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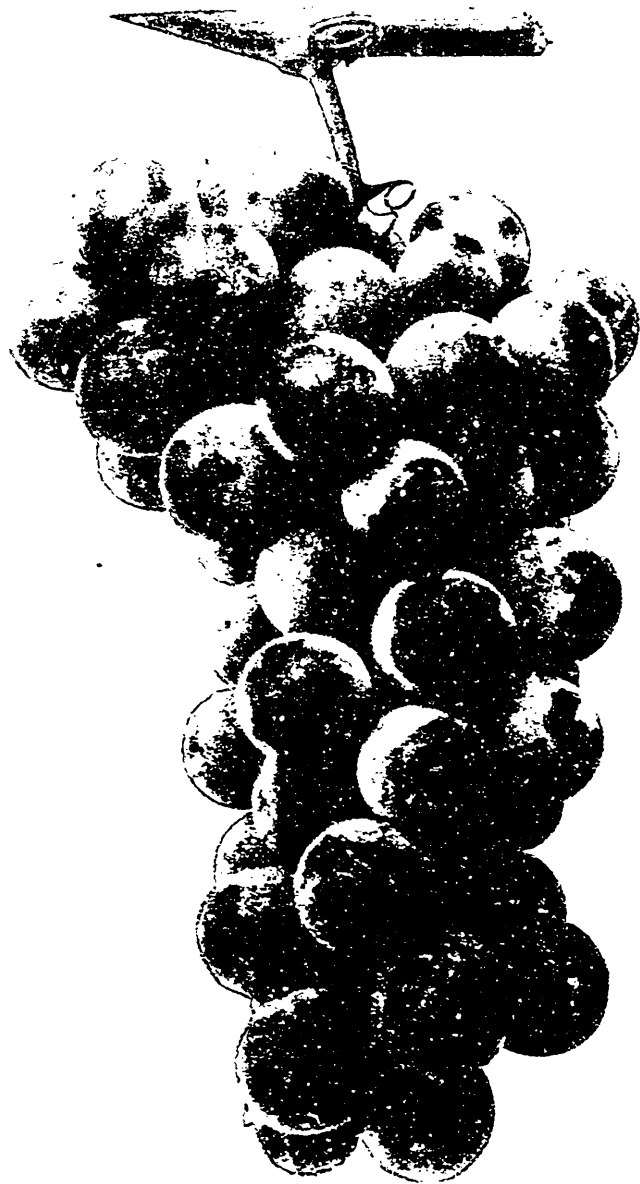


FIG. 253. CAMPBELL'S EASIN GRAPE.

THE CANADIAN HORTICULTURIST



* * FEBRUARY * *

CAMPBELL'S EARLY GRAPE.

LAST summer we fruited this grape for the first time, and our acquaintance with it was most favorable. Its fine size, its earliness and good quality seem to combine to make it the most promising of our commercial varieties. We do not wish to commend the grape too highly, for one season's acquaintance is not sufficient to enable one to speak with authority; but it certainly is an earlier and a better grape than the Concord, which is now the leading commercial variety in North America. We have still to study the vigor of the vine and its productiveness, and if, in these respects, it equals the Concord, then we can recommend the grape without reserve.

The name perpetuates the memory of the venerable G. H. Campbell, of Ohio, who counted this one of his first productions. He had been experimenting fifteen years, endeavoring to produce a grape that should

have the merits and not the faults of the Concord, and this was the result of different crosses with Hartford, Concord, Moore's Early, and Muscat Hamburg, selecting the hardiest and healthiest vines.

The grape ripens with Moore's Early, its bunch is large and shouldered; the berries large, often one inch in diameter, black in color, with thick blue bloom; flavor rich and sweet without foxiness; and it should be valuable for distant shipments.

Campbell's Early was first sent out in 1896, so that it has not yet become very widely known, but we believe that we have spoken of its merits in moderate terms. We are placing it on the list for distribution in the spring of 1902, and we hope that we shall soon have reports of its behavior in various parts of Ontario, especially regarding its ability to resist cold in our northern sections.

NOTES AND COMMENTS.

Aphis and Rose Thrip.—At our Cobourg meeting a paper was read by Mr. Jackson, of Port Hope, on the Rose, and in the discussion he advised spraying the foliage with a strong solution of whale oil soap and extract of tobacco, using 20 parts of the former to one of the latter. This, he said, would rid the bushes of the pests. The extract of tobacco can be purchased in pint bottles at drug stores.

Deep Rooted Trees are advocated by Richards, of Texas, as a means of withstanding the effects of drouth. He claims that trees should be so pruned and trained that they send down their roots deep into the subsoil, and argues that the deeper rooted they are, the healthier, the longer lived and the more productive they will average. We shall be glad of the views of our readers who have been observant of these conditions. In our own opinion such treatment would not be altogether advantageous, for the nearer the surface the roots lie, the more easily can they be fed with surface manuring.

A Fruit Grader to separate our various fruits into uniform sizes has become a necessity of the age. It is impossible to grade by the eye to such exactness as is necessary. This was plainly shown by the reports of inspectors at Montreal, who, having examined fruit so graded, warned the packers that they had found in their packages three specimens out of ten that were below the grade size. This variation may not have been more than 1/8 of an inch, and not noticeable to the best educated eye, and yet was sufficient to subject the shipper to a fine and to the publication of his name as that of a person guilty of fraud.

The expense of buying a grader is therefore one of the necessities of the man who desires to ship graded fruit. Fortunately such a machine, invented here in Ontario by Mr. A. H. Pettit, of Grimsby, was shown at our Cobourg meeting last December, and we hope it will soon be placed upon the market.

Nitrification.—Wis. Bul. 85 gives results of some investigations of the variations in the amount of Nitric nitrogen and soluble salts in the soil under different conditions of cropping and culture, concerning the amount required for healthy growth, etc.

It was found that soil stirred once in two weeks was left, after ninety-one days, with 53 lbs. of Nitric nitrogen per million of dry soil, and that stirred once a week left the same quantity of soil with 98 lbs. of Nitric nitrogen. It was found that the largest amount was developed during an interval of 258 days by stirring to a depth of three inches; a less or greater depth not giving as good results.

Large vs. Small Fruit Farms.—The question of the over production of fruit is considered anew year after year, and the occasional gluts in our markets and the low prices returned us often give great reason for anxiety lest we soon reach the day when prices do not give any surplus over the cost of production. And this day will not be very far distant if we continue to grow scrubs, for in these days a glut of trash is easy to bring about; but a glut of large sized, highly graded fruit, with fine color and first quality, has never yet occurred. These immense apple orchards of the Western States are unwieldy and the results unsatisfactory. Mr. G. T.

Powell, of New York State, states that the great Judge Wellhouse orchards, of Missouri, have yielded an average of but fifty bushels of apples per acre for twenty-two years and this is one of the best cultivated of the mammoth orchards of the West. Some of these big orchards have never been pruned or cultivated since they were set. Such orchards will never cause a glut of fine apples in any market, and the fact of their being planted need never make us anxious over the future of our apple markets.

The secret of making money out of apples in the future is to produce something superior to the product of such orchards. A small orchard, no larger in size than can be cultivated, pruned, fertilized and the product handled and packed in the best manner, is the ideal investment. The markets of the world are opening up for choice stock in a wonderful way, and the secret of success lies in supplying this growing demand.

Cleaning the bark of trees, before spraying for scab or insects, is most important, and a job neglected by most fruit growers. To have healthy, vigorous trees, the bark must be kept in a healthy condition, and how can it be so if covered with dead bark, and with lice which suck away the strength of the trees? Where San Jose scale prevails this work is doubly important; and not only must the trunk be scraped in such a case, but the tree subjected to a thorough cutting out of all superfluous wood, that the spray be not wasted on useless parts. To be successful one must have an effective pump, and the operator must be suitably dressed.

Trolley Lines for Fruit Growers.—Now that the electric roads are being built throughout so many of the best sections of our province, it is of interest to know that a combined road wagon and railway truck has been invented, which promises to be a great saving of expense to the farmer and the

fruit grower. The frequent loading and unloading of baskets, necessitated in the transfer from packing house to express car, and from express car to consignee, not only takes much time but also causes injury to the fruit. A truck that could be loaded at the packing house, carried bodily on board the trolley and run off directly to the consignee, without handling the goods, is therefore a most valuable invention.

A package for fancy fruit has been invented by Mr. Wm. Wilson, of London, Ontario, which, we believe, will be very popular. It was this package, then not quite perfected, which Mr. M. Pettit used last November in shipping his Kieffer pears to Glasgow. Our only criticism of the package was that a different size of case was needed to accompany the different sized fruits, thus making storage more expensive. Mr. Baker, of the firm manufacturing the case, writes under date of Dec. 5th, as follows:

"We can now furnish a package that will fit any sized fruit and pack into a compact square. Twenty-four packages fill the space of one cubic ton exactly, making it easy for a shipper to check his ocean freight. So far as I know, or can see, we have now a perfect grader and a perfect package."

We are much pleased with the prospect of having one exterior size of case for all fruits, and certainly it will simplify the transportation problem if a case 22 x 10 $\frac{1}{2}$ x 12 $\frac{1}{2}$ in. will contain all sizes of such fruits as apples, pears, peaches, plums, berries and grapes.

Decease of Mr. W. A. Whitney.—We desire to place on record in this journal the deep regret with which we have received the news of the sudden death of our director for Stormont and Cornwall. We also wish to convey to the bereaved family the sincere sympathy of the directors and members of the Ontario Fruit Growers' Association, of which he has always been an interested member. Mr. Whitney died on the evening

of Jan. 17th, from heart failure, the result of over-exertion. He was born in Grenville County in 1834, was twenty-five years head master of the Iroquois High School, and for several years classical master of the Morrisburg Collegiate Institute. He had been publishing the *St. Lawrence News* for about four years.

Rev. Robt. Hamilton, of Grenville, Que., of the Horticultural staff of the Paris and Glasgow exhibitions, called at our office a few days ago. He states that the Glasgow Exhibition was a financial success; the expenditure was limited to exhibits and very little spent on exterior show. No doubt the immense sums spent on ornamentation of the exterior of the buildings and of the grounds at the Pan-American was the secret of its financial failure.

The Great World's Exposition at St. Louis in 1903.—On the 20th of December last, the first spadeful of earth was lifted by President Francis, and deposited in a wagon drawn by four white horses; and this was made the occasion of several most enthusiastic addresses. It is expected that the United States Government will spend at least one and a half millions upon its exhibit, which will be much in excess of that spent upon its exhibit at the Chicago Exposition.

Pomology.—Prof. F. A. Waugh, of Vermont, criticises Prof. Bailey's statement that Fruit Growing and Pomology are synonymous terms, because the latter is a science, the former an art. Pomology is the study of fruits and their characteristics, and of the trees and their habits, and a systematic pursuit of it, in his opinion, receives altogether too little attention these days. "In particular," he says, "I think attention needs to be called to the lack of recent work in descriptive pomology. The other day I received a report from a leading horticultural

society, sustained by a great state on the other side of the Mississippi river. In this report there were given a large number of descriptions of varieties of fruits. The great majority of those descriptions were taken bodily from Downing's "Fruits and Fruit Trees." Think of it! Those descriptions were written fifty years ago or more, from specimens picked in the Eastern or New England States, and yet they are the only ones which an enterprising secretary of a strong horticultural society can find when he goes pirating about for the wherewithal to make up his reports. In this same report there was hardly an original description given."

The "Fruits of Ontario," a work undertaken under the direction of the Board of Control of our Fruit Stations may be slow of progress, but fortunately will escape this severe censure. One merit, at least, it will possess, that it describes fruit and fruit trees as they grow in Ontario and not as Downing found them in some distant section of North America, fifty years ago.

New Buildings at the Industrial are now assured, since a by-law has been passed by the citizens of Toronto granting \$133,000 for new buildings. This will make the Industrial Fair of still greater importance to the province, and we should see to it that better provision be included for our fruit exhibits. We have two representatives on the Board, viz., Mr. A. H. Pettit and Mr. W. E. Wellington, and no doubt that they will see that our interests are not neglected.

The British Apple Market in 1901 has given satisfactory returns to shippers, though not equalling the extravagant expectations of those who judged the world's crop by the shortness of that in their own immediate locality.

The imports to Liverpool to Dec. 31st, 1901 amounted to 252,000 barrels, just about

half the quantity of American apples sent over in 1900. The Baldwins have been chiefly from Canada and Maine, very few New York State Baldwins having been sent forward. The finest brought 22 shillings a barrel, the Canadians being always slightly ahead in price.

Canadian Snow apples are much valued when they arrive clean, but owing to black scab, they are looked upon with much suspicion. Could we only succeed in growing them clean, and get them carried cool enough to retain their crisp flesh, there would be good money in them.

The Newtown Pippin, known also as the Albermarle, has still the preference in Great Britain where it can be landed free of scab, indeed some buyers seem to think the scab only a proof that it is genuine. California Newtowns are being forwarded in greatly increased quantities; more than 50,000 bushel cases arriving in Liverpool in the month of December 1901, but in quality they are far behind those grown in the East, the climate not being suitable for producing a juicy crisp apple of high quality, and good color. In consequence, it is not surprising that prices declined for California Newtowns from \$3.00 to \$1.75 per bushel box.

The Sour Cherry is arranged in four groups by Powell, Delaware Station, viz.: (1) Montmorency, (2) Morello, (3) Bruseler Braune, (4) Vladimer. He recommends for trial, of the Montmorency group: June Amarelle, King, Lancaster, Sklanka and Weir No. 2: of the Morello group: Double Natte, Ostheim, Wragg, Minnesota and Koslov Morello: of the Bruseler Braune group: Besserabian and Bruseler Braune.

The Keiffer.—A writer in the Rural New York champions this much abused variety, claiming that if picked in September and properly ripened it is a very good pear to eat, and free from grit or woodiness; but

when left on the tree until the last of October it changes entirely and becomes gritty at the core.

Powell, of Delaware Station, has been experimenting as to the self-pollinisation of this variety, and concludes that it is almost self-sterile. He finds that, where cross-fertilized, the fruit develops much more rapidly and at the end of two weeks is twice the size of self-fertilized fruit. He advises planting every third row in an orchard of some other variety than Keiffer and suggests such varieties as Howell, Manning, Duchess and Bartlett.

An Agricultural University.—From comparatively small beginnings the Ontario Agricultural College at Guelph has developed year after year until it has reached the front rank among institutions of its kind on the American continent.

The munificence of the late W. H. Massey in furnishing the means for the erection of a library and Convocation Hall, and more especially that of Sir W. McDonald, in his gift of \$100,000, or more, for the erection of buildings in which special training will be given in Nature study and Domestic Science, mark a new era in its development, during which it may command a position far in advance of that which it now occupies.

Dr. Mills is now visiting other institutions for the purpose of gleanings from their experience every thing that will help toward making this undertaking a magnificent success, and in carrying out these plans for the ultimate good of the farmers and the fruit growers of Ontario.

This is but a part of a larger plan for the stimulation of education in Domestic Science and Agriculture, which has been outlined in brief as follows:

Part 1 of the plan is intended to give object lessons of improvements in education from the consolidation of five, six or more small rural schools into one central graded

school, with a school garden and a manual training room as part of the equipment. It is proposed to offer financial assistance to one locality in Ontario, and one locality in each of the Provinces of Quebec, New Brunswick, Nova Scotia, and Prince Edward Island, to promote this.

Part 2 of the plan is for the purpose of giving object lessons of the value of school gardens and nature studies as a part of general education at individual rural schools, to be begun by means of a travelling instructor until a considerable number of suitable trained and qualified teachers are available. It is proposed to offer financial assistance to one group of ten or fewer schools in one locality in the various Provinces, to this end.

Progress in agricultural education would be made by starting evening continuation classes in the rural districts in connection with those groups of schools, or in connection with the consolidated schools.

Part 3 of the plan provides short courses of instruction and training for teachers for rural schools who desire to qualify themselves in those newer subjects and methods of education, at the Ontario Agriculture College at Guelph, in a special building.

If provision should be made for a class of about 30 teachers at each short course, it is hoped that the Government would arrange to enable approved teachers in rural schools to take the short course, without loss of situation or loss of salary. For the first year it is proposed to make an allowance for the teachers' travelling expenses to the college, and an allowance of \$25 to help in meeting the expenses of board and lodging, to every approved teacher who has taken a full course satisfactory.

It is proposed to offer to the province at the Agricultural College at Guelph, a residence building to accommodate not less than 100 female students.

It was suggested that suitable courses

would include instruction in dairying, poultry-keeping, bee-keeping, fruit-growing and general gardening; preparation and serving of foods, sewing, dressmaking, and the simpler forms of household art and decoration, care, and cleansing of rooms, etc.

Lord Roberts' Flower.—The Fruit Trade News, of London, England, proposes the wearing of the *Ixia* by patriotic citizens on Pretoria Day in honor of Lord Roberts' victorious entry into that stronghold. Its green color, it being a native of the veldt, its blooming at the period above mentioned,



FIG. 2237. LORD ROBERTS AND HIS FLOWER.

seem to combine in rendering the suggestion an appropriate one. *Ixia viridiflora* was found by Schomburgk in California, who stated that it bore a cluster of green flowers something like a green head of wheat. This *Ixia* is very pretty for table decorations and may be easily grown from corms planted in pots, or out doors in early spring.

FRUIT GROWERS AT ROCHESTER. I.

BEING invited to speak on the export of tender fruits, the writer attended the annual meeting of the Western New York Horticultural Society, which was first organized forty-seven years ago, five years before our own. The division which arose last year between fruit growers and nurserymen over the proposition to seek legislation for compelling fumigation of nursery stock has been agreed to by both interests, and, in spite of the snow blockade, a large number of the best fruit growers were present. Among those representing Ontario were Messrs. E. D. Smith, Winona; Joseph Tweedle, Winona; and E. Morris, of Fonthill.

Dwarf Apple Trees.—Prof. Beach, of Geneva Experimental Station, advocated training apple trees in a different manner in view of the necessity of fumigation and spraying, and Dwarfs were advocated as one way of meeting the conditions. These are made using the Doucin, or the still slower growing French Paradise stock. Every variety of apple succeeds on Doucin stock, and bears early, say in five years after planting; while on Paradise it may bear still earlier. Planted 8 x 8 or 10 x 10 one may set 400 or 500 trees per acre, and thus to a certain extent, they will make up in number what they lack in size. These little trees will not of course live to the age of standards, and their usefulness will be over in 20 or 30 years, but it is suggested that possibly these disadvantages will be counterbalanced by ease in reaching them from the ground for pruning, spraying, thinning and fruit gathering, while, if the apples are blown down, they will not be so liable to injury by winds. The planting of such trees is on the increase in England where the Dwarf is growing in favor.

The Bismarck apple was spoken of as a very early bearer of very fine fruit, for even on standard it has been found bearing fruit at the age of two years; surely it will be worth while to try this Bismarck apple at all fruit stations.

New Ideas in Strawberry Culture was the subject of a vigorous address by R. M. Kellogg, of Three Rivers, Michigan. The first runner plants, he said, were the most vigorous and productive, and he had made it a rule to use only these. In this way he had succeeded in raising plants of the highest value for productiveness.

Mr. Kellogg has promised to give us a copy of his address for a future number of journal so we will omit farther note of it here. "What is the berry you sell the most plants of?" I asked him as we were seated at dinner. "Well," he said, "during the past season the Brandywine; it is an excellent shipper and very productive."

"I think," said Mr. E. D. Smith, of Winona, "that the Williams is the most popular market variety. It is also an excellent shipping variety, and in Ontario it is in far greater demand than Brandywine."

"What about the Clyde," I asked; and here the doctors seemed to disagree. Smith said it was too soft to buy for re-shipping; Kellogg said it was a very profitable berry grown on heavy soil, but not profitable on light sand. "There is one variety named after yourself," said Kellogg, "the Woolverton, that is a wonderfully fine berry. It deserves to be much more widely grown than it is, for it is firm, of large size, and productive, in many respects it is an ideal berry."

Of the new varieties Mr. Kellogg mentioned Aroma as being very promising.

The Cherry Fruit Worm was characterized

by Mr. G. H. Powell, of Briarcliff Manor, N. Y., as the worst enemy of the sour cherry. So serious had the pest proved itself in some sections in New York state, that the cultivation of the Montmorency and Morello cherries was in danger of ruin. The worst feature was that no certain remedy had yet been discovered by our scientists.

The **Cherry Rot** was also a most serious obstacle in the way of the cherry grower. Powell had checked it by the use of pure sulphate of copper, 2 ounces in 40 gallons of water without lime, so as to leave the fruit clean for market. "Did not this injure the foliage asked a fruit grower. "No," said Mr. Powell, "I used as much as three, and even four, ounces to forty gallons of water, applying it every day, and even this did not spot the foliage." "How many times did you apply it," asked another. "I applied it" said he, "about ten times in all."

Prof. Beach, of Geneva Experiment Station, said he had used Bordeaux on his cherries for Brown rot, directly after the fall of the bloom, but could not see sufficient benefit to really pay for his work. He warned fruit growers to be careful in the use of copper sulphate "for it will certainly spot the foliage, if made too strong."

Prof. Stewart, of Geneva, said Brown rot fungus was a more serious enemy than was commonly supposed. Its attacks were not by any means confined to the fruit, but it also affected the twigs, and in wet seasons often causes their death. The cherry, the plum and the apricot were all subject to it, in the case of the two latter it often killed them back a foot, and in peach trees even two feet. This fungus, Stewart declared, started its growth much earlier in the season than most people supposed, and continued its ravages all the season through, both on the fruit and the twigs, and therefore it was wise to begin treatment early.

THE QUEBEC FRUIT GROWERS.

THE Ninth Annual Meeting of the Pomological and Fruit Growing Society of the Province of Quebec was held on the 18th and 19th of December, at Coaticook, situated among the hills, or high rolling land, of the Eastern Township, just east of Sherbrooke.

The meetings were well attended by a flourishing class of farmers, who, although their chief industry is dairying, took a lively interest in the subject brought up and were eager with questions and entered with enthusiasm into the discussions.

It was certainly a surprise to some of us to see the fine collection of exceptionally high colored fruit that was shown on the tables. There were about 65 plates;—8 or 10 plates

were Fameuse or Fameuse type of beautiful color; Ben Davis was in evidence, but specimens even poor in quality, size and color, and it is to be hoped the coming fruit grower in that section will give it the go-bye in favor of fruit of higher quality which they are evidently capable of producing.

The Russians were not as much in evidence as one would suppose in that section, only three or four plates being shown.

I was very much surprised to see a plate of Baldwins said to be grown in the vicinity. To see such a fine collection, 125 miles east of Montreal, leads us to wonder where is the limit of the fruit producing area of the Dominion. In all probability, if this fruit belt was to be followed through New Bruns-

wick and on to Nova Scotia, we would find one unbroken chain from Lake Huron on the west to the shores of the Atlantic on the east.

Mr. J. M. Fisk, of Abbotsford, gave an able address on varieties of apples to grow for export and the discussion that followed gave Fameuse, McIntosh, Winter St. Lawrence and Rochelle first place. Russian are not in demand; Windsor Chief and Lawver promised well, Blue Pearmain is good, but such a shy bearer that it is not considered profitable.

The question of packages also came up and the box is generally considered the most satisfactory when packing in barrels it was recommended to use paper at the head and to use excelsior for pressing, to avoid bruising the fruit.

W. Craig Jr., Abbotsford, showed some specimens of cranberries grown on his farm and gave a very interesting address on the very desirable fruit. He says any waste land of mucky nature that can be flooded during the winter with a foot or two of water and kept flooded during early spring is all that is required: with such land it is only necessary to cover with an inch or two of sand to keep weeds in check and set the plants a foot or so apart, flooding in the fall and draining off in May; the plot will take care of itself and be a paying investment in three or four years from the time the plants were set.

G. Raymond, La Trappe, gave an address in French on starting an orchard which led to a lively discussion in both languages.

Mr. Raymond is a Horticulturist and nurseryman at Oka farm, a short description of which might be interesting, showing the possibilities of the Province and of a farm well managed.

Lying to the north of the Lake of Two Mountains on the Ottawa river is the Trappist Monastery Agricultural College and farm. This farm comprises about 1000 acres. The

fine thoroughbred stock of cattle, horses, sheep and swine of many breeds delight the eye of the stock raiser.

On the farm they have about 200 cows, 250 pigs, a large number of horses, a cheese factory where the famous Oka cheese is manufactured, which sells at 25 cents per pound wholesale; about 200 acres of orchard, vineyard and nursery; large wine presses that have made Les Trappistes famous in domestic wines.

The nurseries and orchards are also a large source of revenue. The Flemish Beauty pear grows with them to the highest perfection.

The rules of the order of La Trappe Monks are very strict and only male visitors are admitted into the monastery. The Monks are compelled to rise at 2 a. m. for prayer and meditation. One meal a day only, as a rule, is permitted and there is entire abstinence from meat, fish, eggs or butter; a spare quantity of bread, vegetables and milk only being allowed. It is most interesting to watch the Monks in the field performing their silent labor; everything is done by rule and whatever the occupation, it must be suspended when the bell sounds for the religious exercises.

Besides the forty monks or so that labor in the fields from five to six hours each day, there are employed about thirty regular farm hands who carry on the work that makes this farm a pattern for all and a source of profit to the owners.

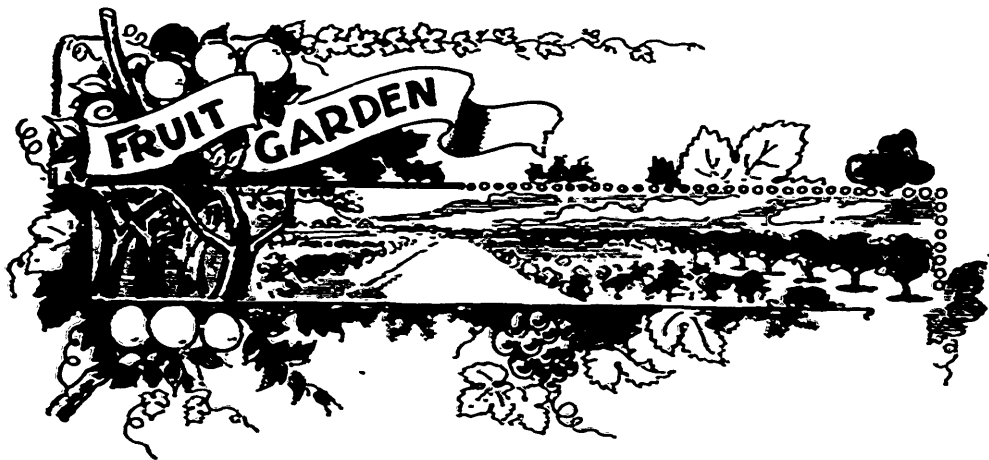
A plant distribution of two plums (imported), one peony, and one rose will be given to each member in the spring of 1902, together with the annual report.

Mr. T. L. Kenney, South Hero, Vt., Prof. Waugh and Prof. McCoun addressed the meeting and helped along the various discussions in an able manner.

The Association is to hold its next summer meeting at Aylmer, Quebec.

Maitland.

HAROLD JONES.



PRUNING.

CRITICISMS BY THE EDITOR.

PROF. Bailey gives eight reasons for pruning, all of which in our opinion may be included in one object, viz.: To so direct the growth of the tree that the best results in fruit bearing shall be attained.

This work may be done at any time, but the vigor of the tree is best maintained by pruning while the wood is dormant. To keep the tree in condition for giving the best results attention is needed, not only during the season of rest, but also during that of growth, in order that strength may not be wasted in producing a large amount of wood which must afterwards be sacrificed.

Tree Butchery.—It is a mistake, very commonly made, to neglect an apple orchard during the first ten or fifteen years of its growth, and all at once to set to work with axe and saw to attempt to prune the trees into shape. Butchering is the only word applicable to such a process. Those trees can never fully recover from the shock received, and the huge wounds will in time be the means of producing decay into the very heart of the tree, diminishing

its vitality and shortening its life. We have at Maplehurst an old orchard which in its early years was treated in this barbarous fashion, and which has ever since served as an object lesson to the writer. The pruning was always done by cutting away the great branches of the trunk until those remaining were far up and almost out of reach. In one case I remember trying in vain with a ladder thirty feet long to gather the finest apples on a Golden Sweet tree, and after reaching and climbing, I had to shake down most of the golden beauties only to be smashed and bruised so that they were rendered wholly unfit for sale. Many of these old trees are hollow trunked, affording fine hiding places for squirrels, but in the end they toppled over with their own weight. Another evil was the great number of sprouts which sprang up about these great cuts, an effort of Dame Nature to make up for the sudden loss of limbs. Especially was this trouble apparent in cases where my grandfather, in his efforts to open out the head of the tree to the rays of the sun, had cut out the whole top. The



FIG. 2238.

tree with its natural inclination to upward growth, sent up numbers of strong vigorous shoots, presenting a puzzling problem for the pruner to solve.

Fig. 2238 shows a tree improperly pruned, partially illustrating our remarks under this head.

Another very common error in the pruning of apple trees is the sawing of a limb so as to leave a stump, as in Fig. 2239. Nature may try as she will, but she cannot heal such a wound; her only way is to withdraw nourishment from the useless stub until it dies and finally breaks off, only to leave a hole into the tree for the entrance of decay. The correct method is to cut close to the main stem as shown in Fig. 2240 where D points out a wound now about healed over, and C and E recent cuts properly made.

Where large cuts must be made, in con-

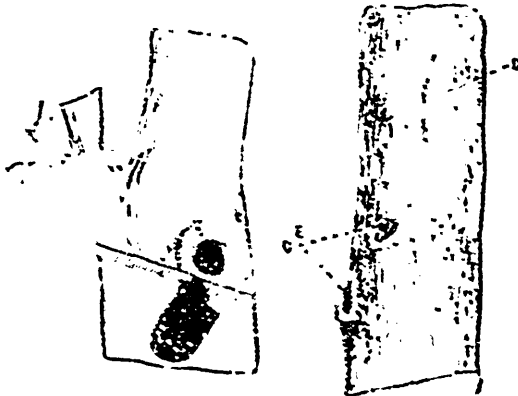


FIG. 2239.

FIG. 2240.

sequence of long neglect, the wounds should always be painted or varnished over so as to exclude decay, until nature has done her best to heal them over. But in our opinion the fruit grower who really understands the art as well as the science of his vocation, will never need to butcher his trees. From the very first he will study the natural habit of the tree, and find out whether it is upright and somewhat pyramidal like the Northern Spy, and the Cooper's Market, or spreading like the Greening and the Roxbury Russet, and every year he will prune to favor that natural habit of his tree. By attention to each tree, at least twice a year, once in the resting season and once in the growing season, he will make the whole vigor of his tree shape itself toward one ideal form, and none



FIG. 2241.

of the strength of its growth will be wasted. Thus he will sooner have fruit, and an orchard into which he can invite his brother fruit growers with pride and pleasure. Fig. 2241 shows a tree pruned with some judgment and may serve to illustrate what has been said upon this subject.

Tree butchery, or the cutting away of large limbs, referred to above, not only enfeebles the tree by reason of the decay thus developed, but it tends to throw the strength of the tree into water sprouts instead of into the fruit spurs.

A Wrong Method. The grower in such a case is beginning his work from the wrong place; he is beginning at the centre when he

should begin at the circumference. He should take his pruners and thin out the smaller outer branches, and so work toward the centre; thus he will thin out his tree by the removal of superfluous wood, and of superfluous fruit spurs, and he will find little need for his saw in the interior. This, of course, means a great deal of work and expense; but in this Twentieth Century we in Canada must give more time to our fruit orchards, or step to one

side; we must cease to grow crops of seeds and skins, and begin to grow crisp flesh and aromatic juice, painted with carmine on the exterior by the King of Day. Let us grow such fruit, pack it in fancy packages, and we shall fear no inspectors, nor glutted markets, but find even distant buyers coming to our very doors to buy these goods, for which our fame shall soon become world wide.

HINTS FOR HORTICULTURAL SOCIETIES.

THE life of an organization consists in activity. If the meetings cease, and no work is undertaken for the general good, the society dies a natural death, but if meetings are frequent, lectures and exhibits often provided, and civic improvements undertaken, the interest of the members will deepen, the numbers increase and the whole society put on fresh vigor.

Monthly meetings during the winter season are most important. If held from house to house and made to partake of the social element they will become very popular. There are always some members willing to write a paper to open a discussion upon some garden topic, and the president can easily draw out from each one present, his experience or knowledge of the subject in hand.

Then as spring approaches plans may be matured for civic improvements. This may be worked in many ways; grounds about public buildings may be planted with trees, shrubs and flowers, public streets lined with trees and objectionable features removed, or

perhaps, with municipal aid, plans for a park or cemetery designed and executed.

Two years ago a ladies' club in Carthage, Mo., undertook improvements in home and school grounds. They offered prizes for the most beautiful school room window, the decoration to be made by plants grown in the school room, from cuttings, seeds or bulbs, within a certain specified time.

The teachers and scholars became so interested that in 1900, fifteen prizes were offered to the children for gardens outside also, five for most artistic plants and training of vines on houses, five for best bed of China Asters not more than fifty square feet, and five for best vegetable garden, not more than two rods square. As soon as these prizes were announced, additional ones were offered by the citizens until they were thirty in all. Some 1500 varieties were made, and three hundred children persevered to the end, which was the first week in October, when the prizes were awarded. The result was most marked in making the city beautiful.

FIRST LESSONS IN FRUIT GROWING—III.

IN our last lesson, we studied the structure of the stem or trunk of a tree as it appears in a cross-section of any of our ordinary trees and we saw that it was made up of an outer or dead bark and an inner or live bark, of an outer or softer sapwood and an inner hard and dry heart-wood in the centre of which might be seen the remains of a soft spengy pith.

Just here it may be well for us to study the process of growth and learn how the trunk increases in size.

How Tree Trunks Increase in Diameter.

When a seed germinates, it sends down a radicle, or little root into the soil, and sends up a tiny shoot which bears leaves. As soon as root, stem, and leaves are formed, the tree has all of the parts necessary for growth. Growth takes place in two directions,—that is in length and breadth.

First let us see how the trunk, or in fact any of the parts, increases in thickness.

The root-hairs and rootlets absorb from the soil water, containing the plant-food in solution. This water, usually spoken of as the sap, passes from cell to cell through the roots and sapwood of the stem and branches to the leaves. In the leaves, it is spread out over a wide surface exposing it to the action of sunlight, where it undergoes considerable change; much of the water is given off through the pores (Stoma) of the leaves, so that the sap is reduced in bulk and thickened, something as it is by boiling in sugar making.

Carbonic acid gas is also taken in by the leaves from the atmosphere, and certain chemical changes take place in the sap by which its sugar is converted into starchy

matter, and prepared to enter into the formation of new growth.

This elaborated material then passes from the leaves down the branches and trunk and roots just beneath the inner bark, forming a sticky, half-liquid coating over all the parts of the trees, known as the cambium layer. In the process of drying and hardening, this forms a new layer of sapwood on its inner side and a thin layer of new bark on its out-

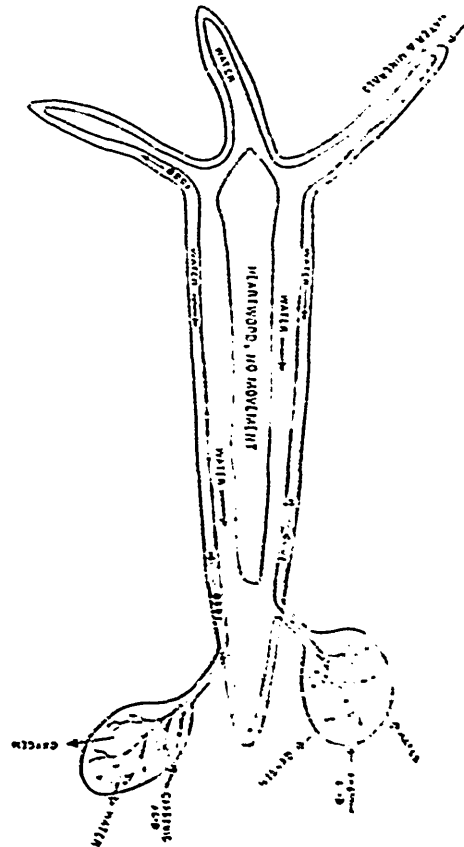


FIG. 2242. Schematic showing upward course of water or sap, and downward course of combined or elaborated plant food. (From U. S. bulletin, Forestry for Farmers.)

erside. Every living and growing part of the tree therefore, is increased in thickness each year by a layer of new wood, just inside the outer bark. In any cross section of a trunk or branch, these annual deposits may be seen in the form of distinct concentric rings. By counting these rings, we may tell the age of the tree, or any part of it, and by a comparison of the relative sizes of the rings, we may also learn much of the history of the tree, and the times through which it has passed. A thick ring naturally represents a season of good growth, while a narrow one near it indicates that growth in some way has been checked. It may have been by lack of cultivation, or draught or by the ravages of caterpillars on the foliage. Each ring is an annual chapter in the history of the tree, and the more we study the nature and habits of trees, the better are we able to read the history written in these rings.

Experiments to Prove Theories.

As a means of proving that the annual increase comes from the downward flow of the cambium, rather than from the direct upward flow of the sap, as is often supposed to be the case, we have only to tie a band

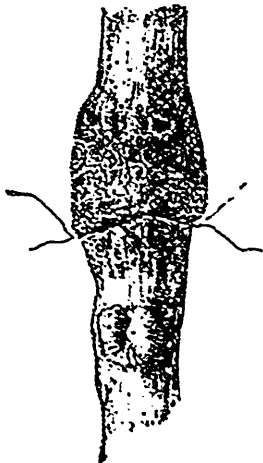


FIG. 2243. A young tree, in which the growth is checked by label wire.



FIG. 2244. A pine girdled by mice. The lower part has only four annual rings while the upper part has eight. (From Bailey's Pruning Book.)

tightly about any rapid growing part, so as to check the downward course of the cambium, and note the rapid increase in growth above the band just as a dam thrown across a stream increases the volume of the stream above it.

The accompanying illustrations show this very clearly.

That the new growth is laid on each year in rings just beneath the inner bark may be proven by lifting a corner of bark and inserting beneath it a thin sheet of tin foil, then binding the bark in place again so that it will rapidly heal over. Before long all trace of the wound will have disappeared, but when the trunk is cut through at that point, the tin foil will be found to be covered with a ring of wood corresponding to each year that has elapsed since it was placed there.

The annual laying on of new growth may also be easily seen in the gradual healing and covering over of wounds made in pruning.

How Tree Trunks Lengthen.

So much for the growth in thickness. Now let us see how growth in height and length takes place.

The same flow of sap to the leaves, and return flow of cambium which causes the increase in thickness of any of the parts of the tree, causes the rapid development of new cells of wood at the extremities of the branches; and the lengthening of a branch or the increase in height of a tree takes place only by the addition of new growth at its extremity, any part below the extremity increases only in diameter. The trunk of a tree, therefore, does not lengthen, except by the pruning off of the lower branches of the head. If this is the case, the question might be asked: "How then do we account for the great high trunks in forest trees, where no pruning knife could ever have been used?" Such trunks are the result of Nature's pruning. One by one, the lower branches have all been smothered out and killed by crowding trees, and as each branch has rooted and fallen away, the resulting wound has been covered over by new growth till we have at last the high smooth trunk, with no sign of the lower branches that once grew from its sides even to the ground. But the man in the saw-mill, who cuts this trunk into lumber, has plenty of evidence of their existence by the knots found in the lumber. Near the base of the trunk, these knots are all near the centre of the log, but the farther the cut from the base, the nearer the knots come to the surface, till near the top the uncovered wounds and dead stubs may easily be seen.

One of the practical lessons for the fruit-grower to learn from this is that the trunks of his fruit trees do not lengthen, and he should therefore be careful in dealing with

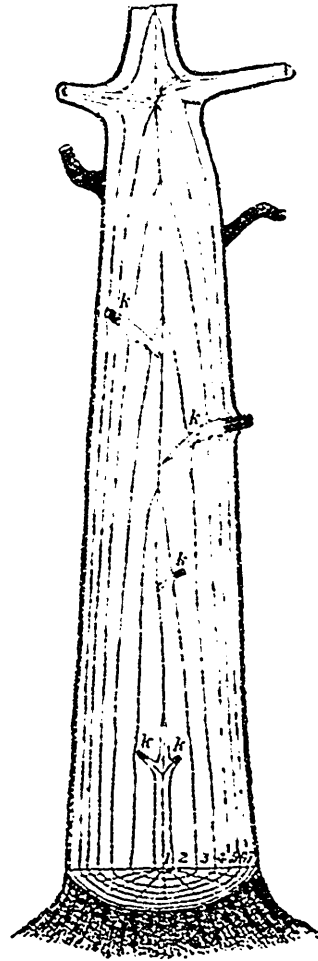


FIG. 2245. Scheme to illustrate the arrangement of annual growth. 1, 2, 3 etc; represent the parts of the stem grown during the first, second, third etc; twenty years of the life of the tree. K. Knots; the shaded part of each is the dead knot of lumber. (U. S. Bulletin, Forestry for Farmers.)


young trees to start the heads at the desired height to begin with, and not have to prune off large limbs afterward to the detriment of the tree.

H. L. HUTT.

O. A. C. Guelph.

FALLING OF GOOSEBERRIES.

BY STANLEY SPILLETT, FRUIT EXPERIMENTER, NANTYR.

IR, I will answer with your permission through the medium of the Canadian Horticulturist some of the questions I have already answered individually by mail, and this work I am pleased to do at any time for any reason.

(1). Respecting the Premature Falling of the Fruit of Certain Varieties of Gooseberries. This falling is certainly becoming a serious matter with some varieties. We tried this season to ascertain as correctly as possible what proportion of fruit fell off. Downing and Pearl gave six quarts of fruit per bushel with two quarts each of fallen fruit; Red Jacket gave seven and one-half quarts per bushel and two quarts of fallen fruit; Champion gave ten quarts of fruit with very few fallen berries. I at first attributed this falling to the berries having been stung by a moth, or rather the deposition of an egg in the berry by a moth or fly. Close observation however revealed the fact that stung berries turn red before falling and a grub is found in the fallen berry. The greater part of the fallen fruit this year was just as hard and clean and as fully developed as any of the fruit remaining on the bush and no grubs in it either, so the grub theory will not account for it. Some of my correspondents say that the fruit scales with the heat before falling.

Our bushes being on a clayey soil, made rich with stable manure, the foliage fully protects the fruit and it is only an occasional exposed branch that suffers from sun scald and yet the berries tumble.

One correspondent says, "My bushes are on sand and fully half the fruit has fallen." This correspondent attributes the falling to

sun scald and the scalding to poor foliage. This gentleman's experience fortifies the opinion I had previously formed that this falling is due to the bushes setting more fruit than they can carry in a dry time. One dry season here a fine young apple orchard in grass (hay) did the same thing. This overloading will also affect the foliage, especially on sandy soil.

The gooseberry has two well defined and separate layers of roots, one layer at what was the end of the cutting, the other layer near the surface of the ground. It is this upper layer that causes deep cultivation near the bush to be so harmful. Indeed a scuffer is an impertinence among gooseberry bushes except it be one width of the scuffer up the centre of the rows set six feet apart. I do all cultivation under and immediately about the bush with a long handle shovel, ground sharp, selecting one well set down on handle. This is a good shove hoe.

I can account for the Champion not losing its fruit only by its tremendous vigor. One bush will send up from a hundred to a hundred and fifty suckers two feet long, in one season.

Thinning will no doubt be a remedy for this falling if my contention is correct, but where one has hundreds or even thousands of bushes this is not practicable. I have been trying to accomplish the same thing by pruning, and it is certain that larger fruit has been the result and less mildew another; this may be because the spraying mixture can be got to all parts of the bush, but one thing is certain, when mildew makes its appearance the fruit on sheltered branches suffers most.

Pruning.—I now prune my bushes in the fall, after the leaves have fallen, or are dead. All suckers, except from two to three for renewal, are cut away. I have had very few of these to cut away this fall. From six to eight stems are left to a bush and these stems are cleaned of all branches one third the way up. The heads are then thinned out so that the hand can be pressed freely among the branches without being torn. Each of the stems has now the appearance

of a little tree. In the month of June all suckers are cut away except renewals and the heads again thinned, cutting the branches close to the stem.

Questions relative to mildew, comparison of varieties, etc., will be answered in the near future by your permission. Of course I shall be pleased to have the opinion of others upon this subject of the "Falling of Gooseberries."

CENTRAL EXPERIMENTAL FARM NOTES.—XX.

BY PROFESSOR W. T. MACOUN, OTTAWA.

WINTER set in here on November 14th, and four inches of snow fell on that date. This has been gradually increasing in depth until now there is more than a foot on the ground, making a fine cover for herbaceous plants and protecting the roots of trees and shrubs. The weather on the whole has been fine and moderately cold.

Lime Wash.—We recently made the final inspection of the trees sprayed with lime-wash last winter for the eradication of Oyster shell bark louse, and with few exceptions very few scales were left on the trees. This has proven a very satisfactory remedy here and is so cheap and simple in preparation that it should be used by all fruit growers whose trees are infested with bark lice. The experiments tried last winter were with two pounds of lime to one gallon of water, and with one pound lime to one gallon of water, and also with the addition of one pound salt to five gallons of water. As a result of these experiments it has been found that if the lime is fresh and good, one pound to one gallon of water is a sufficiently strong mixture to use. The addition of one pound

of salt to five gallons of water made the trees brighter and cleaner looking, but it was not found to be necessary in removing the scales. The mixture should be applied in the autumn or early winter.

Sunscald.—One of the most serious obstacles to successful apple culture in Eastern and Northern Ontario, in the province of Quebec, in some parts of Nova Scotia and New Brunswick, and probably to a limited extent on Prince Edward Island, is what is commonly known as sunscald. The usual form, and that which does most injury in these parts of Canada, is first noticed during the spring or early summer. Trees which have not been long planted are usually most affected by it, but older trees do not escape it. The unhealthy appearance of the bark and wood, on the south and south-western sides of the trunk of the tree and on the larger branches, is the first indication of the injury. Afterwards the bark dries up and falls away. Trees are often so badly affected that they die. This injury occurs during the latter part of winter or very early in spring. It is generally supposed that it is caused by the alternate thawing and freezing

of the sap on the sides of the tree most exposed to the sun. Very often there are warm days during the month of March and the sun shining on the trunk of the tree thaws the sap. A severe frost at night freezes it up again and this may occur several times. This alternate thawing and freezing either separates the bark and the cambium from the trunk of the tree or injures the wood tissues so much that growth is prevented and these parts die. If the tree is badly sunscalded it is so weakened that it dies before the wound can heal over, or very frequently the same season.

Prevention. This injury may be prevented to a large extent by only planting trees which are headed low, thus exposing but a short trunk to the rays of the sun; also by inclining the young trees somewhat to the south when planting, thus preventing the sun's rays striking the trunk except for a short time. Where the trees have been planted and are liable to become sunscalded; the trunks may be protected by using a veneer of wood which encircles the trees, thus preventing the rays of the sun from striking the trunk. It should be loose so that there will be an air space between it and the tree. The ends of it can be fastened together by means of wire or twine. Another protector is made of finely meshed galvanized iron netting which is more permanent than the wooden protector. In outlying districts where these protectors cannot be purchased, a good substitute may be made out of birch bark. Building paper tied around the tree is also useful. All of these protectors are effective in preventing the ravages of mice. Cornstalks, boards, and many other things may

be used to protect the tree from sunscald. Nothing, however, that will be likely to harbor mice should be used. These protectors should be put on in the autumn. When a tree has been injured by sunscald the injured parts should be carefully cleaned away and the wound covered with grafting wax or paint. If the tree is young and likely to suffer, it should be protected in the manner described above.

The tree protectors used at the Central Experimental Farm are made of elm. They are of two sizes, one kind being thirty inches long and twelve inches wide, and the other twenty inches long and eleven inches wide, and have proved very satisfactory in preventing sunscald and injury from mice. They were procured in Minnesota and Kansas and are sold at \$6.00 per thousand, although I have been informed they can be obtained for less.

There is another form of sunscald which appears to be a summer scald. When the weather is very hot in summer large limbs, which are exposed, are often scalded apparently by the fierce heat. This probably occurs most frequently when there is not a good circulation of sap in the tree and when the tree is making very little growth. It also often occurs after too severe pruning. Limbs which have been protected by the foliage from other limbs are suddenly laid bare after heavy pruning. The bark on these limbs is not as tough as that of limbs which have always been exposed to the weather and it cannot withstand the heat of the sun and sunscald occurs. Hence, trees should be kept vigorous and pruning be done very carefully.

A NEW AND EFFECTIVE SPRAY.*

LIME, SULPHUR AND SALT.

VIEWS OF MR. GEO. E. FISHER, INSPECTOR.

IF we could discover a cheap and effective spray that would combine the qualities of both an insecticide and fungicide, it would certainly be a great relief to our fruit growers.

Whale oil soap is very expensive, when a large orchard is to be treated, costing, at the very lowest count, over \$3.00 per hundred pounds, and while crude petroleum is an effective insecticide, it must be applied with great care or the trees will suffer injury.

The appointment, by the Department of Agriculture, of Mr. G. E. Fisher as provincial inspector of San Jose Scale was a most judicious one, for this gentleman is possessed of such tenacity of purpose and thoroughness of investigation, as is gaining for him a mastery of details, superior even to many persons of professional pretensions.

In his opinion, the spray of lime, sulphur and salt, used with success in California, will be of great service to us, possibly displacing the expensive Bordeaux mixture, and proving effective both for destroying insects and fungi. He does not advocate a winter application, but advises the first spraying as late as possible before the opening of the buds.

The following report of his experiments was given us by Mr. Fisher and will be of great interest.

"Lime, salt and sulphur, the popular Californian remedy, was tried and gave very encouraging results, both in killing the scab and in cleaning up the tree, under what are commonly accepted as most adverse weather

conditions. Fifteen large peach trees were treated with a mixture of the proportion of thirty-five pounds lime, fifteen pounds salt and fifteen pounds sulphur, with enough water to make forty gallons of wash. This



FIG. 2246. Showing tree treated on one side; appearance when dormant. The right side of the tree shown was sprayed and the left side was unsprayed.

* The spray used in the illustrations is the Bordeaux, but the lime, sulphur and salt appears to be equally effective and much more economical. (Ed.)



FIG. 2247. Showing the condition of one of the trees sprayed on one side at the time of picking the fruit. The leaves have been cut away with the pruning shears to enable the photograph to show the fruit upon the sprayed half (right side) of the tree, and the absence of fruit upon the unsprayed half (left side). The sprayed half matured 284.8 pounds of the finest peaches; the unsprayed half matured only 13.3 pounds. Over 1,100 peaches were thinned from the sprayed half of this tree to enable the limbs to bear the crop, while the unsprayed half was unthinned except by curl.

was boiled in an iron kettle three hours and the sulphur thoroughly incorporated. It was applied to the trees while yet very hot and covered them completely. The spraying was finished in a light rain, which increased to a heavy rain and continued all night and the next day. This was followed during the rest of the month, by alternate fine and rainy weather, making altogether the wettest May I ever knew. It is generally believed that the success of this treatment in California is due to the absence of rainfall and that, in any case, a couple of weeks of dry weather, immediately following the application, is indispensable to its success. This work was closely watched by the neighbors all the way through and the result carefully observed, and the consensus of opinion is that there was an entire absence of leaf curl, the foliage was plenti-

ful and well developed, the wood brighter and cleaner, and the fruit larger, higher colored and more plentiful than in adjoining trees.

In this experiment, as in the others, the treated row reached across the orchard and all varieties present were included.

Encouraging Results.—The very promising indications from this St. Catharines work led to an extended enquiry as to what use had been made of this remedy. The replies are disappointing and show distinctly that the favorite remedy which, in many parts of California has superseded all others, has not received even so much as a fair trial in the East. It was tried experimentally last spring by Dr. Howard, Chief Entomologist at Washington, D. C., and by the growers in Burlington County, New Jersey, and they report unexpectedly good results.



FIG. 2248. Showing tree treated on one side, appearance after development of curl in the spring.

An all-around remedy.—The experience with this mixture in the East is too limited to justify speaking very definitely about it, but as an all round remedy, insecticide and fungicide, it promises so remarkably well that we shall be pleased indeed to have as many join us as are willing, in making further experiments next April and report the results.

The proportions of the ingredients used for this work may be varied to almost any extent. A good pump will spray two pounds of lime to the gallon of mixture, without clogging, and, if the lime be good and properly slacked, there will be no settlings in the barrel. In his experiment Dr. Howard used thirty pounds of lime, twenty pounds of sulphur and fifteen pounds of salt, in fifty imperial gallons of mixture, which with our lime makes a light covering.

The proportions recommended from California are thirty-five pounds of lime, fifteen pounds of sulphur and fifteen pounds of salt, in fifty imperial gallons of mixture, and the California people suggest that a larger pro-

portion of lime and sulphur than they use might be advantageous in the East and also that with them salt is not an essential.

In our recent experiments to determine the respective qualities of gray and white lime, their behavior in the process of preparation, application to the trees and subsequent durability, we made a large number of tests, in some of which salt was omitted, ranging from one-half pound to two pounds of lime to the gallon of mixture. So far as we have gone, white lime slacks stronger than the gray, but no difficulty was experienced in applying either. A wash, containing only one-half pound of lime to the gallon of mixture, makes a very light covering indeed; the sulphur remains exposed, is readily wiped off by the finger and would likely be removed by rain or even a high wind. A wash, having two pounds of lime to the gallon of mixture, makes a covering so thick and heavy that it breaks and scales off, when the trees are swayed by the wind. After numerous tests, we have fixed upon thirty-five pounds of lime, fifteen pounds of

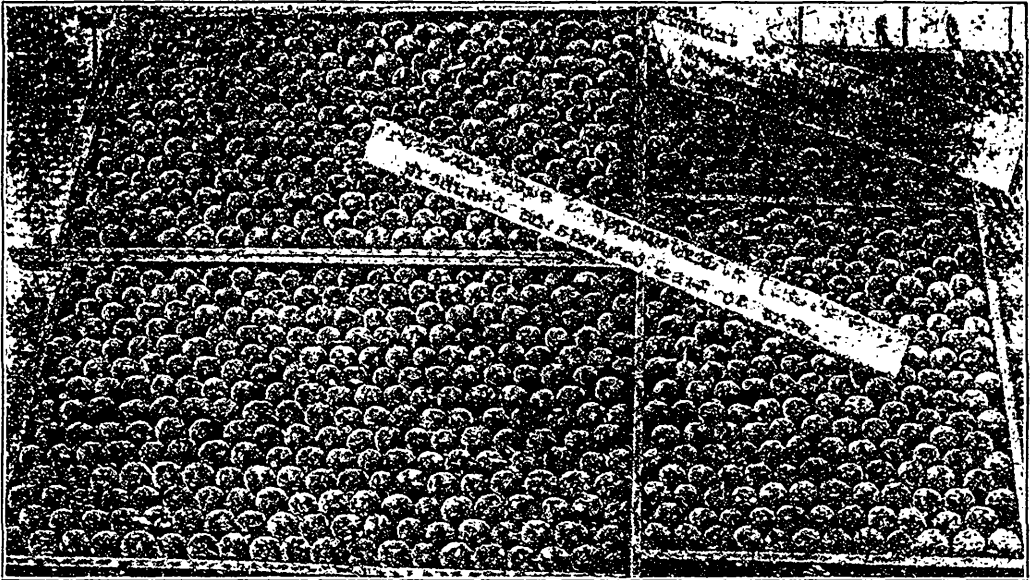


FIG. 2249. Peaches gathered from the tree sprayed on one side shown in the preceding plate. The fruit shown on the two drying trays on the left, together with that in the lower compartment of the tray on the right, was gathered from the sprayed half of this tree. The peaches shown in the upper right hand compartment were all that matured on the unsprayed half of the same tree. The sprayed half bore 718 peaches, weighing 284.8 pounds.



FIG. 2250. Showing a limb of the sprayed half of the tree, after the removing of the leaves with pruning shears. A good idea of the size and perfection of this fruit may be obtained from the plate. The color was strikingly high and rich. The size of the fruit is further shown by the fact that the peaches averaged 252 per hundred pounds.

sulphur and ten pounds of salt in thirty gallons of mixture as the proportions most likely to give satisfaction. This does not break up and makes sufficient body to hold the sulphur beneath it in contact with the bark.

In California, the cooking is mostly done by steam generated in furnaces for the purpose and piped to barrels, which is much more convenient and economical than cooking in a kettle over the fire, as we are obliged to do.

In preparing the mixture we used a large kettle, in which was placed about fifteen gallons of water, to which the sulphur and

salt were added and then brought to the boiling point. Then the lime was thrown in adding hot water from another kettle if necessary to prevent burning. When the lime was slacked, we added still more hot water, boiled two to three hours, increased the quantity to thirty gallons with hot water and applied while hot.

With suitable working appliances, the preparation of this mixture is not so serious an undertaking as it may appear. At no time will the mixture work as well as when perfectly fresh.

HOW TO HUSTLE TOMATOES.



THE horticultural department of the Ohio State University has had considerable success in raising tomatoes, and Mr. W. S. Turner thus describes in the Agricultural Student the method used :

Sow the seed (Livingston's Beauty) the first week in February. Transplant first week in March, two by three inches. Again in cold frame to harden first week in April, four by six inches. Plant in field as the weather will permit from 5th to 15th of May, setting the plants with spade nearly to the first blossom stalk. It does not injure them in the least to be set slanting, four by two feet. Mulch with coarse manure as you plant. As soon as plants are well established, prune all side branches off, leaving blossom stalks and terminal bud. Make a trellis for each row, using one iron piping (obtained from old iron dealers), cut into posts of six feet in length, drive in ground two feet, sixty to seventy feet apart in rows.

Stretch wire to each row, beginning at further end from wire coil or spool and wrapping once around each interweaving post, about two or three inches from top to end. Use a plastering lathe for a stake, one to each plant ; drive into the soil lightly and fasten to wire with double pointed tacks. Continue pruning the plants and tying to lathe as they grow ; twice below the wire and once above it. Then let the plant branch.

Advantages of the method are : The fruit ripens two or three weeks earlier than ordinary plants of same age. From twenty to forty per cent. larger than ordinary fruit. A larger yield per acre by ten to twenty per cent. Fruit easy to pick and always clean, less liable to rot.

Disadvantages are : It requires more labor and more plants per acre. The fruit has a tendency to be more irregular.

POINT PLEASANT PARK, HALIFAX.

BY PROFESSOR F. C. SEARS, WOLFVILLE, N. S.

ONE of the most beautiful spots in all Nova Scotia (and her sons and daughters think there are many beautiful spots in the province), is Point Pleasant Park, of Halifax, better known as "South Park." It comprises



FIG. 271. "There Are Miles of Splendid Drives."

somewhat over two hundred acres within its borders and occupies the extreme end of the peninsula upon which the city of Halifax is built. The land is owned by the Imperial Government, but in 1875 was leased to the City of Halifax for a period of nine hundred and ninety-nine years, at the not unreasonable rental of one shilling per year.

The key note of the park is naturalness, and one is surprised and delighted on leaving the street car and walking the comparatively short distance necessary to reach the Park to find how completely his surroundings have changed. From the hustle and hurry of the city he has passed to the quiet and restfulness of the country. And what a beautiful country. It is the original

virgin forest, with only enough change to accommodate those who wish to see and enjoy its beauties.

The prevailing trees are the conifers, spruces and pines and hemlocks, but there are also many birches and poplars in certain parts, growing naturally, besides several kinds, especially maples, which have been planted by those in charge. And among and beneath the trees are quantities of native shrubs of all kinds, and more beautiful than all else, the native ferns of Nova Scotia. Add to this a profusion of wild flowers in their seasons and one has a variety of charms such as is not often met with.

There are miles of splendid drives which take one to every part of the park: now skirting the shore and giving one a view of the water with the ships coming and going, and all the beauties and attractions of the sea; then passing through some thick wood where one feels as though he were miles from any human habitation; or again sweep-



FIG. 272. "Now Skirting the Shore and Giving One a View of the Water."



FIG. 253. "Or Agin Sweeping Under Grand Old Pines."

ing under grand old pines, with glimpses through the open woods of the outside world. Besides these, numberless walks intersect each other in every direction, making it possible to reach almost any desired spot with a bicycle if one is thus mounted.

There are few buildings within the park and such as there are fit harmoniously into their surroundings. It has been said the park is leased to the City of Halifax by the Imperial Government, but the right to use the park, or any part of it, for military purposes is still maintained by the Government, and as if to remind the writer of this fact he finds fortifications in several parts of the park. The cannon are pointed toward the open sea and piles of cannon balls stand in readiness as though hostile warships were expected at any moment. But the most interesting building of all is the "Martello Tower," a round stone building of mysterious and antiquated appearance, which stands in the midst of an open spot in the Park, like others both in England and

America. It was built in those days when England dreaded a landing of Napoleon upon British Territory, and it is to these buildings that Campbell refers in his "Ye Mariners of England,"—

• Britannia needs no bulwarks—
No towers along the steep,
Her march is o'er the mountain waves,
Her home is on the deep."

Another most interesting feature of the Park is the abundant growth of Scotch heather in a certain part, where sixty years ago a Scottish regiment, fresh from the land of the thistle and the heather, spent some time in tents while their barracks were being repaired. Here it has grown and thriven, with only enough attention from the authorities to see that it is not carried away entirely by the ever present tourist with a thirst for souvenirs.

So long a time has elapsed since the Park was established that most of its founders have passed on to their reward. Yet their names should ever be held in grateful remembrance by those who enjoy the beauties which they have preserved,— Sir John Thompson, Sir William Young, Judge Ritchie, Hon. William Stairs and John Doull, Esq. Their work was "a labor of love" and certainly the result is a "vision of loveliness."



FIG. 254. "The Martello Tower, a Grand Stone Building of Mysterious and Antiquated Appearance."

FATHER BURKE'S IMPRESSIONS OF US.

IN the Agricultural press of the Maritime Provinces, where he is always a welcome visitor, our friend, the Reverend Father Burke, of Prince Edward Island, has been giving his impressions of our late general meeting, our people and our province. Needless to say those clever articles leave a very favorable impression of us in the public mind. We have taken the liberty of transcribing portions of an article which is to be followed by others from his pen in the Maritime Homestead.

"If you require my impressions of the Cobourg Fruit Grower's Convention, I can only tell you that never meetings more intelligent, advanced and enthusiastic, discussing purely horticultural matters, did I attend anywhere."

* * * * *

Here Father Burke praises Ontario for its encouragement to agriculture, citing its public grants and what they effect.

A Pleasure to Meet Them.

"A people or class of people, so generally favored, ought to have pretty complete institutions and good men as a result of their operation. Ontario farmers, or the representatives of them I met at Cobourg, are certainly a wide-awake, well-informed, progressive class. It is a pleasure to come in contact with such people, a greater pleasure and satisfaction than to meet good men of any other calling, for, after all, the country must depend on the farmer and its hope is in his proper education. I was delighted to remark with what a grasp of principle, what confidence, what readiness of expression, what conciseness and accuracy of speech, the speakers as a rule, brought to the discussion of the varied sub-

jects which the scheme of convention matter suggested during those three days of three sessions each, in which the Association sat."

* * * * *

The programme and discussions are here cited :

5,000 Members.

"The Fruit Growers' Association of Ontario has a grand membership something like 5,000, I believe ; and that same is an assurance of how highly it is regarded in the country and its authoritative place in the scheme of agricultural information. From one end of the great province to the other, from the United States, from Quebec, from Nova Scotia and Prince Edward Island, came lovers of horticulture, to sit at the feet of those men of Ontario who had made fruit-growing one of the most promising industries of the country and its chief hope.

Canadians Equal to the Best

was a kind of personal satisfaction in the comparisons to be made. Good men, the best the Great Republic could furnish ; men of deep learning and wide experience, were present to lend the light of their counsel on all matters which engage the mind of the horticulturist ; they were fresh, too, from the object lessons which the Pan-American Exposition so well taught ; and still, excellent as they were, expert men as they were, practical men as they were, progressive men as they were, the young men of Ontario formerly engaged in the scientific work of the colleges, and, may I add too, many of the common growers from the farms, were really their equals in all the wide range of horticultural knowledge. I was proud of the Ontario horticulturist, proud of the institu-

tions which turned him out, and proud of Canada, which, although embarking late in those pursuits, had already attained a position so high and honorable among agricultural communities. I only regretted that in some of her provinces, in New Brunswick and Prince Edward Island especially, the same advantages which Ontario afforded were not within every young man's reach, the same emulation was not aroused, the same patriotic sense of duty to the agricultural interests, on the part of the local administrations was not manifest. However, we must live in hopes. Our day will come."

* * * * *

A Fruit Growing Region.

"The town of Cobourg, too, is in the midst of one of the best apple districts of Ontario; and, in springtime, the air must be redolent with the sweet scent of the blossoms. It is not wonderful, then, that everybody in Cobourg is interested in trees and flowers and fruit and all the concerns they give rise to. On this account the night sessions, known as 'Popular Meetings,' were universally attended, the last being so packed that standing room was at a premium and many were turned away at the doors. Such interest is certainly very encouraging, augers well for the work and affords a means of conveying information and stimulus where otherwise they could not be made to reach.

The Town Turned Out to Welcome Us.

Then all the local celebrities were out in force the mayor, the sheriff, the district president, colonels as thick as if one were in Kentucky, senators, M.P.'s, M.P.P.'s, all anxious to lend their presence, their voices,

their assistance to the popular cause. And such galaxies of ladies! Who shall enumerate them? Let it be said, also, that the hospitality of Cobourgers is the heartiest and most princely to be anywhere enjoyed.

* * * * *

Father Burke then goes at length into the "burning question of cold storage," as he terms it but of this the facts are now known sufficiently and while he speaks of the case made by Professor Robertson, "that matter of systematic exportation," he declares that "the the debate on cold storage was not satisfactory and left the impression that there was still much to be done before we reach the ideal."

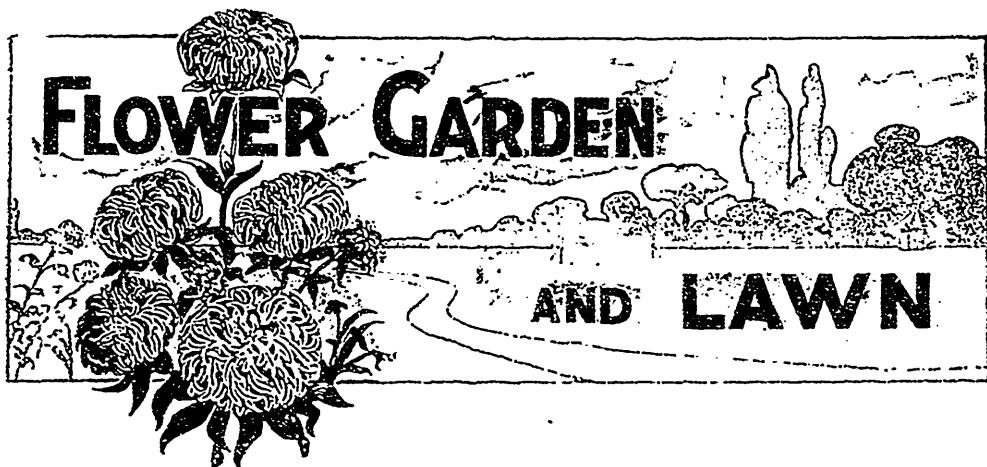
Speaking of packing, Father Burke gives out his only unfavorable impression of us:

"If half of what was said of the latter were true, one ought to button up his pockets carefully when in Ontario. There was an awfully bad word for the fruit packed. Professor Robertson dealt with this matter without gloves, as it affected transportation and the old country markets—honesty is vital to those matters— and with the cold facts in hand, made a most unenviable case against the Ontario packer. Of course there was a deal of shifting of responsibility between the local and general buyer; but even with all this a feeling of shame pervaded the gathering."

* * * * *

The Law Will Take its Course.

"The convention declared for an honest, impartial, intelligent enforcement of the Marks' Act as it stood on the statute." Father Burke declares in conclusion; and with the comment, "This was satisfactory," promises further articles on the meeting.



GREENHOUSE AND WINDOW.

THE GREENHOUSE.

THE propagation of bedding out plants will be one of the main features of February work in the greenhouse. Coleus, ageratum, alternanthera, heliotrope and cuttings from similar plants will root readily now in sand. Shade them from the hot sun for a few hours at mid-day.

Carnation cuttings root best in sand in shallow boxes, two inches deep. Place the boxes near the glass, in a cool part of the greenhouse, 50° at night and 60° in the day time suits carnation cuttings splendidly. Keep the sand moist but not soddened with water.

All ferns should be repotted at once, if not already done. January is the best time to re-pot ferns, before the young fronds have made much headway.

Cyclamens and Freesias, that have done flowering, should still have sufficient water to keep the soil fairly well moistened. Pick the decayed flowers, and seed pods (if any) from these plants; it will help to strengthen and mature the bulbs for next season.

Annuals. It is a little early for sowing annuals even for early flowering, but a few

pots of petunia and verbena seed can be sown toward the end of the month. Lobelia seed should be sown at once so as to secure good sized plants for hanging baskets, window boxes, etc. Cuttings of all trailing plants for hanging baskets, etc., should be started without delay.

Azaleas that are out of flower should be syringed every day to promote new growth, and keep down red spider. Fuchsias should be syringed daily.

Use more copious supplies of water for syringing purposes, as the heat of the sun increases. Syringe early in the day, and on warm sunny days if possible. Use plenty of water on the floors. Evaporation of moisture is good for the plants, and keeps down insect pests.

Easter is early this year. Easter lilies to be on time will require to be brought into a warm part of the house.

Holland bulbs for Easter flowering should be in the greenhouse now. Better be a week too early than a week too late. The flowering period of plants can be retarded or the flowers retained much better as a rule, than they can be forced into flower. Undue

forcing is dangerous, even by experienced plant growers.

Give a little air on hot sunny days, 70° to 75° in day time and 55° to 60° at night is a good temperature at this season of the year. Close ventilators early in the day.

THE WINDOW.

Plants in the window will begin to feel the increased heat of the sun. The latter will necessitate a close watch being kept for insect pests. The best way to avoid trouble with the insect pests is to try and prevent them from making their appearance at all. Keeping all growing plants such as fuchsias, cyperus, geraniums, calla lilies, etc., fairly well moistened at the roots, and syringing or sprinkling the foliage of the plants two or three times a week with luke warm water, are about the safest preventives of the appearance of insect pests. A little weak tobacco water in the water the plants are syringed with, applied once a week, will prevent the attacks of some of these enemies of plant life. No plant can flourish when attacked by insects, and it is very hard to get rid of them when once they have gained headway.

Chrysanthemum plants, that are wanted to be kept for cuttings, should be kept in a rather cool temperature, about 50° suits them. They require less water now than when in flower.

Petunias.—For pot culture quite as well as for lawn decoration, both the single and double petunias are very suitable. Considering the ease with which they may be grown, the beauty and freedom of their bloom, especially in the single varieties, and their long season, it is indeed hard to find any plants better suited to the amateur's needs. To raise pot plants from seeds select your seeds in January and sow at any time up to March. Petunias have the smallest

Seed Sowing.—There are few seeds that can be sown to advantage just yet, except perhaps those recommended for the greenhouse, such as petunias and verbenas, both of which require quite a length of the time before good sized plants will be produced.

Cold Dips.—Watch out for sudden cold dips, February and March are treacherous months in this respect. The hot sun in the day time often lures the plant lover into a feeling of false security and induces neglect in taking proper precautions against the extreme cold often experienced at night at this season of the year. If by any chance your plants should be frozen, place them at once in a warm corner of the room where the temperature is a few degrees above freezing. Cover the plants up carefully and keep them in the dark for twenty four hours until the frost is out of them. You may perhaps in this way save them, if not frozen too badly. I consider this treatment preferable to deluging the plants with cold water as is sometimes recommended. Even if the latter course is taken with the plants, keeping them dark for a day or so will help them materially. Avoid bringing plants that have been frozen into a high temperature, and keep them away from bright sunlight for a week or two after they have been frozen. They will also need less water for a time, until root action and growth have well commenced.

Hamilton.

W. HUNT.

seeds and in sowing should be covered very lightly. It is a good plan to sow in a pot, covering the pot with glass until the seedlings are up. With the use of the glass, less water is necessary which is an advantage in the case of such fine seed. As soon as the seedlings are up so that they can be handled, they should be pricked out into a pan, afterwards giving each plant a two-inch pot to itself, later shifting on as growth demands. *Vick's Magazine.*

THE WINTER'S WINDOW GARDEN.

BY E. E. REXFORD.

WHAT TO HAVE IN IT AND HOW TO TAKE CARE OF IT.



HE only fuchsia which can be depended on for flowers in winter is the variety called *speciosa*. This is not as rich in color as most of the summer bloomers, but it is a really beautiful plant.

The abutilons, popularly known as flowering maples, because of the resemblance of their foliage to that of our native maple, are excellent bloomers, and require very little care. Their flowers are pedant and bell-shaped, some red, some pink, some yellow and some pure white.

The calla is a general favorite. Its large, rich foliage makes it an attractive plant without flowers. Add these to it, and it becomes a most ornamental feature of any collection. This is one of the plants for which the general rule given for watering must be modified somewhat. It likes a good deal of water at its roots, and a daily application will generally be needed.

The Primroses.—For winter flowering, we have few plants more satisfactory than the Chinese primrose, *Primula obconica* and *Primula forbesii*—better known as the baby primrose—all members of the same family. The Chinese primrose is the most difficult one of the three to grow well, but the amateur will find but little trouble with it if she is careful to pot it so that the crown of the plant stands well above the soil. If it is low enough for water to stand about it, decay is pretty sure to set in. Let the soil slope towards the sides of the pot. The others will not require special treatment in this respect. *Primula obconica* has flowers of a pale lilac, often nearly pure white, with a yellow-green eye, and they are so freely pro-

duced that a healthy plant is nearly covered with them. They have a woody air about them that gives them a special charm to those who love our native flowers. The "baby primrose" is one of the most delightful of all flowers, and one of the very easiest to grow, and grow well. Plants procured now, or a month or two later, will soon come into bloom, and throughout the winter they will be a mass of dainty rosy blossoms with a yellow eye—lovable little things that will attract more attention and receive more admiration than anything else your window garden will be likely to contain. *Primula obconica* has great quantities of very fine roots, and must be given a good deal of water. These plants do well in comparative shade.

Pentas lanceolata is quite a new plant, but it deserves a place in all collections. It has a star-shaped flower of purest white. Its flowers are borne in clusters, and bear considerable resemblance to the bouvardia which everybody admires, but which so few succeed in growing, even in a greenhouse. *Pentas* is a good substitute for it, and has the merit of being easy to grow.

The Paris Daisy—known as *Marguerite* abroad—is seldom seen in the window garden, but it would be extensively grown if its merits were more generally understood. It literally "grows like a weed." There are two varieties, one having white flowers, the other flowers of a soft, sulphur yellow. They so closely resemble our native daisy that they are often mistaken for it. To those who have a friendship for the daisy this will be a strong argument in their favor, and may induce them to give these plants a

place in their collection. They will never regret doing so. As cut flowers they are very valuable, as they last for days. Young plants soon become large ones, and next summer they can be planted out in the garden, where they will continue to bloom during the entire season, and new ones be started from them for the coming winter.

While the ordinary carnation does not take kindly to cultivation in the window of the living room, the Marguerite strain does, and we often find among plants of this class, grown from seed, in the outdoor garden, varieties equal in form, and size, and color, the carnations grown by our florists so extensively, and far excelling them in freedom of bloom and vital force. This class blooms late in the season, when grown in the open ground, but it will show, by its first flowers, what the general character of its blooms are to be, and the most desirable plants can be lifted and potted for winter use. Do this as early as possible, that the plants may become well established before being taken into the house.

The Single Petunia of the garden will be found one of the most satisfactory of all flowers for winter blooming. It is able to make a window resemble a bit of last summer's garden, so bright, so cheerful is it. For every little attention you bestow upon it it will laugh back at you in blossoms of violet and pink, and white, and you will soon be on most intimate terms of friendship with it, for it will win its way to your heart by its pleasant ways and looks. When the plant seems to have exhausted the flowering capacity of its branches, cut them back to within five or six inches of the soil, apply a little fertilizer, and in a short time you will see new branches growing, from which you can expect a bountiful crop of flowers, a little later.

The Sword Ferns.—Among the most desirable of plants grown for foliage I would name

the sword and Boston ferns. The Boston fern is the ordinary sword fern on a little larger scale. That is about all the difference one can see in them. These will grow wherever a geranium will, and their luxuriance will prove a constant delight to the owner of every window garden. Do not attempt to grow the adiantum ferns in the living room, for they will prove failures there. The atmosphere will be too hot and dry for them.

And do not attempt to grow roses there, as you will be tempted to do. While it is possible to grow some varieties of this beautiful flower in the living room, it is not an easy matter to do so, and success will only come after one has served an apprenticeship at growing less exacting plants. Roses are sure to be infested with aphides, red spiders, and other insects which are extremely harmful to plant life, and they will soon spread to all your plants from your rose bushes, thus making it necessary to wage a constant warfare for their extermination. Nearly all the plants I have advised are comparatively free from the attacks of insects, unless brought into contact with them as bred on other plants.

Turn your plants frequently, that all sides of them may get an equal chance at the light. Pinch off the end of its branches, if a plant does not grow in compact, bushy shape, and keep them pinched off until other branches start. By persisting in this treatment you can make almost any plant grow as you want it to. Do not neglect the plant while it is growing. Then is the very time when it needs training. If let alone until it has developed, you will find it almost impossible to bring it into symmetrical shape. And much of the energies of the plant will have been wasted in the growth which is cut away. Regulate this growth, as it goes on, and there will be no waste of plant energy. —*Home and Flowers.*

THE SHRUBBERY IN WINTER.

IN another column a correspondent calls attention to some winter effects in the wild shrubbery which interested him, and, perhaps, it is worth while to repeat what we have often said—that when home-grounds are planted there are many cases where more attention should be given to their winter aspect. Where a house is occupied in summer only, the principal aim should be to make it attractive at that season. There are many trees and shrubs which are conspicuously beautiful in spring and autumn, and, of course, there are places where the selection of species and varieties should be made with special reference to these seasons. But where a country house is occupied in winter it can readily be seen that in some part of the grounds commanded by the windows of rooms appropriated for winter use provision should be made for the prospect at this season. In the middle of this century it was not uncommon to have a glade or lawn in such a position bounded by spruce, firs, hemlocks, pines and other conifers with such broad-leaved evergreens as kalmias, rhododendrons, American hollies, and some herbaceous plants with persistent foliage, like yuccas, for example, and the whole brightened by a few shrubs with colored fruit, like the Carolina rose, black alder, cockspur thorn, snowberry and bittersweet. Such an arrangement has some merits, although the idea that this green foliage brought in a touch of summer when January was at its bleakest was rather fanciful. Any effort to produce summer scenery in winter must be a failure, as, indeed, it ought to be, for what is desirable at a particular season in the landscape is an effect which will harmonize with the prevalent tone of that season, rather than one

which conflicts with it. As a matter of fact, however, there is no hint of summer in the winter aspect of evergreens. In freezing weather their darkened foliage only emphasizes the strength of the cold, and the particular human interest they have at this season is their hospitable suggestion of shelter against the driving winds. Whatever is especially home-like and companionable or genial in their winter appearance is not that they remind one of summer verdure, but that they are sturdy enough not only to brave the wildest weather, but to give us some protection against its blast.

Following the fashion imported from the mother country, coniferous trees were too exclusively planted in the early years of the century, and we can all remember country houses which were half-smothered in summer under the gloom of their heavy foliage. Perhaps the reaction against this has been too decided, and some of these trees which are beautiful at all seasons are too much neglected. Nevertheless, there is an abundance of beauty and variety to be found in deciduous trees and shrubs at this season, and in any scheme of planting for winter effect in this climate they should have the largest place. Most trees have a beauty in winter which is quite as distinct and individual as it is in any other season. Indeed, this is the best time for studying the peculiar structure or framework of a tree—that is, for noting how its branches diverge and the manner in which they break into spray. The special characteristics of a particular species, whether of dignity or grace, are shown as well when the trees are stripped of their summer garments as at any other time, and never until leaves are gone can we mark the peculiar beauty of the different

figures made by the interlacing branchlets against the sky. There is no need to speak of the endless varieties in the shade and texture of the bark, both of trunk and limb and spray, and it is well known that the richest colors in a winter landscape are those of the warm browns of a distant wood. The colors of the small twigs are especially varied, too, and the tinted mist which hovers over a shrubbery a few hundred feet away is collected from the mingled colors of the bark on the smaller branches.

This brings us to a point in planting shrubbery for winter effect which we wish here to insist upon. In former articles we have given lists of various shrubs which are ornamented with brightly colored fruit until midwinter, but we have not so often named those whose bark lends a pleasing color to the short days of the year. The glossy green branchlets of the kerrias, the golden bark of the willows which warms into still brighter yellow with the approach of spring, the ashen gray of some of the viburnums and the scarlet twigs of the dogwoods make pictures of unfailing beauty, either against the glittering snow or the brown earth. Taking the Cornels alone one is surprised to find the variety of form and color they

display at this season. Our common Red Osier, *Cornus stolonifera*, with its broad leaves, pale flowers and bluish white fruit, is ornamental all summer. Its leaves turn purple and yellow in autumn, and now its purple-red branches sustain its beauty in midwinter. There is a variety of the plant, too, with golden-yellow bark, specimens of which have been exhibited by Mr. Warren Manning at the Massachusetts Horticultural Society, and it is distinct and striking.

Cornus alba, the common European Red Osier, which is often sold by nurserymen as *Cornus sanguinea*, is another bright-barked plant. It is a variable shrub, and one strain, which is called *alba Siberica*, has stems of almost vermilion. *Cornus circinata*, too, one of our native species which is found on wooded hillsides, in addition to its beautiful flowers and light blue, has red and yellow stems which are sometimes finely mottled, while *Cornus candidissima* has an ashen gray bark of a singularly soft texture. Certainly a group of these Cornels properly arranged gives a pleasing stretch of varied color, and with judicious selections from other families, by harmonious contrasts, a most interesting feature can be added to our winter landscapes.—*Garden and Forest*.

COLEUS IN WINTER.

COLEUS plants, as a rule, are not a success in an ordinary window in the winter season. For several years I experimented with them, using both old and young plants, keeping them cool or hot, moist or dry, and finally hit on a plan by following which they are a complete success every year. My experience has been that old plants generally do not do well the whole winter through. When the main stock becomes thick and woody it is time to discard it and begin afresh.

My plan is this : Just before the first killing frost in the fall, I go the rounds of my coleus plants taking about three slips of each variety. These are placed in glasses of water to root ; when nicely rooted they are potted off into three or four inch pots in a soil composed of two-thirds garden soil (not too rich) mixed with one-third sand. I find a very rich soil is not conducive to extra bright color in the leaves and I have known the plants to be grown beautifully bright in pure sand. I keep two plants of

each kind and they remain in the same pots until spring. They are placed in the highest shelf in my bay window, which makes them six feet from the floor and one and a half feet below the top of the window. It is of necessity a very hot place as, in addition to the heat from the stove, the sun beats in on them all the forenoon and half the afternoon of every sunny day.

As the plants begin to grow, I pinch out the ends of the shoots to make them branch freely until about February 1st, when I let them grow for slips. They are usually large enough by March 1st, when I put them in water to root. In a few days the roots appear and they are potted off as before. I give the new plants the upper shelf then to get them in good condition to be set out in May and set the old stock plants aside. Some of the old plants will branch out again and raise another lot of slips, which are discarded at once.

From the time the slips are potted off in the fall until March, that high shelf is my particular pride. The gorgeous colors and soft velvety texture of the leaves are as beautiful as flowers.

Some of the best varieties are Golden Bedder, Charm, John Goode, South Park and Golden Crown for yellow sorts; Louise Chretien, Ruby and Moonbeam among white and pale tints; Crisp Beauty, Geo. Simpson among light, red and pink sorts; Dr. Koch, Brightness, Firebrand, Fire King and Midnight, crimson and maroon; Pro-

gress, Mrs. Hunt and Butterfly among mottled and shaded ones.

There are a few new varieties that are of a stronger growth, with leaves of immense size for coleus. I have not tried any of them but have seen them displayed in greenhouses and also at our last agricultural fair. Some of the leaves were five or six inches long and though the plants are handsome as decorative plants, they do not seem so appropriate or beautiful for bedding purposes as the old sorts. A specimen plant is a lovely sight, but a mass of them spoils the effect.

Coleus, as a rule, are remarkably free from insect foes. I never found any but the mealy bug on mine, but they can kill the plants in short order if they are left undisturbed a short time, as they seem to sap the life of the plant so that it wilts and falls over before one knows anything is the matter with it. Eternal vigilance is the best remedy, but when you find them on the plants the use of alcohol or whisky on them will kill them at once.

It is hard to give coleus too much heat but a chill will cause the leaves to fall off. Mine are watered three times a week during cold weather. Later in spring they need it every day. They are sprayed every morning before the sun is on them. To sum it all up, young plants, plenty of heat, and not too much water will give one a fine display of coleus all winter.—*Vick's Monthly*.

Flowers in the Window.—Lord Nelson once said something to the following effect:

“The best testimony to proper and happy management of household affairs is borne by

the windows of the house. If flowers are to be seen through the well polished glass, one can be certain to find a good table and orderly children. The windows indicate the character of the inhabitants of the house.”



The Canadian Horticulturist

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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.

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

ADVERTISING RATES quoted on application. Circulation, 5,500 copies per month. Copy received up to 20th.

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 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.

OUR BOOK TABLE.

Old Time Gardens, newly set forth by Alice Morse Earle, a book of the Sweet of the Year, published by The McMillan Co., price \$2.50.

This is a most interesting book to any one who is a lover of flowers and their associations with other days. The book is not intended to be one of instruction to those who wish for practical information about floriculture, but rather a book of diversion for one who already knows something about flowers. To give our readers some idea of the book, we quote from the chapter entitled, "In Lilac Tide":

"A flower opens, and lo, another year, is the beautiful and suggestive legend in the Catacombs. Since these words were written, how many years have begun, how many flowers have opened; and yet nature has never let us weary of spring and spring

flowers. My garden knows well the time of the year. It needs no almanac to count the months.

"The untaught Spring is wise
In Cowslips and Anemones."

"While I sit shivering, idling, wondering when I can start the garden, lo, there are Snowdrops and spring starting up to greet me.

"Even in earliest spring there are days when there is no green in grass, tree or shrub; but when the garden lover is conscious that winter is gone and spring is waiting. There is in every garden, in every door yard, as in the field and by the roadside, in some indefinable way a look of spring. One hint of spring comes even before its flowers, you

can smell its coming. The snow is gone from the garden walks and some of the open beds; you walk warily down the softened path at midday, and you smell the earth as it basks in the sun, and a faint scent comes from some twigs and leaves. Both speak of summer, not of spring; and the fragrance from that Cedar tree is equally suggestive of summer. But break off that slender branch of calycanthus, how fresh and welcome its delightful spring scent. Carry it into the house with branches of forsythia, and how quickly one fills its leaf buds and the other blossoms.

"*Viola tricolor*.—For several years the first blossom of the new year in our garden was neither the snowdrop or crocus, but the Ladies' Delight, that laughing, speaking little garden face, which is not really a spring flower, it is a stray from summer; but it is such a shrewd, intelligent little creature that it readily found out that spring was here ere man or other flowers knew it. This dear little primitive of the pansy tribe has become wonderfully scarce save in cherished old gardens like those of Salem, where I saw this year a space thirty feet long and several feet wide, under flowering shrubs and bushes, wholly covered with the everyday, homely little blooms of Ladies' Delight. They have the partly colored petal of the existing strain of English pansies, distinct from the French and German pansies, and I doubt not are the descendants of the cherished garden children of the English settlers. Gerarde describes this little English pansy or Heartease in 1587 under the name of *Viola tricolor*.

"The flowers in form and figure like the violet, and for the most part of the same bignesse, of three sundry colors, purple, yellow and white or blue, by reason of the beauty and braverie of which colors they are very pleasing to the eye, for smell they have little or none."

"In Breck's Book of Flowers, 1851, is the

first printed reference I find to the flower under the name Ladies' Delight. In my childhood I never heard it called aught else; but it has a score of folk names, all testifying to an affectionate intimacy, Bird's-eye; Garden-gate; Johnny-jump-up; None-so-pretty; Kitty-come; Kit-run-about; Three-faces-under-a-hood; Come-and-cuddle-me; Pink-of-my-Joan; Kiss-me; Tickle-my-fancy; Kiss-me-ere-I-rise; Jump-up-and-kiss-me. To our little flower has also been given this folk name, Meet-her-in-the-entry-kiss-her-in-the-buttery, the longest plant name in the English language, rivalled only by Miss Jekyll's triumph of nomenclature for the Stonecrop, namely, Welcome-home-husband-be-he-ever-so-drunk.

"These little Ladies' Delights have infinite variety of expression, some are laughing and roguish, some sharp and shrewd, some surprised, others worried, all are animated and vivacious, and a few saucy to a degree. They are as companionable as people, nay, more; they are as companionable as children. No wonder children love them; they recognize kindred spirits. I know a child who picked unbidden a choice rose, and hid it under her apron. But as she passed a bed of Ladies' Delights blowing in the wind, peering winking, mocking, she suddenly threw the rose at them, crying out pettishly, 'Here, take your old flower.'

"The dandelion is to many the golden seal of spring, but it blooms the whole circle of the year in sly garden corners and in the grass. Of it might have been written the lines:—

"It smiles upon the lap of May,
To sultry August spreads its charms,
Lights pale October on its way,
And twines December's arms."

"I have picked both Ladies' Delights and dandelions every month in the year.

"I suppose the common crocus would not be deemed a very great garden ornament in midsummer, in its lowly growth; but in its

spring blossoming it is, to use another's words, 'most gladsome of the early flowers.' A bed of crocuses is certainly a keen pleasure, glowing in the sun, almost as grateful to the human eye as to the honey-gathering bees that come unerringly, from somewhere, to hover over the golden cups.

How welcome after winter is the sound of that humming.

Catalogues. John A. Bruce & Co., Seed Merchants, Hamilton, Canada.

Robert Evans Seed Co. Ltd., Hamilton, Ont. Catalogue of Farm and Garden Seeds, 1902.

QUESTION DRAWER.

Pure Paris Green.

Mr. Bruner of Olinda, asks where to buy pure paris green. We would be pleased to have this information for our own use. Mr. Bruner says what he had last year was of no use at all. He wrote to the house in Toronto from which he purchased it, complaining and received the following reply:—

With reference to Paris green, we never sold so much as we have this year. In fact we supply the city with it for spraying purposes, and they say they never had such good green. In fact one-half pound Paris green to a barrel of water is not nearly sufficient, you ought to use three pounds to the barrel.

It is no wonder it was useless if so weak that three pounds was needed for a barrel of water!!

We would advise sending samples of

Paris green to Pro. Shutt, of the Central Experimental Farm, Ottawa, asking for analysis, before purchasing in any considerable quantity.

Barbed Wire Fence.—A subscriber at Whitby, proposing to erect a barbed wire fence around his orchard, asks whether it would be more difficult to get in or out if the fence were built on a slat, say of six or eight inches at the top. If so, whether the fence should lean in or out?

We would not favor a barbed wire fence around any orchard or garden. We consider them an abomination, destroying the usefulness of more horses, and tearing mere clothes, than all the fruit that would ever be stolen. No doubt such a fence leaning outward would be impossible to climb and keep out all fruit stealers.

OPEN LETTERS.

Interprovincial Trade in Live Stock.

Trade in live stock between Eastern and Western Canada has been growing rapidly within the last few years. This increase of trade has been promoted, and in fact made possible, by the wise and generous treatment of the C. P. R. During the month of December and the first eight days in January, forty-six cars of grade and pure-bred cattle were shipped from Eastern Canada to British Columbia. These cars contained 2,223 head, and cost in the East something over \$30,000.00. Besides these, a considerable number have recently been sent to the North West Territories, and orders are now in hand for additional shipments to be made to the last mentioned territory. In order to

promote this trade, which has proved very profitable in many districts in Eastern Canada, farmers should use first-class Shorthorn bulls. By careful selection and wise treatment females sired by such bulls will prove excellent dairy cows.

It is a noticeable fact that seven-tenths of the stock used for dairy purposes in Great Britain are Shorthorns and Shorthorn grades. Probably the most suitable dairy cow for the average farmer is a Shorthorn-Ayrshire cross. Steers whose dams are strong grade Ayrshire cows if got by a Shorthorn bull prove excellent feeders and very desirable shipping cattle. As dairy animals there are none, in the hands of the general farmer, that will exceed the Shorthorn-Ayrshire cross.

F. W. Hobson.

Our Work.

The Ontario Fruit Growers' Association have still an enormous amount of work on hand, in order to assist in developing this fair province of Ontario. Their work may be the means of advertising the Dominion as a whole.

We see vast strides made in the Southern States, by which they are becoming famous. How did this come about? The great motive power is the Southern Industrial Association, which is bound together to advertise in every possible way the great resources of the Southern States. The Fruit Growers' Association can do the same with the portion of Ontario devoted to fruit. This portion is at present very small compared with what it will be in the near future. Our statesmen, our politicians, our manufacturers and mercantile men are doing their best in this respect and the Canadian Horticulturist is doing a great deal, but our Fruit Growers' Association have still a large work on hand. At the last annual meeting a flood of useful knowledge was set forth, mostly beneficial to individuals, but not so much to the industry as a whole.

The work of the Association should be continuous throughout the year. We elect officers and directors to look after our interests and, if they have the power, they undoubtedly should have also the means to further the fruit interests of which we Canadians are justly proud. One branch of work which they should look after, is the correcting of false impressions regarding our country.

England's statesmen, journalists and leaders in thought and action are the ones first to be brought to the realization of Ontario's claim as the brightest jewel in the British realm. We have been told and we know that the English are very conservative and once possessed of an idea they hold it tenaciously. For example we will quote a few false impressions from writers of high repute. Lord Macaulay's English History, considered one of the great works of literature, is to-day read and re-read in England by all the statesmen, journalists, politicians, ministers, lawyers, students and others. Now what impression do they derive about Canada in that work? Macaulay gives a beautiful description of Holland, he speaks of its fertility, its highly cultivated gardens, its quiet towns, trim villas, summer villas, summer houses, flowers, renowned tulip beds, etc., and further he proceeds to say that "this view produces the same effect on an English traveller as the sight of Eng-

land produces on a Norwegian or a Canadian." Here we are classed as living in the same surroundings and climate as those of Norway.

Again we read in another renowned work, Gibbon's Decline and Fall of the Roman Empire, a similar statement. Gibbon describes the climate of Germany in the early days of the Christian Era as a country of intense frost and eternal winter, the home of the reindeer, an animal which requires the most intense cold; then he proceeds as follows "Canada is at this day an exact picture of ancient Germany; although situated in the same parallel with France, that country experiences the most vigorous cold, the ground is covered with deep and lasting snow and the waters of the St. Lawrence are regularly frozen over in a season when the Seine river in France and the Thames river in England are free from ice."

You would infer from the above two quotations that flowers and fruits in Ontario would be an oddity. These are only a few of many instances which might be quoted, but enough is shown to prove that means are needed to counteract such wrong impressions.

The shipping of fruit to England assists in dispelling this error, but still other means are needed. A great effort is being made to develop the Great North West, but before that can be satisfactorily performed it is requisite that would-be settlers should be fully informed that they have a province close at hand where they may procure an abundance of fresh fruits daily. It is only a matter of a few years when a vast improvement in fruit transportation rates will be realized (providing our Association insist on securing them.) We will not be surprised to see fruit laid down in Winnipeg as fresh and nearly as cheaply as it is now being delivered in Montreal.

We had a golden opportunity to show the Duke and Duchess of York the resources of the fruit sections of Ontario, but it was lost, and they returned to England carrying only deep impressions of the great resources of the North West, our Indian people, the lumber camps of Quebec, and of some gorgeous military spectacles. Why should not our Association seek to induce a few of England's nobility to pay a summer visit to our fruit districts, so that, on their return, the English minds may be filled with reports of Ontario's beautiful climate and luscious fruits.

J. F. BRENNAN, Grimsby.



OUR AFFILIATED SOCIETIES.

Grimsby. The annual meeting was better attended than usual, and much interest taken in the election of officers, which was determined by ballot.

Mrs. E. J. Palmer was again elected President, and E. H. Read, Secretary. It was agreed to give three hardy roses to each member, and from the F. G. A. list to select the Campbell's Early grape vine for the gentlemen and the Dentzia Lemoinei for the ladies.

The directors propose to hold house meetings during the winter for the discussion of flower and fruit topics, and in the month of June to hold a rose exhibit and have a social gathering of the members on the lawn of the President, which is situated conveniently near to the village.

Simcoe.—The annual meeting of the Simcoe Horticultural Society was held in the Free Library Hall on Wednesday evening, 8th inst. There was a fair attendance of members. The President, Mr. H. H. Groff was in the chair.

Mr. Groff's success.—The Directors presented a report for the past year. We desire to quote a couple of paragraphs from it, one regarding our President, and the other relating to the late County Crown Attorney, Mr. Ansley.

"The year just closed will long be remembered in this locality because of the great Pan-American Exhibition held almost at our doors, being only a couple of hours ride from our homes. Here the brains, so to speak, of the brightest and cleverest people of this new world, were brought into competition, and it is safe to conclude that the judging was fair and honest, and that those entitled to the honors won. In this contest our fair Province secured an honorable place in horticulture—judging by our population we secured first place. And among other awards in flowers it is a matter for congratulation that the worthy President of this society, out of thirteen entries in Gladioli, secured thirteen first prizes and captured the gold medal, thus demonstrating that the finest bulbs of this beautiful flower to be found in America, if not in the world, are grown by Mr. Groff, thousands of beautiful varieties being originated by him every year. And thus not only the grower but the town itself has been greatly advertised among the multitudes of people who attended this Exhibition. We feel that we cannot let this opportunity pass without assuring Mr. Groff of the exceeding great pleasure it gives us to know of his success and we desire to congratulate him on the fact that in a competition of this kind he so completely vanquished all comers."

"For the first time in our history death has entered our ranks and snatched away one of our most esteemed members. John Henry Ansley was a gentleman who took an active part in the organization of this society. He was one who loved to work with flowers, fruit and vegetables, and he succeeded in their cultivation far beyond most others. His garden, where he spent many happy

hours, was a sight to behold. He held an important place in the community, and while he had reached a vigorous old age no one thought that he would so soon be taken from us. We desire to place on record our estimate of his worth and our appreciation of the services he rendered us."

Woodstock. The annual meeting of the Horticultural Society was held in the city council chamber last night with a good attendance of members. The reports of the treasurer showed the finances of the society to be in excellent shape, and the directors' report recorded one of the busiest and most successful years in the history of the society. The election of officers resulted in the return of those who officiated in 1901, with the exception of several changes on the board of directors.

President Pattullo was in the chair and the business of the meeting was commenced at 7:45 o'clock.

The treasurer's report for the year showed the receipts to have been \$374.51, \$109.50 of which was for subscriptions, \$48.03 for admission fees to exhibition, premium for Horticulturist \$20.00 and Legislative grant \$58. The expenditure amounted to \$258.23; \$53.60 of which was for purchase of seed and plants, \$35.75 for working expenses of flower show, \$18.00 for advertising, etc., \$28 for prizes awarded for best kept flower gardens, \$10.75 for rent and light of buildings for meetings and exhibition, \$2.50 for incidentals and \$1.03 for periodicals. The balance left over all expenditures was \$116.28.

Directors' Annual Report 1901. In presenting their annual report for 1901 your directors are pleased to state that the year was one of satisfactory progress. The membership of the society was larger than ever before and notwithstanding the additional expenditure incurred in giving prizes for cottage gardens, and to the scholars of the city schools, there was a substantial balance on hand at the end of the year.

The active assistance of lady members of the society has been secured and has proved most valuable. One of them, Mrs. Henry Davidson, read an extremely interesting paper at one of our meetings, and two others, Mrs. H. J. Finkle and Mrs. Dawson, have also promised to read papers at some future monthly meeting.

The interest and co-operation of the teachers and scholars of the public schools have also been enlisted in the work of the society.

Two lectures from the Provincial Association addressed the scholars of the Central school, and in the evening a public meeting in the Collegiate Institute, these addresses being much appreciated by all who heard them. The thanks of the society are also due to several of our local vocalists for their kindly assistance on the above occasion. In this connection we record with pleasure that for the first time the grounds of the Collegiate Institute, the Central school and the Court House

square were this year beautified by tasteful flower beds.

The action of the society in offering prizes for cottage gardens, flower and vegetable, and for the best kept lawns and boulevards, was a happy thought and excited much interest in the city. A similar movement under the patronage of Her Excellency Lady Minto proved most successful in Ottawa, and there is little doubt the example thus set by Ottawa and Woodstock will be followed by other cities and towns throughout the country. The annual flower exhibition was successful. There were a larger number of entries than usual, and the classification and artistic display showed an improvement upon that of former years. Although the attendance of the public generally was not as large as it should have been considering the character of the exhibition, there were present many representative citizens who showed a keen interest in the work of the society, and several of them addressed the meeting and assisted in the presentation of prizes to the successful competitors in the garden and flower competitions.

One of the monthly meetings of the Society took the form of an open air or "garden meeting" on the grounds of the President, and it is hoped that there may be similar meetings in future upon the invitation of other members of the society.

An influential committee was appointed during the year to report upon the further beautifying of the city parks, lawns, boulevards and streets, but owing to the lateness of the season it was not able to report. Your directors are of the opinion that this committee, by seeking co-operation with the city authorities, could enlarge its usefulness in the direction suggested.

Your secretary attended the annual meeting of the Provincial Horticultural Society and was again honored by being selected representative of this district in which capacity his usefulness to this society is enhanced.

All of which is respectfully submitted,

G. R. PATTILO, J. S. STAFF,
President. Secretary.

London. The Directors of the London Horticultural Society beg to present their second annual report.

During the year 1901 they held eight meetings for the transaction of the business of the society. Two public meetings were also held in addition to the annual meeting on January 9th. At the first of these, on the 11th, of February, a lecture was given in the large assembly room of the Normal School by Dr. William Saunders, of Ottawa, director of the experimental farms of the Dominion. His subject was "Plants, Shrubs and Trees for the adornment of the Home," illustrated with a large series of beautiful lantern pictures. Notwithstanding the severity of the weather there was a large attendance of members and other residents of the city who showed a gratifying interest in the subject of the evening.

The second public meeting was held in the Auditorium of the Y. M. C. A. building on the evening of May 1st. The Rev. F. R. Bethune gave an address on "Common insects injurious to garden flowers, fruits and vegetables," illustrated with

colored diagrams. Mr. Wm. Gammage was also to have spoken, but was prevented by indisposition from doing so. Vocal and instrumental music was very kindly supplied by Mrs. Gillies, Miss Brown and Miss Templeton. At the close of the proceedings the plants from the Ontario Fruit Growers' Association were distributed to the members, viz., the Anthony Waterer Spiraea and the Cumberland Black-cap Raspberry.

In addition to these meetings, the members were invited to attend the proceedings at the annual convention of the Canadian Horticultural Association, which was held in London on the 5th and 6th of August. Papers were read and addresses given by several of the leading florists of the Dominion; an address was also given by Dr. Bethune, one of our members, on the insects injurious to greenhouse plants. Through the liberality of many citizens of London, our society was enabled to entertain the delegates at a luncheon at Springbank, preceded by a ride through the principal parts of the city in a trolley car handsomely decorated for the occasion with plants and flowers by Mr. Wm. Gammage.

An invitation was also extended to our members to attend the 38th annual meeting of the Entomological Society of Ontario, which was held here on the 13th and 14th of November. A considerable number availed themselves of the opportunity of hearing the interesting address at the public meeting at the Normal School.

Two highly successful flower shows were held during the summer. The first, in the City Hall, took place on the 26th and 27th of June, and was very well attended. The display of flowers was remarkably fine and showed a decided advance upon the June show of the preceding year. The second exhibition was held in Crown Hall on the 6th and 7th of August, being the same time as the Convention of the Canadian Horticultural Association. Though the actual number of figures exhibited may not have been as large as at the August show in 1900, there was a unanimous agreement that in excellence of quality, beauty and variety it was the best show that we have yet held. The professional florists attending the Convention stated that in their opinion it was one of the best exhibits of flowers from almost every point of view that it had been their pleasure to inspect. It would indeed, have been difficult anywhere to have surpassed in excellence the petunias and gladioli that were exhibited, to say nothing of other kinds. We were fortunate in obtaining the use of Crown Hall, which proved admirably adapted to the purpose, enabling the flowers to be satisfactorily arranged and affording all that could be desired as regards light and ventilation. While it would hardly be fair to select a few names for special mention from among the nearly forty contributors of flowers, it is only just to refer to the trouble taken by Mr. Gammage in filling up the platform at the end of the hall with a beautiful and tastefully arranged collection of potted plants and flowers, which added very much to the appearance of the general display. A word may also be said regarding the tasteful fine flowers sent from the Woodland Cemetery. It is much to be regretted that about one hundred of our members sent no contribution of flowers. We earnestly

hope that during the coming season each member will try to cultivate at least one variety and produce a flower that will be worthy of exhibition at our shows this year.

In order to encourage our members to keep up their interest in flowers towards the close of the season, your directors offered three prizes at the Western Fair in September for the best collections of cut flowers exhibited by members of our society, only one member, however, competed for them. Thirty-six tulip bulbs were presented to each member for autumn planting, in addition to sixteen varieties of flower seeds and a choice of shrubs in the spring.

The directors have pleasure in stating that the finances of the society are in a satisfactory condition as shown by the audited statement of the treasurer, notwithstanding the fact that the flower shows and meetings have all been open to the public free of charge.

All of which is respectfully submitted,

R. W. RENNIE, Secretary. J. A. BALKWILL, President.

London.—The following is an extract from an article in a recent issue of the London Advertiser, regarding the excellent work done in the city by the London Horticultural Society:—

“Residents of London, who have traveled to some extent, have arrived at the unanimous conclusion that despite its visible defects, London is a very beautiful city. In its well-kept residence streets few things unpleasant to the eye present themselves. This effect is produced to a great extent by its thousands of beautiful shade trees in the streets and parks. Nothing could be more worthy of active assistance than the efforts of the body of public-spirited citizens comprising the London Horticultural Society to create in the public mind an interest in the care and judicious interest of ornamental trees, plants and flowers in the gardens, streets and parks of the city. The society was formed two years ago and already it has become a great power for good in London. Its members, while indulging their own individual taste for flower culture, have come much to foster in the public mind a love for the beautiful and a reverence for flowers which must eventually prevent their wanton destruction. It is a significant fact that the beautiful flowers in Victoria Park are never molested; and every summer there blooms a bed of geraniums in front of the public library that is the pride of the officials of that institution. The flowers are unprotected, and are within easy reach of the passer-by, yet no one has ever attempted to disturb them.”

Waterloo.—The annual meeting of the Waterloo Horticultural Society was held in the old Council Chamber on Wednesday evening, January 5th, at 7 p.m., for the purpose of receiving the annual reports of the work during the past year, and of electing the officers for 1902.

Directors' Annual Report. Your directors, in presenting their seventh annual report, congratulate the society on its continued prosperity.

Our membership during the past year was 157, and we distributed as premiums 128 Cumberland

Raspberry Plants, 93 Spirea Japonica Bumalda, 70 Pear Trees, 110 German Prunes, 34 Hydrangeas paniculata grandiflora, 141 House Plants and 1,570 Hyacinth Bulbs.

We held no flower show during the past year, owing partly to the big expense incurred in connection with the one held in 1900, but we hope to be able to hold one during the summer of 1902, if the season proves at all favorable. Should this intention of ours become realized, we hope that every member of the society, as well as every lover of flowers in our prosperous town, will assist the directors, so as to make the exhibition of flowers and plants the most successful one in the history of the society.

The report of the Secretary-Treasurer and Auditors is before you, and we trust that our successors now to be elected, and the citizens generally, will continue to support and assist the good work of the Waterloo Horticultural Society.

The financial report was as follows:—

RECEIPTS.	
Balance on hand from 1901	\$ 27
Legislative Grant.....	124 00
Membership subscription.....	157 00
Sale of Stock.....	42 80
Total	\$324 07
EXPENDITURE.	
Horticultural Periodicals.....	\$125 00
Purchase of Seeds and Plants.....	166 23
Working Expenses.....	10 00
Printing, Postage, Freight, etc.....	21 10
Total	\$322 93
Balance on hand.....	1 14
A. WEIDENHAMMER, President.	

Kincardine.—The annual meeting of the Kincardine Horticultural Society was held on the 5th inst. pursuant to statute.

Secretary Joseph Barker Esq., read the following excellent report.

“The Secretary of the Kincardine Horticultural Society in presenting this, the fifth annual report, begs to assure the members that he does so with very much pleasure, for the following and other reasons:

Because of the satisfactory increase in the society's membership for 1901.

Because of the very general satisfaction given to our members in the matter of tree and plant distribution during the year just closed.

Because in soliciting for membership we find the task is not near so difficult as formerly, owing to the fact that the utility of the Horticultural Societies and the benefits derived therefrom are better understood by the people.

Because unlike the Agricultural Societies, the Horticultural does not expend its funds in the distribution of prize money to the leading exhibitors and for expenses incurred in bringing from outside judges to pass upon the merit of high grade stock, which has been obtained at a large outlay of money. But our Society agrees upon a judicious selection of premiums and invites its members to make their own choice this course leaves no

room for jealousy to creep in nor for discord to crop up.

Because our Society is generously supplying a felt want it has thereby secured a large share of public favor and working on its present plan cannot fail to succeed.

Because for the small sum of \$1 membership fee, the return made is so great that the most of our members are puzzled to know how it is done.

Because our Society, in addition to the return of 4,242 trees and plants to its 110 members during the past year has been instrumental in securing for them from the Fruit Growers' Association of Ontario 126 plants and the annual report of the said Association meetings, at which are discussions, the best up-to-date methods of fruit culture—how to combat the fruit pests in our orchards

and gardens and how to be honest in the packing of apples.

Because in addition to the foregoing, our Society will continue its distribution of fruit trees, shrubs, plants and bulbs during the present year, and will secure for each member the monthly issue of the Canadian Horticulturist—a magazine of so much merit as to have secured at the great Pan-American Exhibition recently held at Buffalo, the first premium on horticultural literature; and further, for the benefit of the members of our society, one or more free public meetings will be convened at an early date when lectures will be given us by gentlemen eminently qualified to instruct in the culture of fruit, flowers, etc.

JOSEPH BARKER, Secretary.

The Companionships of Christianity.

The young man who abandons the church voluntarily cuts himself off from the most exalted thoughts that can enter the human heart. He puts himself out of the company of Raphael, and Rubins, and Thorwaldsen when he might live in the atmosphere that made them great. If Michael Angelo, and Sir Christopher Wren, and Inigo Jones welcome him at the door, Mendelssohn, and Beethoven, and Bach greet him as he enters. The

organ may be spavined and wind-galled. The choir may be an aggregation of tuneless tyros, but if the young man has brought any worshipful music in his soul into the church the same uplifting sentiments that inspired the "Messiah" and "Elijah" will sweep the chords of his heart as the organist touches the keys, or as the choir clears its collective throat and sings "Old Hundred."—The Rev. Francis E. Clark, D. D., in the Ladies' Home Journal.

Trees



Trees

We have a full line of Fruit and Ornamental Trees for Spring, 1902, at lowest rates.

Special attention given to dealers' orders

Farmers wishing to buy **first-class stock**, absolutely **first hand**, and **without paying agents' commissions**, should write at once for catalogue and price list.

Don't wait until the last minute, as you will be disappointed. Place orders early and secure the varieties you want. Correspondence solicited.

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