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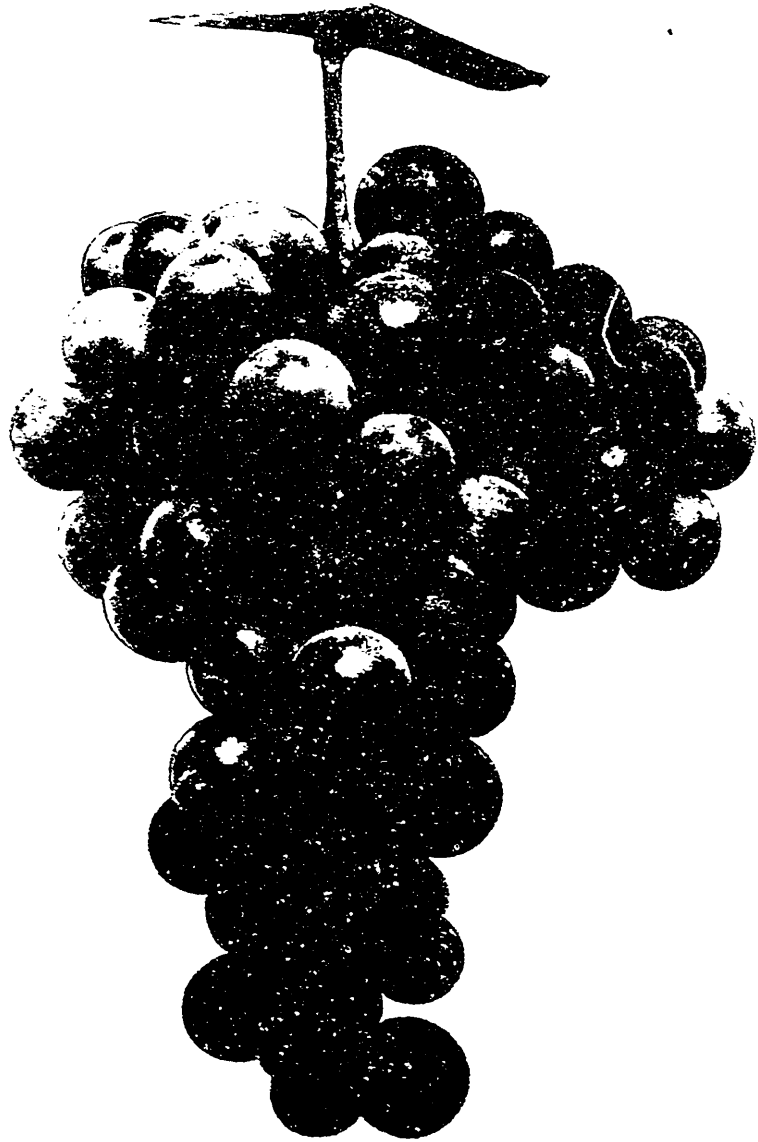


FIG. 2585. THE BRIGHTON GRAFT.

# THE CANADIAN HORTICULTURIST

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## THE BRIGHTON GRAPE

FOR the dessert table nothing is a more attractive ornament than a fruit dish piled with a choice assortment of delicious grapes, fresh and plump from one's own garden and appetizing by reason of their beauty. A garden of well chosen varieties would furnish the owner a constant change of kind and color; or, if he prefer it, a loyal blending of the red, white and blue.

Money cannot always command from the fruiterer that fresh condition, that perfection of beauty or that delicacy of flavor, that is to be found in grapes from one's own garden, where one may gather the fruit with his own hand just as it reaches the point of perfect maturity. And, as for the grapes offered for sale in the markets, although they may be cheap in price, they have come many a mile and met with much rough usage, and therefore cannot compare in value with the home-grown samples. From these considerations we do not hesitate to advise every reader, who has even the smallest city backyard, to plant a few vines for the supply of his own table. They will creep over an unsightly old fence, a barren wall or a back verandah, and thus prove ornamental as well as useful.

Among the valuable red grapes for dessert we place the Brighton, a medium sized sample of which is shown in our frontispiece. It takes its name from the town of

Brighton, N. Y., the home of its originator, Mr. Jacob Moore. He raised it from the seed of Concord, fertilized by Diana-Hamburg, so that it is one-quarter European and to this no doubt is due both its delicate flavor and its slight tendency to mildew; while to its Labrusca, or American Fox grape, relationship we may credit the vigor of the vine, and its large, thick, dark green foliage.

The Brighton, when eaten just at maturity, is sprightly, somewhat aromatic and delicious; the pulp separates readily from the seeds without impairing the flavor. When first ready for use the color is a light red, but if left very long on the vines the color changes to so dark a crimson that it is hard to recognise it as the same variety, while its quality also deteriorates.

In season of maturity the Brighton is somewhat in advance of the Delaware, so that, of its season, it may fairly be reckoned the best red dessert grape. No one, therefore, who is planting a small collection of grapes for his own table, should omit a vine of the Brighton; and, if he will take the trouble to remove the small, imperfect bunches, in the early part of the season he will have some magnificent clusters in September for the decoration of his fruit dish.

We do not commend the Brighton to the planter of a commercial vineyard; and, unless we are much astray in our interpretation of the signs of the times, the time is not far

distant when the great Northwest will be the chief market for Ontario grapes, and therefore we must plant most largely of such varieties as carry well and keep for a long time in first-class condition.

OPINIONS OF OTHERS.

M. PETTIT, Winona, Ont.:—Brighton is not a favorite red grape with those who grow extensively for market in this section. It does not sell as well as Red Rodgers, is fully as subject to mildew, and does not bear regular grapes. If heavily laden one year it will be light the next, and if allowed to hang on the vines after it is ripe loses its sprightly flavor. I think Lindley, Agawam and Delaware are much better.

F. W. BRODRICK, St. Catharines:—The Brighton grape may well be classed as one of our best commercial red varieties. It is a good vigorous grower and a productive bearer. It is a grape of excellent quality for dessert and always meets with a ready sale on the markets. It ripens in good season and is very rarely injured by fall frosts in our locality. It grows well on sandy loam or light gravelly soil, but may be grown with success on heavier soils.

A. W. PEART, Burlington, Ont.:—I have about 60 vines of Brighton eleven years old, and do not consider them as desirable and profitable as some other varieties. It is not so productive as the Worden or Concord, and although of fine quality, its color—a reddish purple—is not distinctive enough to give it a higher price than the black varieties unless it be known to the consumer. It is also subject to mildew.

T. H. RACE, Mitchell, Ont.:—Quite early in the eighties the originator sent me two vines of the Brighton grape to see how they would do in this locality. I have grown them ever since. The vine is a good grower, fairly hardy, but not what I would call a heavy bearer. The fruit ripens before the

Concord, and is of better quality. I have it growing side by side with the Amber Queen, but it is not as strong a grower nor as heavy a bearer as the latter. With me the Amber Queen has never mildewed, and in growth and bearing qualities it has always outstripped the Brighton, and for this section I would consider it a preferable grape. The Brighton, however, is a trifle earlier, a larger bunch, and somewhat more attractive in appearance.

W. T. MACOUN, C. E. F., Ottawa:—There are several varieties of grapes which ripen earlier than the Brighton at Ottawa, but the latter will ripen if the season is fairly favorable. If I were planting six varieties for home use here it would be among them. When mixed with other varieties which bloom at the same time, the fruit sets well, and there is a good crop of it. The quality is very good, and even if the fruit is not thoroughly ripened, as is sometimes the case here, the fruit is usually palatable, as it becomes sweet before quite mature.

W. COX, Collingwood:—The Brighton does well here. I have grown it about 18 years, and I have never laid it down a winter yet. It bears well with us, and the fruit is of such good quality that anyone who buys them once is always ready for them again. I think a good deal of Brighton.

W. WARNOCK, Goderich:—I consider the Brighton the best dessert grape in its season of all the American grapes. It is one of the strongest growers and produces very large bunches and plenty of them. The berries are extra large, dark red, of the finest flavor when used as soon as ripe, but they lose their rich flavor very soon after they ripen, so they should be used quickly after they become ripe. The vine is quite hardy with me, and a regular cropper. I am sure no one will ever regret planting a vine of Brighton if they live to taste its fruit.

# Editorial Notes and Comments

## SELLING FRUIT AT POINT OF SHIPMENT.

IT is high time for the fruit growers of Ontario to make a change in their methods of selling fruit. No more reckless system could be thought of than the present one, where thousands of growers blindly ship their fruit to consignees in our chief cities without the least idea whether those markets need the shipments. Our country is large enough to take all our fruit at paying prices were it properly distributed, but when it is shipped in the present reckless fashion it is no wonder that first one centre is glutted and then another. Besides, the present system gives the owner of the fruit no word as to the price, and he simply must accept whatever people choose to give him. Such a method of sale would not be tolerated one moment in the grocery trade, or in the hardware business. And why must we give away our fruit to any one who will pay the freight and the commission, and perhaps enough over to pay for the baskets and the picking.

## COLD STORAGE FOR FRUIT GROWERS.

THE solution of the question of selling our fruit by contract is undoubtedly in the cold storage. So long as our fruit must be sold within twenty-four hours after it is gathered, we have no alternative—we must ship—and we must accept whatever pittance it may bring. But given an ample refrigerating warehouse at central shipping points, where the fruit grower may have his perishable fruit held for a week or two if necessary for a proper sale, and we believe there would be a complete change in our business and proper returns for our investments.

## SELLING BERRIES ON THE TRACK.

MR. J. C. EVANS, of Harlem, Mo., is advocating the selling of fruit by contract. At a recent meeting of the fruit growers of his state, he said:

"All fruit growers have, at some stage of the game, to learn a lesson. Many of us have learned that lesson long ago. It is one thing to grow fruit; another thing to get rid of it right. Some four years ago, at a convention of fruit growers from several different states, the question of selling direct at the growers' shipping point was sprung. Those gentlemen said, 'You never can do it.' One said it could be done. Now what do we see at this meeting? At such and such a place the growers sold their berries on the track. Four-fifths of the berries this year in Arkansas and South Missouri were sold on the track. Of the 200 cars of fruit from our station not a car was consigned. The time is nearly at hand when no fruit will be consigned to any commission man. It will all be sold on the track. The time is coming when a man who grows a car load of cattle or hogs will have the buyer go there and buy them outright. The day of the live stock commission man is past. The day is coming when all farm produce will be sold on the track. We should encourage the approach of that day. Tell the buyer your fruit or stock is for sale, but it must be sold before a wheel turns."

## THERMAL EFFECTS OF SOIL CULTIVATION.

THE benefits of cultivation of the soil are far more extended than is usually supposed. Primarily the gardener hoes his garden simply to kill the weeds, thinking what a curse they are, causing him such constant labor. Recently it has been plainly

demonstrated to him that shallow tillage, by affording a mulch of fine soil upon the surface and breaking up the capillarity in the soil, conserves that moisture so essential to plant growth during our hot dry months of June and July and sometimes a part of August. Besides this, it has been shown that the mechanical effect of loosening up the soil and making it pervious to the action of the air, is most helpful in rendering available those elements of fertility which would otherwise lie a long time locked up in the ground, but now we are learning that it has also a positive effect upon the temperature of the soil. Seeley (Mo. Weather Rev., 1901) shows from actual tests that newly cultivated soil is 6 degrees warmer at the surface; 5 degrees lower three inches below the surface; and about the same twelve inches below—conditions most favorable for plant growth. The warmer surface soil hastens the process of growth in the plant, and it is a protection against frost. The soil just below the surface being cooler, retards capillarity and thereby retains the soil moisture, while the temperature about the roots is about the same or a trifle higher than the same in uncultivated soil.

#### LIME FOR SOILS.

A METHOD of determining accurately the quantity of lime to apply to soils to neutralize the acidity has been described by Dr. Hopkins at a recent meeting of official chemists at Washington, D. C. That lime is useful in agricultur<sup>e</sup> has long been recognized in practice, but just in what quantities to apply it, and to what soils, has been a problem. The old warning is expressed in the couplet:

The use of lime without manure,  
Will surely make the farmer poor

has deterred many from using it at all. In many cases it would no doubt give splendid results, especially in cold acid soils. Now, if we can definitely determine the acidity of

a soil and the proper amount of lime to apply to correct this condition, we have before us an advance step in soil fertility. Wiley, in an address on the subject, concluded as follows: "Agricultural chemistry, passing from having determined what the soil is and what plants are and how fertilizers can be made and applied, is now advancing to a still higher plane of investigation, to determine how the soil shall be made maximum in production and how the conditions of growth shall secure the maximum of desired qualities."

#### NITRATE OF SODA FOR TOMATOES.

VOORHEES (New Jersey Expt. Sta.) has found by experiment that the application of 200 lbs. per acre of nitrate of soda to tomatoes in two equal applications during the growing season increased the yield by 3,220 lbs. per acre, and when the same quantity per acre was applied in three equal distributions, the yield was increased 5,880 lbs. This is a sufficient evidence in favor of the judicious use of this fertilizer. It must always be borne in mind that its effect is to increase of the vigor of the plant growth, and in some cases this would mean a proportionate decrease of fruitfulness. For example, Voorhees reports having tried a larger quantity with distinct loss in quality of yield. In one case he used 300 lbs. per acre, applied as above, and the yield was decreased by 475 lbs. over that treated with 200 lbs. of nitrate of soda, because of larger vine growth and later maturity of fruit.

#### THE KIEFFER SELF-STERILE.

POWELL (Del. Exp. Sta.) reports blossoms of the Kieffer practically self-sterile, and that LeConte is a good pollenizer for it. However, we do not need to worry about a crop failure of this pear, for his records of 1901 show that if two blossoms out of one hundred set fruit the resulting crop will be a heavy one.

## THINNING FRUIT.

**S**ANDSTEN (Maryland Exp. Sta.) has been conducting experiments in thinning, and in Bulletin 82 calls the attention of fruit growers to its importance. He says it pays to thin peaches and plums after the June drop, the former to not less than five inches apart and the latter two or three inches apart. Apples and pears should be thinned when about the size of small crab apples, leaving the fruit four or five inches apart.

Among the advantages to be gained are more regular crops, stronger and more shapely trees, less disease, and larger, better colored, more uniformly ripened and more saleable fruit.

These excellent results, however, need not be expected by the fruit grower who neglects the other requisites to successful fruit growing, such as pruning, spraying, fertilizing and cultivation.

That even a worthless orchard can be made to pay by attention to these details has been proved by Mr. Tweedle, of Fruitland; and by many others. Card (Rhode Island Sta.) has issued a bulletin showing the excellent results of three years' work on less than an acre of orchard. Though previously worthless, the third year's crop of apples sold for about \$80; showing that few parts of the farm can be made to pay better than a well managed apple orchard.

## THINNING PEACHES AND PLUMS.

**P**ROF. BEACH, of Geneva, has made some experiments in the thinning of peaches and plums, and has not met with such results as would lead him to advise it in commercial orchards. Thinning, he thinks, should constitute the last resort after details of fertilizing, cultivating, draining, pruning, etc., have been attended to. He thinks, indeed, that pruning is the most economical method of thinning the crop.

The professor should mention the varieties treated; for this would, no doubt, be the key of the problem. We have seen too many experiments tried in thinning out the fruit of over-loaded Alexander peaches to doubt its importance. The size of the fruit remaining was doubled, and consequently sold at a proportionately higher price, but the number of baskets gathered was as many from the thinned trees, as from similar trees not thinned.

Prof. Beach does, however, grant "that systematic thinning of fruit, combined with skillful care in other directions, may materially strengthen the tendency of the tree to bear annually."

## THINNING THAT PAID.

**A**FTER all, facts are the best proofs, and these are constantly accumulating in evidence of the advantages to be gained by the enterprising fruit grower by judicious thinning. Of course it will not pay in every instance, and no rule will fit all cases. A young vigorous tree will carry a much heavier load of fruit without its size being lessened than an older tree, while on poor soils even close thinning will fail to produce large sized fruit.

The following effect of thinning was observed by A. T. Jordan (Amer. Agr. 1902) on two trees set in 1897. The set of fruit on one tree was 862 peaches, and on the other tree 852. From the first tree 69.5 per cent. of the total set of fruit was removed, leaving to mature 263 peaches. From the second tree 31.9 per cent. of the fruit was taken, leaving to mature 580 peaches. From the tree which had been most heavily thinned 2.83 baskets of fruit were obtained. The average weight of the peaches from this tree was 4.48 ounces, the price offered per basket by the leading grocers was \$1.00, and the total value of the peaches from the tree was \$2.83. From the tree less severely thinned 3.92 baskets of fruit were obtained.

The fruits from this tree averaged 2.81 ounces each, for which the leading grocers offered but 45c. per basket, making the total value of the fruit from this tree but \$1.76. The immediate financial result of thinning in this case was \$1.07. Further observation of the two trees showed that 46.6 per cent more fruit buds matured on the tree severely thinned during the season than on the other tree. Figured out on the basis of

an acre, there was an advantage in thinning of \$171.20.

Had this experiment been verified in the case of a dozen or twenty instances instead of one, it would of course have much more weight, yet every instance of this kind helps to establish the position we have taken, that with such varieties of peaches and plums as are inclined to overload, and grow small in consequence, thinning pays.

## APPLE SITUATION ABROAD.

MR. GLEASON, the general manager of the Gleason-Loomis Cold Storage Company, of Le Roy, N. Y., recently returned from Europe and furnished some interesting information in regard to the apple situation in foreign countries. Mr. Gleason says:

"Those who have not paid special attention to the subject will be surprised to learn of the vast distribution of American apples throughout Europe. Europe does not begin to produce enough apples for its own consumption. In fact, Europe produces only one-eighth of the apples it requires. These apples, which are of indifferent quality, are consumed early in the fall and are practically gone when the American exportations begin to arrive.

"It is a matter of statistical record that between September 15 and December 27 of 1902 apples were shipped from the United States to various European ports in quantities as follows: To Liverpool, the great distributing point of apples shipped to Europe, 1,008,868 barrels; London, 274,190 barrels; Glasgow, 318,431 barrels; Hamburg, 97,647 barrels; other European ports,

58,339 barrels—or a grand total of 1,757,475 barrels of American apples shipped to Europe in three months.

"The amount of the shipments depends very largely on the price of the product. In 1901 the apple crop in the United States was very light, and as a result only 524,889 barrels of apples were exported to Europe as against 1,757,475 barrels last year.

"The average price for the 1902 crop to this date was \$1.50 to \$2.50 a barrel, net at shipping point. These apples would be taken freely at 12 shillings a barrel, or about \$3, for good stock on dock in European ports.

"American producers would have a splendid market for apples in Germany, were they not hedged about with laws, regulations and restrictions, like complaints of the San Jose scale, etc., which are intended to protect the German fruit growers and certainly have the effect of keeping American fruit out of the German market, and may be called reprisals, for in effect it is a continuation underlying the fight made on American pork."





FIG. 2586. C. C. JAMES, M. A.

## C. C. JAMES, M. A.

DEPUTY MINISTER OF AGRICULTURE FOR ONTARIO.

**I**T is a fortunate thing for a province or a country when its chief officers are honest, progressive, courteous and obliging. Such an officer is C. C. James, Deputy Minister of Agriculture for the Province of Ontario.

Mr. James was born in Napanee, the county town of Lennox and Addington, on the 14th June, 1863. His parents were both born in Canada. His paternal ancestors were natives of the county of Wexford, Ireland; and his mother was a descendant of the Canniff, Dulmage, and Huff families,

who, with many other United Empire Loyalists, came to Canada after the revolutionary war of 1776-1783 and settled around the Bay of Quinte.

Like most of our prominent Canadians, Mr. James commenced his education in the public school of his native town. He took a complete course in the Napanee High School, which at that time was one of the leading schools of Eastern Ontario, and subsequently entered Victoria University, Cobourg. At the university he was known as a hard working and successful student,

clean-cut and scholarly, with a taste for literature and natural science. He won the gold medal in natural science and received the B. A. degree in 1883—recognized by his fellow students and the college staff as a young man of much promise. From January, 1883, to January, 1886, he held the position of assistant master in the Cobourg Collegiate Institute, teaching science and some other branches. While thus employed he took a special post-graduate course in chemistry and mineralogy at Victoria University, and subsequently went to Cambridge, Mass., for a short course under Dr. Richards, of Harvard University.

In June, 1886, he was appointed to the professorship of chemistry at the Ontario Agricultural College, Guelph, a position which he filled with marked efficiency, teaching and illustrating the principles of chemistry and showing their practical application to agriculture in such a way as to make the subject one of much interest and profit to the students in attendance at the college.

Soon after his appointment at Guelph Mr. James married Miss Fannie Crossen, daughter of the late James Crossen, of Cobourg, and commenced housekeeping in the Royal City. Mrs. James was a noted entertainer, and an invitation to her hospitable home was much appreciated by both students and professors. The only child in the family is a bright and promising boy.

In 1891 the Hon. John Dryden, Minister of Agriculture, chose Mr. James for the responsible position which he now occupies as

Deputy Minister of Agriculture. In this position Mr. James has many and important duties to perform—preparing the reports of the Provincial Bureau of Industries, looking after the publication of agricultural bulletins and reports, attending to a large correspondence, dealing with the public in absence of the minister, and representing the department on the public platform throughout the country; and in all these capacities he has shown himself the right man for the place—able, tactful and courteous. His work in the department soon proved him a good executive officer, and his visit to different parts of the province has established his reputation as a public speaker, always clear, vigorous, instructive and pleasing.

Mr. James is a member of the Board of Regents of Victoria University, and President of the Ontario Historical Society. For a number of years he spent time and money in collecting books and other publications on the early history of Canada, and not long since he made a unique and very valuable donation of Canadian historical works to the library of Victoria University.

As an author Mr. James is well known to the people of Canada by the excellent elementary work on agriculture which he wrote a few years ago. This book is authorized for use in the public schools of Ontario, Nova Scotia, New Brunswick, Manitoba and the Northwest Territories, and an American edition has been published by Appleton & Co. for use in schools across the line.

## ORCHARD MANURES.

IT is not too late to apply soluble manures to fruit trees. If it is desired to encourage growth in a fairly healthy tree apply, say, from a quarter to 2 lbs. of nitrate of soda on the ground round the area of the roots. Sprinkle it on the ground evenly well

out from the trunk, and fork it in; later rains will wash it down to the roots. The quarter of a pound mentioned is for a tree two years old, and the 2 lb. for one, say, 10 or 12 years old. An old warrior may have more.

If the tree makes good growth but does not fruit well, on no account apply nitrate of soda, or other nitrogenous manure. In this case potash may be useful, but the best plan is to omit all manure and summer prune, allowing no shoots to grow more than a few inches. Not only nip off the shoots, but rub off all that are too close together.

For trees which bear, but the fruit is not

as fine as you think it ought to be, an application of nitrate of soda, superphosphate, and sulphate of potash may be desirable. For a tree, say 6 ft. to 8 ft. high, and as far across, perhaps 1 lb. nitrate, 3 to 6 lb. superphosphate and 1 lb. potash may be scattered over the ground round the tree from 3 ft. to 5 ft. from the trunk, and forked in.—*Garden and Field.*

## STEADY GROWTH OF TOMATO INDUSTRY.

**I**N response to an inquiry about the extent of the canning industry in his country, the American Agriculturist has received the following from W. G. Dawson, vice-president of the Pennsylvania Horticultural Society: Since 1870, when the first canning house was established in Dorchester county, Md., the industry has steadily grown, and in 1902 there were twenty-four canneries in operation. Peas and tomatoes constitute the bulk of the pack. It is hard to understand why a large amount of corn is not packed in a section so well suited for growing this crop. It is interesting and instructive to consider briefly this canning industry, which has assumed such large proportions in many sections of the country. Let us take, for example, the one Maryland county just mentioned, and the one item of tomatoes.

During the past packing season the output was 500,000 cases, or 12,000,000 cans. A conservative estimate of the value of this product is \$850,000. To obtain the necessary fruit, there were 5,000 acres cultivated in tomatoes, under contract between grower and canner. The actual packing is all done in about two months. In this particular section the crop is contracted at so much per ton. Usually the price is \$6 per ton, though \$8 to \$9 per ton was given the past season. The yield has a large range—all the way from three to fifteen tons per acre. As the entire Delaware and Maryland peninsula, comprising twelve counties, is very largely interested in this canning industry, this one example gives some clue to the magnitude of the business.

## THE BITTER ROT IN APPLE.

**T**HIS evil, to which reference was made in our December number of last year, is a serious one in some sections, and alarming because progressive. A few years ago we observed the first indications of the pit marks upon some fine large Baldwin apples grown in our lake shore orchard at Maplehurst. We thought little of it then, supposing it would soon pass away; but each year since its first appearance it has been spreading, until now it has shown itself

over about forty acres of orchard, rendering unsaleable a large quantity of the very finest samples of Baldwins, Spys and Kings.

Like the apple spot, at first it seemed to be confined to a certain limited number of varieties; but alas! it has now attacked many sorts which we counted immune from its ravages. Ben Davis, for example, which is such a vigorous grower, and so little subject to codling moth with us, is not exempt from bitter rot, nor yet the Hunts-

man, that fine new dark red Illinois apple, which brings almost double the price of Ben Davis.

Stinson (Mo. Fruit Sta. Rept. 1900) says he had much more difficulty controlling Bitter Rot with Bordeaux than scab. In one experiment, for example, he sprayed his Ben Davis five times, and yet only 60 per cent. of the fruit was free from bitter rot, while on unsprayed trees practically the whole

crop was ruined by it. In another part of the orchard he had a little better success, with only four sprayings, for 78 per cent. was free, while on trees untreated only 14 per cent. was clean. Speaking of the Huntsman, he says it was sprayed three times and gave 83 per cent. free from bitter rot and .92 per cent. free from scab; while on unsprayed trees only 48 per cent. was free of bitter rot and 69 per cent. of apple scab.

### SHIPPING GRAPES TO BRITISH COLUMBIA.

SIR,—In the October number of the Horticulturist you refer to the possibility of shipping grapes from Ontario to British Columbia, and express the opinion that the distance and expense is too great. You are, however, probably aware that small shipments have been received here. Early last season some large shipments were made by Mr. A. Finbow, of Beamsville, who kept the local market well supplied for two or three weeks, when he withdrew, in order to avoid over-supplying a limited demand and consequent reduction in price, on receipt of a telegram informing him that a shipment had arrived from Mr. Wm. Fretz, of Jordan. The fruit, for the most part, arrived in good condition, in three and four pound baskets, and each shipper, we believe, received about \$300 each from sales, about one-half of which would be paid to the express company. Of course the grapes had to compete—and they did so successfully as to price, after netting the shippers about 3c. a lb.—with the California article, chiefly the large, sweet varieties, immense quantities of which are sold in British Columbia, and which will not be easily displaced. However, if the two gentlemen referred to propose to ship next season, we would advise that some understanding be arrived at in order to avoid over supply and loss.

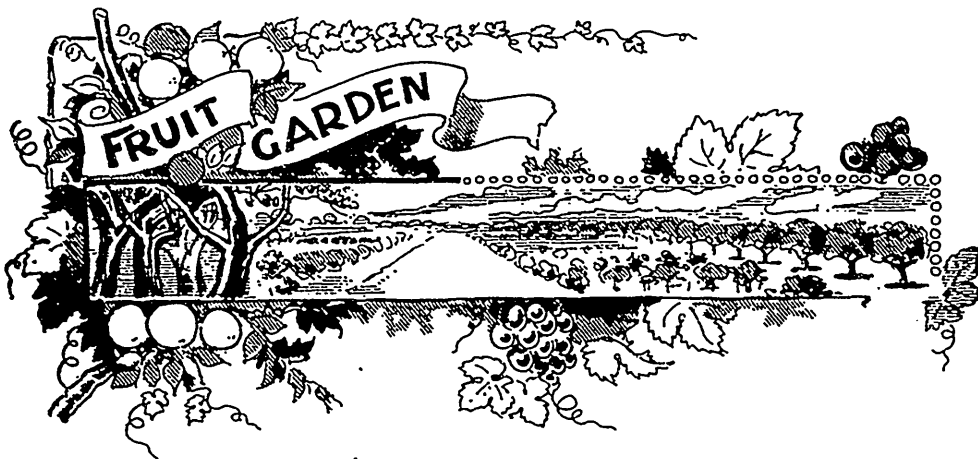
By the way, speaking of California fruit, one cannot help but deplore the fact that, owing to superior methods of packing, and

packages, this article finds such ready sale in preference to the Ontario fruit where brought into competition in the Northwest and British Columbia markets. Reasonable rates and choice fruit value will not secure and hold the trade—the baskets, packages and boxes must be so constructed as to display the fruit to best advantage. Certainly it is wearying, to say the least, to note the time being wasted and markets lost while Ontario fruit men meet in their annual gatherings and discuss at great length the value of this new expensive crate, that new fancy box, this and that method of packing. Why not adopt the methods of packing, boxes, crates, baskets and all, of the Californians, than which there are none better, import expert packers, if necessary from the Pacific State to visit the different centres and instruct the growers; discontinue these useless discussions and make an organized effort to place the Ontario fruit in every town in Manitoba and the Northwest.

As a result largely of the adoption of Californian methods, British Columbia shipments of fruit to those points are increasing rapidly, and, in a few years, unless Ontario growers and shippers bestir themselves, this province will supply and control the entire market of the Territories and prairie province, notwithstanding the superior flavor of the Ontario fruit.

Vancouver, B. C.

A. W. FINBOW.



## CO-OPERATION IN THE FRUIT INDUSTRY

SUMMARY OF ADDRESS DELIVERED BY W. A. MACKINNON, CHIEF OF THE FRUIT DIVISION, DEPARTMENT OF AGRICULTURE, OTTAWA, BEFORE THE MEAFORD FRUIT GROWERS' ASSOCIATION.

### I.—ORCHARD MANAGEMENT.

**T**O be really effective, co-operation should begin with the planting of the orchard, or rather with the selection of varieties. The group of growers who are united for the purpose of making a profit out of the product of their orchards should agree in advance to plant only a few of the very best commercial varieties which succeed well in the soil and climate which is at their disposal.

The CULTIVATION of the orchard should be uniform and thorough, the object being to apply such methods as will yield the best results. It will not do if some of the growers are careless or haphazard while others are giving their orchards every possible chance to do good work for them.

PRUNING also is a matter of the first importance, and should be thoroughly attended to from the start—all the orchards being pruned on the same scientific principles.

SPRAYING must be carefully done and by

experienced hands, or it will only lead to discouragement. A group of growers could well afford to possess a power spraying outfit amongst them, and to make it the business of a couple of men each year to spray all their orchards in succession.

The object of co-operative orchard management should be to secure from all the members a *high average quality of fruit*, and to minimize the percentage of "culls," which will be a drag upon the commercial operations to follow. We have assumed that the members are just beginning to plant, but co-operation can attain at least part of its good results in the case of old orchards. These may be top-grafted to profitable varieties, may be gradually pruned into shape, and kept clear of insects and fungus diseases, while they may be brought under cultivation if the circumstances warrant such a step. In many old orchards the first thing to be done is to remove one tree out of every six or eight in order to admit sufficient light and air to those that remain.

## 2.—GRADING, PACKING AND MARKING.

GRADING is the most essential step towards successful marketing of fruit. It is particularly true of the British markets that they are continually asking for large quantities of fruit of one quality and of one variety. The most serious complaint they have to make against shipments from Canada is that they are "irregular." It should, therefore, be the object of a co-operative association to place considerable quantities of uniform grade and variety upon the market. This they are in a position to do, if all the members will send their fruit to a common packing house, where it can be impartially graded by experienced hands. The brand which the association has adopted will soon become well known as being thoroughly reliable, and there will almost certainly be a demand far greater than the members are able to supply.

The PACKING of the fruit when graded should be carefully looked after, especially when shipments are sent to distant points. All packages should be tight when commencing their journey, and high class fruit will carry best in boxes, the tender varieties being wrapped individually in paper.

MARKING, if properly done, will be the only introduction which a buyer will require. It should be so thoroughly reliable, both as to variety and grade that inspection

will never be required—unless it is to ascertain how the fruit has stood a long journey. The marking should also include a clear and attractive advertisement for the co-operative association which is shipping the fruit. Pencils and chalk should not be used for the essential marks on any package of fruit; either a well cut stencil or a large rubber stamp should be employed.

## 3.—MARKETING.

MARKETING is a word which covers two operations, namely those of buying and of selling. Dealing with the latter first, it will be apparent that if the fruit of a number of growers is judiciously distributed in markets where the demand is greatest, and if accounts are kept by one manager for all, there is likely to be a great advantage gained and a great economy effected.

A similar economy will result if all material, such as poisons, packages, implements and so on are purchased wholesale by the manager and distributed to the members as they may be required.

Finally, a co-operative association can, through its manager, obtain much more attention and consideration from transportation companies, commission men and others with whom they may have to deal, than would be accorded to the members if acting individually. "In Union is Strength."

SALEM GARDENS.—The city of Salem, Mass., at least the old colonial city of Salem that still remains, is semi-city and semi-country. It knows nothing of lawns or even of front gardens. The houses stand in uneven lines on or near the street, with no suggestion of nature about them until one passes through to the rear. Then he finds himself looking out upon a most ample and entrancing old garden, surrounded by a high board

fence extending back for hundreds of feet and filled with fruit trees and old fashioned flower beds with box borders. In the retirement of one of these old gardens one is almost as secluded and nature-begirt as in the woods and fields of genuine country. But of all this little is known by those who do not find their way into these secluded spots.—*Country Life in America.*

# CO-OPERATIVE EXPERIMENTS IN RECORDING THE YIELDS FROM INDIVIDUAL TREES OF THE SAME VARIETY.

BY

W. F. MACOUN,

HORTICULTURIST, CENTRAL EXPERIMENTAL FARM, OTTAWA.

AT the Central Experimental Farm, Ottawa, the crop of fruit from each individual tree is recorded every year. One is thus able to tell at the end of a series of years how much each tree has borne. The yields for the past five years were recently tabulated, and great variations were found in the total yields of trees of the same variety planted at the same time and growing under practically the same conditions.

As instances: One tree of McMahon White apples yielded  $36\frac{3}{4}$  bushels, while another planted at the same time and under practically the same conditions yielded only 17 1.16 bushels, or less than half as much.

One tree of Patten's Greening yielded 17 1.16 bushels, while another tree only yielded 3 15-16 bushels, less than one-fourth as much.

A young tree of Wealthy yielded 47 $\frac{1}{4}$  gallons, while another of the same age only yielded 12 gallons.

Experiments are now being conducted at the experimental farm by top grafting with scions from productive and unproductive trees, to determine how far the productivity and unproductiveness of the trees is constant. The individuality of trees has long been noticed, but few figures have been published to prove this. The results obtained at the farm are hence of particular value.

If scions from productive trees will develop into productive trees when grafted, and if scions from unproductive trees will produce trees which are poor croppers, it is

very important that scions should be taken from the best yielding trees. This is done by some fruit growers.

In order that fruit growers may obtain more knowledge of the great variations in yield of trees of the same variety at the same time and under the same conditions, we desire to start a co-operative experiment.

On application to the Horticulturist, Central Experimental Farm, Ottawa, six pieces of zinc, bearing six consecutive numbers, with wire attached, will be sent to each person. These pieces of zinc when received should be attached to six bearing trees of a single variety of apple, pear, plum or peach, the trees to be the same age and growing under the same conditions of soil and culture. The yield from each tree should be written in lead pencil on the zinc when the fruit is harvested. This yield should include the windfalls, and the windfalls gathered should be marked as such on the zinc labels. The quantity of picked fruit should also be marked as picked fruit. If it is not convenient for the fruit grower to record the yields in the orchard on the pieces of zinc as suggested, he may record them in his note book direct.

When convenient later in the autumn, the yield for the year should be entered in a note book, the number of the tree being entered so that the yields from each tree may be kept separate. The yields from these trees should be recorded until it has been fully demonstrated that one tree is or is not more productive than another. All that is asked of the experimenter is to report the yield

from each individual tree each year to be horticulturist, Central Experimental Farm, Ottawa.

As grafting will, in all probability, become much more general among fruit growers in the near future, the importance of knowing

that trees vary widely in productiveness is easily seen. If the fruiting habit is continued in the grafted scion, as has been fairly proven by experimenters, it is most important that scions should be taken from the most productive trees bearing the finest fruit.

## PLANT STUDY—TERMS EVERYONE SHOULD KNOW.

BY

W. CLEMONT MOORE.

**A** KNOWLEDGE of some of some of the the terms used by botanists, and why they use them, we are sure cannot but prove beneficial to all of those who are beginners in the art of floriculture, hence we proffer the following lesson on some of the parts of the plants, which should first be considered.

*Cryptogams*—Plants which do not bear flowers. Fig. 1 represents a cryptogamous leaf.

*Phanerogams*—Plants which bear flowers. This class of plants presents a wide and varied collection. Fig. 2.

*Embryo*—The beginning of plant. Fig. 3.

*Fibrous Roots*—Are those which send out fine rootlets, but have no main stem. Fig. 4. Fleshy roots are principally biennials, that is, they complete their growth in two years. Fig. 5.

*Exogenous*—Applied to stems whose wood fibres are in regular circles around a central pith. Fig. 6.

*Endogenous*—Stems whose wood fibres are arranged irregularly through the stem

instead of the form of a circle. Fig. 7. Net-veined and parallel-veined leaves are shown in Figs. 8 and 9 respectively.

*Calyx* is the small circle or cup which holds the flower. Fig. 10.

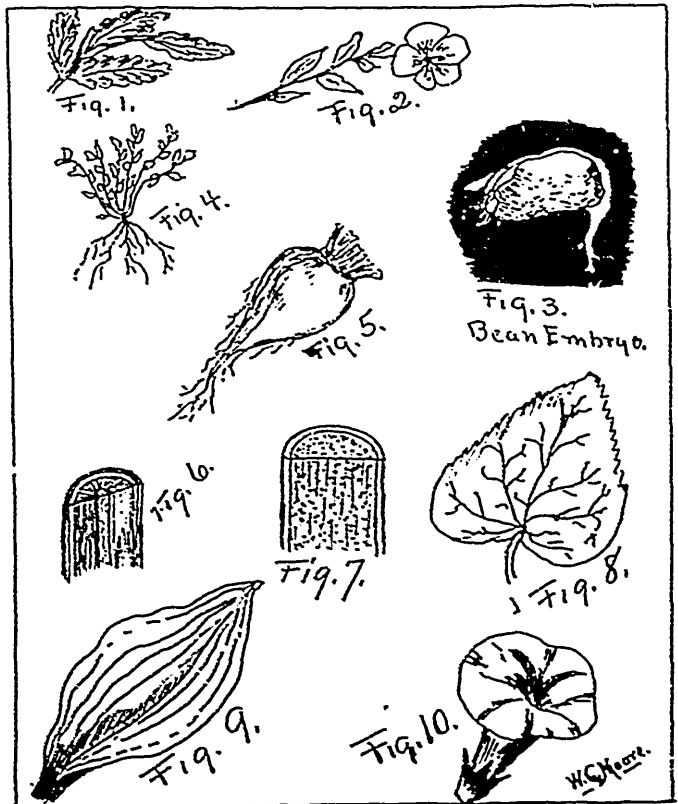


FIG. 2587.



# WHEN TO PRUNE

FROM THE 20TH CENTURY FARMER.

SOME one has said that the time to prune is when your knife is sharp. It can hardly be said that one time is as good as another, yet we do not believe that the season of the year makes any great difference. Each season has certain advantages and disadvantages. A wound made in June will probably heal quicker than if made at any other time, and for this reason June pruning is generally recommended.

We cannot entirely concur in this recommendation, and for several reasons. In the first place, one cannot see as well how to do the work when the tree is covered with leaves as when the limbs and twigs are bare. Another objection is that growth is at its height at this season, and the removal of a part of the tree causes a shock by disturbing the sap circulation. The injury thus produced is quite serious if a large amount of wood is removed.

Pruning is a deadening process, especially when done during the growing season. An injury which checks the growth of a tree causes fruit buds to form. This is one of the results of June pruning, as it is then the buds are forming for next year's crop. Pruning at this season is sometimes recommended on this account. However, it is seldom necessary to stimulate the production of fruit buds. The problem generally is how to get good fruit from those buds which do form. June is one of the very busiest months of the year, and, other things being equal, a season when other work is less pushing should be chosen.

Winter is a good time for cutting out dead limbs of large trees, but the weather is usually too cold for the delicate operation of pruning young trees. Pruning outside of the growing season is objected to on the ground that the wound dries out and does not heal over readily. The cut edge of the

bark dries back farther than if the wound is made during rapid growth.

Spring pruning sometimes results in the sap exuding from the wound, similar to the "bleeding" of a grape vine pruned during the growing season. Pruning trees while dormant sometimes causes a troublesome growth of suckers or water sprouts. It does not stimulate wood growth, as some would have us believe, for the more a tree is pruned the slower will it increase in size. Where a part of a limb has been removed the rest will grow faster than before for a little while, but this increase in growth will not make the limb as large as it would have been if a part had not been removed by pruning.

Dormant pruning does not check growth and deaden a tree as does early summer pruning. Sap circulation depends upon leaves, and when a portion of these are removed a corresponding portion of the circulation is checked and the shock is felt clear to the roots. When a tree is dormant there is no growth to check or circulation to disarrange. The pruning simply leaves the tree with a larger proportion of roots than limbs, causing a more vigorous growth in the limbs which remain.

As was stated in the beginning, we do not believe that one season is so very much better than another for pruning. We have endeavored to throw some light on the subject in order to help each one to decide the question for himself.

The ideal time to remove a limb is just as soon after it starts as possible. Every limb is first a bud, and it would be better to rub off the bud than to allow the limb to grow and then remove by cutting. However, it is seldom practicable to prune in this way, though it is possible to remove most limbs which need removing while quite small.

# IMPORTANT FACTORS IN PLUM CULTURE.

BY

PROF. F. A. WAUGH,

MASS. AGRICULTURAL COLLEGE.

THE principal factors which go to make up the variety as it is known to the practical plum grower may be roughly enumerated as follows: 1, hardiness; 2, habit of growth; 3, fruitfulness; 4, pollination affinities; 5, resistance to disease; 6, season; 7, quality; 8, ability to stand shipment. Plums vary greatly in this quality; but in almost every locality the list of varieties which may be relied on is so large that growers have not been very attentive to this matter. In the northwestern states only, where winters are very severe, it has been found that none but the Americana and Miner-like varieties can be depended on; and consequently they have practically supplanted all others.

Many plums now in cultivation are cursed with the most objectionable habits of growth. This is true of the native plums as a whole, and almost without exception. They are wild and wayward growers. They seldom make good, nicely shaped tops. They may be symmetrical and comely enough during youth, but old age brings out their wild and untamed nature. They resent pruning and training. The tops get so full of zig-zagging twigs, dead branches and thorns that the blackbirds can't get in to build their nests and are obliged to fly away to the apple orchard. I think that those enthusiastic western plant breeders who are bending their most praiseworthy energies to the production of native plums with larger fruit and thinner skins, might well spend some pains to get a variety with a tree amenable to the practices of civilized horticulture. There are very few plum trees, however, of

any type or class, which make comely, manageable trees. Burbank is sprawling, and Wickson grows too straight and willowy. Gen Hand makes too much wood, while McLaughlin doesn't make enough. These things have to be taken into account in the selection of varieties.

Most varieties bear too much and too often. Many varieties will bear themselves to death if left alone. There are few sorts which one need reject on account of shy bearing, though there are a few, of which Gen Hand and Wickson are perhaps examples. For the rest, the grower has rather to plan for careful thinning of the fruit. The grower should select somewhat carefully with a view of proper pollination. This, however, is a subject by itself, and has been so often discussed of late that we may safely let it pass here.

The principal diseases which attack the plum are monilia, or ripe rot of the fruit, and black knot. Both of these diseases can be controlled by proper management; and the careful plum grower will therefore take small thought for the selection of varieties which shall be exempt. Most of the so-called "iron-clad" and "immune" varieties, moreover, have proved not to be so ironclad nor so immune when it came to the test. We used to hear that the Japanese plums were not subject to the attacks of the black knot; but we now know better. There are measurable distances among varieties in their susceptibility to disease, and this may be a consideration, though hardly ever a prime consideration, in the selection of varieties.—*American Horticulturist*.

## WILLOWS AS FUEL.

BY

W. RICKARD, M. P. P.,

NEWCASTLE, ONT.

WE have in our Dominion a great country—great in extent, great in its natural resources and undeveloped wealth, great in its future prospects, and destined to be the home of many millions of people. We are so situated geographically that the question of a supply of fuel will ever be an important one. While we have practically inexhaustible mountains of coal in the far east and in the far west, and doubtless much more yet undiscovered, notwithstanding all this, as far as we are concerned, what we call old Ontario is almost entirely dependent upon a foreign country for a fuel supply. We all know that in the back countries wood has been the principal fuel for people living in the country. We also know that in many of the old settled portions the supply of wood is almost entirely exhausted, and it is somewhat strange to me that practically no effort has been made to replenish the same. I consider the question of reforesting by propagating forest trees on land not valuable, also on the highways and along line fences, not only for the purpose of providing a supply of fuel, but for other purposes as well, to be one of the most important that can occupy the attention of not only the farmers and land owners of the country, but also the earnest and serious consideration of every legislative body in our Province of Ontario, from the local municipal council up to the Legisla-

ture. I know of no more important subject, nor one in which some of the surplus could better be spent than in helping on the good work of propagating forest trees.

But to come down to the matter of a practical suggestion to the farmers or land owners of my own county, Durham, applicable more especially to the front townships, let me say, while I strongly advise a liberal and judicious planting of trees on all side roads and concession roads, and other appropriate places, with a view to gain benefits in various ways, I want further to say that of late it has come very forcibly to my mind that the much despised willow may in very many instances be used to good account. In a great many cases there will be found some spot on the farm that might be considered waste land, and where there may be running water or abundance of moisture. In such places I would say, go right to work without any delay and plant the willow. It is easily planted, will grow rapidly, and in a very few years you can cut the top off for firewood, thus securing a partial supply of fuel that will for certain be out of the reach of labor strikes or industrial contention—a supply that will be found on your premises and which will cost only the cutting. I venture to say that if this suggestion is acted upon, where the conditions are favorable, some one will unhesitatingly say that a good thing was done.—*The Sun.*

# TRANSPORTATION OF FRUIT

CHARGES TOO HIGH—COMPLAINTS AGAINST  
THE EXPRESS COMPANIES—PILFERING OF PACK-  
AGES—FREIGHT ACCOMMODATION INADEQUATE.

THE Niagara Peninsula United Fruit Growers' Association is the rather formidable name of a very progressive body of commercial fruit growers who hold their meetings quite frequently in various parts of that district.

At one of their recent meetings at St. Catharines the following report was presented by Mr. C. W. Vanduzer, chairman of the transportation committee, and was adopted:

That having taken into consideration the present condition of the fruit industry of this district with regard to carrying companies, both as to services and accommodation furnished and rates of carriage exacted, we have arrived at the following conclusions, to which we respectfully call your attention.

## TRANSPORTATION BY EXPRESS.

1. Owing to the very rapid expansion of the volume of trade in fruits during the past decade, the accommodation for receiving and handling shipments at many of the shipping stations throughout this district have become quite inadequate, considerable improvement in the way of suitable platforms and covered sheds is urgently needed.

2. Fruit being of a perishable nature it is very desirable that all shipments be sent forward as rapidly as possible after arriving at a period of maturity. Lack of proper help to receive and forward consignments promptly has however frequently resulted in loss and annoyance to the shipper and to his customers. Owing to frequent changes in the weather conditions it is essential that the shipper be allowed the latest possible moment previous to the departure of trains to

prepare and deliver his shipment to the express company.

3. Numerous complaints of the pilfering of packages in transit have been made to your committee. This should be remedied and explicit instructions given company's employees, looking to the abatement of this evil.

4. The item of packages is a large and ever increasing expense to the shippers, and it is considered that in all cases when the consignee returns the empty packages in good order to the express company that they should be handled with care and some assurance given that they will be returned free of charge in good condition to the point of shipment.

5. It is the unanimous opinion of your committee that a substantial decrease in the rates should be insisted upon by this association. The present high rates in force have resulted in a very great hardship to thousands of shippers in a season of full crops resulting in many instances in the shipper becoming quite discouraged in his efforts to his fruit products, which, in consequence, frequently remain ungathered and lie rotting in the orchards. It is believed that a lower express rate would result at once in giving an impetus to the fruit trade, in doubling the volume of shipments handled by the express companies, and bring about a state of affairs which would be more satisfactory to producers, carriers and consumers alike. While it is felt that in a general way the rate is much too high, there are several points to which the companies should give special attention with a view to encouraging shipments, not

ably the city of Quebec and vicinity and all points in Manitoba and the Northwest.

It is hoped that every effort will be made by this association to urge upon the express companies the necessity of a general revision of rates with a view of affording some relief to the shipper. We believe that such action will at once result in a substantial increase of the business of the companies as well as giving satisfaction to the individual fruit grower.

#### TRANSPORTATION BY FREIGHT.

1. The supply of suitable well-ventilated cars for the carriage of fruit shipment by freight is very inadequate. A large increase in the number of suitable care for this purpose is urgently needed.

2. A better system of handling local shipments and more prompt delivery is daily be-

coming more necessary. The volume of trade is now sufficient to justify the railroad companies devoting special attention to giving this commodity special despatch in local car loads as well as car loads.

3. It is again pointed out that a minimum of 24,000 lbs. of fruit in an ordinary car is altogether too great. This should never exceed 20,000 lbs., and it would be much better if only 18,000 lbs. as obtained in many of the fruit sections in the United States.

4. All classes of mixed fruits in baskets or boxes should be carried in car lots at the fourth class rate.

Apples and pears in barrels, which are now fifth class in car loads, should be put in class 8, which certainly carries as high a rate as apples. Shipments will stand leaving any margin whatever for the shippers.

## TALK ABOUT APPLES.

THE old Scandinavian traditions represent the apple as the food of the gods, who, when they felt themselves to be growing old and feeble and infirm, resorted to this fruit for renewing their powers of mind and body, says the Chicago Record-Herald. The acids of the apple are also of signal use for men of sedentary habits whose livers are sluggish in action. These acids serve to eliminate from the body noxious matter, which, if retained, would make the brain heavy and dull or bring about jaundice or skin eruptions and other allied troubles.

The ancient practice of taking apple sauce with roast pork, rich goose and like dishes is based on scientific reasons. The malic acid of ripe apples, either raw or cooked, will neutralize any excess of fatty matter engendered by eating too much meat. Fresh

fruits, such as the apple, the pear and the plum, when taken ripe and without sugar, diminish acidity in the stomach rather than provoke it. Their vegetable salts and juices are converted into alkaline carbonates, which tend to counteract acidity.

A good, ripe, raw apple is one of the easiest of vegetable substances for the stomach to deal with, the whole process of its digestion being completed in 85 minutes. Besides these medicinal qualities of the apple, it has great virtue for local applications. The paring of an apple cut somewhat thick is an ancient remedy for inflamed eyes, being tied on at night when the patient goes to bed. In France a common remedy for inflamed eyes is an apple poultice, the apple being roasted and its pulp applied over the eyes without any intervening substance.

## LAYING OUT AN ORCHARD

**T**HREE objects should be considered in laying out the orchard: symmetry of appearance; economy of space; and facility for future care. In California, where millions of trees are planted annually, various methods are used. Many are now planting in what is known as the triangular or alternate system. This method gives more trees to the acre than the square system, and in case of apple trees, every other row can be planted to peaches. As the life of the peach tree is short, several crops of fruit may be gathered before any serious damage is done the apple trees, and before crowding, the peach trees can be removed. In laying out an orchard to be planted in this manner, take three pieces of timber one by two inches, and of the length that the trees are to be apart. Miter and

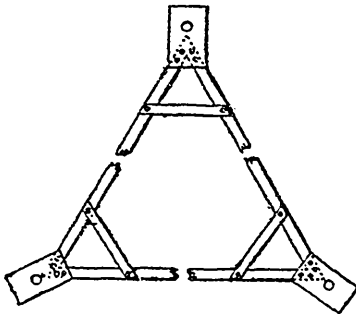


FIG. 2588.

fasten the corners together with pieces one inch thick and six or eight inches in size. These should be fastened firmly with two-inch screws. To make the triangle strong, the pieces should be turned on edge. After the triangle is fastened together, measure off the exact length it is desired to have the trees apart, and bore an inch hole through each corner of the boards, being careful that the holes are exactly the same distance apart. Place the three braces across the corners, and the triangle is completed. Stretch a line or a wire on one side of the track to be planted, the proper distance from the fence,

place two corners of the triangle exactly on the line and set a stake through each hole on the line, also one in the third corner. Move



FIG. 2589. PLANTING BOARD.

the triangle along the line, placing one corner over the stake and the other corner on the line and drive the stakes as before. After the first and second rows are staked off, only one row is staked at a time, while the two corners of the triangle are kept over the last row of stakes. There should be a person at each corner of the triangle.

After the stakes are all set, bore an inch hole in each end of the board, four inches wide and six or eight feet long. Cut a notch in the centre, place it against the stake, drive a stake through each hole in the end of the board, and remove the centre one. The hole is then dug, and when ready to set the tree, lay the board over the stakes and place the tree in the notch. The same plan can be used in laying off an orchard by using a square instead of a triangle. All the measurements must be exact, or the triangle will not fit when placed over the stakes. In this way it is no trouble to keep the rows straight, no matter what length they may be. The stakes should be fifteen to eighteen inches in length, and somewhat smaller than the inch holes in the triangle, so that they will work easily.



FIG. 2590. ORCHARD PLANTING ON THE TRIANGULAR SYSTEM.

# Civic Improvement

A DEPARTMENT DEVOTED TO THE INTERESTS OF THE HORTICULTURAL SOCIETIES OF ONTARIO, AND OF ALL OTHER BODIES INTERESTED IN THE IMPROVEMENT OF THE SURROUNDINGS OF OUR CANADIAN TOWN AND COUNTRY HOMES.

## HOW EVERY CITIZEN CAN IMPROVE HIS NATIVE TOWN.

DR. FLETCHER'S ADDRESS BEFORE THE RENFREW HORTICULTURAL SOCIETY.

DR. FLETCHER began by a reference to and commendation of the good points in the town noted on the letter paper on which he had been communicated with; and from this stated the broad difference which was apparent between the border towns of Canada and the States; the comparison not being favorable to the Canadian towns. The Americans blew their own horn a great deal more loudly, but they endeavored to live up to it. Yet there was no country on this globe so good to live in as Canada; it was without an equal, and was getting to itself every comfort and luxury. Renfrew had done well already in the way of advancement, but there were still some things to be improved. The American believes he lives in the best town in the world. If the people of Renfrew became imbued with the American idea, and believed that theirs was the best town, they would do more to make it so. Prosperity comes from bringing outsiders in. What could each citizen do to improve the town. First, be proud of the town; second, do everything possible to back up that pride. Definite action was what was necessary. Renfrew evidently had an active mayor and an active M. P., and the rank and file must now move forward with a definite purpose.

Each must remember the whole time that he was a citizen and that it was his duty to make the place attractive. Since he had come to town he had noticed some places with nice gardens; but more without them. This could be improved and at little expense. A few creepers over a verandah add greatly to the appearance of a place. No papers or broken sticks should be left lying about. One person setting a good example in improving the beauty and tidiness of his premises was quickly imitated. At Ottawa Lady Minto had taken an interest in improving the city and had offered prizes to the persons who improved the general appearance of their house and grounds. To start the work of civic improvement, begin with the home garden; and incidentally Dr. Fletcher remarked that the young man who didn't care for flowers and babies was hardly worth associating with. People who love flowers are happy, are considerate of others; selfishness does not thrive among those who love flowers. Among the shrubs which he particularly recommended for planting were Rudbeckia (golden glow) and Spirea van Houti. The large flowering Japanese hydrangea was also good, easily propagated, and in clumps of three or five is very beautiful. Three or five are better than four, getting

rid of the evenness. Avoid straight lines. Have natural curves. Perennial phlox was good, and of out-door geraniums he mentioned particularly Carmen Sylvia (white), Sami Sloan (crimson), and Jacqueminot (crimson). The Rambler roses were beautiful. He thought they could be grown here—(Mr. E. H. Stevenson from the audience said certainly they could)—but would need protection in winter. Nothing was of so much importance in the beautifying of a town as grass. Touching on this point Mr. Fletcher denounced "Lawn Grass Mixtures." What was wanted was not a mixture of grass of different texture and different colors, but one grass. Nothing was better for a lawn than our own Canadian "June" grass—also known as Kentucky blue grass and spear grass. A little White Dutch clover might be put with it, if desired. Dr. Fletcher spoke of the advantage to Renfrew people of having nurseries here, from which they could get good and tried trees and shrubs. He also at different points in his address quoted from "The

Hints for City Improvement," printed on a large card by the Hamilton Civic Improvement League, a copy of which was lying on the speaker's desk. He thought it would be well if the whole list of "Don'ts" was published here. Touching the hint "Don't Spit on the Sidewalks," he remarked on the great change that had come over the Americans in the last few years. It was noted as a nation of "spitters." Yet to-day comparatively little spitting was done on the streets or in the cars there, simply because the people had come to the conclusion that they might do harm to others, might spread consumption, by spitting. For considerably more than an hour Dr. Fletcher held the interested attention of his audience, by a pleasant address in which there was incidentally introduced much teaching of high morality. After several questions had been answered by Dr. Fletcher and the chairman, a vote of thanks, proposed by the mayor and Rev. W. M. H. Quartermaine, was heartily carried and tendered to the speaker of the evening.

## THE OLD FOREST TREES.

SIR.—On page 59 of the February number some one finds a big fault with the new settler for "guilty thoughtlessness" in not leaving here and there as he clears the forest away to make a farm, "single specimens of those grand old maples, pines, elms, etc., to be the chief ornaments of the homestead, etc." Now, every one knows some of something, but no one knows all of everything. Those "settlers" know quite well that it would be utterly useless to leave one or more of those grand old trees for ornament, because the first gale will bring them down. Where they grew they had the protection of other trees, and so did not root strong enough to stand alone. The observing man will note that the edge of old forests is always tangled more or less by uprooted

trees where exposed to strong winds. No, ornamental trees must be planted, and should be very young so they can prepare anchors as fast as they are set sail. But I do think settlers are "guilty of thoughtlessness" in not planting ornamental trees as soon as the streets are properly lined out, and also thickets for sheltering stock yards. How grateful we feel to those who went before us, when we see the streets shaded by beautiful trees. Sometimes their beauty is marred by crookedness, too close planting, etc., but they did the best they could, and we will do well by doing better, according to our privileges and light. But better or worse, by all means plant trees.

Berwick, N. S.

D. C. CROSBY.



# CIVIC IMPROVEMENT WORK

HINTS TO OUR SOCIETIES—WHAT TO DO AND  
HOW TO DO IT—PARKS—BATHS—BILL BOARDS—  
COLLEGE STUDIES—SCHOOL GARDENS.

BY JESSIE M. GOOD

IN "THE HOW OF IMPROVEMENT WORK."

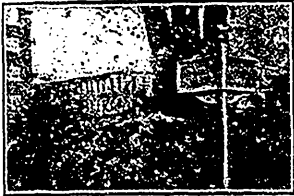


FIG. 2591. SIGN NAME FOR  
STREET.

**H**A V E you parks and open squares as breathing places for the people? Have you public playgrounds for your children? This one matter of public playgrounds in

all towns is of vital importance. When the influence upon the character and morals of children of healthful play, under the care of a watchful, high-principled man or woman, is fully understood, no money will be spared to provide such playgrounds, and a new profession, that of play professor, will be among the honorable and well-paid callings.

The possibilities of such playgrounds are almost unlimited. What mother would fear to send her boys to the public playground if she knew that awaiting them was a man who could teach or oversee them in their games and athletic sports, noting and repressing evil tendencies in speech and manner? On occasion such a man would take them on fishing and swimming trips and excursions through field and forest. The woman teacher has charge of the girls' plays and games, and teaches to both sexes—without seeming to teach—botany and nature study and kindness to birds and beasts, until even boys will see a bird, or cat, and a stone in juxtaposition without desiring to pick up the one and throw it at the other. This is not a fevered dream of mine. In a modified way these playgrounds are being tried in

various cities with the happiest results.

Are there any provisions for public baths in your town? Interest the young men of your town in this matter. Have your casinos, where the social life of your town may find expression? Have you a public library? If not, and your town is too small to support one, there are ways of obtaining traveling library cases. If your state library has no provision for distributing to the people the books your taxes so expensively house, petition your legislature until these books reach the people who need and want them.

The disfigurement of streets and landscapes by bill boards and advertisements is a nuisance that is attracting the attention of many of the best men, both at home and abroad.

What practical teaching are the public schools of your state giving the children regarding its agricultural resources? What, may I ask, becomes of the students and graduates of our expensive agricultural colleges? I never met one of them. Let us have the students of these colleges most thoroughly and broadly taught in the sciences of agriculture, forestry, botany, arboriculture, bee keeping, pisciculture, the culture of silk worms, and all else pertaining to an intelligent knowledge of such things; and then in our public schools let these young men teach the sciences they have learned. The electric railways which are fast webbing our country roads are making the centralization of country schools not only possible but so much more economical than the old

system, that the adoption of this system is only a question of time. The school commissioners of the county in which I live have been asked to build two of these central schools.

The school garden should be a part of the curriculum of these schools, both in the city and country, as it is in Germany, Russia,

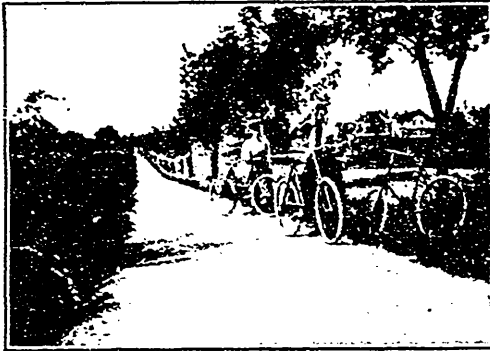


FIG. 2592. CYCLE PATH.

France, Sweden, Saxony, and a few other European countries. Children so taught will have a greater respect for country living, and when a boy understands that it requires quite as much ability to make a farm pay as it does to make a store profitable, and that the independence and prosperity of a nation so largely depend upon its agricultural supremacy, then and not until then may we hope to have a long line of cultured country gentlemen, the class that has made England such a delightful land in which to dwell.

\* \* \* \* \*

If there is one family in your neighborhood that is particularly obnoxious by reason of its untidy premises, by all means invite all its members and treat them with all the courtesy and tact you possess. You may find to your amazement that this family will take a heartier interest and do more work than many whom you rightfully expected would aid you. If you are successful in winning such people to your side you have

accomplished at the start one of the objects of improvement association work. It is a singular fact, but one often proven in our work, that a tactful woman who will show a little human interest in such families, and will share flower seeds and cuttings of plants with them, will do more to develop in them a spirit of right living than many generations of slum workers who proffer an impertinent patronage. There is an instinct in the human heart that resents the feeling that any one is better than we. This is a divine instinct, to be encouraged rather than repressed; for when self-respect is dead beyond repair, hope is dead.

I dwell particularly upon the importance of winning the members of such families to your side, because without their co-operation your work will fall short of its full usefulness. Their premises will be a continual eyesore and they can do much to hamper you. Their children may destroy your shrubs and flowers and trample paths across your lawns. I have learned to know that envy more than maliciousness it at the bottom of nearly all this cutting of shade trees and pulling up of flowers. If their own innate love of beauty is graified and their civic pride aroused, vandalism of this sort will be almost unknown. If you cannot get the parents to come, get the children, one after the other. If they will not come to you, go to them and give them flower seeds and show them how to care for them. You will win them in time.

\* \* \* \* \*

Be exceedingly cautious in the selection of your officers for the first year. It will depend upon them whether the association fulfills the purposes for which it was organized, or adds another to the long list of societies that simply meet to pass resolutions condemning public officials for remissness, for which you are quite as responsible as they. Do not choose those wily old taxpayers who cheerfully join every public organization in

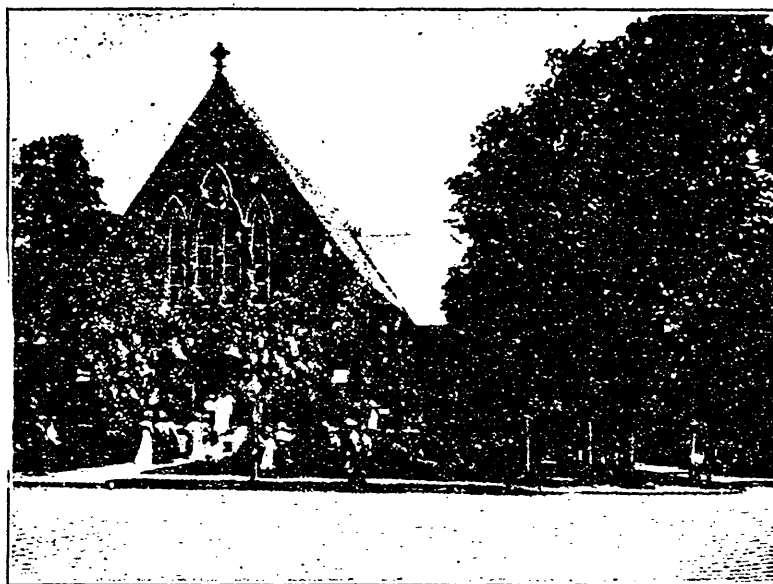


FIG. 2593. CHURCH OF ASCENSION, BUFFALO.

town in order to control it and keep their taxes down, and after killing all efforts at reform proceed with the usual routine of having the tax levy adjusted to suit themselves. Nor should you choose women who have run all church and social organizations until there is a feeling of rebellion against their further rule. Rather choose the most successful, go-ahead young business men and popular progressive women for your

officers—people who make successes of their undertakings. Above all, do not in your public meetings abuse your city officials. Rather work in harmony with them. You will find it the wiser plan. If interest enough has been aroused to call a meeting in some public building there will be plenty of people present who will be able to conduct the meeting and its election in an orderly manner.

## NOVA SCOTIA FRUIT GROWERS.

**W**E have received from Mr. J. W. Bigelow, president of the Nova Scotia Fruit Growers' Association, a copy of his annual address, which is printed for distribution. In it he reviews the fruit not planting ornamental trees as soon as the province, and the history of the association, which dates back to March, 1863, when

a few public spirited fruit growers met at Halifax and had an organization effected; also points with pride to the free school of horticulture at Wolfville, established in 1894, and supported by voluntary contribution, in addition to a maximum grant from the legislature of \$2,000 per annum.



FIG. 2594

## RAILWAY GARDENING

**I**N a recent issue we gave prominence to the pioneer work in railway gardening which has been done on the Boston and Albany railway, and expressed the hope that the great railways of our Dominion would catch the enthusiasm and make their station grounds attractive to the traveler, instead of an offence to the eyes of people of cultivated taste, as many of them now are.

A most praiseworthy movement in this direction is evident in many sections, and we hope soon to see it general over this whole continent. We notice, for example, that the Illinois Central is to establish a park at Normal to be well furnished with trees and plants; that the Chicago, Milwaukee and St. Paul is parking its station grounds at Wausau, under the direction of a landscape gardener; and that the Grand Trunk will surround its new station at Lansing, Michigan, with a park, plans for which have been prepared, the work to include grading, planting of trees and shrubbery, laying out walks, etc.

Recently the Boston and Maine offered cash prizes to their station agents for the best kept gardens, providing them also with a stated sum of money each for the carrying

out of the work, so that all might be on an even basis. We are able to show views of the station grounds at Arlington, taken from the *American Garden*. For these grounds Mr. F. C. Morrow, the agent at Arlington, won the second prize in the system. He writes as follows:

"Figure 2594 shows two plots of lawn nearly square, the smaller one situated north of station and between station and postoffice building, in which you notice one single round bed. This bed has for its centre French Cannas, bordered first by red *Alternanthera*, next by yellow *Coleus*, and next, near grass, is a border of red *Alternanthera*.

"The larger plot, located south of station and between railroad tracks and postoffice building, has a triangular border covering two sides of the lawn. This border is composed of silver spot *Salvia*, bordered first by yellow *Coleus*, and next, near the grass, with red *Alternanthera*. In the corners of this border are round beds of brown *Castor Beans* and *Caladiums*. You notice three beds in the centre of the lawn. The centre round bed has for its centre a *Sago palm*. At the base of the palm is a five-pointed star of yellow *Alternanthera*, between the points



FIG. 2595.

of the star is red *Alternanthera*, next a scroll-like circle of *Santolina*, next oblong sides of yellow *Alternanthera*, and an outside circle of red *Alternanthera*.

"The two rosette-shaped beds each side of the centre bed have for their centre *Cordyline amabilis*. The dark lines are red *Alternanthera*, the white centres are variegated *Stevia*, border near grass yellow *Alternanthera*. In the right-hand corner of lawn you see a bed in shape of fleur-de-lis. This is made up of red and yellow *Alternanthera* and bordered with *Echeveria*. On a mound, raised so as to give passengers on trains a good view, you note the station name. This is of brilliant red *Alternanthera*, which contrasts nicely with the green grass, which is kept nicely trimmed. The individual you see in the picture is your humble servant, myself.

"The other figure shows a plot of ground

triangular in shape, located a little north and back of the station beside driveway. This is bordered by brown *Cannas* faced with a border of *Zinnias*. In the three corners, only one of which shows in this picture, are triangular-shaped beds with scroll fronts. These have for centres French *Cannas*, bordered with *Celosia* or *Cockscomb*, next red *Alternanthera*, and the outside edge yellow *Coleus*. Between the two right-hand corners there is a bow-knot bed. The centre is a large *Castor Bean*, around the base of *Bean* are *Caladiums*, in the two bow ends are *Asters*, outside border *Sweet Alyssum*; along the side of plot you notice a scroll bed of *Star Petunias*, and in the centre of plot a star-shaped bed of yellow *Alternanthera*, with centre of brown *Castor Bean*.

"I have had seven gardens in all and have won prizes amounting to \$250."

THE *PEONIA* is a highly decorative plant and no garden is complete without a collection, for it can be had in nearly all the colors of the rainbow, and in some of the colors are so prismatic that they cast different shades as you move along and gaze upon

them. The new types of single varieties are attracting marked attention and admiration, with their monstrous flowers from twelve to fifteen inches in diameter, with the exquisite coloring and massive center of golden yellow antlers.—*American Florist*.

## MAKING A CITY PARK

**A**T a meeting of the American Park Association, held in Boston last autumn, we had the pleasure of hearing an excellent address by G. A. Parker, of Hartford, Conn., on "Park Construction." Among many other good suggestions he says:

"It is many times supposed that expert gardeners make desirable park men. Skilled gardening is desirable in park work, but the skilled gardener is seldom the man to manage the park as a whole, for to acquire his skill he must love plants as individuals, while park work is plants used in mass or the relation of a single plant to the composition of the picture as a whole, and in which it is only a part. It is not so much the question as to what plant is used as to where the plant is located. The gardener loves the tree for its own sake. The park man loves the tree on account of its position, and it is found that the skilled gardener, like the skilled engineer, wants to bring that which he loves best to the foreground for admiration. It may be said that the park man who loves his park picture as a whole is only doing that which he condemns in others; that is, he wants to bring that which he loves best before the notice of the public, and this is true, but in defense he can say it is the composition as a whole that gives the mental rest, the moral strength and that development of the love of the beautiful which is the peculiar mission of the park. A great deal of thought must be given to detail, yet detail should never be so distinct as to attract attention separate from the composition to which it is a part.

"The next point I want to call your attention to is that a park is as much a construction as a city hall or a bridge. The idea that a park is a piece of ground outdoors which can be worked much as a far-

mer works his land should be exploded, and cities should understand that when they undertake to build a park they have undertaken a work of a similar character, of as great importance, fully as difficult and intricate as building a magnificent city hall. The city officers can be housed in a barn which might be called a city hall, but it doesn't help the credit or give character to the city. So any old piece of ground can be called a park, but only to the city's disgrace. Any piece of ground can be made into a park, and I care not what its condition is, yet until it is so made, it is no more a park than a pile of lumber and brick is a palace.

"If a park was a construction which reared itself into the air as a building does, or suspend itself across space like a bridge, it would be at once recognized as such, and the necessity of science and art and money and skill in its building would be acknowledged. It is no less a construction than the bridge and the building, even if it lies on the earth, and yet we are so used to seeing the ground and trees growing spontaneously and naturally from the land, and the farmer and gardener, by plowing and planting, producing their crops, that it is hard to realize that the park differs from all this, especially hard as groves of large trees which are not disturbed are always desired and selected whenever they can be obtained, but, nevertheless, it is true that parks, in the science of art of their designing and mission, in skill and methods of construction and care, and in every other way except in appearance, location and form, are more nearly related to architecture, painting and sculpture than they are to farming, gardening or forestry.

"Another habit of the people which blocks the way to realizing the need of park construction and care is the consideration

usually given to grounds around the homes of ordinarily well-to-do persons in what is often called the residential sections of the city. Usually little attention is paid to the ground until the house is nearly completed, then the grader is called in, who recommends a 'nice growing grade from the house to the sidewalk.' The nurseryman suggests the planting of angles or borders, a walk is added, many times great efforts are made to have it curved when a straight one would be a hundred times better; trees are planted on the street line and one or two on the lawn, and the grounds are completed, with a tendency toward ornateness instead of that greater charm, simplicity. The owner usually has spent more than he expected in the house and desires to economize on the grounds. A hundred dollars or less is the sum often mentioned as the limit. All this means a low grade of work, want of thoroughness in the doing, and lack of satis-

faction in results. It sets a low standard for the ideal. Now, if the builders of homes would recognize from the beginning that the grounds must cost for thorough work from 1-10 to  $\frac{1}{4}$  what the house itself costs, and that they will cost as much to furnish as the average cost of furnishing a room inside, then the owner would find in his outdoor room of his home the satisfaction and contentment which ought to come from it. He would always have a library of nature's writings at hand where a new and beautiful book would open for his pleasure every day. He would have an outdoor art gallery filled with pictures of the most beautiful colorings, with statues of a most exquisite form, and besides that, and more in line with the purpose of this paper, his knowledge and appreciation of the best at his home would lead him to expect and demand the best for the parks of his city."

## A FARMER'S FLOWER GARDEN.

THE plot chosen is one upon which snow lies continuously and deeply all the winter, thaws being rare and short in this region. In consequence the ground is kept free from frost, and as soon as the snow melts the Snowdrops and Crocus appear, together with the annual seedlings in great profusion, one after the other, as the temperature of the soil rises. Skill in the recognition of these seedlings by their seed-leaves is an essential element in the carrying out of the plan of this garden. Millions of them are scraped out by the cross-scorings of a narrow hoe, yet enough of all are preserved to entirely cover the ground at maturity. Thinning is systematically practiced with a view not only to uniform growth, but also to succession, the earlier blooming sorts being withdrawn to give place and space to later ones, and these to still later ones. A good deal of ingenuity

is required, as well as judgment and precision, to secure successive clouds of bloom, changing in one week from one color to another, over sections and strips of ground. It is like the playing of a game.

An inexperienced person would be surprised at the vast quantity of cut flowers yielded by this inexpensive garden. Churches and private houses are decorated with its products and the guests of several large summer hotels are supplied with bouquets most lavishly. Though the garden was started without a thought of profit, as much money has been realized from it as could be gained by any other crop. But the chief benefit arising to the owner is in the mental and moral stimulus it affords, and the change from mere business farming to something in the nature of a fine art, however humble in reality it may seem to others. —*Vick's Magazine.*



## FLORAL NOTES FOR JUNE

BY

WM. HUNT,

O. A. C., GUELPH.

**W**INDOW PLANTS.—Many of the foliage and flowering plants that have decorated the window during the past winter and spring should now be enjoying a period of partial or complete rest. This resting period is very necessary to many varieties of plants grown in the window, and is a feature of plant culture that is oftentimes overlooked or decidedly misunderstood by plant growers. There are few plants that do not require partial or complete rest at some season of the year, if good results are to be attained in their culture, and as outside window boxes are now the chief factor at this season for window decoration purposes, the summer time will be found to be a good time to give many of the winter occupants of the window a rest, or at least a change to quarters more suitable for them during the hot summer months. Palms, India rubber plants, Cordylines or Dracenas, Azaleas, Aspidistra, Fuchsias, Pelargoniums, Lobster and many other kinds of Cactus could be stood outside

now under the shade of a fence or building, so that the plants get a few hours sun morning and evening and are shaded from the hot noon-day sun. Stand the plants on coal ashes or coarse gravel an inch or two deep. Coal ashes is the best material as worms dislike it. All of these plants, except perhaps varieties of the three last named, should have a good supply of water at the roots and sprinkled over the foliage occasionally. By keeping them fairly moist (not soddened) they will make good growth during the summer. The Fuchsias, Pelargoniums and Cactus should be watered more sparingly, but should not be allowed to become dust dry.

Many of the winter Begonias can be treated as recommended for the last named varieties, such as *Begonia manicata aurea* and *B. Paul Bruant*, being varieties that can be treated in this way, but they must not get too much water at the roots either from rain or from watering them.

Pots of Calla lilies can be laid on their side



in the shade and given no water until they are started into growth again in August. Pots of Freesia bulbs should be kept quite dry and the pots stood away in a dry shed until August or September.

WINTER FLOWERING GERANIUMS.—Now is a good time to start preparing a few young plants of geraniums for winter flowering. Secure a few young, healthy, bushy growing plants of these, such as florists usually sell for bedding out at this time of year. Pot the plants into good rich soil in six or seven inch pots, according to the size of the plant. Plunge the pot in the ground up to the rim in an open place in the garden. Water the plant thoroughly when it requires water, two or three times a week perhaps, or every day in hot weather. Pinch off all the flower stems as soon as they appear, before the buds have time to open, and pinch out just the tips of the young shoots as soon as they attain the length of four or five inches. Possibly the tips of the shoots will require pinching out when they are first potted. The pinching out of just the wee small leaves at the tip of the shoot merely checks its growth and causes it to throw out more shoots down nearer the roots, thus making a nice bushy, stocky plant. This pinching will require to be done about once in every three weeks until the middle of August, when the plants should be allowed to grow freely, but the blooms can be kept pinched off until early in September, a week or so before the plants are taken into the window. Pinching off the blooms lessens

the strain on the vitality of the plant and throws all the strength of the root into the growth, whilst the pinching keeps it bushy and symmetrical.

Cuttings of geraniums started now and treated as I have described, will make nice plants for the window before winter. Smaller sized pots will, however, have to be used than for the larger plants.

A little fertilizer of some kind, not too strong, given the plants during August, will help them considerably, when the soil in the pots has become partially exhausted. Once or twice a week will be often enough to apply the fertilizer. Weak liquid manure made from chicken or cow manure is very beneficial to all growing plants when growing out of doors, but is not suitable for application indoors, for sanitary reasons. Specially prepared commercial fertilizers or plant foods are best to use for window plants when the plants are indoors.

La Favorite (white), Jean Viaud (pink), Le Pilote (scarlet), Bruant (scarlet), C. Morel (scarlet), Mme. Charlotte (rosy salmon), are some of the best winter flowering doubles, whilst Gettysburgh, Mrs. E. G. Hill, Rev. H. Harris, Countess of Roseberry, Fanny Thorpe and Madonna will be found to be a good collection of single flowering varieties for winter.

Mme. Saleroi (silver leaf), Marshal McMahon (bronze leaf), Mrs. Parker (silver leaf), and Corrine (double flowering with golden foliage), will also make useful additions to window plants in winter.

FERN IN A TREE.—Ferns grow usually in deep, cool woods, and not in trees, as does a dainty little fern called the scaly polypody, which is found in beds high on the sides of branches of trees. They grow in a thick mat, completely hiding the bark, plant en-

twining plant. The roots penetrate the heavy outer bark of the tree, rot it and feed upon it, while the mass catches falling leaves and twigs and holds them until they have added to the bit of soil to contend with many dry summers.—*Country Life in America.*



FIG. 2596. GIANT FLOWERED PETUNIAS.

## GIANT FLOWERED PETUNIAS

BY

WM. HUNT,

O. A. C., GUELPH.

**T**HIS magnificent type of these ever-popular plants is certainly a great advance on the ordinary single type of petunia commonly seen in flower beds or borders. The immense size, as well as the beautiful form and texture of their fringed flowers, added to their gorgeously rich and varied pencilling and marking, at once attracts the eye of the flower lover. It would be impossible to even attempt to describe the many beautiful colors and tints to be found in a good strain of these petunias, ranging as they do in color from pure white to a deep claret purple, blotched, striped, pencilled and tinted with shades of almost every color found in flowers so that to really get a correct idea of their beauty one has to see them growing

naturally in the flower bed or border, or arranged in a shallow dish, as seen in the accompanying cut (Fig. 2593). This giant strain of petunia is not as free growing as the common type, neither is it as floriferous in point of the number of its flowers, but the beauty of the individual blossom more than compensates for these defects. It is to be hoped that those who are interested in the development of new types of this strain of petunia will be able to add the robust, free growing and floriferous habit of the commoner type to this giant flowering favorite of the flower garden. A shallow vase or dish of these beautiful flowers will alone make a splendid centre floral piece for a drawing room or dining-room table.

# SOME FLORAL LEGENDS

BY

EDWARD TYRRELL,

TORONTO.

**I**N continuing my notes on the history and lore of plants, your readers will please bear in mind that I have collected these from various writers, the most prominent among them being Shakspeare, Phillips, Tyas, Kerner, Hibberd, Paul, Hole and others. Some are superstitions of old times, and there are redeeming traits in these old mythologies, "their floral ornaments and allegorical combinations of fruits and flowers are symbols of a divine idea." My desire is that young people (and older ones too if they will) should encourage a habit of learning more about trees, plants and flowers, because they become far more interesting when we have some knowledge of the region from which they came and the history connected with them.

Although for the present I am giving the histories of flowers, I do not wish your friends to think their gardening work should be confined to the culture of flowers although Mrs. Hemans thinks that the fine passion for flowers is the only one, which long sickness with its chilling influences leaves untouched. In one of her poems she writes:

"Oh lovely flowers, the Earth's rich diadem.  
Emblems are ye of Heaven and heavenly joy,  
And starry brilliance in a world of gloom;  
Peace, innocence and guileless infancy  
Claim sisterhood with you and holy is the tie."

We should also be interested in all the branches of horticulture, and endeavor to realize by actual work the joys and pleasures connected with gardening, in the satisfaction that the meanest tasks are elevated even to dignity by the fact of their necessity, and to feel a pride that there is not one manipu-

lation but that they can perform although their means may enable them to enjoy all the refinements of life. Hibberd says "that of all worldly occupations, gardening is the noblest, the most useful, and the one which promises the richest mental and material rewards."

This topic is interesting, but I shall leave it and continue my quotations; which this time are on the pansy and mignonette.

**PANSY** (*Viola Tricolor*).—The name pansy is derived from the French word "pensee," a thought. In floral language it means "think of me." This pretty flower, the favorite alike of poet, florist and rustic, is a species of the violet, not the little flower that perfumes the air, but a species entirely distinct both in its habit of growth, and in the form and color of its flowers. One writer says it was reserved for a young lady, aided by an intelligent gardener, to show the world the extraordinary variations to which the flower is susceptible. About 1810 or 1812 Lady Mary Bennett had a small garden planted entirely of hearts-ease in the garden of her father, the Earl of Tankerville, at Walton-on-Thames. This young lady was desirous of having as many varieties as possible, and at her desire the gardener, Mr. Richardson, raised as many kinds as he could from seed. From this small beginning the present passion for these flowers took its rise. Mr. Richardson showed them to Mr. Lee, of Hamersmith, who instantly saw the opportunities of making this a florist's flower.

Another writer says that about this time a Mr. Thompson, of Iver, England, gardener to Lord Gambier, commenced the cultivation

of this plant by growing *Viola Tricolor* and *Viola Lutea* together, and reserving seed from the larger and handsomer flowers, and by long culture and hybridizing with other species brought these inconspicuous field weeds and developed them into our innumerable garden varieties. The first great change was the conversion of the dark lines in the centre of the flower into a dark eye or centre, which at that period had never been seen, but is now considered one of the chief requisites of a first-rate flower.

This flower is rich in gentle names which appeal to our hearts. Besides *Hearts-ease* and *Pansy*, by which it is generally described, it has been called *Herb Trinity*, *Love in Idleness*, *Kiss Behind the Garden Gate*, *Three Faces Under a Hood*, *Pink of my John*, and many other names. The French called it "*Herb de la Pensee*," and Louis the XV. of France is said to have selected it as an armorial bearing for his physician, *Quesny*, who was remarkable for his thoughtfulness, and whom the king called

his "thinker." The Italians call it "*Little Flame*," "*Winged Violet*," "*Butterfly Violet*," also "*Mother and Daughter-in-law*," and this strange name accords with that given by the Germans who call it "*Step-mother*." I am not certain, but I think one kind has entirely disappeared from cultivation. They were known as "*Painted Ladies*," the under side of the petals being white and the upper surface red or purple, so laid on as if to appear really painted.

*MIGNONETTE* (*Reseda Odorata*).—This plant is a native of Africa, and was introduced into England by Lord Bateman, who brought it from the Royal Garden of Paris in 1752. *Mignonette* is a French word meaning "*Little Darling*," and is too appropriate for this sweet little flower to be exchanged for any other. A branch of the *Reseda* was added to the armorial bearings of an ancient Saxon family (*Count of Walsheim*), with the motto "*Your qualities surpass your charms*." The romantic story connected with it is too long for quotation.

## ROSE INSECTS.

**N**O plant has more foes than the rose; rose chafers, beetles, worms and aphides attack it, and if not met with prompt measures they soon ruin the prospect of a rich rose harvest. It is always wise to anticipate their coming, and early in the season, before any are to be seen, dust the foliage, both above and below, with powdered hellebore, using a bellows or powder gun for the purpose, and applying it while foliage is wet with dew. The early application is, in every sense, "the ounce of prevention worth a pound of cure." Tobacco tea or tobacco

dust will free the bushes from green aphids if applied thoroughly and in time. Cold water turned on with force, by means of a hose, thoroughly applied from all sides, sweeps many of them from the bushes. The rose slug, a slimy, worm-like pest, sometimes infests the bushes, eating the green substance from the foliage, and if not exterminated soon robs the bushes of their beauty and the roses of their support. This pest may be destroyed by tobacco dust, or, in fact, any of the insecticides, or anything obnoxious in dust form.—*New York Tribune*.

# THE HOLLYHOCK.

BY

HERMAN SIMMERS,

SEEDSMAN, TORONTO, ONT.

**O**F late years, unfortunately, the hollyhock has not been cultivated in our gardens as much as it should be, for it is one of the handsomest plants a person could wish to have for a background effect, and towering as it does with majestic effect over its small subjects, the annuals. The hollyhock is almost as easily raised from seed as the pansy, the pink and the carnation, etc., is; but the difficulty lies chiefly in carefully wintering them, which probably has been the reason for their partial extinction of late years. Hollyhock seed may be started in a cold frame any time during the month of June, and as soon as the plants have become sufficiently established to allow of them being handled, transplanted to any ordinary bed in rather a shady locality. Do not defer sowing the seed later than this month, as it is almost impossible for them to get sufficiently established to withstand the winter. My experience with them has been that if sown later than June they will invariably be frozen through the winter, and even sowing in June and subsequent transplanting will sometimes discourage the amateur; because the proper amount of covering required is somewhat puzzling. Too much is sometimes as bad as too little, for if we have a mild winter the plants, having been grown pretty strong, will probably rot with a heavy covering, and the same sometimes happens with the lighter covering. Therefore I would suggest a medium amount of covering, and to plant in a rather secluded spot. If the plants have properly wintered over, plant to their proper situation about the middle of April, as during the cooler weather of April they have a better chance to root, when they will be fully pre-

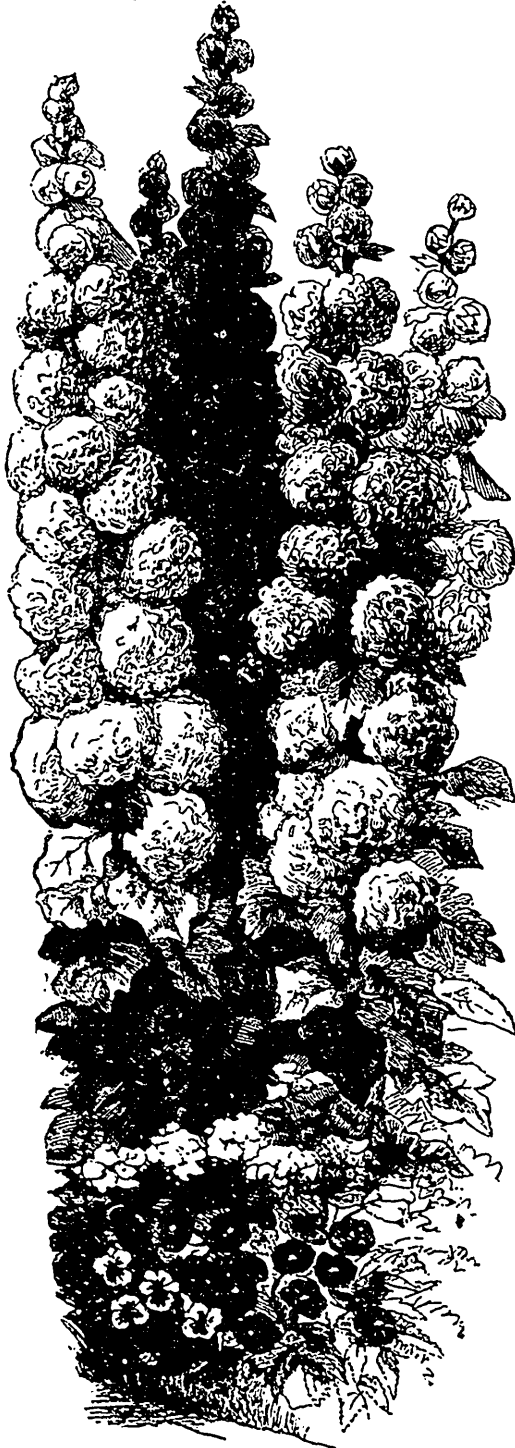


FIG. 2597. HOLLYHOCK.

pared for the warmer weather to follow. I would suggest not to leave them where they were planted the previous summer, as frequent transplanting will strengthen their blooming properties. This, the June issue of the Horticulturist, will give amateurs of the Horticulturist, will give amateurs

ing seed for their plants for next year, and I only hope many will avail themselves of the opportunity of so doing in order to have one of the finest species of plants in their gardens, not on account of its value as suitable for cut flowers, but as a decoration for the garden.

## ABOUT ROSES

MOST BEAUTIFUL IN THE MONTH OF JUNE—THE JACQUEMINOTS.

IT is the time of the roses! In every garden, ground, and on every lawn they give their beauty and their fragrance to every passer-by. The first surging wave of the opening summer breaks over our green hills bearing forward the high tide of the blossoming time of the queen of flowers. Roses are the perfect expression of the year's perfect month. It would seem that nature put forth all her subtle chemic force, all her arts and resources, all her power, to complete this particular floral expression of perfect beauty. There is but one real season for the roses, and that is brief. It comes in the fresh and peerless days of June the perfected month—ere yet the scorching heats of the full summer are upon us, or the burning skies of brass have come. The roses bloom when earth and sky are at their loveliest and their best; and of all the charming time and scene, they are the most beautiful. Our northern slopes and meadows are at their freshest, fullest vigor, now—clothing all the world in robes in the deepest verdure. The brooks are full, the singing birds of the morning have not ceased—the thrushes and the orioles; the rollicking music of the bobolink is heard all day above the buttercups and daisies of the field. June's skies, themselves, with their

“Far folded mists and gleaming balls of morn,” and the mists, to say nothing of the rains, are unusually abundant, this time—when they do, at times, roll apart, disclose depths of luminous smiling blue, far more charming than the unrelieved glare of the later summer. The season of the roses coincides with this time of general beauty in the landscape. Brief as it is, how exquisitely beautiful they make it! A rose garden is the most attractive part of the scene, wherever one finds it. Take a row, for example, of full-blown Jacqueminots!—what other rose, of all the queenly throng, can quite equal that royal flower—so deep, so rich, in its full-toned velvety scarlet. Even its half opened buds are more charming than those of almost any other rose. The “Jack,” as it is now tersely and conveniently called, is indeed a splendid variety. One element of its beauty is the peculiar deep shading of its royal red, like some rich velvet. It is as fragrant, too, as it is beautiful. One can only regret that the beauty of the individual flowers is so shortlived. One day only is permitted to its full perfection of glowing color. Then it begins to dull down into a less and less attractive purple, and it is best for the sake of the bush, to remove it so that the crowding succession of freshly opening buds can have the most perfect succession.

Their time, at best, is short. Nature ordains that the highest transports of pleasure shall be brief, and the law holds good of her varied and fleeting forms of beauty.

Other roses of many kinds are now opening into full bloom—several sorts being, each of them, almost as beautiful as the Jacqueminots. The so-called “hardy perpetuals” have nearly displaced the so-called “garden” roses—those old style varieties which bloom only once in the year. The so-called “perpetuals” are in most cases mis-called by that name; for the greater number, in our gardens generally, are the kind called (more properly) by the French gardeners *remontants*, flowers which bloom again and again, but have distinct and separate periods of bloom, through the season—none of these periods producing such splendid effects as this first, fullest, best period of June; while the true “perpetuals” bloom on, in a modified way, regardless of times and

periods. Of the *remontants* there are several superb varieties—one of the finest being the rich, clear, deep pink “Jules Margottin,” which hold their beauty longer than the “Jacks,” and their plump buds, opening very slowly, are also very attractive. Almost any one of the dozen favorite kinds will be a valuable addition to any garden that lacks roses, provided it is a hardy kind. Nearly or quite every variety does better for some protection, in this climate. As to the endless army of insect enemies, which ruin roses and their leaves, it will be found almost impossible to exterminate them by any of the usual remedies, hellebore, arsenic, or tobacco; the best thing is to give the rose bush an abundant supply of fertilizer, over winter as well as in spring, and the resulting vigorous growth will do more to prevent these pests than all the vaunted remedies will do to cure them when once established. —*Exchange*.

## ROSES WINTERKILLING.

I HAVE come to the conclusion that ex-culture in a country like this, where perience counts for very little in rose no two seasons come alike. I have not been in the habit of covering my roses until about the beginning of December, believing that it was better not to cover them too early. Last year was a wet and sloppy season throughout, and the new growth did not appear to ripen. During the first part of December came that very cold snap, a thing quite unlooked-for, and being from home my roses were left exposed to it. I covered them heavily with pea straw immediately after my return, but the damage had been done. It might have been better not to have covered them at all, for the close packing seemed to complete their destruction. When I took the covering off this spring, about the 10th

of April, all the new growth of last year was blackened to the ground, and something over two hundred bushes were totally destroyed. Many of them are shooting p again from the roots, but I will have little bloom this year.

I am not so sure that I did not cover too heavily, for soon as the straw was on there came a heavy snow fall which must, added to the straw, have had a smothering effect. First the unripened condition of the wood; secondly, the hard freezing, and thirdly, the close covering of straw and snow—to this combination of circumstances I owe my loss of 200 bushes and nearly all my bloom in roses for this season. Will there be a lesson in it for the future?

Mitchell, May 18:

T. H. RACE.

## EXPERIENCE WITH CANNAS

G. A. WOOLSON.

THE advent of *Canna Austria* marked an important era in the culture of these semi-tropical plants, which are now considered so essential to every lawn. The foretelling of its glory impressed me favorably, hence a fine specimen was duly installed in a prominent bed in my garden. Somewhere I had read that the variety "did best in poor soil." This I did not in the least believe, for I had had long and intimate acquaintance with cannas of many kinds, and had fully demonstrated their ability of appropriating for personal glorification the desirable elements in the richest and strongest soil which the ingenuity of man could concoct. Consequently I expected to break all previous records of the new acquisition.

Cow manure was liberally spread over the bed and the soil forked over and thrown out. Just what the excavation was filled with I positively refuse to tell. However, the reservoir was to serve as bank account for the plant to draw from later on. The soil was then thrown back and the bed got in shape. All went well for a while. Fine fresh leaves unrolled rapidly, but after a little they blanched strangely, turned brown and withered.

"Drench it with plain straight water," was the advice given, but of no avail. The roots had struck the reservoir, and deluging the soil only choked them with a bigger drink. My "center piece" was facetiously commented on. The roots were lifted in the fall, and as they were sound, but not vigorous, were ensconced in a 10-inch pot, given indifferent soil and placed in a sunny bay window. Liquid fertilizers were dutifully passed on to more appreciative cannas,

nevertheless nothing but leaves resulted; these were good to look at, and Madam Crozy and Gen de Miribel made up all deficiency of bloom, showing what a canna should and could do indoors in midwinter.

Last spring I cut down the stalks and divided the root growth into thirds; two of these were repotted in ordinary soil and a moderate allowance of liquid fertilizer given occasionally, but out of door pot culture was no more fruitful than that indoors, in fact the foliage was less luxuriant, owing to the more rapid evaporation of moisture in the open air. The third section was located in the poorest vein of soil my garden could furnish; some water was of course given, but assuredly the subject was not "fussed with." As a result thereof there stands in that usually barren spot a robust plant stretching its glorious spikes of clear yellow to a height of six feet. Individual flowers measure fully six inches across, and the larger petals are fully two inches wide. Obviously *Canna Austria* is a law unto itself, a fact demonstrated at the expense of a little personal conceit.

A dwarf canna (*Nellie Bowden*) growing close by, looked quite like a small edition of its "lily-flowered" superior. It is the only canna which might properly be called dainty looking, and it is that in leaf and flower, as both are small, trim and slender. The color is a little deeper yellow and lacks the clear transparency of petal; the two smallest petals are stained with red much deeper than the faint dots of *Austria*. This is also a free bloomer out of doors, but has never done anything indoors. The extreme height thus far attained is 38 inches.—*Amer. Agriculturist*.



## THE ESSENTIALS OF A GOOD LAWN.

THIS is the season when we are often asked how to establish a good lawn and insure its permanence. Downing names three essential requisites: (1) Deep soil; (2) proper kinds of grass, and (3) frequent mowing. For this climate I would add a fourth—that is, plenty of water. The air of an average American summer is not so well adapted to the production of a fine lawn as is the humid atmosphere of Great Britain. There not so much attention need be given to the richness of the soil, as the moisture takes its place in a measure. But in this country the soil should be deep and rich, with a subsoil capable of retaining moisture, but not in excess. If the subsoil is hard and tenacious it should be well under-drained and trenched, or subsoiled to a depth of sixteen or eighteen inches, so as to create a reservoir for holding moisture which may be drawn upon by the plants as needed during dry times. This matter of subsoiling does not receive the attention it deserves in our climate. Many persons seem to think that if the surface soil is in good condition nothing further is needed. Such persons should bear in mind that it is a deep soil only which will furnish moisture for grass roots through continued drought, so that the lawn will remain green during the entire summer and autumn.

Again, too much attention cannot be given to the preparation of the soil before the seed is sown. It should be plowed and re-plowed, cultivated, harrowed and rolled until the whole is thoroughly pulverized and mixed to a depth of ten inches. This work should be done in the fall and then the plot should be left to settle all winter before the seed is sown. The foundation will then be firm. This not only makes a compact bed which the tender grass roots need, but it will

insure the lawn against those little knolls and hollows which are so objectionable in appearance and do so much to obstruct the use of the mower.

Only two kinds of grass are really worthy of consideration for this climate. These are Kentucky Blue Grass (*Poa pratensis*), and Red Top (*Agrostis vulgaris*). There are a few others, such as Rhode Island Bent Grass, a finer kind of *Agrostis*, which may be sown, but it is more expensive and little superior to a good strain of Red Top. A little Sweet Vernal Grass, or White Clover, may be added, but neither is essential. The coarser grasses, such as Timothy, Orchard Grass of Meadow Fescue, should never be sown in a lawn. They are short-lived and too coarse and stiff to make a soft, velvety carpet. There are many lawn mixtures advertised and sold at high prices; some of them are good and will make excellent lawns; but, if analyzed, the best of them will be found to consist mainly of Blue Grass and Red Top, which may be bought in the market for from \$1.50 to \$2.50 a bushel.

To seed properly, from two to three bushels will be required to the acre, owing in some measure to the amount of chaff mixed with the seed. This should be sown as early in the spring as possible, so that the young plants may become well established before the hot dry weather of midsummer. The sowing of oats with the seed has been recommended as a protection to the young grass plants, but I have never yet found that a strong, grass-feeding plant like the oat would furnish protection to a delicate, slow-growing one. On the contrary, the so-called protector will rob the weaker plant of its nourishment. Red Top germinates much more quickly than Blue Grass, and will

furnish all the protection necessary, besides covering the surface with a green coat almost as quickly as oats will. After the Blue Grass gets its roots well established in deep rich soil it will need no further protection, but will assume entire control in a very short time.

The third essential is early and frequent mowing. If the grass is allowed to get too large before being cut, the stubble will be too stiff, and we lose that soft velvety character which is only produced by frequent mowing. It is time to begin as soon as the grass is tall enough for the mower to catch it. A few annual weeds which may make their appearance during the summer will do no harm, as they will be kept down by the mower and not allowed to ripen their seeds; but such perennials as the Docks, Dandelion, Plantains and their kind should be dug up as soon as they can be seen, and water must be in constant supply to feed the grass, keep

it green and growing. The deep-soil preparation will help to do this, but he is fortunate who can draw on some reservoir for occasional irrigation. Where water is always abundant less care need be given to fertilization, otherwise it will be well to top-dress the lawn early every spring with thirty or forty bushels of unleached ashes and three or four hundred pounds of bone-meal or superphosphate to the acre. This will keep the grass in thriving condition. Barn manure is too unsightly, and should not be used except in localities where snow covers the ground all winter, and then it should be raked off as early as possible in the spring. By following out the suggestions given here in providing the four essentials, we may have as fine lawns in this country as they do in England; lawns which will last a lifetime and be a continual source of pleasure to all who see them.—*Garden and Forest.*

## PANSIES.

I HAVE had in the heat of summer, where the sun lay till late in the afternoon, pansies an inch and three-quarters across, from seed two years old from the florist, and a ten cent packet in the beginning. I use a mixture of cow manure, partly rotted forest leaves and wood ashes. Three quarts of ashes to a bushel of manure is enough, but two-thirds of the soil of the bed of the manure and leaves is not too much for pansies. It makes no difference whether the manure is fresh or rotted, that I can see, but it is best to have it buried with a couple of inches of rich soil over it in which to set the seedlings.

A mulch of grass or leaves round the plants will keep the ground from drying, but if it is not rainy they should be watered every night. I think it is best to plant the seeds in a large box filled with the mixture mentioned, and in the same proportion; as

the seedlings are rather slow in growth they can be cared for easier in this way when small.

Young plants beginning to bloom, covered with evergreen boughs during the winter, bloom best in spring and early summer for me. And seeds planted as early as possible in the spring do best for late summer and fall. Pinching out the heart of the plants when small will make them branch more freely.

During the summer the size of the flowers can be kept up by watering two or three times a week with water in which cow manure has been soaked till the color of strong coffee; you can hardly give them too much of it; if it gets on the leaves rinse them with clean water. Pick off the faded blossoms. If you want seed tie a rag round the largest, finest blossoms, and leave but one seed-pod on a plant till ripe.—*Vick's Magazine.*



## The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 12th. It should be addressed to L. Woolverton, Grimsby, Ontario.

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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 arrearages must be paid. Returning your paper will not enable us to discontinue it, 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 money letters, subscriptions and business letters of every kind to the Secretary of the Ontario Fruit Growers Association, Department of Agriculture, Toronto.

POST OFFICE ORDERS, cheques, postal notes, etc., should be made payable to G. C. Creelman, Toronto.

### NOTICE.

Owing to the spring opening up so early, and to the great demand for premium plants this year, the nursery with which we made our arrangements for premium plants has run out of stock before all have been supplied. It was, therefore, deemed expedient by the executive committee to cancel all orders after May 15th rather than send out small or inferior plants to our subscribers. We now recommend that the delivery be suspended until the fall, and at that time bulbs or shrubs should be substituted. Further notice will be given in detail later in the season.

(Signed)

G. C. CREELMAN,  
Secretary.

### Question Drawer

#### HAIRY VETCH.

SIR,—Please give me your experience with the Hairy Vetch as a cover crop. How much should you sow per acre? Will it ripen its seed in Ontario?

Answered by Mr. C. A. Zavitz, O. A. C., Guelph.

We have grown the Hairy Vetch in our experimental grounds at Guelph for fully six years. It has been sown in the spring, in the summer, and in the autumn. The autumn sowing usually comes through the winter well, and gives slightly better results than the spring sowing. It is a leguminous crop, which seems to grow well when the weather is warm, as well as when it is cool. I consider it one of the best cover crops

which can be grown in the orchards of Southern Ontario. The quantity to be sown per acre depends somewhat upon the requirements of the crop. A light cover crop can be obtained from sowing one-half bushel of seed per acre. A much better and thicker matting can be formed by sowing one bushel per acre. For the production of fodder it is customary to sow one and one-half bushels per acre, which amount usually produces a large amount of fodder of excellent quality. It will ripen its seed in Ontario, but does not produce very large yields. The highest yield which we have obtained has been seven bushels of seed per acre.

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#### TREE PROTECTORS.

SIR,—I want a little information through the columns of the Horticulturist. I notice two different advertisements for the tree protector advertised in the Canadian Horticulturist. One is the Expansive Tree Protector Co. of Ontario and the other is the Tree Preservation Co. Will you please tell me which is the best, or is any of them any good, or has any leading fruit grower given them a thorough test, and would I need to spray my fruit trees as well; will the Aphis or any other insect get above the protector? I would like to get particulars from some experienced man.

Bruce's Landing, B. C.

J. B. BRUCE.

Answered by Prof. Lochhead, O. A. C., Guelph.

In replying to Mr. Bruce's inquiry regarding the merits of the two tree protectors which are advertised in the Canadian Horticulturist, I shall deal with the questions in order. First, I cannot state which is the better protector of the two, for I have not had sufficient experience with them. Second, that neither of them are useless, and both possess some good features. Third, many fruit growers have given them a thorough test, and some of them recommend them, but many others prefer the burlap. Fourth, these tree protectors will not take the place of spraying. Fruit trees must be sprayed at certain intervals for the prevention of fungus diseases and insects of many

kinds, only some of which can be entrapped by the tree protectors. The protectors will not keep away fungi, and applications of Bordeaux are necessary for their control. With regard to the Expansive Tree Protectors, I may quote from an article which I prepared for the annual report of the Entomological Society for 1902. "Recently another device for entrapping codling worms has been put on the market. It is known as the Expansive Tree Protector. It consists essentially of an expansive metallic collar, coated on its underside with a sticky substance, and a cloth band saturated with a poisonous liquid placed between the collar and the trunk of the tree. Although not in a position personally to test the device this year, I had an opportunity of inspecting many of them in different orchards. In nearly every case they failed to give satisfaction, and in some instances were positively harmful. In the first place they are difficult to fit to the trunk of the tree; secondly, the sticky substance did not hold the caterpillars, and other forms of insect life, or prevent them from crawling over it; thirdly, the poisonous band did not kill the insects which crawled beneath the collar; and fourthly, the bark of the tree immediately beneath the band was frequently seriously injured. In my humble opinion, decided improvements in the construction of this device must be made before it becomes effective."

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#### VEGETABLE GARDEN.

SIR,—I have been reading your journal (the Canadian Horticulturist) for two or three years and always enjoy it very much. I have noticed the "Question Drawer" and desire to ask a question or two. My father has given me a large plot of ground and I thought if I could make a vegetable garden I might make some pocket money. What vegetable would be the most remunerative; also, is there any market where I could sell sweet peas and field daisies? I hope you will be able to find time to reply soon and that this isn't too much of an imposition on your valuable time.

Orangeville.

FLORENCE ENDACOTT.

As to what are the most remunerative crops to grow can best be determined by experience of gardeners in your locality, as what does well and pays well in one locality is often a failure in another. If one has a good local market a large number of garden crops can be grown at a profit, but if the produce has to be shipped to a distant market it is better to make a specialty of a few of those crops which stand shipment well and are always in demand, such as asparagus, cauliflowers, celery, onions, potatoes, tomatoes, etc. We know of no market for sweet peas and daisies. These are usually grown in such abundance that only those who live in the large cities, who cannot find room to grow them for themselves, could be counted on as customers.

CLEMATIS FAILING.

Sir,—I have planted Jackmanii, Henryii, and other varieties of Clematis for three years in succession to shade a verandah having an easterly frontage, close to Lake Ontario. They are carefully planted, and do well until they commence to bloom, then something happens to them, the blooms droop: and the plant gradually dies. Out of the five Clematis planted last spring, only one survived the summer. I have found "cut worms" about the roots of some that have been destroyed, but could find none in this instance. Clematis on verandahs having a north and southerly exposure have always done well.

Prof. Hutt, of the O. A. C., Guelph, replies.

It is hardly likely that the difference in exposure is the sole cause of the difference in the growth of the clematis. It is possible that the excavation from the cellar may

have been left on the eastern side of the building and not on the other sides, where plants have done well. This often causes the failure of plants grown near the house. In the case of the plants last year, starting well but dying off suddenly, it would appear that something like cut worms must have been at work. In putting out new plants where cut worms are troublesome, it is well to protect them by a band of stout brown paper inserted into the soil and encircling the stem for five or six inches upwards.

Open Letter

The Editor Canadian Horticulturist :

SIR,—When a horticultural society is flourishing I think it is a good thing to let others know it, so that those who are not making good headway may take courage. I am pleased to tell you that through the enthusiasm of two or three of our members our growth this year has been very good; our meetings also have had increased value by the recognition of our work. Mr. C. C. James (Deputy Minister of Agriculture) has helped us much with gentlemen from his department. In March Mr. Hodgetts gave us a valuable address on Insects, and on the 5th inst. Mr. W. Hunt, from the college at Guelph, instructed us fully and pleasantly on the Culture and Care of Roses. These addresses were much appreciated by our members and friends because they were useful. Mr. Hunt demonstrated his work on dormant and growing rose bushes, to show how to prune both root and branch. Vocal and instrumental music is kindly given, so that the evening is pleasantly spent. We have an exhibition of plants and flowers each month, points of excellence are made and recorded, and at the end of the year prizes are given. We are trying to do some good. Yours truly,

Toronto.

Edw. Tyrrell, President.

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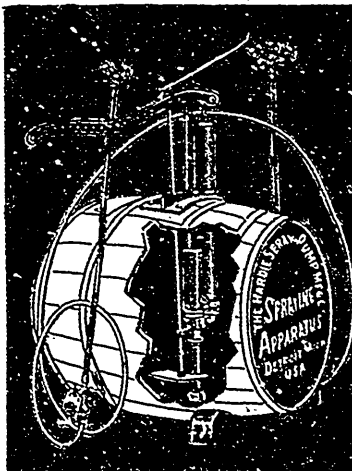
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