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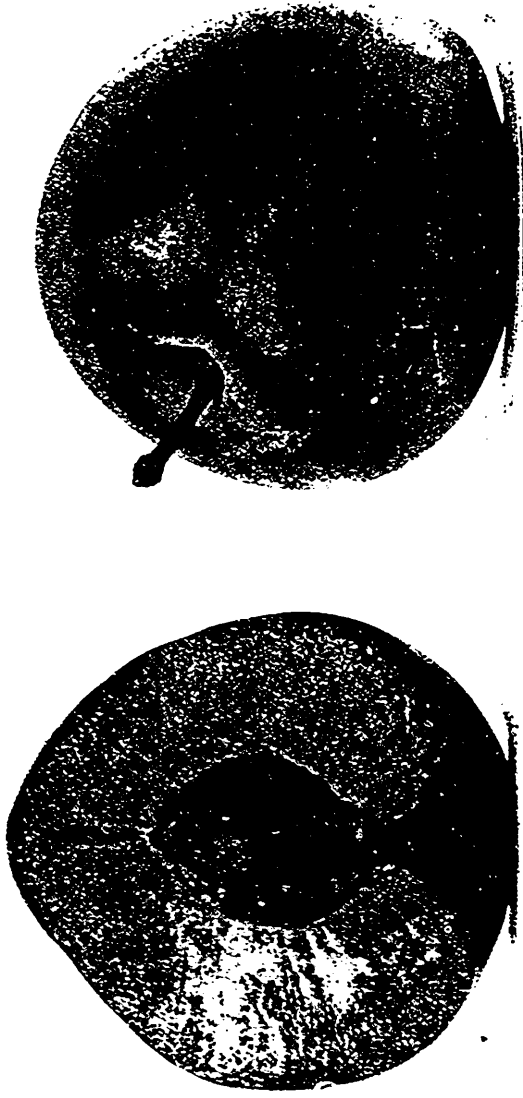


FIG. 2515. RED JUNE (ENLARGED)

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NUMBER I

THE JAPANESE PLUMS

ALTHOUGH only introduced into America some thirty years, these plums have become very widely disseminated, receiving probably a larger place in our orchards than their real merits deserve.

Many varieties of them have been introduced and pushed upon the attention of the unsuspecting fruit grower, who has too often found in them a sad disappointment. The Wickson for example has been much boomed, and truly it is a large fine variety; but alas! so far in our orchard, and we have planted about 100 trees, it has proved itself most unproductive.

Some of us were discussing the Japan plums at the Industrial, where Mr. John Mitchell, of Clarksburg, Ont., showed a fine collection; and the general agreement was that the following four varieties were the choice of all the Japans to cover the season, viz., Red June, Abundance, Burbank and Chabot.

Mr. S. D. Willard, of Geneva, New York, speaking before Western New York Fruit Growers, said of these Japans, that owing to their early blossoming his crop of Abundance was nearly ruined by spring frosts, when, hearing of the Burbank, he had them all top-worked to the latter variety. "I like," he said, "the Abundance to eat out of hand, but I do not think it is as good a handler and shipper as the Burbank and some of the

others. We have had a good many Burbanks. Some seasons, we have had four or five thousand baskets. A few years ago when looking up something better, if we could, we ran on to the Red June and in conference with a man from Lake Michigan, I learned that side by side with the Burbank, when the spring frost had done injury to the buds of the Burbank, the Red June would come out in good shape. Following up that idea in connection with the fact that it is the earliest of all plums to ripen that I know of, we have planted and fruited them quite largely. We have had them ripe and in good shipping condition on the 21st of July. I made up my mind it was a good plum for the orchard man, and we have found it so. We had something over a thousand baskets of them last year, (1901), and they brought a higher price per basket than any other plums we shipped, except some of the old varieties that came on the market after the other varieties were out of the way."

We have received the following replies to inquiries regarding the behavior of the Red June in various sections of Ontario:—

T. H. RACE, Mitchell:—The only varieties among the Japan plums that I have tried on my grounds here are the Prunus Simoni, Wickson, Abundance, and Burbank. The first two I have discarded; the third I have

planted in where I threw all my Lombards out and I value it very highly. The Burbank is my second favorite, though in some respects it is a better plum than the Abundance. Like the Abundance tree the Burbank must be cut back very severely in order to get a good, shapely tree. This is especially important with the Burbank as the yearly growth is very great and the tree is of a sprawling nature. It should be cut back to one foot every year if a good solid top is to be secured. It will take more years to get a good tree, but it will last all the more years and bear its fruit better after it has been secured. On a properly pruned tree the Burbank is a beautiful plum.

A. E. SHERRINGTON, Walkerton:—In my opinion the Red June is going to be one of the most valuable plums for either home use or market, chiefly owing to its earliness. It is a good keeper, and consequently an excellent shipper.

M. PETTIT, Winona:—I have fruited the Red June plum four years. The trees grow well, and bear regular crops from the third year of planting. In quality it is not quite as good as Lombard, which it resembles somewhat in appearance though a little smaller in size. It ripens about the first of August, and being the first plum to ripen it is valuable for market, bringing about double the price of ordinary plums. As soon however as this plum is planted in large quantities, it is a question if it will bring any higher price than the other varieties.

It should be valuable for the family garden, because it extends the season for using fresh plums.

W. W. HILLBORN, Leamington:—I have been very favorably impressed with this variety. The tree is rather more spreading in habit than the Abundance, and seems to be quite productive. The fruit is roundish conical with a distinct point, and rather above medium size. The color is quite dark when fully ripe; the quality is good. It

ripens just before Abundance and on this account it promises to be valuable for market. I have not tested it long enough to know if it has any special weakness.

R. L. HUGGARD, Whitby:—I consider the Red June a profitable early plum. Its color will always attract buyers. The fruit is especially valuable for canning, as the flesh remains firm in cooking, and retains its flavor.

G. C. CASTON, Craighurst: In reply to your enquiry about the Red June plum, I think very highly of it. It began to bear the second year after planting, and, with the exception of this year, bore regularly. It comes early. I have only one that comes in ahead of it, (the Early Botan) and it bears a heavy crop. I always include the Red June when recommending a list of plums for this section. The quality is, I think, very good. It is large in size and quite handsome. I have no hesitation in recommending it for this section.

CHARLES YOUNG, Richard's Landing: My Red June plum tree bore a few fruits last year, and if I were planting out a plum orchard I would not hesitate to include the Red June. The trees here (St. Joseph's Island) have proved perfectly hardy. I measured some of last year's growth to-day (December 23rd) and it was five feet in length. The trees promise fruit next year.

J. G. MITCHELL, Clarksburg:—I can unhesitatingly endorse the Red June as one of the most desirable of the Japan plums; not so much for its quality, which is only fair as compared with the best Europeans, but for the season in which it ripens. It is the earliest good plum we have. The tree is a strong grower, forming a beautiful symmetrical top and begins to bear the third or fourth year. The fruit is medium to large; color a bright vermillion red, not ripening all at once, but covering about two weeks; season, with us, last of July to middle of August; hardy.

Notes and Comments



FIG. 2516. KIEFFER PEAR TREE, UNPRUNED.

PRUNING KIEFFER PEARS AND JAPAN PLUMS

THE very rapid growth of the Kieffer pear tree renders heroic pruning necessary, otherwise we would have such a mass of wood as to render the tree useless. Many of our most progressive fruit growers cut the wood back most severely, especially during the first five or six years of its growth, first thinning the number of its branches, and then cutting the remaining ones back from one half to two-thirds of

their growth each year. Fig. 2516, from the American Agriculturist, is a very good representation of a Kieffer tree untrimmed, and fig. 2517 of a Kieffer after being thoroughly pruned.

Wickson and Abundance plums have much the same habit of growth as the Kieffer pear, and, in our opinion, need a similar method of pruning; otherwise the young growth will in time be out of all reach, and the branches too long and willowy; but the Burbank is a great sprawler, and of crooked, rampant, tangled habit. This plum needs close shortening in to keep it within any possible bounds.

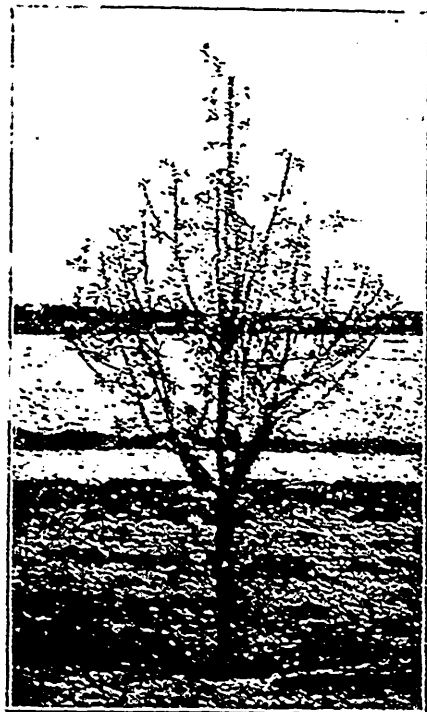


FIG. 2517. KIEFFER, PRUNED.

FALL PLANTED TREES SHOULD BE CUT BACK.

OF late some have advocated leaving the branches uncut on newly planted trees. This we count a mistake, both from theory and experience. Evaporation takes place from a tree most rapidly from the leaves in summer, and it also continues, though in a much lesser degree, from the wood of its branches all through the winter. A tree that is growing renews the supply from water in the soil, but a newly planted tree is not yet able to do this rapidly enough, unless the wood surface is much lessened by pruning, and the colder the air the more it draws upon the moisture of the tree wood.

Peach, plum and cherry trees are much more inclined to lose moisture rapidly than apple trees, and hence need much closer pruning when set.

For this reason it is usually found unsafe to plant trees in the fall in Ontario; the cold of winter robs them of moisture and consequently of their vitality so rapidly during the time between setting and the spring time, when the rootlets begin to act in supplying moisture, that they are usually much stunted for the first season, if not entirely killed. For these reasons we are advocates of spring planting of trees of all kinds in Ontario, rather than autumn. There is plenty of work in the autumn ploughing and laying out the ground, and getting it in readiness for setting the trees in spring, when, if they come fresh from the nursery ground, with no exposure to dry them, they should continue growing as if they had never been moved.

A SPRAYING OUTFIT.

THE increasing necessity of thorough spraying, year after year, renders it most necessary that we prepare the best apparatus for the work. We have evils

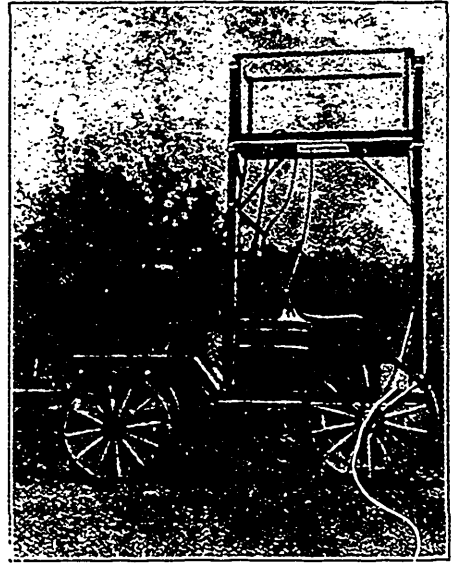


FIG. 2518. A WELL-BUILT SPRAYING OUTFIT.

enough already to fight in codling moth, apple scab, etc., but Mr. G. E. Fisher, San Jose Scale Inspector, warned us at Walkerton that this worst of all evils was spreading rapidly in districts where it has a footing, and that almost every possible means helps its spread, as birds and insects and even the wind. Cold does not prevent its growth, nor check its spread, for in Minneapolis it is known to thrive with a temperature 40° below zero. Fortunately we have in the lime and sulphur treatment, a cheap, effective, safe and easily applied remedy.

Our worthy exchange, the American Agriculturist, gives the accompanying illustration of a well built spraying outfit with the following remarks:

For spraying large trees a platform above the bed of the ordinary wagon is needed. The tops of the trees can be reached with extension rods to which the hose is attached, but such spraying is not satisfactory. Best results are obtained where the spray is

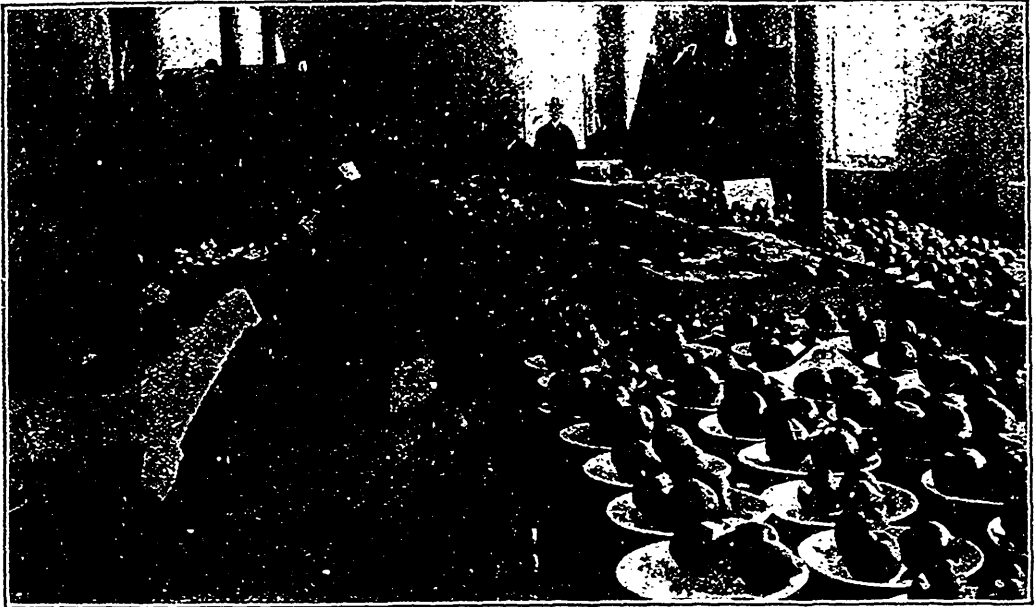


FIG. 2519. THE FRUIT TABLES AT WALKERTON.

directed into the tree from above. A platform can be easily constructed on the bed of a wagon, where only a few trees are to be sprayed.

For large orchards and where several sprayings are necessary, an outfit such as shown in the illustration will be very useful. It was made and is used regularly by a successful fruit grower. The construction is such that the front wheels can be turned short without coming in contact with the frame. The tank holds several barrels of materials. The railings around the top are strong, so that operators will not fall off by frequent starting and stopping.

THE WALKERTON MEETING.

ALTHOUGH removed a long way from the Capital of Ontario, Walkerton has proved itself a place well worthy of the trouble and expense of an annual meeting.

Promptly at 8 o'clock, on Monday evening, Dec. 2nd, President G. C. Caston called the meeting to order, and after welcome

addresses from local gentlemen, gave his annual address, in which he summed up the history of our Association, and indicated work for the future. Addresses were also given by Mr. R. M. Palmer, Horticulturist, of British Columbia, Mr. C. C. James, Deputy Minister of Agriculture, Toronto, and Prof. Hutt, of the O. A. C., Guelph.

THE FRUIT TABLES.

At our Walkerton meeting the fruit exhibit was a special feature. The tables were placed in the basement of the Town Hall, where the air was cool, and attracted many visitors. For the first time our experimenters were invited to contribute experiment station exhibits, and their collections formed a very important part of the exhibit. Even Mr. Charles Young, our experimenter for Algoma, sent down eleven varieties of apples, some of them very fine samples. In addition to his collection of grapes, Mr. M. Pettit, of Winona, showed an immense specimen of the Northern Spy



FIG. 2520. THE FRUIT TABLES AT WALKERTON.

Apple, possibly the largest ever grown in Ontario. It's weight was twenty-four ounces and it measured $14\frac{3}{4}$ inches in circumference. Mr. E. Morris, our director at Fonthill, showed a fine assortment of varieties of apples, among which we noticed the Huntsman's Favorite, an apple grown largely in Illinois, and much in demand in the Illinois markets where it brings double the price per barrel got for Ben Davis. It is large, dark red in color, and of excellent quality. We propose to have it under test at our fruit stations.

The exhibit of British Columbia apples made by Mr. R. M. Palmer, of British Columbia, was also most remarkable, setting before us an example of the perfect samples which we must grow if we would receive the highest prices.

FLORICULTURE.

AN interesting innovation in connection with our annual meeting this year was the division of the programme into two separate sections, both going on at the same

time. The large Council Chamber was set apart for the consideration and discussion of topics belonging to floriculture, and every session was crowded to the full capacity of the hall. These sessions were presided over by Mr. T. H. Race, of Mitchell, and papers or addresses were given by a number of noted florists as well as a talk on roses and rose culture by Mr. Race himself. Among those who contributed to the interest of these floral meetings were Mr. J. S. Scarf, of Woodstock, Mr. R. B. Whyte, of Ottawa, Major Suelgrove, of Cobourg, Mr. C. L. Stephens, of Orillia, Prof. Hutt, of Guelph, and Dr. Fletcher, of Ottawa. These meetings seemed especially interesting to the townspeople, who thronged the hall at every session, and took an active part in all the discussions. A considerable demand was made upon the chairman for information on roses, and we may look for a large expansion in the cultivation of that queen of flowers in the pretty town of Walkerton in the near future. A hearty appreciation and

NOTES AND COMMENTS.

commendation of the innovation was expressed at the close of the last session in a motion by Rev. Mr. Robinson, of the Church of England; seconded by Judge Cline, President of the Walkerton Horticultural Society.

To this Horticultural Section many delegates were sent from affiliated Horticultural Societies, and we predict that this department will so increase in interest that no Horticultural Society in the province can afford to be unrepresented.

SOME EXCEPTIONAL PROFITS IN FRUIT GROWING.

MR. W. T. MACOUN, Horticulturist of the Experimental Farm, Ottawa, reported that he had put up some of the finest of his Wealthy and McIntosh Red apples, and forwarded them to Glasgow in bushel boxes on the 3rd of October, and, even on consignment, he had netted \$1.00 a box, which was much better than he had done in any Ontario market. The writer reported on 100 cases of Kings he had shipped at the same time to Glasgow on consignment, and which had netted \$100.30; and also on 117 cases of Blenheims, forwarded from Beamsville, which had netted \$134!

Mr. D. J. McKinnon reported upon 83 apple trees on two acres of land, mostly Spys and Baldwins, which this year netted him \$500, or \$250 an acre. Such returns from the apple crop must have hit sorely upon those men, who, in recent years, became disgusted with apple growing, and all too hastily dug out the trees, root and branch; trees which had cost perhaps twenty years of cultivation and great outlay of money.

Mr. E. B. Stevenson, Jordan, our Strawberry expert, clapped the climax when he reported upon an acre of ground planted in 1900 to Clyde and Williams strawberry plants, which yielded in 1901 600 crates, or 14,400 quarts of berries, averaging net five

cents each, or \$700; and in 1902 500 crates, or 12,000 quarts, which, at five cents each, gave \$600. He also gave another instance of a man at Jordan who purchased three acres of new land, planted the plot to Williams, Clyde and Michel strawberry plants, and took off it 1,200 crates of berries in 1901, and cleared \$1,100 in cash.

Of course these exceptional profits must not mislead our readers; they are here noted simply to show what can be done by pluck, plod and perseverance, in almost any line of horticulture.

BRIGHT PROSPECTS.

THE near markets are the ones to be worked for these rich returns and not the distant ones, which eat up all the profit in expenses. There is scarcely a town in Ontario, of 1000 inhabitants, which will not give similar profits to the market gardener who will grow a full assortment of fruit and vegetables, and make a tri-weekly round from house to house, with an attractive display upon his wagon.

The great north and north west markets also should be most encouraging to Ontario fruit growers. The millions of acres to the north of the C. P. R., said Mr. C. C. James, Deputy Minister of Agriculture, in his address, will soon be settled with a large population, who will be hungry for our apples, peaches, pears and grapes; and no doubt the export of our fruit to Great Britain will by and by sink into insignificance compared with the demand in the northern and western markets for our fruits. With this great future before us, how evident is the importance of the great educational campaign which this Association has undertaken, through its Secretary, Mr. G. C. Creelman, who has organized local fruit growers' associations in every section, and is sending experts to give instruction regarding the best varieties of fruit, the best methods of cultivating them, and the best way to market them.

BETTER METHODS OF FRUIT SALES NEEDED.

WITHOUT doubt the methods by which the Ontario fruit grower rids himself of his fruit and his profits also, is most reckless. No more haphazard method could well be adopted than is usual, by which unequal quantities are poured into our various markets, without any regard to the needs of that market, and the sale of them forced at once upon arrival. The buyers in such cases divide the spoils, take the fruit at their own prices and retail it at an enormous advance. The poor fruit grower is quite in the dark, he knows nothing of the sacrifice of his fruit until the robbery is completed, and he receives a sales account that staggers him, accompanied by a cheque that perhaps barely covers his expenses.

"I am surprised at your method of selling fruit," said Mr. R. M. Palmer of Victoria, B. C., at our meeting at Walkerton. "You are simply giving away your fruit and ruining the markets both for yourselves and other people. In Winnipeg, when our British Columbia fruit, sold by contract, meets yours shipped on consignment, we we simply stop shipping, knowing that the fruit will henceforth be at the mercy of the buyers who will get it at their own prices. All your debates about lower transportation rates are futile under your present methods of sale," said Mr. Palmer, "for every cent you save in freights will go into the pockets of the consignees, and the poor fruit growers will be no better off."

THE REMEDY.

THE exhibit of British Columbia apples at our Walkerton meeting was certainly wonderful; they were so large and well colored. There were sixteen bushel boxes of them, and the principal varieties were Spy, Hubbardston, Vandevere, Ben Davis, Spitzenburg and Alexander. Some one asked Mr. Palmer how his people

managed the sale of their apples. "One thing is certain," he said, "we do not ship on consignment. We pack our apples in California apple boxes, each sample wrapped in paper, and sell it only on order from buyers in the Northwest." At what prices? we inquired, for we had very vivid recollections of intense disappointment over some wretched returns for boxes we had forwarded on consignment.

"Well, we get orders all the way from Winnipeg, at \$1.25 a box f. o. b. at Victoria; and even at such prices, the buyers are more anxious to buy than growers are to sell."

This led us to ask ourselves, why hurry our fine high grade Spy apples upon an already glutted market, when in proper storage we can hold them six months, and take our time finding buyers. Why in the world can not we, who wish to pack high grade apples, write and invite English and German buyers to purchase on sample? We resolved to try the experiment by holding in storage at Montreal 1000 bushel boxes of the choicest apples, with which to test the British buyer next May, and perhaps we can induce him to buy from us f. o. b. at Montreal. Anything is better than the fearful uncertainty which now attends a sale of a carload of our choicest fruit, when it is forwarded blindly to some consignee, who may already, for all we know, be much overstocked.

MARKETS AND MARKETING.

"SELLING on consignment," said Mr. D. J. McKinnon, of Grimsby, "is a good enough way for the careless fruit grower, who will not thin his fruit, fertilize his soil, spray for insects and fungi, nor grade or pack as he ought to do. But some of us want to know how we can make the most of our fruit. There are several methods of sale: (1) *You can sell your orchard in bulk*, an easy way, certainly, probably the easiest: (2) *You can ship on commission*, an easy way too, but often very disappointing; for, very often you pay a commission

to your merchant, and he, finding he has too much fruit, pays a sub-commission to another for assistance in the sale, at the growers' loss: (3) *You can sell to a jobber*, which is often quite satisfactory, and (4) *You can make retail sales all over the country*. This last is the best if you can manage it, but it is a great deal of trouble, and you cannot do it unless you have a great quantity of fruit, and buy largely to fill your orders.

A STANDARD APPLE BOX NEEDED

I THINK, continued Mr. McKinnon, that we need, not only a standard apple box for export, but we also need legislation preventing the use of the box for anything but No. 1 fruit.

To this Mr. Palmer objected, because, said he, we never use barrels at all in British Columbia, we ship everything in boxes. Well then, said Mr. McKinnon, let it be illegal to use a box printed with red ink for anything but No. 1 apples, and let black ink be used for all cases containing ordinary fruit. The matter of legislation on this point was laid over for a year, but the report of a committee on a standard box was adopted, advising the use of California sizes for Ontario fruit packages, as far as practicable; and also suggesting for 1903 the use of an apple box, measuring 9 inches deep, 12 inches wide, and 18 inches long. This box was favored by Burlington and Grimsby fruit growers, because it would hold $\frac{1}{4}$ of a barrel, an accepted size in foreign markets.

The Grimsby shippers complained that they found themselves losing money by using a box which measured $\frac{1}{3}$ of a barrel, when the price in Covent Garden was set by the quarter barrel box.

I know not whether British Columbia fruit men will accept your proposed apple box or not, said Mr. Palmer. They use several sizes at present, but the Standard apple box with them measures 10 $\frac{1}{2}$ inches deep, 11 $\frac{1}{2}$ wide and 18 long; and the

Special apple box for smaller sized apples, measures 10 x 11 x 20.

TENDER FRUITS SAFE IN PROPER COLD STORAGE.

GIVEN cold storage on land and sea that will keep our fruit just above the freezing point, it will doubtless be quite safe to hold our fruit for a fixed price which will fairly represent its real value, instead of allowing it to be sold for a song because of its perishability.

"Yes," said Mr. Fisher of Burlington, "there is a rub. Half the time we do not get an evenly low temperature on ship board. Our Burlington fruit growers sent a car load of Bartlett pears to Manchester this summer, on the Manchester Commerce, and a large portion were spoiled on the way. I got a copy of the thermograph record, and it showed a variation all the way from 68 to 30; 'cooked or frozen' is surely applicable to such conditions. Bartlett pears will not stand such extremes of temperature."

The writer reported that his shipments of Bartletts this season to Glasgow by the Donaldson line were carried in excellent condition. Our confidence in a well regulated cold storage was still farther increased by an exhibit of Duchess apples on the fruit tables by Mr. W. H. Bunting of St. Catharines. The half cases, which had been packed on the 4th of August and held at about 40° F. for four months, were in fair condition at the date of the meeting, the 2nd of December.

REPORTS OF EXPERIMENTERS.

ON Tuesday morning Dr. Mills, Chairman of the Board of Control of our Fruit Stations, took charge of the sessions, and each experimenter was called upon to give notes on the most desirable varieties of his special fruit. There are now fourteen fruit stations and the reports are becoming more valuable each year.

APPLES.

HOW fortunate that each latitude has some fruit which succeeds in it better than anywhere else, and great good will result if our fruit stations discover those fruits which will bring the most profits to each section. Mr. Harold Jones of Maitland says that four varieties of apples are very profitable along the St. Lawrence River, viz.: *Fameuse*, *McIntosh Red*, *Wealthy* and *Crimson Pippin*, about in the order named. More money can be made from orchards of *Fameuse* than from any other crop in the district, providing scab is controlled by spraying. For the Ottawa valley Mr. MaCoun recommends *McIntosh Red* and *Wealthy* as first for market purposes, for they succeed perfectly and grow free from blemishes. "No one," said Mr. R. B. Whyte of Ottawa, "need think of planting *Spy*, *Baldwin*, *King* or *Greening* along the Ottawa, for they cannot be grown."

Mr. A. D. Harkness of Irena, stated that this year he had received for his *McIntosh Red* and *Fameuse* from \$3.25 to \$3.50 per barrel in the Ottawa market.

Mr. G. C. Caston, of Craighurst, showed a large number of varieties of apples. "I have tried," said he, "quite a collection of commercial varieties in Simcoe County, and find nothing superior to the *Spy*. I consider it the hope of apple growers in my district, for it excels every other variety, both in appearance and in quality. True it is very long in coming into bearing, but it is 'worth waiting for.' Besides if you top work it on *Tolman Sweet*, it will bear sooner than if worked on other stock.

"The Russian apples I find to be mostly summer varieties, the *Bogdanoff* perhaps comes the nearest to a winter apple. We cannot grow the *Fameuse*, nor the *McIntosh Red*, nor the *Baxter*, on account of scab. The *Peerless*, which I got from Minnesota in 1895, bore this year an average of a half bushel each tree. It is a seedling

of *Duchess*, which it somewhat resembles; it is a good cooker, but it is a fall apple."

"I have about three hundred varieties of apples in my experimental orchard," said Mr. Dempsey, who is experimenter for the Bay of Quinte district, "one half of which have been added since 1894. For the Bay of Quinte region I would advise planting *Duchess*, *Trenton*, *Gravenstein*, *Fameuse* and *McIntosh* for summer and fall; and *Spy*, *Ontario*, *Stark*, *Hubbardston*, *Seek*, *Cranberry* and *Ben Davis* for winter.

"In the southernmost sections of the province the winter would adopt the following list, in order of ripening. viz.: *Transparent*, *Duchess*, *Alexander*, *Gravenstein*, *Blenheim*, *King*, *Baldwin*, *Spy* and *Roxbury Russett*."

PLUMS.

MR. HAROLD JONES is testing *M* plums which may prove suitable for the St. Lawrence district. He has not found any of the old English kinds (*Domestica*) to be hardy, and has now concluded to test only native stock. He mentioned four kinds which he had tried, and in which he had placed much confidence, viz.: *Milton*, *Whittaker*, *Hammer* and *Forest Rose*.

PEACHES.

THE day of extraordinary prices for peaches grown north of the peach belts seems to be rapidly passing; for in cold storage, this tender fruit may be sent to us from distant American orchards and fill our markets. There are very few parts in Ontario in which a peach will thrive with any kind of certainty; even in *Essex*, that part of Ontario considered especially fitted for peach culture, hundreds of acres of peach trees were winter killed by an exceptional winter, and much discouragement has resulted. Mr. Hilborn, our experimenter of *Essex*, gave a list of his favorite varieties, as follows: *Triumph*, *Greensboro*, *Yellow St. John*, *Garfield*, *Early Crawford*, *Fitz-*

gerald, Engol, Elberta, Golden Drop, Smock, and Salway.

"Suppose" said Dr. Mills, "you were confined to six varieties, which would you select?" "I would take St. John, Garfield, Fitzgerald, Engol, Elberta and Smock," said Mr. Hilborn.

We suggested the Sneed, for extra early. It ripens at Maplehurst about the middle of July, quite in advance of any other variety, and although a cling, and of no great merit comparatively, still it has no competitor of its season, that is grown in Canada.

RASPBERRIES FOR SUCCESSION.

WHEN it came to raspberries, we found in Mr. Sherrington, of Walkerton, a man whose experience as an experimenter was most valuable, especially for people in the Lake Huron district, for he has tested about sixty-five varieties. Having grounds somewhat limited in extent, he has used raspberries as fillers between the rows. He plants three rows, six feet apart, and nine feet from the apple tree rows on each side, which are thirty feet apart. Then in these rows he plants six currant bushes between every two apple trees, giving room to cultivate a large space about each tree. He grows the berries on the hedge row plan, cutting out all old wood in the fall and giving the ground a coat of barn yard manure and ashes.

What are your best varieties for profit? we inquired.

Well, if you mean table berries for the home trade in Walkerton, the following are the best EARLY ONES:

- (1) *Reliance*, which is hardy, fairly vigorous, and fairly productive.
- (2) *Turner*, the hardest of all, fairly vigorous, splendid for the home table.
- (3) *Marlboro*, a fairly productive, a little tender, a good shipper, but considered too dry for home table.

MEDIUM AND LATE—*Cuthbert*, queen of all red berries, the very best red.

Phoenix, hardy and more productive even than *Cuthbert*.

Loulon produces enough canes.

"I do not care," said he, "for the purple varieties, such as Shaffer and Columbia. "I differ with you there," said F. Metcalfe, of Blyth, "I have grown Columbia most successfully, and have found it very profitable."

So we find that doctors often disagree.

CURRRANTS.

PROBABLY no fruit is so suitable for an orchard filler as the currant, for it ripens in the shade of the trees, and seems to rob the ground of very little substance. At Maplehurst we have grown it in this way for twenty-five years, and have found it very profitable until the last few years. Now the demand for it is increasing again, and why should it not, for of all fruits it is one of the most wholesome; and for pies or jelly, the fruit is more appetising.

Our favorite had always been the Cherry, though the Fay was about its equal, so we were interested in Mr. Peart's list of most profitable varieties. He places the *Wilder* at the head of his list. "I prefer it myself," said he to any other. It is large, of fine quality, while the plant is productive, and its only fault is its susceptibility to leaf blight, late in July. Of other varieties I commend the Cherry, Pomona, Fay and Red Victoria.

GRAPES.

MANY new varieties of Grapes have proved useless, said Mr. M. Pettit, our experimenter at Winona, who has tested about 150 varieties of Grapes, and out of them all has one dozen kinds which he can recommend as really of value for the commercial vineyard.

The *Alice* is one of the most recent intro-

ductions, and in his opinion it is nothing but the old Diana resurrected.

Campbell's Early is worth planting because it is so early, and there is nothing better in its season. It is not as productive as *Champion*, but of course *Champion* is too poor a grape for any purpose; and in quality *Campbell* is superior to *Moore's Early*. *Brighton* is too tender for shipment, and *Eaton* is a large black soft grape of poor flavor; *Moore's Early* does not make enough wood, and consequently is not sufficiently productive. *Early Dawn* is a good wine grape. A good list of shipping grapes, said Mr. Pettit, is the following:

Worden, *Moore's Diamond*, *Lindley*, *Dela-ware*, *Niagara*, *Catawba* and *Vergennes*. "I think very highly of the *Vergennes* for winter use," said Mr. Orr, who was making a fine display of them on the fruit tables. "I have about half a ton of them in my cellar, for the use of my family and their friends during the winter. They are one of the best keeping varieties."

STRAWBERRIES FOR SUCCESSION.

IT was a splendid opportunity to take notes of varieties for spring planting, with so many of our fruit experimenters present, and almost for the first time we were privileged to question our strawberry specialist, Mr. E. B. Stevenson, of Jordan, so long known among us as the best Canadian authority on this delicious fruit. His list of commercial varieties was as follows: *Early*; *Michel*, *Vandeman*, *Monitor*, *Beder Wood* and *Clyde*; *Medium and Late*; *Haverland*, *Tennessee Prolific*, *Saunders*, *Glen Mary*, *Sample*, *Brandywine*; *Very late*; *Aroma*, *Hunn*, *Gandy*, *Joe*.

NEW FRUITS.

PROF. H. L. HUTT, Chairman of the "New Fruits Committee," presented the report of the committee which recorded the receipt of a large number of samples of

fruits during the season, some of which were sent to himself at the College, Guelph, some to Mr. W. T. Macoun, at Ottawa, and some to Mr. L. Woolverton, editor of this journal, Grimsby.

Many of these were declared to be no better than varieties already in cultivation, but there were a few which were esteemed promising. An attempt will be made to secure the latter for testing at the fruit stations, for from among our native seedlings there will no doubt arise the varieties best adapted to our country. The following are some fruits reported as "promising."

PEARS—*Bemans Seedling*.

PLUMS—(from Central Experimental Farm) *Consul*, a seedling of *Wolf*, yellow in skin and flesh, juicy and good, September to October. *Sunrise*, seedling of *de Soto*, yellow, with more or less bright red, flesh yellow, juicy and sweet.

PEACHES—About thirty seedlings were grown about Guelph, some of which developed considerable hardiness, and from these seedlings are being raised by Professor Hutt with a view to producing varieties still more hardy.

CURRENTS—A new black currant, originated by Dr. Saunders, has proved of considerable value, and has been named the *Topsy*.

CRAB-APPLES—Of these five new seedlings Dr. Saunders are of considerable value for northern sections, viz., *Prince*, *Tony*, *Alberta* and *Elsie*.

GOOSEBERRIES—Several interesting seedlings were raised by Mr. Stephens, of Orillia; and in raspberries the *Herbert*, a new variety of great promise, has been recently offered for sale by Mr. R. B. Whyte, our director at Ottawa.

PROFIT IN TOMATOES.

THERE was not much talk about tomato to growing profit, but Mr. Peart reported on the *Honor Bright* as a good variety for export.

This year he had made a shipment to Great Britain, and had received as high as 6s. a bushel box for them, which was quite satisfactory. For the home markets there seems to be very little money in growing tomatoes unless they are very early. Many growers make contracts with the canning factories for their crops, with permission to ship the early ripe fruit, up to a certain date, after which all are to go to the factory, which is a very fair bargain. The contract price so far has been 20 cents a bushel, but, owing to the advance in the canned goods, the factories in the Niagara district are already offering 25 cents a bushel for the crop in 1903. This should pay the grower, when one considers that there is no commission, baskets or express charges to pay.

APRICOT AND OTHER FRUIT PULP.

SIR,—In consequence of an enquiry which I made as to why apricots were not grown more extensively in Canada, Professor Saunders sent me last June a letter containing an extract from a report which you had made on the subject which terminated with the statement that you were conducting further experiments.

Mr. MacKinnon, Chief of Fruit Division, was here a couple of days ago, and in the course of conversation he mentioned also that he had during his visit here been struck with the large number of apricots, and how advantageous to Canadian fruit growers the increased production of this fruit would be. You are aware that apricots are imported just as fresh fruit, also as pulp for jam making, dried and canned.

I shall be interested to learn the results of your further experiments, and this is my reason for writing to you.

HARRISON WEIR,
Curator Canadian Section Imperial Institute,
London, England.

At Maplehurst we have been trying to grow apricots on our sandy loam for nine years past. We planted every variety offered by the nurseries, but have had no fruit to speak of all these years. One explanation seems to be their early blossoming, which exposes them to injury from spring frosts; and another is the ravages of the curculio, which usually causes all their fruit to drop before maturity. About twelve

years ago we planted a dozen Russian apricots, but every one has proved worthless.

Unless therefore the soil or climatic conditions elsewhere bring about results different from ours at Maplehurst, we can encourage no one to undertake apricot growing for profit.

If there were a demand at paying prices for peach or raspberry pulp we could see business ahead, but experiments already tried by a committee of our Association of which Mr. Boulter, of the Picton Canning Factory, was the chief experimenter, discourage that enterprise, because the prices were not remunerative.

California is undertaking the export of all kinds of fruit pulp in rectangular bricks made by "boiling down the fruit pulp to a sugar until the desired consistency is reached when the mixture is poured into pans, and permitted to dry slowly for ten hours," being eventually cut in bricks and done up in waxed tissue paper. Strawberry pulp in cans is much in demand for flavoring of ices and soda water.

FRUIT INSPECTOR'S REPORT.

THE Fruit Division at Ottawa is rendering good service to fruit growers by reporting to them upon the sales in Great Britain, and upon its condition on arrival. For example we have just received following, dated Glasgow, Nov. 17th, regarding fruit ex SS. Lakonia:

"H. Gordon Ball, Niagara, Ontario.—15 cases King Pippins. These were without exception the most perfect and finest lot of apples which have come here this season; every apple was wrapped separately in paper, and each case was perfection from top to bottom. Unfortunately, the lids of the cases were only of 1/8 inch wood, which allowed of easy access to the contents. It seemed incredible that the packer of such apples should send the boxes away with such poor lids."

"L. Woolverton. --150 cases apples, Greening and Russets XX 3/6, 4 --; Cranberry Pippins, good XXX 5/6, 6/--, XX 4/--, 5/--.

"A. Block.—Californian Pears, all in perfect condition; varieties principally Winter Nelis and Glout Morceau. These made 7 6 to 8/6."

THE TALLMAN SWEET AS A STOCK FOR GRAFTING.

SIR,—Is Tallman Sweet the best stock to top graft on, and does top grafting any species shorten the time at which the tree comes into bearing?

When you get Tallman Sweet trees from nurserymen for spring planting can you graft immediately they are planted or must you let them grow for a year?

Would two year old seedlings from Tallman Sweet seed do as well as purchasing from nurserymen?

Is there any data or do you know at what age would the following kinds come into bearing if top grafted on young Tallman Sweet trees, viz., Spy, Faldwin, King, McIntosh, Gravenstein, Astrachan and Blenheim.

Is there any of the above trees that should not be grafted as above? An answer would oblige.

Toronto.

C. L.

The influence of the stock upon the cion has been often observed, especially is it noticeable where the free growing pear cion is grafted upon the quince; for the growth of the pear wood is thereby checked, and the strength of the tree is diverted into the formation of fruit buds, and into the production of large sized fruit.

Mr. Geo. T. Powell, of New York State, reports that he has some King apple trees top grafted upon Northern Spy. The former has coarse grained wood and is a rapid grower, while the wood of the latter is very close grained and very solid. He found the King in this case more productive than when

grafted on other wood. Mr. G. C. Caston, of Craighurst, Ont., reports having top grafted Spys on Tallman Sweet trees; and that the Spy, usually so long coming into bearing, began to be productive sooner than when grafted on ordinary seedling stock. Nurserymen seldom take this subject into consideration in propagating trees, because it would be inconvenient in a large way. It seems however reasonable to suppose that if they could secure seeds from the pumice of Tallman Sweet in sufficient quantity to use in propagation of young stock it might give excellent results. Of course any one, who pleases, can grow young trees by sowing seed of Tallman Sweet apples, and perhaps a large number of the seedlings would have the wood characteristics of the plant, but on this one cannot fully depend.

If you buy Tallman Sweet trees for top working, it is better to let them grow a year or two, and get well established before top working them.

We cannot say just how soon such trees would begin bearing, so much depends upon tillage, kind of soil, and various other conditions; we have an orchard of Spys on ordinary stock, and it was twenty years before we had paying crops from it. Also we have an orchard of King apple trees on ordinary stock which are now about forty years planted, and have grown to a height of about thirty feet, and they do not give a full crop of apples more than once in four years. Of course the apples are very large, and high priced, but this scarcely makes up for their slim crops.

REPORT OF THE SECRETARY REVIEWING THE WORK OF THE PAST YEAR.

THE Ontario Fruit Growers' Association is the oldest Society in affiliation with the Department of Agriculture. But age here is no indication of lessened energy or halting progress. For a number of years good educational work has been done by this association, and some distinct advances have been made during the past twelve months.

LOCAL FRUIT GROWERS' ASSOCIATIONS.

These were organized last spring by delegates sent out by the department under the auspices of the association. It was found that the Horticultural Societies of our towns and cities operating under the Agricultural Arts Act did not apply thoroughly to practical fruit growing conditions. Their work has been devoted to floriculture and along the lines of civic improvement. Fifty-one such fruit meetings were held, the programme being to meet in a suitable hall, then to adjourning to an orchard for a practical demonstration of pruning, grafting, etc. At night a general meeting was called when the organization was completed and officers were elected. As a result of these meetings thirty-six local organizations were formed reaching all the way from Iroquois on the St. Lawrence to Leamington in Essex County.

FRUIT INSTITUTES.

The work of our Farmers' Institutes system, which formerly applied to dairymen, stockmen, fruit growers, and farmers as a whole, has been gradually divided into separate departments, so that the sections of the country engaged almost entirely in one branch of Agriculture may receive special attention along that line. When it was decided to organize Local Fruit Growers' Associations, we took advantage of the Farm-

ers' Institute machinery and solicited the co-operation of its officers, and through their co-operation and help in the matter of funds, we were enabled to hold a great number of these Fruit Institutes or practical orchard meetings.

PRUNING DEMONSTRATIONS.

At these meetings the Delegates gave a talk on the necessity for good pruning and then proceeded to show how it should be done. In almost every case this method provoked a lively and practical discussion which was especially appreciated by the farmer boys.

THINNING FRUIT.

Still later in the season when the fruit was pretty well advanced a request was made for orchard meetings in the apple sections, for instruction in summer orchard management and the thinning of fruit. Here again the Dominion Fruit Inspectors helped us out, and that they did good work is evidenced by the many complimentary letters from farmers who had received the instruction. These meetings lasted from July 22nd to 31st.

OBJECT LESSON IN SPRAYING.

Following up the orchard meetings, we arranged for demonstrations in spraying and twenty meetings were held. The Secretary of the Local Fruit Growers' Association made all arrangements, supplied spray pump and the materials for the Bordeaux mixture and selected an orchard for the work. These meetings commenced at Whithy and extended as far as Iroquois.

SPRAYING FOR THE SAN JOSE SCALE.

The San Jose Scale commission in their report to the Minister of Agriculture last month recommended the use of lime and sulphur for the winter treatment of the scale.

The difficulty, however, seems to be in cooking of the sulphur. The Inspector reported that he had good results from using the steam of a threshing engine, and in this way the lime and sulphur mixture could be prepared on a large scale at a comparatively low cost. It was then arranged to hold practical demonstrations in the preparing and applying of the mixture in the affected districts. The following places of infestation were selected, namely: St. Catharines, Niagara, Grimsby, Blenheim, Kingsville. Two have been held and were most successful. The meeting at Grimsby is to be held this week. The latter two will be arranged for between now and the first of the year. We are endeavoring to take the result of the scientists to the farm and to the people.

FRUIT EXPERIMENT STATIONS.

In our orchard demonstrations work we found we could make our work still more valuable to the people by having the annual meeting of the Farmers' Institutes take the form of a basket picnic on the grounds of the local Fruit Experiment Stations. In this way the different varieties under cultivation could be seen growing side by side, and it could be easily seen which were the best varieties to grow for market or home purposes. To make the work still more valuable we were assisted by some of the professors of the Agricultural College, who gave addresses and answered questions in reference to the growing of fruit, the destruction of insects, fungous diseases, etc. Scores of letters have been received at our office telling of the practical benefit of the meetings. Our Experimenters should be the authority in each district as to what to plant, and what and when to graft, prune and spray. If the Fruit Growers' Association by the methods already started, and by other means, can bring the fruit farmers in touch with the Experiment Stations we believe it will do as much for the industry as can be accomplished in any other way.

JUDGING AT FALL FAIRS.

During the past fall fair campaign we have been asked through our office, for many judges of fruit and flowers at the exhibitions. This resulted from correspondence we had last spring with the agricultural and horticultural societies in reference to the improvement of their prize lists. A committee of this association met in Toronto last spring, and at the request of the Canadian Association of Fairs and Exhibitions prepared a model prize list for the use of fair boards. We are pleased to note that a number of our directors were selected as judges by the fair boards this year. This is another evidence of the hold which our association is getting upon the people of the province.

APPLE GRADING AND PACKING AT FALL FAIRS.

Practical demonstrations in grading and packing of fruit were given at many of our fall fairs. Here again the Association is indebted to the Dominion Fruit Inspectors for their services. Wherever they went they were surrounded by enquiring fruit growers, and questions were asked on all phases of the work, and the demonstrations were watched and criticised by the eager onlookers.

HORTICULTURAL SOCIETIES.

Many of these Societies are doing first class work in floriculture and town and village improvement. Last year the Superintendent of Farmers' Institutes was asked to arrange a lecture course for these Societies and this was done. It was also continued again this year, and the Societies have expressed their appreciation of the good work of the lectures. A pleasing feature of the work has been an afternoon meeting at the schools. This has been appreciated both by teachers and scholars, and has also helped to advertise the work of the Horticultural Societies.

HORTICULTURAL LITERATURE.

The Department of Agriculture has also issued two publications during the year which are of special interest to our members. The first is the Hand Book of Women's Institutes. This contains articles on floriculture which are practical and up-to-

date. The second is just out, and is in line with the resolution passed by the association last year. It is entitled Nature Studies, and will be useful in the study of elementary science.

G. C. CREELMAN, Secretary.

Toronto.

FRUIT GROWING IN THE EARLY DAYS

AUTOBIOGRAPHY OF OUR PIONEER FRUIT GROWER, A. M. SMITH, OF ST. CATHARINES, WRITTEN BY REQUEST—ONE OF THE TWO LIVING CONSTITUENT MEMBERS OF OUR ASSOCIATION—CREATED AN HONORARY LIFE MEMBER AT BRANTFORD IN 1900, AND AN HONORARY DIRECTOR AT COBourg IN 1901.

IF you think I have succeeded in any way in making the country more prosperous, or in making the people happier or better, and that my example and efforts will help others to strive to make Canada the brightest spot on the face of this great world we live, I shall have no objections to giving you a little of my history.

I was born in the town of Brandon, State of Vermont, on the side of the Green Mountains, Sept. 24th, 1832. My father was a farmer and a charcoal burner. When I was 12 years old he lost his farm and all the property he had through the failure of a firm he had a contract with for burning or making charcoal. He then went to Western New York, taking with him a family of six children, to "begin life anew," as he expressed it, working on a farm by the month for a year, and then working land on shares for a time, and finally purchasing a small farm to be paid for on time.

The early efforts of my life, from the age of 14 to 20, were to help pay for the farm and clear up a part of it, which was in bush. This was accomplished with the aid of an older brother, both of us working out by the

day or month among neighboring farmers and we had the satisfaction of seeing my father have a comfortable home in his old age. The only chance I had for schooling was three months each winter, when I generally boarded with some farmer and did chores for my board and attended the district school; excepting six weeks after I was 20, which I spent at the Yates Academy, or High School.

I always had a fancy for fruit and fruit growing, and in the summer of 1852 I worked for Mr. E. Moody (father of the Moodys who now carry on an extensive nursery at Lockport, N. Y.) in his nurseries and peach orchards, where I obtained a knowledge of the nursery business before I embarked in it on my own hook. In the fall of that year I received a stroke of lightning, which killed the horse I was driving and laid me up for two years, six months of which I was in bed helpless. So the capital I had to start with when I was twenty-one years of age was, two years' sickness and \$100 of a doctor's bill to pay. My father cared for me when I was sick and gave me a cow when I first went to house-



STECHER LITH. Co.

FIG. 2321. A. M. SMITH.

keeping, which was all he was able to do. My physicians had told me I never would be strong enough for hard work, but I was determined not to give up but to do something; so I got me an old horse and secured an agency for an insurance company, and for selling books and trees and some other things, and I traveled the country, when I was able, for about two years. Gradually I gained my health and strength and paid off my debt. Having previously visited

Grimsby and made up my mind that it would be a good location for the fruit and nursery business, I persuaded the late C. E. Woolverton, in the spring of 1856, to set apart a portion of his farm and embark in the business on a small scale. We planted about 600 peach trees in orchard and about 6,000 young apple trees and some pears, plums, cherries, etc., in nursery, in all about eight or ten thousand trees. Ours was the first peach orchard of any extent

planted in that part of Canada, though there were small nurseries at Hamilton and St. Catharines. Some of the old farmers of the neighborhood, among them Mr. Dennis Woolverton, the grandfather of the editor of this journal, and Mr. Andrew Pettit, the father of Mr. A. H. Pettit, tried to discourage us and wondered what we would do with all our peaches when they came in bearing. They also said that we never could dispose of eight or ten thousand fruit trees in Canada. But when our trees did bear, and we had an express service established from Grimsby to transport our fruit to northern towns and cities, they soon found we were making more off 8 to 10 acres of peaches and strawberries than they were from their 200 acre farms, to say nothing of our nursery business. After that so many of them went into peach growing, that Grimsby soon became known as the "Peach Garden of Canada." About this time I called attention of Curtis & Co., large fruit dealers in Boston, Mass., and some others, to our Canadian apples, and they sent buyers here who pronounced them the finest on the continent, and our apple trade began to boom,

which was no detriment to the nursery business. As you know, a few of us started the Fruit Growers' Association in 1859, of which I have been a member ever since its beginning and attended most of its meetings, and I hope I have been instrumental in advancing its interests. I continued in the nursery business up to the year 1900 at Grimsby, Niagara Falls and St. Catharines—over 40 years—when I sold out, thinking the care of my small fruit farm at Port Dalhousie would be work enough for a man of "three score years and ten." I have never been able to lay up much of this world's goods, though I have a comfortable home. I have raised and helped to educate quite a large family, among them two graduates in medicine, who are now medical missionaries, and three trained nurses, and one who has been a successful school teacher, besides three who have not chosen their profession yet. I have raised and distributed a great many thousand trees through the country, but have never boomed or sold a variety which I did not think was of real value. My motto has been: "Give every man full value for his money."

VALUE OF AN APPLE TREE

I BELIEVE that it will not be generally disputed that a healthy bearing apple at ten years of age would be worth \$25, that the value of the fruit from this tree will in that time have equalled \$15, says Western Experiment Report. This certainly would be a very liberal return from the one-hundredth part of an acre, especially when we consider that under ordinary circumstances this tree will increase in value and productiveness for ten years longer, at least. In planting an

orchard, the location and site need to be well considered. In regard to location; it is yet a matter of doubt if many varieties of tree fruits, except native plums, will succeed in the extreme north. In all other localities there need be no hesitation for planting. In selecting a site an elevated spot should probably be given preference, as the flower buds are less apt to be destroyed by late spring frosts than on lower land.

TILLAGE FOR THE ORCHARD

DIFFERENT CONDITIONS IN VARIOUS PARTS
OF ONTARIO—PRECIPITATION IN SUMMER
AND IN WINTER—WHY FRUIT GROWERS
SHOULD CULTIVATE IN AUTUMN, WHY IN
SPRING OR WHY IN SUMMER—THE FIRST OF
A SERIES OF ARTICLES

BY

PROF. J. B. REYNOLDS,

OF O. A. C., GUELPH, ONT.

SPECIFIC directions for orchard cultivation, to apply to every fruit-growing section of Ontario, cannot be given. It must be borne in mind that Ontario is not a small country, and that within its borders it possesses wide variations of climate. From the eastern end of Ontario to the extreme west at Port Arthur, the annual rainfall diminishes by one-third. Generally the farther west of Ontario, the drier the climate, although this rule is subject to exceptions when lake-shore or river-counties are compared with inland counties. Therefore, since cultivation is becoming more and more a matter of conserving moisture, it is evident that the same method will be applied to different sections with different degrees of success. The methods of orchard cultivation that experience teaches to be the best at Ottawa, or along the St. Lawrence, may not do at all for western or inland sections.

The term 'rainfall' has been used. A term more suitable for our purpose is 'precipitation', which includes rainfall, snowfall, dew and all aqueous deposits from the atmosphere to the earth. With reference to the annual precipitation, here is an important question. Which part is of more value to the fruit-grower, that which falls in the autumn and winter—the inactive season—or the summer rains? At first thought, it may be supposed that the summer rains are of more value, since they come when they are most wanted. Yet, with some reservations, the opposite is the fact. The more valuable

and necessary precipitations are those which occur during the inactive season. This is true for several reasons. First, the precipitation of the late fall and winter usually comes when the ground is prepared to receive and to retain it. Then, the winter's snow is conveniently slow in melting, and gives the land plenty of time to absorb it. There is frequently the equivalent of two or three inches of rain, in the form of snow, lying on the ground at one time and, on fairly level, well-prepared ground, little or none of this is lost when it melts. In the third place, the precipitation of the inactive season is usually quite sufficient to be effective, and to saturate the ground to a depth of three or four feet or more. At this period, also, there is little evaporation, and therefore but little loss of moisture from this direction.

On the other hand, what happens with the summer rain? A gentle soaking rain, lasting a whole day and amounting to one or two inches in depth, will likely penetrate the ground to a sufficient depth to reach the roots of the trees. But this is not the usual character of summer rains, which are often tantalizingly small in quantity and short in duration. A smart shower, lasting from twenty to thirty minutes, may penetrate two or three inches of an ordinary soil. The principal effect of such a shower is to compact the surface soil, destroy the mulch which the careful fruit-grower has maintained, and start evaporation of the moisture

previously in the soil. To restore the mulch and prevent this evaporation, the fruit-grower is compelled to start his cultivator going very soon after the shower.

Upon these considerations are based the principles and the practice of orchard cultivation. Granting the soundness of these conclusions, the fruit-grower will readily infer that he should have, for the conservation of moisture, two distinct objects in

view at two distinct seasons of the year : he must cultivate in the autumn so as to prepare his land to receive and retain the precipitation of the late autumn and winter ; and he must cultivate in the spring and summer so as to conserve the moisture that the soil has absorbed during the inactive season. How these two objects are best attained will form the subject of the subsequent articles under this head.

FREIGHT RATES ON FRUITS

THE Fruit Growers convention at Walkerton has furnished another proof of the vital importance of the freight rate question to every productive industry. The railways are everywhere the link connecting producers with consumers, whether the markets served be domestic or foreign, and it is consequently an easy matter for any industry to be rendered unprofitable and thus crowded out by excessive freight charges. About a year ago the fruit growers carried on an energetic agitation in favor of a general reduction in freight charges, especially in the rates designed to establish distribution centres in Manitoba and the Northwest. One of the most serious causes of complaint was the grading of fruit as less than car lots when a fruit grower loaded a car with different varieties. The difference in the rate was sufficient to shut out many Ontario fruit growers from the western market, there being few dealers able to order an entire car of a single variety. There were also complaints as to discrimination designed to affect the course of trade and to favor certain western points as distributing centres. The decision of the fruit growers was at that time to the effect that little or no relief could be obtained until a railway commission was appointed,

with authority to pronounce as to the fairness of freight rates and to determine all disputed points between the railway and their patrons. The convention at Walkerton has reiterated that view. The resolution adopted on motion of Mr. W. H. Bunting, of St. Catharines, declared the belief of the convention that freight rates would not be placed on an equitable basis until a railway commission was appointed, with authority to go from point to point, investigate grievances and publish reports setting forth the facts disclosed. Delegates were appointed to wait upon the Government and co-operate with the farmers' associations and other organizations in urging the appointment of a railway commission.

The discussion on the resolution did not bring out any divergent views, although it served to disclose a wide variety of complaints. One member complained that railways would not give rates to competing points without consulting their competitors. This would indicate a rather close combination or working agreement to maintain charges at the endurance level. A complaint, apparently growing out of the policy of charging according to the bearing power of the traffic, was to the effect that different

rates was levied on different kinds of fruit. The inadequacy of the service was severely criticised, and it was charged that the rate from the Canadian shipping points was higher than from places similarly situated in the adjacent States. It is evident from the discussion that a great many abuses have grown up in fruit transportation, and that some are sufficient to seriously retard and injure the development of local and export trade. This is the natural result of a system which virtually gives the railways unlimited power in determining what they will charge in hauling fruit. The products of our orchards and vineyards must vary largely from year to year. In the abundant years the fruit growers must make up for the occasional bad years, but it is not unnatural for the railways to estimate according to the bountiful seasons. In carrying out the policy of adjusting rates according

to the endurance of each line of traffic the railways are apt to overestimate the profits on fruit growing. But even if no such mistake were made, and no development of fruit production was killed off by excessive charges, there would still remain the evil of fixing charges according to the fruit growers' ability to pay. There is at present no regulating power except the natural acquisitiveness of the railway companies, tempered by their care not to kill off the industries that create traffic. Under such conditions abuses are inevitable. In fact, when the conditions are fully considered the almost absolute power and authority of one party to the contract in the hauling of produce—it seems strange that conditions are not much worse. An independent tribunal to adjudicate between shippers and carriers is a necessity, and must be established before any material improvement can be effected.—*The Globe*.

FOUR GOOD POINTERS

A FARMER grows 2,000 barrels of fine apples. At harvest time he dumps them into the hands of a middleman for \$1,500. The middleman stores the apples until February and sells them for \$12,000; the farmer then complains that "there is no money in farming," and that "farmers are robbed," and so on. Moral: the man who commits suicide cannot properly accuse anybody for murdering him.

A miserable apple appears on the market. It is spongy, stringy, acid, flatulent, juiceless and generally unsatisfactory for eating, stewing, baking, pieing, drying, apple-buttering, cidering, or vinegaring, but it is of good size, rich in coloring and generally showy in appearance, and buyers make a call for it. Nurserymen are compelled to grow it. Orchardists are forced to supply it. Moral: Not all people at all times really

know what they wish or what is really good for them.

A stranger appears. He carries a book containing portraits of apples and other fruits loud enough in color to make sleep impossible within ten miles of the trees. The victim buys some of the trees. When they come to bearing, he is surprised to find that none of the rainbow coloring in the books has got onto the fruit. Moral: Some people are too hard to please, and some are not worth pleasing.

The man who grows grapes to make wine, corn to make whisky or apples to make cider, signs his name to a petition to legislation that shall forbid any man to sell wine, whisky or cider. Moral: This is as queer as it is immortal.—G. W. Hizz, in "New York Farmer."

SOME GOOD THINGS SEEN ON A RECENT VISIT TO SCOTLAND

BY

R. CAMERON,

NIAGARA FALLS.

WE have to thank the Secretary of Hamilton Horticultural Society for the manuscript of Mr. Cameron's address, of recent date, and did our limits permit, we would give the whole paper; but as it is we are compelled to simply make a few selections:

Retinospora squarrosa grows in Scotland to the height of ten feet, columnar in form, and, having a heath-like foliage of a soft grey color, it could not be passed without being admired. I think this variety is the handsomest of its class, and a striking object in the grave-yard. It may be said to be hardy in the Niagara district. There are several other varieties of the *Retinospora*. *Cupressus Lawsoniana erecta* is another very beautiful tree of first quality. This was seen on a number of gentlemen's estates, a handsome evergreen, with fern-like foliage on long, drooping branches.

There were a few varieties of *Biotas* seen also, that were the picture of health, and suitable for cemetery trees, all having beautiful fern-like foliage, both green and golden. They are very decorative plants and much used in Britain, where the soil and climate are very suitable for their growth. It may be said that most of the *Retinosporas* are hardy in the Niagara district. *Ericoides* is a very strange and beautiful dwarf variety. It takes on a bluish-steel color in the winter, making it a very conspicuous object. *R. sulphuricum* is another variety that is very attractive, also dwarf and pendulous, with golden tipped foliage. This one is not plentiful as yet. *R. filifera* has thread-like, drooping branches, very odd and pretty

when planted among others. *R. filifera aurea* is a dwarf golden variety, otherwise it is the same as the last named. *R. plumosa* and *R. plumosa aurea* are both very pretty, perhaps the hardiest of the lot, and the most robust growers—the one has golden foliage, the other a silvery green. *R. pisifera* would be considered the most beautiful by the majority of people. It is also a golden species. *R. obtusa* is a grand variety. It grows fast and upright, dark green on the upper side, silvery on the underside of the scale-like leaves, and looks very like *Cupressus Lawsoniana erecta* in form and foliage. There are a number of others but space will not permit taking them up just now.

I will pass on to the *Taxus* or *Yews*, that are so common in Britain, on every gentleman's place, in every cemetery, and in church and other public building yards. The Scotch call them *Taxus grandus*, and they are certainly grand and noble specimens there growing. There are a number of varieties of these beautiful trees, most of them hybrids. The following will be found to be the best. All are not supposed to be hardy in this country, but there are some that do very well in this vicinity, such as *Taxus baccata*, (common yew), hardy here. Very much used for hedges in Britain. There is also a golden variety of this one that is very pretty, named *Taxus baccata aurea*, (golden yew). *T. Hibernica*, Irish, or Florence Court Yew is probably the handsomest variety, growth upright, column-like, dark green, a very striking plant, but not supposed to be hardy in Ontario. There is a native species that is commonly found grow-

ing in our woods, a very pretty prostrate form, that should be made more use of in the way of clothing the ground under deciduous trees, that otherwise would look bare and bleak during winter months. This is *Taxus Canadensis*, generally called Ground Hemlock. The fruit is good to eat and very pretty. There have been a few hybrids raised that are also hardy in the Niagara district. In Britain the yews grow perfectly, the climate being very suitable to their development, the most common variety being *Taxus baccata erecta*.

The *Sequoias* and *Auricularia imbricata* are magnificent looking trees, growing on most gentlemen's estates. The last is used as a cemetery plant, and may be seen from sixty to eighty feet high. I saw, at Abercainey Castle, beds of *Asalea mollis* about eight feet high. None but those familiar with these shrubs can realize what a grand sight they are when in full bloom and in many colors.

The rhododendrons in every shade of color are the most common shrubs to be seen. They are grand if for no other reason than for their foliage being evergreen.

Then we have the *Hollies*, which are the most decorative large shrubs, or trees, in existence, evergreen foliage, and beautiful when full of their scarlet fruit during the winter months. There are some beautiful variegated forms of these plants. Then again we must not forget the Ivy, of which there are a number of varieties, green and variegated, and different forms of leaves. They are not hardy enough for this country. The best use that can be made of them is to grow in vases and window boxes, in a trailing fashion. For this purpose the Ivy is one of the best vines we have, because it will stand any amount of drouth, which would kill any other plant I know of. By laying the roots into the ground in a sheltered spot and throwing some leaves over the plants, they will come out all right in the spring, and be ready for use another season.

Another very beautiful plant which carries more fruit than any plant that I know of, and is the most fruitful of all its family, was the *Berberis Drawinii*. This variety, if found to be hardy in Ontario, should be grown by all lovers of plants; the fruit is purple.

Boxwood plants were seen twelve feet high, with magnificent dense foliage; this is one of the best of evergreens. Some varieties are hardy in this Province.

Ruscus aculatus, or Butcher's Broom, (Lily family,) is a native of Britain and the Mediterranean region. This plant bears its small lily-like flowers upon the centre of each evergreen leaf, a strange place to produce flowers and seeds. The plant is dwarf, evergreen, and probably hardy with a little protection, resembling a Boxwood, the leaves prickly pointed.

The Gloire de Dijon roses are growing as common vines on many of the houses in the north of Scotland, covering in some places one-half of the buildings. They are clean, healthy, and full of bloom, a sight not easily to be forgotten, and the perfume of the flowers wafted by the wind was charming. The roses exhibited at the Glasgow Exhibition were very fine flowers, with splendid foliage, and good substance.

Buddleia variabilis is a very pretty plant and odd. The variety *globosa* is supposed to be hardy in some situations and will grow to ten feet high where conditions are suitable. They are natives of Peru, Asia and India.

I saw the pretty evergreen dwarf shrub of the heath family, a Canadian variety, that I have seen growing in our swamps, foliage green on the upper side, woolly and white on the under side, flowers white, which grows to about six inches high.

Mr. Cameron concluded his paper with a very extended list of plants, with brief descriptions of each; and many of them would, no doubt, do well in Ontario.

THE CANADIAN FRUIT TRADE

INTERVIEW WITH DOMINION GOVERNMENT
OFFICIAL—POSSIBILITIES OF THE FUTURE.

PROBABLY most people connected with the fruit trade know in a general way that the Canadian Government are doing a good deal to aid and extend the export fruit trade, but few persons are aware of the extent to which this is done, or the many points at which the Government assists the grower or the packer. With the object of attaining some reliable information on the subject the Glasgow representative of this journal had an interesting interview with Mr. W. A. MacKinnon, chief of the fruit division, who is at present in this country inquiring into the needs of the British trade, and endeavoring to ascertain where the Canadian falls short in supplying those needs, and what can be done to remedy any shortcomings that may exist.

The "fruit division," it may be exclaimed at the outset, is one of the sub-divisions into which the Department of Agriculture is divided. The Department of Agriculture is under the charge of the Hon. Sydney A. Fisher, Minister of Agriculture, and a most important branch is that directed by the Commissioner of Agriculture (Prof. James W. Robertson), who like many other Canadians, is of Scottish origin. This branch is divided into various "divisions," and it is with the fruit division that we have meantime to deal.

"Our main efforts," said Mr. MacKinnon in answer to our representative, "are devoted to the commercial aspect of the fruit trade; one of the most important things we have had to do recently was to see to the enforcements of the Fruit Marks Act of 1901 as amended this year."

"I suppose," ventured our representa-

tive, "that Act will be on the lines of our Food and Drugs Act?"

"Perhaps so. The Fruit Marks Act was passed to put an end to fraudulent practices, which casts discredit upon Canada and involved loss to those engaged in the fruit trade. These frauds were of two kinds—(1) fraud in connection with sale by description, as where ordinary fruit was described or marked as 'No. 1,' 'choice,' 'fancy,' or otherwise excellent; and (2) fraud in sale by sample—cases of 'faced' fruit in which the surface of a package of fruit was such as to give a false representation of the contents. The perpetrators of these frauds were shielded by using fictitious names, the names being changed frequently, too; but under the Act every package must bear the full name and address of the responsible shipper."

"I should think that would have a most salutary effect."

"Yes; because before the passing of the Act, if the trade got sick of any particular brand they did not get any more of it—at least under the same name. The Act makes the shipper accept responsibility, and the credit or discredit attaching to his own goods."

"How does the Act operate in the event of bad fruit being found? How is a decision arrived at?"

"It is held that false representation is intended where more than 15 per cent. of the whole is decidedly inferior to the surface shown. Under the Act, too, every package bears one of six marks—first quality, No. 1, or XXX; second quality, No. 2, or XX; and third quality, No. 3, or X. A fine is provided for every package marked to indi-

cate first quality if the package contains more than 10 per cent. of inferior fruit—bruised, undeveloped, wormy, or otherwise defective. That allows 10 per cent. for accidental inclusion of poor specimens of rapid packing; for, of course, all fruit is supposed to be in good condition when packed. The penalty is from 1 s. to 4s. per package."

"Is there power to confiscate for a contravention?"

"No; there is no power to confiscate, but a brand is put upon packages in respect of which the act has been contravened, and the packages reach this country with the brands on them. There are twelve inspectors examining fruit at packing-houses and at the ports of shipment, and the Act is being strictly enforced. There were ten or twelve prosecutions last year, and there have been others this season although it is not far advanced. It should be explained, however, that Prof. Robertson directed that last year the Act should be made chiefly educational, and the practice of the inspectors was to spend most of their time giving information as to the interpretation of the Act. Fines were only imposed toward the end of the season, and the infractions being first offences, the penalties were really nominal."

"What would be the probable extent of the fine in a case in which you were satisfied there was systematic fraud?"

"Well, a carload contains 150 barrels. If the inspector finds evidence of systematic fraud in one carload, and the magistrate imposes the maximum penalty, that would mean \$150. Another important point is that if the inspectors are engaged in examining a lot of fruit—say at Montreal—and they find evidences of systematic fraud, they would detain the consignment long enough to complete their examination if they have to open every package, and even if the whole consignment should miss the boat for

which it was intended. On the other hand, however, when the inspectors find uniform and honest packing in a certain brand, of that brand very few packages would be disturbed. In the spring and summer season, and also in the late winter season, the work of the inspectors is largely educational. They are all practical fruitmen—nearly all apple shippers, indeed—and thoroughly understand the cultivation of apples, from the planting of the tree to their marketing of the fruit. During the 'off season' they attend what are called 'farmers' institute meetings,' which are held all over the country, and where they can give information on any branch of fruit culture upon which the farmers desire enlightenment or advice. Useful work of this kind is done by the Ontario and other provincial governments, and also by the Dominion Government. In cases where the membership of a farmers' institute is over 50, the Ontario Government, for instance, make a grant towards the expenses of the organization."

"What about the future possibilities of the trade?"

"There has been a great revival in agriculture all over the country during the last two years, and the fruit section certainly has not escaped the influence. An important question is the varieties of fruit for which there will be a permanent demand in this country, so that the department can advise farmers what varieties to plant. Then, again, they wish to know the varieties that arrive here in the best condition, and there is also the question of packages. In this latter connection, for instance, I find there is a strong demand for small packages containing about 40 lbs. or 50 lbs. of fruit."

"What about pears and grapes, about which less is known here than apples?"

"In regard to pears the possibilities are almost unlimited, as the acreage on which good pears should be grown is not nearly taken up; and if the proper varieties are

grown—as probably will be the case—and the fruit arrives here in good condition, as it is beginning to do, there is room for unlimited expansion. Something has been done in peaches, but that is still in an experimental stage, and in regard to grapes, I will only say that the matter is receiving the attention of the Government.”

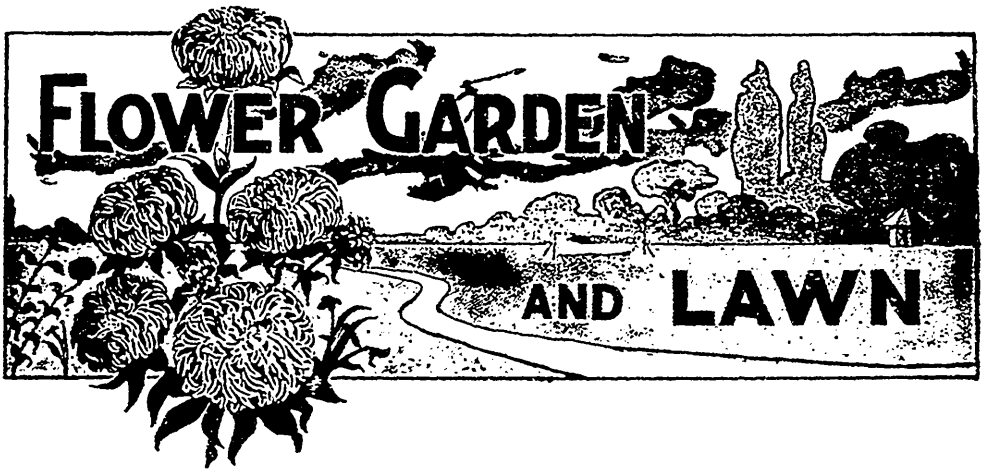
Mr. McKinnon proceeded to show in detail the exceeding care which was bestowed on fruit by the Government inspectors from the time it left the tree to the

time it arrived at its destination, and, in concluding what was a most interesting interview, he suggested that dealers on this side might facilitate the work of the Canadian Government by communication with Mr. Grindley, at the Canadian office in Liverpool, in the event of their being defrauded either in connection with the marking or the packing of Canadian fruit.—*The Journal of Fruit and Greengrocery, London, Eng.*

LATE FRUITING OF BERRIES

SO many reports have been published this season of berries ripening in October and November that curiosity is aroused as to the cause of such phenomena. The peculiarity has shown itself in some varieties more than in others, and has led people to think that “everbearing” sorts are being developed. Mr. Van Deman, writing in the *Rural New Yorker*, explains that with raspberries and blackberries the fruit buds are found quite early in the summer, and when the conditions are reversable for their development into growth they will sometimes do so at once instead of remaining dormant until the next spring, as they would normally do. These fall berries are sometimes of the largest size and the best quality, owing to the favorable weather that often occurs then. There are some cases of strawberries developing their fruit buds in

the fall, instead of the following spring. A new variety that was shown at the Pan-American Exposition last year is the most peculiar in this respect of any. It is a case of bud-variation of the Bismarck, which is a well-known variety. The new kind makes very few runners, but seems to develop excessively its old plants, and especially its fruit buds. After the hot weather of the summer is over, if the season is at all favorable for growth, the fruit buds come out and bloom and bear a heavy crop of excellent fruit. Sometimes the apple, pear, cherry and other trees develop a few of their fruit buds in the fall, but they are usually too late to produce anything more than partially formed fruit. The bush fruits, being of a nature to perfect their fruit in a short time, are far more likely to produce crops that will ripen.—*The Mail.*



THE VILLAGE PARK AND CEMETERY

IT is surely a sentiment worthy of recommendation, that leads us who live to pay respect to the dead, for to them we owe many debts of love and gratitude. A neglected graveyard with uncut grass, broken fences and stones that are falling over, seems to shame the living, and speak loudly of their lack of reverence for their ancestry.

The old fashioned cemetery graveyard was not planned with any taste, and the elevation over each grave made it almost impossible to keep the place in presentable condition. Such small, neglected burial places should be discouraged, and townships should be combined to set aside land in the most convenient location where a park-like cemetery could be laid out after a well prepared plan, and a superintendent engaged who would be responsible for its care and management. The municipal councils might have to lay out one or two thousand dollars at the outset, but, if well designed and well kept, the patronage would so increase that the sale of lots would soon make the cemetery a paying

investment, and the pride of the country side.

THE ENTRANCE.

From a business as well as artistic standpoint, a great deal of attention should be paid to the entrance. First impressions go a long way, either upon the mind of the visitor or upon the heart of the mourner. It does not seem half as hard to lay aside a loved one under the shade of some of nature's beautiful trees, inside a yard screened from the public view by hedge and vine, as it does on some bleak hill side, where stones stand awry amid the long grass, and the approach is through tumble down gates which give the impression that nobody cares. Our illustration (from Park and Cemetery) shows a beautiful vine-clad entrance to a cemetery at Newton Centre, Mass. ; and although this is a city cemetery, the idea can be adopted to the smallest village, for it is the trees and creeping vines that give the beauty, and not the expensive stone posts or iron fence.



FIG. 2522. A VINE CLAD ENTRANCE TO A CEMETERY.

UTILIZING NATURE'S BEAUTY.

Then, inside the gate, the visitor should not be too soon confronted with a batallion of cold marble. Rather should there be a separateness of family groups, by trees and shrubs, in such a way as to remind one of home life, and not of a vast public gathering. Many of our cemeteries are bare fields; when near at hand are beautiful rivulets and undulating surface, which could have been had for the same or even less money, and have been an unending source of satisfaction to the lot holders.

A GLIMPSE OF NATURE.

Fig. 2523 shows how a little stream, which perhaps could be stepped over or crossed with a plank, can be utilized for a rustic bridge and add wonderfully to the beauty of the landscape. This view is one contributed to Park and Cemetery by the late Joseph Meehan, of Philadelphia, and is a

glimpse in Fairmount Park, but a suggestion that can be adopted in even a village cemetery. The clump on the right, along the stream, is the odoriferous spice bush, which bears scarlet berries; on the left or the rising ground, is a native beech, and on the opposite side are more beech trees together with white, black and red oak trees, a charming collection in any Park or Cemetery.

FLORAL DECORATIONS.

We doubt very much the wisdom of encouraging the planting of annuals on cemetery lots, but the use of cut flowers is appropriate at any time. They are the expression of an abiding love, which can be made by frequent visits with floral emblems. For such gifts, nothing is so useful a receptacle as the floral trough, which may be made in any form and placed upon the grave, or removed at will. These may be made in any desired form, and being filled



FIG. 2523. A GLIMPSE OF NATURE.

with water will keep the cut flowers in a fresh state for a long time.

AN EXCELLENT PLAN FOR A TWO ACRE CEMETERY.

In view of the great need for a step forward in this particular department of landscape art, we reproduce from an old copy of this journal, a good plan for a village cemetery, with instructions for carrying it out.

AWAY WITH FENCES AND HEDGES ABOUT LOTS.

In the first place, an imperative rule should be established, that railings, copings, hedges, and fences of any kind, around cemetery lots be strictly prohibited. They are not only utterly useless, but they seriously detract from the natural beauty of the landscape. They render the tidy keeping of the ground almost impossible, and, as they become dilapidated with age, they are offensive to refined taste. It is a traditional notion which originated many hundred years ago when church-yards, improperly fenced,

were the only burial grounds. In the modern cemetery, the boundaries of lots should be marked by small corner posts, sunk in the ground so that the tops are level with the sod, in order that the lawn-mower may be worked without hindrance.

Any one who has been accustomed to see only the old style cemeteries, with lots fenced like sheep-pens in a show yard, and who will take the trouble to see an improved cemetery, where all enclosures have been abolished, will readily become convinced of the folly of expending millions of dollars on useless railings.

ONE MONUMENT ON A LOT.

Secondly—The height of headstones should be limited to two feet, or less. Few old style, tall, slab headstones are erected anywhere now, because of the difficulty of keeping them erect, their liability to be broken when leaning over, the certainty of their becoming moss-covered and their altogether unpleasing appearance. In a cemetery which is to be beautified they should be

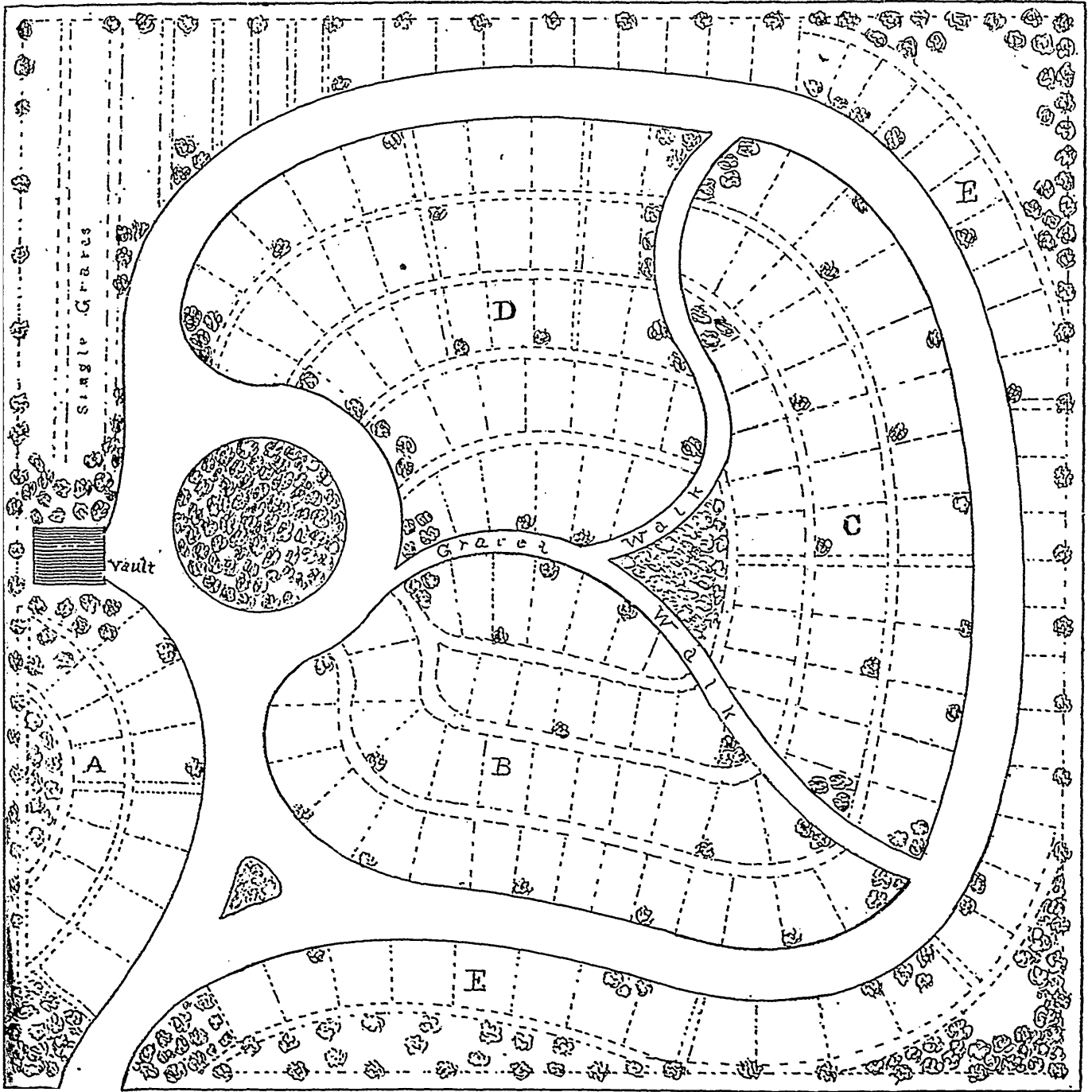


FIG. 2525. AN EXCELLENT PLAN FOR A TWO-ACRE CEMETERY.



FIG. 2525. GRAVE YARDS AS WE OFTEN SEE THEM.

strictly prohibited. A chaste monument, with space for several inscriptions, erected on a good foundation in the centre of the family lot, answers a better purpose than a number of headstones, and may be cheaper. Only one monument should be erected in a family lot. The initials should be cut on the top of all foot-stones, which should be level with the surface of the ground, permitting the lawn-mower to pass over them.

NATURAL SLOPES.

Thirdly—Such a thing as a raised lot, or terrace, must never be permitted, because it mars the beauty of surrounding lots, which are kept even with the natural slope of the ground. The desire on the part of some lot-owners, entirely devoid of taste for landscape gardening, to have their lots raised to a dead level without regard to surroundings, is one of the greatest difficulties which the cemetery managers have to contend against. Hence it is actually necessary that a rule be established prohibiting the raising of any lots more than four inches above the standard grade of the ground.



FIG. 2527. FLORAL TROUGHES.

GRAVEL WALKS.

Fourthly—There can be but few well-kept gravel walks in a cemetery. They should be made only where there is likely to be so much travel that turf would be worn out. There is nothing so pleasant to walk upon as closely mowed turf; there is no walk more beautiful than one of nature's green carpet, therefore, the gravelling of paths or aisles between or around lots should not be allowed. Badly kept gravel walks are nearly as objectionable as rusty railings.

FLOWER PLANTING.

Fifthly—Many lot-holders make a practice of planting flowers on or about the graves of their deceased relatives. The sentiment is praiseworthy, and should be encouraged to some extent, but it is quite possible to have too much of a good thing. Some kinds of flowers are short lived, and their dying foliage gives a shabby appearance. I have often seen cemetery lots turned into flower gardens, which did not look nearly so well as other lots kept in neatly cut grass with only a small bed of flowering plants at the foot of the graves.

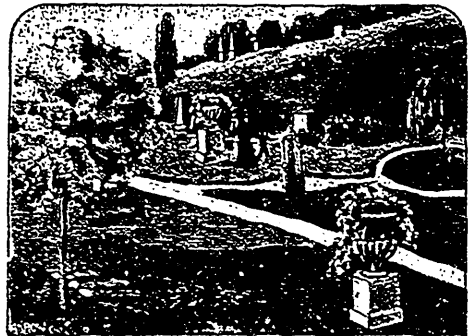
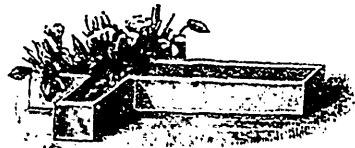


FIG. 2526. GRAVE YARDS AS THEY SHOULD BE.



NOTES ON WINDOW PLANTS

RENEWING A GERANIUM—HOW TO WINTER
A CHRYSANTHEMUM—ROOT DIVISIONS—POT-
TING — WATERING — EXCELLENT POINTERS

BY

WM. HUNT,

SUPT. GREENHOUSES, O. A. C., GUELPH, ONT.



FIG. 252S. GERANIUM "WHITE SWAN" RECLAIMED
BY PROPER TREATMENT.

IN THE July number of Horticulturist two cuts are shown of a geranium plant that had become gaunt and unsightly looking from having been grown indoors for a long time. The cuts mentioned gave an illustration of the plant before and after the cutting back process.

The accompanying cut (Fig. 252S), from a photo, shows the same plant as it appeared early in November after having been grown in summer as recommended in above mentioned number of this journal. Although

the variety shown (The White Swan) is not one of the best for winter flowering purposes, it serves to illustrate what can be done—by only ordinary treatment—to reclaim an old unsightly looking geranium plant, and make it a nice bushy plant for the window in winter. This plant was grown outside in the open without the assistance of a greenhouse or sash, and without any special skill being bestowed on its culture.

CHRYSANTHEMUMS.

Some readers of the journal may, perhaps, have a chrysanthemum plant in their possession that has done flowering, and although anxious to keep it over for another season, or grow some young plants from it, scarcely know how to proceed so as to carry it safely through the winter.

I must first of all, however, say that from a commercial or professional point of view, I do not consider it worth the trouble and risk to attempt to keep over old chrysanthemum plants for flowering purposes the following season. At the same time amateur flower lovers do not always make as close an estimate on returns for labor expended as commercial florists have of necessity to do in connection with plant culture.

Taking the latter fact into consideration and making due allowance for a little laudable sentiment in this respect I will endeavor to give a few hints that may be of use to

those who wish to try and winter over a chrysanthemum plant.

After cutting down the old flower stem to within an inch or two of the surface of the soil in the pot, do not put the plant away down in a dark cellar as is often done. As a rule if this is done the plant is either allowed to dry up completely and die, or otherwise it is kept so wet that the plant is rotted away by successive waterings, given at a time when very little water is needed.

The best place to keep chrysanthemum plants after cutting them down is in a window in a cool room, where the temperature is about 45° or 50°. Plenty of light and sunshine will be beneficial to the plant so long as the room is not too hot to induce a weak premature growth of the young shoots that usually appear on the surface of the soil before the plant is cut down. As much fresh air should be given it as possible on fine warm days, avoiding cold, cutting draughts or winds. By keeping the plant in a cool place as described and by giving it all the cool air possible without chilling it, the growth of the young shoots before mentioned will be retarded and hardened. These last two points are the main ones to be considered to attain success, as the tendency and nature of the chrysanthemum is to grow all the time; unless given as nearly as possible the same surroundings it receives when growing naturally out of doors in winter, in the more temperate climates than ours where these plants are natives.

If kept in a cool place as described the growth of the young shoots can be retarded until well on into winter or perhaps early spring. Sufficient water must be given the plants to keep the soil in the pots only fairly moist. Water the plants so as to moisten all the soil when water is given, then withhold water until the plants show signs of dryness again. The top of the soil usually indicates by its lighter color the time when

the plants require water. Give the plants air on fine warm days.

When growth commences pinch off the tips of the shoots when the latter are three inches in length. This pinching should be repeated as often as required—usually every three or four weeks—until May, when the plants can be placed out of doors on fine days in a sheltered position to harden off the growth.

In a week or two the plants can be divided up into two or three pieces, if the size of the plant will warrant this treatment, and each division potted into a small sized pot. Or the whole plant can be potted into a pot one or two sizes larger, or it can be planted out in the open ground to grow on during the summer. The tips of the growth in any case should still be kept pinched off every three or four weeks as required until July, when they may be allowed to grow on without pinching or topping.

If young plants are required, instead of pinching the young shoots, they should be

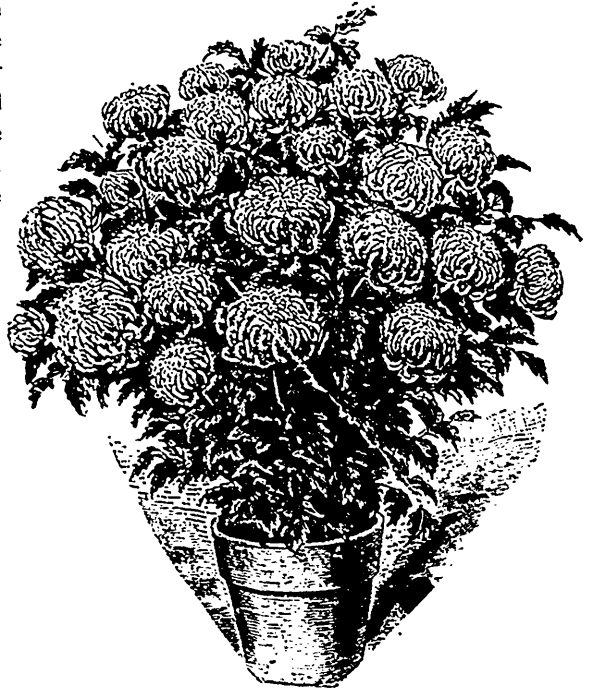


FIG. 2529. CHRYSANTHEMUM.

cut off when about three or four inches in length. Cut them off just below a leaf joint, and insert the cuttings in sharp clean sand. A four-inch pot will hold several cuttings until rooted. Place sufficient small pieces of broken pot in the pot, before putting in the sand for the cuttings, to act as drainage; this prevents the cuttings from rotting oftentimes. Place the pot of cuttings in a warm shaded place in the window, where the temperature is about 60°. Pot the cuttings off singly into small pots when rooted, which will usually be in four or five weeks from the time they were put in the sand.

Chrysanthemums like rich, fairly light soil. Press the soil firmly around the roots when potting or repotting chrysanthemums, as loose potting does not suit them at any stage of their growth. The pinching and after treatment of the young plants will be about the same as recommended for the old plants before mentioned.

Grafting Cacti.

SIR,—How do you graft the Cactus and what would you graft a Lobster Cactus on.

H. D. K.

The Lobster Cactus (*Epiphyllum truncatum*) succeeds best grafted on the *Pereskia aculata* or *Pereskia Bleo* stock. The *Pereskias* mentioned grow readily from cuttings placed in sand. Cleft-graft a small lobe or two of the Lobster Cactus on to the *Pereskia* stock in spring time, when the growth of the Cactus is young and in a growing state.

Clematis.

SIR,—How do you propagate *Clematis Jackmanni*, and can you recommend a good blue *Clematis*?

H. I. K.

The *Clematis* is propagated by layering, or

Aphis or green fly, and the tiny mites called red spider, are the only insects likely to trouble chrysanthemums in winter. Tobacco water will do away with the aphis, and a sprinkle of cold water, once or twice a week on the foliage, will keep down red spider.

Old plants of chrysanthemums can be successfully wintered over out of doors or in frames in favorable winters, if given some protection. Some of the hardy pom-pone varieties will even live in some of the most favored localities, such as the Niagara district, without protection, but the tender hybrid Japanese and Chinese varieties seldom winter over successfully even in frames, or when protected, unless great care in regard to hardening off, etc., is given them early in the season, and close attention to ventilating and covering given them during the changeable weather conditions experienced in early spring time.

by root grafting. *Clematis Raymond*, pale blue, and *Clematis Hybrida Sieboldiana* are the best blues, the first variety preferred.

Guelph.

W. HUNT.

Tea Roses.

SIR,—Is it possible to make a tree rose from the H. P. Rose Mrs. John Laing grafted on the briar stock, so that the rose will be as vigorous and hardy as when grafted low down, or grown on its own roots.

Toronto.

H. S. KEDDLE.

Tree or standard roses of any kind are not a success in Canada, planted out of doors. Even low-grafted roses have to be protected by junction of stock and graft (or bud) during the winter months, by banking earth or some protective material around them unless very deeply planted.

Guelph.

W. HUNT.

BEAUTIFYING SCHOOL GROUNDS

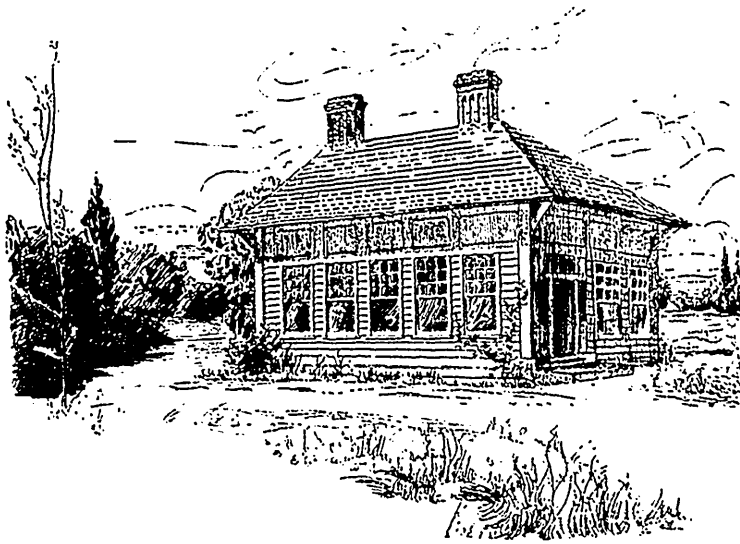


FIG. 2530. SCHOOL HOUSE.

AN excellent address was given Thursday evening, 27th November, 1902, before the Woodstock Horticultural Society by Mr. G. R. Patullo, the president, from which we take the following extracts :

SCHOOL GARDENS.

I am in favor of both school gardens on school grounds and of scholars' gardens at home. Teachers' gardens have also been tried, and are common in some European countries, including Russia, Prussia, Austria, Belgium, Switzerland and Sweden. It may be that conditions here are not altogether favorable for teachers' gardens, as carried on in older countries. But I would respectfully suggest to every teacher that, if at all possible, he should cultivate a little garden, and from time to time make use of it as an object lesson to pupils.

Thus far there are only pupils' gardens in this country, and the movement is spreading rapidly, both in the United States and Canada. There are said to be over 100,000

school gardens in Europe. The first one started on this side was in Boston in 1891. There they had vegetable gardens as well as flowers and plants. The boys had individual plots where once a week they worked, planting, weeding and watering. The flowers were at first confined to ferns and a few annuals. But later, vegetables were introduced and with success. In one garden thus established, and promoted by the offer of prizes and seeds, where the vegetable plots were small, being only large enough for a short row of radishes, onions, lettuce, beans, two hills of potatoes, two cabbage plants, one cucumber vine and one tomato plant, the children thoroughly enjoyed the planting, caring of them, and reaping the results of their production. As a result "lettuce sandwiches" in spring were the chief feature of school lunches. Later on "cucumbers for breakfast," and "beans enough for dinner" were enjoyed.

In other cases flower beds or small vege-

table school gardens, were kept by a class or grade in the school. The individual plot is probably the preferable one, as thereby each pupil has a proprietary interest in his bed, and is likely to take more interest in it than if the ownership was only a common one.

WOODSTOCK ENTERPRISE.

In Woodstock we made a beginning three years ago of improving our school grounds by making a large bed of plants and flowers in front of the Central school. Last year the annuals were very satisfactory, and attracted a great deal of attention and favorable comment. In the autumn 1,200 tulip bulbs were planted in the same bed, and their appearance in the spring with their rich and varied colors (four varieties) was extremely effective. It did much to create public opinion in favor of this movement. And later in the season, in addition to the bed being replanted with tropical plants and showy annuals, the School Board at the suggestion of the Horticultural Society, planted a considerable number of shrubs and evergreens along the fence at the rear of the fine grounds. These have thrived well during the summer, and, with a little time will add greatly to the attractiveness of the grounds.

Similar action followed on the grounds of the Collegiate Institute, and also on those of the County Buildings, both of which have been thereby improved in appearance.

In addition to this the Horticultural Society has tried to do something in another direction to encourage the school children and citizens in the direction of floriculture and horticulture. Last year they offered money prizes for the best kept flower and vegetable gardens, and also for the best kept lawns and boulevards—competition being open to citizens having $\frac{1}{4}$ acre or less of ground. There was considerable competition and it excited a general interest throughout the city. The Society also offered prizes for the best kept home plots to be planted and

attended by pupils of the city schools. This competition was also fairly satisfactory.

It is interesting and satisfactory to note that a flower garden competition has also been held in Ottawa during the past two years at the suggestion and through the generosity of Her Excellency the Countess of Minto, who contributed therefor valuable gold and silver medals. The latter have been eagerly competed for and won, among others, by several millionaire residents of the capital. Thus has Her Excellency of Government House been doing something practical towards making our Canadian Capital City the Washington of the North.

But the Horticultural Society this year adopted a somewhat different plan. They distributed to three pupils in each department of the Central and public schools a number of plants and flowers, such as asters, zinnias, phlox, petunias and geraniums. These were distributed free, the only condition being that flowers from them should be exhibited—and a large number of bouquets were exhibited by the children as stipulated at the fall exhibition of the Society. In this way from eighty to one hundred pupils received plants and flowers, and had little gardens of their own at their several homes during the summer. I have reports from them all, and they are alike interesting, amusing and appreciative. Here are some of them:

“Right in every way.”

“The geraniums are like bushes.”

“I gathered beautiful flowers from them.”

“Thank the Society for giving them to me.”

“I picked flowers every day and put them in a vase in the dining room.”

“One day I cut three dozen asters off my plants and they were very large. The geraniums also were large and bloomed all the time. I gave a great many bunches to my friends.”

“Slips have been taken for another year from the geraniums.”

"Plants were put out and bloomed profusely all summer."

"A garden which is my very own pleases and interests me very much."

And one little tot whose enthusiasm surpasses her grammar, exclaims: "Flowered like something awful!"

GENERAL PLANS.

So much for some practical results with which I am more or less familiar. It may be asked what general plans, if any, have you for improving our school grounds? That is not an easy question for an amateur to answer. But, generally speaking, it may be said that three sides of the school grounds might be bordered with trees, shrubs and flowers. The centre should be kept clear as a playground, and the front partially so. This depends upon the size of the grounds, their topography, and the location of the school buildings. Convenience and effect should be studied. The school house—ivy-covered where brick or stone—should be the picture, and the trees, shrubs and flowers the frame. The plot within the trees, shrubbery and flowers should be sodded and well kept. A lawn mower is of course a necessity, although I venture to say it is almost a stranger in our rural school grounds, and in a majority of these in towns and cities.

Of the trees to be planted around the grounds, I would suggest such common varieties as can be easily procured. Maples, elms, beeches, birches, basswood and evergreens. Many of the shrubs also may be got from the woods, and so of wild flowers. Of cultivated plants, a bed of bulbs (tulips preferred) is a great attraction in the spring, and later on, showy annuals, such as geraniums, petunias, ageratum and salvia, with

some common tropical plants such as castor beans, dalbias, cannas, and even a Scotch thistle.

GARDENING A RECREATION FOR SCHOLARS.

School gardens do not add an additional subject of study to the present curriculum. They are simply an educational object lesson for the use of the teachers and the information of the scholars. By their aid the teacher and scholar may enjoy, say once a week, a few minutes' pleasant recreation in the open air and sunshine, while the one is teaching and the other is learning a little of practical botany, chemistry, floriculture, forestry, drawing and landscape. Could there be a more delightful or profitable lesson for both teacher and pupil? And, what is also important, the experiment would cost little or nothing; not only so, but the movement might be extended in modified form to hospital, church and other public grounds, all of which could be thereby greatly improved and beautified.

But to begin and carry on this work will require the aid of an intelligent and sympathetic public opinion, progressive and enlightened school authorities, horticultural societies, municipal bodies and governments. All of these may do much to encourage teachers and scholars to develop our educational system in this pleasant and practical direction—a development, or rather advertisement which will improve the system and will make our schools more attractive, which will help to secure for them a larger and more contented attendance of the pupils, will inspire the latter with higher ideals of living and of citizenship, and will implant in their minds loving and imperishable memories of the happy days spent at the old school.

SUNSHINE OR SHADE FOR FLOWERS

PLANTS DIFFER—SOME WILL SUCCEED IN AN EAST OR WEST, SOME IN THE SOUTH AND A FEW IN THE NORTH WINDOW—WHAT MR. E. E. 'REXFORD SAYS ABOUT IT IN HOME AND FLOWERS.

AS all plants are not alike in their requirements as to sunshine and light, it naturally follows that the plants grown should be adapted to the particular place in which they are kept. Those liking a little sunshine, such as the begonia, fuchsia and calla, are satisfied with an eastern exposure, where they get the benefit of the sun early in the morning. The geranium, carnation, rose, heliotrope, i. d., in fact, the majority of flowering plants, which must have plenty of sunshine in order to fully develop their colors, find no other exposure so satisfactory as that afforded by a south window. A western window answers very well for many plants in winter when the sun is not strong, but it is a poor place for them in summer, unless something can be done to greatly modify the intensity of the afternoon heat. Northern windows are not adapted to flowering plants, but shade-loving plants can be grown in them very satisfactorily. It will therefore be seen that all the windows of a house can be utilized for plant growing, provided we are careful in our selections and adapt the plant to the window it is to grow in.

It is safe to say that, as a general rule, light-colored flowers are best adapted to windows having an eastern outlook. But there are many exceptions, and the only way to make absolutely sure of the best exposure to give a plant is to experiment with it, and thus find out what conditions of light it does best in. If I were asked to give a list of plants adapted to the several exposures mentioned, it would be something like this: For eastern windows—

fuchsias, begonias, callas, Chinese primroses, *Primula obconica*, azaleas, plumbago, stevias, lobelias, and all kinds of bulbous plants. For southern windows—geraniums, roses, chrysanthemums, carnations, lantanas, oxalis, oleanders, abutilons, hibiscus, marguerites, and most of the plants having richly colored foliage. For western windows—bright leaved plants and a few of the more "accommodating" plants like the geranium, provided the effect of too strong sunshine is modified somewhat. For northern windows—ferns, araucarias, English ivies, palms, aspidistra, ficuses and seliganelias. Roman hyacinths, *Primula obconica* and Chinese primroses will often bloom well in sunless windows.

But the above lists are subject to great modification, because the florist who has "the knack" of flower-growing will contrive to so control conditions that he can grow almost any plant in almost any exposure. The sun can be tempered by shades and screens. Heat can be regulated, and water used in quantities to fit the losses by evaporation which will be different in different exposures. These things can not be put down on paper in such a manner as to make them plain to the reader, but they will come to the amateur florist by personal work among the flowers he grows.

We read a great deal about shade-loving plants. Now, "shade-loving" is a comparative term. It does not mean actual shade, in the sense ordinarily given the word, but it means an absence of sunshine. A fern is called a shade-loving plant, but it

will do just as well at a south window, if we keep it out of the sunshine, as it would in a window at which no sunshine enters. It is so with all plants not fond of sunshine. All the shade they need is exclusion from it, not, as so many suppose, a place in which light is so toned down that dimness results. A place may be shady in the sense that it is without sunshine, and yet it may be very light. And this is the kind of shade that shade-loving plants require.

If you are going to build a greenhouse on a small scale, like a lean-to, by all means, if possible, have the roof of it slope to the south. If you cannot do this, have it slope to the east. But never have the slope to the west, or the north, for one will give you so much sunshine that your plants will be scorched by it, and the other will give you none at all, in winter. If you can have one with a roof having two slopes—one to

the east and one to the south—by all means have it, as this will give you an ideal exposure, as it combines the advantages of early morning and mid-day sunshine, and nearly all kinds of plants can be so arranged that they will get just the amount of sun they need.

If you are going to build a greenhouse with an even-span roof—that is, the roof the same on both sides—let it run north and south. Do not make the mistake of having the building so high that the glass of the roof is several feet above the plants under it. The nearer you can get them to the glass the better it will be for them. In summer, the west side of an even-span roof can be covered with thin cloth, or washed with a mixture of lime, or something similar, that will obstruct the free entrance of the rays of the hot afternoon sun.

Yucca.

SIR,—Can you explain why it is that my *Y. filamentosa* does not bloom?

Probably the plant are not yet old enough to flower, or perhaps they require some fertilizer to cause increased vigor and growth.

Killing Poplars and Locusts.

SIR,—I see in your last issue that H. J. G. asks how to get rid of poplars and locusts without cutting them down. I do not know how to get rid of them without cutting them down, but I know how I got rid of the suckers after the trees had been cut down. My land was covered with suckers of poplar and I got an inch bit and bore a hole eight or nine inches deep in the stump and filled the hole with coal oil. This was twelve years ago, I have seen no suckers since.

Ontario.

L. J. WHITE.

Hardy Climber.

SIR,—Can you recommend a suitable hardy perennial or annual vine to climb over a Persian Yellow rose tree. Trumpet flower preferred.

H. S. K.

I cannot recommend you to grow any perennial vine over the rose tree mentioned, more especially a plant of the trumpet vine (*Bignonia Radicans*) as preferred by you, as the latter is a strong grower, and would probably kill out the rose tree in time. A few plants of morning glory (*Convolvulus*), or climbing nasturtiums, would be most suitable for the purpose, or a plant of *Cobea scandens* might do if it is a very large bush.

O. A. College, Guelph.

W. HUNT.



The Canadian Horticulturist

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

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 arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post-Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

ADDRESS money letters, subscriptions and business letters of every kind to the Secretary of the Ontario Fruit Growers Association, Department of Agriculture, Toronto.

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

WESTERN NEW YORK HORTICULTURAL TO MEET IN ROCHESTER IN JANUARY.

THE forty-eighth anniversary of the Western New York Horticultural Society will occur January 28th and 29th, 1903, at Rochester. Among the speakers will be Professor I. P. Roberts, of Cornell University; Dr. H. J. Webber, and Professor Harold Powell, of the Department of Agriculture, Washington, D. C.; Dr. W. H. Jordan, director of the New York Exp't Station; the "bug man," Professor M. V. Slingerland, always entertaining and instructive; Professor S. A. Beach, Dr. L. L. Van Slyke, Professor F. C. Stewart, and other. Mr. Alex. McNeill, prominent in the service of the Canadian government, will give a talk on "Grading and Packing," an object lesson.

About fifty years ago a few men interested in fruit culture met in Rochester, in response to a call which declared that the culture of fruits in this region was becoming an im-

portant branch of industry. Apple growing and all fruit raising was then in its infancy. Out of the meeting of earnest, enthusiastic men who responded to that call sprang the society, which, for nearly half a century, has devoted its energies and its money to the advancement of the art of fruit culture. The discussions of practical questions, in which every one is free to participate, is a popular feature of the annual gatherings, and it is no uncommon thing to hear well-to-do fruit growers attribute their success largely to their membership in the society.

Few people realize the extent of the apple industry of the United States. Thirty years ago a barrel of American apples was a curiosity in the English market. The total exports from American to European ports, for the week ending December 6th of the present year, amounted to 111,193 barrels. The total shipments of apples from American ports for the present year up to December

6th were 1,566,398 barrels. The total for last year amounted to only 469,385 barrels, an increase of over a million barrels in the present season, so far.

The meeting will be held in a new hall, a model of convenience and comfort. There will be a large fruit display and an exhibit of spraying and other devices. The dollar membership fee not only entitles members to the privileges of the meetings but also to a copy of the proceedings containing all the papers and stenographic reports of the discussions. The secretary, John Hall, Rochester, will mail a copy of the programme to those who send for it.

AMERICAN SPRAY PUMPS IN CANADA.

The success of American Fruit Growers with the Hardie Spray Pump has led to so many inquiries for this pump from Canadian points that the Hardie Spray Pump Mfg. Co. has started a factory and opened a Canadian office at Windsor, Ontario, to supply trade on this side of the line.

The Hardie Spray Pump is one of the standard American pumps; all working parts are brass, no cast iron enters into its construction, and the solid brass ball valves make it a simple pump to clean.

It will develop a pressure of 100 lbs. with but little effort, and now that the Canadian demand can be supplied the Hardie will doubtless become as popular in Canada as in the States.

THE SMITH & REED Co. of St. Catharines, Ontario, have the finest and best selection of apple trees ever offered. Intending purchasers should write for full information before placing their orders elsewhere.

"COUNTRY LIFE IN AMERICA" for December is a large Christmas annual with a beautiful cover and a hundred superb illustrations, and colored supplements besides. The spirit of jollity of the season pervades the bulky number of winter sports, unusual house parties, Christmas homes and many things of winter at her best. Rudyard Kipling contributes the poem, "Pan in Vermont," deifying the man who, in winter, brings the seeds of phlox and hollyhocks into the snowbound country where Kipling once lived. Pre-eminent, however, is the profusion of elaborate pictures and the articles that have to do with hockey, skeeing

and tobogganing, snowshoeing, ice yachting on country lakes, fishing through the ice, and even the homely sports of skating, skate sailing and the pursuits that carry one into the deep woods. Altogether the elaborate make-up bespeaks the grand success of this new sort of magazine, the growing love of real sport in America, and the movement of the New World back to the garden and outdoor life of the Old.

BURLINGTON HORTICULTURISTS

The annual meeting of the Burlington Horticultural Association was held last week. There was a good attendance of members and all present took an active part in the discussion on the various reports. President A. W. Peart occupied the chair and gave his annual address congratulating the association on the satisfactory season. The secretary's statement showed that seven meetings had been held during the year addressed by a number of local and visiting speakers, and that a balance of \$96.37 remained in the treasury. The directors reported on the conditions prevailing among the different varieties of fruit and the measure of success attending the season's operations.

The old officers were mainly re-elected and resulted as follows:

Hon. President, Geo. E. Fisher.
President, A. W. Peart.
Vice-President, J. S. Freeman.
Secretary-Treasurer, W. F. W. Fisher.

OUR BOOK TABLE.

SUN DIALS AND ROSES OF YESTERDAY. Garden delights which are here displayed in very truth, and are moreover regarded as emblems. Alice Morse Bayle, New York, McMillan Co., 1902. Price \$2.50.

Of sun-dials is this book, but not wholly a relation of their history, existence and manufacture. Of Roses, but not alone the story of their presence in the garden by the side of the Sun-dial. The volume treats of the Rose in History, in Poetry, in Symbolism in Romance, in Love, in the hearts of the whole world, and its significance in the society of the Rosibrucians. It also tells of the history of Sun-dials in the Orient, in Ancient Greece and Rome, on the Continent and Great Britain, and in Mexico and South America, and a full account of their existence in ancient and in present days. The Sun-dial in American history and as monument for heroes. Spot dials and noon marks, chilindres, pillar dials, travelers' dials, peasants' dials, shepherds' dials, and the dial in all its curious and nical forms and purposes. There is a chapter on the high significance of the Sun-dial as emblem, a symbol of life; with original designs suited to American dials, and also highly conventionalized designs from American flowers.

GINSENG. Its cultivation, harvesting, marketing and market value, with a short account of its history and botany. Revised, greatly enlarged and brought down to date. Illustrated, 144 pages, 5x7 inches. Cloth. Price, postpaid, 50 cents. Orange Judd Company, New York.

The impetus given to the American Ginseng industry through the appearance of the first addition of this book, has been almost phenomenal. Ginseng growing has made such rapid strides and demand for information has increased so greatly that a second extended edition has become necessary.

The information contained in the present volume, which is nearly three times as large as the first, has been culled from a large mass of material and is, decidedly, the best that has appeared since ginseng culture first attracted attention in America. Every successful detail bearing upon successful ginseng growing is fully and minutely elaborated; and the author is confident that ginseng culture will grow in proportion to the application of intelligence to it. To any one intending to embark into this industry this book must prove invaluable.



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Directions for Starting.—Place ball in water for fifteen minutes and then suspend in any desired position; repeat every two days until growth is started, after which sprinkle occasionally as required. To use in fern dish, cut balls in halves, placing flat side down, thus getting two dishes of beautiful ferns. The Fern ball may be allowed to dry up at any time and be set away, and started again by watering same as before.

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