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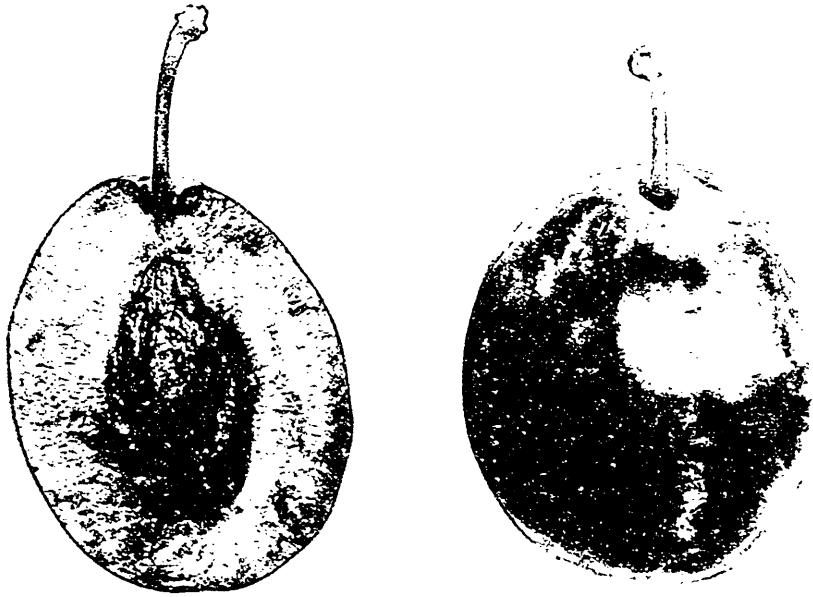


FIG. 257. BRADSHAW PIPPIN.

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BRADSHAW PLUM

(NIAGARA. BLUE IMPERIAL.)

CONSIDERED by many one of the most valuable of the European varieties, whether for home use or market, because of its fine quality, its large size and beautiful appearance.

Tree. Erect, vigorous, very productive, somewhat subject to black knot.

Fruit.—Large, $2\frac{1}{4} \times 1\frac{1}{2}$; stalk one inch long, slightly curved; color, reddish purple, with blue bloom, apex round, slightly de-

pressed; suture on one side, broad and shallow.

Flesh.—Color, yellowish, juicy, tender; flavor, rich and sweet; pit, long thin oval, $1\frac{1}{4} \times \frac{7}{8}$, partial cling.

Quality.—Dessert, very good; cooking very good.

Value.—Near markets; first-class.

Season.—August 15th to 30th.

Notes and Comments

PLUM GROWING IN ONTARIO

A GREAT advance in plum growing has been made in Ontario during the last twenty years. Before that fruit growing had scarcely developed into a special line of agriculture, and plums especially were neglected because it was generally supposed that the curculio would take them all, as it already did the fruit of the few trees of the garden. But by and by it was found possible to grow the plum in such a quantity as to feed both man and curculio, until now some growers

even count this insect a friendly helper in thinning the crop.

Encouraged in this way large orchards have of late been planted in many parts of Ontario, especially along the southern shore of the Georgian Bay, and the north shore of Lake Erie and the shore bordering the head of Lake Ontario.

THE EUROPEAN PLUMS

FOR excellence of quality no class of plums can be compared to the European or Domestica class. For hundreds of

years these plums have been grown and improved under special cultivation and selection by the gardeners of Europe and Asia, and where these succeed as they do in the southern parts of this Province, there is no reason why they should not be planted freely for commercial purposes. For convenience sake they have been divided into several subclasses, as for example: (1) The Gages, roundish plums, green or yellow in color, with green flesh, including Reine Claude, Green and Imperial Gage, Washington and General Hand; (2) the Prunes, oval plums, blue purple in color and rather firm, greenish yellow flesh, including the German Prunes and Prune d' Agen; (3) the blue plums with large oval fruit, dark blue in color, with firm yellow flesh, including such varieties as Kingston, Quackenbos, Shipper and Arctic; and (4) the Red plums, of which the fruit is obovate, purplish with thin skin and soft juicy flesh, as Bradshaw, Victoria, Pond, Duane and Lombard.

Of course the above distinctions are more or less arbitrary, for, in these days of cross breeding, classes are being more and more obliterated and individuality alone seems to remain for study. For the home garden a large assortment of these plums is most interesting and desirable, but for the commercial orchard it is best to make the list as limited as possible and to plant only three or four of the very best varieties. The time to decide upon what varieties are most profitable for one to grow is just now in plum season when the fruit is being harvested and sold.

PICKING AND MARKET PLUMS

PLUMS need to be handled a little on the green side, especially the "Red Plums," such as Bradshaw, which quickly become too ripe to ship, and indeed they cannot well be sent to very distant markets. The Prunes are much better shippers, and this class of plums is being forwarded by

steamer from Collingwood for distribution to towns on the north shore of Lake Huron and points farther west.

Plums in Ontario have usually been packed in a basket containing eleven quarts, but since new sizes have been introduced this basket will be discarded for one holding twelve imperial quarts, which is rather large for plums. A very suitable standard sized basket for choice plums is the 6 $\frac{2}{3}$ quart basket, which also holds about nine pounds, and will soon become a favorite basket for all kinds of choice tenderfruit in our markets.

TOO MANY VARIETIES OF PLUMS GROWN

IT IS an old saying, that you should not put out all your eggs in one basket, for an accident might cause the loss of all, and no doubt this applies to plums as well as to eggs; and yet the more common mistake is the planting of too many varieties. Not knowing anything about them the young planter is guided almost entirely by the agent or by the nurseryman's catalogue, from which it would seem desirable to plant the whole list, for all of them are lauded most highly. Just here the work of our fruit stations comes in, to determine the varieties best suited to each section for home use and for market, and the reports from the experimenters will prove more valuable each year.

Mr. L. L. Hagar has 2800 bearing plum trees, and has planted such varieties as Washington, Bradshaw, Yellow Egg, Quackenbos, Reine Claude, etc. The first two varieties have been favorites with him, but this year the Washington nearly all dropped off. The Bradshaws were too full, and needed thinning by nearly one-half. On the whole, the Bradshaw has been a favorite variety for profit in Mr. Hagar's orchard.

"My principal varieties for profit are Bradshaw, Reine Claude, Quackenbos, and Gueii," said Mr. Albert Smith, "and these

are all overloaded with fruit this season. The Yellow Egg would be a favorite were it not so much inclined to rot. The Washington is another fine plum, but it is a little tender for shipment."

"I would not place Bradshaw at the head of the list for profit," said Mr. Ira VanDuzer, an experienced Winona fruit grower. "I find it too early for canning purposes—people are not quite ready for putting up plums by the middle of August. The variety which I find most in demand and which I would plant with the most confidence, is the Reine Claude. It is the favorite plum for canning, and indeed no plum equals it in quality for this purpose. It is in great favor and yearly gaining ground; it commands a good price, and is equal to Bradshaw in productiveness, if it does not excel that excellent variety.

SAND VS. CLAY SOIL FOR FRUIT

AN erroneous notion prevails that clay soil is not suitable for fruit culture, whereas the experience of many is quite in favor of clay soil, if not too stiff for cultivation. At "Maplehurst" we have tried both soils for apples, and have taken the largest and finest fruit off clay loam where well cultivated. This latter condition is of course perfectly essential, with such soil, otherwise the very worst results will follow. The lazy farmer had better plant on sand, which may endure neglect, but the industrious cultivator will value his heavier soil for many fruits. Our vineyard at "Maplehurst" is on a deep, rich sandy loam, and produces good crops of Concord grapes, but Mr. F. G. H. Pattison has his vineyard on clay soil, and always surprises us by marketing his Concord a week or so in advance of us, and declares his are sweeter in flavor as well as earlier in season.

Writers on horticulture have always advised planting the cherry on sandy soil, but as stated on page 312, Mr. W. M. Orr, of

Winona, finds his cherry trees on clay loam longer lived and more productive than those planted on sandy loam.

"My Washington trees on sandy soil," said Mr. Albert Smith, "are all dropping all their fruit this year, but those on the clay are holding it very well. We always thought our farm too heavy for fruit growing, but recently we have found that we can produce as good fruit as any one by giving good cultivation. The soil of that plum orchard has received the best of tillage, and yet it has not been plowed for three years; the work is done with the disc and cultivator.

CHERRIES ON CLAY SOIL

THE objection to a rich, deep sandy loam for the cherry lies in its encouraging too great wood growth, which robs the fruit buds of their vigor. We have the Windsor cherry planted on such soil, and our experience has been unfavorable. The trees grow most vigorously, but the fruitage is only moderate, and the cherries seem almost as much inclined to rot as the Napoleon. We harvested our crop before it was fully ripe to save it from rotting, and a week later, about July 25th, Mr. Albert Smith was only beginning to harvest his Elkhorn and Windsor. His orchard was on clay soil; the trees were not half as vigorous in wood growth as ours, but the yield per foot of bearing wood was fully double. Indeed, the productiveness of his trees was enormous, and still more noticeable was the freedom from rot. What else could it be but the difference in soil? Not only were his cherries a heavier crop, but by hanging a week longer they were very much larger and better colored, which gave him a great advantage in selling price for his fruit.

WET SOIL WILL NOT DO

One caution must, however, be observed, whether sandy or clay soil be chosen, and

that is, it must be dry. Standing water about the roots of cherry trees will certainly stunt or else wholly destroy them, and for this reason many writers advise planting sweet cherry trees only on elevated, light, dry soils.

GOOD VARIETIES OF PEARS FOR EXPORT

OF the early varieties of Canadian pears the Clapp's Favorite and the Bartlett are the best, but the latter is sent forward with much the greater risk, because it ripens so rapidly, and unless all the cold storage is perfect from start to finish, they are almost sure to arrive in an over-ripe condition. The Clapp's Favorite is such a beautiful appearing pear, so large in size, and, if gathered at the proper season, so good in flavor, that it seems well adapted for early export. Prof. Robertson, in speaking of Clapp's Favorite in the same report, said: "I would like to read you one other brief reference from The North of England Brokers, Limited, of Manchester: The quality of those you sent was most excellent, especially Clapp's Favorite, but there will have to be great improvement in the cold storage arrangements for transit, and much more care exercised to make the temperature suit the fruit, maintaining the same degree all through the voyage. If they could only be put in this market in the same condition in which they are put on your markets, good business would be done."

Another excellent variety is the Duchess, when grown large, clean and free from curculio knots. Such pears, carefully graded as to size, may be shipped with confidence, for they are slower in ripening and will bring the highest prices in any of the British markets. Where the soil is suitable, probably no variety would be more desirable to plant in quantity for export. Of other varieties we have several that have proved themselves safe to export for profit, such as Bosc, Clairgeau, Diel, Lawrence and Anjou.

The latter is a special favorite. The Kieffer is still on the doubtful list. There is little trouble in its reaching England in perfect condition, the only trouble is in its quality, which is most disappointing, and it is seldom wanted twice by the same buyer except for canning.

APPLES IN BOXES

FOR several years past the writer has been exporting a portion of his finest apples in boxes with good satisfaction. It may not have been altogether due to the boxes, but rather the greater care taken in putting up fancy samples in a small package. Some of our early apples were put up in half bushel cases, but these were too small for apples. Quoting on this point Prof. Robertson says: "I have only little to say about apples. We sent over altogether 146 packages. They were all landed in good condition. Nearly all pleased well, but there was a common complaint that the packages were much too small, holding only from 14 to 16 lbs. net of apples in each. We found these too small. They netted some fair prices, considering the size, but still they did not pay. Taking off the expenses, which were very heavy, these small packages netted anywhere from 5 or 6 cents up to 22 and 25 and 30 cents, which, after all, is a good price for 15 lbs of apples. A 40 or 50 pound case is the case that they want as a minimum for fancy apples. We sent some half bushel and some bushel cases. Here is one report: Apples—Speaking generally, we beg to say that in our judgment these boxes are much too small for apples. We think that apples should never be put, at this time of year, in boxes containing less than 40 lbs. That is still a small package. For the last six weeks very large quantities of English eating apples have come in our market and been sold at an average of six shillings per hundred weight, which were quite as good

a quality and better condition than the shipped ones. Our English apples have not the color that yours have, but we are inclined to think that the expense of wrapping them in paper and putting them in small packages, as was done in this case, is at this time of year inadvisable." The same people wrote me a letter—a letter which I received only yesterday. It is not confidential, therefore I use the names. "By the S. S. Manchester Trader we received from Messrs. Pettit & Son and Mr. Andrews, of Grimsby, Ont., consignments of apples in boxes of about 45 to 50 lbs. gross. The quality and size were good, and such will always command good prices. We have written Messrs. Pettit and Andrews, advising them to send all they can, if they can ship the same quality and size, as we feel sure they will do well. We would be pleased if you would advise any of your shippers if they hold this A 1 stock to ship it here, packed in 40 lbs. net boxes, and the apples wrapped in tissue paper. It is no use sending small or medium sized fruit, as there is plenty of this kind on the market." Those apples, looking down the sales, sold from seven shillings, and in fact one lot of seven cases as high as 9s., from 9s. down to 4s. 6d. per case for everything except the samples. These are substantial good prices for 40 lbs. of apples.

At the same rate of expense as the shipments made by the Department, a package that size would cost about 40 cents for transportation and selling expenses. The freight charges varied according to the rates that prevailed on the ocean, and also as to whether a full carload was sent. If they sold for 7s. with 40 cents to come off, they would net about \$1.28 per box.

EXORBITANT FREIGHT CHARGES

TWENTY five years ago, very little fruit was sent by freight. It was thought necessary to send it by express notwith-

standing the exorbitant rates. Soon however it was found that the Express company was receiving all the profits and that very little was left to the poor fruit grower for his labor. The writer once shipped 300 baskets of peaches to Montreal. They were magnificent Crawfords, but the market was glutted and the whole lot sold for \$111.00, of which \$80.00 was taken by the express company for charges! Such outrageous charges led us to seek the fast freight service, which has been a great relief, but now that immense quantities of fruit are being sent forward, even the freight rates are far too high. Why, for example, should a car of grapes be carried from St. Catharines to Montreal for \$50.00 and other fruit for \$66.00? The fruits are now all put up in the same kind of packages, there is no more trouble handling the one than the other, why then the discrimination? This matter of transportation charges is most important, and has been referred to a committee of our Association, upon which rests the responsibility of bringing before the company the necessity of entirely new classification rates and lower charges for carrying fruit. We would suggest that local fruit growers' associations also take action to support our efforts.

GRADE MARKS FOR APPLES

NOTWITHSTANDING that the Fruit Marks Act permits the use of various terms to designate No. 1, No. 2, and No. 3 apples, it is most desirable in the interests of both seller and buyer that uniform terms should be adopted and defined. Nothing is simpler than the X's suggested by inspectors Lick and Carey at their Prince Edward County meetings; XXX standing for No. 1 fruit, which means that it shall be sound, uniform and at least 90 per cent clear of blemishes; XX for No. 2, and X for No. 3. In addition of course the shipper may add the word "extra" or "fancy" to

denote high color or unusual excellence. The most difficult thing for the ordinary shipper to do will be to assort to anything like a uniform size, unless he is fortunate enough to own a grader. He cannot trust his eye, and unless he is confident of the size, it is unsafe to mark it on the package, lest he lay himself open to a charge of fraud.

In our own packing, we have included size under these grades, as being most convenient in practice; and apples $2\frac{1}{4}$ inches in diameter are placed in grade X; $2\frac{1}{2}$ inches in grade XX, and $2\frac{3}{4}$ inches in grade XXX, while apples above that will be stamped "extra."

THE DUCHESS APPLE

THIS beautiful variety contests the first place as an early summer apple, with the Red Astracan. It does not ripen quite so rapidly, and this gives it the advantage for export. One of the largest Duchess orchards in the world, says our contemporary the Sun, is probably the one of Dr. Young's, at Young's Point near Picton. He has 5000 trees of this one variety from which he began shipping fruit to Montreal the last week in July, and at the same time the writer began shipping Astrachans to Ottawa.

EXPORT OF PEARS

THE export of our pears to the British market will always be more or less regulated by the prices in the Canadian market. When No. 1 pears, averaging $2\frac{1}{2}$ inches in diameter, net us less at home than 40 cents a twelve quart basket, there is little doubt that more money will be made in exporting them. Shipments have been forwarded by us every year now for five years past, and with very few exceptions, and these only when arriving over ripe, pears have netted us satisfactory prices. In the year of 1900 there were 2740 half bushel cases of pears forwarded, and the following extract from Professor Robert-

son's statements in our report will be worth quoting just now, when a good many pear growers are considering the wisdom of making trial shipments to the British market.

"The returns from the pears vary very much, partly owing to the size of the pears and partly owing to the condition of the pears as to ripeness. Some pears landed a little too ripe, "dozy," and then later shipments were landed too green. Pears should be picked when the pips are about to turn brown. In the case of the very tender pears they should be picked *just before the pips turn brown*. If the late pears are packed in that condition they do not ripen in that way and then the English buyer cuts the pear down and looks at that part, if the pips are too brown he says they are going toward decay, and they go into the hands of the jobbers. A very early and tender pear should be picked at an earlier stage of ripeness than the latter pears which do not ripen so quickly. We all know that principle, but we have forgotten to put it in practice in the actual management of the shipping business. Here are the figures of one of the early lots; 55 packages from Mr. Woolverton were sold for 86.4 cents and netted 50 cents at Grimsby. The packages held about 16 or 18 lbs., the large ones a little more than that. The report to me from Manchester was that that was the actual weight of the pears. 95 packages from Mr. Van Duzer were sold at 93.7 cents netting 52.6 cents, and 145 packages of Bartletts, especially good, were sold in Manchester for \$1.07 and netted in Grimsby \$1.54 per case after all expenses were off.

The fruit shipped by D. J. McKinnon & Sons sold as follows; First lot, 74 packages, were sold at \$1.07 in London, and netted 85 cents in Grimsby; Second lot, 77 packages, were sold at \$1.21 in Manchester, and netted 82.2 cents, in Grimsby; Third lot, 65 packages, were sold at \$1.10 in Bristol, and netted 71.1 cents in Grimsby;

Fourth lot, 60 packages, were sold at \$1.23 in London, and netted 64.7 cents in Grimsby; Fifth lot, 11 packages, were sold at \$1.90 in London, and netted \$1.34 in Grimsby; Sixth lot, 32 packages, were sold at \$1.07 in London, and netted 64 cents in Grimsby.

These differences seem inexplicable, but the correspondence and my reports from Grimsby and from our agent in London, indicated that every time when the pears were superior in quality, in size, and just right in condition, they fetched extreme prices and there was a great demand for them; whereas, when the pears were small in size or not in good condition, they struck a poor market. If you read the correspondence you would see the reason for the extreme differences in price in the same markets for fruit from the same shippers. Here are the returns from A. H. Pettit & Son; First lot 6 packages, were sold at \$1.50 in London, and netted \$1.14 in Grimsby; second lot 5 packages, were sold at \$1.22 in Manchester, and netted 83 cents in Grimsby; Third lot, 15 packages, were sold at \$1.21 in Bristol, and netted 72.6 cents in Grimsby; Fourth lot, 80 packages, were sold at \$1.14 in London, and netted 55.5 cents in Grimsby; Fifth lot, 242 packages, were sold at \$1.97 in London, and netted \$1.40 in Grimsby; Sixth lot, 132 packages, were sold at \$1.60 in London, and netted \$1.14 in Grimsby.

The larger the lots the better they sell. If I were to quote you all the large lots only I would give you the best prices in every market. I mean, an appreciable quantity will fetch higher prices in than five or six cases of a sort. All you want at this meeting are instances giving general information. I want to read a few letters in that connection. This is from the Consignee in Covent Garden, London, in regard to the size of pears: "We notice that most of your fruit is small. Now a small pear on this market does not sell well. It must be large, bold, clear

stuff. That is the reason of the success of California Pears." Now, that is the same firm that sold pears of ours later on at good prices when we sent what they wanted. "We think the size of pears you send should be no smaller than 60 or 62 in a case. When you get them up to 100 and 122 in a half bushel case, that is very small."

PROTECT THE FRIENDLY BIRDS

THE fruit grower is rightly indignant when at length after many years of careful cultivation and patient waiting he sees his first crop of beautiful cherries devoured by the Cedar Waxwing; but when he considers the benefit these birds confer, he should "forgive and forget." As advised on page 312, we should rather plant cherry trees purposely to grow food for them, and thus encourage them as helpers in our industry; for although they destroy great quantities of cherries, they are chiefly engaged in destroying insects, which if allowed to increase would be still more harmful. Forbes, in the report of Michigan State Horticultural Society, says, "This bird eats one hundred canker worms daily," and Beall, reporting for the United States Department of Agriculture, says, "The Cedar birds eat a certain amount of insect food at all times, when it can be obtained, and the greatest number of insects in the month of May, with a decrease during the succeeding months until September, when the percentage again rises, and that the young, while in the nest, are fed to a great extent on insect food."

OATS AS A COVER CROP

SINCE the great freeze of 1808, when whole orchards of fruit trees were destroyed and when nearly all the peach orchards in the County of Essex were killed at the root, unless some winter protection was given, the importance of cover crops has become more and more acknowledged

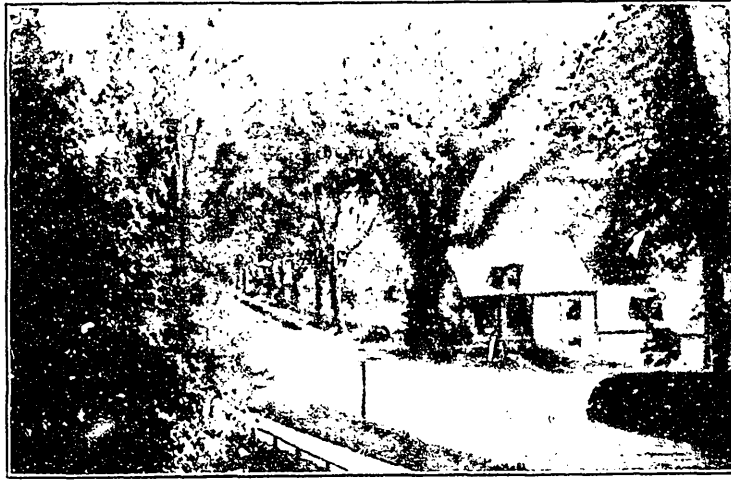


FIG. 2379.

Grass and trees have made this street beautiful.

among fruit growers. Crimson clover has been a favorite with many, while others have used rape and some rye. The latter has been used the last year or two, but unless ploughed under early in the spring, it causes a heavy drain upon the moisture in the soil and is thus an injury to growing plants.

At the meeting of Western New York fruit growers a Michigan fruit grower said that he had had more satisfaction with oats as an orchard cover crop, because it was a complete protection, at the same time dying down so that it did not become a drain upon the soil. Prof. Taft, Horticulturist at the Michigan Agricultural College, has been experimenting along this line, and his report for 1901 says:—

Oats seeded alone as an orchard-cover grew 15 to 18 inches high. They held snow and leaves during the winter, lessened the freezing and thawing of the soil, and also prevented the soil from freezing to as great a depth as on uncovered soils. The lessening of the injury from frost is considered one of the most vitally important results to be secured with orchard cover crops. Where

oats are used as a cover crop the ground in the spring was practically free from weeds and remained moist considerably longer than where other crops were used. The oats were easily worked in with a disk harrow, and it is estimated that the cost of cultivating the orchard when oats were used was fully one-third less than when crimson clover was used. Rape and turnips used as cover crops, while fairly satisfactory, were unsightly during the winter and gave off an offensive odor. Crimson clover seeded with oats was less satisfactory than either sewn alone.

THE UP-TO-DATE TOWN

THERE is no more important work before our Horticultural Societies than that of civic improvement. American towns are awakening to the possibilities before them, each emulating the zeal of the other to such an extent that every man of taste and ability as a landscape architect is being pressed into active service. Nor is Ontario far behind, for the lawns and gardens of Hamilton and Toronto never presented a more beautiful appearance, and public sentiment demands an extension of the parks and

boulevards. "The value of the park to my mind," says Mr. Price in the first report of the Iowa Park and Forestry Association,* "is four fold; namely, sanitary, educational, commercial, and as a place of rest. First and primarily it ought to be a place of rest where the laboring class may come after their day's work is done and find to some extent the freedom of the country. Not only to the laboring class, but to all classes the park furnishes a place of rest. With abundance of shade and plenty of lawn, and no signs "Keep off the grass," the park is the popular resort both day and evenings for four months in the year.

In the park, for comfort, we need plenty of seats so that those who come may find vacant seats inviting them to sit down and rest awhile. I want to emphasize the importance of good grass in the park and the perfect liberty to come and go at will. To my mind a good lawn with the sign "Keep off the grass" stuck up is like showing a

*This report may be had for 22c from L. H. Pammel, Secretary, Ames, Iowa.

person a room covered with a beautiful carpet, and telling him he must not step on it; that it is made to look at, not for use. For real downright comfort and rest there is nothing like good grass where you may stretch out and, as Whitcombe Riley says:

"Lay out there and try to see
Jes how lazy you kin be.
Tumble round and souse your head
In the clover bl-om, er pull
Yer straw hat acrost yer eyes
And peak through it at the skies."

EDUCATIONAL VALUE OF A PARK

Strange that we should cling to the notion that all learning must be through books, the driest, duldest way of acquiring it. *There is a royal road to learning*, and that is through the eyes; and we learn many things faster by observation than by reading; and this is especially true of studying nature. The educational value of public park, if planted with a systematic collection of trees and shrubs, is beyond estimation, not only for the ordinary citizen, but also for the students of the schools and colleges, who here see the living subjects of their botanical studies.

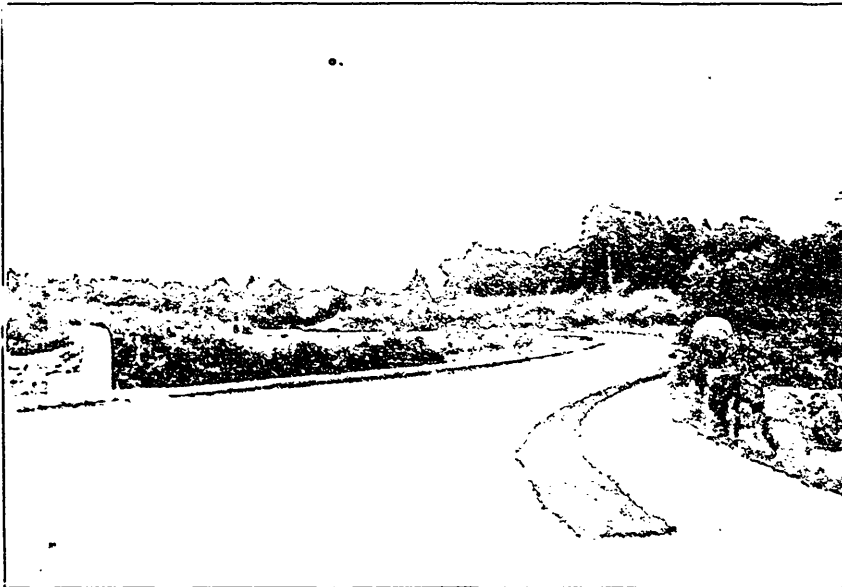


FIG. 238a. ENTRANCE TO ARNOLD ARBORETUM, BOSTON PARK SYSTEM.

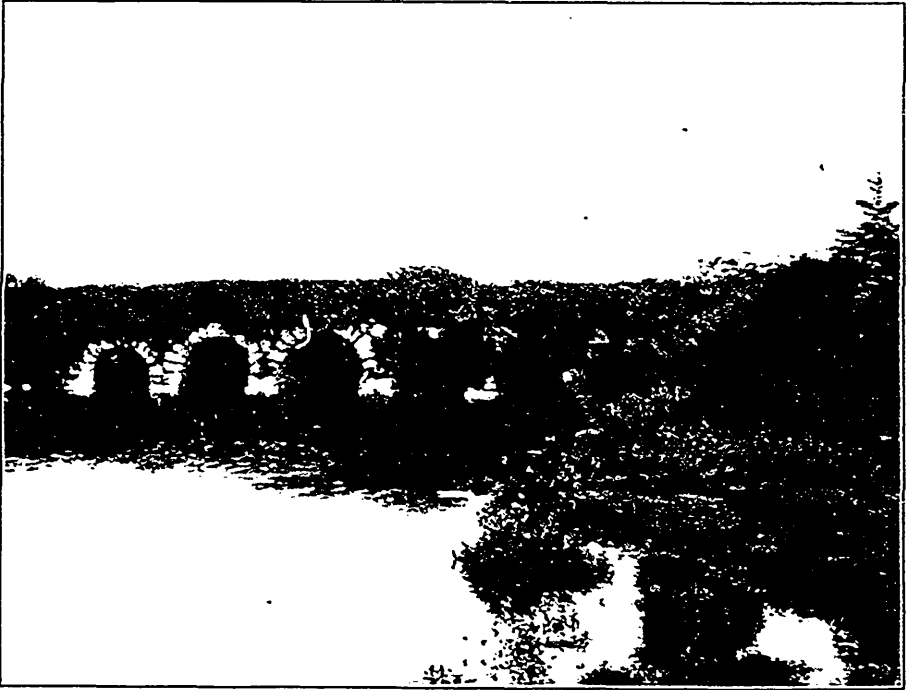


FIG. 2381. AGASSIZ BRIDGE, BOSTON.

Crossed by members of American Park and Out Door Association during their excursion.

LANDSCAPE ART

The time is past when a town or city can afford to simply make an enclosure and call it a park. Public taste is growing rapidly, fostered by our Horticultural and Civic Improvement Societies, and no park should be made without carefully studied plan, by one who is an expert. "Effective landscape gardening," says Klehm in "The Iowa Park and Forestry Association Report," "is an art, which is only acquired by considerable study, taste and judgment on the part of the artist engaged on its execution. The art has reference chiefly to the laying out of grounds and the arrangements and planting of trees, shrubs and plants in such a manner as to eventually produce the most pleasing effect; so far as circumstances in individual cases admits. Definite ideas are absolutely necessary and no attempt should be made in

laying out, or improving grounds, without the fullest consideration being given first and the results calculated to prove certain.

POPULARISING PUBLIC PARKS

THIS was the subject of an interesting address by Dr. Elliot, president of Harvard University, before the American Park and Out Door Association, which met in Boston the first week in August. To enjoy a park, one must do more than ride through it, one must walk about; posts to tie horses are therefore essential, and seats for tired pedestrians. Announcements should be made of the seasons when shrubs and flowers are in bloom, and these should be in such profusion that no restriction will be needed about plucking; the grass should be for use as well as beauty, and no sign, "Keep off the grass," set up; every en-

couragement should be given for eating in the open air; for sketching and the use of the camera, thus leading the citizen out into contact with nature to become a student of her beauty. It was a courteous thing of the doctor, now over thirty years president of Harvard, to conduct our party through the yards and halls of the great university, pointing out the interesting features.

SCHOOL GARDEN WORK

This was treated by D. J. Crosby, of the Department of Agriculture, Washington, D. C., who divided them into teachers' gardens and pupils' gardens, the former being for the aid to the teaching, and often utilized to help make up the teacher's salary, which is the European method; and the

latter being entirely in the pupils interest, who is entirely responsible for their keeping. In Europe there are over 100,000 school gardens, and the scheme is being widely adopted in America.

Our excursions about the city were highly educative, affording a fine study of school playgrounds, school gardens, and opportunities of views in the Charleston and Franklin parks, such as not surpassed for picturesque beauty anywhere in North America. Nor must we omit a mention of the Arnold Arboretum with its wonderful collection of trees and shrubs, where of lilacs alone we passed one continuous group of one hundred and sixty varieties.

RAILWAY STATION GROUNDS

NEED OF IMPROVEMENT—GRAND TRUNK AND CANADIAN PACIFIC STATIONS COMPARED WITH BOSTON AND ALBANY RAILWAY STATIONS—NOTES BY THE EDITOR

THE spirit of improvement is so generally discussed that it has even reached the Railway Corporations, and is evidenced in the transformation of the barren spots of sand and rubbish about their stations, bridges and terminals into lovely little lawns, bordered with pretty shrubbery and enlivened with beautiful flowers. The old fashioned stations along the line of the Grand Trunk, which were devoid of architectural features, are now being replaced by others of beautiful designs, and in some cases decorated with beautiful climbers. "It is one object of the American Park and Out Door Association," in the words of ex-president Holden at our Milwaukee meeting, to teach the owners of railroads to build beautiful depots, to lay out pretty gardens and grounds about them, to make the pathway through the country in which their

roads run attractive. It is our mission to go through the school districts of the country, where there is so much neglect, and help school boards to lay out grounds, plant trees, and make handsome play-grounds for the children, and when new school houses are built to make them things of beauty, and not simply dry-goods boxes or brick vaults without form or color or any other attraction."

"I am pleased to note," said president E. J. Parker, "that the New York Central Railroad has recently engaged the services of a landscape architect. I am at present urging upon the officials of the Chicago, Burlington and Quincy Railroad that they stop planting annuals and adopt the use of native shrubs and trees. The annuals are but short lived, passing away with the first frost, and much could be done by the rail-

roads to beautify their stations; have unsightly buildings hidden, and make their roads attractive by judicious planting of trees, shrubs and vines."

In a recent journey to Boston, the writer was particularly charmed with the landscape art displayed about the stations of the Boston and Albany Railroad, shrubbery being so disposed along the carriage drive and turns as to charm the eye without interfering with their usefulness.

"The transformation effected by the Boston and Albany Railroad, says W. H. Manning, Secretary of the American Park and Out Door Association: "is too well known to need much comment. Its stations and surroundings are known all over the country for their beautiful appearance and economy of arrangement. An expert gardener, with a corps of assistants,

gives his entire time to the work which covers sixty acres. Although the road maintains a nursery of hardy plants near Boston, the stations themselves are practically its real nurseries, the plants being thinned out and cuttings made at regular intervals. The scheme of planting this road is unique, in that flowering shrubs and trees

are the sole material used, invariably suitable materials for the combat with cinders, soot, dust and drought, in which the issue is the 'survival of the toughest.' The composition of the shrubs and trees remains beautiful after the leaves have fallen; and the bright berries of autumn and winter are no slight compensation for the mass flowers and verdure of the spring and summer. The 'carpet gardening' about stations on other roads



FIG. 2382. AN ATTRACTIVE RAILWAY STATION.



FIG. 2383. WELL PLANTED HERBACEOUS BORDER.

means only empty beds of dirt and cinders in winter.

"The General Manager of the Grand Rapids and Indiana Railway Company is thoroughly in accord with the spirit of this Association and believes that the object lesson furnished by efforts to improve and beautify station grounds conduces to better care on the part of employees, and further, that the public generally appreciates such efforts, and that wanton trespassing upon or defacement of corporate property is consequently much lessened. Besides planting trees, shrubs and annuals, this road is improving the condition of its buildings, and compelling owners of buildings upon property leased from the company to remove those that are unnecessary and unsightly, and to repair and paint others."

At Warren and Rochdale stations on the Boston and Albany Railroad, we notice that the walks and drives are bordered by beautiful lawns and clumps of shrubbery, the latter so disposed as to hide objectionable features and boundary lines; and at Rochdale, an elevated bank opposite the station, extending from a bridge east of the station to the west of it, affords a capital

opportunity for a continuous planting of shrubbery, backing a fine extent of green lawn. At Palmer a stone wall opposite the station is thickly covered with Boston Ivy, transforming it into a thing of beauty, while the well-kept lawn to the east is backed by irregular groups of shrubbery, and bordered on the south side by shade trees, while across it runs a gravel walk with a circular summer house with open sides at each approach.

Our Canadian Railways, especially the C.P.R., have begun to devote some attention to the station gardens, but great opportunities are open for transforming into beauty spots the ugly and most repulsive surroundings of our Canadian railway stations. This work should not be done haphazard, for while gardeners may carry out plans they have no genius for design; and to secure the best results a landscape gardener should be engaged to give designs suited to the varied conditions.

This plan has been recently adopted by the Chicago, Milwaukee and St. Paul Railway, whose directors have engaged E. A. McRae, landscape gardener to beautify the station plots with appropriate planting.

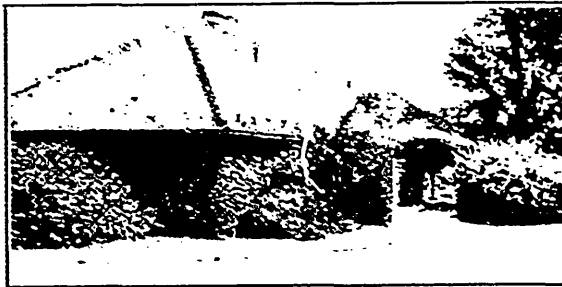


FIG. 2354. A RAILWAY STATION YARD.

First impressions of a town are lasting ones, and such impressions are fixed by unattractive conditions about the railroad station. An attractive station, with flowers and vines, will give pleasure to every resident, every visitor and every traveller who passes by.

OUR EXHIBITS AT WOLVERHAMPTON

ENGLISH FRUIT CROP A FAILURE—HOW CANADIANS CAN REACH INLAND TOWNS OF ENGLAND

A LETTER FROM

A. McD. ALLAN, F. R. H. S.

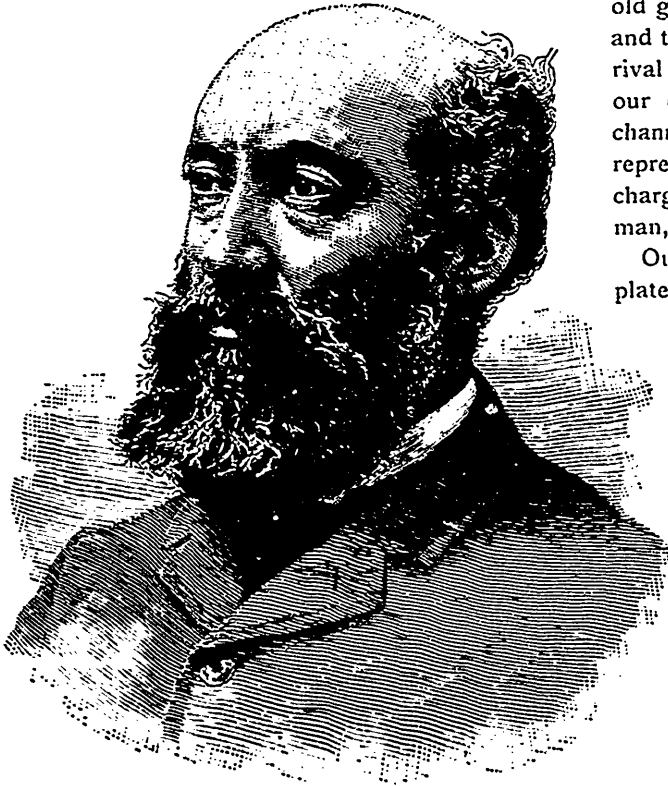


FIG. 2785. A. McD. ALLAN, F. R. H. S.
The Supr. of Exhib. for Canada at the Wolverhampton
Exposition, England.

I FIND a great number of people who would use our canned goods more freely if they were certain of their freshness, and many have suggested that every factory should mark upon every can the year of its make as a guarantee to the consumer. I am told that with the keen competition among grocers many are ready to buy up any kind of cheap or damaged or

old goods for the purpose of cutting prices and taking trade away from his neighboring rival in business. But notwithstanding all our canned goods are working into new channels continually, and the Government representative at the Exhibition, who has charge of the sales department, is a busy man, doing a practical work for Canada.

Our cold storage chamber has double plate glass upon three sides, so that all goods inside can be seen by the public. Our apples form an important part of the exhibit. One pigeon-holed case covers one entire side and is filled with apple specimens, each wound in tissue and showing the stem, the blossom end or cheek, whichever part seems most perfect. Then I have boxes and cases of all kinds and sizes with enough fruit to show our various methods of packing and our different kinds of packages. It would be a very easy matter to secure large contracts for these for our forthcoming crop, but I do not think Mr. Moore, the sales agent, understands the handling of fresh fruits, and will not likely attempt it.

The Canadian pavilion continues to form the chief attraction here, and there seems to be a strong disposition on the part of every dealer to do business with Canada; therefore I trust the advertising given here will be followed up by trade agents from Canada making personal call upon dealers in all provincial towns as well as the cities. The British dealer will be slow to come to us,

but if we go to him we will deal, cautiously, to be sure at first, but with increased orders if we give him the goods he wants and put up the way he wants.

The English dealer is the most stubborn man upon the earth, and yet is open to conviction although he wont admit it; he can go in purchasing our goods and at the same time you can't get him to admit their superiority perhaps. But the fact is, he is simply testing yourself and your brand and you don't know it.

The illness of the King, and disappointments and heavy loss incurred through failure of coronation, has cast a gloom everywhere. But this will soon pass over with returning health of the King. Our illuminations and holidays were celebrated and

attracted great crowds, and with the advent of warm weather we are sure of good daily attendance at the Exhibition.

So far as I have heard, the fruit crop all over England is a failure, certainly in the Midland counties wet weather and frost has destroyed all, and Canada is expected to send in a larger quota than ever. If shippers would arrange to deliver in provincial towns they would meet a hearty demand from dealers. This could easily be done by taking through bills of lading, say to London via Liverpool, with instructions to deliver parcels at various towns upon the route. This would ensure much larger orders, as it would encourage a larger consumption of the Canadian product, which is considered altogether the best in the market.

THE BURLINGTON FRUIT EXPORTERS

NOTES BY THE EDITOR.

MUCH credit is due a few enterprising fruit growers at Burlington for their enterprise as Canadian pioneers in forwarding choice apples and tender fruits in boxes to the British market. The secretary of the company, and of the Burlington Fruit Growers' Association, is Mr. Wm. Fisher, and we found him on the 9th of August busily engaged in paying off his Indian berry pickers. Busy as he was, however, he left his business for a short time to give us some pointers of public interest. His orchard is by no means a small one, including about 2000 plum trees, 3000 pear trees, 200 each of cherry and peach, and about 30 acres of apple trees, and all seemed to be under good and careful cultivation. His soil must be well adapted to strawberries, for his seven acres yielded 48,000 quarts this season, an average of about 7000 quarts an acre. We asked for information about the shipping company.

"Well," said he, "we have no special organization. Five or six of us as fruit growers agree to ship together and make up car lots. For fifteen or twenty years past we have been working together in this way. There are only five or six of us, viz., George E. Fisher, C. J. Davis, J. S. Freeman, W. B. Hopkins, A. W. Peart, and myself, though sometimes we invite others to join us in making up a car. Twelve years ago we shipped the first apples in boxes, three to the barrel. Now we use a trifle smaller box, four to the barrel."

"Do you propose to export your apples and pears this year?"

"Yes, certainly we do, unless we are offered a higher price at home. We always export our apples unless we are offered \$2.50 a barrel or over in our home market. We expect to forward a car of Duchess about the end of August. We would ship more freely if we could fully trust the cold

storage, but until quite recently this has been quite faulty; and last year we had a very unsatisfactory experience with cold storage on ship board. With this exception, however, we have had fairly good success, and sometimes have done remarkably well in the Glasgow market."

APPLE CROP REPORTS NEEDED

"I think," said Mr. W. B. Hopkins, "that crop reports come too much through apple buyers and speculators, who try to make us believe that there is a great surplus and that we must not expect over fifty cents a barrel! No doubt this is good policy on the part of the buyer, but I think the Government, through your journal, ought to give the growers' interests their attention and guard us against speculators."

Well, the reports so far received at our office, we said, indicate a short crop in Europe, and consequently we ought to get good prices in spite of the quantity in our apple sections. During a recent journey by the writer through Maine and Massachusetts, it was a matter of special comment how few apple orchards can be seen, and many that were seen were not heavily loaded. Baldwins especially were light in many places. "Yes," said Mr. Peart, "and such a quantity of apples have dropped during the month of July, that the crop is much less than the early promise."

TOMATOES FOR PROFIT

Noticing that Mr. Peart grows tomatoes for market we asked him for his experience, that we might compare it with Mr. Armstrong, of Queenston. He was two weeks behind the latter in his first shipment, which he made about the middle of July. "I grew tomatoes," he said, "to fill in the season of marketing between the season of currants and blackcaps, and my plum harvest, and find them quite a satisfaction. I usually plant about half an acre. My main crop variety is Dominion Day; Ruby is a trifle earlier, but the former brings me more money, because it is smooth skinned and regular in form. I consider it much better than Atlantic Prize, and quite as early."

PEARS FOR EXPORT

"I have great confidence in the Kieffer for export," said Mr. Fisher. "I think it will yet be highly valued because it carries so well. Nor is it always of poor quality, but sometimes we find it developing a very excellent flavor. I am inclined to believe very much in the individuality of the Kieffer and that some variations in this variety are so distinctive and valuable that they should be continued by propagation from the trees which develop them; I mean such traits as large size, especially bright color, and better quality. For export I would plant Bartlett, Duchess and Kieffer."

The Ontario Department of Agriculture has in press a very valuable bulletin on *The Cold Storage of Fruit*, by Profs. Reynolds and Hutt, of the Agricultural College,

Guelph. Fruit growers interested in the preservation of their products should drop a post card to the Department at Toronto asking for a copy.

OUR BURLINGTON FRUIT STATION

BEST CURRANTS FOR PROFITS—BLACKBERRIES DISCARDED—HOW TO PRUNE THEM

IT was the 8th of August when we visited Mr. A. W. Peart, our experimenter at Freeman. We found him very busy harvesting a heavy crop of oats, and yet he had time to talk about fruit and tell us some of the results of his experimental work. How Mr. Peart can combine agriculture and fruit growing on such a large scale is somewhat surprising, for he has a very large farm which he conducts in first-class manner, and yet has large commercial orchards of apples, pears, plums and cherries and small fruits.

His power to grapple with such conditions is largely due to his university training, for Mr. Peart's case is a clear evidence of the value of education to a farmer in his power to grapple with the problems and work them to a successful issue. "I have two boys," said he, "aged thirteen and fifteen, and I am bringing them up to work. To succeed in a profession or on a farm one must learn preserving application to the thing in hand, and whether they work with their brains at school or with their hands on my farm, I consider this habit the first characteristic to be developed. I am making the boys a little money allowance of late and find that this is an encouragement to them."

THE BEST RED CURRANT

One thing every fruit grower wants to know and that is, what will pay the best, so we asked Mr. Peart for his experience with the many varieties of currants in his experimental plot:

"The Wilder still leads; it is the largest, best in quality and most productive. It is one I would plant commercially in preference to any other. This year it dropped a portion of its foliage, but probably this was due

to the wet weather; still it was not half as bad in this respect as Cherry and Fay. We had always given Cherry the first place and Fay the next on account of the fine size of the berry, but Wilder is also large and so much more productive that we are willing to yield first place to it. Pomona is very promising indeed, but it so much resembles Wilder that it is a question if there is really any difference. Perhaps another season's trial at our Burlington station will settle this question."

THE MOST PRODUCTIVE BLACK CURRANT

There are so many people who grow discouraged with black currants that we inquired particularly of Mr. Peart whether there was any variety better than Naples or Lees: "There are three varieties which I think are superior," said he, "Collins Prolific, Saunders and Black Victoria, though I would hardly throw out Naples; for on heavy rich clay or gravelly loam it is productive and profitable. The bush of Collins is wonderfully vigorous and the most productive of all. Lees and Champion I would reject entirely."

SOILS FOR FRUIT

The secret of success with black currants and indeed with all fruits seems to be the selection of suitable soil, and many fruits that go to wood on rich sandy loam are most productive on heavier soil. The cherry with Mr. Peart succeeds best on high gravelly loam, well drained, and his results on such soil seem almost as marked as those obtained about Winona on clay loam.

BLACKBERRIES FOR PROFIT

Now, since Mr. Peart has all varieties of blackberries under test, we were especially



FIG. 2386. WILDER CURRANT.

interested in knowing which seemed the most profitable: "I think," said he, "that it would be between the old Kittatinny on the one hand and either Agawam or Western Triumph on the other."

But is not Kittatinny subject to orange rust? I know of a plantation of them which is being ruined by this fungus, and most are being dug out entirely. The other varieties do not seem susceptible to this rust.

"Well, at Burlington the Orange Rust does not trouble us, and the Kittatinny being our largest and finest berry, brings the most money in the market; on the other hand, Agawam and Western Triumph are more

productive and therefore give as much money return per acre of plantation. The Gainor is a fine all round variety and very promising. The bush is a strong grower and the berry quite large."

BLACKBERRIES FOR THE AMATEUR

"I do not know of any berry for all purposes better than the Kittatinny, whether for home garden or market. The Maxwell is larger if anything, but not as strong a grower, and the Wachusetts has the advantage of being thornless. For first early I would plant Early King, it is better than Early Harvest."

"Here," continued he, "is a list of varieties that may as well be entirely discarded from our plantations and should no longer be carried by nurserymen in their catalogues, viz.: Wilson's Early, Wilson's Junior, Eldorado, Minnewaski and Lovett's Best."

In this we agree with Mr. Peart, for what use is it for nurserymen to burden themselves growing varieties which are not needed, and if we can counsel fruit growers not to ask for them, they will be soon omitted and our work that much simplified.

PRUNING BLACKBERRIES

There are so many notions about pruning

of blackberries that we inquired especially into the methods adopted about Burlington. At Craighurst Mr. Caston grows his Snyders on long upright canes and gets immense loads. "I believe," said Mr. Peart, "in the most severe pruning for Snyder and Western Triumph, because if you leave too much wood the fruit will dry up; the bush cannot mature all the fruit that would set. I cut them back in July to about 3½ to 4 feet high, telling my boys to cut the canes at the 'height of their eyes,' and then later I shorten the laterals. The Kittatinny does not need such severe pruning, for it never overloads."

FRUITS IN COLD STORAGE

BY

A. McD. ALLAN

GODERICH, ONT.

THERE are some points in our fruits kept in cold storage that may be interesting to members of the association and growers generally.

It is evident that samples for storage should be more carefully selected, and no imperfect apple placed in a package. Stems should not be taken out as this causes often a slight wound which soon begins to rot. The skin must not be broken or decay will ensue. In many kinds a bruise induces decay. In highly colored kinds if the color is perfect the apple will keep longer, hence samples intended for long keeping should be selected from trees that are well opened to the air and sun. Green Baldwins were all worthless while high colored samples were in good order. Ben Davis all look well on the colored cheek but the green sides all come out black, while an occasional high colored one is in fine order where the color is well striped all over. King has not

kept well because it was not picked from the tree soon enough. Wealthy, where not bruised nor stem removed and color evenly distributed, kept well. Spy is a splendid keeper but must not be bruised and color must be well up.

Peck's Pleasant when perfect possesses only a red cheek; it keeps well, but when decay begins it is invariably found in the green surface, and the crimson cheek is perfect. Fameuse, like Wealthy, decays more from bruising, but it does not keep as well as Wealthy.

Stark is a poor keeper, probably because it has poor flavor and coarse texture.

Fallwater has been disappointing, I think chiefly because samples were taken for size without regard to color. Mann, where of even size and well handled, kept well, but even here we find decay does not affect the sunny cheek as readily as the other. Jonathan where not bruised is good yet. Canada

Reds are nearly all good in form, but where lacking in color have turned black, and the fungous spotting appears to affect this variety worse than *Spy* in inducing decay. *Bell-flowers* were all gone. *Spitzenburg* well colored and without bruise has kept well, but where stem was removed in picking rot ensued from that part. *Seek* should have been picked sooner, I fancy, and only a few specimens were fit for the tables. *Golden Russet* kept well where the sample showed full maturity in size and coloring, but those from unpruned trees where the sun did not reach them and left them at picking perfectly green were worthless. *Roxbury* gave the same evidence, as did also *Pomme Grise* and *Swazie*. *Nonpariel* was generally well up in its bright cinnamon color and samples good. *Greening* did not afford us a sample for the tables and *Grimes* shared the same fate. Why was this? I think the want of proper cultivation and manuring chiefly as all the samples were under size.

From all I have seen to me it is evident that more care must be taken in studying just when a variety is properly matured and ready for picking instead of the present method of picking "in the fall" generally.

Evidently a *King* should be picked some time before a *Baldwin*. We had not a specimen of *Ribston* because they were picked likely too late; they were more than mature and decay, or its primary elements had set in. *Tallman* was tall starved specimens and quite unfit for use. *Wagener* was in the same position, with the exception that where a good colored cheek appeared it was still bright.

Let growers draw a moral from these facts and we will hear them universally crying out, "cultivate, manure, trim and generally care for the orchard if you want good fruit." Study the season of maturing in each variety for this is all important when picking time comes.

Spy held as tenaciously to flavor as any variety in the list, while *Ben Davis* is, judging from what we have here, one of the most disappointing, for even where the specimen is outwardly perfect in form and color, when opened it is flavorless and often becoming dry and "punky," but then we must remember that it never was blessed with much flavor.

Wolverhampton, Eng.,

July 28th, 1902.

THE FRUIT CROP IN ENGLAND

The reports of a large receiver of fruit in England on the fruit situation, there is as follows:

"The fruit crop here (England) is worse than it has been for years past, and although there may be a fair quantity of early apples there is not likely to be a quantity of sufficient importance to affect the sale of Canadian apples."

Mr. W. A. McKinnon, chief of the fruit

division, who is in England at the present time investigating the question of markets and transportation in the interests of the fruit trade, reports that he has received a cordial reception and has been able to examine several lots of fruit from California and other foreign countries as they have left the steamship. His report will be awaited with great interest by the fruit growers of Ontario.

MEN WHO HAVE SUCCEEDED—VI

J. H. HALE

ELECTRIC CAR TRANSPORTATION—WHOLESALE PACKING—GRADING PEACHES—MUSIC IN PACKING SHED

HAVING once by personal contact and association established a name and reputation for my peaches among the most critical consumers, I have since 1889 entrusted their distribution to commission men in the various cities. I insisted upon these agents visiting the orchard several times each year, so as to be in full touch and sympathy with all the work of production and preparation for the market, and thus be in position to place the fruit intelligently before the consumers.

An electric car line from Hartford having been built along our street in 1895, with a siding right at the farm, I determined to get rid of the long wagon haul by night to the city; and by special contract with the railway people, three cars were arranged to hold the peach baskets. These cars were loaded through the day and early in the evening. In the early morning a motor car would haul the loaded cars to the city, where, along the business streets, just before the cars were required for passenger service, fruit would be unloaded and stacked up in front of the leading stores. My son, who looked after the loading would also check it out, and see that the empty cars were back on the home siding before a new day's work had begun on the farm, so that as far as I can learn, this was the first farm in America to make daily use of electric cars in transporting its produce direct from the farm to the city markets.

The service has been maintained ever since, and the fruit travels in better order

and at less cost than on wagons. The new style market wagon has already attracted much attention. In the season of 1901 peaches from the Hale orchard at Seymour, Conn., were transported by electricity to Bridgeport, fifteen miles away, and the time is not far distant when electric car lines are to be an important factor in the country.

“Thinning out” the little green peaches

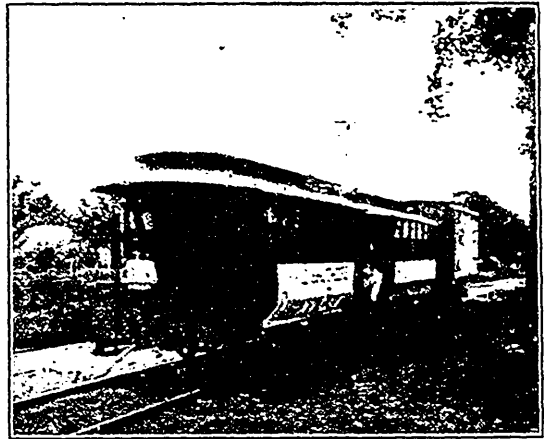


FIG. 2387. CARRYING PEACHES BY ELECTRIC RAILWAY.

is carefully practiced. Three hundred large, perfect peaches from one tree will weigh more pounds, fill more crates, and sell for more money than would 1,000 or 1,500 peaches from the same tree overcrowded, and the quality is far superior.

After the thinning season, crate making is continued, wagons fixed, barracks and camps put in order, and everything braced up for the coming rush. A trip is made all



FIG. 2388. GATHERING PEACHES IN HALE ORCHARDS.

through the consuming territory at the north; commission men and leading retailers are told fully and freely of the crop prospects, visits are made to the general freight agents and officers of the leading railroads, and a personal interest awakened that is beneficial to all concerned.

As soon as the peaches begin to ripen, the most experienced are placed in charge of gangs of ten and fifteen, which are later increased to forty or fifty. Every picker has his number stencilled on a little canvas sack, in which are tickets of corresponding number, one of which is dropped in the bottom of each basket. All pickers are taught to recognize a matured peach at sight, and they are only touched by hand when ready to be picked.

Careful inspection of the fruit in each basket as the harvest proceeds tones up the quality of the pickers' work. Wagons with hundreds of extra baskets are always on hand, including two or more boys with each gang to "tote" baskets, so the harvesters

may lose no time looking for "empties." Low-down spring wagons, drawn by small mules, creep in and out among the trees and haul the fruit to the main avenues, where the baskets are loaded on large floats on their way to the great central packing house.

White labor is used entirely in the packing house, and at two long tables running the full length of the great building stand the men and women, who, under careful instruction, take the fruit from the field baskets and assort it into three sizes, placing it in canvas trays in front of them. All inferior or over-ripe specimens are set aside for the evaporator. If any baskets show a lack of skill or care in picking the ticket in the bottom tells where to look for the trouble. Notice is given to the inspector, and from him to the field foreman, who gallops away on horseback to brace up the weak brother. The sorters save all the tickets found in the bottom of the baskets, and each is given due credit for tickets turned in.

On the opposite side of the sorting table

stand the packers, who take peaches from the trays and carefully pack the six baskets in one, each crate solidly full. Each grade requires a particular style of pack to get all the baskets rounding and full every time. Several expert instructors in packing work up and down the line constantly watching the work, and when the package is complete the packer's number is put on the crate label and on a ticket on top. A helper supplies a new crate and takes the full one to the nailing table, where it passes final inspection, and if not perfect in every way is sent back for re-packing. Every hour through the day the tickets are taken to the office and a record made of all picking, sorting and packing, so that at all times the superintendent and myself can know just how things are moving, and what each individual is doing.

As soon as covers are nailed on the crates they are rushed into the refrigerator car waiting alongside, and 560 or more crates that go in a car are so spaced that there is a circulation of cold air about each one at all times in transit. These cars are "iced up" twelve to twenty-four hours before loading begins. The warm fruit starts the ice to melting fast, and in a few hours when the fruit is cold, from two to three tons more ice are required to fill the bunkers. In the fifty hours running time to New York the cars are re-iced three times, and those going to New England points once again at Jersey City.

Bad weather in harvesting, a neglect to re-ice a car in transit, arrival at unseasonable hours, bad weather or an over-crowded market on the day of sale—any of these may cause the fruit to sell far below the actual

cost of putting up and delivering, to say nothing of cost of production.

We have loaded as many as thirteen cars in a single day, and ten a day for eight days in succession. There are about thirty peaches to the average basket, six baskets to a crate, five hundred and sixty crates to a car, making for a day producing ten car-loads practically 1,000,000 peaches, each of which is handled three times in the operation



FIG. 2389. PACKING PEACHES.

each day, besides all the other work incidental to such extended packing.

The packing shed is a cool airy place, comfortable at all times in the hottest weather, yet the days are long and busy and noting that the workers were tired and languid by night, four years ago I tried a plan of resting them with music. A good string band of six pieces was hired to play each afternoon from two o'clock until dark or until all the work was finished. There was soft, quiet music for an hour or two, and then quick lively airs until the finish, music all the time.

THE FRUIT MARKS ACT

WHAT THE ACT MEANS AND HOW IT OPERATES

A LETTER FROM

MR. ALEXANDER McNEILL

DOMINION FRUIT INSPECTOR

AFTER the parliament of Canada passed the Fruit Marks Act in 1901, the Minister of Agriculture directed that every opportunity should be afforded the fruit growers and packers of the Dominion to meet its requirements and to fulfil their obligations to the public, and for one year the work of the department in this respect was informational and educational. This year some amendments were made to the Act as originally passed, and to-day the Act, in all its provisions, is "as plain as a pikestaff." and every clause of it so simple that "he who runs may read." No farmer, or fruit grower, or packer who is honest in his endeavors and straightforward in his trading need fear any of its clauses. The Act is being enforced, and the inspectors appointed to execute its requirements have been instructed to do their duty. They are the servants of the crown, Parliament has definitely pronounced its judgment upon the false and fraudulent packing and marking of fruit consignments, and men have been selected to carry out the regulations placed on the statute book for the purpose of protecting honest traders from unprincipled dealers, and of preserving inviolate the fair commercial fame of Canada from unscrupulous packers. In other words, the Act will ensure to the public of the Dominion and to commission agents and the public generally in Great Britain and elsewhere, that the fruit is correctly marked and honestly packed.

The principal sections of the Act are:

Section 4. Every person who, by him-

self or through the agency of another person, packs fruit in a closed package, intended for sale, shall cause the package to be marked in a plain and indelible manner, before it is taken from the premises where it is packed—

(a) With the initials of his Christian name, and his full surname and address;

(b) With the name of the variety or varieties; and

(c) With a designation of the grade of fruit, which shall include one of the following six marks: For fruit of the first quality, No. 1, or XXX; for fruit of the second quality, No. 2, or XX; and for fruit of the third quality, No. 3, or X; but the said mark may be accompanied by any other designation of grade, provided that designation is not inconsistent with, or marked more conspicuously than, the one of the said six marks which is used on the said package.

Section 5. No person shall sell, or offer, expose or have in his possession for sale, any fruit packed in a closed package and intended for sale, unless such package is marked as required by the next preceding section.

Section 6. No person shall sell, or offer, expose or have in his possession for sale any fruit packed in a closed package, upon which package is marked any designation which represents such fruit as of No. 1, or XXX, finest, best or extra good quality, unless such fruit consist of well-grown specimens of one variety, sound, of nearly uniform size, of good color for the variety, of normal shape, and not less than

ninety per cent., free from scab, worm holes, bruises and other defects, and properly packed.

Section 7. No person shall sell, or offer, expose or have in his possession for sale, any fruit packed in any package in which the faced or shown surface gives a false representation of the contents of such package; and it shall be considered a false representation when more than fifteen per cent of such fruit is substantially smaller in size than, or inferior in grade to, or different in variety from, the faced or shown surface of such package.

Explanations of its application may be taken thus. On packages packed or marked contrary to the provisions of the Act, inspectors may, after notifying the packer by letter or telegram, place the words "falsely packed" or "falsely marked," and a fine of \$40 may be imposed for illegally removing the inspector's brand.

It will be noticed that only "closed packages" need be marked. A closed package is defined to be a box or barrel, the contents of which cannot be seen or inspected when such is closed. Baskets, berry crates or berry boxes even, with veneer covers, are not considered closed packages, and therefore do not require marking. Cranberries and all wild fruit are not subject to the provisions of the Act.

Merchants are held responsible for the fruit they offer for sale (or fruit in their possession for sale), but the original wrong-doer, if found, will in every case be prosecuted.

The penalty for a violation of the law with reference to packing and marking is not less than 25 cents and not more than \$1.00 per package; for removing an inspector's brand, \$40; for obstructing an inspector, \$25 to \$500. The fines are divided equally between the informant and the crown.

Inspectors are given large powers under the Act to enter premises for the purpose of making an examination and to detain shipments of fruit for the same purpose. The packer, however, is amply protected by the stipulation that immediate notice must be given by the inspector to the packer when fruit, which at all times is at the risk of the owner, is branded or detained, and the inspector who exceeds his authority is subject to a heavy penalty.

The main points of the Act may be summed up as follows:

(1) The face of all fruit packages must fairly represent the fruit throughout.

(2) Closed boxes and barrels must be marked with the name and address of the packer, the variety of the fruit, and its grade.

(3) It is an offence within the meaning of the Act to sell, to offer for sale, or to have in possession for sale, fraudulently packed or marked fruit, even when the buyer and seller are ignorant of the fact, as well as when one or both have knowledge of the fact.

(4) The Act does not prevent the packing or selling of any grade of fruit that is properly picked and marked.

(5) The Act does not provide for the inspection of particular lots of fruit at the request of the buyer or seller.

(6) Commission merchants who, after notice, handle fruit put up contrary to the provisions of the Act, will be proceeded against.

(7) There is no definition of grades marked No. 2, or XX; No. 3, or X.

Already the beneficial effect of this Act is being felt, and when it is fully known that dishonesty in packing and describing Canadian fruit does not exist, an enormous impetus will be given to our fruit industry in all the markets of the world. At present inquiries are being made concerning the trans-Atlantic shipments of early Cana-

dian apples. The Department of Agriculture will not take any responsibility, but through the Commissioner of Agriculture and Dairying will assist in securing cool or cold storage space on ocean steamers if early information be given as to the probable quantity, the date of shipment, and the destination desired.

It will pay to send only selected apples of choice individual quality, and packed in

boxes rather than in barrels. It will be necessary to have the apples picked and packed on the green or firm side, so that they may be delivered in the United Kingdom in such a state that they may be handled with a very small percentage of bruised or decayed ones by the retail dealers into whose hands they will go from the wholesale centres.

THE TRANSPORTATION OF APPLES

ADDRESS DELIVERED BY R. J. GRAHAM,
OF BELLEVILLE, BEFORE THE NATIONAL
APPLE SHIPPERS' ASSOCIATION, WHICH
MET AT ROCHESTER, AUGUST 6 AND 7.

A VERY interesting paper on transportation was then read by R. J. Graham. Mr. Graham is Mayor of Belleville, Ont., and is also a large apple shipper, and more particularly a large apple evaporator.

TRANSPORTATION OF APPLES

This subject naturally divides itself into two heads, viz., "How can we transport the fruit?" and "In what kind of a package shall we put it?"

To get an apple from the tree to the consumer at the least cost, and in the most perfect condition, is a problem seriously occupying the attention of all fruit growers and shippers, particularly the members of this association, whose success or failure largely depends on their ability in this direction.

The first step in transportation is from the tree to the basket, where, in most cases, serious damage is done.

Apple pickers require brains as well as muscle, and to pick an apple properly requires some study and experience. The

writer has noticed many apples literally pulled from the trees with the fruit spur attached, not only damaging the fruit, but ruining the tree itself for future bearing.

If apples are carefully turned upwards they will break from the fruit spur clean, with the least resistance, and avoid thumb-marks so common in apples, which seriously impair the keeping quality and spoil the appearance, particularly of green or yellow fruit. All shippers should instruct their packers very particularly on this point.

The next move in transportation is from the basket to the barrel or package in which the apples are taken to market. Again they run a most hazardous gauntlet. Most apples are dumped on the ground in heaps, whereas, in the writer's opinion, apples never should touch the ground, but be carefully emptied on a canvas stretcher of simple construction, holding about three or four barrels at most, and about 3½ to 4 feet high, so that the sorter may stand up to his work and use both hands and eyes in this most important transaction.

From the stretcher they should go directly into the package for market or store, graded as the shipper's customers may desire.

Now that the fruit is in the package at the tree, it should be carefully transported to the fruit house, railway or boat landing, at once, on a conveyance having springs. Much fruit is damaged seriously by remaining in barrels on the ground after packing, or by being moved in lumber wagons without springs over rough roads. These can be easily procured to attach to any ordinary wagon, and no fruit grower should be without them.

When we get the apples to the depot we again confront a difficult problem. What kind of a car should we use, or what kind can we secure from the carrier? Arrangements should invariably be made with the railway to furnish the kind of a car desired and as required. No apples should remain at a depot longer than is necessary to load them directly into a car and get away the same evening. For short hauls ventilated cars should be used, and the car not filled to the roof, as frequently happens, but leave ample room for circulation of air. For any distance requiring more than twenty-four hours' railway journey, refrigerator cars should be used, and have them sufficiently iced. From the cars the apples should go direct to destination without further delay, either to the consumer, fruit house or steamer, for ocean transportation. Here again we confront a problem. What kind of space shall we use, or what can we secure?

Apples usually receive little care at the hands of vessel owners and stevedores, are generally handled roughly, and placed in the hold as closely stowed as possible, and in most cases, without ventilation, and if they survive this gauntlet, without being cooked and ruined, the shipper may consider himself fortunate.

Can this be remedied? Certainly the

combined action of such an association as this can do much to bring about the much needed reforms. Let there be an active transportation committee and let us shippers be loyal to their recommendations demanding ventilated space or cool storage.

In Canada, thanks to agitation by those interested, the government has taken this matter in hand, and we have the promise this season of a fair number of vessels fitted with suction fans creating a forced draught through the holds where the apples are stowed. The writer has found chemical storage in transit very unreliable. Temperatures are not often maintained properly, and the fruit often comes out too cold or frosted, and when coming in contact with warmer atmosphere sweat and present a poor appearance to the buyer on first examination, and in some cases produce mould on the fruit or inside of the package.

Again, why should a barrel of apples pay more freight than a barrel of flour? This question has often been asked railway tariff committees, but has never yet been satisfactorily answered. So far as I can learn, the real reason is because they can collect more. They apparently think the business will stand it, but in a year like the present, when there is an abundant crop, cheap transportation would materially increase our markets, and place before the laboring classes, which form the masses of European population, fruit within the reach of their means.

Can this be accomplished? I maintain it can. A barrel of flour weighs about 50 pounds more than a barrel of apples, and usually is carried for about half the price. Does the barrel of apples get any more care from the carriers, any better protection from the weather, any better space, or is there any greater risks incurred? Do they pay any more claims or give any greater attention to the business? So far

as I can ascertain, the only thing they can claim is better despatch en route, as perishable freight is not so often side-tracked, but I have yet to learn of a railway that paid claims on apples for ordinary delay in transit, and I consider the handicap in weight quite sufficient to enable the carriers to move a barrel of apples quite as cheaply as a barrel of flour. Agitation would bring about this much needed reform.

We next consider the various kinds of packages in use and their respective advantages. The barrel is the standard used for perhaps 90 per cent. of the fruit, but is it the best? California has adopted the box of four or five tiers, averaging about 40 pounds net of fruit, and this package is getting quite popular in some localities, and has the advantage of being more suitable for a grocer to handle as package goods. Many people would buy a box of those apples who could not be induced to buy a barrel at a time. When apples are retailed by the pound, much of the fruit is injured by the customer or dealer turning it over, pinching it and examining it in a variety of ways that would not be done in a package. The cost of the package is about the same in each case.

For the home trade and immediate use, the bushel crate is becoming quite popular in Michigan, and has some advantages. It is cheaper than the barrel, saves all ex-

pense of packing, can be easier handled, all the fruit is open to view, any farmer can bring apples to the depot direct from the trees, and is a convenient package for the dealer and consumer when the apples are required for prompt use.

For high class trade a compartment box is coming into use, and has been favorably received in the markets of Europe. These boxes are made to hold various amounts and different size apples, and are made something like an egg case, each apple having a compartment by itself and is thoroughly ventilated. A firm in London, Ontario, are now manufacturing these, samples of which are here. The fruit growers of Niagara district are using them quite extensively. They cost more than a barrel, but for a high class trade there is nothing better. Apples stored in these packages for the Pan-American Exhibition with the Buffalo Cold Storage Co., kept in good condition for a year. One thing is essential to the transportation of apples in any package, viz., air circulation.

I feel convinced that fully 50 per cent. of our apples are ruined from improper transportation from some of the causes referred to, and if we, as apple shippers, ever expect to climb the ladder of success to its topmost step, it can only be accomplished by giving this most important question our earnest consideration.

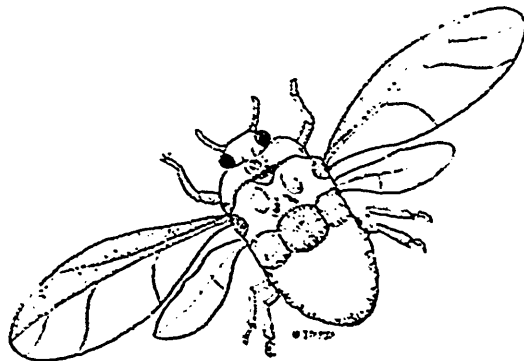


FIG. 2300. THE SPRUCE GALL LOUSE. See page 377.

THE SPRUCE GALL-LOUSE

(CHERMES ABIETIS)

NEW APPLICATION OF FUMIGATION
— PERFECT SUCCESS ATTAINED

A LETTER FROM

G. E. FISHER

PROVINCIAL INSPECTOR, SAN JOSE SCALE

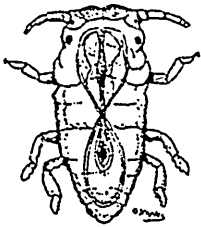


FIG. 2391.

GALL-LICE are so protected in the galls they produce as to be practically beyond the reach of sprays. Whale oil soap, crude petroleum, kerosene, fish oil, and a strong solution of caustic potash were used without result. Fumigation with the gas from the cyanide of potash is the only effective remedy I am acquainted with, and this has proved very satisfactory indeed. In treating insects the life history must be carefully observed,

some points of which are said to be as follows:—

The gall louse lays its eggs in the fall, one egg in each section of the bud attacked. The eggs are hatched by the warmth of the following spring. During the balance of its season the insect is viviparous. As many as

twenty-five lice have been found in a single cell—which mature and leave the cell during August and some possibly in July. Treatment in winter is not practicable because of the difficulty of destroying the vitality of eggs, and, as the mature insects are moving in August, treatment in July is likely to be most effective and should

be done at night and when the foliage is dry, to avoid injuring it.

One-seventh to one-sixth of a grain of cyanide to the cubic foot, enclosed with an exposure of forty minutes, will kill the lice without affecting the spruce tree injuriously.

We have some cases of injury where the foliage was wet, a gas of greater strength used, or the work done during the heat of the day.

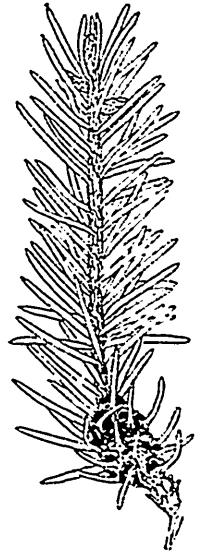


FIG. 2393.

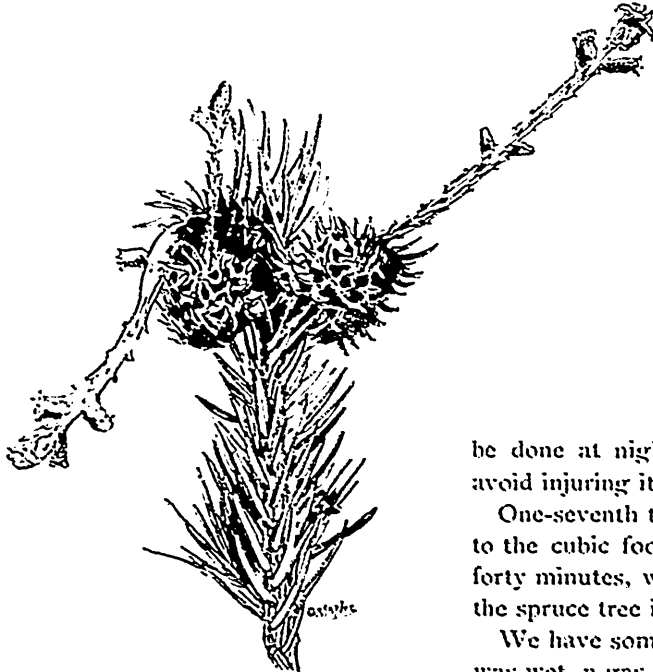


FIG. 2392. SPRUCE GALLS

QUALITY AND THE MARKET

EDUCATE THE TASTE—WHET THE APPETITE
BY GIVING HIGHEST QUALITY—PRODUCT-
IVENESS SECONDARY—FROM AN ADDRESS
BEFORE AMERICAN POMOLOGICAL SOCIETY

BY

CHAS. W. GARFIELD

GRAND RAPIDS, MICH.

A GREAT deal of friction can be avoided in this world by not attempting to bring all individuals with their varied likes and dislikes to the same standard or the same level. The bending of ways to suit the individual peculiarities and personal likings is distinctly in the interest of harmonious intercourse and friendly relationships. When it comes to matters of taste, there is no hard and fast rule with regard to excellence. Two people of equally good sense and wise discrimination and valuable experience may differ widely in their views with regard to the comparative quality of viands and each may be perfectly right. This is specially true when it comes to passing upon the merits of the different varieties of different fruits. A college president of wide travel and broad culture, who had tasted of the fruits of many countries, declared his opinion that a well ripened Concord suited his palate better than any other grape grown. A connoisseur and an old-time member of this society, when this fact was confided to him, laughed outright and said, "he never had tasted a perfect Iona. It will change his mind." Later in the same season our pomological friend sent to the college executive a basket of the best Concords and the best Ionas he could find, and to his great astonishment, the courteous letter of gratitude, which was sent in response, still insisted that the Concord was the better. He may

have been right in spite of all the records of the American Pomological Society for aught I know, and I am not sure but the rank and file of people who eat grapes would support him in his opinion. It is the province of the commercial fruit grower not to antagonize individual tastes, but rather to cater to them in the greatest possible detail and make the purchaser pay well for the gratification of his peculiar tastes. The fruit grower who is in the business for money ought to be willing—for a proper consideration—to humor these peculiarities.

It is in catering to this variety of taste and the difference in judgment concerning the quality of fruits that we find the stimulus for the originator of new and valuable varieties. The growers of fruits are very few in number compared with the consumers, and there is no reason why a single grower should not in the management of his business cater to the tastes of a considerable range of consumers. The fact that there are so many variations in taste and people are so willing to make sacrifices and even pay roundly to suit their likings, is to my mind sufficient reason for putting together in juxtaposition the two prominent words in my talk.

When an originator of fruits heralds with considerable blandishment a new candidate for popular favor, saying, "The tree is a fine grower, hardy in twig and bud, the fruit is of fine color, firm texture, fair quali-

ty and a good shipper," I always question the real, intrinsic value of his new production. "Fair quality" in an advertisement of this kind usually means poor quality. It is a notch lower than any of the three descriptions given by Downing to fruits worthy of mention, namely, good, very good, best. A fruit that does not come up to Downing's lowest is not worthy of dissemination, and there are a good many of the newer candidates advertised and foisted upon the innocent public with great emphasis placed upon their shipping qualities which are unworthy of any place in our catalogues, simply because they are not good enough to eat.

We are constantly expressing our disappointment because our northern fruits take second place whenever some tropical species comes into the market. We regret that people eat oranges, bananas and breadfruit, neglecting our beautiful northern apples, and still, in the face of our discomfiture, we magnify the attributes of such apples as the Baldwin and the Ben Davis because they can be shipped long distances and not be materially injured or bruised by severe handling. Then we expect people to like this class of fruit when placed alongside of the most delicate southern varieties that are shipped to us with the utmost care in packing. People eat Baldwin apples and then say they are not very particularly fond of apples anyway, when, if their tastes could be satisfied by presenting fruit of the quality of the Jonathan or of the Melon, there would be an increased demand for the apple. We flood the market with plums and expect people to buy them, expressing our wonder that so many people should say, "Well, we do not care so very much for plums. Somehow our people have lost their taste for them." The responsibility for this lack of demand lies in the fact that the quality of the fruit is too poor to be attractive to people. There will always be a demand for the finer classes of plums if they can be found upon the market.

If we expect people to like peaches we must not fill them up at the beginning of the season with varieties so entirely lacking in quality as the Alexander class. You must so satisfy the palate as to compel people to increase their wants because you have whetted their appetites.

It is eminently desirable, from the standpoint of the grower, that the people should eat and use more pears, and we say to them, "The pear is an excellent fruit, a healthful fruit, and you ought to consume large quantities of it," and after saying this we hunt through the catalogue to find some variety that we can grow the cheapest and that we can ship the longest distance, and then furnish the people with this kind of stock, at the same time suggesting to them that they ought to eat more pears. We cannot expect an increased demand for pears when we try to satisfy it with the Angouleme and Kieffer. I am willing to be classed as sentimental with regard to some things because I think sentiment has a very high value, but in this contention it is purely a matter of business. If we expect people to increase the consumption of our fruits we must furnish them the quality and the product that will be attractive to them. We must not only do this, but we must educate people so far as we can in their tastes so that they shall demand the best. This is in the interest of higher living and progressive agriculture. It will not do to be constantly excusing ourselves for not furnishing the highest quality of fruits or trying to make poor fruits seem pretty good. A single instance: The Ben Davis apple is not of such quality as to be attractive to one who has a keen discernment of quality in the apple family, and it does not make the matter any better to say to people that the Ben Davis in some localities is not so very bad a fruit and that it is pretty good when you cannot get anything else. It is not a very good advertisement for an apple to have it called for by a hotel man, for the reason that it remains on

the table for a long time and is an attractive feature.

The prime consideration, it seems to me, in the business of furnishing fine fruits for the people who depend upon the market for their product is good quality. Having perfected this type, then look after its productiveness and its adaptability to a wide range of conditions, but always demand a sum that will cover added expenses, and support the demand with the fact that the quality of the fruit warrants it. There is another point that I would like to make in connection with fruit culture, and it will not appeal to extensive orchardists. There are a great many small growers who are willing to put time and care into the growing of a high quality of fruit if in their limited marketing they can find a demand for these high grade fruits at a price that will warrant them in the added expense of growing. In this field there is opportunity for the highest intelligence in fruit growing, and it has attractions that cannot be found in a more extensive busi-

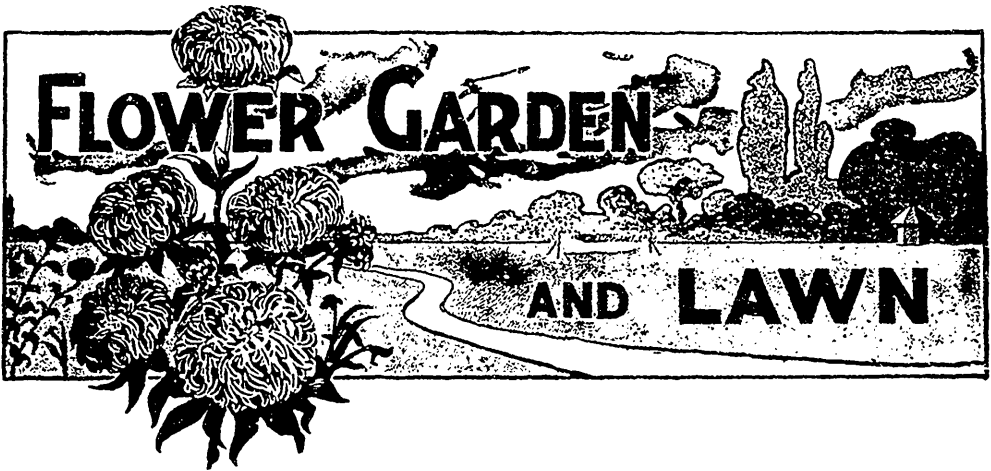
ness. There is opportunity here for a remunerative business, and one that will give the keenest satisfaction. A friend of mine riding with me the other day, noticed that I bowed to a gentleman in a market wagon and asked me who it was. I said, "That is Mr. P——, and she said, "Oh, he is the man who grows those beautiful Jonathan apples we get every year." I said "Yes, he takes a great deal of pains, putting an excellent product upon the market," and she said, "I always get my apples from him because I know they will always be of the highest quality, well selected and carefully handled, and I am willing to pay what he asks, even if the price does seem high. I can afford to pay his prices, because in using his fruit I have no waste." This is the kind of reputation upon which to build a remunerative business in the growing of fruit, and this is the level of fruit growing to which I would like to see the average of our cultivators trending.

BARRELS OR BOXES

The evidence with reference to barrels and boxes appears to be somewhat conflicting. Garcia, Jacobs & Co., London, write that the packing of apples in boxes entails so many incidental expenses that such goods cannot compete with similar fruit packed in barrels. On the other hand, Mr. R. H. Moir and R. T. Polleck, two Glasgow fruit mer-

chants, who handle a very large quantity of fruit retail, say that they prefer boxes and small packages and offer as an explanation of contra opinion of the commission men, the statement that more goods would be handled without passing through the hands of the middle man if the packages were smaller.





SEPTEMBER NOTES

BY

WM. HUNT

GUELPH, ONT.

TENDER PLANTS.—All tendergreenhouse and window plants that are required for winter decorative purposes or for beautifying the garden next season will have to be closely watched if they are still out of doors, so as to prevent unpleasant and damaging surprises by early frost. Stock plants or cuttings of coleus, heliotrope, achyranthes, salvias and ageratum should be at once secured if not already attended to, as these plants are susceptible to cold, chilly weather and are easily damaged by the slightest frost. Petunias, verbenas and geraniums being of a hardier nature may perhaps be safe until about the end of the month, but it is always well to be on the safe side and secure a stock of cuttings or plants before they are damaged by frost. Plant growth that has been frozen only very slightly is often difficult to propagate, even if the growth does not appear to have been damaged. Begonias, cactus, calla lilies, agaves and all plants of a similar tender nature should be taken indoors when chilly,

cold weather prevails. Palms, cordylines, oleanders, hydrangeas and even aspidistras may perhaps be left outside until toward the end of the month, at least in the day time. Fresh air and a fair amount of sunshine out of doors is much better for plants than the close dry atmosphere of a dwelling house, or the super-heated temperature of a greenhouse at this season of the year, as long as the plants are safe from frost. The temporary protection of a sash and frame, or even the protection afforded by a verandah, or some light covering placed over plants for a few nights, will often extend their period of out door life for several weeks at this season of the year, as it is seldom that early frosts prolong their visits beyond one or two nights.

Chrysanthemums.—Although these plants are almost hardy, they must not be exposed to frost, or even to continued cold wet weather, if good flowering results are to be obtained. Where only one or two are grown in pots for the window they can be lifted

under cover for the night and set out of doors again in the morning. If the plants are put into the greenhouse or even into frames, they must be given plenty of air and water, especially on warm sunny days. Syringing, or sprinkling the foliage early in the day on hot days, will also benefit them materially. Disbudding will also soon have to be attended to with chrysanthemums. This is done by picking off with the thumb and finger all the lower buds as soon as they are about the size of small peas, leaving only one or perhaps two of the top or terminal buds at the top of each branch or stem. By taking off these lateral buds, fewer but very much larger flowers are obtained than if all the buds were left to mature. As soon as the buds are formed on the plants liquid manure should be given them about once a week until the flowers are fully developed. Tobacco water or fumigating with tobacco are the most effectual remedies for the attacks of black or green fly on chrysanthemums. The black fly is oftentimes very persistent in its attacks, and close watch will have to be kept to prevent its appearance.

As tobacco stems or the raw leaf of tobacco is sometimes difficult to obtain, a good substitute can be found by using a cheap cigar for making tobacco water or for fumigating plants with. By pouring about a quart of boiling water on a cigar after it has been unrolled, sufficient tobacco water can be obtained to sprinkle a number of plants with. The solution must be allowed to cool before using. If any of the tobacco water is left over it can be kept a long time in a bottle tightly corked. Start with the tobacco solution before the plants are badly infested, as, if the aphid or fly once gets into the flowers, they cannot be eradicated without injuring the blossoms.

Roman Hyacinths.—If the beautiful white sweet scented spikes of these early flowering hyacinths are wanted for Christmas time the bulbs should be secured and potted as early

as it is possible to get them. By planting two or three bulbs in a four or five inch pot early in September and plunging the pot outside in ashes or sand—or even sandy soil—until the bulbs have made good root, which will be in three or four weeks, and then placing the pot in the window or greenhouse, these useful winter flowering bulbs can be had in flower even before Christmas if required. Plant the bulbs about half an inch under the surface of the soil so that the tops of the bulbs are well covered, water them well once and then plunge or bury the pot in an upright position until the bulbs are well rooted and you will be rewarded by a nice pot of sweet-scented flowers for your trouble. The soil in the pot should never be allowed to get quite dry whilst the plant is growing and when in flower. The pink and blue varieties of the Roman Hyacinths are very pretty, but not as early or as easily grown. By potting a few of these bulbs every two or three weeks until November or even later, a succession of their beautiful blooms may be had until quite late in the spring. These later planted bulbs must, however, be covered with ashes or soil in a cool cellar or shed, or in a box or frame out of doors where they can be covered and protected from severe frosts whilst making roots as before mentioned.

Cannas.—As soon as the first frosts have touched the foliage of cannas the stalks should be cut off about six or eight inches above the ground. The roots should then be dug up entire with a little earth adhering to them and placed in a dry shed or barn for a week or two where frost cannot reach them. Before severe frosts they should be placed in a fairly dry warm cellar, or laid under the benches in a greenhouse, where there is very little moisture to drip on them. A temperature of about 40° or 45° suits them very well when dormant in winter.

Dahlias.—These should be treated much in the same way as recommended for cannas,

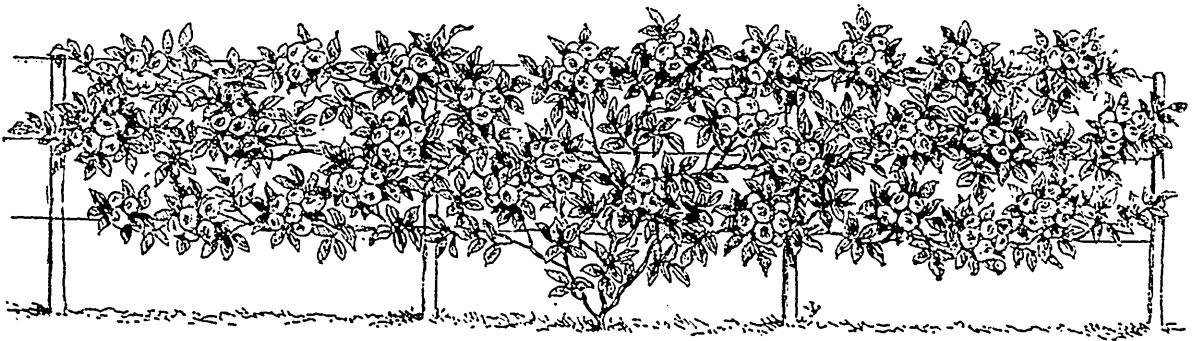
with the exception that the dahlia roots will keep well in a slightly lower temperature. Packing the roots in dry sand in a cool, dry cellar is probably the best method of wintering dahlia roots. The sand will prevent the tubers from becoming too dry, as this latter

condition is almost as dangerous to dahlia roots in winter as an excess of heat and moisture. Dry the dahlia roots fairly well before stowing them away finally for the winter.

THE RAMBLER ROSES

BY

T. H. RACE, MITCHELL



A WIRE FENCE COVERED WITH CRIMSON RAMBLER ROSES
AT MR. AMBROSE PETTIT'S

FIG. 2394.

READERS of *The Horticulturist* were very much interested in the description of the Crimson Rambler rose hedge in last month's issue. The sight described on the farm of Mr. Ambrose Pettit must have been a very beautiful one. But let me add that handsome as the Crimson Rambler is the Pink Rambler is not to be despised or overlooked.

I had a small cluster of Pink Ramblers on my grounds this season that was very much admired and attracted quite as much attention as the crimson. The pink blooms about two weeks earlier than the crimson,

and its individual blooms are not so double or heavy, but its clusters are more numerous, and when fully out the effect is very fine. I intend to plant it in a hedge, in alternate order with the crimson, three feet apart, and intermingle the shoots in such a way as to have a continuous hedge of both, or each in its blooming season. By that plan I hope to double the length of the season in which my hedge will be in bloom, first in pink then in crimson. And for real beauty I would not say that the last stage would be prettier than the first.

THE TRAILING ARBUTUS

(EPIGEA REPENS.)

COMMON NAMES: TRAILING ARBUTUS, GROUND LAUREL, MAYFLOWER

BY

MRS. A. GILCHRIST

TORONTO JUNCTION

This many-named plant belongs to the royal order of plants Ericaceae, or true Heath family. It is found on sandy soil, especially in the shade of pines, and is common with us near Toronto, but in many parts of the country it is quite unknown.

There are but two species, our own *Epigea Repens*, and one in Japan called *Asiatica*, not yet in cultivation. In New England it is the most popular of all the native flowers, and is known as the May flower, while the Mayflower of English history and literature is the Hawthorn. Then many people give the *Hepatica* the name Mayflower; indeed, if you go into one hundred schools in our province and ask the boys and girls what is the first native flower they may expect to find in the spring, ninety-nine will tell you that it is the Mayflower, by which they mean the *Hepatica*. No one more dearly loves our common English or local names than I do, but sometimes local names are most conflicting, and in teaching the young it is just as easy for them to know the plants and flowers by their proper names, for the common name often means a different plant altogether. But I am wandering away from our sweet, wee *Arbutus*, a flower which is worthy of a place in every garden. It has been called one of the

most exquisite of nature's fondlings, a gem worthy of a rare setting. The reader will have little difficulty in locating it, even if it may be covered with leaves, for its perfume is of such a sweet peculiar fragrance. Its leaves are evergreen, glossy above; if the winter has been severe you will sometimes find the leaves injured and of a russet brown color. The flowers are of two kinds; the female flower being large and white, while the male flower is smaller and pink or somewhat rosy in color. The question is often asked, Can the *Arbutus* be cultivated in the garden? Certainly, if properly lifted and cared for, but is like all the rest of its family, a little difficult to transplant. Try and secure small, young plants, lift them with a good ball of earth, be careful not to injure the roots, replant in a shaded position, protect in winter with leaves, as nature does, and you may expect to succeed. But, like the thrush, it belongs to the woods by inheritance. We quite frequently find it in bloom before the first of May, it depends on the season. In going through the woods I find the buds showing now, the first week in April, yet they may not be fully developed for some time. In the words of Longfellow:

“ And with childlike credulous affection
We behold the tender buds expand,
Emblems of our own great resurrection,
Emblems of the bright and better land.”

THE YELLOW DAY LILY

(HEMEROCALIS FLAVA)

BY THE EDITOR.



FIG. 2394. YELLOW DAY LILY.

IN a large collection of Hardy Perennials set at Maplehurst last spring were six of these Day Lilies, and though this variety is by no means uncommon, yet it at once arrests the attention of the passer by, with the pure yellow color of its petals. The flower is well called Day Lily, each bloom is so short lived, but other flowers so rapidly replace the faded ones, that one scarcely observes this characteristic.

The flower is orange yellow (*flava*) very

erect and very fragrant. It came into bloom this season about the 6th of June, and the cutting for the photograph was made on 10th of June.

The plant is a native of South Europe, Western Siberia and Japan, and was introduced into England in 1596. There are several species of *Hemerocalis*, but this one seems to be the general favorite. We notice a reference to this lily in the two leading horticultural journals of recent years, both of which we regret to say are now discontinued. The first from "The Garden" and English journal: *H. flava* is one of the best of the bold herbaceous plants flowering throughout June, when its rich yellow, trumpet shaped blossoms are appearing day by day, and though not lasting long individually, the profusion is so great that the waning blossoms are not missed. Always a vigorous subject it should be planted only in such company, or in a group where its presence will not interfere with things more frail. Besides being a border plant, it is also most useful for early forcing in pots and greenhouses. The second from "Garden and Forest" of New York city: Near a group of white peonies, or a group of grey, blue or purple varieties of garden Irises, no combination can be more beautiful. All it wants is room, food and sunshine to make a most magnificent display. A large vase, filled with a mass of these long-stemmed flowers, makes a really imposing display.



The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 13th. It should be addressed to L. Woolverton, Grimsby, Ontario.

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

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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 arrears 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.

REPORT OF FRUIT INSTITUTES HELD IN PRINCE EDWARD COUNTY

BY E. LICK, OSHTAWA, DOMINION FRUIT INSPECTOR

THE fruit interests of this county are very large. Owing to the peculiar form and varied character of the soil, together with the proximity of water, there is perhaps no part of the Province of Ontario better situated for the production of apples.

The special mission of this series of meetings was to illustrate thinning, and talk about packing and the Fruit Marks Act. At many of the meetings the growing of fruit came in for a share of the time. Fifteen meetings were held in all, beginning at Albury on the north side of the county, and ending at Consecon at the west end. The

meetings were held in the forenoon and afternoon, except in the case of one day, when only an afternoon meeting was held.

The first meeting, at Mr. S. Dempsey's, was most largely attended, fifty or sixty being present. The attendance at most of the other meetings was from twelve to twenty. Mr. Lick had the assistance of Mr. Carey, of Cobourg, and later Prof. Lockhead, of Guelph. It was to be regretted that many were detained from attending by backward haying and ripe rye or fall wheat.

Among the important points emphasized were the following, viz :

1. The importance of cleanliness and care of the orchard.

2. The necessity of thinning, if best fruit is to be obtained. This point was well illustrated at Mr. John Laird's orchard, Picton. Mr. Laird thinned Duchess some weeks before, and a very great improvement in size could be noticed.

3. The desirability of whole sections devoting their energies along certain lines, such as apple growing, dairying, etc., was clearly brought out.

4. The necessity of spraying if scab is to

be overcome, was never so clearly shown than in the case of Albert MacDonald, Con-secon, who said: "I have lost \$1,000 by not spraying."

The question of insects was handled by Prof. Lochhead in a very helpful way. The Fruit Marks Act and packing of apples for sale was of great interest at nearly every meeting. Many expressions of regret that farmers could not attend were heard and universal approval of this practical way of reaching the fruit growers.

FRUIT GROWING ON ST. JOSEPH AND MANITOULIN ISLANDS

BY PROF. W. LOCHHEAD, AGRICULTURAL COLLEGE, GUELPH.

PROF. LOCHHEAD having been sent out by the Superintendent of Farmers' Institutes to meetings at Manitoulin and St. Joseph Islands, writes to Mr. Creelman a newsy letter in reference to the agricultural and horticultural conditions of these islands. Mr. Creelman sends us an extract from that portion of Prof. Lochhead's letter dealing with fruit growing particularly.

"I have been making this hotel my headquarters for three days. Ever since coming from Manitowaning, I have been making excursions to various parts to get information regarding the capabilities of St. Joseph's Island. My opinion of St. Joe has to a large extent changed since I came here. I had the idea that the soil and rock were very much like those of the Grand Manitoulin, but such is not the case. Although the underlying rocks are probably the same—Silurian limestone—yet the soil and sub-soil have great depth. In fact, I have nowhere seen an exposure thus far in my travels. In Manitoulin the great fires had burnt away everything of a vegetable nature in the soil, and left it blue or white. Here,

however, there is as a rule much humus in the soil. In many places and on large areas, too, the clay is cold and heavy, and in other places the soil is quite sandy.

"I visited several farms. I saw splendid crops of peas, although they tell me this is an off year on clay land for peas, an account of the wet May and April. Oats, wheat and barley look well and give evidence of an abundant crop.

"From what I can gather this island is quite suitable for fruit growing. I saw admirable yields of apples, Duchess and Alexander among the early varieties, and Longfield, Yellow Transparent and Wealthy as early winter apples. The Japan plums, Burbank and Abundance and Ogon, are quite hardy and are great bearers, with Mr. Chas. Young, of Richards Landing. To show how fruit growing may be made lucrative Mr. Young tells me that he got \$65 for the strawberries he sold from a patch not one-fifth acre in extent (after taking all he wanted for his own use). He got 10 cents a box at the 'Soo'. The 'Soo' is the ready market for all produce grown in St. Joe."

Question Drawer

Black Knot on Cherry and Plum.

1322. SIR.—Would you kindly inform me if spraying the trees with Bordeaux mixture is effectual, not only in keeping down but also in getting rid of the Knot until they are again affected by other trees. Also, how early should the spraying be commenced, and how often repeated?

List-wel.

A. J. COLLINS.

Reply by Prof. Lochhead, O. A. C., Guelph, Ont.:

It is quite within the power of the fruit grower not only to control but also to prevent the spread of the Black Knot. If careful spraying with Bordeaux mixture (4-4-40 formula) is carried on regularly the Knots will gradually disappear by breaking off. The disease is more profitably controlled by cutting off diseased parts and burning them in early spring, and by spraying with the Bordeaux twice or thrice in spring and summer (such is necessary for the prevention of the *brown rot* and the *shot hole fungus*). In districts where the Black Knot was formerly very injurious, but where cutting and spraying have been adopted, the disease has practically disappeared.

The best times to spray are: (1) When leaf buds are opening; (2) When fruit is formed; (3) Two weeks later. The spores of the Black Knot are mainly set free in early spring and in June, consequently the Bordeaux should be applied at these times at any rate to kill the germinating spores.

Lecanium Scale on Japanese Honeysuckle.

1303. SIR.—I enclose you some twigs of my Japan honeysuckle affected with some kind of scale. Could you tell me what it is?

A SUBSCRIBER.

Reply by Prof. Lochhead, O. A. C., Guelph, Ont.:

The dark brown scales on the Japanese honeysuckle sent me are Lecanium Scale Insects. Similar scales are often found in

both greenhouse and orchard plants. As a rule they lay eggs, are but single-brooded, and pass the winter in the half-grown condition. On cherry there is the cherry scale (*Lecanium Cerasifex*); on blackberries at Trenton last year the blackberry scale (*Lecanium Fitchi*); on greenhouse lemons, etc., the Lecanium *Hesperidum*; on currants the currant scale (*Lecanium Ribis*); on peach, maple, etc., the peach Lecanium (*L. Nigrofasciatum*); and on plums the New York plum scale (*Lecanium Prunusatri*). With the last named scale, the young pass the winter on the twigs, and begin to move in April to new feeding grounds on the newer twigs. Before the end of June these become full-grown, and begin egg-laying. In early August the young lice emerge from the eggs and crawl out on the leaves. In September they migrate back to the twigs, where they are to be found in winter clustered in rows on the under surface.

The life-history of the honeysuckle scale will likely be somewhat similar to that of the New York plum scale.

Millipedes Eating Strawberries.

1304. SIR.—Can you give me a remedy for the small brownish wire-worm that eats strawberries?

I do not mean the soft white grub that eats the plant, but the harder and smaller insect that eats the fruit itself.

By doing so, you would greatly oblige.

Montreal.

COLIN D. MORGAN.

Reply by Prof. Lochhead, O. A. C., Guelph, Ont.:

The hard, wiry, worm-like creatures which you send me are millipedes, and are sometimes mistaken for wire-worms. In England, they are often called "False Wire-worms," and with us "Galley-worms." They do not belong to the insects, but to the Myriapods. They never have wings,

and differ little in appearance throughout their lives. When at rest they coil their bodies. They are omnivorous feeders. Sometimes their food consists of grubs, worms and slugs; and sometimes such cultivated plants as mangolds, potatoes, cabbage roots, and even the roots of cereals. Once in a while we hear of them eating ears of Indian corn and strawberries. The eggs are laid in holes in the ground in the spring, and it is possible that the adults are carried from one place to another in mulches and manures.

Many remedies have been tried. Traps are possibly as practicable as any. Poisoned baits of bran or potatoes, or mangolds have been used to advantage.

A dressing of fresh gas-lime to the soil has been recommended.

Thorough cultivation of the land, and clean farming, by the removal of old rotten roots and rubbish, will also pay where the land becomes infested.

Killing Mustard By Spraying.

1305. SIR,—I saw an item in the press about some man teaching the farmers how to kill wild mustard by spraying it with some chemical solution. Can you give me the formula?

A SUBSCRIBER AT LONDON.

Recent experiments, carried on first in

France, then in England, and latterly in Canada, both at the Dominion Experimental Farm, Ottawa, and at the Ontario Agricultural College, Guelph, show conclusively that growing wild mustard (*Brassica sinapistrum*) can be killed by spraying the plants with a two per cent. solution of copper sulphate or bluestone—one pound of bluestone being dissolved in 5 gallons of water.

With an ordinary spray pump the infested plots may be sprayed. A fine nozzle should be used, and the application made on a clear day in June, just as the mustard is coming into bloom. If applied carefully, the bluestone solution will not harm crops of oats, barley or wheat, in which the mustard is growing. In cases of severe infestation, where hand pulling is clearly out of the question, this method of spraying should come quickly into general use; for, although the mustard seeds in the ground are untouched, the plants which come up are prevented from re-seeding the ground. It becomes, then, merely a question of a few years before a badly infested plot becomes clean, if the plants are sprayed annually.

W. LOCHHEAD.

O.A.C., Guelph, Aug. 2nd, 1902.

Open Letters

The Elm as a Shade Tree.

SIR,—Fifty years ago at a meeting of the Horticultural Society of New York, a Mr. Stephen Ainsworth, a fruit grower south of Rochester, arose and said, "Fellow fruit growers plant trees as beginners that will bear grief well." It is one of the best speeches I ever heard at a meeting of horticulturists. It was very brief, but full of meat for digestion and consideration. Mr.

A. McNeil in your August number calls attention to the American Elm as a shade and ornamental tree. It is beautiful, majestic, hardy, attains great size, is as free as any from insects, worms and other pests, holds its foliage well, the best shade tree in America, will branch high and therefore not darken front windows, will form a lofty arch over the street if planted on both sides.

And over and above all it bears grief well.

In this respect it has no equal. It is a very long lived tree and when a man has planted an elm and protected it until it has been well established, he may rest assured that it

will give shade to many generations after he has passed away.

FRANCIS WAYLAND GLEN.

Notes from the Horticultural Societies

New Horticultural Society Formed.—Mr. Frank J. Barber, of Georgetown, writes us as follows: I beg to report that on the 2nd ult., a horticultural society was formed in Georgetown with very bright prospects. A good membership has already been secured and a progressive Board of Directors appointed. The following is the list of officers:

President, Mr. John R. Barber; 1st vice-pres., Dr. Wm. T. Roe; 2nd vice-pres., Miss Young; sec.-treas., Frank J. Barber.

We are arranging for our first public meeting this fall. (Sgd.) Frank J. Barber, secretary.

We are glad to note advancement in horticultural work. Besides the formation of Local Fruit Growers' Associations throughout the agricultural districts of the province, the towns are taking a great interest in horticultural work. Besides floriculture, which has always attracted considerable attention from amateurs and practical florists, many citizens and their families are becoming interested in horticultural study.

One line of horticultural work that has become quite prominent and is being fostered and encouraged by the horticultural societies is the improvement of parks and private residences in towns and cities. This is doing much to increase the value of property in these towns. Our horti-

cultural societies are taking hold of this work in enhancing the general appearance and beauty of urban localities. It will be noticed that the organ of the Provincial Fruit Growers' Association, the Canadian Horticulturist, has been giving attention to this branch of horticulture in its article on "The Home Beautiful."

Advancement along more practical lines of horticultural work is illustrated in the following report of the Port Elgin Branch of the Lake Huron Fruit Growers' Association:

"We held a monthly meeting on May 31st and considering the busy time of the year, had a very good attendance. The topic of the meeting was 'Insects Injurious to Plant Life.' It was taken up by Mr. James Muir, who handled the subject to perfection. After the reading of the paper a discussion, which was very interesting, took place on this subject.

"It was decided to hold our meetings on the last Saturday of every month at 3 p.m. Our president, Mr. Wm. George, was appointed delegate to the district meeting in Hanover, on June 11th. There seems to be an increased interest taken in all the meetings and good results are expected in the working of the association in this district."

(Sgd.) W. A. Mitchell, Secretary.

Our Book Table.

FORESTRY OF MINNESOTA, by Samuel B. Green, Professor of Horticulture, the University of Minnesota, published by the Geological and Natural History Society of Minnesota, 1902. Second edition, postpaid, 37 cents.

This is one of the finest publications we know on forestry. It is full of interest from beginning to end, a book of nearly 400 pages, in cloth. Part I deals with such subjects as The Tree, The Forest, Forest Influence, Propagation, Nursery Practice, Forest Protection, Forest Mensuration, Wood and its uses, etc. Part 2 with the Trees of Minnesota, which are much the same as those of Ontario.

IRRIGATION FARMING. A handbook for the practical application of water in the production of crops; by Lute Wilcox. New edition, revised, enlarged and rewritten. Since the publication of

the first edition of "Irrigation Farming," six years since, so many important improvements in irrigation have been made, and new and better methods introduced, that in order to keep abreast with the times a new edition of this standard work has become a necessity. Realizing this need, the author has prepared the present volume, which has been largely rewritten, entirely reset, and considerably enlarged so as to present in systematic sequence and concise form everything pertaining to the most modern irrigation methods and means, thus making it the most complete manual on the subject ever published. As the author has devoted the greater portion of his life to practical irrigation work, and is the recognized authority on the whole subject of irrigation, from a practical standpoint, every statement made in this book is based on the best experience, practice and science, and may be unhesitatingly relied upon as absolutely true. The

volume is profusely, handsomely and practically illustrated, and in paper, presswork and binding all that could be desired. Over five hundred pages, five by seven inches; cloth. Postpaid, \$2.

IRRIGATION METHODS. A timely up-to-date book on the practical application of the new methods for destroying insects with hydrocyanic acid gas and carbon bisulphid, the most powerful insecticides ever discovered; by Willis G. Johnson, formerly professor of entomology and invertebrate zoology at the Maryland Agricultural College and State Entomologist, author of many special reports on economic topics, and associate editor American Agriculturist weeklies. An indispensable book for farmers, fruit-growers, nurserymen, gardeners, florists, millers, grain dealers, transportation companies, college and experiment workers, etc. Nothing of the kind has ever been printed before. It embodies years of careful research and practical application by the author, as well as the tests and experiences of others from all parts of the world. The fruit, nursery, floral and grain industries are confronted on every side with hordes of insect pests which threaten their very foundation. This important work tells just what to use and how to apply it to save serious losses from insects. The author has presented his subject in a popular style, free from technicalities. Specific and minute dir-

ections are given for making and applying hydrocyanic acid gas from every standpoint. The physiological effects upon animal and plant life are fully illustrated and discussed. Six chapters are devoted to orchard fumigation, including the construction and management of all kinds of apparatus devised and successfully used. In three chapters on nursery fumigation, the construction, management and methods of preparing young trees for treatment are given. The destruction of insects in greenhouses, mills, elevators, granaries, dwellings, ships, cars and other enclosures can be easily and cheaply accomplished by following the directions given. Other chapters contain the opinions and methods of experts from every part of the world where the gas is used. The regulations of foreign governments regarding the importation of American plants, trees and fruits are described. A most useful part is devoted to the use of carbon bisulphid for the destruction of animal life below the surface of the ground, stored grain or other materials, and in places where hydrocyanic acid gas cannot be used. Illustrated; five by seven inches; three hundred and ninety-one pages. Cloth, \$1.50.

CATALOGUES.

BARR'S GOLD MEDAL DAFFODILS.—Barr & Son, 12 King Street, Covent Garden, London.

SPRAYING PAYS

IN a year like the present when the conditions are commonly known as rather adverse, favorable opportunities arise of testing many of the principles or orchard practice. For example, in the early part of the season we have had a great deal of rain, and spraying operations were frequently interrupted and in many cases entirely prevented. As the season advanced the weather was very moist, and consequently conditions for the development of fungous diseases very favorable. It is not to be wondered at, therefore, that many reports are coming in from different parts of the province saying that apple scab, mildew, grape rot, etc., are very prevalent. However, under these most unfavorable conditions we find cases where spraying was thoroughly carried on and the rot almost entirely eliminated from the orchard. Frequent reports have come in

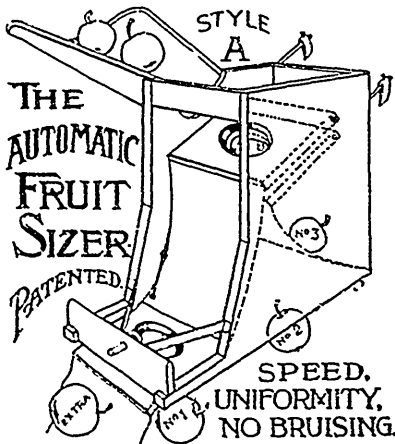
where the entire crops of plums have been lost through the plum rot. Last week, in travelling through the Niagara district, we visited the orchard of Mr. E. D. Smith, Winona, and found that by thorough spraying his trees were hanging with a splendid crop of fruit. On a considerable portion of his orchard the fruit had been thinned so that it did not touch, and where this was done the trees were entirely free from rot. However, even on unthinned trees which had been thoroughly sprayed very few rotten plums could be found, although the fruit was so thick that the plums were touching one another and crowded closely together. A couple of trees which were left unsprayed lost their entire crop through the rot. An instance of this kind affords a striking illustration of the value of spraying.

BOOKS FOR FRUIT GROWERS.

FRUIT, FLOWERS, ETC.

Apple Culture, Field Notes on. Bailey.	\$0.75
Bulbs and Tuberos Routed Plants. C. L. Allen.	1.50
Bush Fruits Prof. A. Card.	1.50
Chrysanthemum Culture. Morton. Cloth.	1.00
Chrysanthemums, How to Grow.25
Cider Makers' Handbook. Trowbridge.	1.00
Cranberries, Cape Cod. James Webb. Paper.40
Cranberry Culture. White.	1.00
Crops, Spraying. Clarence M. Weed.25
Dahlia, The. Lawrence K. Peacock.30
Floriculture, Practical. Peter Henderson.	1.50
Florida Fruits, and How to Raise Them. Harcourt.	1.25
Flower Garden, Beautiful. Matthews.40
Fruit Culturist, American. Thomas.	2.50
Fruit Grower, Practical. Maynard.50
Fruit Harvesting, Marketing, etc. F. A. Waugh.	1.00
Fruit, The. P. Barry.	1.50
Fumigation Methods. Willis G. Johnson.	1.50
Fungi and Fungicides. Clarence M. Weed. Cloth \$1.00, paper.50
Garden Making. Prof. L. H. Bailey.	1.00
Grape Culturist. A. S. Fuller.	1.50
Grape Grower's Guide. Charlton.75
Grape Growing and Wine Making, American. Prof. George Husmann.	1.50
Greenhouse Construction. Prof. L. R. Taft.	1.50

Greenhouse Management. Prof. L. R. Taft.	1.50
Horticulture, Annals of. Prof. L. H. Bailey.	1.00
Horticulturist's Rule Book. Prof. L. H. Bailey.75
House Plants and How to Succeed with Them. Lizzie Page Hillhouse.	1.00
Insects Injurious to Fruits. Saunders.	2.00
Irrigation Farming. L. M. Wilcox.	2.00
New Horticulture, The. H. A. Stringfellow.	1.00
Nursery Book. Prof. L. H. Bailey. Cloth.	1.00
Nut Culturist, The. Andrew S. Fuller.	1.50
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Pear Culture for Profit. Quinn. New and revised edition.	1.00
Plants, Handbook of. Peter Henderson. New enlarged edition.	3.00
Plants, Propagation of. A. S. Fuller.	1.50
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Principles of Fruit Growing. Prof. L. H. Bailey.	1.25
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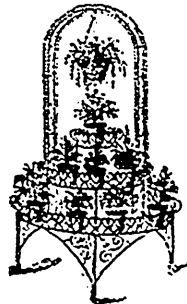
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