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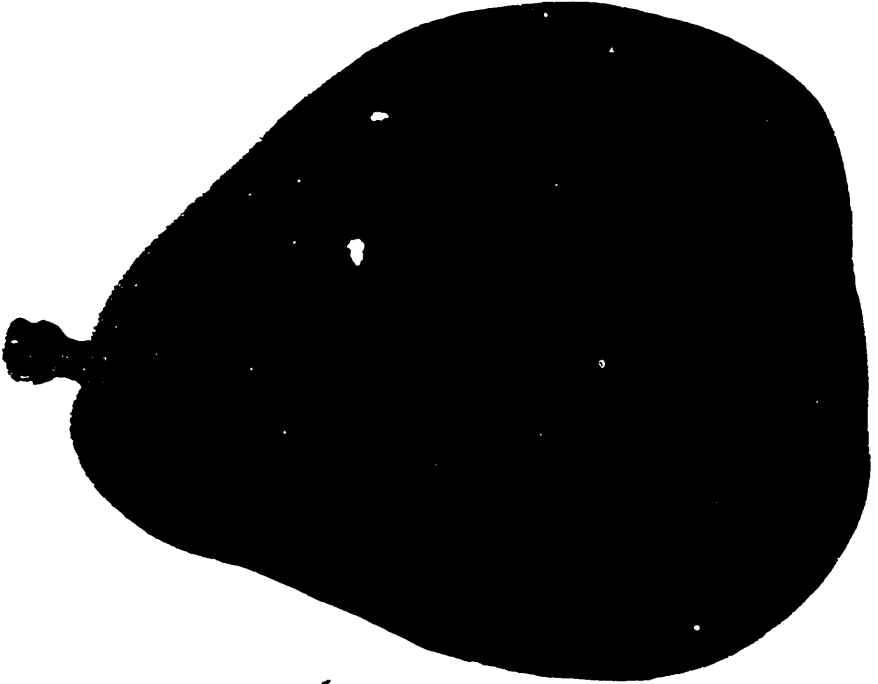
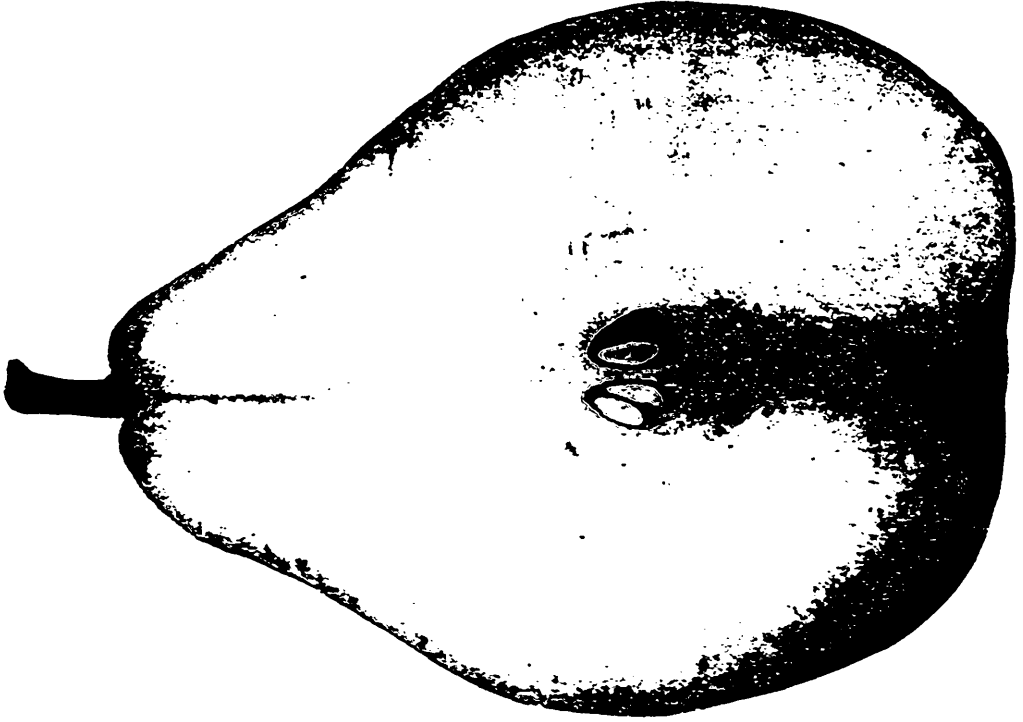


FIG. 2765. THE NEW FRENCH PEAR, PRESIDENT MAS.

The Canadian Horticulturist

APRIL, 1904

VOLUME XXVII



NUMBER 4

PRESIDENT MAS

A NEW FRENCH PEAR OF FINE APPEARANCE

IT is contrary to our rules in editing this journal to give prominence to novelties that have not been at least fairly well tested by our fruit stations: but, for three years past, a new French pear, in our dwarf pear orchard at Maplehurst, has proved to be of such fine size and quality, and ripens during such a favorable season, that we feel warranted in using it as a frontispiece to this number, even before distributing it among our experimenters for further trial.

We have it dwarfed on quince stock, and the tree is doing fairly well: but, according to M. Ballet, Troyes, France, it is a weak grower on this stock and succeeds much better on pear stock. The tree appears to be productive. The fruit is very large and fine, yellowing in color as it ripens, somewhat like the Anjou. The flesh is melting, juicy, vinous, and very good in quality. Its season is December and January.

PEARS FOR EXPORT

IN planting pear trees, or indeed any kind of fruit trees, one needs to consider first of all the market in which they are to be sold. If they are to go to a near market, such perishable varieties as Giffard, Bartlett, Clapp's Favorite, Boussock, etc., are quite in place: but if intended for Great Britain or our own great Northwest, then varieties of better shipping properties must be chosen. It is only during the last few years that we fruit growers dared dream of exporting tender fruits at all: and, when cold storage accommodation was offered, many

of us were over-confident and sent forward large quantities of those tender pears and peaches which we had originally planted with a view of selling in our own markets. The results, on the whole, of our experiments in exporting Crawford peaches, Bartlett pears, tomatoes and grapes, have been most discouraging, because these fruits would not stand up long enough after arrival to reach the consumers.

We must therefore advise our Ontario fruit growers against planting such kinds for export: and in favor of firmer fleshed

varieties. One of these is the Louise, a beautiful autumn pear, when grown as a dwarf on good rich soil; another is the Howell, a large yellow pear, following the Bartlett, and succeeding best as a standard. The dwarf Duchess is an admirable export variety when grown on thrifty trees, so as to be free from knots and scabs. It is large and has already made for itself a market in Great Britain. Another is the Anjou, a large yellow pear of delicious buttery flesh, which is easily kept until Christmas. The Bosc is another excellent export variety; it is a

large and beautiful russety pear, with a long neck, of a delicious flavor when fully ripe. It does not succeed as a dwarf, neither does it make a good trunk when grown as a root graft on pear stock, and therefore it should be top worked on some good upright growing variety. For this some recommend the Kieffer; and we hope wisely, for there is no question that we have too many orchards of this miserable pear already planted in Ontario, and the owners will soon need either to root them out or to use them for top working with better kinds.

Editorial Notes

APRIL is a busy month for the fruit grower. Winter has relaxed her icy grip and the fields and the orchards call for the owner's undivided attention.

* * *

FURROWS and ditches should be kept open for the rapid escape of the surface water, so that the land may be the sooner ready for use. Stakes should be set along low places where water stands to mark where drains are needed.

* * *

ANY LAND that remains too wet to spade or plow for more than a week after frost and snow have disappeared in spring needs draining; and the same may be said of land in which water is found in holes dug two feet deep for two or three days after a soaking rain.

* * *

PACKAGES FOR FRUIT should be secured early in the season. This lesson was well learned last season, when barrels that could be purchased in July or August at 30 cents advanced in October to 50 cents, and were

almost impossible to buy at that price. The basket makers will now store with the fruit grower as many baskets as he chooses to order, and wait until the fruit harvest for his money; and this opportunity is worth taking advantage of.

* * *

THERE IS PLENTY OF WORK for the rainy days, cleaning up and grinding tools, painting the woodwork of plows, harrows, cultivators and old wagons. Besides all the farm harness, much of which has been unused for months, now needs cleaning and oiling with great care.

The Raspberry Plantation

INTEREST in the growing of this fruit has again revived, owing to an improvement in prices, which a few years ago were so discouraging that many rooted up their plantations. Notwithstanding the many new varieties, the Cuthbert is still the leading commercial raspberry for main crop, though the Phoenix is worthy of a place with it in the opinion of Mr. Sherrington.

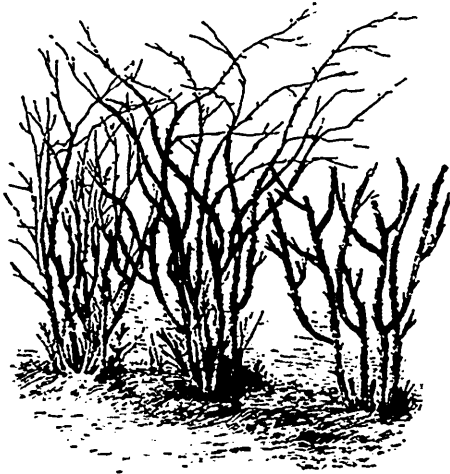


FIG. 2769. HOW TO PRUNE RASPBERRIES.

of Walkerton. Turner, Reliance and Marlboro are the best early varieties, the latter, however, having the preference both for shipping quality and productiveness.

Pruning the Raspberry

IF not already done, the work of cutting out the dead canes should be finished this month to give room for the new growth. Not only should the dead canes be cut out, but the superfluous young canes should be removed for five or six canes to each stool are quite sufficient, and too many will tend to choke the vigor of the plantation. The pruning of the bushes themselves should be done very closely, as the small, weak ends of the canes will not yield much fruit, and yet they withdraw strength from the bearing buds. These should be cut back to where the buds are strong and well developed; and the side branches should also be cut back in the same way as the canes, leaving short stubs from three to four inches in length. Both blackcaps, and red raspberries, the Cuthbert especially, may be treated in this way. The method will be better understood from the accompanying engraving (Fig. 2768) than from a whole paragraph of reading matter.

The Past, Present and Future of the Canadian Horticulturist

THE first number of this journal appeared at St. Catharines in January, 1878, so that on the first of January, 1904, it completed twenty-six years of its history.

That number was a little sixteen-page monthly, and as an introduction Mr. D. W. Beadle, who had been the efficient secretary of the Association since 1860, wrote as follows:

The directors of the Fruit Growers' Association have long felt the importance of having a monthly publication as a medium of communication between the members, and a means of imparting information on subjects of interest more frequently and promptly than can be done by the annual report. And now, after careful deliberation, they have decided to make the experiment, and commence to-day the issue of the *Horticulturist*, in the hope that it will find favor with the members. It will be devoted chiefly to the publication of such information as is sought after by those who are interested in fruit culture, yet not neglecting those kindred subjects which are closely connected with that pursuit. The lover of fruits is also usually a lover of flowers, and delights to surround the house with a well kept lawn. It will therefore contain occasional articles intended to guide and help those who seek to cultivate flowering plants and shrubs, and to make their grounds bright with summer flowers. And if the less showy, but not less important vegetable garden should have a place now and then in these pages, there are those among the readers, it is believed, who will welcome any timely information in this department also.

But while the directors will spare no pains to make the *Horticulturist* acceptable and profitable, it will nevertheless be, in a very large degree, what the members shall make it. If they shall use it as the medium through which they tell each other of success and of failure with particular fruits, flowers, trees, etc., then will it become what the directors hope, a mirror, in which is reflected continually the horticultural progress and skill of Ontario. They ask, therefore, that the members will regard it as their publication, put forth in their interests, to help them in whatever way they can, and to be used by them for the promotion of horticulture in this Canada of ours.

Mr. Beadle was well qualified to edit such a magazine, having had a college education as well as a practical training in horticulture. Under his able editorship the journal became very valuable to fruit growers, and the

membership of our Association grew from a couple of hundred to nearly 2,000.

In the year 1887 he was succeeded by the present editor, Mr. Linus Woolverton, of whom it is not our place to speak, except to say that his qualifications for the work were similar to those of Dr. Beadle, he being a graduate of the University of Toronto and having an extensive practical experience in both fruit growing and nursery business.

Thanks to the interest taken in our journal by the fruit and flower lovers of Canada, the journal has grown to more than three times the size of its first issue, and has now a circulation of over five thousand. It is quoted as an authority in fruit matters not only by Canadian, American and European journals, but even by governmental reports, all of which is a matter for congratulation.

Two years ago the combined work of editor, secretary and treasurer for our Association became too heavy for one person, and Mr. G. C. Creelman was appointed secretary-treasurer, thus relieving Mr. Woolverton of that part of the work. No better organizer of men and affairs could have been selected, and his excellent work in working up fruit institutes, out of door meetings at our experiment stations, and local fruit growers' associations, has been most highly appre-

ciated. But before he had time to perfect his plans for the benefit of fruit growers, he was invited to take a still more responsible position, and the executive committee of our Association was compelled to act quickly in the appointment of a successor.

Fortunately for us all, it became possible to secure the services of Mr. H. B. Cowan, the successful editor of the Ottawa Valley Journal, who though only a young man, has shown such marked ability in extending the subscription list of that journal and in making it popular among the farmers, that we have great confidence in what he is able to do for our journal and for the extension of the work of our Association. Although superintendent of fall fairs also, this will not prevent his giving a large share of his time to the business management and assistant editorship of the Canadian Horticulturist.

Mr. H. B. Cowan, the new superintendent of fairs, although only 26 years of age, has had considerable experience in public matters. In 1901, as editor of the Ottawa Valley Journal, he organized one of the largest plowing matches ever held in Canada. The counties in Eastern Ontario held county matches and sent their junior and senior champions to compete in the final match at Ottawa for the championship of Eastern Ontario and Western Quebec. The two



FIG. 2770. MR. D. W. BEALLE.

Provincial and Dominion governments furnished judges. His active efforts in favor of road improvement resulted in the formation of the Eastern Ontario Good Roads Association, of which he has been secretary since its organization. In this work he became known through planning and managing the good roads train which built several miles of model stretches of roads in the various counties of Eastern Ontario as object lessons.

Three years ago he arranged the first circuit of fairs ever held in the province. Ten fairs joined the circuit and secured the expert judges. The experiment was such a success that it has since grown rapidly throughout the provinces. He arranged for the holding of championship athletic meets at all the fairs, with a final meet for the champions at Ottawa. These contests have been held three years in succession, and have proved

very successful. The offering of a banner for the best conducted fair in Eastern Ontario and Western Quebec was also Mr. Cowan's idea, and has roused great interest on the part of the eastern fairs. At various times he has acted as secretary at Ottawa of the Dominion Live Stock Association and Eastern Ontario Dairymen's Association. During the past year he has been editor of the New England Homestead at Springfield, Mass.

Mr. Cowan is also well known in athletics, having held the Canadian single blade paddling championship, and is rated as one of the best wrestlers in Canada, and in these days it is universally acknowledged that physical culture is an aid to mental vigor. He has shown great energy in pushing to a successful issue every project he has undertaken, and with such a man as business head we may expect, not only the carrying out of

the many excellent plans laid out by Mr. Creelman, but also the inception of many new methods for increasing both the usefulness and attractiveness of the Canadian Horticulturist.

Mr. Cowan will begin his work with the May number, and will have in charge the "make up" of the journal as well as the advertising departments.

Codling Moths

MR. WILLIAM BRODIE, of Toronto, who is an expert student of parasitic insects,

and whose studies have been carried on for many years, has offered to follow up his investigations into the parasites of the codling moth and place his findings at the disposal of the Ontario Department of Agriculture.

To carry on this work it will be helpful to procure from time to time burlap or other bands in which the codling moths have been caught. Some have already been received. Any fruit growers having bands now on

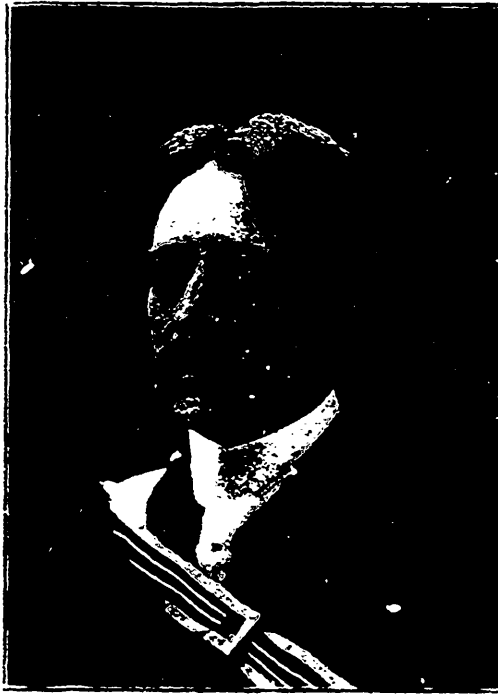


FIG. 2771. MR. LINUS W. OLVERTON.

trees will confer a favor by corresponding with the Department of Agriculture at Toronto. If parasites can be obtained that will be effective in destroying the codling months, and they can be bred in sufficient numbers to distribute to favorable points, there may be accomplished a very valuable work in helping our apple growers to hold in check this most destructive enemy to our most valuable fruit crop. Apple growers all over Ontario should be interested in this important investigation.

Fruit Growers' Unions

Commission Sales Give Nothing to Growers

WE have reached a crisis in the history of fruit growing in Ontario. We have been piling our fruit into the big cities to be sold at whatever it will bring, and commission men have used fruit

sent by one grower to cut prices with that sent by another, until we must call a halt or give up the business.

This was clearly brought out at a series of fruit growers' meetings held recently in the Niagara district. At the Grimsby meeting, Mr. Usher, of St. David's, strongly urged the adoption of some plan by which the fruit grower should be no longer at the mercy of the commission merchants. Last

year he had shipped 15,000 baskets of fruit, and when at the end of the year he reckoned up all the expenditures for work, packages, etc., he found that he had no money left as an income from his fruits. "We should unite," said he, "and agree together that we will not produce a pound of fruit for less than two or three cents, as the case may be, and agree to stand by that price, even if we

lose some fruit by it. How is it," said he, "that the canning factories are now getting double the price for canned fruits than they got some years ago, and the fruit grower gets less. Simply because the canners unite and the fruit growers do not unite to protect their own interests."

Union of Fruit Growers Needed

Every one seemed to agree that a union of some kind was most essential—a good strong union, which

should include all the prominent fruit growers of the province; a union where members would agree not to sell their fruits below a certain price, and, if they shipped on commission, not to ship to rival houses. Every trade and business these days has its union, even the workmen employed by the fruit grower, and, if he, alone, will not agree to co-operate with his brother fruit grower, he must expect to get



FIG. 2772. G. C. CREELMAN, B.S.A.

the worst of it. But on what basis shall the union be formed?

Mr. Keyes, of St. Catharines, proposed a stock company for the Niagara District, with a capital of \$200,000, and shares of \$100. The company to buy several acres of ground, erect immense packing houses, and attempt to pack and ship all the fruit in the district. For the second grade an immense canning factory would be erected.

This plan looked well on paper, but like all such stock companies might be a tremendous failure unless managed just right.

And what central packing house, under one management, could handle the immense crop of peaches, plums and apples grown in the Niagara District. The conclusion therefore prevailed that each member of a union should pack his own fruit according to standards agreed on only by the company, and all packages would be sub-

ject to inspection by the manager or his assistants.

Where the Union Should Begin

The most common sense plan of union proposed was suggested by Mr. M. Pettit, of Winona. The greatest obstacle in the way of successful fruit growing is the selling; and here, in Mr. Pettit's view, is where the union should begin. An instance was given where grapes brought the grower only

15 cents a basket, and yet in Winnipeg these same grapes sold for 45 cents a basket! Similar instances, in the case of other fruits were related, and it was plainly evident that the grower who spent his year's work and his capital in producing the fruit was receiving the least share of the selling price.

M. Pettit's Plan of Co-Operative Selling

Mr. Pettit would have all grower and shippers agree together that they would sell certain grades of fruit at certain fixed prices. He would have a managing board in each fruit district, which would meet every Friday morning and fix the prices for the quotations for the following week. No man should sell below these quotations, whether fruit grower, fruit buyer, or commission merchant; but in selling to the trade the producer would allow the dealer a certain regular trade discount. In carry-



FIG. 2773. MR. H. B. COWAN,
Business Manager of the Canadian Horticulturist.

ing out this scheme, we suppose that a managing director would be the paid official in each centre, he would be in a position to take large contracts, to be filled by the union from surplus stock of which notice would be given the manager, and much of which would be held in cold storage until sold; while each member could make as many private sales as he chose, providing he kept up to the fixed price. This scheme does not necessarily contemplate

a stock company. A small percentage of the gross amount of the sales would pay the manager and the rent of a storage house for making up car lots. A large central cold storage warehouse would be an important adjunct and would of course require capital, and those not taking stock in it would of course have to pay for the use of it should they store in it. We presume that several district unions would cover the fruit sections of the province, and the managers of these could agree together on the fixed prices, and thus the output of the whole province would be under control.

What About the Surplus Stock ?

Why, unless it can be sold to canning and evaporating companies it had better waste in the orchard than simply be unloaded on the market and bring down the prices. But, if properly distributed there is room in our own country for all the No. 1 grade of fruit we can grow, and we should spray, prune, thin and cultivate as to avoid wasting the vigor of our trees in producing No. 2 fruit.

Fruit Growers the Last to Unite

It does seem that every other class of men are more ready to unite than fruit growers. Several reasons were suggested, one that they were too selfish to risk another's good for fear it might not prove to their advantage; another that they would not trust each other, but would believe every word of the sleek-tongued commission merchant, who offered them his stamp and promised a good market. Nevertheless it was agreed that the time had come for a union, otherwise the business would be ruined by foolish competition. The manager of a union would be able to avoid all competition by a careful system of distribution, and the expense of the whole business would be a much less percentage than that now paid the commission merchants, while the net returns would in many cases be doubled. Plainly this is the most serious and important ques-

tion before us; let us face it and solve it as quickly as possible.

Early Plums

M R. R. S. EATON, of Kentville, N. S., writes:

Please give me your opinion on the time of ripening and the quality of the new plum, the Emerald, as compared with Abundance and Red June.

Though not as showy a plum as the Japans, and not quite as large, yet the Emerald is, in our opinion, a better dessert plum; while in point of season it is about ten days in advance of either the Abundance or the Red June. We have not yet fully tested it at our stations, so that we are unable to give any very definite reply to our enquirer.

Mr. Murray Pettit, Winona, Our Director for Wentworth, Waterloo, Halton, Etc.

At a meeting of our Association, held at Wingham in 1885, Mr. Murray Pettit, of Winona, was elected a director of our Association, and has held the position ever since. He was born in 1843 on the old Pettit homestead, near Winona, where in the latter part of the 18th century his grandfather, Mr. John Pettit, a U. E. Loyalist, had received from the crown a grant of 468 acres of land.

Grape Growing

Some thirty years ago Mr. Pettit first turned his attention to the cultivation of the grape, a fruit which in his experience has proved to be a more constant source of revenue than the peach. He was one of the first to plant a vineyard of Niagara grapes, under the original terms of the company, in that each buyer should give in one-half of the proceeds until the company had received \$1.50 per vine. This investment proved a profitable one for Mr. Pettit, the three hundred vines planted in the spring of

1882 yielded his in the fall of 1885, not three years from the time of planting, an income of \$1.84 a vine, or \$553.20 for the three hundred vines. The average price was about 12 cents a pound, and the proceeds at the rate of \$800 per acre.

His Public Spirit

Mr. Pettit has ever been ready to serve the fruit growers of Ontario in any public enterprise. He was long a director of a local fruit growers' association, and at one time president; also for years a member of the Niagara District Fruit Growers Stock Co., a sort of co-operative organization for the sale of fruit. His name has always been a prominent one on deputations and committees, as for example for securing legislation against the Yellows or against the San Jose scale.

Experimental Work with Grapes.

When an experimenter in grapes was needed it was most natural that we should turn our thoughts to Mr. Murray Pettit: for not only had he one of the largest vineyards in the district, but he had himself been doing experimental work for many years, and had already a row of about 100 varieties, carefully labeled, from which he was making himself acquainted with varieties. Our Board of Control furnished him with all other varieties of any promise, and have thus secured in Mr. Pettit a fruit experi-

menter who is thoroughly posted in his specialty, the grape.

At our Leamington meeting Mr. Pettit gave us much valuable information, and at

A House Meeting of the Grimsby Horticultural Society

the principal feature was his address on "Grape Growing for Profit." He first gave a very interesting review of the history of grape growing in the Niagara Peninsula. In 1860, when King Edward, then Prince of Wales, visited this district, only four varieties of grapes were under cultivation, and prominent among them the old Isabella, now entirely discarded.

It was in 1876 that the first shipment of grapes by express was made from Winona, and this was probably about the first made in the province. Since that time the industry has grown to a wonderful extent, and now it is not an uncommon thing to see eight or ten carloads a day sent forward from this station.

A Reliable Crop

After thirty years of experience in grape growing Mr. Pettit claims that grapes are among the most reliable fruits for profit, because the yield is more constant, the price less variable, and the vine is less subject to insects and diseases than other fruits. True, prices have fallen to a low figure compared



FIG. 2774. MR. MURRAY PETTIT, Experimentor in Grapes for the Province of Ontario.

with those early days, when it was a common thing to sell them at 10 cents a pound. Nowadays we seldom get more than two cents, and often only about one cent a pound; still, by economical management and by growing such productive varieties as Concord, the fair profit can be obtained.

In his opinion the Kniffen system of training the grape is the most economical, with two wires and no summer tying. He would put the rows 10 feet apart and plant Delawares 6 feet apart in the rows, and strong growers, such as Concord and Rogers, 10 feet apart.

Mildew

The chief hindrance to the successful marketing of the grape is the mildew, and the shipping of unripe and mildewed grapes does more than any other thing to discourage their sale. And yet it is easily controlled by the application of powdered sulphur. He used about a tablespoonful to a vine at each application, throwing it over the vine, or partly on the ground underneath it. He gave the first application about the 1st of June, when the young grapes were about the size of shot, and the second about two or three weeks later. Most of the injury from mildew is done about the middle of June.

Soil for Grapes

With regard to soils, Mr. Pettit favored one of a somewhat heavy texture, for a deep rich sandy loam, some varieties were too much inclined to go to wood and too little to fruit. He had noticed a difference of from ten days to two weeks in time of ripening in favor of those grown on clay, and also a sweeter flavor.

Horticulture Includes the Fruit Garden

The evening was a most enjoyable one, a portion of the time being given up to music and conversation, and we believe that

if all our horticultural societies would have fruit meetings as well as flower meetings there would be no need of additional organizations for the fruit grower in any locality where such society exists. Horticulture, or garden culture, properly includes the fruit garden as well as the flower garden, and many of our societies have become weak by trying to confine their attention to the latter department.

Lawn Decorating

TOO little taste is shown by our farmers and fruit growers in the surroundings of the home, and very few seem to appreciate the great importance of a well kept lawn. Even some of our professional gardeners seem to think a front lawn must be half filled with trees and shrubs to be at all complete. Nothing is so beautiful as an open lawn, kept evenly cut; and the place to plant trees and shrubs is not in it, but on its borders, to hide fences or objectionable views, and to close it in somewhat as a frame does a beautiful picture.

A cozy corner at one side, half hidden by pretty ornamental trees and well shaded from the sun, is a great source of pleasure in summer. In such a corner the hammocks may hang, inviting the reader with his entertaining book, or the rustic seat, backed with soft cushions from the house. A pretty rustic seat was shown some time

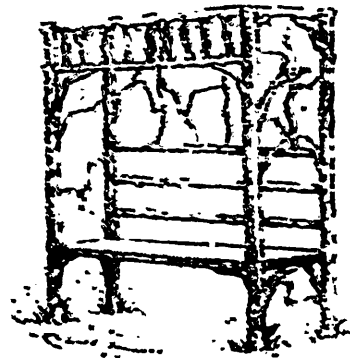


FIG. 5775. SHADY RUSTIC SEAT.

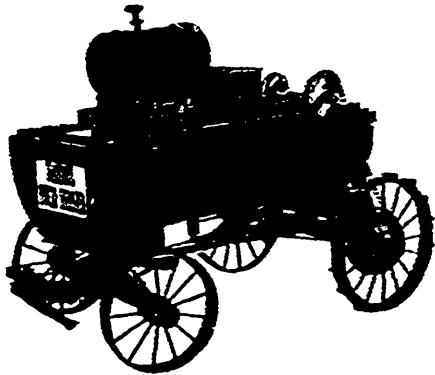


FIG. 2776. THE WALLACE POWER SPRAYER

since in *American Gardening*, made either of natural tree branches, or of smooth sticks closely covered with bark or a combination of both, as in the engraving. Vines planted at the ends and at the rear will soon cover such a seat and give a delightfully cozy nook.

Compressed Air Sprayers

AT the meeting of fruit growers in Beamsville on the 16th inst., the Wallace Sprayer and the Tweedle Sprayer were both on exhibition, and both did excellent work. Mr. Tweedle gets a reservoir tank of galvanized iron filled with compressed air by a stationary gasoline engine, at the point where the mixtures are prepared, and this, together with another galvanized iron tank holding the mixture, is set a heavy load for the horses to take through the orchard. Mr. Tweedle had also a spar of eight or ten nozzles, which by a pulley he elevates along a vertical gas pipe, so as to spray the highest apple trees in a few minutes. The whole outfit, including the gasoline engine, is valued at about \$200, and would make a capital co-operative outfit.

The Wallace Power Sprayer takes its power from the wagon wheel, and is not so expensive an outfit. It is readily thrown in and out of gear, and a short drive

will get up the air pressure in the reservoir above the tank to 80 or 100 pounds to the square inch. The weight of the whole outfit, with a half round two hundred gallon tank, wagon and all, before adding the mixture, is about 1,400 lbs. Add to this two hundred gallons of mixture, and the turning of the power wheel, and you have a fairly good pull for a team of horses, which, however, granting the ground is firm, will not be too great. This is another machine suitable for co-operative work.

We show above a cut of the Wallace Sprayer complete, and below we show also a cut of the Little Giant Spray Pump, manufactured by the Perkins Manufacturing Co. This latter machine we have not yet seen, but judge might be useful for the individual orchardist, who does not wish to use the co-operative pump. The cost of this is from \$100 to \$125.

Thinning Apples

TO thin our apples in such a way as to bring to maturity only the finest fruit is no small undertaking, and it is still an open question whether the work would pay for the extra work. Mr. S. A. Beach, of

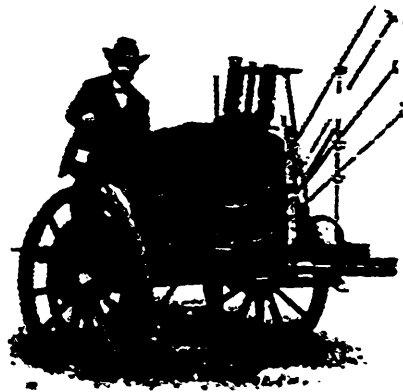


FIG. 2777. THE LITTLE GIANT SPRAY PUMP.

A Canadian invention. The pump takes its power from the wagon wheel.

Geneva, who has been making some experiments, has estimated the cost of thinning a well loaded apple tree at 50 cents. In seasons of heavy crops thinning was found to heighten the color and to increase the size; but in case of a small crop being set, it had no appreciable effect. It would seem therefore that for growing fancy grades of fruit that an advantage might be gained by thinning. The work must be undertaken early, within three or four weeks after the setting of the fruit, even if the June drop is not over yet.

The Canker Worm

THE usual method of fighting this insect enemy, now so widely distributed, is by spraying with Paris green about a quarter of a pound to 40 gallons of lime water, early in May, or just as soon as the young caterpillars appear, and by giving a second application about a week later. This is more certain in its effects than the use of sticky bandages for preventing the female from climbing the tree; but the work should be done while the larvæ is still small, because then it is more easily destroyed. Experiments conducted by V. H. Lowe, of Geneva, N. Y., indicate that arsenite of lime is equally as effective as Paris green, when properly applied, and has two advantages, (1) its cheapness, and (2) the fact that it will remain suspended in water much longer.

Horticulture in Nova Scotia—Two Valuable Plums

THE report of the School of Horticulture of Nova Scotia for 1903, F. C. Sears, director, has just come to hand, and shows good progress in the school work during the past year. Owing to the similarity of climate in Nova Scotia to that in England, it is found that English varieties are better adapted to the climate than American. For example, two recently im-

ported varieties of plums are very promising for market purposes, Cox's Emperor, in season October 1 to 15, and Late Orange, ripening about 16th October, and keeping until November. Both are yellow in color, the former nearly covered with a deep red; the latter, larger, and all yellow in color, and the flesh is firm, fine grained and meaty. Speaking of this latter plum, Mr. Sears says: "Coming so late in the season when plums for canning are in great demand, and when most other varieties are gone, it must certainly prove a valuable market sort, unless it develops some weak points after further testing." We will have this plum tested at our fruit stations as soon as possible, and see if it suits Ontario conditions.

Misleading Instances of Profit

SEVERAL times already in this journal we have pointed out the evil of publishing remarkable instances of profits made in fruit growing, without explaining that the cases were unusual; thus giving the uninitiated exaggerated notions of the profits of our business. We could cite numerous instances of persons who have given up remunerative occupations to invest their capital in a fruit farm, thinking they would have a bonanza. Imagine the disappointment in many cases at finding the expenses of labor, packages, express and commission charges so nearly covering the gross proceeds that almost no income is left for the owner's time and investment! Indeed, in some instances, where the varieties are ill-chosen, and the season unfavorable, there is a positive loss, after a whole year's waiting and expectancy! Why is it that the dark side of fruit growing is concealed and the bright side only advocated? Do our fruit growers wish to have the whole country in fruit? Do they invite so much competition in their business that the market will be glutted and their fruit become unsalable? Or do they wish to boom some

nursery and help the sale of fruit trees? We notice even in the annual report of the School of Horticulture of Nova Scotia the following statement:

"As an instance of the revenues growers are securing from their orchards I may cite a small Nonpareil orchard belonging to Mr. W. C. Healy, of Round Hill, Annapolis County. There is about an acre of land in the orchard, which gives two hundred barrels of apples. These sold at \$2.50 per barrel, or \$500 for the acre. Deducting 50c. a barrel, which is Mr. Healey's estimate of expenses, we have \$400 left as the profit on the acre, which is not at all bad."

We presume this is an advertisement of Mr. Healey's farm, in order to sell it for an extravagant price to some innocent capitalist; otherwise how are we to explain this statement, given without comparison with less profitable orchards? Why does the report not qualify the statement by at least saying that it was exceptional, or that as a rule the orchard only gives a crop each alternate year?

Arsenite of Lime Instead of Paris Green—Cheaper and Better

OF the substitutes for Paris green this one seems to be the cheapest, not being quite half the price of that article. It remains suspended in water much longer than Paris green, and it can be conveniently made at home.

The following directions for making and handling arsenite of lime are given in the M. A. C. Record:

"Dissolve the arsenic by bottling with carbonate of soda, and thus insure complete solution: which solution can be kept ready to make a spraying solution when wanted. To make material for 800 gallons of spraying mixture boil two pounds of white arsenic with eight pounds of sal soda (crystals of carbonate of soda, 'washing soda,' found in every grocery and drug shop) in two gallons of water. Boil these materials in any iron pot not used for other purposes. Boil for fifteen minutes or until the arsenic dissolves, leaving only a small muddy sediment. Put this solution into a two gallon jug and label 'Poison, stock material for spraying mixture.'"

"The spraying mixture can be prepared whenever required, and in the quantity needed at the time, by slaking two pounds of lime, adding this to forty gallons of water, and pouring into this a pint of the stock arsenic solution. Mix by stirring thoroughly,

and the spraying mixture is ready for use. The arsenic in this mixture is equivalent to four ounces of Paris green."



FIG. 2778. MR. J. L. HILLBORN, LEAMINGTON.

Our Director for Essex

IN giving out readers an account of our Leamington meeting, we had hoped to also give a sketch of Mr. J. L. Hillborn, our director for that section, whose untiring energy over details so much of the success of that meeting was due.

For a long time Mr. Hillborn has been a familiar name, as being one of the leading fruit growers of Lambton County. About eight years ago he removed from Arkona to Leamington for the purpose of taking up peach growing. Here he purchased a peach farm right along the north shore of Lake Erie, and named it Peach Bluff. Forming a partnership with Mr. McLaughlin, who has been in his employ for eleven years past, he set twenty-eight acres to peaches, a few acres to sweet cherries and

plum trees, and three good sized green-houses. Besides these, the firm have about 2,000 yards of cotton, which are used for forcing vegetables and cucumbers in early spring.

We take the following details from the Leamington Post:

The growth of early vegetables and fruit has proven very profitable during the past few years, and the new firm, with increased facilities, will enlarge their building, add to their greenhouses, and plant more extensively. The firm have already three greenhouses, two of them very large, while they also have what is known as cold frames which require sixteen hundred yards of cotton to cover. In irrigating their land they use an elevated tank holding 6,000 gallons of water. This is conveyed by pipes and carefully distributed as required. The greenhouses are used only for forcing early vegetables. A windmill keeps the tank filled. A perfect system of waterworks at a cost of \$400 is the result. In addition to growing early vegetables, which have so far been very profitable, they have nearly 5,000 trees, mostly peach. A few plum, cherry and pear trees are also grown. The principal business will be peach culture. Mr. Hilborn, who has lately been in Michigan examining the methods in use there, has very advanced ideas, and is one of the most progressive fruit growers in the county. Everywhere on the farm are evidences of thrift and prosperity. His buildings are all neatly painted, and no weeds are allowed to grow to the detriment of the crop. The few firm know what is required to ensure best results, and have sufficient capital to carry out any plans desired. During the past few years Mr. Hilborn has carried on a very extensive business; has built up a good trade, has made good business connections, and the new firm will be sure to enter upon a period of increased prosperity.

Labels for Varieties

MANY people find a pleasure in having about their homes an interesting collection of trees and shrubs, but through neglect in labelling, by and by forget the names of the varieties planted and consequently half the interest is lost. For the orchard, perhaps the old fashioned nursery stake, painted white and tarred on the part which goes in the ground, is as good as anything; but if something more desirable is wanted, and at the same time neater for use in the ornamental grounds, cast iron labels,

such as shown in our engraving, are more desirable. To get a stock of them, make a model of wood, 10 or 11 inches high, one inch wide at the shank, the head four or five inches across and two inches wide, as shown in our engraving, and send it to the foundry. Paint them white, and write the names in black, with a brush and paint, first outlining the letters with a pencil.

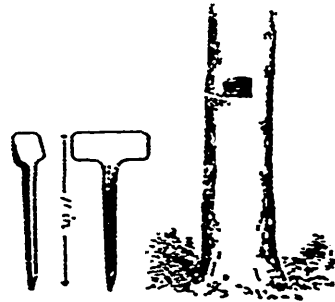


FIG. 2779. TREE LABEL.

For large trees a simple label, e. g., Scarlet Oak, is shown, made of a piece of tin about four inches long by three inches wide. Bend down about half an inch of the upper edge at a right angle, which will form a little coping for the label; then make two little holes just beneath this and pass a strong copper wire through them, firmly nailing it to the tree.

Bunching Asparagus

SO much depends upon the shape in which the produce of the vegetable fruit garden reaches the market, that no one who aims at success can afford to be negligent in this matter. In putting up asparagus for market a buncher will prove a great convenience, enabling one to make the bunches of uniform size, and to tie them firmly. Raffia makes an excellent material for tying, or the inner bark of the basswood tree, such as is often used by nurserymen in tying buds. After cutting, sorting and washing, lay the stalks in the buncher, with

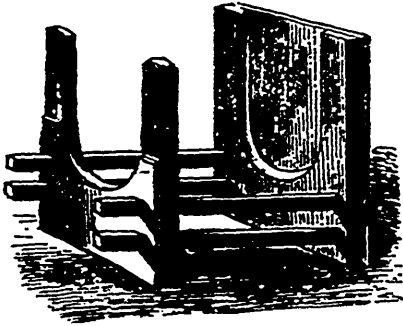


FIG. 2781. ASPARAGUS BUNCHER.

the heads evenly placed against the top. The bunch should be made about eight or nine inches long, and about four and a half inches across the butts. Press firmly and tie in two places, one about three inches from the top, and another about four inches below that.

Crates for shipping asparagus can be easily nailed up at home on rainy days, if the material is at hand. This can be had from the nearest mill, and the parts should be ordered as follows: Ends and middle, 12 x 18 x 5; inches; bottoms, sides and slats, 28 inches long; the bottoms to be nailed close together, the side boards 6 inches wide, with slats for rest of sides and cover, leaving good ventilation. Put two inches of wet grass or moss in bottom, on which stand the butts, so that heads will be about an inch below the top. Pack tight with wet moss to keep in place.

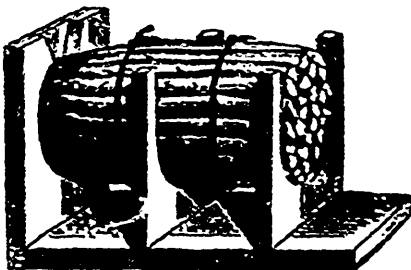


FIG. 2781. THE BUNCH TIER.

Some Good Climbers for the Porch

If beauty of floral display, and not shade, is the object of planting a climber, we know of nothing which surpasses the Clematis. Although tender in the young wood so that it is usually somewhat killed back in winter in Ontario, yet the growth of the vine is so rapid that it soon makes a good display. For the veranda, as an ornamental screen for a lattice fence, for growing in masses on rockeries, the Clematis is perhaps the most desirable of hardy perennials. Jackmanni has the most showy flowers; they



FIG. 2782. CLEMATIS PANICULATA.

are large, and in color an intense violet purple, rich and velvety. Virginiana, shown on page 129, is a native of Ontario, a remarkably vigorous grower, with a numerous show of small flowers in August, but not very ornamental. Henryi is a beautiful clematis for ornamental purposes; the flower is very large, and creamy white. It makes a fine contrast with Jackmanni. But for general excellence as a climber we know of no clematis that surpasses Paniculata, shown in Fig. 2782. This shows a vine only five months planted, which proves it to be a



FIG. 2783. CLEMATIS ON PORCH AT KINGSTON.

rapid grower. It is perfectly hardy, and produces a mass of pure white star shaped flowers, which are sweet scented. These appear in August and September, being borne in long panicles, and are very pretty.

though the individual flowers are small. This clematis will not be out of place anywhere, whether climbing a veranda post or hiding an ugly fence, and we speak of it with confidence.

APPLES FROSTED AND SMOKED

A NUMBER of shipments of apples, which had been lying in Halifax for several days awaiting the sailing of a vessel, were recently found by the fruit inspectors at that port to be seriously frosted and badly smoked when loaded on the steamship. Mr. McKinnon, chief of the Fruit Division, Ottawa, consequently advises shippers in both Ontario and Nova Scotia to take extra precautions in the packing of their apples, so as

to guard against the cold weather which they are now almost sure to encounter in transit. In addition, shippers should make sure that the heating apparatus in the cars is not liable to smoke. Having done their part in these respects, they might also consider the advisability of taking concerted action to impress upon the railway companies the need of better attendance in the case of fruit cars en route.

THE PRINCE EDWARD ISLAND FLOWER GROWERS' ANNUAL CONVENTION

I FEEL that my horticulturist friends in Ontario may expect a line from me, now that our annual meeting is over, on the work we are trying to do here in orchard-ing. I shall not attempt to load your columns with the matter of any of the reports, papers or addresses which form the transactions of our association, but merely state in general terms that we assembled in Charlottetown this year on the 3rd and 4th of February, with all the best orchardists in the province in attendance, and Messrs. W. A. McKinnon, A. McNeill and Saxby Blair from without. Our meetings were most enthusiastic all the way through, the night ones being crowded to the doors, and they all furnished much instruction which must ultimately benefit horticulture here.

The fruit show was a revelation to ~~over~~ ourselves. This was the off year with us, and the season was late and the fruit crop as a consequence retarded in growth and ripening. Still, there was never such an apple show here, and the pears were splendid as far as they went; also Mr. McNeill attended the Nova Scotia show before coming here, and certainly Nova Scotia has fine fruit this year and lots of it. He was also at your Ontario show, but he did not hesitate to say that little Prince Edward Island's exhibit of winter fruit was *facile princeps*. We did not expect this verdict this year. We have ambitions in that direction for some near period in the future.

Of all our apples the Baxter and the Gravenstein elicited most agreeable surprise. Of the former I can only say that it is not widely enough grown to be pronounced on definitely; but it is a beauty, and Mr. A. A. Moore, a large grower, declares it everything that can be desired. He gives the lie

direct to many of the unkind things your Ontario committee said of it some few years ago. Do you ever revise your judgments? Of the Gravenstein I can only say that we can equal, if not excel Nova Scotia, and ours is a month later. That means much for us in tempting the British market. Our association has done its share in stimulating fruit growing in the past year. It has now the whole province behind it. Education is omnipotent in this regard at least. As to the amount of aid received from the public chest, it is still absolutely incommensurate. But it is coming up a notch yearly. The papers read were all of a superior class. Vice-President Johnstone's on "The Need of Grafting and My Experience With Same," was one of the best papers we have ever had, and Chief McKinnon declared openly that he had never heard its equal. Mr. Registrar White's paper on "My Experimental Orchard" brought out much practical discussion on varieties and culture. Senator Ferguson's, on "The Apple Market," could not be well bettered, and the other papers and reports were all of absorbing interest. Of course Chief McKinnon gave several of his pleasing and profitable addresses on matters connected with the commercial side of apple growing, and A. McNeill was a host in himself on anything and everything connected with horticulture. He addressed the young people from the cottages, come in to see what a fruit growers' convention was like, with the same ease as he struggled with that interesting question, "Is the Gano and the Black Ben Davis Identical," or "What is the influence of the stock on the cion and vice versa?" Then we had W. Saxby Blair's splendid address on "How to Conserve the Moisture of Or-

chard Soils." And there were demonstrations—always intensely interesting—in pruning, grafting, packing, etc.

The president's address resumed the work of the year, and pointed out the needs of the times. He wants co-operation as a necessity here where orchards are small and mixed; a subsidized line of steamers to Britain; uniformity in packages (the convention adopted the 10 x 11 x 20 box); registration for tree sellers and grafters, and better transportation, with lower rates by rail and water. He dilated on the value of the domestic market too, and advocated the jamming, pulping, evaporating of inferior fruit. The matter of central councils initiated here was further advanced in details.

The president and executive were heartily thanked for the services rendered in the

past, and the onus of office placed again on their shoulders, the government, being asked, by special resolution, to make some attempt to recompense them. Replying, as president, I acknowledged my deep obligation to the association for the great honor conferred upon me so persistently, and promise faithful service, although some one else might more worthily preside over its destinies. The only new name on the board is that of Edward Bayfield, Esq., a past president.

Everything points to a good year for horticulture here. We extend our best wishes to our Ontario co-workers, and hope that every movement of our associations may be upward and onward for Canada.

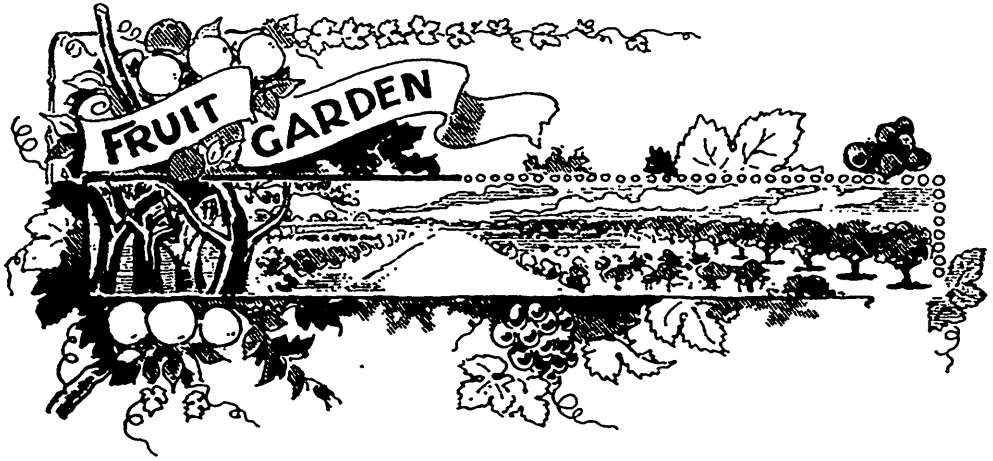
A. E. BURKE.

Alberton, P. E. I.

FIRST FLOWERS OF SPRING

HOW many know that one's own home yard can become a wondrous spectacle long before the shady covert of the woods sends forth the wild bloom? So early as the first of March, or even the last of February, we welcome the dainty Snow-drop, modestly drooping its dainty cups, even while the snow lies heaped in shady nooks near at hand. Then the Crocus, of various colors, puts forth a plea for recognition. Among the earliest blooming varieties of these bulbs are the small yellow with black stripes, quite unique. Then the large white, pure large yellow, purple, and a novelty among them is a certain red-blooming variety with slender, pointed flower-cups, distinct from the others. Then comes, almost at the same time, our Glory-of-the-Snow, a dainty white and blue flower only

lately introduced. But chief among these spring beauties, and held as prime favorites, comes the marvellous bloom of a whole forest of Scillas. Then, indeed, does summer seem to be upon the way, when the bees are wild with delight, and the blue and white-mystery looks up laughingly and demands whether there was ever anything half so sweet or winsome, just at home. Borders of these are very attractive for the garden beds or set in little groups in the midst of the sod upon the lawn, where they do quite as well as elsewhere, and are sure to surprise somebody. They seed themselves, and increase very rapidly, and will bloom all through April and May. It is well worth the trial of flower lovers to invest in these earliest of spring flowers, so easy of culture and so delightful.—*Pick's Magazine*.



FALL AND WINTER PEARS

FINE-SKINNED, smooth Bartletts still seem to hold their own for the late summer and fall trade. The heavy yield of these trees, and the ready market which they find, makes them a profitable pear to grow. Bartletts are not by any means the best pears for home use, for the common Sackel, Flemish Beauty, and many dwarf varieties far surpass them in my estimation, but owing to the handsome appearance of the former fruits they will always command good prices. The buying public still judge of fruits largely from their outside appearance. The Bartletts are juicy and sweet, but one soon sickens of them if plenty are to be had. They ripen so rapidly, and then become so soft and squashy, that one must use haste in selling them. They should be pulled off the tree when quite green, and allowed to ripen in a dark room to get the best results.

The old Flemish Beautys are bright, red-checked pears with a dark, greenish color, but of late years they crack open and spoil in many sections, so that they are unfit for market use. The flavor of these pears is delicious, and beyond comparison. They never sold very well in the general market,

and of late years their cracked surfaces have caused them to fall into greater disfavor. Those who know them, however, would always prefer one to almost any other variety of pear, cracks and all included. The cause of this cracking open of the fruit must be due to the soil in some way, but the weather is partly responsible for their injury. In very wet seasons the cracking is a great deal worse than at other times.

The Anjous come in later in the season, and owing to their tough skins are enabled to stand inclement weather. They are very seldom knotty and cracked, and they sell pretty well in the average market. They are abundant producers, and should not be neglected in any orchard. The stings of insects cannot injure these pears as much as the Bartletts or Flemish Beautys, for their skins are so tough and thick that the stings hardly penetrate through to the meat of the fruits.

Good fall and winter pears are always in demand, and owing to the small quantity grown the prices are generally high. They should be ready for market just at the close of the season for summer fruit. This is generally when the grape supply is begin-

ing to dwindle down. There is a demand for fruit then, and it can be supplied with the late fall pears; but if one waits too long the hothouse fruits come in and cause prices

to decline. Some of this fruit can be kept for the holidays, but only such pears as have fine, fair outside appearances.—*American Cultivator*.

TREATING FROZEN PEACH TREES

THE very cold weather of the past two months has done great damage to the peach trees of New England and Hudson valley in New York. In a very large majority of cases the fruit buds have been killed and the crop of 1904 annihilated. In a large number of instances the wood has also been frozen and the trees damaged. Hundreds or even thousands of trees are reported to be killed to the ground. It is quite certain that a large proportion of all the trees are killed back more or less.

The best treatment for peach trees thus injured by freezing is to cut the tops back in proportion to the damage. In any case it will be proper to cut away all the dead wood, leaving only that which is strong enough to make a fairly vigorous start of buds in the spring. This can be determined in general by cutting into a branch with the pruning knife. If the wood is black inside, or if it shows considerable discolored layers, it is probably either dead or so much in-

jured that it will not start its buds vigorously.

In cases of moderate freezing, this rule would require only the removal of the shoots grown in 1903. In more serious cases it would be necessary to cut back into two-year-old wood. In a deplorably large number of orchards it will mean cutting away all the main branches, leaving only the trunks and a few stubs. Even such severe pruning as this is practicable, particularly with young trees, and is far better than sacrificing the trees altogether.

It will probably be useful also, in connection with the cutting back of frozen trees, to give them a vigorous start in the spring by early cultivation of the ground and by the application of a small amount of some quick-acting nitrogenous fertilizer like nitrate of soda. In applying nitrate of soda, from three to five pounds should be given to each tree.—*American Agriculturist*.

REHEADING PEACH TREES IN ORCHARDS

THE *American Agriculturist* last winter attention was called to the changing of one variety to another in a well established peach orchard; also pictures were shown of a large orchard that had been cut back and new heads started. The discarding of the unfavorable and unpopular varieties, cutting back the heads and rebudding another

variety on the same tree is becoming more popular year after year as fruit growers become familiar with conditions.

A young orchard on the eastern end of Long Island, which was being changed from one variety to another, was inspected last summer. The trees were four years old and were making a splendid growth, but the

variety Triumph, was very susceptible to rot and not considered profitable. The owner, John W. Hand, of Suffolk county, decided to bud the whole block with Champion. The tops of the trees were cut back in March. The orchard was given thorough cultivation.

The trees made a magnificent growth. They were budded about two weeks later and will be cut back again this spring to the dormant buds. In this manner a profitable

and choice variety of fruit will be secured by the loss of the crop two years in succession. At the same time the trees will have a root and trunk system that will make up for this loss during their fruiting period. Mr. Hand is one of the successful fruit growers on Long Island who does not depend upon what others do, but goes ahead and finds out for himself what varieties best suit his condition. He is the pioneer fruit grower in his section.

THE ORCHARDS IN SPRING

NO time of the year requires more intelligent work than the spring to make visible results in the bearing of the trees and vines. The work needs to begin early, and it should be conducted well through the growing season until the crops are harvested. More and more are successful orchardists becoming convinced that there is money in all of our fruit crops, from strawberries to apples, if proper attention and cultivation are given. We are raising up as a consequence a generation of fruit growers who get the most possible out of their orchard trees at the minimum risk from blights, insects and other pests. We no longer recognize off years in the orchard; years when the crop is next to nothing, while the following season's crop is so large that the markets are glutted and prices very low. By careful cultivation, pruning and thinning out, the old-time trees that used to produce big crops in alternate years now yield a fair crop every season. If they won't do this, then root them up and plant varieties that will. To make orcharding successful we must be able to depend upon a good crop every season and there are plenty of trees that will do it for us. But if you let the trees take care of themselves,

they will do as they used to do, produce such a big crop this year that their vitality will not be up to the mark of yielding much fruit next. So they will take a season off, and the owner will say this is the off year for his apples.

By pruning, thinning out and fertilizing our orchards we strike at the very secret of the success of the trees. In pruning we keep the vitality of the trees in proper limits. It is not allowed to spread itself out in dozens of useless and formless twigs and limbs. By keeping the trees into a certain form and symmetry we conserve their powers and energies. Likewise in thinning out the fruit we enable the tree to send all of its vitality into the few fruits left, and they are larger and fuller in every way. Some parts of a tree are permanently ruined by permitting too heavy loads of fruits to mature on them. Let the bearing be as even and uniform throughout the tree as possible, and the fruit will be better for it this year and succeeding years. There is a great art to be learned in thinning out the fruits of any orchard, and the secret of it all must be learned by intelligent experience. Then there is the need of adding fertilizers to the soil of the orchard. Plow and harrow and

summer fallow until July. Then put in some chemical and green crops to be incorporated into the soil later. A couple of hundred pounds of muriate of potash and acid phosphate added and plowed under with a

crop of clover or rye would work wonders in an orchard. It would not take many years to notice a change in the size and quality of the fruits produced.—*American Cultivator*.

PLANTING PEACHES

ONE year No. 1 trees are better than smaller or June-budded trees. The varieties and their arrangement should depend upon the location. Early and hardy sorts should be on warm and early land, so that they will come on before the bulk of the crop. The late sorts should also be on sunny exposures if they are hardy, as on the north slope they would lack color and fail to ripen. The Crawfords do well when planted on northern slopes. Purchase the trees of a reliable nursery and be sure that they are free from root aphides.

Prune the tree to a single stem, cutting it off at the height of two and one-half feet, but do not remove suckers that form until midsummer. To keep off the borers wash the trees with a preparation of one pound of sulphur, three pounds of copper sulphate and enough lime to make a thick paint, when three gallons of water has been added.

Scrub the trunks and larger branches, using a stiff brush. Cultivate until the first to the middle of August. Beans seem a good crop for the first year or two. No fertilizer is necessary for the first few years, except when needed to supply food for the crop that is grown between the rows.

A little clay may be placed about the trees to advantage on light, sandy soil. A late growth should be avoided, and if rye is sown the middle of August it will aid in doing this, which will be of far more value than the food it will furnish. Plow under in the early spring. If too late it may prove a disadvantage. A little wholesome neglect in the way of cultivation late in the season will also be desirable.

Banking of the trees is advisable as it lessens the injury from freezing and the action of ice and frost on the trunks.—*Michigan Farmer*.

THE CHERRY ORCHARD

A STRONG, loamy soil, and one which is retentive of moisture, is the most suitable for sour cherries. The fruit contains such a large amount of water that it is necessary to save the moisture of the soil to the greatest possible extent. Dry clay knolls produce cherries of less size and of inferior quality than the moisture depressions

between them. Very early and thorough cultivation is essential to this conservation of moisture, and the tillage should be continued at frequent intervals until the fruit is about ripe. In order to be able to cultivate the soil at the earliest moment in the spring, the land should be either naturally or artificially well drained. The crop of even the

Morellos is cut the trees in July, so that there is abundant opportunity to sow a catch crop on the orchard for a winter cover, if the manager so desires. A variety of plants may be used for this cover. The best is probably crimson clover, particularly if the orchard needs more nitrogen or growth; and, if American grown seed is sown by the middle of August in a well prepared soil, the clover will probably pass the winter safely. Other plants which may be used for cover are rye, winter wheat, vetch, field pea, sowed corn, millet and buckwheat. Of these, only the two first will live through the winter and grow in the spring. In using cover crops which survive the winter, it is very important that they be turned under just as soon as the ground is dry enough in spring. As soon as the plant begins to grow it evaporates moisture and dries out the soil; and it is more important, as a rule, to save this moisture than it is to secure the extra herbage which would result from delay. This is especially true with the sour cherry, which matures its product so early in the season,

and which profits so much by a liberal and constant supply of soil moisture. Plowing can also be begun earlier on land which has a sowed crop upon it, because of the drying action of the crop. The fertilizers which give best results with other orchard fruits may be expected to yield equally good returns with the cherry.

It is an almost universal fault to plant cherry trees too close together. The Montmorency should not be planted closer than 18 feet each way, in orchard blocks, although it is often set as close as twelve feet. The English Morello is a more bushy grower and may, perhaps, be set as close as 16 feet with success; but I believe that even this variety should stand 18 feet apart. The sour cherry orchards in Western New York are yet so young that the evil effects of close planting have not yet been made apparent. I find, however, that nearly every shrewd orchardist who has had experience with these fruits is convinced that the general planting is too close.—*Cornell Bulletin*.

GROWING CAULIFLOWERS

FIRST, it must be borne in mind that while cauliflowers when young are not to be distinguished from cabbage, yet they are much tenderer than cabbage, and a degree of cold that does not affect young cabbage will readily destroy young cauliflowers.

The requirements of successful cauliflower growing are: First, good seed; second, good variety; third, a rich soil in all the essential elements of food. The cauliflower requires more moisture than cabbage. Plants should be made ready for setting out by the time it is safe to put them in the open

ground, and the cultivation should be shallow and frequent. A half acre of good land will produce 2,500 heads easily. The Early Snowball is one of the leading varieties, but there are other just as good under other names. To produce the best results the plants should be transplanted at least twice from one frame to another before the final setting out in the open. By this means all defective plants are sure to be rejected, and the crop if grown in well prepared, highly enriched soil, is almost sure to be profitable.—*Vick's Magazine*.

The Home Fruit Garden

IN the rush to plant commercial orchards for profit there is no doubt that too little attention has been given by either nurserymen or lot owners to the planting of gardens for the supply of the family at home. How many waste back yards in our villages, towns, and even cities, that might be utilized to give pleasant employment to the merchant or the lawyer for odd moments of his time, as a rest from the worry of his shop or his office, and at the same time give the best possible profit for the investment of his time and money.

No doubt the absence of literature upon the home fruit garden, showing plans for planting, varieties required to give a succession for the table, method of cultivation and pruning, to a large extent account for the neglect, and it would be a very wise subject for a discussion at a session of the Ontario Fruit Growers' Association. We notice that Corbett in U. S. bulletin, No. 154, gives some good hints along this line, which we quote for our readers, under their several heads, as follows:

PLANTING.

Preparation of Plants.—It is impossible to give explicit directions for the many plants which may be selected for planting in fruit gardens in the various sections, and general statements only can be made. At planting time all broken or decayed roots should be cut away, leaving only smooth-cut surfaces and healthy wood in contact with the soil. If a large part of the root area of the plant has been lost in transplanting, the top should be cut back in proportion to the roots remaining. By so doing the demand made by the top when the plant starts into growth can be met by the root.

The hole in which trees, vines, or shrubs are to be set should be ample, so that the roots of the plant may have full spread without bending them out of their natural course. The earth at the bottom of the hole should be loosened a spade depth below the line of excavation. The soil placed immediately in contact with the roots of the newly set plant should be rich top soil, free from soil or partially decayed organic

matter. Firm the soil over the roots by trampling, as this brings the soil particles close together and at the same time in close contact with the surface of the roots. A movement of soil water is thus set up and the food supply of the soil brought immediately to the use of the plant. When the operation of transplanting is complete, the plant should stand one or two inches deeper than it stood in the nursery. Every precaution above enumerated will make for the success of the plant and calls for careful attention.

PRUNING.

While pruning has to be modified to suit the style of training employed with any given plant, each species of plant bears its fruit in a peculiar manner, which renders the maintenance of wood of a certain age and character necessary in order to secure a crop of fruit.

In the case of the apple and pear the fruits are borne upon wood of last year's growth only. Heading in or shortening each shoot of the season's growth, therefore, must be done with care in order not to reduce the bearing wood beyond a profitable limit. With these two plants, however, the bearing shoots are not those making the most vigorous growth at the ends of the branches, but they are usually more obscurely located upon the sides of the branches, and make a much smaller growth, for which reason they have been termed "spurs."

With the peach, however, it is the wood of last season's growth upon which the fruits are directly borne, and with them heading in may be successfully employed to limit the quantity of fruit borne by the tree. Japan plums bear on both year-old wood and spurs; pruning may, therefore, be used to thin the fruit, the same as in the case of the peach.

The quince bears its fruit at the extremity of new shoots of the present season's growth, in which respect it differs from both its close relatives, the apple and the pear; but as these shoots arise from wood of the previous season's growth, pruning must be so adjusted that the fruit crop will not be reduced.

The grape bears its fruit on shoots of the season, which in turn usually arise from canes of the previous year's growth. Old wood of the grape is therefore of little value, hence the development of so many systems of training which maintain only a single permanent trunk from the top of which the bearing canes are renewed each year. The so-called "renewal," "high renewal," "Kniffen," "Munson," and various overhead systems of training all possess this feature in common. In fact, it is the most economical way in which to handle native kinds. For the fruit garden, however, where the vines are desired for covering arbors, pruning must be modified so as to secure a screen from



FIG. 2784. RASPBERRIES BETWEEN APPLE TREES.

new growth as early in the season as practicable. For this purpose a modification of the "horizontal arm" system of training will be found most advantageous. By planting the vines closely and carrying up single trunks to a fixed height, and from the top of the stalk carrying out horizontal arms along which "spurs" are maintained, a short growth from each spur will be sufficient to give a uniform and sufficiently dense canopy of leaves for the arbor.

Raspberries and Blackberries.—Raspberries and blackberries both bear their fruits on short shoots which arise from canes of the previous growth. While these shoots are usually axillary shoots, the fruits are always terminal. In the case of the grape, which bears its fruit upon annual shoots arising from canes of the previous year, the fruit is produced at a node, and takes the place of a leaf; several fruit clusters may therefore arise from a single shoot of the grape.

Currant and Gooseberry.—In the case of the currant and gooseberry the fruits are produced on both old and new wood; the fruits appear as axillary growths from the shoot itself, and need three years or more of age is unprofitable and should be cut away.

Strawberries.—Strawberries are rarely produced in profitable quantities by plants more than one year old. Plants over two years of age should be rooted out to give room for new ones.

DWARFING AND GRAFTING.

In order to secure satisfactory results from a limited area devoted to fruit culture, one must know the form of plant and method of pruning, training, and culture best suited to the space at command.

The fact that trees can be grown as dwarfs as well as standards will enable one to utilize a space which had previously been considered as unsuited for the development of a tree. The cultivator's art has developed many devices which may be used to make plants conform to the conditions in a fruit garden.

Value of Dwarf Trees.—The modifications which plants undergo are sufficient to convince one of the great possibilities which await those who choose to make use of the methods to secure a large return from a limited area. It is

well known that, in proportion to size, dwarf trees are more fruitful than standards; that they come into bearing sooner, and are therefore of special value for use in limited inclosures or fruit gardens.

Dwarfing is accomplished by budding or grafting robust growers on slow-growing stocks, and most fruit trees lend themselves to this treatment. While the dwarf pear is undoubtedly the most familiar example of a dwarf tree, there are stocks upon which apples, cherries, plums and peaches can be grown with the same general result. Besides this mode of modification, there are other methods quite as important to the growers of small areas. Standards may be grown as "bushes" or as "pyramids," thus making it possible to grow them much closer together. Pruning and training, used in combination, have shown the possibilities of restricting plants to the "espalier," "cordon," and other styles of training employed in growing fruits against walls. These methods not only allow plants to be grown more closely than is common in orchard practice, but they allow the grower to take advantage of locations and conditions under which trees could not develop normally. The side of a building may be utilized as a support to an apricot, nectarine, pear, or grape, the last named being the only one normally adapted to such a position.

Varieties Increased by Grafting.—Besides the advantage of dwarfing, grafting may be turned to good account to enable the owner of few trees to increase his sorts beyond the limits of the trees he possesses. By grafting, the list of varieties can be increased almost at will. There are single trees known which bear as many as 150 varieties of apples. While a tree of this kind possesses little commercial value, it is of interest in the way of proving what can be accomplished by grafting.

COMBINING PLANTS OF VARIOUS HABITS OF GROWTH.

In addition to the advantages to be gained from restricting the growth of plants by training and dwarfing, some of the methods of training offer adaptations which allow of combining plants of various habits of growth, to the advantage of the grower and with little or no disadvantage to the plants. To illustrate this, currants may be combined with the grape, the apples with currants or raspberries, as in Fig. 2784; grapes and strawberries, as shown in Fig. 2785.



FIG. 2785. STRAWBERRIES UNDER GRAPEVINES.

The advantages of these methods become apparent at once when the object is the most economical utilization of a limited land area.

Besides the special adaptations afforded by dwarfed trees and by special combinations of low-growing and high-growing plants, certain well known systems of pruning and training allow additional liberties to the skillful planter, as, for instance, the grapevine, which readily lends itself to arbor training, may be utilized for screening tender or shade-loving plants. The style of training the grape shown in Fig. 2785 is more desirable in many cases than a more perfect arbor. Strawberries adapt themselves readily to such situations if the shade is not allowed to become too dense. Among flowering plants none will thrive better under such conditions than pansies and violets, and among garden vegetables lettuce and radishes may be successfully grown under such a canopy, as they will be out of the way before a dense shade is formed by the grapes. Asparagus can be successfully grown under a shade of this character, as it will, because of its early habit, make a large share of its growth before the early grape will have produced a shade dense enough to interfere with the young, tender shoots.

Vines as a Cover for Walks and for Shade.

The vine may be utilized as a cover for walks and drives or as a canopy over small outbuildings. A cozy summer veranda may be covered by grapevines, thus securing the double advantage of a cool, shady nook during summer and a supply of fruit in autumn. In one garden a small ash house was made to support an Isabella vine, and this vine in 1891 produced 360 clusters of grapes. The small inclosure in which this vine grew, only 25 feet wide and 30 feet deep, also supplied foot room for 15 other grape vines, several dozen strawberry plants, a row of currants, and a limited supply of vegetables and annual flowers, besides a few square yards of beautiful turf. The plan of this garden shows the arrangement of the plants. The grape vines are trained to the high tight board fence which separates the lot from that of the next neighbor. The currants are planted near one side of the inclosure while the main walk occupies a corresponding position on the opposite side. The area between the walk and fence on one side is given up to strawberries, while that between the walk and currant bushes on the opposite side forms the flower and vegetable plot.

COMBINED FRUIT AND VEGETABLE GARDEN.

Where there is more land at one's disposal there may be both a fruit garden and a vegetable garden. An area of 60 by 80 feet set apart as a fruit garden will accommodate 442 fruit-bearing plants of the kinds designated below, while an area of 40 by 80 feet will be sufficient for quite a variety of vegetable plants.

As before mentioned, the general plan will serve as a guide to planting, but the sorts chosen must be suited to that particular section

of the country in which the work is to be executed.

As will be seen in Fig. 2786, this garden is planned to utilize the space to the best possible advantage. In order to secure large returns, the soil must be kept cultivated and well enriched; walks, if any, are to be maintained as permanent features, should only exist where necessary for ease and comfort in getting about. A permanent walk should divide the fruit garden from the vegetable garden. This is best made of gravel or some other loose material, which will preserve a dry passageway without preventing the rain from penetrating the soil beneath it, as the fruit trees which stand beside it will need the moisture which it gathers. On account of the small area occupied and the

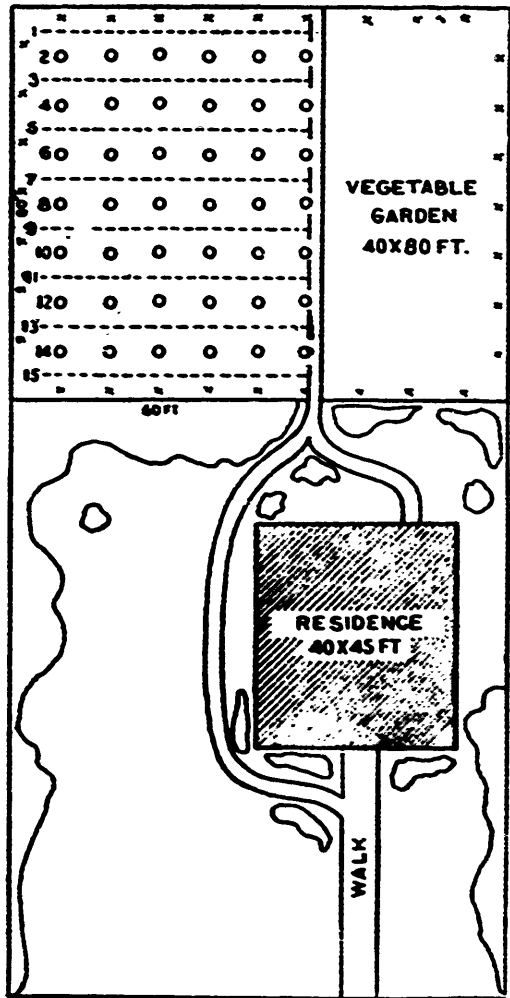


FIG. 2786. PLAN FOR A SUBURBAN PLACE.

close planting necessary to secure the result desired, the culture of such a garden must of necessity be done by hand. If the grape vines are trained on the Kniffen high renewal system they will serve both as a screen for the rest of

the garden, and as a source of fruit supply. A good wire fence should, however, be constructed on the line between adjoining properties, and the grape border planted not farther than two feet from the boundary fence.

ON A NEWLY-PROPOSED METHOD OF PREPARING THE LIME-SULPHUR WASH

BY FRANK T. SHUTT, M.A., F.I.G., F.R.S.C., CHEMIST, DOMINION EXPERIMENTAL FARM.

IN the report of the division of chemistry in the experimental farms for 1902, the results of a series of experiments in the preparation by boiling of this valuable spray are given. Since the appearance of that report a method has been proposed by the New York Geneva Experiment Station, which obviates the necessity of boiling—the chief drawback to the more common use of this valuable remedy. The modification consists in the addition, at a certain stage in the preparation, of strong lye, such as Babbitt's or Gillett's. The proportions and preparation as given in Bulletin No. 228 of the above named experiment station are as follows:

Lime, unslaked, 40 lbs.

Sulphur, ground, 5 lbs.

Lye, concentrated, 5 to 10 lbs.

Water, 60 gallons.

"In the preparation of the mixture the lime was slaked, preferably with hot water, and while it is slaking vigorously, the sulphur, which had been made into a thin paste, was added and thoroughly mixed with the slaking lime. The caustic soda is then added, with water as needed, and the whole stirred thoroughly. As soon as the chemical action has ceased the required amount of water, preferably hot water, is added, and the mixture is ready for use."

It will be noticed that in this process there is no boiling and no salt, an ingredient in

the old formula which apparently had no direct value as an insecticide, but was useful in raising the boiling point of the mixture, thus ensuring a more complete union of the sulphur and lime.

At the request of the entomologist (Dr. Fletcher) we made several trial preparations in the laboratory and found that the proposed method is quite workable and simple and yields a product in which there is very little uncombined sulphur. This latter is an essential point, as undoubtedly it is the sulphur compounds that give this wash its great value for destroying the scale. It is necessary to this end that the sulphur be added (in a thin paste) while the lime is still actively slaking—for which purpose care should be taken to use only a sufficiency of water—and the mass stirred vigorously. As soon as the sulphur paste is poured on to the slaked lime add the solution of lye, with such further quantities of water as may be necessary, stirring and mixing, until all bubbling ceases. There is now an orange-yellow, pasty, homogeneous mass which can be diluted to the requisite volume either at once or at any subsequent time, if kept out of contact with the air.

As far as one can judge from what might be called the chemical or physical point of view, this wash should prove equally effective with that prepared by boiling.

DUST SPRAYING

IN the Western States, particularly in the State of Missouri, where orchards are often on steep hillsides, and where water is sometimes scarce, fruit growers have been looking about for some easier way of applying fungicides and insecticides than by means of water, which is difficult to get and more difficult to draw over the rough ground. Trees have been dusted with sulphur and other materials in the east in the past, but copper sulphate had not been used in this way until tried in the west. Machines for spraying dust mixtures have been invented or old ones improved upon, and during the past few years dust spraying has been carried on in a number of commercial orchards in the Western States and quite satisfactory results are said to have been obtained.

Air-slaked lime has been used in the place of water for carrying the fungicides and insecticides, but it in itself has a beneficial effect also. The formula recommended up to the present year were not entirely satisfactory, as they did not contain the copper in the same chemical condition as in Bordeaux mixture. Experiments were recommended which is said to have the copper in the right chemical condition. The formula, with the method of preparation, is given in Bulletin No. 60, Missouri Experiment Station, Columbia, Mo.

A dust machine was obtained from the

Ozark Dust Sprayer Co., Springfield, Mo., and tested at the Central Experimental Farm, Ottawa, in 1903, by the writer. It was found to distribute the dust satisfactorily, but in order to get the dust to adhere it must be applied when the dew is on the foliage. This is a serious drawback to dust spraying in this time of scarcity of labor. Moreover, the liquid spray gives such satisfactory results when properly made and applied that the dust spray is not likely to take its place, except perhaps where the ground is rough and where the orchards are on steep hillsides, and possibly in spraying young trees. It would appear at first that there was great danger from the use of arsenical poisons when applied in a dust spray, but while there is undoubtedly danger if the dust is inhaled, the nozzle is so far away from the operator that there is really little danger if the work is carefully done.

As there was no apple spot fungus this year, and practically no codling moth, accurate comparison could not be made between the effectiveness of the dust and liquid sprays, but the general conclusions reached by experimenters elsewhere are true: although good results may sometimes be obtained by dust spraying, it is not the best method for general use.

W. T. MACOUN,

Horticulturist Central Expl. Farm, Ottawa.

HEIGHT OF FRUIT TREES

THERE is considerable difference of opinion among orchardists as to the height at which fruit trees should be headed. In the Eastern States there are many who think the trunks should be four or five feet, and some of the apple orchards have bodies taller than this. However well this may be

for the eastern conditions, it is not the proper way to train trees anywhere in the Central and Western States, and in the east the tendency is to lower heads. The more recently planted apple orchards are rarely over two to three feet to the lower branches, and the pear orchards from one to two feet.

Any one who has had experience in the west knows that the hot suns and almost constant summer winds work havoc in orchards that are headed high. The flat-headed apple tree borer works in the trunk and large branches that are exposed to the sun. I have seen apple trees in Northern Texas that were badly attacked by this insect almost ten feet from the ground. In Kansas and Missouri it is not so abundant and destructive, but nearly all the apple trees with tall bare trunks have borers on them.

Tall heads give the wind greater power over the roots, which strains them unduly, often causing the trees to incline to the northeast or fall to the ground. The fruit

is much harder to gather from tall headed trees than from those with low heads. It is especially important that peach trees should be headed low and then kept pruned back, so that ladders will rarely be needed to be used in gathering the peaches.

Spraying is much more easily done on low-headed trees, and the same is true of pruning. There does not seem to be any good reason for heading fruit trees high, except that they are troublesome to cultivate when the branches are very low to the ground. This can be largely overcome by using tools that are made to meet these requirements.—*Midland Farmer*.

A LIVING FROM A TOWN LOT

THE TOTAL RECEIPTS FROM THREE QUARTERS OF AN ACRE WERE \$1400.

IN a small western town, some years ago, there lived a man who thought that horticulture could be made profitable on a small amount of ground. This man's capital was limited. The total area of land at his disposal was a little less than one acre. He had energy and ambition and a desire to make his efforts successful. The man selected as his two main crops strawberries and celery. One-fourth of an acre was devoted to strawberries, one-fourth of an acre to celery, and one-fourth of an acre to miscellaneous garden vegetables, to be sold in the town. The problem was to handle these crops as to secure the very highest returns for the outlay involved. No other help than that of the man himself was needed. The soil was ordinary, but was made rich by the application of stable manure.

The man developed a system which involved a shifting of crops each year. This, he gathered from what he could read, was necessary, first to avoid diseases and insects, and second, to rest the land. Eight thousand strawberry plants were put out on one-

quarter of the acre, the plants all being grown in small pots so that they could be planted in the latter part of June, leaving his ground free up to that time for his miscellaneous vegetable crops.

The strawberries planted in June gave him a full harvest the following May and June, and from these plants the average yield amounted to \$500 for his one-quarter of an acre. His celery he planted in the latter part of July on the ground that his strawberries had occupied. This celery was taken off in October, and the ground was therefore free the next spring for his vegetable crops. His one-fourth of an acre of celery handled in this way gave him \$400 average yield. His miscellaneous vegetables, grown in rotation, such as green peas, green beans, beets, lettuce, and crops of this nature, gave him \$400 more, making his receipts from his three-quarters of an acre \$1,400, of which approximately \$40 was expended for fertilizers, necessary help, etc.—*The World's Work*.

THE STRAWBERRY PLANTATION

Most Productive Varieties of Strawberries.

THE strawberry is, undoubtedly, the most popular fruit in Canada. It is also one of the most, if not the most, profitable fruits to grow. There is, however, a great difference in the productiveness, firmness, appearance and quality of different varieties, and the profits in growing this fruit will depend largely upon the kinds grown. At the Central Experimental Farm nearly 400 named varieties have been tested during the past sixteen years, and a large number of unnamed seedlings. This long and wide experience with varieties makes it possible to recommend certain kinds which have proven superior to others. After having discarded a large number of varieties, a three years' test was made with 110 kinds. Taking the average for the three years, the most productive variety, the Mele, yielded at the rate of 12,700 lbs. per acre, and the variety 25th on the list, Arkansas Traveller, yielded at the rate of 7,029 lbs. to the acre, a difference of 5,680 lbs. per acre between the best and the poorest of 25 varieties. It can readily be seen how important it is to plant productive varieties, providing the fruit is salable. Among the best varieties, both as regards productiveness and other points of merit, are: Buster, Glen Mary, Sample, Warfield, Greenville, Bisel, Marie, Bederwood, Lovett, Barton's Eclipse, Bubach, Daisy, Afton, Williams, Thompson's Late, Enhance, Stevens' Early, Howard's No. 41, and Mele, the best named variety having proved the most productive of all. It is, however, a little under size and rather soft. Further information regarding these varieties will be found in the reports of the Horticulturist Central Experimental Farm

To Be Successful in Strawberry Growing.

TO be successful in growing strawberries, a rich soil must be available, and a thorough culture given during the entire growth of the plants. Strawberries require a great deal of moisture, especially during the fruiting season, and this can be conserved somewhat by mulching between the rows or by keeping the soil constantly loose on top. If irrigation is practicable, this can be used with much profit. Of course there are a great many varieties of strawberries, but there are only a few which I have tested that are really adapted to southern Ohio. One variety may do remarkably well in a certain section and be almost worthless in another. For home and table use and near markets I find the Cumberland, Haverland, Crescent, Bubach, Ivanhoe and Allen's Seedling very profitable. They are vigorous growers and hardy. The yield is large and the fruit uniform. I think the Cumberland is probably the best for home use, but for shipping is not so desirable.

When setting the plants in spring, prepare the bed thoroughly, see that the soil is rich and as free as possible from noxious weeds and grass seeds. During the season I pick out and mark the best plants and use these for setting other fields the next year. In this way the choicest plants can be secured. I have always had the best success in setting as early in spring as the ground can be worked. As soon as growth begins the strawberry fields should be thoroughly cultivated, and this should be continued until the first of September. The weeds and grass much be gotten rid of as soon as they make their appearance.—*Am. Agriculturist*



GENERAL GARDEN NOTES FOR APRIL

BY WM. HUNT, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

VEGETABLE AND FRUIT GARDEN.

THE first opening operation in the vegetable garden should be to attend to the asparagus bed. No garden, however small, where any vegetables at all are grown, should be without a small plot, or a row or two of asparagus plant. It is the earliest, best, and most wholesome and acceptable of all early vegetables. If you have no asparagus in your vegetable garden, sow some seed as early as the ground can be worked in drills an inch deep and three feet apart. Two year old plants planted eight inches apart in the same width of rows as before mentioned gives quicker results than by sowing seed. Make the asparagus bed on the deepest, richest, best piece of land you have, where the water does not stand in winter or early spring. If you have an asparagus bed take off the covering of manure it should have received in the fall, and fork the soil over lightly around and about the plants. Do this as soon as frost is out of the ground and the ground fit to work.

The first crops to sow or plant in the garden are peas, spinach, lettuce, parsnips, parsley, leeks and onions. A little snow or

frost after the seed of these is in the ground will not hurt them.

Beans, beet-root, salsify and carrot seed should be sown a week or two later, whilst vegetable marrow, squash, melon, corn and cucumber seed should not be sown out in the open until about the third week in May, or later if the weather is cold. Never sow seeds when the ground is wet and soddened.

Parsnip and parsley seed particularly are slow in germinating, often taking four or five weeks before growth commences.

All small fruit pruning should be finished up early in April, or before if possible, especially gooseberry bushes, as they break into bud early. Grape vines should also be pruned early, March usually being the best month for the operation.

If the strawberry patch was mulched in the autumn the mulch should be taken off about the second or third week in April. Fork the ground over lightly around the plants just as the bloom buds are showing. Leaving the forking over until this date is preferable oftentimes to doing it earlier, as summer weed seeds that germinate about this time are easier destroyed than by hoe-

ing or cultivating. Dig out and remove all perennial weeds, such as dandelion, twitch or spear grass, etc., when the bed is forked over.

FLOWER GARDEN.

All bush and climbing roses should be finished pruning before the leaf buds are developed too far. Fork the soil over around the bushes as soon as the ground is dry enough.

SEEDS.—Sow sweet pea seed as early as possible for early flowers. Sow for later flowering the second or third week in May if required, but early sowing gives the best results. Mignonette seed should be sown as soon as the soil is dry enough to work nicely. Sow Annual Wallflower seed early. This is one of the best late autumn flowering annuals we have. Antirrhinum or Snap Dragon seed should also be sown early to secure early flowers. Aster, Stock, Zinnia, Phlox Drummondii, Scabiosa, Candytuft, Sweet Alysum, Gaillardia, Dianthus, Marigold, Calliopsis seed, etc., can be sown about

the first or second week in May usually, except perhaps in the more northerly parts of the province, where later sowing may be better. Nasturtium seed should not be sown too early, not until nearly the end of May, as these are more tender than many annuals, and the young plants are liable to be damaged by late frosts if out of the ground too early.

PERENNIALS.—Peonies, Dielytra and German Iris should be planted or transplanted as early as possible in the spring. I prefer early fall planting for these plants rather than spring planting, as they are early flowering perennials.

Perennial Phlox, Gaillardia, Coreopsis, Campanula, and later flowering perennials can be transplanted or divided any time during May. A good general rule is to commence planting about a week after the plants show the first signs of growth. Plant when the ground is fairly moist, but not when it is wet and sticky, especially if the ground is of a stiff clayey nature.

THE CINERARIA

BY WM. HUNT, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

THERE are about nine or ten species of the cineraria known to floriculturists, most of them being classed as greenhouse perennials. The varieties represented in the accompanying cuts are known commercially as *Cineraria hybrida grandiflora* and *Cineraria stellata* (starlike). Both of these are improved types of *Cineraria cruenta* (purple leaved), a variety introduced from the Canary Islands into England about the year 1777.

The large flowering type *C. hybrida grandiflora* affords a striking illustration of what can be effected in the improvement and development of plant life by a careful selection of the best types from which to save seed, as well as by a judicious selection

of plants for cross-fertilization purposes. The flowers of the original type (*C. cruenta*) were of a reddish purple color only, and about an inch in diameter, whilst now from a packet of seeds of the improved type, flowers upwards of three inches in diameter are quite common, varying in many shades of color from pure white to deep red, purple or blue, a large percentage of the plants also having flowers with a disc or centre of pure white, varying in size from the smallest spot, until in some flowers the markings of the petals only are tinged with hues of the more decided colors.

In the collection as seen recently in the intermediate greenhouse at the college many of the flowers were close on four

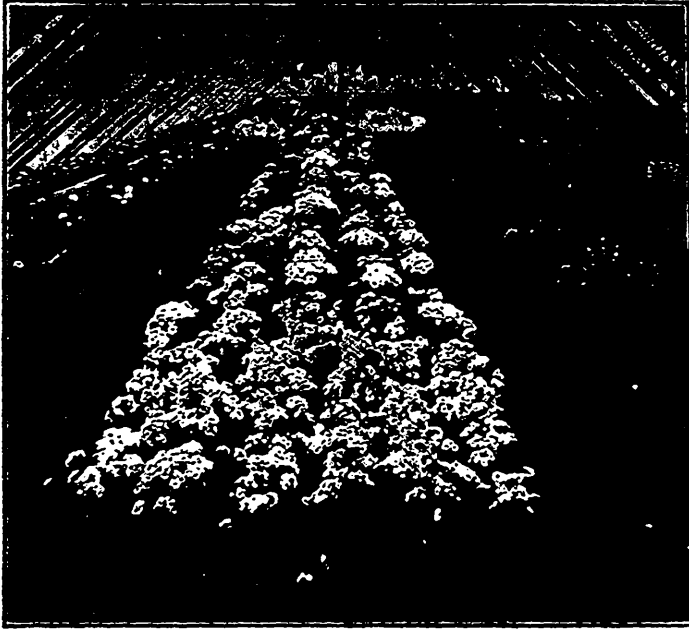


FIG. 2787. CINERARIAS AT THE O. A. C., GUELPH.

inches in diameter. It is perhaps questionable whether these abnormally large flowers are to be preferred to the more moderate sized flowers, as oftentimes—more especially with chrysanthemums—other good points such as beauty of form, habit of growth, and robustness of constitution are often lost sight of in the endeavor to secure flowers of enormous size.

The variety *C. stellata* is of a tall branching habit, and in many respects resembles the original type *C. cruenta*, with the exception that the flowers of *C. stellata* are often seen in various shades of color ranging from creamy white to pink, red and blue.

The flowers of *C. stellata* keep fresh much longer when cut than do those of *C. hybrida grandiflora*, a point that will enhance its value as a florists flower. The flowers of *C. stellata* are usually self-colored (one color), and are only about an inch in diameter. (The plants of *C. stellata* can be seen in the background of the accompanying cut, in the centre row of plants.)

There is no winter or early spring flower-

ing plant that will give such a gorgeous and varied display of blossom as the Cineraria if the plants are well grown. Greenhouse Cinerarias are grown from seed usually, and treated as annuals. Seed sown in June, July or August will produce plants that will flower from Christmas until April or May. A cool temperature, about 50 degrees at night to 65 degrees in the daytime will suit them very well. A moist atmosphere and plenty of water at the roots are also desirable. Frequent syringing of the foliage whilst the plants are growing is necessary. Partial shade must be given the plants during hot sunny weather.

The green aphid and red spider are the worst insect pests that attack the Cineraria. Tobacco smoke or tobacco water will kill the aphid. Copious syringing with water and a moist atmosphere are the best preventives of red spider. Thrip sometimes attacks Cinerarias. Dipping the foliage in strong tobacco water is the best remedy for thrip. Cinerarias cannot be grown very successfully as window plants.

THE FERN DISH



FIG. 2788. THE FERN DISH.

THE fern dish is the finishing touch of elegance to the simplest table. Have you not many times admired the center piece (upon some luncheon table) consisting of a fern dish set in a silver filagree jardiniere and wished with all your heart you could afford such a dainty accessory to your own table? Indeed, yes. But the prohibitive price asked at a florist's has made many of us resign all idea of possessing one. It isn't really the silver which attracts our attention. There may be many other silver articles on the board. It is the green things growing, airily, bewitchingly before us, and while the silver may set off the green tracery of leaf and stem, yet other material could be used to decorate the plainness of the dish.

So I set to work. I bought a fern dish, simply a flower pot, broad and shallow. To the woods I went, bringing home leaf mold, and a root of Maidenhair fern, called Crow's foot. It has five fingers on its black stems. The mold had a handful of sand mixed with it and the fern was tucked carefully in the dish. That was the beginning. I then

rooted a flowering begonia, *Argentea guttata*, and put that in the dish. The object in a fern dish is to have small plants. When they grow large the fern dish can not be used for a center piece. Beside the begonia went a cyclamen bulb, raised from seed, and then a couple of other wood ferns, the coffee fern, and the gold back, both small delicate ferns, native in California. This was my first dish, but I learned the art of making them up differently. Suppose you are using eastern ferns which rest during the winter. Do not put in flowering begonias, but use gloxinias, achimenes, cyclamen, or tuberous begonias, as these all rest during the winter. When the dish is in full greenery and you desire to use it on the table, decorate it with tissue paper, or silk, the color of your table decorations, and no one will notice the absence of silver filagree. Do not use reds or blues, but soft greens or creams, or pale pinks or yellows, which will harmonize with the greenery and not antagonize.

As the principal object of a fern dish is ferns, I will name some pretty ones. There is the *Davidiana*, which in time grows large, but while small is very pretty in a fern dish. The maidenhairs one and all belong to the fern dish, in fact, I think the fern dish was "invented" especially to set off the maidenhairs. In California we have the gold back, a maidenhair with the black stems and a glittering back which looks as though dusted with gold; the coffee fern, small round leaves like coffee beans, both remaining evergreen the year round, if kept watered. The *Pteris variegata* has leaves margined with white, and is ever green, and *Nephrolepis Duffii* is a very dainty small leaved fern, nice for the fern dish.

In making up fern dishes I aim to use

plants with delicate foliage, a bulb or two for flowers, and ferns. The artillery plant is especially pretty in a fern dish, as is also the plumosus asparagus. When they grow a little too large they can be cut back or removed. *Begonia multiflora* is also a pretty plant on account of its many small leaves. Whenever a fern dish grows ragged looking, remake it. One can have two or three in various states of development, so that one perfect one is always on hand. If I lived

east I should have a dish of native ferns and lilies of the valley put away in a cold cellar where it could freeze up until February and then bring it into the warm rooms. And I would have one of maidenhair and sweet violets for early spring. One can get more delight out of a fern dish than from a whole conservatory of big plants. There is something so interesting in the slowly uncurling fern fronds, it fascinates a plant lover.—*Vick's Magazine*.

PANSY GROWING

Sir: Would you kindly give me a few hints on raising pansies, the kind of soil they require and treatment they should receive from time seed is planted.

To secure the best results with pansies the seed should be sown about the second or third week in August, and the plants wintered over in a cold frame. At this date, however (March 3rd), it would be better to sow the seed in a pot or shallow box in the window, or in a moderately warm hot-bed. The plants should be hardened off by placing them in a cold frame or some sheltered position out of doors before being planted out in the border. As pansies are of a comparatively hardy nature, they can be planted outside, usually early in May. Pansy seed can also be sown in the open ground as soon as the ground can be worked, but these

do not come into flower oftentimes until hot weather commences, and pansies do not succeed well in hot weather unless under specially favored circumstances.

Pansies like a light rich soil, with plenty of moisture, that is why they succeed best as spring or early summer flowering plants. Pansies planted out for late spring or early summer flowering would be benefitted very much by being planted in a position where they were at least partially shaded from the sun for a few hours at noon day. Light rich soil, plenty of moisture, and a temperature varying from 50 at night to 65 or 70 degrees in the daytime suits pansies splendidly. A burning hot sun soon ruins them. A little shade suits them.

W. HUNT, O. A. C., Guelph.

FARMING AND HORTICULTURE

THE farmer is satisfied if his cereal crop yields him a profit of \$15 or \$20 an acre. The horticulturist—and I mean by this term the man who grows fruits or vegetables outdoors—must get from \$50 to

\$500 per acre; and to do this must be able to make use of every possible fact which science and practice have shown to be of value.—*The World's Work*.

Civic and Rural Improvement

PLAN TO CARRY OFF HOUSE WASTES

BY MISS BESSIE LIVINGSTONE, OTTAWA.

EVERY housekeeper knows that there are many wastes going in in every department of the house. I shall endeavor to outline some methods of disposing of household wastes. Every housekeeper in the country is confronted with the difficult problem of dealing with this subject. In the towns and cities some co-operative system is arranged, and the town householder has very little to do with the disposal of a great deal of the refuse, except what really occurs in the cooking and preparation of foods, and the ordinary accumulation of dirt. In the country the question of disposing of refuse must be dealt with individually. Many cases of illness in the country are due to neglect and carelessness regarding sanitary matters surrounding the farm and farm home. I might also speak of the unattractiveness of the farm home, where there is much refuse left lying around.

In suggesting the topic of "Disposing of Household Wastes" to Mr. Creelman, it was with special reference to the disposal of household waste in the country. In the towns and cities a co-operative system is acted upon, according to a consensus of public opinion, and, though municipal house-keeping is far from perfect, and the best systems are criticised by sanitary experts, yet, as I said, the system is fairly satisfactory, and the occurrence of sickness or epidemics usually causes the health boards to look carefully into the cause of the outbreak, and the laws are periodically enforced with vigor. The principles underlying methods of keeping the surroundings

sanitary and attractive in the country are essentially the same, only the conditions vary. In the country each one must attend to these matters for himself.

Usually a wide area of distribution, outside occupation, a more plentiful supply of fresh air, purer food, will prevent illness, even where faulty systems of disposal are in evidence. Very often you will hear people accept with resignation an illness or death, as a dispensation of providence, when it really means that the accident is due to drinking impure water, inhaling vitiated air, or from some unsanitary condition.

This question of clean soil, pure air and water, and the speedy and complete removal of the waste of daily life in the house and street should be intelligently understood by every householder and every housewife. It is a question of vital importance in relation to public health and the health of the individual.

The household wastes to be disposed of consist of vegetable refuse, such as parings of vegetables and fruits, and decayed vegetables and fruits, bones and scraps returned from the table, dust and ashes, old rags and papers, broken dishes, china and glassware, old tinware, dishwater and soapsuds, closet and bathroom sewage. Some convenient receptacle for all such materials as may be used as food for animals should be provided, and for the disposal of this class of waste we need only say, that the more frequently it is disposed of the better.

The garbage receptacle should be emptied at least twice daily. It should be kept covered and thoroughly cleansed every day.

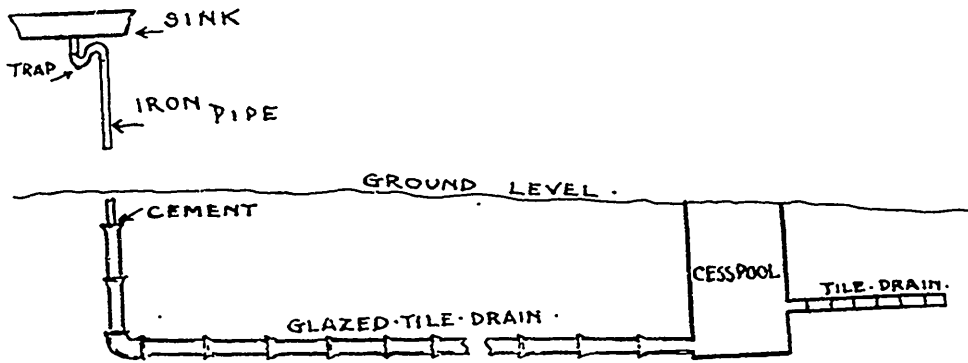


FIG. 2789. APPROVED PLAN OF KITCHEN DRAINAGE SYSTEM.

There is nothing more unsightly and unwholesome than a garbage pail, gathering flies in the heat of the day, and poisoning the air with its foul odors. For convenience it is often placed beside the wall at the back door, and part of the refuse frequently adorns the pathway. It is a menace to health, because its vitiated odors often pass into the house and cellar.

Bones, which are rich in phosphates, may be utilized as a fertilizer by embedding them in ashes, or they may be ground and fed to poultry.

Dust from the house is best and most safely disposed of by burning, as it is probably rich in bacteria.

Ashes possess a high fertilizing value, owing to the large percentage of potash contained in them. They should be kept dry, to prevent leaching, and applied to the soil.

Old rags, shoes, paper, etc., may be cremated, thus removing any danger from contamination, and preventing an untidy appearance.

Broken china, old tinware and such materials as cannot be burned or otherwise utilized, are possibly best disposed of by burying, or they may be used for filling up hollows, making road beds, or for sub-soil drainage. I saw an excellent path made of such materials.

The sanitary and economic disposal of all solid and liquid sewage, such as dishwater,

soapsuds, chamber and closet sewage, is the most difficult problem confronting the rural householder. The vital point to be remembered is that the sewage must be disposal of—utilized, if possible—and this must be done without endangering the water supply.

Some fairly satisfactory plumbing systems have been introduced into farm homes, but such cases are isolated, compared with the many rural homes, where the old-time methods of disposal still prevail. In many cases the soil around the kitchen door contains the accumulated pollution of years, resulting from throwing waste water and refuse from the kitchen, both in winter and summer.

It is not the purpose of this paper to specify details as to the construction of a drainage and plumbing system, but to convey a few ideas, emphasizing the importance of giving the matter strict attention. Each man must, to a certain extent, adopt a system suited to his particular need, with special reference to the porosity of the soil and lay of the land.

In a general way, it seems to me safer to suggest the separate disposal of liquid and solid sewage. The liquid sewage is a very valuable fertilizing material, and is easily converted into plant food. The solid matter, though not possessing such high fertilizing value, should be carefully collected and applied to the soil. It is well known that

The surface soil of the earth exerts an active, purifying power upon these offensive wastes, converting them into harmless substances and at the same time increasing the fertility of the soil. This excreta is better placed below the surface. It is interesting to note how in so ancient a document as the Pentateuch (Lev. xxiii, 13) it was especially enjoined upon the Israelites that excrements should not be allowed to lie upon the soil, but should be covered with earth. In a general way, the best way to dispose of solid excrement of closets is by the dry earth system. It is a method still practised in several populous cities of Europe, and is a very safe one. The material is collected by the pail or box system; immediately covered by some absorbent material and transferred to the soil. The absorbent material used for this purpose is: ashes, dry, finely

divided particles of earth, peat, moss, etc. In disposing of waste of this kind, be sure that it is not placed near the well.

The liquid sewage may be disposed of by a system of sub-soil irrigation. This may be effectively carried out by having a receptacle placed some distance from and connected with the house by means of a trapped tank.

Almost any one of us can cast our mind's eye at this moment upon the external appearance of many farm houses, whose unattractive, untidy surroundings are a menace to health, and an offence to the eye. In some places wastes are removed but once a year, this being thought sufficient, instead of clearing away all wastes as soon as produced. Let us do all that lies in our power to make the farm home healthful and beautiful.

SENSITIVE HORSES

The horse does not like a nervous, fidgety, fussy or irritable man. He is too nervous and irritable himself, says *Country Life in America*. "Why is it," one teamster was heard to ask another, "that Phin's horses are always gaunt? Phin feeds well." "Yes," was the reply: "but he's like a wasp around a horse." A well-known owner of race horses, not at all a sentimental person,

recently made an order forbidding his employes to talk in loud tones or to swear in the stable. "I have never yet seen a good-mannered horse," he says, "that was being sworn at all the time. It hurts the feelings of a sensitive horse, and I'll keep my word good to discharge any man in my employ if I catch him swearing within the hearing of any horse in this stable."

USE OF FRUIT

WE do not use enough fruit. We do not realize how very healthful it is. Our tables should never be without it in some form, and it should take the place of meat almost entirely during the heated months of summer. We should eat it between meals—not munch on it, but lunch on

it—when we are working long hours. When the stomach gets empty we must draw upon our reserve force, and that burns the tissues. A light lunch of fruit will prevent this, and gives us also a few moments recreation and we return to our tasks with renewed energy.



The Canadian Horticulturist

COPY for Journal should reach the editor as early in the month as possible, never later than the 17th. It should be addressed to L. Woodworth, Guelph, Ontario.

SUBSCRIPTION PRICE, \$4.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter or Post-Office Order addressed The Secretary of the Fruit Growers' Association, Parliament Buildings, Toronto, are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 3,500 per month. Copy received up to 10th.

LOCAL NEWS—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc.; but he cannot be responsible for loss or injury.

NEWSPAPERS—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES—Remember that the publisher must be notified by letter or post card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to do otherwise if, as we cannot find your name on our books unless your Post-Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

ADDRESS in any letters, subscriptions and business letters of every kind to the Secretary of the Ontario Fruit Growers' Association Department of Agriculture, Toronto, to whom all **POST OFFICE ORDERS**, cheques, postal notes, etc., should be made payable.

Credit is due "The Fruit Grower," London, England, for the temperature clock and formulae, given on page 58.

Mr. T. H. Race says the announcement of his appointment as Dominion Superintendent of Fruit at St. Louis was not duly authorized.

HORTICULTURAL SOCIETY AT ORILLIA.

Annual Meeting and Election of Officers.

The first attempt to hold the annual meeting of the Horticultural Society having proved unsuccessful, owing to bad weather, the Hon. the Minister of Agriculture was requested to name another date, as required by the act, and set Wednesday, March 2nd. The meeting was accordingly held on that date. The annual report submitted by the directors was as follows:

"Your officers and directors beg to report that the past year has been one of average success in the work of the society. As will be seen from the treasurer's statement the finances of the society are somewhat better than they have been, as there is a small balance of \$22.08 in cash on hand, with outstanding liabilities amounting to some \$2 or \$3 more than this. The entries at the exhibition of the society last fall were slightly over those of the preceding year,

which was a remarkable good showing in view of the very unfavorable weather during the days of the show, very many of the large exhibitors of other years not being able to gather their fruit for exhibition owing to the continuous rain for two or three days before the show. The quality of the exhibits was fully up to the mark, and on the whole the show was a success considering the adverse circumstances. A demonstration of apple packing was given by Mr. McNeill of the Fruit department at Ottawa, and much interest was taken in his explanations of the best methods of handling the fruit. In May last an open meeting was held at the residence of Mrs. McCosh, when Mr. T. H. Race, of Mitchell, delivered an address on 'Local Improvements.' This meeting was not so largely attended as had been hoped and expected, but a gratifying interest in the subject and in the work of the society generally was shown by those who were present."

The treasurer's report showed receipts as follows: Legislative grant, \$65; municipal grant, \$25; members' subscriptions, \$66.45; prize moneys retained for membership for 1904, \$31.25; grant from Agricultural Society towards expenses of exhibition, \$35. Total, \$222.70. The expenditures were: Prize money, \$139; meetings, \$3; subscriptions to Horticulturist, \$24; working expenses, \$29.50. Total, \$206.62.

It was also decided that in future exhibitions no more than one entry be made in any section unless the second and other entries be distinct named varieties.

At a meeting of the directors, held immediately after the annual meeting, Mr. T. W. Robbins was appointed secretary-treasurer at a salary of \$25.

THE CARNATION SHOW.

The Toronto Electoral District Society, the Toronto Gardeners' and Florists' Association and the Toronto Horticultural Society recently held their annual joint carnation show at St. George's Hall, when a goodly show of exhibits from Ontario districts, as well as from Joliet, Buffalo and Lafayette, were displayed. Several new varieties of roses were submitted to the public, namely, the La Detroit, the General McArthur, beautiful hybrids of the light pink variety, the latest importation from the United States. The central piece of the Canadian exhibits was undoubtedly the beautiful Fiancee vase, which won the Lawson gold medal at Detroit at the last exhibition.

FRUIT GROWERS AND CO-OPERATION.

Addressing the Nova Scotia Fruit Growers' Association at Bridgewater, Mr. W. A. Mackinnon, Chief of the Fruit Division, Ottawa, spoke as follows:

"This is the most important subject before the fruit growers of Canada to-day. Individuals can accomplish very little if they work entirely alone. All the fruit growers' societies and associations should co-operate and pull together. Look at the work of the manufacturer's association. Whenever they speak, they speak as one man, and they are getting what they ask to a great extent. That is why I suggest that fruit growers should take a lesson from them, and that all local jealousies should be put aside, for they are worse than fungous diseases.

"These are the objects which I think should be obtained by co-operation. First of all, growers who are beginning to plant in a new district might co-operate to secure information and purchase the best varieties of trees for that district at the lowest price. Seven or eight varieties are plenty for any district, and each man would probably want three or four of these. Then these growers might get together and agree to adopt uniform methods of culture, pruning, spraying, which would result in an entire uniform quality of fruit. Growers within a radius of five miles with a total of, say, 4,000 trees, could co-operate to secure effective and systematic spraying by means of power outfits.

"Another advantage of co-operation is in securing cheap and reliable supplies, such as implements, chemicals for spraying, and packages for shipping fruit. The man who wants only 200 barrels must pay a higher price for them than if he were buying all the barrels required in the district. By putting up packing

houses at proper centres it will be possible to secure uniform grading and packing by experts, who will pack the fruit like machines and turn out an even grade all through. A great deal of the success of the California fruit is due to this system, and we heard at the Ontario Fruit Growers' Association how Ohio growers had prospered under the co-operative method of packing and marketing peaches. Large quantities of one grade of fruit are packed in exactly similar packages, and purchasers know that they can get as many as they want of that particular kind in one place. This facilitates sales and enables the growers to avoid glutted markets, for even with apples there is a time when it is well to ship and a time when it is not well to ship. With the best of orchard management there will always be some culls, which might be disposed of economically if a number of farmers owned a co-operative evaporator.

"Advertising can be done much more effectively by co-operation. For instance, if you had a Bridgewater Co-operative Association, the buyers who attended your sales would be able to depend upon the fruit and would buy without hesitation. You cannot overestimate the value of advertising such as that. You would also have more influence with transportation companies to get fair rates, reasonable care and better cars. Bear in mind that the transportation companies are groups of stockholders who want dividends, but do not forget that you want dividends too. You must bring pressure to bear upon the managers of these companies and upon the Railway Commission to secure the removal of real grievances.

"I should like to see the county vice-presidents throughout this province consider and report upon the feasibility of co-operative associations in each county. At Walkerton, Ontario, there is a co-operative association that began with a small number of members. Now they have more applications for membership than they are willing to grant. With such a powerful organization they can say to a negligent member: 'You do not cultivate your orchard: you are sending in sixty per cent. of No. 2 apples. We cannot allow this, and will refuse to accept your fruit unless you cultivate and spray properly.' When an association attains to that point it can insist on up-to-date methods throughout the district. That is what I hope to see established everywhere in Canada.

THE TOWNSHIP FAIR.

The Hon. Mr. Dryden, who presided at the evening session of the convention of the Fair Association, advised forming the township shows into one good show in each county. While many good reasons might be advanced for one county in preference to a number of inferior township shows, we do not think the time has come when the township show should be given up. Many of them are doing excellent work, and give a good reason for their existence. A well managed township show, with the educational features predominating, and limiting

competition largely to the township in which the show is held, can accomplish a great deal towards advancing the interests of agriculture in the district.

THE EFFECT OF THE FAIR.

In 1868 the total vote for agriculture was \$64,350, or \$54,000 to agricultural societies, \$10,000 to the Provincial fair, and \$350 to the Ontario Fruit Growers' Association. In 1903 the total vote was \$184,000, \$76,000 of which went to the agricultural societies. From these figures Mr. C. C. James showed that the agricultural societies of the province had not kept pace with other agencies in advancing the interests of agriculture. Had they done so, their annual grant would have shown a larger increase during these years. Continuing, Mr. James stated that the importance of a society's work did not depend upon the number of its members. The value of a fair does not depend upon a wide-open door. The original intention of the township society was to develop the agriculture of that particular township, not the neighboring one. The success of a show should not always be measured by the crowds attending. The farmer is in a better position than he was a few years ago, and will need more enjoyment, but this cannot be supplied by a two days outing at the fall fair, which exists for another purpose. There is a danger at present of going too far along the lines of reform. There should not be too much uniformity. Variety in the prize list is best.—Canadian Farmer.

SOUTH AFRICAN FRUIT IN MONTREAL.

Fruit Inspector Wartman reports the arrival in Montreal of a consignment of peaches and plums from South Africa. The fruit arrived in perfect condition, but the price, \$1.00 per dozen, indicates that the market for it in Canada will be a rather limited one. There were 60 peaches in a single layer box, each fruit wrapped and plenty of finest quality excelsior at top and bottom of each case. Plums were put up in the same style, about 45 to the case. Mr. Walter Paul, the consignee, had also some very fine English hothouse grapes that arrived via New York in perfect order. These grapes were put in cotton batting bags, 1½ lbs. in each of four bags, or 5 lbs. to the box, with plenty of tissue paper clippings for padding. The price was \$2 a pound.

GOOD AND BAD FRUIT IN BOXES.

Mr. John Brown, inspector at Glasgow for the Dominion Department of Agriculture, reports to the Fruit Division that a shipment of 1,422 cases of apples from a Burlington packer was landed at that port recently. This parcel consisted entirely of XXX Spys; all the apples were wrapped in paper and graded in size from 2½ inches upwards; the fruit was in splendid condition, and the extra trouble and care bestowed on the apples would well repay the shippers. The large sized fruit realized from 7s. to 7s. 6d.

(small cases holding only about 35 lbs.), the smaller fruit, 6s. to 6s. 6d.

Another shipment by the same boat consisted of 416 barrels and 401 cases. These were nearly all Spys and were very much frosted and wasty. Had these apples been properly re-packed and looked after, they would probably have landed in much better condition. Prices realized for barrels ranged from 19s. to 16s. The cases were even worse than the barrels; some fifty of these were thrown out, part of them being used to fill up wasty cases. These made from 2s. 6d. to 5s. 6d. (large cases). If our apples in cases are to maintain a reputation for strictly fancy quality, it will not do to send forward such fruit as that just mentioned.

UNIFORM PACKAGES.

Canada once more scores a point against the United States, this time in regard to uniformity in fruit packages. Our American cousins are still struggling with this question, while in Canada the fruit growers of Ontario, Quebec, British Columbia, Nova Scotia and Prince Edward Island have all adopted a uniform case 10 x 11 x 20 inches, inside measurements, for the shipment of apples. A case half this size is found a very suitable package for pears.

PACKING HOUSE FOR FRUIT.

The Walkerton Fruit Growers' Association have under contemplation the purchase or erection of a building for the storing and packing of fruit. This building will be known as the Central Packing-house. An ample supply of ice has already been stored up, and this ice will be utilized for cold storage purposes, when the shipping season arrives. When the building is ready for the reception of apples, an expert shipper will be employed to grade all apples brought in and to see that they are all properly shipped to the purchaser. In this way it is hoped uniformity in quality will be reached. Experience has amply demonstrated the fact that when every man grades his own fruit no fixed standard of quality can be secured, and the result is dissatisfaction and grumbling at the far end of the transaction.

CANADIAN APPLES IN LEEDS MARKET.

The Leeds Mercury says: "During the past few years Canadian apples have found a ready market in this country, and Leeds has received a fair proportion of the supply. It is a striking tribute to the quality of the fruit that although the supply of late has been in excess of the demand, prices have slightly increased. For cooking purposes Northern Spys are strongly recommended, whilst Baldwin and Greenings are also very good. There is very little difference in the price of these varieties, 1½d. to 3d. a pound being the general charge. Newton Pippins and Golden Russets are excellent dessert apples. Owing to the splendid quality of apples from the Dominion the demand for those from New York has suffered considerably."

DISPLACING UNITED STATES APPLES.

Says the Fruitgrower of February 11, 1904: "The United States Consul in Edinburgh records the fact that Canadian apple imports are gaining a very strong position in the Scotch markets. Mr. Fleming states that the system of inspection adopted in Canada and subsequently renewed at the British ports has served as a guarantee to the buyers of Canadian fruit, and has in this way proved useful both to seller and purchaser."

FRUIT PACKING CO. AT OAKVILLE.

At a meeting held in Oakville recently the matter of establishing a packing house was discussed. A. W. Peart, of Burlington, told how the apples from his district were shipped by the local association to England. Returns were most satisfactory, a number of good Old Country dealers bidding for their fruit. Special care was taken in grading and packing and each package was stamped with a private mark. Mr. Peart advocated co-operation in spraying. One man could secure an outfit and do the spraying for the neighborhood. Mr. Dawson, of Toronto, spoke of a company being formed that would erect central packing stations in all fruit districts. Boxes would be given the growers. When these were filled with all grades of apples they would be taken to the packing house, the apples graded, carefully packed and marked and sold in one lot if possible.

NOVA SCOTIA FRUIT COMPLIMENTED.

The following is a copy of the letter accompanying the medal presented by the Crystal Palace Co., of London, Eng., to the Nova Scotia Government for the display of Nova Scotia fruit to be seen at the Crystal Palace during the fall and early winter. It was addressed to J. Howard, Esq., agent general for Nova Scotia.

Dear Sir: You will be interested to learn that my directors have decided to mark their sense of the very excellent and attractive exhibit of Nova Scotia fruit which was held in the Canadian Court at the Crystal Palace during the months of November, December and January, by presenting a special commemorative medal to the Nova Scotia Government, who, we understand, in conjunction with the Fruit Growers' Association of Nova Scotia, were responsible for the display.

I am directed therefore to forward this medal to you as the representative of Nova Scotia in London and to ask you to be good enough to transmit it to the proper quarter.

There is no question that such periodical special exhibits do much to maintain a lively interest in the Canadian Court, and my directors are sanguine that the other colonies will follow Canada's practical example in utilizing the undoubted educational and commercial advantages which the Crystal Palace offers, for promoting the interests of our Colonial Empire

among the 2,000,000 visitors who come from every part of the United Kingdom and of the world. Yours faithfully,

J. H. COZENS, Secretary.

This exhibit for which this medal was awarded was the 128 cases condemned by Hamilton and others in the Department of Agriculture at Ottawa as unfit for exhibition purposes. The above is a clear verdict in favor of those who forwarded the exhibit.

LISTS OF SHIPMENTS.

Mr. Thomas E. Davis, inspector at London for the Department of Agriculture, reports that consignees in Britain complain that senders of Canadian produce do not forward lists of shipments, thereby causing great inconvenience. This is a matter which shippers should carefully attend to.

CHATHAM FRUIT GROWERS ADOPT POWER SPRAYING.

Secretary-Treasurer W. D. A. Ross, of the Chatham Fruit Growers' Association, writes the Fruit Division, Ottawa, that his association has purchased a power spraying outfit for the use of the members, and asks that Mr. J. C. Harris, who had charge of the government sprayer used in the illustration work in the Ingersoll district last year, be sent to start their machine. Mr. Harris recently gave the Chatham growers a talk on spraying, with which they were very much pleased. A good many of the members were only giving the power spraying project half-hearted support previous to his visit, but now they are all anxious to go ahead with the scheme according to the most improved methods. The association is also talking of putting up a packing house and evaporator, but are hesitating on account of the prevalence of the San Jose scale, which though confined to a limited area is gradually spreading in the district.

A FRUIT MARKS BILL IN NEW YORK.

If imitation is the sincerest form of flattery, Canada may well take it as a compliment that Senator Hill has lately introduced in the Senate of the State of New York a bill very much like the Dominion Fruit Marks Act. There is an additional clause in the New York bill requiring packages to be marked with the name of the place where the fruit was grown, but this clause is strongly opposed by the trade, who maintain that a large operator who repacks fruit brought into his storehouse by the carload, and coming from forty or fifty different shippers, could not possibly comply with such stipulations. In regard to the bill the New York Fruitman's Guide says: "It conflicts with the Interstate commerce law that forbids the passage of an act that hinders commerce between various states. Why Canada's law is a success is because it is a national law, but until such a law is passed in the United States the merchants in our States in which such a law obtains are at a disadvantage with the merchants of other States

Cold Storage for Apples Abroad

THE American shipper of fruit has one great advantage in the European market, from the fact that comparatively little is known abroad about the storage of fruit. Even in the case of apples, no provision had been made on the other side of the water for their preservation. It has been found necessary to store them on this side and to ship them to London or Paris, where they find a ready market.

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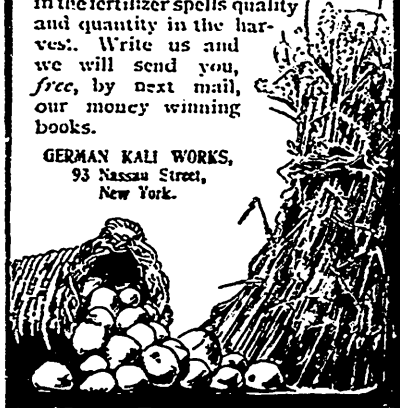
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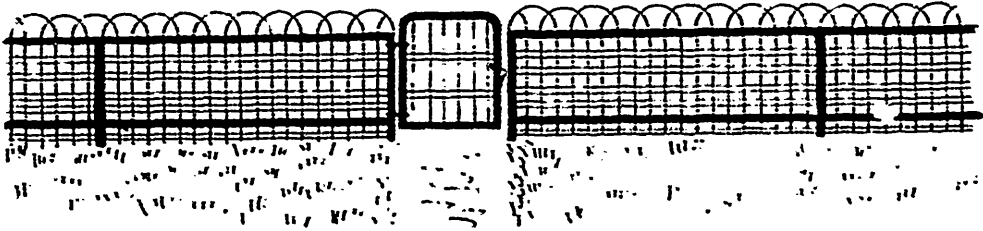
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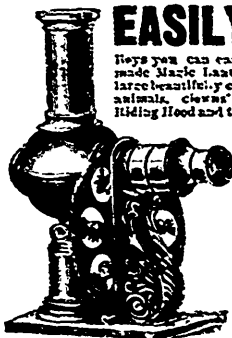
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