1,600 lbs. of kainit per acre, a larger amount than could be safely used directly on the crop in spring. But it will be found of great advantage to apply half of the needed potash as kainit in the fall, and supply the remainder as muriate at the time of planting. Another crop in which the plow should play an important part in the fall is the asparagus crop. Here the plow should be used to ridge up the soil sharply over the rows, leaving drainage furrows in the middle between the rows. These sharp ridges warm through much earlier in the spring than flat land, and the earliness of the crop is much enhanced. The old practice of using salt on asparagus was not entirely without good reason, but we have found a better way, by which we get all that the salt can do for the plant, and at the same time give it the potash it needs. This is by using kainit very liberally in the fall. I have used full half a ton per acre with decided profit. We spread it over the land before the fall plowing, and then plow the ridges up over the rows of plants and get the salts right where we want them. Then a dressing in the spring of manure or of some nitrogenous fertilizer will result in a growth of asparagus that is seldom seen without the fall ridging up and the heavy dose of potash. In the preparation of the soil to be used in the cultivation of lettuce under glass in winter, we use the more concentrated potash salts in the form of muriate, and never as kainit. In fact we seldom use kainit as a spring application, but believe in it as an autumn application for spring crops.

W. F. MASSEY.

Crimson Clover has now been successfully grown in all parts of the Union with the best results, and is no longer an experimental crop. It is good for hay, will yield two to three tons per acre, is valuable for seed, which it produces in large quantities, is good for fall and early spring pastures, and is the only clover that remains green all through the winter, but its greatest value is in its ability to store up plant food, and at the same time send down deep feeding roots far in the subsoil, and bring to the surface elements of fertility that would be otherwise lost. Crimson clover is an annual, and must be sown in its proper season. This extends from the 1st of August until the last of October. About ten quarts of seed is required to sow an acre.—Western Plowman.

HOW TO PACK FIRST-CLASS APPLES.



WILL you please give a description of the best plan of an improved fruit-packing house and stationary barrel press to use in it, and any other utensils for filling baskets, kegs, barrels, crates, etc.? I have a large orchard in Canada, and wish to have the very best conveniences for putting up the fruits in the best possible way to sell for the highest prices, whether the markets are glutted or not.—F. W. W., Chatham, Canada.

Ans.—I would build a packing house somewhat after the general plan used by the orange growers of Florida. Either by building on a hillside or slope, or by bridging or grading, I would arrange to unload the fruit in the second story of the building. I would empty it into a shallow, padded-bottomed, fan-shaped hopper, slanting downward into the first story, and inclined just enough to allow the fruit to roll along, and not pile up as it run into a sizer or grader, one end of which adjoins the lower and narrow end of the hopper. I would build the hopper ten or twelve feet wide at the top, converging to about one foot at the lower end, and fifteen or twenty feet long, large enough to hold a wagon load of fruit.

The sizer consists of two inclined, nearly parallel strips of wood, diverging somewhat. It allows the smallest fruit to drop through first, the intermediate sizes next, and the largest fruit roll off at the end. One can make any number of grades or sizes desired. Oranges are usually graded to seven sizes—three or four would be sufficient for apples. A man standing where the hopper joins the sizer, can sort out all imperfect fruit as it rolls along. Shallow bins underneath the sizer, also inclined sideways from the sizer, will convey the fruit directly into the crates, baskets or barrels, thus taking advantage of the attracting of gravitation, avoiding all lifting and carrying.

Carefully pad all places where there is a fall of more than a few inches, with sheepskin, cotton or wool. A long, low, narrow truck with iron axles and wheels, as wide as a barrel and long as the sizer, could hold the barrels while they are being filled, and then be easily and quickly placed under the stationary press. They may then be drawn to the storage room or car, headed, nailed and stenciled, without removing them from the truck, while another truckload of barrels is being filled. Have the floor of house level with the wagon box, or car floor, if the packing house adjoins the railroad, for convenience in loading.

I have never seen a stationary press for apples, but I think I could contrive one. It would be a modification of the lever press, worked with the foot, now in general use in this section. The screw press takes too long to operate.

If Mr. W. wishes to put his fruit up in extra fancy packages, so as to "sell highest and sell anyway, whether the market is glutted or not," let him add to

his outfit an orange wrapping machine, which will wrap in tissue paper, stamp his name and address on each wrapper, and place in crates or barrels, 60 apples, pears, peaches or quinces per minute. If he start back in the orchard, growing fine, highly-colored fruit, pick with care, and pack as I have indicated, I think the fruit will sell.—E. C. GILLET, in Rural New Yorker.

OUR AFFILIATED SOCIETY AT WATERLOO.



It is most gratifying to receive such encouraging accounts of the meetings held by the new Horticultural Societies which were inaugurated last spring, through the visits of our director, Thos. Beall. It is becoming more and more evident that the new plan of operation, by which each member shares equal advantage from the treasury, and where the supreme object is the cultivation. The following description is taken from a local paper :

“A stranger in town last evening, Aug. 27th, might have fancied that some big fete was in progress from the crowds wending their way to the Town Hall, but if he would have joined the procession and entered he would have been surprised and delighted at the sight. Three days ago the officers of the Horticultural Society proposed holding a free exhibition of flowers, fruit and vegetables. The idea took like wildfire—all classes joined, and the results exceeded the expectations of the most sanguine of its promoters. Rarely in any city or town could such a display be made or such an enthusiasm created. The hall was well arranged, and the cultivated eye and good taste of the ladies made the tables a symphony in color. Gladioli and asters were shown in greatest numbers, and in these lines no show we have ever seen could surpass them. We are sorry that space prevents more than a mere mention of the fine exhibit of sweet peas (Eckford's Best), gloxinia, verbenas, phlox, begonias, cannas stocks, delphinium, and many other cut flowers, while palms, auracarias, ferns and foliage plants made a rich contrast and a fascinating sight. A magnificent specimen of *Lilium Auratum* was the centre of attraction, its rich perfume enjoyed by all, and a collection of rare and curious cacti also formed an interesting feature of the exhibition. The hall was filled during the evening with a delighted lot of spectators, and all declared the Town of Waterloo Horticultural Society a necessary and permanent institution of the place. Judging from the smiling countenance of the genial President, Mr. Lockie, he must be the most popular man in town.”

GRADING APPLES.



It is not so easy to arrive at a proper standard for sizes and quality of fruit, for the reason that sizes and qualities of the same varieties vary considerably in different sections and in different seasons. The standard adopted by the Association will come as near to properly covering the ground as is possible without naming all varieties of apples, and it is recommended to your favorable attention. That the grade No. 1 shall be divided into two classes, A and B. That the standard size for class A shall be not less than $2\frac{1}{2}$ inches in diameter, and shall include such varieties as the Ben Davis, Willow Twig, Baldwin, Greening, and other varieties kindred in size. That the standard for class B shall be not less than 2 inches in diameter, and shall include such varieties as Romantine, Russets, Winesap, Jonathan, Missouri, Pippin, and other varieties kindred in size. And further that No. 1 apples shall be at time of packing practically free from the action of worms, or defacement of surface, or breaking of skin, and shall be hand picked from the tree.

This standard does not prevent any grower who may have good apples below the standard of size in either class from marketing them for what they are. Occasionally, some really choice fruit might run below this standard, but the exceptions are so rare that there can be little objection to the standard as fixed.

These suggestions are to the interest of every intelligent, capable apple grower. It may not suit his shiftless neighbor, when he finds that his neglected fruit will not grade as No. 1. But that class has no legitimate place in the industry. To increase the consumption of apples, the consumer must be pleased, and nothing will tend to that end so much as to furnish with a better, rather than a poorer apple than he expected when he made his purchase. Let the barrel branded No. 1 be not only No. 1, but *fine*; and let the purchaser find the barrel branded No. 2, not cider apples, but good fruit. Each barrel sold under this plan will make a customer for two more, and a crop of apples cannot be raised in this country too large to sell at fair prices, and that without going to Europe for a market for the surplus.

It may be too much to hope that all that is outlined can be accomplished this year, but by co-operation a long step can be made toward it. One thing is sure this big crop year, the grower who most closely follows the suggestions will be the man best satisfied with the results of his year's work.

The Association is especially anxious to have growers understand that the prosperity of both growers and legitimate dealers are bound up together. Anything advancing the interests of one is for the benefit of the other, and for that reason it urges hearty co-operation between the two interests, to the end that the apple trade may be further extended upon a sound basis with a reasonable profit to all concerned. The apple is the king of fruits, and its use can be greatly enlarged by honesty in all dealings and intelligent organized effort upon the part of growers and dealers.—Fruit Growers' Journal.

PLANTING TREES AND SHRUBS IN FALL.



OW is a capital time to plant evergreen coniferous trees, also rhododendrons, kalmias, andromedas, azaleas, tree box, hardy heaths, and other plants of the kind that keep good balls of earth with lots of fibres to their roots. They should be well soaked before they are put into the holes, and before finishing filling in the dirt about them give a reasonably good watering. Do not water on the surface of the ground, as it crusts the earth and prevents a free penetration of rain and air. Don't plant coniferous trees, as pines, firs, spruces, or arbor vitæ, more than one or two inches deeper than they were before ; of course the size of the plant has a good deal to do with this, big trees can bear a little more depth than small ones.

Don't overwater conifers. Thousands of young plants are killed every year by constant watering ; it rots the roots and death ensues. Rhododendrons, azaleas, and the like can stand more water than conifers, and it is very important in their case to have the ball of roots thoroughly soaked before being planted. For the winter mulch about the plants with leaves or long manure ; we generally use salt meadow hay ; but do not apply it till the ground is frozen about the plants. The great advantage of planting now is that the hot weather is practically past, the nights are long and cool, there is a dew to recuperate the plants from the fatigue of the day, and the ground is warm enough to induce good root action. The result is that next spring the plants are apt to start off into growth more as if they had been established than recently planted specimens.

From the end of September and early in October, most fibrous rooted trees and shrubs can be transplanted with excellent success. In the line of trees I may mention maples in general, horse chestnut in variety, catalpas, and poplars ; and in the way of shrubs, clethra, euonymus, deutzia, mock orange or syringa, forsythia, hibiscus, hydrangea, hypericum, spiræa, weigelia. But trees and shrubs that have long or naked roots or are growing late should be planted after the first black frost.—Gardening.

Mushroom Culture.—Many American florists have found that they can combine raising mushrooms and flowers for cutting in the same houses, and in this way make a double profit from the same amount of glass. Usually, these combined houses have been roses and mushrooms, or carnations and mushrooms ; but even the vegetable growers are now finding that they can get double crops in this way. In many parts of our country, it is found very profitable to raise tomatoes under glass ; and it is found that tomatoes and mushrooms go very well together.—Meehans' Monthly for October.

PRUNING THE GRAPE.



HAVE been in the habit of pruning and covering up all kinds alike in the fall of the year ; and usually leave two buds of each rod on the arm. But I have noticed that in some, particularly the white variety, many of the stubs die, while the vine lives and grows strongly the next season. But not growing, as stated, in many instances from the stubs of the previous season, or for some other reason, bear very little fruit. I refer more particularly to Rebecca, Moore's, Diamond and Eldorado. Even the Duchess, with all her grace, shows sensitiveness to pruning. With regard to fruiting I do not speak of this season's results merely, as the severe frosts of May almost wholly destroyed all kinds of fruit in this vicinity.

In this connection I may state for reflection the experience of a friend of mine who found no time last fall to pay any attention to his vines, but left them entire on the trellises all winter, and did not expect any good from them this summer ; but is gratified now to find his vines better fruited than they have been for years past. One explanation may be, that the vines having been so chilled and dried up by the frosts of winter, they were slow coming to in the spring, and so escaped the damaging effect of the May frosts which did so much damage all around.

Ottawa, 1895.

M. MCKINNON.

The experience of our correspondent in not pruning his vines in the autumn before laying them down, would seem to indicate that the vines are rendered somewhat more sensitive to frost from the late fall pruning. Probably better results would be obtained by less pruning in the autumn, leaving longer fruit spurs and more fruit buds, and, if necessary, cutting a little closer after the frosts of winter are over.

NOVELTIES.

A New Black Seedling Grape originating with Mr. M. A. Read, of Port Dalhousie, Ont., was awarded the first premium at the Industrial Fair, Toronto, this season, as best seedling grape. Its season of ripening, which is said to be about that of the Champion, at once claims attention. According to the originator, the vine is a vigorous grower, with heavy foliage similar to Concord, very heavy, and very productive. The bunch is large, well shouldered, very compact ; and the berry of fair size, firm, black, and of good flavor. A basket of these grapes has been sent us to verify this description. The grape promises to be a profitable, early black grape.

THE CAULIFLOWER.

Directions for Serving the Cauliflower.



CABBAGE or cauliflower, unless taken directly from the garden, is much improved if so placed that it can absorb water through its stalk for twelve to twenty-four hours before cooking. Soak a cauliflower, head down, in cold salted water for an hour before cooking to draw out any insects that may be concealed. A small cauliflower may be cooked whole and should be placed in the pot with the flowerets up,

as the stalk needs the most thorough cooking; a large head should be divided into six or eight pieces.

Cook in a kettle of rapidly-boiling salted water, to which may be added one-fourth of a level teaspoonful of soda. (The soda aids in softening the woody fibre.) The kettle should be skimmed occasionally while the vegetable is cooking, or, to save trouble, some prefer tying the cauliflower in a thin cloth. An agate or porcelain-lined kettle is preferable to iron, which is likely to discolor the cauliflower.

The odor is less noticeable if the kettle is left uncovered. The water may also be changed to dispel the odor. A cauliflower should be tender after twenty to thirty minutes of rapid boiling. If over-cooked it appears soggy and waterlogged.

A good cauliflower, well cooked, requires little additional flavor beside salt and good butter. Some, however, prefer the addition of grated cheese. The cauliflower may also be served as a garnish for meats, in sauces, soups, and is excellent cold as a salad. Many prefer it with a thick cream sauce.

"Cold boiled cauliflower is very good fried plain in butter, or breaded and fried, or mashed and fried like oyster plant, with the addition of an egg and a palatable seasoning of salt and pepper."

The last paragraph is from Miss Carson's Practical American Cookery. Many other hints may be obtained from this and other leading guides to cookery.

Varieties of Celery.—Celery, to be good, has to be perfectly blanched, and the blanching process is accomplished generally by heaping the earth around the stalks. For this reason the short bunchy varieties of celery are more advantageous than the taller-growing kinds, as requiring less labor in earthing up. It is chiefly for this reason that the thick dwarf kinds are in favor with American gardeners, as requiring less labor to produce. Some of these, however, are not nearly as toothsome as the taller varieties, and the efforts of the improver should be towards producing sweet, nutty-flavored varieties of the dwarf kinds.—Meehans' Monthly for October.

RASPBERRY GROWING.



FOR the benefit of those who have not yet tried it, we would say that a moderate amount of shade makes raspberries better. The slight shade of trees have made our vines grow more thriftily and the berries larger. The size of the crop has not been diminished at all by the shade. Not only do the vines produce more in bulk on account of the large size of the berries, but in many instances they will yield a larger crop in numbers. After fully proving this matter to my satisfaction, we planted the raspberries in the cherry orchard. The trees afford fair shade to the berries part of the day, and they are kept trimmed up to seven and eight feet from the ground. The results so far have been eminently satisfactory. Both cherries, of good quality, and a fine crop of raspberries have been cropped from the field for two seasons now. We see no reason why they should not continue to yield so in the future. The general theory is that large trees sap out the nutriment from the soil, and rob the berry vines that are planted under them. But we can add plenty of manure to keep both vines and trees well supplied with nourishment. Some of our orchard trees fail to get enough fertilizing, and it may prove a way of inducing farmers to give more attention to their fruit trees.

Here are some notes taken from our book for this season. A piece of land about two hundred feet square is planted with 2,500 hills of raspberries. We prefer the hill system. The hills are four feet apart each way, with five to six canes left growing in each one every year. All of the rest are cut out in the fall. On this piece of ground we averaged three good quarts to the hill, and the season was not very favorable. Other years we have averaged four quarts to the hill. At ten cents a quart (and many times we received twelve and fourteen), the berries from that land of less than an acre in extent brought in \$750. The cost of picking, manuring and cultivating is no greater than for strawberries, leaving the margin of profit largely on the side of the raspberries.—Rural American.

The Australian Apple Box is similar to those in which California oranges are packed, says the Fruit Trade Journal, outside measurements being $14\frac{1}{2}$ by $27\frac{1}{2}$ inches, and 8 inches deep, with one division through the centre. The heads of the boxes and the divisions are made of $\frac{3}{4}$ inch stuff and the sides of $\frac{3}{8}$. The gross weight of a box filled is 50 to 54 lbs., and is supposed to contain about 40 lbs. net, with each fruit wrapped in paper. As a rule the apples reach London in good condition. Much depends upon the attention given to the refrigerator, for the apples are almost as much injured by excessive cold as by getting heated. Each steamer employed carries 10,000 to 20,000 boxes, the mail steamers of the P. & O. lines taking about 42 days in transit *via* the Suez Canal and Mediterranean Sea.

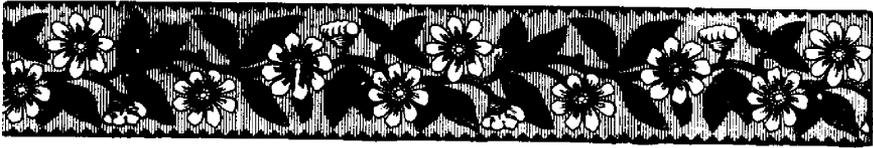
FORCING TOMATOES.

Now is a good time to sow seed for a succession crop of tomatoes, so that the plants may be well under way before the days become too dull and dark. Some growers still adhere to the practice of striking cuttings in place of growing plants from seed, but the seedlings are no more trouble and are in many ways preferable. The plants when large enough should be pricked singly into three-inch pots, and again into five inch pots as they require it, using a compost of three-fourths fibrous loam and one part leaf-mold and pulverized sheep manure in equal portions. They should have a light, airy position, and be placed well up to the glass to prevent them becoming drawn. They may be fruited in pots or boxes or in a bed, but boxes are preferable, and will in most cases be found the most convenient. A very suitable and easily handled size is eighteen inches long by twelve inches wide and nine inches deep, which gives ample room for two plants. The boxes should be filled only two-thirds of their depth at first, the other space being left for a top-dressing as the plants require it. They must be carefully and regularly watered, and there will be no necessity for giving liquid manure until after the fruit is set, when they may have a weak solution applied about twice a week.

The plants should be trained to a single stem, all side shoots being pinched off as they appear. Half the leaf is sometimes cut off, but this is not advantageous unless the plants are overcrowded. The height of the plants must be regulated by the convenience of the house, but after four or five clusters of fruit have set they will in most cases be high enough, and the points should then be pinched out, and all lateral growths carefully removed, to concentrate the vitality of the plant upon the work of maturing the fruit. Sometimes the fruit will set naturally, but it is always safest to resort to artificial pollination.

A light, well-ventilated house, with a medium supply of bottom heat, where a temperature of sixty degrees can be maintained at night, is most suitable. On bright days the thermometer may run up to eighty degrees, but every advantage should be taken to admit fresh air. As to varieties, there are several adapted for forcing, but for a good reliable variety the Lorillard is still the best all-round forcing tomato at command.—Garden and Forest.

The Elberta Peach.—So many varieties of fruits are introduced with a great flourish, only to be discarded in the course of a few years. Some kinds, however, seem to insure permanent popularity, which is a sign of their value. The Elberta Peach is one of these. It seems rather to grow in popularity as the years roll by. It is considered the most desirable of all the yellow flesh peaches, Crawford's Yellow excepted. Possibly some of its popularity comes from its high coloring. It is one of the darkest of all, in this respect approaching a nectarine.—Meehans' Monthly for October.



❖ The Garden and Lawn. ❖

GETTING FLOWERS AND PLANTS READY FOR WINTER.



ANY large plants growing in the flower beds, and for which there is not room in the sitting-room windows, can be wintered safely in the cellar. The abutilon, geranium, fuchsia, rose, hibiscus, and others of this class will do very well there if properly cared for. Take them up before frost has injured them, and put them in boxes or pots. Do this as early in the month as possible.

Do not give them much water, for that might have a tendency to encourage growth, and what you want them to do is to remain as nearly dormant as possible. Water enough to settle the loose soil about the roots, and set them in the shade, where it is cool. The leaves will doubtless fall off. That is as it should be. The leaves will also fall from shrubs in the garden, and you want your plants that are to go into the cellar to behave as nearly like them as possible. Keep them in a cool place until it is no longer possible to shelter them from frost. Then take them to the cellar, and there let them remain until next spring, keeping them as cool as possible, and giving only just water enough to prevent the soil at their roots from becoming as dry as dust. Kept dry, and in a cool place, there will be little inclination on their part to begin growth, but if in a warm place, and considerable water is given, the chances are that they will begin to grow long before they ought to, and such growth will not only have to be sacrificed, later on, but it will greatly weaken the plant, which should be so managed as to be kept dormant.

When you take up your dahlias, gladioli, and other tuberous roots, do not make the mistake of putting them in the cellar or storeroom immediately. They should be prepared for this place by treating them for several days in succession to a sun-bath, which will ripen them off and leave them in the best possible condition for winter. Tubers and bulbs, on being dug, are full of moisture, which should be given a chance to evaporate or condense. Nothing does this work so perfectly as full and continued exposure to the sun. Do not attempt to remove the soil from them at the time of digging. Spread them out on boards in the warmest spot in the garden, as they are dug. At night, cover with a blanket to keep away frost and keep in warmth. Remove it as soon as the sun is up, next day. By night of the second day you will find that almost all the soil will be in

a condition to crumble away from the plants as soon as you stir them. When you are ready to put them in the cellar, cut away the old tops to within six inches of the root, and let them lie until the stalk shrivels up and seems perfectly dry. I think that most causes of failure to winter the dahlia well, arise from stalks not well dried out. The moisture in the stalk is communicated to the tuber, and decay sets in. I find it an easy matter to winter dahlia tubers in any cellar where potatoes keep well. They can be put in boxes of dry sand, or simply stored in open kegs with nothing about them. I also find that they do best if the whole bunch of tubers is put away as dug. If broken apart in autumn, the percentage of loss will be double that which arises from storing them in a bunch. If your cellar is a damp one, it may be well to hang the roots along the ceiling, where the air is dryest.

Gladioli can be wrapped in paper, and kept in any frost-proof room more satisfactorily than in the cellar, unless it is a very dry one. In one of even moderate dampness, there is a tendency to mold. Such plants as the agapanthus and valotta can be stored in the cellar with perfect safety, and they are better off there than in the window, for there they will be likely to make a premature growth because of too much warmth, but in the cellar they will stand still, and when the time comes for blooming, in June, July, or August, they will be all the stronger because of their enforced rest. But I would not advise putting the amaryllis in the cellar, for this bulb likes a good deal of warmth, and there is a possibility that it may want to grow, which it cannot satisfactorily do in such conditions, and whenever this plant starts to grow it should be encouraged to do so.

Before putting plants taken up from the garden in the cellar, cut them back at least one-half. In order to secure a plentiful crop of flowers next season, it will be necessary to have a new growth of branches, therefore nothing is gained by trying to save the old ones. When they are brought up next spring, you will doubtless find that many of the branches left on them are dead, or partially so, and another cutting back will have to be made. As soon as the new branches start, it will be an easy matter to trim the plants into symmetrical form. Oleanders and hydrangeas that are wintered in the cellar should be kept very dry. You will be surprised to see how well they come through with the soil almost in the condition of dust. This is not to be wondered at, however, when you think that the plants are in such a condition that there is no demand for water. They are taking a winter sleep, the same as the shrubs in your garden out of doors, and there the soil is in such condition that whatever moisture there happens to be in it is not in shape to be made use of by the roots running through it. As a rule, there is less danger from too little moisture than too much.—New England Homestead.

A Large Yield.—One Flemish Beauty tree, 20 years planted, yielded this year twenty-five baskets of first-class fruit. The baskets held a peck and a half each. The tree is owned by Mr. H. W. Anderson, Grimsby.

SOME WINTER-FLOWERING PLANTS.



FREESIAs, lachenalias, ixias, etc., when done blooming, are allowed to ripen off. We keep them in their pots in a cool, dry place till September, when they are re-potted; but those not wanted early are kept dry till the cold weather comes, so as not to start them into growth. We separate the bulbs of the freesias, planting six of the larger ones in a 5-inch pot; the smaller ones are planted in flats, giving some blooms and making large bulbs for next year. We bring them into the greenhouse from the frames successively. The freesias is one of our most important winter flowering plants.

Callas.—We grow them in pots and let them rest from the middle of May till the middle of August, when we shake them out of the old soil and put them into 5-inch pots; and about the middle of October shift them into 8-inch ones. Water them liberally with liquid manure all the winter. We get plenty of blooms from them all the winter and up to the middle of May.

Cyclamen.—For the amateur who does not grow these in quantity, two-year old plants will give better results than younger ones. We had some two-year old plants last winter, in 5-inch pots, with thirty and thirty-seven blooms open on them at the same time. Plunge the pots in a shady place during the summer, giving no water, only such as they receive from the rain. In September re-pot them, shaking off the old soil and using the same sized pots; plunge them in some light material, such as leaf mould, in a frame, keeping the sash on, and allowing very little ventilation, and shade them during the hot part of the day. Put the leaf mould well up around and in the pots, only leaving the crown of the corm or bulb exposed; this is to "soften the bulb." Early in October bring them into their winter quarters and place them on a shelf near the glass.—Vick's.

Planting Lilies.—The lily bed should be prepared early this month. Lily bulbs take but little rest, and commence their next year's work almost as soon as they complete this. I have just made a permanent bed by digging out the surface soil to the depth of a foot, the bed being 8x10. In the bottom I put well-rotted manure to the depth of three inches, which was forked in with six inches of the soil below. Then I replaced the soil thrown out, and into it planted the bulbs. They were placed in groups of five bulbs each, two feet apart, the bulbs six inches apart in the clumps, which gives four clumps each of the different varieties planted. The varieties are so scattered that each sort has four places in the bed, which makes the whole very showy the entire season. This is an excellent way of growing lilies where one has plenty of room to be devoted to this purpose, and where the lily is made a specialty.—Am. Agric.



The Canadian Horticulturist

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

✦ Notes and Comments. ✦

EXPERIMENTAL SHIPMENTS.—At an executive meeting of our Board of Control of Experiment Stations at Guelph, it was resolved to superintend (1) the exhibit of fruit at Toronto, by our Stations; (2) a trial shipment of tender fruits to England, and (3), an experimental shipment of apples to Australia, in October.

THE SPRAYING EXPERIMENTS planned by the Board of Control of Ontario Experiment Station, has been most carefully carried out by Mr. A. H. Pellet, who reports in many instances most marked results. The Orillia Packet calls attention to the good results attained in Reeve Fisher's orchard, where the fruit on the sprayed trees was cleaner and nicer-looking, and the foliage healthier than on the untreated trees.

FRUIT FROM THE PACIFIC COAST is more and more coming into competition with Ontario grown fruit. California Bartletts now spoil our market in the early part of the season for that variety. California peaches are sold everywhere, and we read in "The Commercial" of Winnipeg, that the first car load of plums has arrived in that city from British Columbia. It was an experimental shipment from the Fraser Valley Fruit Society. This fruit came by express, and the California fruit comes by fast freight, a great advantage to the latter country. Indeed it was found that unless fast freight could be had, the scheme would be unsuccessful.

THE EXPERIMENTAL SHIPMENT of tender fruit to England was a grand failure, owing to the collapse of the cold storage. The provisions on ship board must have been wretched, for a cable has come to hand announcing that every thing was spoiled except the few cases of apples, which, of course, would have carried without cold storage. Surely something is wrong when California fruit growers can ship their peaches safely across the continent, 3,000 miles, and then across the Atlantic, and land them in London in good condition, and we almost at the coast, cannot do it! It is to be hoped that the Dominion Government, which provided the cold storage, will not allow the shippers to be at a loss, after offering cold storage and failing to provide it.

A VISITOR FROM RUSSIA.—Our readers must be quite familiar with the name of Mr. Jaroslav Niemetz, of Rovno, Podolia, Russia, whose correspondence so often appears in this Journal. Mr. Niemetz is one of the most prominent pomologists of Russia, and director of a very large fruit garden, for experimental work. Of apples alone he has under trial some twelve hundred varieties, and of other fruits in proportion. He has recently made numerous exchanges of seeds and scions from Russia and Silesia of novelties with us, in return for American and Canadian varieties of fruits. The Czar of Russia has so recognized the value of his work that he has sent out Mr. Niemetz to make a tour of Canada and the United States in the interests of Russian pomology. He visited us at Grimsby, just before the Industrial Fair, and was exceedingly pleased with the orchards in this section. From Grimsby he went to the Central Experimental Farm in Ottawa, and then spent three days at the Industrial in Toronto, taking copious notes for his report.



FIG. 828.—MR. JAROSLAV NIEMETZ.

CANADIAN MARKETS.—Messrs. Vipond & Co., one of the leading commission firms of Montreal, sends a circular under date of the 13th September, in which they express lack of confidence in any good results from the attempt to place our tender fruits in the English market by cold storage. They say further :

"We notice that some of our Western Canadian growers have been induced to ship their fruit to England, to try the new Government fad of cold storage. They will get nothing in return for these goods, and will be lucky if they don't have to send money to pay freight.

"The fact is that Canada grows no fruit fit to export across the Atlantic but apples, and not a great many of them are fit. Our plums, peaches, grapes and pears are all inferior to foreign growth, they do not look as well, and don't keep as well. Instead of foolishly investing money in hunting foreign markets, the Government would do some service to assist our growers in acclimating and securing fruit that will compete in our home markets with the foreign kinds. Some of our growers have done nobly in this effort. Such men as the Woolvertons, A. M. Smith, E. C. Beman, and scores of others deserve the utmost credit, but it is a deplorable fact that we have grown in Canada a great quantity of fruit that is of little value. California, New York State, and even the Southern States, are crowding our growers with superior fruit, in spite of war tariff.

"And while we are speaking, why does it cost nearly as much to bring peaches, etc., from the Western Peninsula of Canada to Montreal as from California, and why must our growers submit to heated ovens in the shape of express cars that ruin the fruit, and rough handling that is positively barbarous? We have spoken fairly, Montreal and Toronto are the best markets in the world for any Canadian fruit, including apples, etc. We want you to demand a reform in the transportation of fruit; it is a positive disgrace, eating out the life of your profits; the commission men are doing their utmost here for you, but goods arrive bruised and rotten, with outrageous express and freight charges on them."

[Still we can see only good resulting from this trial shipment of tender fruit. If it prove a loss, it will not be a heavy one, and we will have learned from actual trial what is otherwise only guessed at. When California peaches and pears can be placed in the English markets with profit, we are inclined to try Canadian peaches and pears, for the quality of our fruit is superior to California, even if inferior in appearance.—ED.]

❖ Question Drawer. ❖

Propagating Gooseberries.

751. SIR,—Please tell me the best means of propagating gooseberries.

JOHN REID, SR., *Everett.*

Gooseberries may be propagated either by cuttings or by layers. Cuttings may be made in the autumn and buried until planting time in early spring.

They should be six or eight inches long, and planted so as to leave only one or two buds above ground. The surest method is by layering, which is well described in the following from Gardening :—

During a second visit to the State Experiment grounds near Geneva, N.Y., in August, I learned the secret of the thrifty growth and yields of the gooseberry plants there found in numerous varieties. The foundation on which this success primarily rests is good strong loam, reinforced by yearly moderate applications of stable manure and good tillage. Repeated spraying with the solution of liver of sulphur, which the Station people prefer to the Bordeaux mixture for this particular purpose, keeps the foliage in good health, and, therefore, the wood growth normal and strong, and also the fruit free from mildew. With the same



FIG. 829.



FIG. 830.

LAYERING GOOSEBERRIES.

conditions plants and plenty of good fruit can be produced elsewhere. There can be no question that gooseberries thus handled can be made a very profitable crop.

Layering Gooseberries.—Layering, as stated on former occasions, is a far safer and better method than making cuttings, so far as the gooseberry is concerned. A single plant hilled up for inducing the young canes to strike root along their base, is shown in Figs. 829 and 830 of accompanying sketch.

A dozen or more good plants may thus be made of one strong plant two or three years old, and these young plants, if properly planted out and taken care of, will be in shape to give quite a little fruit the second season from planting.

Pruning Grape Vines.

752. SIR,—Please tell me the best time for pruning grapes.

JOHN REID, *Everett, Ont.*

As soon as the wood is thoroughly matured in the autumn, and the leaves fall, is the most natural time for pruning the vineyard. The healing process will begin almost at once, and no loss of sap will result in the spring time. In the colder sections, however, the cut surface seems to render the vine somewhat more susceptible to cold unless well buried under the ground, or unless longer pruning is practiced, so that a few buds may be spared to succumb to the effects of frost.

* Open Letters. *

New Strawberries.

SIR,—I have some eight or ten seedling strawberries that fruited the past season and which give indication of being first class. I picked these out of some two hundred seedlings and I have about two hundred more that will fruit for the first time next season, choice crosses with the best kinds for parents, such as Woolverton, Marshall, Brandywine, Bubach, Haverland, Greenville, VanDeman and others. Clyde did the best in either old or new kinds, and it is going to take a first place as a general purpose berry. It is of large, firm, good flavor, good looking and the plant is perfect in every way and stands the hot dry time well. I am sure of what I say, as I have fruited it now three times. It came out best this year in a test with over one hundred and thirty of the best kinds.

E. B. STEVENSON, *Freeman*.

Conn Gooseberry.

SIR,—Have you noticed the quality of the Conn, or Autocrat when fully ripe. Some friends here pronounce it the best berry for eating and all remark how much it resembles the Gage plum. Two of my friends remarked that it was a revelation to them that gooseberries were so fine for eating. Certainly nothing but Lancashire Lad comes up to it in this respect. It has one bad fault, namely, the early loss of its foliage.

STANLEY SPILLETT, *Nantyr*.

Pewaukee Apple.

SIR,—For six years in succession here six Pewaukee apple trees have yielded fifteen barrels a year, that is an average of two and a half barrels per tree, to my certain knowledge. They were sold right in the orchard for \$1.25 a barrel. The present owner of this orchard purchased forty acres four years ago upon which were two hundred trees of every variety almost, about eighteen years planted. I have made a little calculation as to the result as follows:—Had these two hundred trees been all Pewaukee, he would have paid for his place off the four acres of orchard in three years and had a surplus of \$375 in his pocket. As it is, the orchard has not paid the interest. So much for judicious selection of varieties in planting for money. If planters are setting out apples as ornamental trees, something cheaper would surely be better.

STANLEY SPILLETT, *Nantyr*.

✧ Our Book Table. ✧

THE SOIL, its nature, relations and fundamental principles of management, by F. H. King, Professor of Agricultural Physics in the University of Wisconsin. New York: MacMillan & Co. 1895.

This excellent work is the first of an entirely new series of books, edited by Professor L. H. Bailey, and to be known as "The Rural Science Series," which is to include a series of readable and popular monographs on agricultural subjects. This one contains over 300 pages, and is illustrated with numerous engravings. It treats of soil, composition, soil moisture, soil temperature, farm drainage, irrigation, tillage and fertilizers, etc. The price is only 75 cents.

CATALOGUES.—*Rennie's* Autumn Catalogue, Bulbs and Plants. Wm. Rennie, Toronto. . . . *Vilmorin-Andrieux et Cie.*, Oignons a fleurs et fraisers. Address 4 Quai de la Megisserie, Paris, France. . . . *Elwin Hersee*. Woodstock, Bloomsdale Nursery. . . . *Fred E. Yering*. Rochester, N. Y., Fruit Trees. . . . *Stephen Hoyt & Sons*, New Canaan Nurseries, New Canaan, Conn. . . . *John A. Bruce & Co.* Flowering Bulbs, Hamilton, Ont. . . . *T. V. Munson*. Trees and Plants, Denison, Texas. . . . *Geo. S. Josselyn*. American Grapes, Fredonia, N. Y. . . . *John A. Bruce & Co.* Seeds, Hamilton, Ont. . . . *The Loret Co.* Trees and Plants, Little Silver, N. J. . . . *J. A. Simmers*. Bulbs, 147 King St. E. Toronto, Ont. . . . *P. J. Berkman's*. Fruit and Ornamental Trees, Augusta, Florida.

JOURNALS.—*Farming*, is the title of a new monthly magazine, issued by the Bryant Press, Toronto. September No. is the first issue, and if the high tone and useful character of the contents of this number can be maintained, it will surely be the very Journal needed by Ontario farmers.

Mayflower for September, 1895, comes to hand, enlarged and improved. It has numerous interesting articles for flower lovers. Address, John Lewis Childs, Floral Park, N. Y.

RECIPES FOR NOVEMBER.

Again the apple, that wholesome, toothsome, handsome fruit is here, and baked apples, apple sauce, apple pie, apple fritters, apple jam, apple snow, and even fried apples, will grace our tables.

"*Brown Betty*" is another way of preparing this fruit that makes it delicious. Pare, core, and slice six tart, juicy apples; put a layer of stale breadcrumbs in the bottom of a baking dish, then a layer of apples, then more crumbs till all is used, having the last layer crumbs. Add half a cup of water to a half-cup of molasses, and stir in two table-spoonfuls of brown sugar; pour this over and bake in a moderate oven for one hour. Serve with cream.

"*Apple Mound*" is made by paring, quartering, and coring six large, sour apples; put them in a pan with one pint of water and two cupfuls of sugar, cover closely, cook in the oven half an hour, then remove the cover and continue cooking until a little of the juice will turn to jelly when dropped on a cold plate. Pour it into a wet jelly mould, and when it is cold and stiff turn it out into a deep platter, and pour a pint of sweetened and flavored whipped cream around it.

Citron Preserves.—Peel, cut into slices three-quarters of an inch thick, remove seeds, cut into squares, weigh, boil at once in water, without sugar, till tender; take out and drain, throw away water; make syrup with fresh water, pound for pound of fruit, using white sugar; add fruit; then boil till clear and the flavoring get well set. Flavor with root ginger or lemon juice to taste; if ginger, remove when finished. The syrup should be of the consistency of honey when finished. Citrons thus boiled without sugar cook more quickly, and make more tender preserves; they are clearer also, when the first water is drained off.—Live Stock Journal.





BROWN BETTY.



GO gather the apples that red ripe are lying,
And cut all the cores and the peelings away ;
Then slice them, just as one would slice them for frying,
And we'll bake a brown betty for dinner to-day.

Then get a deep pan, with a close fitting cover,
Alternately apples and crumbs in it lay ;
With sugar and cinnamon sprinkle them over,
O, we'll bake a brown betty for dinner to-day.

Now go, fill the pitcher with milk that is creaming,
And carry brown betty along on a tray ;
An odor deliciously spicy comes steaming—
O, we'll have a grand feast on Miss Betty to-day.

—ROSE LANGTRY.