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The Canadian Horticulturist

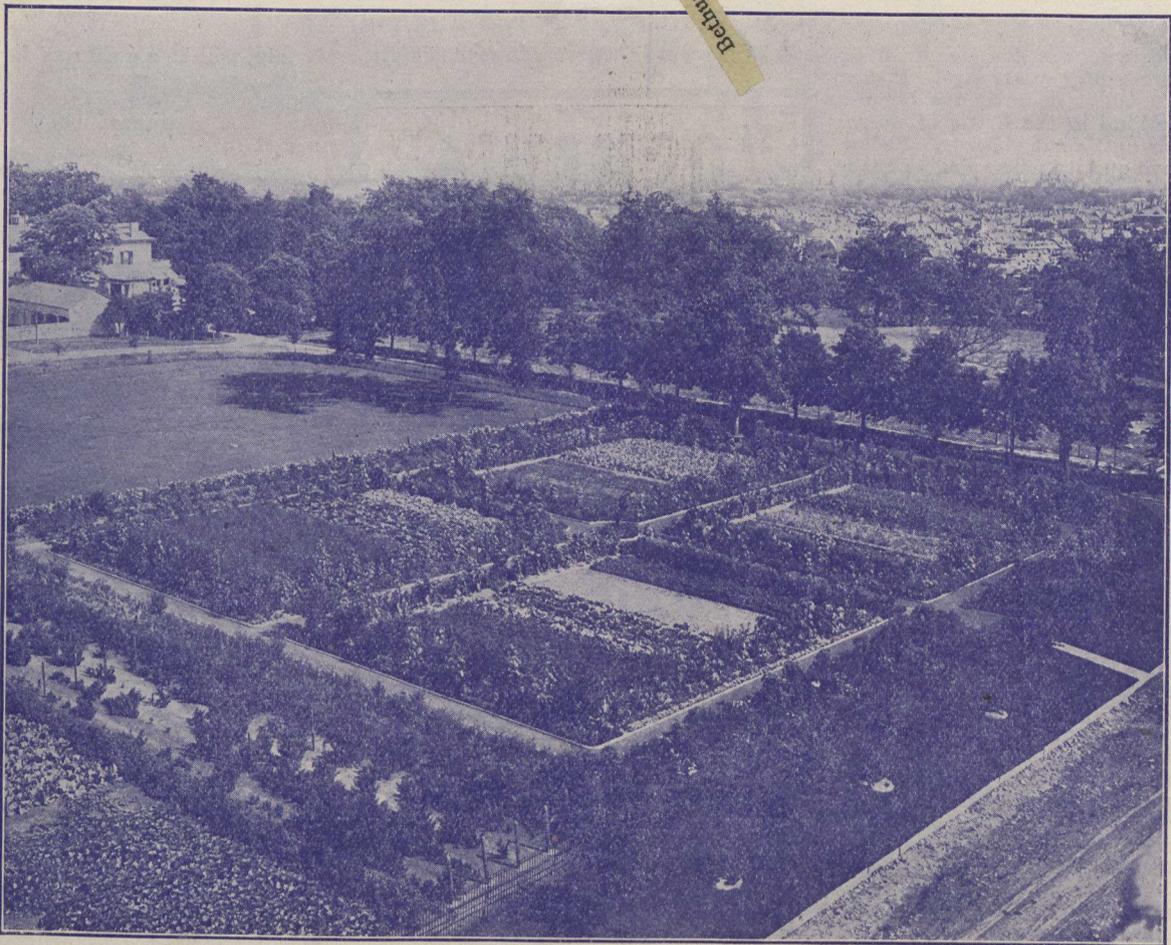
APRIL, 1909

Volume 32, No. 4

60 Cents a Year

PETERBORO, ONTARIO

2 Years for \$1.00



A Well-Planned and Well-Kept Kitchen Garden—On Grounds of Sir H. M. Pellatt, Toronto

THE ONLY HORTICULTURAL PUBLICATION IN CANADA

Issued Each Month

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I STAND back of every word in advertising, just as I stand back of my goods. That is why I sign them with my personal signature.

Every now and then some well meaning, clever advertising expert says to me, "Pedlar, don't you realize it is out of date to write your adver-

tising in the first person singular? People don't sign their own ads. any more. It's the day of big corporations, not of individuals.

Maybe they are right—they ought to know. But I think I shall go on signing my ads. You see, I consider this advertisement just as direct and personal a message to you as it would be if I wrote it to you in a letter. I expect you to believe what it says. So I sign it with my own name. Would I do that if it said anything but the exact truth?

I would like you to know that I mean every word in this advertisement—that I stand right back of every statement it makes—that you can hold me person-

ally answerable for every claim it makes—and my business and personal reputation amount to something, I think, without conceit.

That is what my advertising means to me and what my signature means to you. That is why I sign my ads. personally. I think I shall keep right on signing them.

G. A. Pedlar

What Does It Mean When We Say 'Guaranteed'?

THIS business was founded in 1861—almost fifty years ago. It has grown till it operates the biggest plant of the kind in the British Empire. That growth has come because Pedlar products have quality. The Pedlar reputation rests upon making that quality good enough to guarantee.

That specially interests the man who roofs with Oshawa Steel Shingles. From the minute that roof is on the responsibility for that roof's goodness rests on us—not on the buyer, but on this Company—not upon some smooth salesman's say-so, but on a signed and sealed guarantee, backed by this Company's capital and reputation and the personal word of the President.

There is no quibble about the Pedlar guarantee. It isn't full of loopholes and gateways for dodging. It is plain,

straightforward, honest. It says, simply,



that every Oshawa-shingled roof, proper-

ly laid, will be a good roof for twenty-five years, or—that roof will be renewed free of all cost to the owner, and the same kind of a guarantee will go with the renewed roof.

And by "good" the Pedlar guarantee means good in every roof-sense of the word—means a roof free from leaks, free from rust holes, free from the need of paint or repairs—a roof that is just what a good roof out to be.

Twenty-five years the guarantee covers. The roof that's Oshawa-shingled will be a good roof, though, for four times that long—for a century.

When you consider that no other roofing at all is guaranteed at all, and that every Oshawa-shingled roof is guaranteed this way, there is scant room for argument about the betterness of Oshawa Steel Shingles (guaranteed.)

Why You Should Roof With Oshawa Shingles

BECAUSE Oshawa Steel Shingles (Guaranteed) are made of extra heavy (28-gauge) semi-hardened sheet steel, evenly and heavily galvanized on both sides and all edges. Therefore Oshawa-shingled roofs are proof against rust and will need no painting.

Because Oshawa Steel Shingles (Guaranteed) alone have the Pedlar four-way lock, which makes these shingles the easiest and simplest roof to lay (no tools but a hammer and a tinner's shears), and yet makes one seamless, unbroken sheet of heavy steel, that is really wet-proof and that is also WIND-proof. Such a roof keeps a building cooler in summer, warmer in winter, and dry always.

Because Oshawa Steel Shingles (Guar-

anteed) actually cost less than five cents a year per square—100 square feet—or about a tenth the cost of common wood shingles, yet an Oshawa-shingled roof is fire-proof, also it is perfectly insulated against lightning—these steel shingles keep a building safer against lightning than lightning rods will.

Because Oshawa Steel Shingles (Guaranteed) relieve your mind and your pocket-book of ALL roof worries there are—and still cost little enough to be an economy for roofing any permanent structure, from a great factory to a hen-house. They cover millions of dollars worth of property all over Canada, and cover it right—else they wouldn't be there.

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1861

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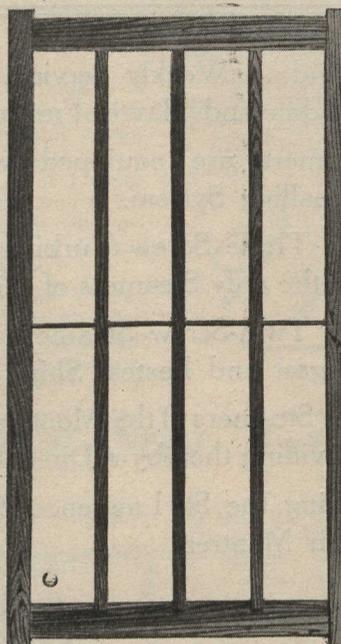
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The money saved in growing your own plants from seed almost pays the cost of the sash the first year.

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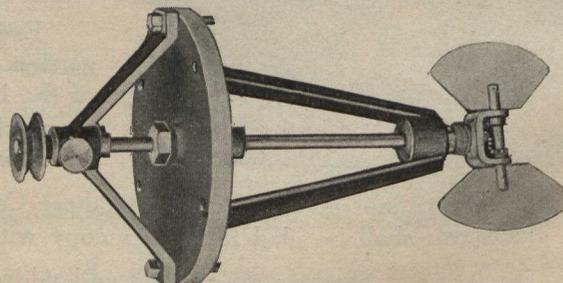
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Can be used with any hot water system

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Distant parts of the plant as easily heated as another part.



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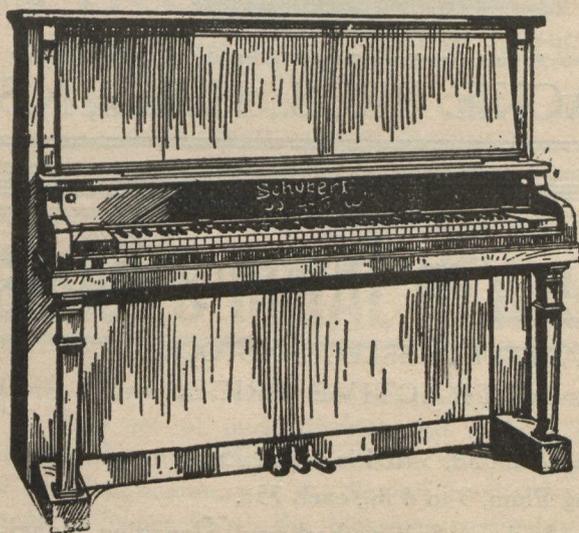
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A
Stepping-
Stone
to a
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Piano



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We offer them as an easy stepping stone to the possession of the famous Gerhard Heintzman. We will give you full advantage of the lowest possible price, and agree to take them back any time within six years, if desired, on the purchase of a new Gerhard Heintzman, allowing credit for the full price paid, less a nominal yearly charge of five per cent. for wear and tear.

Furthermore, we offer these pianos at the exceedingly low price of \$200 cash, or on the following reasonable terms: \$10 cash and \$6 per month, with interest at 6 per cent. We will ship anywhere on approval, and if you are not satisfied we will pay the return freight.

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Special "price offerings" are no novelty, and a "price offering" may mean little or nothing. But a real piano offering which combines such a low price with such excellent quality is rare indeed. These pianos are fully guaranteed by their maker and by this Company, who, as makers of the GERHARD HEINTZMAN Piano, could not under any circumstances have their name associated with a questionable instrument.

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Do not delay in taking advantage of this offering. Our supply of these instruments is limited, and they are sure to go quickly.

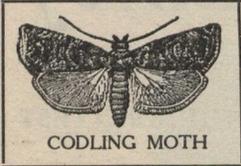
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TORONTO

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**GRASSELLI'S
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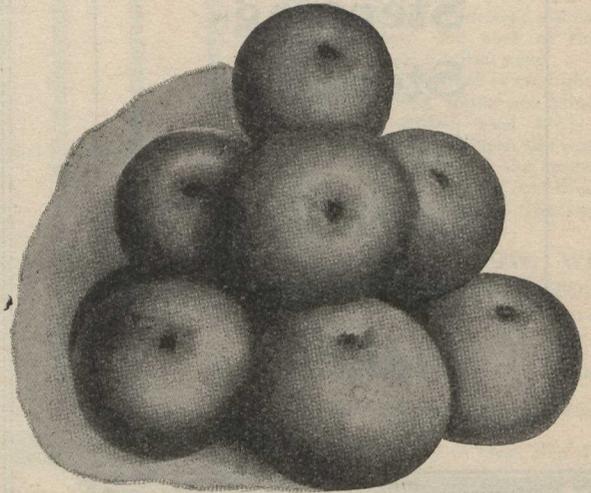
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Clematis, from 50c to \$2.00.
Pæonies, assorted colors, 3 for \$1. Named varieties each 90c, large clumps.
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Dutchman's Pipe, very strong, well-rooted plants, each \$1.
Our surprise collection of Garden Perennials at \$2 is a dandy—you certainly get your money's worth.
Carolina Poplars, 8 to 10 in., hardy, quick growing, 70c each or 6 for \$3.00.

We prepay charges on all orders for \$5 or over. Our stock is all Nursery Grown at Pointe Claire, Quebec, and is sold throughout all Canada.

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25 % STRONGER

Than the Best Other Makes. It won't burn.

The average per cent. of Arsenic and Water is printed on the Label—20% As_2O_5 - 40% Water

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THE BEST AUTHORITIES**

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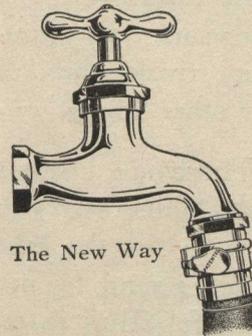
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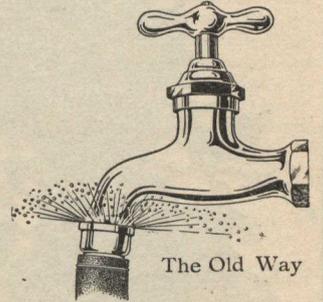
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TIME SAVING COUPLER

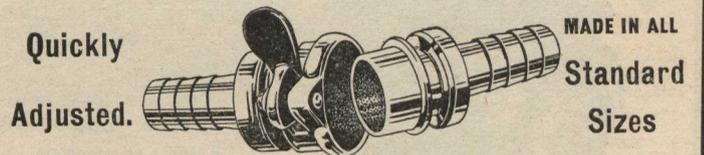
No Lost Washers, Time, Temper, Force.



The New Way



The Old Way



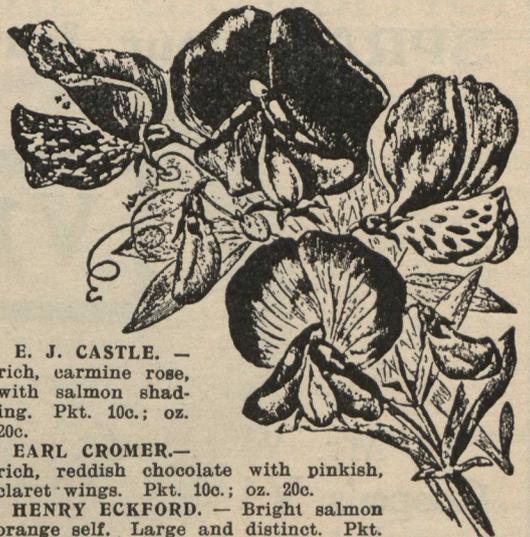
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THE TIME-SAVING COUPLER CO.,
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Price List on Application.

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They are of most distinct and striking character, the colors embracing the most exquisite shades, and the mammoth size and waved or fluted appearance of the flowers marks the most important development in Sweet Peas; the blossoms frequently measure 2 inches across and are borne on long stiff stems, generally 4 to a stem; free bloomers



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One packet each last 14 varieties for \$1.25, or any 10 for \$1.00. One ounce each last 14 varieties for \$3, or any 9 for \$2.

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ESTABLISHED 1850

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The Dahlia is a wonderful flower and has made great progress during the last few years. Its popularity rivals that of any other flower.

There are Dahlias and Dahlias. If you wish to see the best varieties send for my beautiful illustrated catalogue. It is free.

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CANADIAN NATIONAL
EXHIBITION 1908

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SPRAY your fruit trees before the buds burst,
with

V1 Spray Fluid

You will get more fruit, better fruit and cleaner fruit if you use it.

Mr. W. M. Crawley of Oakville says: "Through spraying with Cooper's V1 and V2 Fluids I had the cleanest and best lot of fruit that I have ever grown."

1 gallon makes 100 gallons of spray mixture. It only requires mixing with cold water to be ready for use.

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The Canadian Horticulturist

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 Photograph by Galbraith, Toronto

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GLADIOLI RENNIE'S DAHLIAS

"THE BEST GROWN"



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Order at once as the supply won't last long at such low prices.

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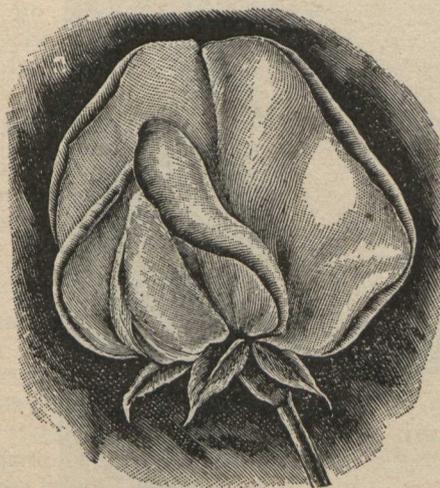
Set of Six Giant Single Dahlias, \$1.20.

See our catalogue for a description of our 85 different sorts of Dahlias and a thousand other interesting plants, etc.

FREE—Cut out this advertisement, send it with your order and receive free one large packet of **Enchantress Pink Aster Seed**, value 25 cents. This offer will not appear again.

WM. RENNIE COMPANY, Ltd.
 TORONTO - - - - - ONT.

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Stands for the best mixtures of the best varieties.

Our **Royal Exhibition Sweet Peas, Nasturtiums, Pansies**, and other flower seeds will produce **Prize Winners**. They please others—they will please you.

Order To-day

Catalogue on application

Garden, Greenhouse and Poultry Supplies

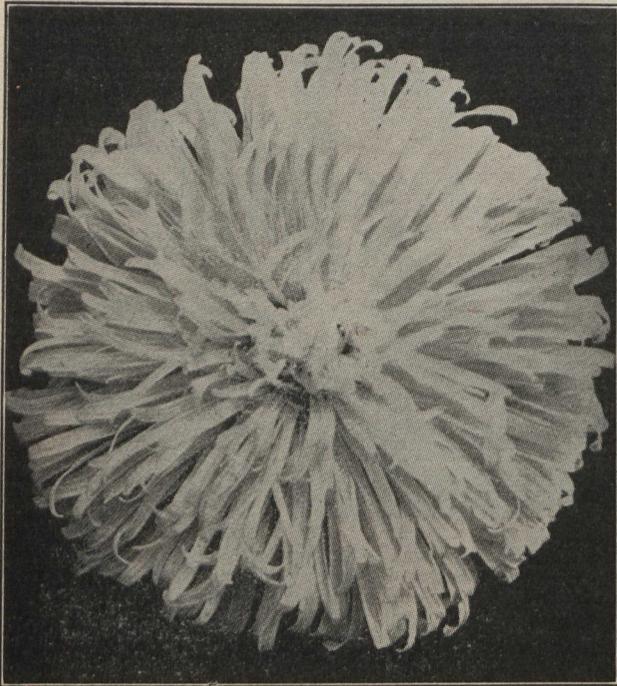
COLLECTION OF OUR SPECIALTIES IN FLOWER SEEDS FOR 50c

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- 1 packet Dianthus, choice double mixed
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- 1 ounce Graham's Royal Exhibition Sweet Pea
- 1 packet Phlox Drummondii Grandiflora, choice mixed

GRAHAM BROS., 53 & 55 Sparks Street
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 Sunnyside Greenhouses—Rideau Terrace

STEELE BRIGGS SEEDS

Sown Everywhere in Canada



NEW COMET ASTER "EXPRESS" 100. A PACKET

The name of "Steele Briggs" on a package of seeds is a guarantee that the seeds contained therein have been subjected to every known test to make sure of their purity and germinating qualities. We do not rely solely upon the word of the experts who grow our seeds, for the reliability of the seeds. We subject them to severe tests in our own establishment before they are allowed to be placed into stock.

Our seed boxes, filled with pure, fresh seeds are now displayed in thousands of stores in all parts of Canada. The most sure way of growing a good crop is to sow Steele Briggs Seeds.

The Steele, Briggs Seed Co., Limited

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Why We Prune*

Prof. J. C. Whitten, College of Agriculture, Columbia, Missouri

IN the management of fruit trees perhaps no other factor is of greater interest or more significant than that each section of country has a shape or ideal of its own to which each kind of tree is made to conform. We are struck by the differences between the low-growing fruit trees of the central-west and the lofty ones on the Atlantic coast; we contrast the dense heads, or branching system, of the west, and the more open, or spreading heads of the east. Still more striking are the espaliered trees of Europe, whose limbs are often trained like the ribs of a fan, in flattened form, upon a trellis or against the sunny side of a wall. Each of these different systems of pruning or shaping is a means of adapting the tree to its environment.

ADAPTING TREE TO ENVIRONMENT

In the foggy climate of western Europe it is desirable to admit all possible sunlight to the parts of the tree. The thin, open head exposes the fruit buds, flowers and ripening fruits to the favorable influence of the sun, thereby furthering what is secured in part by planting the tree on a south slope or on the sunny side of a wall.

In the dry, sunny, continental climate of the central-west of our country, a system of pruning quite opposed to that of western Europe is employed. Throughout the prairie section especially one is struck by the low, dense heads of the fruit trees. The trunks of the trees are usually from one foot to three feet high, thus securing low heads or branching systems. These low heads help to insure the trees against injury from prairie winds. They lessen the number of wind-falls among the fruit. They shade the ground under the trees and prevent undue loss of moisture from the soil. Their shade keeps the soil from becoming too hot during intense sunlight in summer and opposes sunscald, which sometimes injures the exposed trunks and main limbs of high headed, open branched trees. Low heads also, in some degree, retard the blossoming period, rendering the flowers less liable to injury from spring frosts, which here so frequently follow the first warm, sunny days of early spring. The denser branching

system aids in accomplishing the same purposes which are sought through the adoption of the low head.

In the various sections of the world where fruit growing is carried on, some intermediate form between the two above extremes is adopted to adapt the height and density of the head of the tree to climatic influences. Near the Atlantic coast, where there is brighter sunlight, more wind and less moisture than in western Europe and yet less sunlight, less wind and more moisture than in the continental climate of the west, the middle ground is adopted with respect to height and density of the head of the tree.

In extreme continental climates, the low, dense head is in keeping with the

merely shaping the tree to adapt it to climatic conditions must be taken into consideration. Fruit trees may be said to expend their energies in two ways—by producing wood growth and by producing fruit. It is a well known fact that a fruit tree may sometimes grow with exceeding luxuriance and fail to produce fruit. In fact, too much wood growth and leaf growth is opposed to fruitfulness. The orchardist often says of a vigorous tree that it is "running to wood growth" instead of to fruit. Anything which tends to check this excessive vegetative activity usually throws the tree into bearing, or favors reproductive activity. On the other hand, the production of a heavy crop of fruit opposes excessive wood growth.

A proper balance between vegetative and reproductive activity (or wood growth and fruit production) may in part be maintained by proper pruning. If a tree is pruned by cutting back or by removing some of its branches in winter, its wood growth will be accelerated during the following growing season. If a part of the buds which normally would have been pushed into growth in spring are removed, there will be correspondingly greater growth from the fewer buds which remain. If this length growth is excessive, and if it continues too late in the season, few or no fruit buds may be formed for the next year's crop. As a rule, length growth of limbs is continued at the expense of diameter growth and storage of plant food in the twigs and buds. Fruit buds usually begin to form in early summer, for the coming spring, about the time rapid growth ceases. The maxim, "prune in winter for wood but in summer for fruit" is an old one.

Cutting out or shortening limbs in summer, when the leaves are elaborating plant food, usually checks wood growth and thereby often favors the formation of fruit buds. Whether to prune more in winter or in summer depends much upon the vigor of the tree. If vegetative activity is weak and the energies of the tree too low for the maturity of a good fruit crop, winter pruning tends to increase its growing energy. If the tree is making too luxuriant wood growth, summer pruning (checking this growth) may result in the formation of fruit buds.

Ten Years in Advance

I am glad that THE CANADIAN HORTICULTURIST devotes more space than formerly to the growing of flowers, in which I am much interested. I am sending \$5.00 for my subscription up to the end of 1918.—Mrs. P. E. Harvey, Toronto.

selection of a north or east slope for the orchard. This is an interesting contrast to the south slope, or sunny location preferred in western Europe.

FUNGUS DISEASES AND PRUNING

In recent years attention is being given to shaping the tree so as to oppose fungous diseases. Leaf rust, fruit scab, many of the rots and many other maladies which affect fruit trees are now known to be due to parasitic fungi that attack the parts of the tree or its fruits. Many of these parasites thrive better in cool, damp, shady places than they do in sunlight, just as molds develop in cellars or damp places. In a foggy, humid climate the high, open head admits sunlight and air and opposes the development of these diseases. In a dry, sunny, or windy location it may not be necessary to maintain an open head to secure enough sunlight and aeration.

WOOD GROWTH AND FRUITFULNESS

In connection with pruning it should be borne in mind that other factors than

* An address delivered at the last convention of the Illinois State Horticultural Society. Its principles may be applied in the orchards of Canada.

It should be borne in mind that different kinds of fruit trees endure different degrees of pruning and that they respond somewhat differently to the treatment. The cherry requires very little pruning. Its most active buds are the extremities of its twigs. If it is severely cut back, the inactive buds that remain may not start steadily into growth. The tree may even weaken and die from severe prun-



Tree Sprayed with Lime-Sulphur Wash
Showing White Appearance

ing. The cherry requires the least pruning of any of our orchard fruits.

On the other hand, the peach profits by severe pruning. It should be severely cut back in winter. It readily puts out new growth even from the bases of old limbs after cutting back. It has no "dormant" buds which may not be called into activity if occasion requires. Again, it should be particularly noted that the peach produces abundant fruit buds on the long whips of new growth at the periphery of the tree. This is opposed to the habit of the apple and of most other fruit trees, which produce buds only on short spurs in the body of the tree.

If a peach tree is cut back in winter so as to produce rank wood growth, it will still produce fruit buds along this new growth. If an apple tree were pruned back so as to secure equally luxuriant growth, this new growth would possess no fruit buds of its own, and by seizing the sap of the tree, these new whips would divert growth from the fruit spurs below and would also overshadow the latter by producing too much shade above.

(To be continued)

Fruits for Manitoba

The best varieties of fruits for planting in Manitoba are recommended by Mr. D. W. Buchanan, of St. Charles, Man., to be as follows:

Apples—Blushed Calville, Antisette, Duchess, Hibernial; hybrids—Transcendent, Virginian, Hyslop; plums—Atkin, Cheney, Mankato, selected native varieties; cherries—improved sand cherries;

strawberries—Bederwood, Wm. Belt, Dunlop, Splendid, Crescent, Warfield; red raspberries—Older; White currant—White Grape; red currants—Red Dutch, Raby Castle, Stewart, Pomona, Red Cross, North Star; black currants—Lee's Prolific; gooseberries—Houghton, Downing.

Raspberry Culture

N. E. Mallory, Blenheim, Ont.

A fertile, porous soil, with water within five or six feet of the surface, might be termed an ideal place for black-caps; yet, any good fertile soil that is well drained and contains a good amount of humus, properly prepared and cultivated, can be depended upon to produce abundantly.

The black-caps are largely surface feeders. The roots, therefore, should be trained out of the reach of the cultivator. This can to a large extent be accomplished by proper preparation and culture. Spread evenly from ten to twenty tons of stable manure per acre, preferably on a clover sod. Plow about six inches deep and prepare as for an ordinary crop.

Plant as early in spring as conditions will permit, setting in rows eight feet apart and four feet in the row, or five or six feet apart each way. The crown of the plant should not be set more than two inches deep with the roots spreading outward and downward. Pack the soil firmly against the roots but not directly over the buds. Give frequent cultivation until about the tenth of August, when three bushels of oats per acre should be sown for winter protection.

By the fall of the second year the roots in their search for plant food will

laterals back to about three inches. Cut out the old wood as soon as fruiting is over, thinning to four or five of the strongest canes to the hill.

Red raspberries should receive almost the same culture as black-caps. Plant one foot closer each way and five inches deep. Trim only in early spring, cutting the fruiting canes back to three feet.

Fruits for Saskatchewan

For Saskatchewan, fruits that have done well in some parts of the province and that reasonably may be expected to give satisfaction in most districts where fruit growing has been conducted, are recommended by Mr. Angus MacKay, Superintendent, Experimental Farm, Indian Head, as follows: Crabapples—Wild Siberian (*Pyrus baccata*), Silvia, Golden, Cavan, Aurora, Northern Queen, Novelty, Pioneer, Prince, Charles, Tony, plums—Aitken, Weaver, De Soto, Manitoba wild plum, Cheney, Carterson; cherries—Sand, Compass, Pin and Choche cherries.

The varieties of small fruits that may be planted, according to Mr. MacKay, are the following: Strawberries—Dunlop, South Dakota No. 1; South Dakota No. 2, Bisel, Daisy, Daniel Boone, Johnson's Early, St. Antoine, St. Joseph and Jean d'Arc; red raspberries—Dr. Reider, Marlboro, Cuthbert, Herbert, Miller, Turner, Mary, Garfield, Columbia, Palmer; yellow raspberries—Golden Queen, Caroline; black raspberries—Hilborn, Older; red currants—Red Dutch, Victoria, Raby Castle, Fay; white currants—White Cherry, White Imperial, White Grape, White Dutch; black currants—Lee's Prolific, Magnus, Climax, Black Naples; gooseberries—Houghton,



Picking Raspberries on Farm of Mr. N. E. Mallory, Blenheim, Ont.

be largely below the reach of the cultivator yet close to the surface. After this, manure can be applied with good results.

The first season, nip the tops off the new canes when eighteen inches high—the following year, when two and one-half feet high; in early spring cut the

Smith's Improved, Pale Red, Red Jacket, Carrie, Saunders, Downing, Edna, Companion, Industry.

On small home grounds, knapsack spray pumps may be used with advantage.

Peach Yellows, Little Peach and Peach Rosette*

M. B. Waite, Pathologist in Charge, Investigations of Diseases of Fruits, U.S. Department of Agriculture

THE "little peach" disease is important inasmuch as it occurs quite seriously in Michigan, New York and Ontario. This disease resembles yellows in many respects, particularly in its foliage symptoms, yet it is very distinct, in fact the opposite in other respects, namely, its fruit symptoms. The fruit on trees affected by "little peach" is undersized, belated in ripening but similar in color and appearance to the normal fruit, especially to imperfectly developed specimens. It is rather flat and insipid but not so distinctly off-flavor as in the case of the yellows. It may be only slightly reduced in size in mild cases or in extreme cases may be reduced to tiny peaches less than three-quarters of an inch in diameter. Trees affected by the little peach rarely produce the wiry, bushy growth. When forced to throw water sprouts by heavy cutting back or winter killing, they do to some extent make twig growth resembling yellows.

Trees with the little peach usually roll their leaves upward and droop the foliage as yellows occasionally does. The leaves begin to discolor on the inside of the tree, especially on the main limbs and the yellowing proceeds outwardly as the season advances. "Little peach" is quicker than yellows, killing the tree ordinarily in three years instead of four or five years. The twigs die back from the top in the same way. It apparently spreads more rapidly in the orchards and since it has not the premature red spotted fruit its symptoms are more obscure and more difficult to recognize. This makes it rather harder to handle than the yellows. The "little peach" occurs mainly in Michigan, Western New York, and to some extent in Ohio, Pennsylvania and New Jersey.

PEACH ROSETTE

The rosette which occurs in Georgia and the neighboring state of South Carolina and also to some extent in Missouri and Arkansas, is still another disease of the same type. It is only interesting to Ontario growers for comparison. The affected trees produce small, very short, bushy growth like extreme cases of the yellows, but they are so dense as to form small rosettes or bunches of leaves on the trees. The affected trees usually throw their fruit while it is still small and the trees, in fact, are usually dead by the time the fruit should ripen. Occasionally trees partially affected produce small green, shrivelled and imperfectly developed fruit, but it is not premature. On the healthy side of half diseased trees, which only rarely occur, the fruit is nor-

mal. The trees mostly die, root and branch, before the season is over. This rapid death of trees affected by rosette is a distinct advantage to the orchardist as the disease mostly eradicates itself.

HOST PLANTS OF YELLOWS GROUP

Peach yellows occurs mainly on the peach but it also occurs on the Japanese group of plums sufficiently to be of importance as a plum disease. So far as we know, other plums are not affected by it. It also occurs on the nectarine (the smooth form of the peach), and on the almond and apricot, these latter being, of course, only occasionally grown within the range of this disease.

but further investigation, particularly in Japan, would be necessary to determine this.

YELLOWS ON NURSERY STOCK

Unquestionably yellows can be budded into nursery stock. This has been done experimentally, notably by Smith. I have done it myself in a number of cases. Naturally well-marked specimens are selected for this purpose. Nurserymen ordinarily would not bud from pronounced cases of the yellows. On the other hand, incompetent help may secure bud sticks from diseased trees, but what is more likely, buds may come out from incipient or incubating cases which do not show



Spraying by Hand Power in the Essex Peninsula of Ontario

Orchard of J. O. Duke, Ruthven, Ontario. This illustration shows an excellent way to mount a hand pump. There is plenty of room for the operators to work.

The "little peach" is known only on the peach and Japanese group of plums. It may possibly also attack some other stone fruits. The Japanese plums are so peach-like that they form ready hosts for these diseases. The rosette occurs on the peach and on the native Chicksaw plum, and probably also on the Japanese group of plums.

Apparently peach yellows and peach rosette are native American diseases. If this is the case, they are doubtless diseases of our native stone fruits just as year blight is with some fruits. Rosette is probably a disease of the wild Chicksaw plum. "Little peach" may possibly be a native American but I doubt it, since it only recently appeared and the date of its appearance some twenty years ago corresponds with the introduction of the Japanese plum into American horticulture. My suspicion, therefore, is that it was introduced with the Japanese plums,

the true symptoms at the time. Smith transmitted the disease by budding from the apparently healthy side of a diseased tree. Unfortunately buds cut from yellows trees slightly affected grow fairly well in the nursery.

This is not the case, however, when pits are used from diseased trees. So far, all attempts to grow trees from diseased pits have failed. Recently I planted 100 pits from trees well marked with yellows, with premature red spotted fruit, and 100 pits from typical cases of "little peach." None of these grew. Not a single seed germinated. In all cases, so far as I know, where pits from well-marked diseased trees have been used, a similar result has been obtained. If this could be assumed to be always true, it would remove one great possibility of reproducing disease. Unfortunately we do not know what happens when pits are taken from trees only slightly affected or from

*The fifth instalment of Mr. Waite's address on "Fungous Diseases of Ontario Orchards," given at the convention of the Ontario Fruit Growers' Association.

incubating or incipient cases. There is then a certain amount of suspicion justifiable as to trees propagated from pits grown and buds cut in yellows-infected districts. I am inclined to think that this possibility of yellows transmission has been rather overworked, however, by orchardists.

REPLANTING AFTER YELLOWS

The trees can be replanted where yellows trees have been dug up and they

will live and bear well. This has been demonstrated repeatedly for over forty years, both in New York state and Michigan. I recall very clearly some excellent cases of this sort in the Niagara county fruit belt in the orchards of Dr. C. A. Ring and Mr. Jesse Lockwood. Some orchardists have combatted this idea and held the opposite opinion but it should be remembered that replanted trees have the same opportunity to catch the disease

as the original tree. In fact, experience shows that yellows causes less trouble in replanting, and the same thing is true of "little peach" disease, than root rot, black peach aphid, eel worm disease, or other root diseases. All of these in fact live over in the soil and cause serious trouble on the young tree set in the place of the one dug out. This is, of course, quite another matter from the yellows question.

Window Boxes, Hanging Baskets and Rustic Stands*

Wm. Hunt, Ontario Agricultural College, Guelph

THE main point to be considered in selecting plants for a window box, hanging basket or rustic stand, is their suitability for the position they are to occupy as regards a sunny or shaded position. As a rule, plants that succeed in a sunny position, will succeed to some extent in a shaded position, with poorer flowering results possibly. Plants suited particularly for a shaded position, however, will not succeed well in a burning, sunny position, even with the best possible care and culture. This fact should be borne in mind when getting a box filled by a florist or in selecting plants to fill the box or stand yourself, as it is one of the main points leading to success or failure. Tell the florist whether the plants are for a sunny or a shaded position when getting a box filled.

The tall growing plants are best suited for the back row of the box, the low growing and those of a trailing habit for the front and ends, and intermediate sized plants for filling in between the back and front row if necessary. In filling rustic stands and hanging baskets, place the taller growing plants in the centre.

Another point in the selection of plants, is not only to have good sized plants, but to have plenty of them so as to furnish the box well at once, planting so that there are no bare-looking spots when



Box Filled for Sunny Position

finished. To have a bright and pleasing looking effect select chiefly bright, light-colored foliage plants, as well as a preponderance of the lighter shades and colors of flowering plants. A good ad-

mixture of white, pink, blue and yellow should be used to brighten up and relieve the ground-work of dark green foliage and the heavier shades of scarlet flowers so often seen in window boxes. Brightness is one of the main points to be considered in the effectiveness of window boxes, baskets and rustic stands. The following list of plants includes most of the varieties that can be effectively used for sunny or shaded positions:

Tall Plants for Sunny and Slightly Shaded Position.—Dwarf cannas, lantana, coleus, salvia, iris, geraniums, ivy-leaved geranium.

Low Growing and Trailing Plants.—*Vinca japonica*, periwinkle (*Vinca minor*) nasturtium, *Othonna crassifolia*, annual and perennial sweet alyssum, dwarf ageratum, creeping Charlie, dusty miller (*Centaurea gymnocarpa*) *Mesembryanthemum roseum*, petunia, verbena, Mme. Salerio and other fancy geraniums, *Gnaphalium lanatum*, *Gazania splendens* and perennial tropæolums.

For very Sunny Position.—Cacti, echeveria, agaves, *Sansevieria zeylanica*, aloes and other succulent plants can often be made use of.

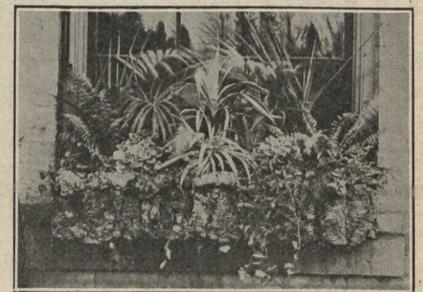
Tall Plants for Shaded Position.—Palms, dracenas, cyperus, fuchsias, begonias, aspidistras, araucaria, rubber plant (*Ficus elastica*) *Asparagus plumosus*, *Pandanus Veitchii*, *Pandanus utilis* and crotons.

Sweet peas, convolvulus, tropæolums, *Cobea scandens* and climbing nasturtiums can also be used very effectively in some positions as a background, as well as forming a shade for the window.

Low Growing Trailing Plants for Shaded Position.—Lobelia, cigar plant (*Cuphea*) nasturtium, *Tropæolum canariensis*, tradescantia, senecio or German ivy *Lophospermum scandens*, *Campanula isolepis*, *Convolvulus minor*, leopard plant (*Farfugium*) *Anthericum variegatum*, *Asparagus Sprengeri*, *Festuca glauca*, *Scirpus riparius*.

Many of the plants mentioned, such as salvia, ageratum, petunia, verbena, centaurea, *Cobea scandens*, lobelia and tropæolum can be grown from seed. Sow

the seed indoors about the end of March or early in April, and grow indoors until end of May or early June. Sow nasturtium, *Cobea scandens* and tropæolum seeds, two or three seeds in a small pot, as they do not transplant very well. There



Box Filled for Shaded Position

is probably no one kind of plant better suited for window boxes than both the dwarf and tall nasturtiums. They are indispensable for this class of plant decorative work. Seeds of these last named sown in the window box about the end of May will of themselves make a pleasing effect in a box or stand, but are later in flowering.

Worms in Flower Pots

The earth around some of my plants seems to be filled with tiny worms. Can you tell me how to destroy them? Will it be necessary to repot the plants with fresh earth? As my palms are large, I would like to avoid this if possible. What is the cause of the trouble?—Mrs. W. E. T., Bowmanville, Ont.

Worms may be removed from pots very easily. If the pots are small turn them upside down and strike the edge of the pot on something hard, when it can easily be removed. The worms can then be seen and may be picked out of the soil. If the pots are large, and not easily removed, take a lump of lime unslacked, as large as one's fist, and place in a half gallon of water. When slacked and the lime settles to the bottom of the can, water the plant with the water, and the worms, if any, will soon disappear, and the roots will be benefited by the warming from the water.—Roderick Cameron, Toronto.

Read our Special Seed Offer.

*The conclusion of Mr. Hunt's article that has been running in recent issues.

Remedying the Sweet Pea Blight

Max. Moineau, Toronto

WHETHER plants sweet peas in a ditch and leaves it open, to be filled in as the young shoots develop, runs the risk of losing the entire crop. Last year I was induced by a professional grower to try this method, with the result that nearly half of my valuable collection was lost. I had some beautiful novelties from England and the United States, and with an aching heart I saw many of them die, after having given the greatest promise. This led to an investigation, a remedy and a resolution.

I had planted on April 17th, with a covering of about two inches of good earth, the remainder of the ditch being left open to about three inches. By May 15th, there was a beautiful array of young shoots, and I began to fill in with more earth, in the gentlest manner possible. Then came the heavy rains and soon my young plants were standing "knee deep" in water. My subsoil being heavy clay, the drainage was very poor. The wet spell was prolonged, and the water stood in the trench until the earth became almost of the consistency of mortar. Whenever possible I filled in dry earth to counteract the trouble, but in spite of the greatest care a number of the young shoots were broken off or otherwise damaged, and whenever the sun shone strong the earth baked on top and soured beneath. Consequently, when my plants were about ten inches high they began to turn yellow, and die. Pulling these up, I found in every instance the roots rotted away, and a very bad odor. Nearly one-third of my plants were dead before I discovered a remedy.

The earth was sour. To counteract this, I prepared lime water, by slacking a lump of lime, about the size of my fist, in a pail of water and letting it settle. I then made an irrigating ditch close to the roots of my peas, and every other day for a short time, poured into it a pail of lime water, being careful not to let any of the lime get upon the vines or the earth. Then, refilling with water the pail containing the lime, I left it to saturate for the next time, and about every three days, for a while, repeated the treatment. In about two weeks my peas were looking quite healthy, and the blight had ceased. The trench meanwhile having been filled up, and the danger passed, I was finally rewarded by a beautiful bloom upon the remaining vines; but the intervening spaces made by the "blight,"

spoiled the fine appearance which I had anticipated.

From this and past experiences, I resolved that wherever the subsoil is clay, the following method would be more profitable: Dig out the earth to the depth of the subsoil, about two spades wide. Fill in about six inches of well rotted horse manure, and, according to accompanying diagram, dig this into the subsoil (a) a spade deep. Then lay a drain pipe (b), the kind the builders call "weepers"—or broken stones will do if weepers are not available—over which fill

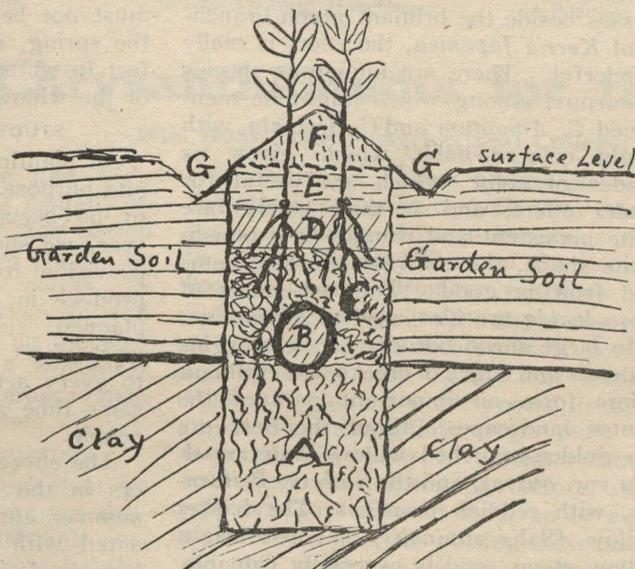


Diagram of Sweet Pea Trench, Described in Accompanying Article

in another six inches of well rotted horse manure (c). Over this place two inches of good clayey loam (d), finely broken up, and then sow the seed in two rows, alternately, three inches apart, thus, Fill in the remainder of the trench until a little above the surface level, with good clayey loam (e), with which equal parts of fine bone meal and hard wood ashes have been carefully mixed, say about a pint to the running yard. When plants are on the strings, say twelve or eighteen inches high, hill up the earth about three inches (f), leaving an irrigating ditch at each side (g). This method will insure plenty of moisture, and at the same time establish sufficient drainage to prevent "damping off," otherwise known as the sweet pea blight. Sweet peas require an abundance of water, but good drainage is absolutely imperative to prevent "damping off." After the plants are in bud, through the medium of the irrigating ditch, feed them with liquid manure once or twice a week.

The following preparation is an excellent fertilizer: One part nitrate of potash (salt-petre), two parts of superphosphate, eighteen to twenty per cent.; two parts of sulphate of ammonia, or

two parts of nitrate of soda. Dissolve half an ounce of the mixture in one gallon of water, and apply carefully so as not to allow the liquid to come in direct contact with the foliage.

For aphid and red spider, use a solution of "Sanitine." This is a soft soap made from linseed oil. It is one of the finest insecticides that I have ever used. It not only keeps off insects, but it leaves the vines glossy and healthy. To one teacupful of Sanitine, add eighteen teacupfuls of water and boil until thoroughly dissolved; then of this, when cool, take one teacupful to which add one gallon of water. With this mixture spray your vines twice a week.

Don't forget to apply the grass mulch to keep the soil from drying out. Water frequently and thoroughly in dry weather.

Growing Sweet Peas

By a Member of St. Catharines Horticultural Society

Last year, I took the advice of Mr. Max Moineau, who contributed articles on sweet pea culture to the January and February, 1908, issues of THE CANADIAN HORTICULTURIST, and bought those novelties that I could secure. It was the first time that I ever did this. We always bought them by the pint in all colors, but we will never do so again, for the separate colors are so far ahead of the others. I had the grandest flowers that I ever saw. I had white Spencers with four on a stem and great large flowers, but I have found out that sweet peas do not like wet feet, for some were planted in a low spot and they soon turned yellow.

I like striped and flecked peas by themselves and not in a bouquet with others. We plant all our sweet peas in a trench, as Mr. Moineau described, and the striped ones were filled in with chicken manure. They got no other feed all summer, but they were near the back door where we threw our wash water, and I had to make a little drain along the side of them for the water to run away. They had stiff stems, with three or four large flowers on a stem; two on the stem was the exception rather than the rule. The foliage was bright and green until the frost killed them. I think that the wash water had much to do with making them so beautiful. I am going to try it on some more this summer.

Our garden soil is sandy, so we plant everything quite deeply. We drop the peas three inches apart. By planting deeply, they are not so apt to be pulled up out of the ground. I tried Mr. Moineau's plan of tying with the string and like it ever so much better than wire netting. The fault with wire is that you

cannot cut the flowers easily. You have got to get on both sides to cut them. We find that they do better without too much water. That may be because I take a hand cultivator and pull it around them every day. I don't think I missed a day without stirring up the soil. I was told that it was not necessary to work the ground so much, but I wanted nice flowers, and I had them.

How I Grow Freesias

Editor, THE CANADIAN HORTICULTURIST,—In your February issue you ask readers to tell their experience with freesias in the window garden. We have grown freesias successfully in winter for over twenty years. The treatment we give is as follows:



A Pot of Freesias

Fill each pot with bulbs closely planted, as they are small, and neither the narrow knife-like leaves, nor the slender stalks take up much space. Use rather shallow pots, with moderately rich soil,

preferably decayed leaf mould (woods earth), leave in a sheltered place for about two weeks, and then place in a sunny window. Water moderately.

Freesias come to us from the Cape of Good Hope under burning skies; therefore, they like the heat of the sun. If they do not get lots of sunshine the grass-like foliage will grow tall and limp, fall over and no bloom will appear. If planted about the beginning of September, they will bloom in February and fill the house with sweet incense all their own. The perfume alone of the freesia would make it a favorite, but added to this charm is its perfect beauty.

When done blooming, set the pots in the cellar or dark place, safe from mice or squirrels. In the fall take them from their grave and you will find the bulbs just as good for forcing as ever, with many others added.—Mrs. W. J. Arnott, Churchill, Ont.

Grass can stand more cutting than weeds.

While the snapdragon is increased usually by seeds sown in the open, it may be propagated also by cuttings taken in late summer and early fall, when they will readily root in a cold frame or in the house by the window.

The best tying material for tying up plants in the greenhouse, window garden or outdoors, and for budding, is raffia. It comes from the eastern tropics, and is the product of a palm. It may be purchased from seedsmen.

Planting for Winter Effect in the North*

George Edward McClure, Buffalo

ONE of the best opportunities for brightening up the winter landscape is offered to us with a lavish hand in the bright colored branches or twigs in shrubs and trees. Who of us has not been charmed, after the leaves have fallen, with a large mass of the red osier dog wood (*Cornus stolonifera*), as seen from the window of a train? The effect is lasting. A number of the cornus are useful in planting for winter effect. The best are *C. alba Sibirica* and *C. stolonifera* for red stems, and *C. stolonifera* var. *flaviramea* for the yellow effect of its branches. When planted in large masses beside the brilliant green branches of *Kerria Japonica*, the effect is really wonderful. There are numerous species of cornus, among which might be mentioned *C. Amomum* and *C. circinata*, with bright colored bark, which gives us shades of color which are useful for winter effect, and as their berries are quite persistent and usually of a bluish-white shade, the contrast between stems and fruit is good. The red stems of *Rosa lucida* are also used to advantage.

In large shrub borders, along margins of ponds and edges of creeks, the brilliant osiers form an important part of the winter landscape. About the best are the golden-branched willow (*Salix vitellina* var. *aurea*), and the variety, *Britzensis*, with reddish branches. The basket willow (*Salix viminalis*) has also bright yellow stems and is especially valuable. The purple osier (*Salix purpurea*) gives us a chance to introduce a purple hue into the winter landscape, which in the distance is particularly enchanting. *Salix palmæfolia* has also purple branches and is very useful. As a purple branched shrub the purple-leaved barberry (*Berberis vulgaris purpurea*) is often used in small plantations.

For grey effects in stem and twig coloration, we can resort to the sea buckthorn (*Hippophae rhamnoides*), and to one of the oleasters, (*Elæagnus argentea*). Effects in grey are sometimes very desirable in the winter landscape picture. For effects in green branches, we have the grass green stems of *Kerria Japonica*, the green stemmed variety of the red dogwood (*Cornus sanguinea viridissima*), and the golden bell (*Forsythia viridissima*).

We look to the coral berry (*Symphoricarpos vulgaris*) for a magenta shade. For soft brown shades we have ample opportunity to select from a long list, such as *Stephanandra flexuosa*, *Spiræa callosa*, the golden bell (*Forsythia suspensa*), the tree of heaven (*Ailanthus glandulosa*), *Cratægus crenata* and many others.

Many fail to notice the beautiful soft effects that can be obtained by mass planting of the brown-stemmed shrubs and trees, but it is particularly agreeable during the months of January and February to see a mass of brown stems as a relief from the blinding glare of the sun on the snow. It is then that we value the brown-stemmed shrubs along with the osiers and dog-woods.

In order to secure exceedingly good effects in stem coloration, it is well to remember that the highest color is produced in the growth of the current year, and in order to secure this growth we must not be afraid to prune heavily in the spring, so as not to destroy the effect in winter. This is particularly true of the willows, dogwoods and kerrias.

STUDY THE WINTER EFFECT

All planting should be done to a definite purpose. If it is for a place that is to be occupied throughout the entire year, we should not fail to make ample provision for the effect which we can produce in the winter. If successfully planned, such a planting would be a work of art, which would not only appeal to every artistic eye, but would at the same time serve as an education to the people.

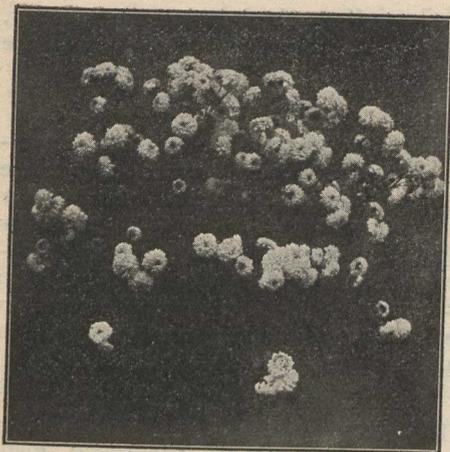
The efforts of many landscape gardeners in the past have been to plan for summer effects only, and we are often sated with the profusion of summer bloom. It is in the winter that we more fully appreciate what we get by way of color and tone.

Too often we see the home grounds arrayed with bundles of straw, burlap, and barnyard refuse, and graceful shrubs which are absolutely hardy and need no protection, tied up in an unspeakable manner, suggestive of the hair dressing of an African chief.

The effective arrangement of plants for winter effect can never be taught, as it is more difficult than the more or less stereotyped summer effects can possibly be, yet it is worthy of careful study and will repay every effort. Winter travel and constant observation will enable us to add to our storehouse of knowledge. The growing desire for out-of-doors exercise, especially in winter when indoor ventilation is so often neglected, cannot be too much emphasized, and if it can be stimulated by the creation of better winter gardens and by rendering more beautiful the great out-of-doors, in the winter season, the art of the landscape profession will have taken a long stride forward.

The best nursery stock should be free from insects, disease and blemish. It should be well grown, clean and straight.

* The conclusion of Mr. McClure's article which appeared first in the February issue



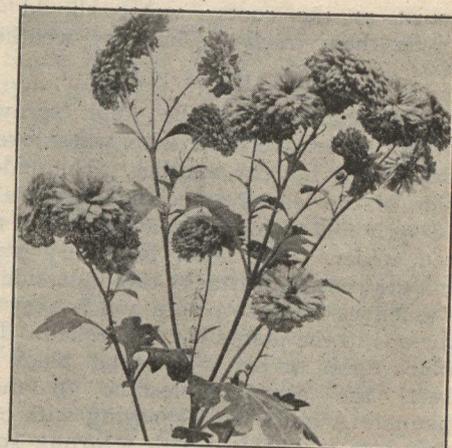
Plant of "Snowdrop"
A Pompon Chrysanthemum



Spray of "Baby"
Smallest Flowered 'Mum Grown



Spray of "Julia Lagravere"
A Pompon



Spray of "Klondike"
A Yellow Pompon

Chrysanthemums for the Home

Wm. Hunt, Ontario Agricultural College, Guelph

THESE popular autumn and early winter flowering plants cannot, on account of their rather short period of effectiveness as decorative plants, be considered as ideal window plants. A plant or two, however, when in full bloom will help to brighten up the window during the dull days of November and early winter, better perhaps than any other window plant grown.

STARTING PLANTS FROM CUTTINGS

To secure a good flowering plant by fall the cuttings should be started during February or March, although cuttings rooted in April will often make nice plants. The cuttings are taken from the young growth that is produced around near the base of the flowering stems of old plants that have been kept over from last season, or from tops of young plants. Root the cuttings in clean, sharp, gritty sand, not too coarse. The cuttings will root in a temperature of from fifty-five to sixty degrees.

When rooted, which generally takes from five to six weeks or longer, pot the cuttings singly into small two and a half or three-inch pots, or several cuttings in a larger pot or box. The pots or boxes must have holes in the bottom to secure

good drainage. Some broken pieces of flower pot or some coal cinders, coarse gravel or pieces of lump charcoal, should be placed in the bottom of the pots or boxes, also, for drainage purposes.

Good potting soil with about one part of sand to four or five parts of potting soil should be used for the first potting. When the plants are well rooted in these, re-pot them singly into larger pots. In re-potting the plants, give them a stronger or richer potting soil than before, using only one part of sand to seven or eight parts of rich soil. In potting these plants the soil should be packed quite firmly around the roots; packing the soil firmly is very necessary when re-potting them. The plants can be stood out of doors on fine, warm days towards the end of May to harden them.

About the first week in June the plants can be removed carefully from the pots and planted out in the open garden in rich, loamy soil. The tips of the young shoots should be kept pinched or cut off from all the ground made, when the young shoots have attained about seven or eight inches in length. This should be done at intervals, from the time the cutting first reaches the height given, until about

the second week in July. After this time the shoots should be allowed to grow without being cut off or stopped. Checking the young growth in this way produces a nice bushy plant and a larger quantity of bloom, than if the plant were allowed to grow unchecked. Young plants of chrysanthemums can also be purchased in spring and grown as directed.

PLANTS FROM DIVISIONS OF ROOT

Instead of starting the plants from cuttings the old plant may be taken out of the pot and divided into small sections or divisions in March or April. Each division or section should have from one to four or five young shoots of growth attached to it, with a fair portion of roots attached to each division. Pot these divisions into suitable small sized pots first—according to the size of the division or clump of roots—into the same kind of soil, and so forth, as mentioned for rooted cuttings. Re-pot them when well rooted in the small pots into larger ones as required, and plant out in the ground early in June. The tips of the growth of these should also be kept pinched or cut off until early in July.

The plants require to be kept well



Cutting Ready for Insertion in Sand

Rooted Cutting Ready to Pot



Rooted Cutting in a Three-inch Pot

Pinched Back to Induce Bushy Growth

moist at the roots; water should be given them freely in hot dry weather.

AFTER-CARE OF PLANTS

The plants should be kept sprayed or sprinkled overhead with water every day during hot dry weather. The underside of the leaves especially should also be sprinkled to prevent the attacks of the red spider. The latter is a very small minute pest that attacks the underside of the leaves of these plants and is very injurious to the plants if not checked. The black aphid or black fly (small black insect) are also troublesome to these plants. A good hard spraying with cold water or a spraying with a strong solution of tobacco water will keep down the black fly. Start early in the application of these remedies; indeed, they are both more effective as preventives rather than remedies.

Another insect pest that is very injurious to these plants is a small brownish fly-like bug called the "Tarnished Plant Bug" (*Lygus pratensis*). This insect attacks the extreme tips of the shoots and prevents the development of the young buds, leaving what is known as "blind growth" that produces no flowers. By examining the tips of the growth carefully early in the morning during July and August, this pest can be caught at its work of destruction, but the plant lover must be quick in his movements to catch these quick moving pests as, on the first alarm, they either drop down among the foliage or fly away so quickly that it is difficult to catch them, especially in the middle of the day when the sun is shining. Spraying the plants at night with cold water and dusting the foliage, especially the tips of the shoots when damp, with tobacco dust, pyrethrum powder, soft coal soot, wood ashes, or even road dust will help to keep away this destructive pest. This plant bug is also very injurious to aster and dahlia plants, attacking the tips of the young growth and buds when the latter are very small, in the same way as it does the chrysanthemums.

About the end of August the plants should be dug up carefully and potted into larger pots or tubs in rich soil. Water the plants well and stand them in the shade for a few days or a week after potting, when they can be stood out in a sunnier position. Sprinkle the foliage every day when the weather is hot and dry. Keep the plants out-of-doors as long as the weather is nice. Take them into the window before frost. Place them in a sunny place, away from fire heat. A cool temperature of about fifty-five degrees suits these plants, as they are almost hardy in their nature. Some liquid manure may be given the plants at any time during growth when required, until the flowers start to color, not after coloring commences.

When the flower buds are about the

size of peas, which will be about the end of August until end of September, what is known as the "disbudding" process can take place, if only a few large flowers are desired. The thinning or disbudding is done by removing carefully with the thumb and finger some of the smaller buds on each shoot. This practice is not very commonly used by amateur flower growers, as it requires skill and experience to be successfully carried out. A few of the smaller later buds can, however, often be removed to advantage.

GROWING PLANTS IN POTS

Instead of planting the plants out in June as before mentioned, the plants can be potted out into large pots and the pots plunged or sunk to the rim in the ground. This plan does away with the trouble of digging and potting the plants at about the end of August, as the pot, plant and all, can be lifted when ready to take indoors. This plan also prevents the check to the plant consequent on the lifting and potting process. I do not advise growing the plants in pots in this way, however, as unless they are well cared for in the summer they do not make as good plants as when planted out in the ground.

Some liquid fertilizer is beneficial to

the plants if required during the summer, but not after the flower buds commence to show color.

CARE OF OLD PLANTS

When the plants are through flowering, cut the flower stems down close to the ground. Stand the plants away in a cool window, or in a basement or cellar, in a temperature of about forty-five degrees, for the winter. Give them sufficient water to keep the soil moist. In the spring, start the plants into growth and treat them as before recommended.

VARIETIES FOR HOME CULTURE

The following list gives a few good varieties for pot culture for the window: Glory of the Pacific, pale pink; Dr. Enguehard, rose pink; Miss Minnie Bailey, pink; George S. Kalb, white; Ivory, white; Pink Ivory; Major Bonaffon, yellow; Robert Halliday, yellow; Nellie Pocket, creamy white; Intensity, dark crimson.

Pompons.—Snowdrop, white; Diana, white; Dupont, yellow; Klondike, yellow; Alena, pale pink; Ladysmith, pale pink; Mizpah, rose red; Julia Lagravere, deep red. The pompons are specially suited for pot culture, being of a bushy habit and very free flowering.

Lawn and Garden Hints for Amateurs

MANY gardens are the same every year. Why not have a greater variety? Try some new things this spring. In the vegetable garden, grow bush lima beans. Swiss chard is much better than ordinary beet leaves for "greens," and it produces much more top. Plant some Brussels sprouts. Try some cos lettuce. Kohl-rabi is excellent if used before it gets too old. Dandelions may be grown in the garden from seed. Among other vegetable and salad crops not commonly grown are endive, Chinese mustard and cress.

If your asparagus bed was covered last fall with manure, remove the covering and fork the soil lightly. Do this as soon as the frost is out of the ground. An asparagus bed is not difficult to start. It may be grown from seed or young plants.

As soon as the soil can be worked, sow seeds of onions, leeks, peas, spinach, lettuce, parsnips and parsley. As parsnips and parsley seeds often take from four to five weeks to germinate, it is a good plan to sow a few seeds of lettuce with them to mark the rows. Sow early radish as soon as possible. Later in the month, sow beans, beets, carrots, salsify. It is strange that more salsify is not grown in our kitchen gardens. Cabbage grown from seed in the hotbed last month may be transplanted by the first of May.

WITH THE FRUITS

Remove the mulch from the strawberry

bed. Currants and gooseberry bushes may be planted as soon as ground is fit.

Finish pruning the small fruit bushes and trees. Remove any dried plums and peaches that may still be hanging on the trees. Spray all fruit trees and bushes with Bordeaux mixture and Paris green.

THE FLOWER GARDEN

If you have not yet made a hotbed, do it now. Petunias, phlox, asters and other annuals may be started in it. If you have not the facilities for making a hotbed, these seeds may be started in shallow boxes in a sunny window of the house. Sow small seeds very shallow, merely pressing the finest of them into the soil with a piece of board or glass. Large seeds may be planted more deeply. A general rule is to plant these seeds three or four times the diameter of the seed. Annuals that are started inside should be transplanted when the second pair of seed leaves are in course of development.

As soon as the soil is dry enough outdoors, sow seeds of mignonette, wallflowers, snapdragon, sweet peas and so forth. Do not sow nasturtium seeds until next month.

In boxes of sand in the hotbed or house, strike cuttings of coleus, ageratum, geranium and lobelia. As soon as rooted, put them in small pots, water them and shade for a few days until they start growth again.

Divide the roots of cannas and dahlias. Plant or transplant perennials such as

pæonies, dielytras and German iris. Uncover the bulb beds about the middle of the month. Prune hardy roses. Plants that are injured by winter frosts should be headed back.

When all frost is out of the ground

and the weather is fairly dry, the lawn should be rolled. Give it an application of some complete chemical fertilizer. Trim the grass edges evenly. Rake and clean up the garden, lawn, walks and drives generally.

tion and faithful hand labor are largely instrumental in insuring this success.

Some idea of the value of this land may be gathered when we say, that suitable land, close to or near Paris—a two-acre truck garden with house—is valued at \$10,000 to \$12,000, with a rental value of at least \$500. Another feature due to the success of these gardens is irrigation plants.

It is true that labor in France is much cheaper than with us. Workmen receive about sixty cents a day with board. Without board, the wages range from \$1 to \$1.20 a day. It is stated that the average income of these intensive workers, after deducting living and garden expenses and interest on investment, averages \$500. A close crop rotation is maintained throughout the entire year, but the actual profits are gained largely in winter and the early spring.

The most important and profitable vegetable grown is lettuce, of which it is estimated that 100,000,000 of heads are yearly raised about Paris, the surplus of which is shipped away, after being carefully wrapped in paper and crated. Besides lettuce a great variety of salads and greens, as well as carrots, radishes and cauliflower are constantly grown.

This would give our readers some idea of the intensive methods carried on by French market gardeners. It would be well if the market gardeners in this country paid more attention to culture, good seeds, good management and thorough care in the handling and shipping and selling of their products. The profits of market gardening, as in all other industries, consists in what you can produce over and above cost.

Starting a Cannery

I propose installing a small cannery on my ranch. Is the Modern Canner of St. Jacobs, Ont. of any repute? I would ask also if this kind of a venture is known to be a paying one.—W. A. S., Winnipeg.

We used the Modern Canner last year with very good success canning tomatoes, beets, cauliflower, apples, pears and any little odds and ends. For any canning which does not require a heat higher than 212 degrees F., I found this very useful and prefer it to any other one that I have seen so far. As to the venture being a paying one, it depends upon the business management of the operator. We found that it paid us very well last year. For one who wishes to can for home use or a local trade, I have no hesitancy in recommending the Modern Canner.—H. S. Peart, Director, Horticultural Experiment Station, Jordan Harbor, Ont.

A question was received from "Subscriber," Orillia, regarding greenhouse heating. Kindly send name, and a reply will be sent by mail.

Read our Special Seed Offer.

French Market Gardens and Gardeners

John S. Pearce, Superintendent of Parks, London, Ontario

AMONG the exhibits by the French market gardeners at the Anglo-French exhibition recently held in London, England, the display of vegetables, especially salad vegetables, attracted a great deal of attention. These market gardens are situated in the vicinity of Paris, and the methods of culture and arrangement are far in advance and ahead of any other country. The vegetables are grown there so extensively and with such perfection that not only is the city better supplied than any other, but also very large quantities are shipped to England, Austria, and as far as St. Petersburg in Russia.

It is claimed that the metropolitan French gardeners have so developed their methods that families live comfortably on the out-put of plantings as small as one and two acres. To such an extent is this work carried on that there

are 1200 of these metropolitan truck gardens within a radius of six miles from the fortifications of Paris. Very few of these gardens are greater in area than two acres, and the average sales from each are not far from \$1600 every year.

According to the last census in the United States, the average returns from an acre of vegetables in similar gardens is \$42, and the average value of vegetable crops in Queen's county, Long Island, one of the best garden districts in New York, is only \$140 an acre, not one-tenth of the results obtained by the French gardens. We have no records for this country.

The secret of this success is largely due to the French methods of soil treatment. One important feature of this treatment consists in continually working the top soil and mixing it with composted manures. Close planting, judicious rota-



Tomatoes Grown at Victoria, British Columbia—Six Specimens Weighed Five Pounds
Photograph kindly furnished by Mr. H. Buckle, Victoria.

Economizing Space in the Kitchen Garden

E. G. Cooper, Oakville, Ontario

GENERALLY speaking, the kitchen garden is a small area of land that the owner is desirous of filling as full as possible with vegetables which, when grown, will be close at hand. In the first place, make a path through the centre of the garden leading from the kitchen and also paths leading from the main one in opposite directions. Along the borders of these paths can be planted small fruits, such as black, red and white currants, gooseberries and rhubarb, at a distance of four feet apart.

At the farther end of either half of the plot a piece of ground can be kept for an asparagus bed. Next to this bed, sow the different kinds of early vegetables, digging the ground with a spade or a digging fork. With the latter tool, the weeds will all be thrown out and not cut, as with the spade. Do not dig all the plot before sowing as by this method you injure the soil by tramping on it when sowing. Early vegetables, such as early lettuce, radishes, spring carrots, beets, early peas and onions (both Shalot and Dutch, the former for green use and the latter for boiling purposes) can be sown in double rows, ten inches apart, with two feet between each double row. Parsley, cress, endives and herbs, such as savory, sage, thyme and marjoram, can be sown between the bushes.

In the centre of the space between each double row, can be planted, in rows one foot apart, early kinds of potatoes that have been sprouted in the house. These can all be dug during the month of July. As soon as dug, fertilize and plant the second time to Winningstadt and Savoy cabbages. A few red cabbages also can be put in. Early cauliflowers can be placed in one or two spaces.

As soon as the early vegetables have been used, dig very deeply (one foot, if possible) the space which has been occupied and thoroughly enrich it with rotted manure. Plant in double rows through the centre, three kinds of celery, White Plume, Paris Golden Yellow and Giant Pascal. The two former kinds can be planted on the level; the latter in a shallow trench, using boards or soil for bleaching purposes. The plants in each row should alternate with those in the next ones. Plant six inches apart in the row. Each space can be filled with this vegetable. Start the plants in a cold frame or hotbed and as soon as large enough, transplant to a space or two between the bushes, where they will grow stocky. About the second week in July, they will be ready for the main rows.

This plan ensures four crops of vegetables that can be taken off the same

piece of ground. After everything has been harvested in fall, manure heavily and dig the soil coarsely so that the frost in winter may pulverize it. If there are any clay spots in the garden, apply to them some sifted coal ashes.

On the other side of the main path can be sown double rows of beans, using two kinds, a yellow pod or a wax bean and a green pod variety. About the end of April or the first of May some more lettuce, radish, spinach, late beets, carrots, parsnips, later varieties of peas, black seed onions and pickling onions can be sown. There should be two and one-half feet between each double row instead of two feet as on the other side, which can be planted to early corn (reserving two or three spaces) in rows through the centre, three or four kernels in each hill, two feet apart in the row. Half way between each of these hills can be sown vegetable marrow in one row, Hubbard squash, both green and yellow, next, summer squash, next, all at one end of this half of the plot. At the other end, the spaces can be planted in the same way to citrons, water melons and muskmelons. These plants can be raised in a hotbed. Sow the seed in strawberry boxes, three or four in each. These boxes serve the purpose splendidly as, when planted in the ground, the thin wood will decay and allow the roots to expand and grow. The spaces that have been reserved as previously mentioned can be sown to early cucumbers for the table and pickling cucumbers for winter use.

When sowing the second crop of early vegetables on the last half of the plot reserve a space one foot wide in the double rows every three feet. In every space, plant one tomato plant, say about the first of June. These can be raised in a hotbed like the others. They should be transplanted six inches apart into cold frames. Keep them cultivated and in readiness for planting. Strawberry boxes can also be used for these. Have three kinds of tomatoes,—pink, early red and late red. On the late ones there will be enough left green for use as green pickles.

If there is a shed or stable near the garden, pumpkins can be sown close to it and trained up the side and over the roof. If there is a fence, scarlet runner beans can be sown and trained on them. A picket fence is preferable for this purpose.

The system mentioned will give a large quantity of vegetables on a small piece of ground. The amount of manure to be used depends upon the kind of soil. If the surface soil is sandy and resting

upon a sandy sub-soil, apply manure at the rate of sixty tons to the acre. If the surface is a black loam, with a clay sub-soil, apply forty tons to the acre. If it is clay, on a clay sub-soil, use coarse manure at the rate of seventy-five tons to the acre. For the latter type of soil, a little lime or ashes also would be beneficial. Plow or dig the soil in the fall and place the manure in each furrow. Throw the soil up loosely so that the frost can pulverize it. On the last named soil mentioned, one dressing of manure will last for two seasons. Where poultry is kept, the droppings should be saved. Mix it with sandy soil in equal parts and use as a fertilizer for currant and gooseberry bushes.

Asparagus Beetles

Tennyson D. Jarvis, Ontario Agricultural College

There are two beetles that feed upon the asparagus plant, both immigrants from Europe. One is known as the common asparagus beetle, the other as the twelve-spotted beetle. They both feed upon this plant alone, the former being found in greater numbers.

The eggs are dark colored, somewhat spindle-shaped and may be readily observed by one end along the shoots. The larvæ are of a dirty slate color and exude a large drop of blackish fluid from the mouth on being touched. They mature in about two weeks, when they go down into the ground, spin parchment-like cocoons, in which they change, and come up as perfect beetles in another fortnight or three weeks.

The common asparagus beetle is about a quarter of an inch long, blue-black or greenish; the body behind the head being red with two black spots. The wing covers are yellow with a dark line down the centre of the back. Shortly after emerging the beetles lay their eggs and the insect, in all stages, may be found from about the middle of June till the end of September. The twelve-spotted asparagus beetle, which differs from the other in being red, with twelve spots on the wing covers, is not so common.

REMEDIES

1. Ducks and chickens are very fond of them. 2. During the cutting season, leave scattered shoots to grow as traps. Spray with insecticides or cut down and burn. 3. After the cutting season, or on young plants, dust fresh air-slacked lime, or arsenites, or both, on the plants while the dew is on. Repeat whenever larvæ reappear.

It is exceedingly important to have vegetables for sale at the earliest possible date in order to catch the highest prices.

QUESTION AND ANSWER DEPARTMENT

Gum on Peach Trees

Kindly give some information respecting the cause of gum on peach trees and the remedies.—A. W., Lincoln Co., Ont.

There are two great causes of gum exudations on peach trees: First, the tiny black beetle known as the shot-hole borer or pin borer (*Scolytus rugulosus*); second, the fungous disease known as brown rot (*Sclerotinia fructigena*). Other fungi may cause a certain amount of the gum; for instance, the disease known as "die back" (*Valasa leucostoma*) causes a certain amount of gumming, but brown rot is almost without doubt the chief fungus in producing this effect.

If the gum is produced by the shot-hole borer, it will be possible, on removing the gum to see the hole made by the insect. If the bark is cut with a knife it will help in making clear whether an insect has been at work. If, however, on removing the gum and using, if necessary, the knife, there is no sign of the work of an insect, the gum may in most cases be attributed to the brown rot. The brown rot spores may enter through any kind of wound, or through frost or winter cracks. It can also in long continued moist weather enter directly through a lenticel, as I have proved by actual experiment.

The very wet spring of last year was largely responsible for the unusual virulence of the brown rot fungus on peach trees. It is seldom that there is one-twentieth part of the gum masses produced by this disease that were to be seen last year. The chief cause of infection is clearly the numerous diseased and mummy peaches and plums that are left on the trees over winter and scatter spores in the spring for a considerable time. The following treatment is recommended:

1. Carefully prune the trees to allow plenty of air, circulation and light
2. Remove and, if possible, burn all old mummy peaches and plums in the orchard. If they cannot be burned, see that they are plowed down as they will otherwise produce spores.
3. Spray with full strength home-made lime-sulphur just before buds open; or good strong Bordeaux mixture (5-5-40) may be used instead at this date.
4. Spray again as soon as blossoms have fallen, using home-made lime-sulphur and repeating the spraying every ten or twelve days as long as it is safe to do so without danger of spoiling the fruit through the mixture remaining on the pubescence. The home-made lime-sulphur should be of the strength

of five pounds of fresh stone lime, five pounds of sulphur and forty gallons of water. To make it, put the five pounds of lime into a barrel, make a thick paste of the sulphur with a little water, pour it over the lime and add just as much water as is necessary for rapid and thorough slaking of the lime. As soon as boiling ceases, dilute to forty gallons with cold water and apply at once.

5. Thinning the fruit helps to prevent rot. Moreover, it stands to reason that the sooner one can pick and burn rotten fruit each year, the less danger there will be of infection.—L. Caesar, Ontario Agricultural College.

Colors of Pyrethrums

What colors of pyrethrums are obtainable in Ontario?—A. M. T., Hastings Co., Ont.

Almost all of our Ontario seed firms advertise seed of *Pyrethrum hybridum*, the tall flowering variety. I have purchased seed at different times from different seedsmen in Ontario and have secured quite a variety of colors in these flowers. To be quite sure of the colors, however, it would be better to purchase plants of the colors required, as the plants from seed are sometimes unreliable as to quality and color. Most of our seedsmen quote plants of pyrethrum in their catalogues. The colors are found in various shades from pure white to pale pink and crimson chiefly. The following seed firms among others advertise *Pyrethrum hybridum* seeds: John A. Bruce & Co., Hamilton; W. Rennie & Co., J. A. Simmers and Steele, Briggs & Co., Toronto; Dupuy and Ferguson, and W. Ewing & Co., Montreal.—Wm. Hunt, Ontario Agricultural College.

Fuchsias and Begonias

How should fuchsias be treated after they have been in the cellar all winter? What should be done with begonias? Should they be repotted?—Mrs. H. B. Ottawa, Ont.

Fuchsias will be benefitted by being in a cool cellar for part of the winter, being a deciduous plant, but not all winter. They should not be allowed to get dust dry, nor wet, but between the two, to get the best results. If the plants are put into the cellar in the fall, they will be wanting to start growth about Christmas time. When growth has begun, they should be trimmed in the way desired by the owner. The half of the soil should be removed from the roots, the roots partly trimmed back, when the plants may be repotted into smaller pots than the ones from which they were taken and removed to larger pots as soon as the

present ones are full of roots, each time two sizes of a pot larger than the one before. The soil to use should be decayed fibrous turf or sods, one-half; the other half may be composed of leaf mould, sharp lake sand, a sprinkle of bone meal and a sprinkle of wood ashes. Mix together thoroughly. Most plants will grow in such a soil.

I cannot give a correct answer to the begonia question as there is no mention made as to what kind or variety or type of begonia is meant. If tuberous, they will now be making a move after resting all winter in a dry warm place in a box of dry sand. They must be potted in a soil similar to that recommended for fuchsias. The flowering and rex begonias may be repotted the same way as directed for fuchsias, the only difference being to add a little more leaf mould to the compost. I would advise in the case of the flowering and rex begonias, that they be not disturbed until the warm weather comes, except by parties owning greenhouses, and then they should be plunged in heat at the roots to give them a good start.—Roderick Cameron, Toronto.

Moving Perennials

Would it be all right to lift perennials with the clay around them frozen or half frozen, pack them in boxes and ship them to other places? As I am moving, I would like to take my best perennials with me.—R. P. Dunnville, Ont.

All perennials are very easily moved while in a dormant or resting state. It is not necessary to leave the soil on the roots. Shake the soil from them and make the clumps as light as possible, then wrap them up in damp moss, straw or other such material. Over all wrap a piece of old sacking or cloth of any kind to hold the material about the roots. They may then be shipped any place.—Roderick Cameron, Toronto.

Formalin for Potato Scab

What are the proper proportions of formaldehyde and water for curing scab on potatoes?—J. W., St. John, N. B.

Formalin is the commercial article that is used as a fungicide. It is a forty per cent. solution of formaldehyde. The following are the proportions that are used for potato scab: (a) Formalin, one-half pint; water, twenty-one gallons; immerse for twenty minutes; or (b) Formalin, one half pint; water five gallons; sprinkle and stir until thoroughly moistened.

In landscape architecture, the lawn is next in importance to the house.

The Canadian Horticulturist

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PETERBORO AND TORONTO



The Only Horticultural Magazine in the Dominion

OFFICIAL ORGAN OF BRITISH COLUMBIA, ONTARIO
QUEBEC, NEW BRUNSWICK AND PRINCE EDWARD
ISLAND FRUIT GROWERS' ASSOCIATIONS

H. BRONSON COWAN
Managing Editor and Business Manager
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CIRCULATION STATEMENT.

Since the subscription price of The Canadian Horticulturist was reduced from \$1.00 to 60 cents a year, the circulation has grown rapidly. The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with Dec., 1908. The figures given are exclusive of samples and spoiled copies, and of papers sent to advertisers. Some months, including the sample copies, from 10,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruit, flowers or vegetables.

| | | | |
|----------------------|-------|---------------------|-------|
| January, 1908..... | 7,650 | January, 1909..... | 9,456 |
| February, 1908..... | 7,824 | February, 1909..... | 9,310 |
| March, 1908..... | 8,056 | March, 1909..... | 9,405 |
| April, 1908..... | 8,250 | | |
| May, 1908..... | 8,573 | | |
| June, 1908..... | 8,840 | | |
| July, 1908..... | 9,015 | | |
| August, 1908..... | 9,070 | | |
| September, 1908..... | 9,121 | | |
| October, 1908..... | 9,215 | | |
| November, 1908..... | 9,323 | | |
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(Increased circulation in one year 2,068)

Sworn detailed statements will be mailed upon application.

Our Protective Policy

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Communications should be addressed:

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Toronto Office: PETERBORO, ONTARIO,
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EDITORIAL

MORE INSPECTORS NEEDED

There is need for more Dominion fruit inspectors in the western provinces and British Columbia. This is pointed out in articles that appear on pages 91 and 92 of this issue. The need is felt not only for the inspection of fruit designed for export, but particularly for the examination of fruit that is imported from the United States.

Merchants are instructed by the Dominion Department of Agriculture to mark all imported fruit with their own name and address and with its grade, and they must become responsible for it. While there have been comparatively few violations of these regulations, they can be prevented only by an adequate force of inspectors. At present, there are only two inspectors in the western and Pacific provinces. These men have done excellent work, but they cannot cover all this territory nor do all the work required. The force should be doubled, at least. It is hoped that the Dominion Minister of Agriculture will make additional appointments before the opening of the next fruit season.

BRANDING ONTARIO APPLES

Ontario packers persist in branding their apples "Canadian," whereas packers in Nova Scotia and British Columbia have been branding their apples "Nova Scotia" and "British Columbia" respectively. The result is that if one picks up a price list in England of apples offered for sale by English commission firms he finds the word "Ontario" missing from most of them. They are listed there as "Canadian," "Nova Scotia" or "British Columbia."

It would seem that Ontario packers have been too generous in this matter and their patriotism has exceeded that of the sister provinces. The apple growers of Ontario should think this matter over and discontinue the present system of marking and brand all their apples "Ontario, Canada" instead of simply "Canada."

ONTARIO vs. BRITISH COLUMBIA

The friendly rivalry that exists between the fruit growers of Ontario and British Columbia should be encouraged rather than disparaged. It stimulates effort and discourages carelessness. Its influence is more apparent, however, at the coast than in the province by the lakes. Our representative, who visited British Columbia, some time ago, noted that in that province, and particularly in the Okanagan Valley, there is a feeling of contempt for eastern fruit. There is a general impression that Ontario is a land of old infested orchards and cull fruit. The idea is born of the fact that Ontario has been slower than British Columbia in adopting the most advanced methods of grading and packing fruits and even of orchard management. Ontario has not been keeping herself before the world. The states of California, Washington and Oregon have and the people of British Columbia take them as their ideals.

There is some cause for this attitude of British Columbia. The growers of that province are hustlers. They have been ready to take advice from California and other Pacific States that have raised the standard of fruit growing to perfection. British Columbia has learned in short time the art of fruit packing and, in this respect, can teach a few things to Ontario. Furthermore, British Columbia has the advantage of new lands and new orchards which means

for a while comparative freedom from insects and disease. These will come later; some are coming now.

Ontario can grow just as good fruit as British Columbia. She excels in firmness and flavor. No British Columbian will credit this, (unless he was raised in Ontario), but impartial judges know it. The Pacific province excels in size and usually in color and she leads in methods of packing and, greatest of all from the business viewpoint, in advertizing her country, its resources and products. These differences excite rivalry which is a good thing if not carried to the extreme of bitterness. There is no need that this shall occur. Both provinces are superior in one or more particulars. It is up to the growers and government of Ontario to make her particular points of excellence more widely known as British Columbia does hers. It pays to advertize.

A CHANGE NOT NEEDED

To change the name of the Ontario Vegetable Growers' Association to the "Ontario Vegetable and Small Fruit Growers' Association," as has been proposed, would be unwise. Because some of its members grow fruits as well as vegetables is not sufficient reason for adopting such a cumbersome appellation. Furthermore, the proposed name overlaps and enters the field of other organizations. The vegetable growers' and the fruit growers' associations should be kept distinct in purpose and in name.

Many of the members of the Ontario Fruit Growers' Association grow vegetables but they would not feel justified in changing the name of their organization to the "Ontario Fruit and Vegetable Growers' Association." To avoid confusion in names and in interests, it would be well to leave the name of the Ontario Vegetable Growers' Association intact.

Naming New Strawberries

Editor, THE CANADIAN HORTICULTURIST:—I noted the editorial on "Naming According to Sex" in the January issue of THE CANADIAN HORTICULTURIST. If the plan which you suggest were universally followed it would be something of a guide to prospective planters with regard to the character of the blossoms of the varieties from which they were making selections for planting, but for several years, there would undoubtedly remain the confusion of sex names which now exists, and this would continue until our present varieties became obsolete. Theoretically the plan is good but practically I think it would be very difficult to secure its uniform operation.—S. A. Beach, Horticulturist, Iowa State College, Ames, Iowa.

The Home Market For Apples

Alex. McNeill, Chief, Fruit Division, Ottawa

It is a recognized principle in political economy that the best paying market is the home market, up to the limit of its capacity. Unfortunately, this market, can be overdone in some particulars. In order to determine whether the home market was properly supplied with apples this winter I made inquiries from the merchants in the principal smaller towns and cities of Ontario. In almost every case it appeared that there was a shortage of good fruit and an excellent demand for all the winter varieties. Prices ranged high, from \$7 a barrel in Montreal for choice Spys to \$4.50 and \$5 in the smaller towns.

There is not the slightest doubt but what thousands of barrels would have been consumed in the neighborhood of where the apples were grown if they had been properly

stored and offered for sale. Windsor, St. Thomas, Chatham, London and Brantford were all practically bare of first-class winter apples, and had only the lower grades to offer, and these at high prices.

On the whole the prices have been good for winter apples in the Old Country markets, but at no time have they been better than in the home markets; at present, the home market prices are higher than the British market prices. Nevertheless, there is a constant stream going to the Old Country, while our own people are eating only the inferior grades or no apples at all. This is not an extraordinary year in that respect. Four years out of five at least there is a shortage in the home markets, and the growers cannot do better than to organize in such a way that the home markets at least will be supplied.

Of course, there is a danger of overdoing the local markets. The remedy for that is co-operation and publicity. If those who propose to store apples will let the fact be known early in the season, and not attempt to store by stealth, there is little danger of storing too many.

The storage, too, ought to be done as much as possible at local points to save freight; but, far better pay freight to and from a cold storage warehouse than attempt to hold apples where the temperature cannot be kept at less than 50 degrees. The ordinary farmer's cellar may do for storing a few barrels, but is altogether too warm a place to risk any large quantity in. I note this point, because, though I recommend the storing of apples sufficient for home use, I would also add the caution that in order to make the enterprise an assured success, there must be proper storehouse facilities.

Your Garden for 1909

The special offer made by THE CANADIAN HORTICULTURIST, that appears in another part of this issue tells how to secure a collection of 14 different varieties of flower and vegetable seeds, a collection of five dahlias, and a three year old Crimson Rambler rose bush, free of cost. It only means a few minutes' work among your friends. Turn to this offer and read it carefully. It will interest you. Then set out to secure one or all of the above mentioned premiums. It will not take you long. Get three of your friends to subscribe for THE CANADIAN HORTICULTURIST and all three premiums will be sent to you. If you are unable to secure three subscriptions, secure two or one, and tell us which premium you wish sent you. Tell your friends how THE CANADIAN HORTICULTURIST has helped you in planting and caring for your flower garden in the past. You may depend on it that it will be better than ever this year.

Help boom THE CANADIAN HORTICULTURIST. Show it to your friends and secure their subscriptions. Tell them that it is the only Canadian paper that deals with amateur flower growing and garden making. Tell them that our Question and Answer Department is open to all of our subscribers. Tell them that each month an article appears giving suggestions for amateur flower growers and gardeners for that particular month, besides numbers of other articles dealing with timely and interesting subjects. Send us the names of some of your friends who are interested in flower growing and gardening, but who do not take THE CANADIAN HORTICULTURIST. We will send them free sample copies. Perhaps some of them have never seen the paper. Give them an opportunity to see this issue.

THE CANADIAN HORTICULTURIST is improving wonderfully.—J. A. McBride, Montreal.

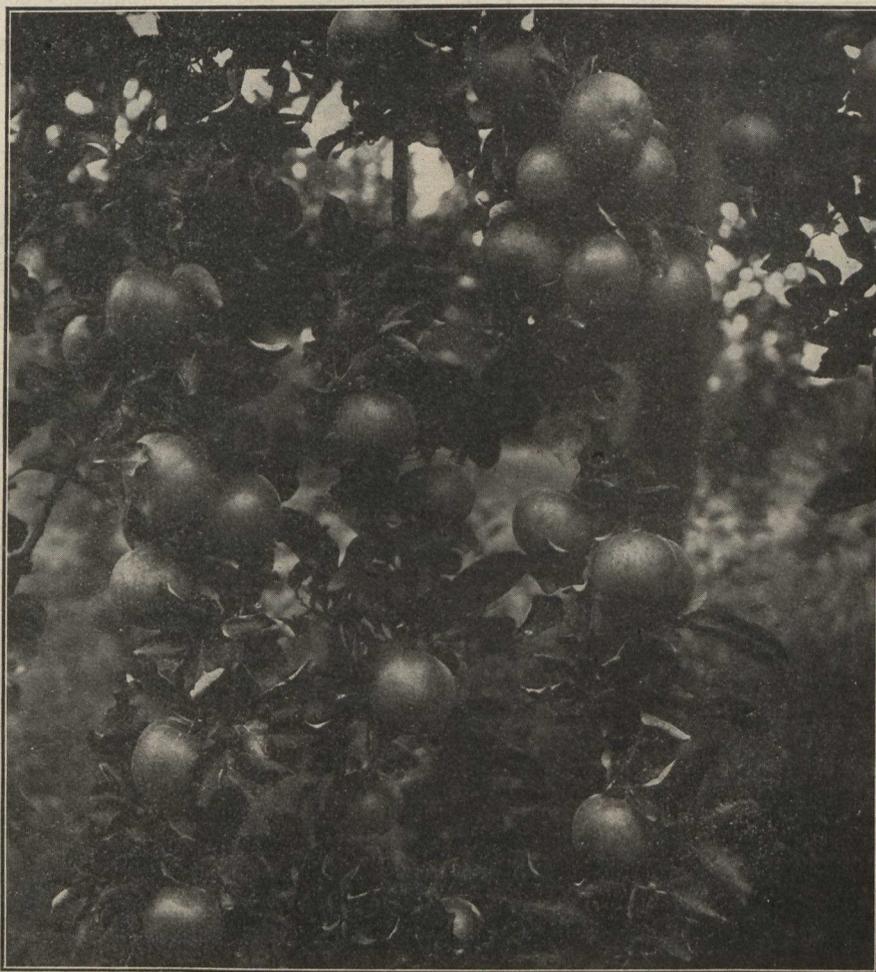
The Fertilizers Act

Editor, THE CANADIAN HORTICULTURIST:—Am I not correct in regarding the horticulturists as the chief consumers of commercial fertilizers in this country? How many of them, I wonder, are familiar with the Dominion law providing for Government inspection of fertilizers offered for sale? How many of them have compared the present law, dating from 1890, with the bill introduced into the Senate by Hon. R. W. Scott last July and likely to be brought into Parliament again at the present session? Such a comparison I have attempted in a letter recently submitted to several of our agricultural papers. In the present communication, I shall confine my attention to a few of the most important points.

The chief faults of the Act of 1890 are its

manufacturers beg for an extension of time, so that they may comply with the spirit of the law. They get the extension of time as much as two months sometimes. The latter class of manufacturers have delayed the publication of the results of the analyses until they are of no service to the consumer buying fertilizers for spring use. The former class have rendered the results unreliable and misleading. If the bulletin came out at the time the law presumably contemplated, it would be worse than worthless. As matters stand, it is worthless merely. These analyses are so much waste labor, the cost of which falls partly on the general public, partly on the manufacturer directly, but eventually upon the consumer.

The bill introduced last session does away with this farcical analysis and merely re-



Ribston Apples on Trees as They Appeared Last Season in a Nova Scotia Orchard

The photograph was sent to the Dominion Offices of the Potash Syndicate, Toronto, by Mr. W. H. Starr, of "Maplehurst," Chipman's Corner, N.S., with the following explanation: "The photo was procured in our eight-acre orchard of twenty years planting, which last spring received an application of 200 pounds of muriate of potash and 300 pounds of acid phosphate per acre, nitrogen being supplied by clover. One barrel each of Gravensteins and Kings from the same orchard received first and second prizes respectively at the Nova Scotia Horticultural Exhibition held at Kentville last October. This speaks well for potash."

failure to specify potash as one of the valuable fertilizing ingredients and its requirement that the Government shall analyze not only the samples collected on the market by the Inland Revenue Inspectors but also a standard sample of each fertilizer, to be sent in by the manufacturer before the end of January. Manufacturers not having their year's stock made up at that time and probably, in many instances, not having even received raw materials cannot comply with this requirement. What then do they do? Some of them make up samples, specially, in order to meet the letter of the law. These samples are by no means representative of what is later put upon the market. Other

quires the manufacturer to live up to his guarantee—which, in the opinion of the chief analyst, is all that the present law can actually do. It also includes potash among the fertilizing ingredients. But it in turn has several weaknesses.

In the earlier communication referred to, I pointed out those that occurred to my mind. Having reason to believe that the bill will be materially modified before introduction, I shall not trespass upon your space with a repetition of my criticisms. But I should like to suggest to your readers, and especially to the associations that you represent, that they be on the lookout for the new bill, secure copies of it and take action to

support or oppose it, according as it recognizes or ignores their interests and those of the general public. Bear in mind that a good bill may be ruined by amendments. The manufacturers will probably present their views effectively and though the interests of honest manufacturers do not necessarily conflict with those of the consumers, yet it is by no means impossible that those who do not guard their own may suffer for their negligence.—J. F. Snell, Assistant Professor of Chemistry, Macdonald College.

One of Our Old Friends

The subject of the accompanying portrait, Mr. Thomas Beall, of Lindsay, Ont., became a member of the Fruit Growers' Association of Ontario in 1869, and was elected a director in 1870. The secretary, Mr. D. W.



Mr. Thos. Beall

Beadle, proposed in 1877, the publication of a magazine or journal in the interests of the association. This was heartily endorsed by all the directors, including Mr. Beall, and the first number of THE CANADIAN HORTICULTURIST was published in January, 1878. The magazine was published under the direction of Mr.

Beadle until 1887, when Mr. Linus Woolverton was appointed secretary of the association and editor of THE CANADIAN HORTICULTURIST.

Work in connection with the association and with the publication of the magazine went along smoothly for a while, but the membership gradually fell off. Upon investigation, it was found that lack of money was the trouble. As a means of increasing circulation, Mr. Beall suggested, about 1890, that local horticultural societies be organized throughout the province. The idea was strongly opposed by some of the directors. In 1893, however, Mr. Beall succeeded in getting a resolution passed at the annual meeting, requesting each director to organize one or more of these societies in his district. At the following annual meeting, it was reported that two societies had been organized and this was done by Mr. Beall. In spite of early opposition, the number of societies increased as the years went by and a large measure of the success was due to the enthusiasm and energy of the aforementioned gentleman.

Mr. Beall has always been a great friend of horticulture. As indicated in the foregoing paragraphs, he has been instrumental in raising our organized forces of horticulture to their present standing. Although 80 years old, he still takes an active interest in all things that have to do with the growing of plants for pleasure. It is the wish of the horticulturists of Canada, as well as of THE CANADIAN HORTICULTURIST, that Mr. Beall may be spared many years yet to enjoy his chosen hobby, horticulture.

I am more than pleased with the improvements in THE CANADIAN HORTICULTURIST, and could not well get along without it.—B. Dixon, Elgin Co., Ont.

FOUNTAIN PEN FREE.—For securing two new subscriptions to THE CANADIAN HORTICULTURIST at sixty cents each, we will send you free of cost, a fourteen-kt. Gold Fountain Pen, guaranteed to give satisfaction. Secure one of these pens this spring.

Herbaceous Perennials

Reviewed by John Cavers, Oakville, Ont.

There was issued from the Department of Agriculture at Ottawa, last month, a bulletin which is deserving of more than a passing notice. It is modestly called "A List of Herbaceous Perennials," and its author is Mr. W. T. Macoun, horticulturist and curator of the arboretum and botanic garden of the Central Experimental Farm at Ottawa. While the list is confined to the herbaceous perennials, to the number of 2116, and to a few botanical species growing in the botanic garden under Mr. Macoun's charge, it may well be considered as a handbook of the species and varieties listed, because of the wealth of information given.

The introduction, the page on "The Planting and Care of Handy Herbaceous Perennials," and the introductory notes on the chrysanthemum, the delphinium, the dianthus, the iris, the pæony, the phlox, and others, are features that are valuable and thoroughly practical. The list shows that the collections of iris and perennial phlox are large and comprehensive.

The collection of pæonies is not given in detail, but three "best lists of twelve" are given, one giving the judgment of Mr. Macoun; another, that of Mr. R. W. Whyte, of Ottawa; and the third, that of Dr. A. P. Saunders, of Hamilton College, Clinton,

It Brings Business

Editor, THE CANADIAN HORTICULTURIST:—Our experience with THE CANADIAN HORTICULTURIST as an advertising medium has been entirely satisfactory. Last year it proved to be the second best of all the papers we used in Canada, from the standpoint of the number of enquiries received, and from the standpoint of cost per enquiry it was the lowest and stood second from the standpoint of sales from enquiry. Taking it all around, we consider it one of the best, if not the best medium in Canada, for our line.—Spramotor Co., W. H. Heard, Manager, London, Ont.

N.Y. The variations in these three lists may well be taken as an evidence of the wealth of coloring and form in the bloom of this favorite plant.

The bulletin bears evidence of the greatest care in the collection of data, in the proof-reading and in the mechanical work on it. The illustrations are in excellent form and they make an honest appeal to the eye. The correct botanical names of the species and varieties, if any, the names of the discoverers, the habitat, the time planted at Ottawa, the hardiness, the height, time of flowering, and a brief description of the plant or flower are given.

The names are so generally accurate that a somewhat careful examination has revealed to the writer only a few instances in which the rule would appear to require "i" as an affix instead of "i"; as for instance, *Aquilegia Stuartii*, on page 15, should be *Stuartii*. It is respectfully suggested that Canadian catalogue makers might well accept this bulletin as our authority on the spelling of names in herbaceous perennials.

Many of the varieties of these plants bear Latin, French, or Latinized names, and in some cases the name suffers in the spelling. "Jeanne d'Arc" is a popular name for French productions in the plant kingdom. The following variations on the name are found in catalogues, viz., Jane, Jean and Jeannie. Such instances of carelessness are

not creditable to the men who make the mistakes and, with thinking people, they reflect on the character of the business methods of these men. Catalogue makers are about equally divided in listing dicentra and dielytra as botanical names for "bleeding heart"; and pyrethrum for early flowering chrysanthemum. Mr. Macoun follows the nomenclature adopted by the Royal Botanic Gardens, Kew, London, and gives dicentra and *Chrysanthemum coccineum*, dielytra and *Pyrethrum roseum* as being synonymous for these names respectively.

At the end of the bulletin are given lists of the best 12, the best 50, and the best 100, hardy herbaceous perennials. Mr. Macoun has earned the congratulations and is entitled to the best thanks of the horticulturists of this country for this valuable contribution to our native horticultural literature.

Re Queen Victoria Park

Editor, THE CANADIAN HORTICULTURIST:—Your correspondent, "A Citizen" (page 63, March issue) does not appear to grasp the situation. The subject being discussed is that Queen Victoria Park, being a provincial park, (one might almost say a national or even a world park), appointments that are made to carry on the horticultural work of the park should be made with the view of obtaining the very best horticultural results. It goes without saying that if the "butcher, the baker, the candle-stick maker" the politician or even the farmer is put into a position requiring the best horticultural knowledge, the results, from a horticultural point of view will not be satisfactory. It appears, therefore, that the stand taken by THE CANADIAN HORTICULTURIST in the matter does it every credit and is in all respects the right stand. No reflection has been cast on the personal character or standing of any one concerned; they may be and doubtless are very good fellows in their line.

It does not appear that what Mr. Wilson or Mr. Cameron have done in the past has anything to do with the question now. What is wanted now is that thoroughly experienced horticulturists should be appointed to positions on the staff requiring that knowledge regardless of politics or anything else outside that knowledge (character, of course, excepted.) "A Citizen," when he saw what could be done with the park by a thoroughly experienced horticulturist, would probably be the first to acknowledge that experience and knowledge are the first requisites and do count in improving and keeping on improving a park with the possibilities of Queen Victoria Park. There are men in Canada fully capable of doing the work, even better than it has been done. Why not get the best for such work in such a place?—*Veritas Vincit.*

Toronto Horticultural Society

A meeting of the Toronto Horticultural Society was held on March 2nd, with a good attendance of members. The president, Mr. H. R. Frankland, was in the chair. The secretary reported 57 new members since the last meeting. A committee was appointed to draw up a prize list for exhibits by members of the society at the Canadian National Exhibition next September, the idea having been adopted by the meeting.

A paper by Mr. A. W. Annandale on "The Best 24 Annuals for the Toronto District," was read in his absence by Mr. Roderick Cameron. Extracts from this paper will be published in next issue, together with some comments by Mr. Cameron. Copies of this paper were printed in advance and mailed to members so that they came prepared to discuss the same.

Vegetable Growers Meet

The meeting of the Toronto branch of the Ontario Vegetable Growers' Association, held in Toronto, on March 6, was largely attended, and the addresses delivered by Prof. W. P. Gamble, of the O. A. C., and Mr. Dagar, Food Inspector of the Inland Revenue Department, were listened to with much interest.

In his opening address, the president, Mr. Thos. Delworth, referred briefly to the condition of affairs at the St. Lawrence market, Toronto. He stated that the market gardeners had been refused permission to sell from the wagons, in the north part of the market. He had had communication with Property Commissioner Harris, of Toronto, and had been informed that the city would make room for the growers, in the southern part of the market. The speaker stated that there was no room down there and that on Saturday mornings the men had to wait till 12 or 1 o'clock before they could get into the market at all. It was the general opinion that the city did not want the growers there. The matter will be gone into still further.

Mr. B. Leslie Emslie, of the Dominion Agricultural Offices of the Potash Syndicate, stated that this firm would supply, free of cost, to all men who cared to make the experiments, potash for use on all crops, provided that the experimenters would give a full report to his firm.

Mr. N. Carter, of Earls Court stated that last year the government passed legislation assessing all property in Earls Court that was under 50 acres at so much per foot frontage. Previous to this, all land over two acres were assessed as farm lands and consequently the assessment was considerably less. On motion of Mr. Carter, seconded by A. W. Shuter, of Bracondale, it was resolved that the members of this association do all in

their power to help the growers of Earls Court to secure the old state of affairs.

Mr. Dagar then explained in a few words the working of the Pure Foods Act in regard to fertilizers. It was thought by the executive of the association that the method of taking samples of fertilizers is unworkable. As it works now, it has to be done in the presence of the manufacturer or his agent and these people can refuse to witness the taking of the sample. It was recommended that the operation be done in the presence of two disinterested parties and that any punishment should rest with the government and not with the purchaser of the fertilizer.

In the exhibition of rhubarb, Thos. Delworth took first, J. W. Rush second and Mr. Hurrell, third. A hearty vote of thanks was tendered Professor Gamble and Mr. Dagar. A report of Professor Gamble's address will appear in next issue.

Spraying

W. Staley Spark, Toronto

If fruit growers wish to have healthy trees and clean fruit they must spray. It is an absolute necessity, but it is of no use to spray indiscriminately, that is to say, just to put the spray on the trees at any time and imagine that you have eradicated or prevented all and every kind of disease which attacks fruit trees. The careful fruit grower examines his trees and knows well what he is going to spray for. He then takes care to spray at a time when he is most likely to kill the pest or disease which is attacking the trees.

It is a very common error (of small orchardists especially) to think that the materials used can be mixed by guess work. They should be measured most carefully, following the instructions given by practical men

of experience, or manufacturers of the article used.

Some fruit growers spray when the trees are in bloom. This is not a good practice. Some people will tell you that if there be a surplus of blossoms it was a good way of thinning them, but it often produces abortive fruit and may possibly kill bees which do so much to fertilize the blossoms.

Others imagine that if you spray your trees once and the disease is not entirely eradicated, the formula recommended must be a failure. This is a great mistake. The most careful sprayer will often miss a small portion of the tree, and it may be the very place he has missed is infected with the insects or disease he is trying to kill. It may possibly be that one dose will be sufficient, but it seldom is so, and no man can make a mistake by spraying twice with the same mixture in one year.

With regard to Cooper's V1 Fluid which has been spoken so highly of for both San Jose scale and oyster-shell bark-louse, it has been proved beyond doubt to have a most beneficial effect as a tonic to the tree, a fungicide and scalecide, if used both in the fall after the leaves have fallen and again in the spring before the buds burst. It is the opinion of most practical men that orchards should be sprayed at least three times in the year, once in the fall, especially for fungus, once in the spring before the buds burst for scale, oyster-shell bark-louse and other diseases, and once in the summer when the tree is in leaf, in order to deal with insect life.

The greatest care should always be taken in mixing and measuring the spray mixture, in getting a fine mist-like spray and in covering every branch and twig as well as the trunk of the tree, and even a circumference of three feet around the base of the tree.

Select Ornamental Trees and Shrubs



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Home-Made Soluble Oils

"Home-made Soluble Oils for Use against the San Jose Scale," is the title of Bulletin 179, issued by the Virginia Agricultural Experiment Station. From tests made at this station, the following conclusions are drawn:

Home-made soluble oils are recommend-

ed for trial in place of the lime-sulphur wash, under certain conditions. Further tests must be made before we can recommend them unreservedly. For general orchard spraying the lime-sulphur is probably more satisfactory.

The various prepared or patented brands of soluble oils cost about three times as

much as the home-made product containing the same per cent. of oil. Our tests indicate that the home-made oil is as effective as the prepared oil. The cost of the home-made oil is about the same as the cost of lime-sulphur.

The home-made soluble oil is more practicable for the practical orchardist than for the man who has only a few trees, unless one person will make the material for a neighborhood.

It is not quite as troublesome and disagreeable to make soluble oil at home as it is to make lime-sulphur.

Apply the soluble oil spray only in the dormant season. The trees should not be pruned before they are sprayed, as the oil may injure the cut surfaces, unless they are painted.

The home-made soluble oil spray is recommended for trial against the San Jose scale, and the maple scale. It is not recommended for use against the scurfy scale.



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Short Course at Guelph

A. J. Logsdail, Ontario Agricultural College

The short course in fruit growing that was held at the Ontario Agricultural College early in February was a great success. In addition to the discussions referred to in the March issue of THE CANADIAN HORTICULTURIST, the following addresses and conferences were of great value and interest:

Mr. T. D. Jarvis gave a short illustrated lecture showing the difference between the two great classes of insects, namely those that feed by chewing or biting their food, and those that feed by sucking the juices of plants or trees. Mr. L. Caesar also of the entomological department then briefly discussed the best methods of dealing with many of the most injurious insects to fruit.

SPRAYING

There was a general conference on the preparation and application of spraying materials. Bordeaux mixture was made up in barrel lots and its physical properties determined. Lime-sulphur was next made up in the following ways: 15 lbs. of sulphur, 20 lbs. of lime and 15 gallons of water was steam boiled for one hour then made up to 40 gallons; 15 lbs. of sulphur, 15 lbs. of lime and 15 gallons of water was boiled for one hour and made up to 40 gallons; and lastly 15 lbs. of sulphur was made into a paste and then mixed with 20 lbs. of unslacked lime over which two gallons of hot water was poured, this was then allowed to self boil for 40 minutes. A chemical analysis was made of these three combinations and it was found that the 15-20 formula contained about 13 per cent. of calcium sulphide, the 15-15 formula contained about 12 per cent. and the self boiled under 2 per cent. From these figures it will be seen that the two steamed boiled sprays were considerably stronger than the self-boiled, but the self-boiled it has been shown is much less liable to injure foliage and serves splendidly as a summer spray.

Professor John Craig, of Cornell University, N. Y., gave a most interesting lecture on the methods of apple-growing in British Columbia, and the states of Washington and Oregon.

THE BEST VARIETIES

That best varieties for one section would not necessarily be the best for other districts, was pointed out in a discussion on this subject. Mr. J. E. Johnson, of Simcoe, named the following as his choice for Norfolk county: Baldwin, Spy, King, Snow, Greening and McIntosh. He deplored the old method of planting numerous varieties, a mixed lot of fruit being much harder to dispose of profitably than a few first class

varieties. Mr. Carey, of Northumberland, favored the Spy, Blenheim, Alexander, Wolf, River, Gravenstein, and Hubbardston, all which are hardy varieties, suitable to that section. He considered the Snow the best selling apple, but he would not recommend it because it required a more thorough method of culture than the majority of apple growers would give it, and second class Snows he considered valueless.

Mr. A. McNeill, Chief, Fruit Division, Ottawa, gave some valuable hints to men intending to plant apple orchards. Avoid planting any new variety; choose the varieties which do best in neighboring orchards.

THINNING FRUIT ON TREES

Mr. J. Gilbertson, of Simcoe, gave a short address on the subject of thinning apples. The reasons he gave for thinning apples are as follows: 1st, it will give a good uniform grade of fruit; 2nd, it prevents the trees from bearing an overload of fruit, only half of which will fully mature, and thus much nourishment is lost both to the tree and fruit; 3rd, it encourages the formation of fruit buds by avoiding exhaustion, thus obtaining regular crops each year; 4th, because the greater facility of harvesting fruit that has been thinned will pay entirely for the cost of thinning; 5th, because the fruit thus harvested will run about 85 to 90 per cent. first class. Mr. Gilbertson gave an instance of some Spy trees which he had thinned from which he picked 250 barrels, and of this number only 7 per cent. were seconds; that is an average of 93 per cent. firsts.

Mr. W. H. French, of Oshawa, supported these statements by some work he himself had carried on in this line. He found that it cost him about five cents a barrel to thin his fruit and only 20 cents to pick and pack a barrel of thinned fruit, whereas it had form-

erly cost him 30 to 35 cents a barrel just to pick and pack. Apart from this fact he now obtained a higher average grade of fruit throughout.

SHIPPING APPLES

Professor Reynolds, of the O. A. C., gave an interesting account of experiments that had been carried on, in the long distance shipment of tender fruits: experimental car-loads of such fruits were originally sent from Grimsby and St. Catharines. The St. Catharines Cold Storage and Forwarding Co., have since then developed a large business with the northwestern markets. All the fruit is pre-cooled and placed in freshly iced refrigerator cars, and sent direct to its destination, where it arrives in excellent condition.

PACKING APPLES

A demonstration was given in the correct and incorrect methods of packing apples. Mr. McNeill advocated the box method of packing; but he contended that if boxes were used, grading would have to be done more carefully, and it was necessary to pack a box from bottom to top, not treat it as a barrel, and just "head" and "tail" it, letting the fruit in the middle "pack itself."

Mr. McNeill gave many illustrations of the fact that boxed apples shipped better, sold more readily, and procured better prices; but he said he did not advise old barrel packers to take to boxes, for it seemed beyond the capabilities of most men accustomed to the use of barrels to get into the way of handling boxes correctly.

CO-OPERATION

A conference was held on the subject of "Co-operation." The following well-known men were present: Messrs. J. E. Johnson, Simcoe; R. Thompson, St. Catharines; D. Johnson, Forest; A. W. Peart, Burlington; Elmer Lick, Oshawa; each briefly giving the

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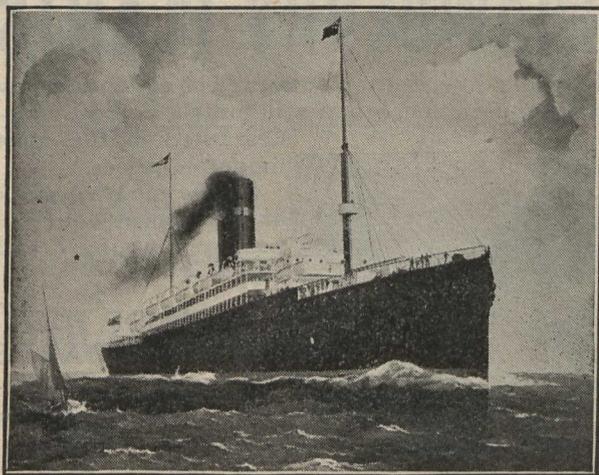
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history and development of their several associations.

The Assistant Provincial Secretary explained most clearly the advantages to fruit-growers availing themselves of the new Act dealing with Companies and Associations. He pointed out the fact that an association could be legally incorporated without the necessity of issuing shares, which often remained a drag on such an organization and

hindered its future development. If money was required it could be obtained by issuing debentures which would enable the debts thus incurred to be paid off.

Wire Fencing—Owing to the rapid increase in the export business of The Page Wire Fence Company, of Walkerville, Ont., since the introduction of its "Empire" white

fencing for railway, farm and ranch use, it has been thought best to have the foreign business handled by a company of a name similar to that of the fencing, and to this end The Empire Fence Export Company, Limited, has been formed. It is owned and controlled by the same people as the old company. The head office and factory will be at Walkerville, Ont.

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NOTES FROM THE PROVINCES

British Columbia

A conference of representatives of fruit growers' associations, of boards of trade of British Columbia and of prominent officials of the C.P.R., was held early in March in Victoria. Important problems were discussed and much good resulted.

A resolution asking the C.P.R. to reduce the minimum rate for carload rates from British Columbia to points east on mixed cars of apples, pears, fresh fruits and vegetables from 30,000 to 24,000 pounds for large cars and to 20,000 pounds for small cars, brought information from J. H. Lanigan, of the C.P.R., to the effect that the

request in respect to large cars would be granted, but he could not consent to a reduced minimum on the smaller cars. When it was pointed out that small cars make frequent appearances in British Columbia, the C.P.R. officials assured the meeting that efforts would be made to remedy this. The resolution passed, minus the reference to small cars.

A resolution was passed dealing with freight rates. The fruit growers want the same rates into Winnipeg as is enjoyed by Ontario, in order to be able to compete on an equality. In the discussion on this resolution, Mr. Lanigan said that the real competition in Winnipeg was the Washington, not the Ontario fruit, and that the former was driving the others out of the market. This was not because the foreign fruit was better, but because the Washington growers were dumping their second grade fruit into Winnipeg at prices which were too tempting for the dealers. He said also that the Canadian grower is handicapped by the law. He is obliged to pack and grade his fruit in accordance with the requirements of the Fruit Marks Act and that this Act, which was originally adopted to protect the Ontario growers, who do not suffer from American competition, did not apply to British Columbia fruit, arriving in Winnipeg in closed packages. Mr. Lanigan read a lawyer's opinion in support of this view of the law.

Mr. Maxwell Smith, Dominion Fruit Inspector, took exception to Mr. Lanigan's

view of the law. Whatever might be the case in the northwest, he had successfully conducted several prosecutions of dealers offering American fruit for sale which had not been properly graded. Mr. Smith admitted, however, that there were only two inspectors in the northwest, a wholly insufficient number to inspect the fruit shipments properly.

In the course of an interesting address, Mr. A. J. Alcock, of Penticton, pointed out that the growers' greatest problem is in the matter of distributing and marketing the fruit; last year, the growers sold fruit for three cents a pound and the freight rate to the northwest markets was about three-

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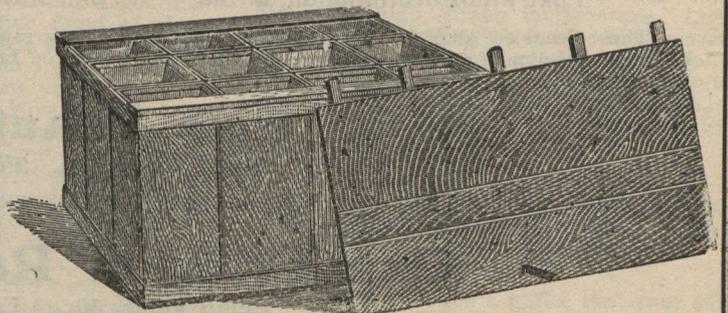
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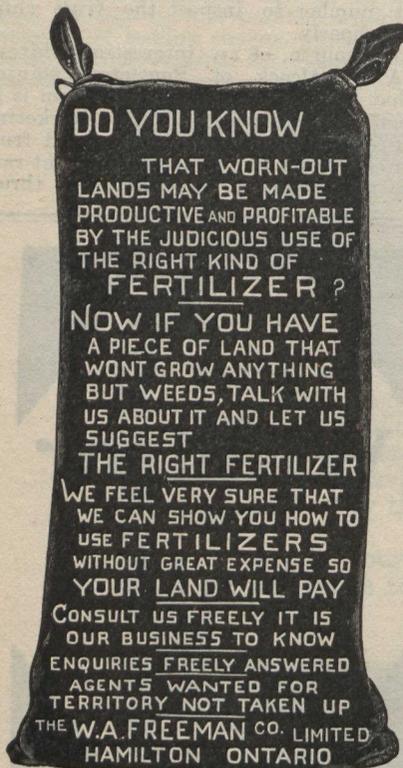
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quarters of a cent a pound, where the same fruit retailed for from 15 to 20 cents a pound. Who is getting the difference? The speaker claimed that the retailers on the prairie were making from 75 to 300 per cent. profit on the fruit that they handle. Arrangements should be made so that the grower could deal directly with the consumer, and the speaker suggested a plan whereby the consumer could deposit the money in a bank and then send his receipt and order direct to the grower. Such a scheme, it was pointed out, would open up an unlimited market. It would benefit not only the grower but also the consumer, who is now compelled to pay too much for fruit.

It was announced by Mr. W. F. Stout, of the Dominion Express Co., that this season his company would make the experiment of handling soft fruits. The statement was received with applause. An interesting discussion took place on the benefits of co-operation. The formation of district unions was urged, which later could be merged into a central organization. The question of cold storage was gone over and the desirability of fruit being properly cooled before shipment was brought out. A resolution was passed asking the C. P. R. to undertake the construction of cold storage plants at Vancouver and at the principal transfer points. A resolution was passed, asking the Dominion government to raise the duty on fresh fruit.

Okanagan Valley, B.C.

The following resolution was passed recently by the associated boards of trade of the Okanagan Valley, and sent to the Department of Agriculture at Ottawa:

"Whereas the grading and marking of fruit in the United States differ from the grading and marking required by the In-

spection and Sale Act, which difference operates to the prejudice of Canadian shippers,

"And whereas the said Act appears to have been very loosely enforced in 1908 on fruit imported from the United States to points in Alberta, Saskatchewan and Manitoba,

"And whereas this appears to have been the result of the lack of a sufficient number of competent inspectors familiar with Canadian and particularly British Columbia and Pacific Coast fruit;

"Be it resolved that all the fruit thus imported into Canada should be made to conform with all the requirements of the said Act as to grading and marking; and to insure such conformity all imported fruit should be rigidly inspected; and for that purpose an adequate staff of competent inspectors should be employed."

Manitoba

J. Cochrane Smith

At the annual convention of the Western Horticultural Society, that was reported briefly in the last issue of THE CANADIAN HORTICULTURIST, Mr. D. W. Buchanan, of St. Charles, Man., gave an interesting address on "Ornamental Gardening For Winter Effect." The speaker pointed out that the short season of the western provinces affords no excuse for lack of gardening as there are many hardy perennial flowers and blooming plants that will withstand for a long time the early frosts and rigors of the western climate and which will amply repay for care and cultivation. The best varieties to plant both for summer and winter effect were mentioned. This address will be reported at greater length in a later issue.

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subject of an address by Mr. Norman M. Ross, Superintendent, Forestry Branch, Indian Head, Sask. This was illustrated by numerous views. The speaker said that, in planting, straight lines should be avoided. Best effects are secured by planting similar species of trees and shrubs in clumps or groups rather than separately.

Dr. H. M. Speechly, Pilot Mound, Man., gave reasons why western people should take a greater interest in forestry and re-forestation and pointed out that at the present rate of consumption, the supply of timber would become exhausted within the next century unless something were done. A practical address was given by Mr. W. G. Scott on "The Improvement of a Rural Home." Rev. Dr. Baird, of Winnipeg, dealt with "The Cultivation of Pæonies." The subject of "Hedges for the Country and City" was discussed by Prof. S. A. Bedford, M.A.C., Winnipeg. Other addresses were: "Seeds from the Dealers' Point of View," by C. J. Turnbull, Winnipeg; "Flowers, the Farmers' Wife Can Grow," Thos. Jackson, M.A.C., Winnipeg; "Shelter Belts and Wind-Breaks," by J. J. Ring, Crystal City, Man.; "Birds in Relation to Forests," J. J. Golden, Deputy Minister of Agriculture, Winnipeg, ten-minute talks by Messrs. Saville, Walker and Wimsett, students of the M.A.C.; and some others. Most of these addresses will appear in part or in full in later issues of THE CANADIAN HORTICULTURIST.

Montreal

E. H. Wartman, Dominion Fruit Inspector

It is only in large cities like Montreal, New York and Chicago, that we can feast our eyes on varieties of fruits such as mangos, persimmons, grapes, strawberries, plums, Bartlett pears, nectarines, etc. These fruits are for sale here from India, Ceylon, Cape Town and Italy, making quite a selection to choose from. Of course, transportation and duties make prices high. The wealthy have the privilege to gratify their appetites by using these delicious foreign fruits.

Great care has to be exercised in packing such tender fruit. They are protected by excelsior and cotton batting to such an extent that they arrive in good condition.

California Navel Oranges are in big supply and cheaper than for years, and quality very superior.

Apples in cold storage are in short supply. They seem to be keeping well and prices rule high. Oregon apples are shown in Walter Paul's grocery at 75 cents a dozen of the Esopus Spitzburg variety. Strawberries from Florida are arriving in fine order in imperial quart boxes and retail at 65 cents.

Nova Scotia

Eunice Watts

During the past two months institute meetings have been held at various parts of the province, chiefly in the Annapolis Valley. These meetings, with the exception of the Seed Fair held at Berwick, were addressed by King's County men. Owing to the lateness of the season, and the exclusion of warehouse men from entries, the apple display at the Seed Fair was characterized by quality rather than quantity, but there were large entries of seeds and potatoes which were exceptionally fine, and the attendance and interest of the people seem to be on the increase. Lectures on potatoes were given by Mr. L. D. Robinson, and on dairying by Mr. Frank Foster, while Mr. W. H. Woodworth took up orcharding.

Mr. Woodworth said that we needed more

orchards. The young people to-day could not see far enough ahead and they were making a great mistake in not planting apple trees. The best orchard results were obtained on a rich clay loam which retains the fertilizer better than the lighter soils. It was not advisable to plant apple trees nearer than 40 feet, and we had made mistakes in the past by not preparing the ground before planting and by importing poor stock.

With regard to pruning the speaker pointed out that much harm had been done by excessive trimming and the removal of fruit spurs. It was foolish to head young trees too high for the stock will not be so stout as a low standard which is easier to spray, pick, prune and handle in general.

Turning his attention to manures, Mr. Woodworth deplored the method of keeping the same under the eaves, and said that one load of manure from the basement cellar was worth four left out in the weather, as valuable constituents were soluble and washed away in the drainage. Nitrogen is best applied in the form of summer vetch, which with the addition of 500 pounds of ground bone and 200 of potash made an excellent fertilizer. Farm yard manure was better for young trees than nitrate of soda, which produces too much young wood which is apt to be winter killed.

It was a good thing to plow orchards in the fall, thus burying the leaves affected with spot. Light lands could be plowed in spring, but there was not enough difference between the results of fall and spring plowing to make it a fixed rule.

Strawberry Culture

Editor, THE CANADIAN HORTICULTURIST:—The article in last December issue, by Mr. Rittenhouse, has many valuable points, but there are a few things in it which my experience has taught me are not applicable or advisable for all strawberry growers. His plan for preparation of the soil is excellent, also his advice about selection of plants. But my experience regarding time of planting does not correspond with his. My best successes have been with plants set just as soon as I can work the ground; in fact, two years ago I received some plants from the United States before the frost was all out of the ground, and I had difficulty in getting the spade deep enough into the ground to admit the roots to proper depth, but without harrowing the ground which, of course had been fall plowed. I got them in and never had a better stand of plants than these gave me. We had frost afterwards that froze the ground quite hard, yet did not seem to injure the plants.

In setting, I use two boys to take turns placing the plants in the hole made by the spade and can thus set about 4,000 in a day. In making the holes, I hold the front of the spade towards me, pressing the handle from me a little and back again, having the hole on the side of the spade opposite from me so that, when the plant is dropped in and the spade withdrawn, I can press the earth against the roots with my foot without any inconvenience, thus attaining speed as well as effectiveness.

We cannot put too much stress on the desirability of cultivating with a light cultivator as soon as the plants are set. It is also advisable to use the fingers around every plant, to stir the soil about them, leaving a little loose earth on top.

I, too, have had serious damage threatened by cut worms but have managed to exterminate them completely as soon as detected, by mixing a small quantity of Paris green in slightly moistened bran and scattering it lightly along the rows. The worms are very fond of bran and seem to eat it in

preference to the foliage. On getting the poison, they crawl under the surface of the ground and die.

While I am aware that Williams is the great commercial berry at Jordan, I often wonder why it is. I do not know of any authentic comparison test that has ever placed Williams higher, or even as high in yield, as many better berries. While it is a good shipper, it's green tip and poor color makes it a very unattractive market berry. In our market, when Williams were a drug at seven cents a box, I sold Busters at 15 cents, and the latter is a much better yielder. True, Buster is not so good a shipper but Lovett, Sample and Parson's Beauty, are as good shippers, as good yielders and decidedly better sellers. I now have eight acres under strawberries, including 62 varieties, but only planted 25 plants of Williams last spring.—W. J. Kerr, Ottawa.

Fall Bulb Planting

Editor, THE CANADIAN HORTICULTURIST: In reply to the question about bulb planting, from Mr. B. Gott, of Strathroy, Ont., that appeared in the December issue of THE CANADIAN HORTICULTURIST, I may say that our method has been to cut the seed pods off after blooming, and to give the foliage as long to mature as practicable. As we use the beds for other flowering and for ornamental material, we lift the bulbs. A man and boy are provided with a number of "flats" (shallow boxes). With a spade the former lifts the bulbs and foliage and the boy lays them carefully in the flat, placing an inch or so of earth in the bottom and a little loose earth on top. A label is placed with each variety, to keep it distinct from the others. The bulbs are then placed in a cool cellar or, if this is not available, in some cool shady nook in the garden out of sight. It is surprising how quickly the beds can be cleared with the right kind of help.

About the middle of October, the buds are prepared for planting. The bulbs are sorted. Those that are large enough to bloom are kept and the small ones are thrown out. As these bulbs naturally deteriorate, we mix each year the old ones with those newly imported. We plant some 20,000 tulip bulbs, which are imported direct from Holland. We have observed in planting bulbs that when left alone they were better the second year than the first, but they deteriorate rapidly in this country. Some seasons are more favorable than others. The tulip dislikes a high, sunny temperature. Light shading will prolong their blooming season. They deteriorate more quickly in St. John, where the atmosphere is cool and humid, than they do in Fredericton, where we have hot, southerly winds.—J. Bebbington, Sr., Fredericton, N. B.

The Imperial Bank of Canada has recently opened a branch of the bank at Gow Ganda, Ont., and at Lethbridge, Alta.

Have you received a notice that your subscription has expired? Renew promptly, so as not to miss an issue of the paper. We cannot promise to send back copies.

The Ottawa branch of the Ontario Vegetable Growers' Association has prepared an excellent programme for this year. It is as follows: April 13,—"Celery Culture" by H. Holz; May 11,—"Insect Enemies of Vegetable Gardens," by A. Gibson; Sept. 14,—"Melon Culture," by Jas. Fox and W. Frick; Oct. 12,—"Fruit Culture at Ottawa," by W. T. Macoun and W. J. Kerr; Nov. 9,—"Potato Culture," by J. McMullen and F. Fear.

FRUIT CROP FORECAST

From present indications it would seem that fruit trees and bushes have come through the winter in good condition. While it is early to state definitely the actual condition of fruit buds there appear to be good prospects for a crop this coming season. In some localities strawberry plants have come through poorly. This is due partly to the lack of plants made last season on account of growth, partly to lack of snow for covering during the winter, and partly to ice. Among the crop reports received from correspondents of THE CANADIAN HORTICULTURIST are the following:

NEW WESTMINSTER CO., B.C.

Hammond.—Tree fruits of all kinds have come through in excellent condition, with the promise of full crops. Small fruits have wintered well with the exception of strawberries, which have been injured through excess of moisture in the ground at the time of freezing.—C. P. M.

YALE-CARIBOU, B.C.

Peachland.—Owing to the winter having been extra cold, we expect a light crop of peaches; the fruit buds appear somewhat damaged. Plums, cherries, apples and small fruits promise good crops. Most trees appear healthy; on wet land some of them may have suffered.—C. A.

MACDONALD CO., MAN.

St. Charles.—Last fall was favorable from two points, viz., the wood was well ripened and the ground was moist. Under these conditions we expect that fruit trees and bushes will winter well.—D. W. B.

KENT CO., ONT.

Chatham.—Buds seem to be in good condition with possible exception of peaches, which are more or less injured, if not, entirely so. Plums and apples promise well.—W. D. A. R.

LAMBTON CO., ONT.

Forest.—All fruits have wintered well. Peaches have very few killed buds.—D. J.

NORFOLK CO., ONT.

Simcoe.—Apples have come through the winter well. Strawberries have not a heavy setting of plants.—J. E. J.

OXFORD CO., ONT.

Ingersoll.—There has been little or no injury to fruit trees and bushes from the past winter.—J. C. H.

HALTON CO., ONT.

Oakville.—Trees are in good shape, also bush fruits. Strawberries look well.—W. H. McN.

DURHAM CO., ONT.

Newcastle.—Most varieties of apples, plums, cherries and Bartlett pears are full of fruit buds. Strawberry rows are narrow because of the dry fall.—W. H. G.

LINCOLN CO., ONT.

Grimsby.—Peaches promise about half a crop. Conditions are favorable for other fruits. Spraying with lime-sulphur wash is very general; some growers are trying the concentrated solution.—L. W.

St. Catharines.—Strawberries have wintered fairly well, but it still remains to be seen how the young plants start, that

did not get a good root growth last summer owing to drought. Peach crop promises to be fair; although one half or more of the buds have been injured, there will be plenty to supply the public.—R. T.

ONTARIO CO., ONT.

Oshawa.—Fruit trees and bushes have wintered well. Greenings are full of blossom buds and Baldwins have a fair supply. Last spring and summer we sprayed with Gillett's Lye for the oyster-shell scale and, as a result, there are few or none of the pests now on the trees.—E. L.

CHATEAUGUAY CO., QUE.

Chateaugay Basin.—Apples, plum, cherries and small fruits seem to have wintered well.—P. R.

HOCHELAGA CO., QUE.

Westmount.—Trees have come through fairly well, although some of them, especially cherry, suffered injury from ice storms.—R. B.

L'ISLET CO., QUE.

Village des Aulnaies.—The winter has not been severe in the eastern part of the province. No damage has occurred to wood and fruit buds.—A. D.

YORK CO., N. B.

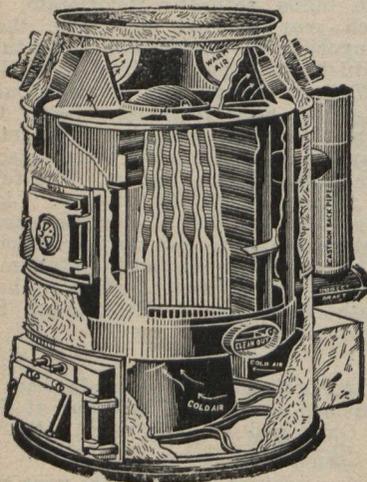
Fredericton.—Fruit buds appear to be in good condition. Nests of tent caterpillars and other insects are prevalent.—J. C. G.

ANNAPOLIS CO., N. S.

Paradise.—Fruit buds look healthy. Peach trees do not appear to have been killed back as much as usual. The prospects for an apple crop are good. We had plenty of canker worms last spring; the indications are that there will be more this season, although precautions have been taken to check them.—B. S.

KING'S CO., N. S.

Kentville.—Fruit trees have come through in fine condition. The buds look grand. The prospects are for a very heavy crop. Many new orchards will be planted this spring. Valley farmers had good returns during past season.—M. G. DeW.



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THE CELLAR COOL THE LIVING ROOMS WARM

One outstanding feature of the Kelsey System is that no heat is lost by radiation in the cellar or basement.

All air, as quickly as heated, passes through the hot air chamber and on to the part of the building to be heated. This is only one of the distinctive features that make the KELSEY like no other Heater.

It is more economical.

It is more efficient.

It is more durable than any other.

WRITE US AND LET US EXPLAIN FULLY

The superintendent of parks for London, Ont., Mr. J. S. Pearce, died in that city on Thursday, March 25th, after four days' illness. Mr. Pearce was an able and enthusiastic horticulturist. At one time he was a member of the firm of Pearce & Weld, seed merchants, and later or J. S. Pearce & Co. An article from his pen appears on another page of this issue of THE CANADIAN HORTICULTURIST. The loss of Mr. Pearce will be felt sincerely by all persons who knew him, either personally or through his work.

Re Queen Victoria Park

Editor, THE CANADIAN HORTICULTURIST: I think that all practical gardeners will support you in your stand re Niagara Falls Park. The commissioners have the opportunity to make this the finest park on the continent, but to do this they must have a first-class gardener on their staff, one with a wide knowledge of his profession and practical experience in planting and caring for the stock under his care. He must have good taste, and foresight, one who knows the effect wanted and how to get it. There are several such men to be had right here in Canada, men who would delight to put their best efforts into making our national park the finest in the world. I think that you are doing good work in bringing this matter before the commissioners and the government.—Thos. Manton, Eglinton, Ont.

The Philosopher of Metal Town



“Now, I’m not a professional builder or a contractor or a carpenter, but it seems to me I have had some building problem or other on my hands for many years—first, my own, then my boys’, then my nephews’ and my grand-boys’.

“Twenty-five years ago I became a pioneer user of metallic building materials.

“It was only a barn, and not much of a barn at that, which I first covered with metallic shingles—the product of the Metallic Roofing Co.

“And, mind you, that was twenty-five years ago, and the roof is weather-proof now. It has never needed repairs. I have built many barns since then, but I have never

discovered any sane reason for roofing them differently. You can’t improve on a straight 25-year test.

“Then, besides, I always believe in dealing with the biggest people in any manufacturing business. You share in the merits of their goods which have made them the biggest in their line. That’s why I stick to the Metallic Roofing Co.—they’re the largest architectural sheet metal firm in Canada, with an output larger than all others combined.

“But it is not of barns alone I would speak. You note, perhaps, that they call me the ‘philosopher of Metal Town’. That’s because I’m a public character in a way.

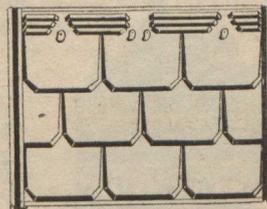
“I’ve been chairman of many building committees—church, school, library, et cetera, and I always find the metallic man has been my most useful assistant. Outside or inside, front or back, ceiling or sides, I find they all need the metallic man’s aid.

“I will tell you more about our ‘metal town’ when we’re better acquainted. I can quote some comparative figures which will interest you. To-day I’m emphasizing shingles.

“You can get them either galvanized or painted. They are always reliable. They are more economically durable and quicker to apply than any others, fitting accurately, and therefore most easily laid. They have been thoroughly tested in all kinds of climates, invariably proving fire, lightning, rust and weather proof.

“If you’re building make sure of satisfaction by ordering Eastlake’s for the roof. Fullest information if you write.”

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EASTLAKE
STEEL SHINGLES



THE METALLIC ROOFING CO., LIMITED, TORONTO and WINNIPEG
MANUFACTURERS FOR METAL TOWNS

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Ferry's are best because every year the retailer gets a new supply, freshly tested and put up. You run no risk of poorly kept or rnant stocks. We take the pains; you get the results. Buy of the best equipped and most expert seed growers in America. It is to our advantage to satisfy you. We will. For sale everywhere. Our 1909 Seed Annual free.

Write to
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 Windsor, Ont.

STRAWBERRIES
 large, red and luscious, are grown from DOWNHAM'S choice, vigorous Strawberry Plants. None better. Best varieties. Also Raspberry and Blackberry Plants. Catalogue Free.

Write **JOHN DOWNHAM**
 Strathroy, Ont.

Paris Green - Arsenate of Soda

Editor, THE CANADIAN HORTICULTURIST:—In a previous issue I noticed a letter rightly sizing up the poor quality of Paris green. Since I had given the impression in a previous letter that I considered Paris green as all right and preferable to the new and little tried preparations being yearly put on the market, I want to state my position now in regard thereto.

I agree with the writer that Paris green is being adulterated more and more every year. I have found in the six different makes that I have tested all the way from 5 per cent. to 40 per cent. of sediment in the ammonia test. The fact, however, that we have this simple test precludes the possibility of being cheated outright and it simply means adding more Paris green and thus paying a higher price for our actual poison. I may add also that the Paris green made by the English Bergers has never given more than 5 per cent. sediment when dissolved in *aqua ammonia*.

Again, when in that article, I used the concrete term "Paris green" to cover the general meaning of known arsenical poisons; i.e., stick to the old familiar ones until we are satisfied that the new ones are better. Now, in my own practice, I have not used Paris green for four seasons and I was probably the first one in this district to give it up in favor of arsenate of soda. The reason I mentioned Paris green in the article was because I knew that nine-tenths of farmers would rather use an inferior prepared article than go to the trouble of pre-

paring a good one. Since I have given the arsenic-soda poison a four year's trial and never found it to fail, my advice is, to the lazy farmer, "buy Paris green and test it"; to the farmer who is awake, "make your own poison from the known and unadulterated ingredients, sal soda and white arsenic. It is cheaper and more effective."—R. J. Messenger, Bridgetown, N. S.

Apterite Does Its Work.—The soil fumigant, Apterite, that is being introduced by Wm. Cooper and Nephews, Toronto, is proving to be all that is claimed for it. Among the recent testimonials received by this firm is the following from Geo. Hollis, Bracondale, Ont: "The can of Apterite that I had from you about two months ago has been used in fern boxes; that is, 'flats.' The bottom of the boxes are covered with soil about one inch, a two-inch pot of Apterite was sprinkled over this, the box filled up with soil and the small ferns then planted. No mites have been seen. On some boxes, where no Apterite was put, the surface is full of mites. I have also used it in seed boxes of petunias and so far no mites have been seen. Last year the petunia boxes were full of mites, which worked the little plants out of the soil, causing a big loss of plants. I also find, by sprinkling a small quantity about once a week on shelves or benches where seed boxes are put, no woodlice come near them. When planting chrysanthemums this year, I shall try Apterite in the soil for cut worms, which last year I had quite a dose of. It will be tried also on asters outside for the greatest pest of all, the tarnished plant bug."

All who are interested in vegetable growing should take THE CANADIAN HORTICULTURIST. The paper is not only a helper, but it also keeps one posted on all the latest suggestions made in connection with the Ontario Vegetable Growers' Association. Without THE CANADIAN HORTICULTURIST, one cannot hope to make the greatest success, as it is the foundation work for any practical gardener.—J. N. Watts, Secretary, Kingston Branch of the Ontario Vegetable Growers' Association.

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We carry in stock everything necessary for the proper planting and care of Gardens and Lawns

AUBERT'S DOUBLE CUT PRUNING SHEAR

The only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in two sizes.

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MADE IN ALL SIZES

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New Fruits

A number of new and promising fruits have been received and examined during the past season by the New Fruits Committee of the Ontario Fruit Growers' Association. Most of them were received in response to a circular letter issued about the first of the year by Mr. W. T. Macoun, horticulturist at the Central Experimental Farm, Ottawa. At the last convention of the association held in Toronto, the following were referred to:

A handsome seedling apple of good quality of the Fameuse type was received from Mr. A. E. Bellman, of Bowmanville, Ont. It is quite promising. An apple thought to be equal to Duchess in hardiness and seldom to have an off-year in bearing was sent in by Mr. Wm. Chambers, Carnoran, Ont. This variety has been growing for 14 years and fruiting eight years. It is a promising seedling if as hardy as claimed. The flesh and flavor are somewhat like the Gravenstein. Mr. Chambers got the scions from Mr. Thos. C. Robson, of Alberta, formerly of Allsaw, Ont. An apple grown by Mr. A. Marks, Clifton, P. E. I., and named "Golden Crown," is said to be "as hardy as an oak." It resembles Grimes Golden and is said to bear better than Yellow Transparent.

An apple named "Henry White" was received from Mr. R. Schwerdtfeger, Morris-

burg, Ont. It is a promising apple, somewhat resembling Princess Louise in appearance, flesh and flavor. The same person sent another named "Jacob Red," a winter apple of attractive appearance.

Promising seedling plums were received from Mr. J. Rowley, Sr., Cumming's Bridge, Ont.; Wm. Judge, Orangeville, Ont., and Jas. Tarry, Tarry's, B. C. A good cherry was sent in by Mr. Emil Anstead, Trail, B. C. Seventeen new seedling currants were received from Mr. C. L. Stephens, of Orillia, Ont., and 10 seedling gooseberries from Mr. Peter Barrett, Truro, N. S. A

large number of new varieties of various fruits have been originated at the Central Experimental Farm, Ottawa. Many of them will be heard from later and probably will prove of great value, particularly to cold districts.

Niagara Fruit Meeting

The Niagara Peninsula Fruit Growers' Association held an interesting series of meetings on March 10, 11 and 12. The first was held at Winona and the others at St. Catharines. The leading speakers were

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Why buy another farm?

Are you thinking of buying another farm in order to extend your operations and produce larger crops?

You will find it better in almost every way to build a new farm on top of the one you now have.

Do not seek to farm more acres but make your land produce more bushels.

If the farm you now have produces—say 35 bushels of oats per acre, instead of buying more land to get an additional 35-bushel yield, why not make the farm you have produce 70 bushels per acre? You can do it.

Buy an I.H.C. Manure Spreader

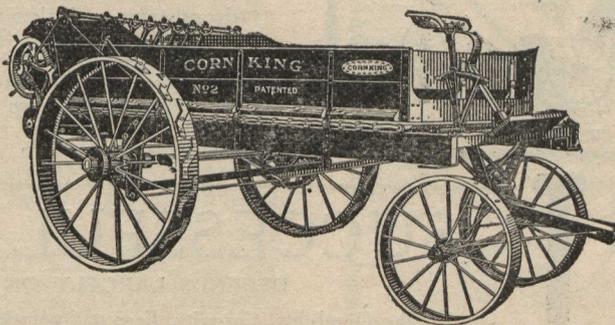
It is the machine which enables you to take the manure produced on the farm and in a few years fully double the productive power of your land.

It does this by placing the manure on the soil in the most available condition to support plant life.

It also makes the manure go further than can be done in any other way.

I. H. C. manure spreaders are made in two styles: Corn King and Cloverleaf.

The Corn King is of the return apron type. The steel roller equipment of the apron on this machine reduces friction to the minimum, even with the heaviest loads. This machine will be supplied with either a ratchet feed or a double pawl worm feed for the apron. Either of these feeds can be regulated to bring the desired amount of manure to the beater. The beater is equipped with long, square steel teeth with chisel points. It is driven by means of a chain from a large sprocket on the rear axle. A vibrating rake is used on this machine to level the load as it comes to the beater. The Corn King spreader has steel wheels of the most serviceable construction and a frame made of thor-



oughly air-dried wood stock and put together in a very durable manner. There are three sizes of this machine: No. 2 small, No. 3 medium and No. 4 large.

The Cloverleaf is of the endless apron type. It is also supplied with two feeds for the apron—ratchet or double pawl worm feed. The beater on this machine is constructed the same as the beater on the Corn King. This spreader also has a vibrating rake to level the load as it comes to the beater, has steel wheels and a well made main frame. This spreader is made in three sizes: No. 2 small, No. 3 medium and No. 4 large. It is very attractive, being well painted and symmetrically designed.

Many Excellent Features

It is impossible to describe all of the features of the above machines in this small space. However, we have catalogs which illustrate and describe in detail the many excellent features of these machines. These catalogs are well worth procuring, not only because they describe the spreaders, but because they contain information on soil fertility.

Points that are well to bear in mind in connection with these spreaders are that you can top-dress your fields and grow large crops of clover to turn under and enrich the soil, so that you may grow still larger crops and add to the soil's fertility. They double the value of the manure, save much time and labor and greatly increase the value of your land by increasing the soil's fertility.

Any one of these machines will pay for itself in from one to two years, depending upon the amount of work you have for it to do.

Call on the International local agent and see about owning one of these manure spreaders. He will supply you with catalog and full information, or write direct to nearest branch house.

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SAVE HIRED HELP

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IRON AGE

The most complete tool made

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Mr. Gabriel Heister, president of the Pennsylvania Horticultural Society, Mr. C. Bassett, secretary of the Michigan Horticultural Society and Prof. R. Harcourt, of the Ontario Agricultural College. Among the subjects that were discussed were spraying and spraying mixtures, grape growing, peach culture, pear culture, orchard methods, fertilization and fertilizers.

Plans were suggested that will help to make the meeting of the American Pomological Society, that will be held in St. Catharines next September, the most interesting and successful that has been held in the history of that organization. The St. Catharines Horticultural Society in conjunction with the Ontario Fruit Growers' Association will hold an exhibition at that time, to which all fruit growers are asked to contribute so as to make it a credit to the Niagara district and to Canada.

The members of the Toronto Horticultural Society made their second annual visit to the trial grounds of the Steele Briggs Seed Co., on Saturday, March 20. About 150 of the members took advantage of the hospitality of this firm and enjoyed a pleasant two hours in inspecting the splendid plants that are grown in their greenhouses. The most interesting sight was the splendid showing of *Primula obconica* that have been grown from the celebrated Steele Briggs strain. Many of the visitors expressed themselves as never having seen their equal. This was quite true, as it is doubtful if there is a strain in existence that throws such large bloom and such a quantity from each plant. Their carnations, cinerarias and many thousands of young plants were looking in splendid

condition. This firm has extended an invitation to the society to visit their grounds again during the latter part of August.

A Practical Device.—A device that gives promise of revolutionizing the system of heating greenhouses, has been in operation in the greenhouses of Mr. E. A. Crowhurst, of Humber Bay, for the past two years. The difficulty Mr. Crowhurst experienced in heating the remote part of his house with hot water led his son, Mr. A. E. Crowhurst, to experiment, with the object in view of forcing the water to a distant part of the houses and to equalize the heat. The result of these experiments has been the introduction of the Crowhurst Circulator. This device is inserted in a specially made pipe near where the return pipe enters the boiler. It is constructed of a spindle with a fan attachment that is operated by a small motor. When the circulator is in operation, it forces the water through the boiler more rapidly than the water would circulate by the gravity system. This causes the water to be returned to the boiler almost as hot as it leaves it. It will be seen that when this is done it equalizes the heat in all parts of the houses and by returning the water hot causes a considerable saving of fuel. Mr. Crowhurst has installed a gasoline engine which can be used to pump water, operate the circulator and, at the same time that it is running the circulator, it generates enough electricity to light his greenhouses and home. Several of the leading growers in the vicinity of Toronto have seen the circulator in operation and all have spoken in the very highest terms regarding it. Mr. Crowhurst is at all times willing to show visitors the circulator in operation. See advt. in this issue.

SUCCESSFUL SPRAYING

DEPENDS LARGELY ON THE PUMP USED

The Durability, Capacity, Ease of Operation and the Efficiency of the Agitator are Important Features.

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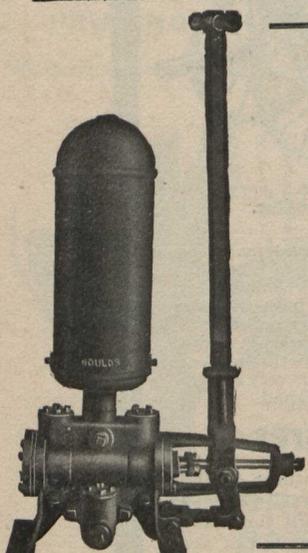
Have these essential points—they comprise the largest and most complete line on the market. Fruit growers will find it to their interest to send for catalog and to carefully consider the excellent points of superiority of the

“Admiral,” “Monarch,” “Pomona,” “Savelot,”
“Standard” and Knapsack Sprayers

NOZZLES AND FITTINGS

THE GOULDS MFG. CO., 91 Fall St., Seneca Falls, New York

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Stands without a peer among commercial spray materials for convenience, effectiveness, and the economical control of

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and kindred sucking insects; Apple Scab, Peach Curl, and other Fungus diseases. It has been so extensively used the past season throughout the U.S. and Canada that its efficiency is no longer doubted—it is fully endorsed by State and National experts. It is THE GREAT all around cleaning up spraying material for everybody having to spray. It contains a larger amount of Soluble Sulphur than any similar product.

Send for full description and prices, and your nearest selling agent.

We are also manufacturers of a very high grade Arsenate of Lead—FULLY GUARANTEED—at prices that will surprise you if order can be placed at once.

OUR TREE BORER PAINT

absolutely controls one of the worst pests with which orchardists have to contend; non-injurious to trees; is convenient and economical.

Our Orchard, Park, Nursery and Green House Sprayers still stand in a class by themselves and are leaders in their line.

Descriptive Catalog, etc. Free for the asking.

THE NIAGARA SPRAYER COMPANY, MIDDLEPORT, N. Y.

The Pronunciation of Names

"Any one whose business or pleasure leads him to converse with his fellows on the subject of plants, may have repeatedly observed the lack of uniformity which characterises the pronunciation of a considerable number of the names of the genera and the species." This sentence introduces an excellent little work entitled, "The Pronunciation of Plant Names" that has just been received. The purpose of the booklet is to give information that may aid in overcoming the lack of uniformity that is referred to in the sentence quoted. The correct pronunciations of over 4,000 plant names are given.

The names were prepared originally by the Rev. S. Butler, M.A., and published in the *Gardeners' Chronicle* in 1908. To make them readily and sufficiently accessible, the publisher of that journal, Mr. H. G. Cove, had them printed in book form. The work is a credit to the author and to the publishers. It should be in the library of all persons interested in horticulture. The price is 1s. net, or 1s. 2d. post free. Address the *Gardeners' Chronicle*, 41 Wellington St., Covent Garden, London, W.C., England.

It is always an interest and a pleasure to observe the progress of men and firms that are engaged in the practice of horticulture, in any one or more of its branches. A nursery concerns that has been making steady and rapid progress is that of M. J. Henry at Vancouver, B.C. This is evidenced by its rapidly increasing sales and by the general improvements in the character and size of its catalogues. The fifth and latest edition of M. J. Henry's cata-

logues was received at this office last month. It contains 150 pages of live matter on horticulture. The leading varieties of fruits, vegetables, ornamental plants, shrubs and trees, greenhouse, bedding and hardy plants are listed with full descriptions. Valuable information is given on the culture of these subjects. This catalogue should be in the hands of all gardeners and fruit growers in British Columbia and the West.

Park for Barrie.—Detailed plans and specifications, both plain and colored, with many folios of details have just been completed for the town of Barrie, by C. Ernest Woolverton, of Grimsby, landscape architect, assisted by Mr. Geo. Miller, of Boston, his associate. These plans include beautiful walks and drives among interesting wooded clumps of trees and shrubs, over rustic bridges, with elegant band stand and other details for the diversion of the people.

A conference was held at Hamilton last month between the representatives of the fruit growers associations and the express companies. The growers asked the companies to assume the responsibility for damages caused through transportation by the carelessness of employees both of the railway companies and of the express companies. This proposal was refused. The companies refused also to bind themselves to a limited time within which damage claims must be settled. They would not concede to lower the rates on fruit, claiming that fruit rates already are lower than any other class of merchandise. These matters will have to go for final adjustment to the Railway Commission. The companies promised to improve the accom-

NOZZLE



This illustrates the Spramotor Nozzle, Fig. 56, designed to apply lime sulphur mixture. It is made in brass with brass or steel removable discs, or with aluminum cap and body, and brass or steel discs. The particular merit of this type of nozzle is in the large liquid ways that prevent clogging and the double ways being at an angle that gives the most perfect form of spray.

We believe, for the purpose of spraying with lime-sulphur, or any coarse materials under heavy pressure, it will be found unexcelled. Price, by mail, \$1.00. Free catalogue for post card.

HEARD SPRAMOTOR CO.

1070 KING STREET LONDON, ONT

Does Twice the Work of a Hoe -10 Days Trial

"Buco" Hand Cultivator does twice the work of Hoe in less time, less laoor, trouble; more thoroughness. Digs deeply, extracting weeds by roots. Adjusted to any width for working around vegetables, etc. 4 1/2 ft. hard-wood handle; thoroughly tempered best steel Teeth. Simple, durable; lasts a lifetime; saves its own price many times first season. Sold by Hardware and Seed Stores. If dealer cannot supply you, send regular price, \$1.50, and "Buco" will be promptly sent you, express prepaid. Money refunded after 10 days trial if it is not satisfactory.



"Buco" Hand Cultivator

Bailey-Underwood Company, Ltd. New Glasgow, N.S., Canada.

WANTED

If you want to sell property which you own in the U. S. or Canada, such as a **FARM** town property, write us at once for our new successful plan of selling direct, without commission. Give full description of property and state lowest price. If you want to buy property of any kind in any locality, write us, stating what and where you wish to buy, and we will send you FREE our magazine of choice bargains for sale direct by the owner with no commission added.

BUY American Investment Association SELL 706 20th Av. N., Minneapolis, Minn.

STRAWBERRY PLANTS

The new Island King. Second season offered. The ideal table or canning berry. Has grown well under unfavorable conditions. Good supply of plants at cut prices. **Island King \$1.00 per C post-paid, \$5.00 per M f.o.b.; Senator Dunlap \$3.50 per M f.o.b.; Crescent \$3.50 per M f.o.b.**

J. W. THOMPSON Napance, Ontario

HURST SPRAYERS ON FREE TRIAL

NO-MONEY-IN-ADVANCE. PAY AFTER IT HAS PAID FOR ITSELF.

LET US SEND YOU ANY OF THESE SPRAYERS—to try for 10 days, then if you buy, you can pay us cash or we'll wait till you sell your crop, then you can pay us out of the "extra profit." We pay freight. Wholesale dealers' prices.



Man-Power Potato & Orchard Sprayer. Sprays "anything"—potatoes or truck, 4 rows at a time. Also first-class tree sprayer. Vapor spray prevents blight, bugs, scab and rot from cutting your crop in half. High pressure from big wheel. Pushes easy. Spray arms adjust to any width or height of row. Cheap in price, light, strong and durable. **GUARANTEED FOR 5 FULL YEARS.** Needn't send-a-cent to get it "on trial." You can get one free if you are first in your locality. Write now.



Horse-Power Potato & Orchard Sprayer. For big growers. Most powerful machine made. 60 to 100 gallon tank for one or two horses. Steel axle. One-piece-heavy-angle-iron frame, cypress wood tank with adjustable round iron hoops. Metal wheels. "Adjustable" spray arms and nozzles. Brass ball-valves, plunger, strainer, etc. Big pump gives vapor spray. **Warranted for 5 years. Try this machine at our expense with "your money in your pocket."** See free offer below. Write today.

Fitz-All Barrel Sprayer. Fits any barrel or tank. High pressure, perfect agitation, easy to operate. Brass ball-valves, plunger, strainer, etc. Automatic strainer. No "cup leathers or rubber" about any of our sprayers. Furnished plain, mount 1 on barrel, or on wheels as shown. 5 year guarantee. It don't cost you "a cent" to try it in your orchard. Get one free. See below. Write today.

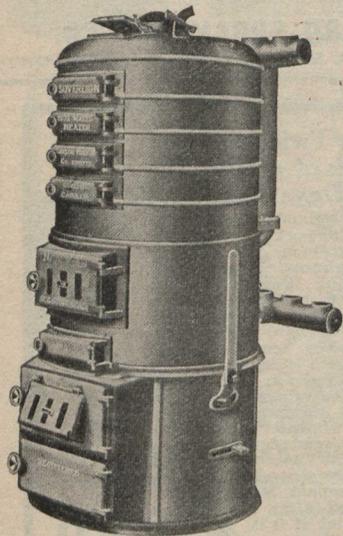
FREE—Get a sprayer FREE.—After you have tried the sprayer and are satisfied that it is just as we recommend it, send us a list of the names of your Neighbors and we will write them and quote them price and have them call and see your machine work, and for every Fitz-ALL Sprayer we sell from your list we will credit you with \$2.00 or send you check if you have paid cash. For every Man-Power Potato & Orchard Sprayer we sell we will credit you with \$3.50 or send check. For every Horse-Power Potato & Orchard Sprayer we sell will credit you \$8.50 or send check. We do all corresponding and selling. All you need do is show the sprayer, Many have paid for their sprayers in this way. This offer is good for only the first order in each locality. Don't delay. Send the coupon or post card NOW. **Ontario Seed Company, Ltd., 138 King St, Waterloo, Ont.**

COUPON—Fill out and send today. This Coupon will not appear again. **ONTARIO SEED CO., Ltd., 138 King St., Waterloo, Ont.** Send me your Catalog, Spraying Guide, and "special offer" on the sprayer marked with an X below. **Man-Power Potato & Orchard Sprayer. Horse-Power Potato & Orchard Sprayer. Fitz-All Barrel Sprayer.**

NAME..... ADDRESS.....

Don't Throw It Away **MEND IT**
 Does Your Granite Dish or Hot Water Bag Leak?
 USE COLLETTE'S PATENT PATCHES mend all leaks in all utensils—tin, brass, copper, graniteware, hot water bags, etc. No solder, cement or rivet. Anyone can use them; fit any surface. Send for sample pkg. 10c. Complete pkg. assorted sizes, 20c. postpaid. Agents wanted.
Collette Mfg. Co., Dept. 35
 COLLINGWOOD, ONT

"SOVEREIGN"



Boilers of Hot Houses

☐ The "unit section" feature of THE TAYLOR-FORBES Hot Water and Low Pressure Steam Boilers insures easy installation and permanent service. If any section, or part, becomes accidentally broken it is readily replaced.

☐ Taylor-Forbes apparatus lasts longer and burns less coal.

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THE
TAYLOR-FORBES
 COMPANY, LIMITED
 HEAD OFFICE: **GUELPH** WORKS & FOUNDRIES

Agents and Branches throughout Canada.

modation for individual shipments at points between Toronto and Niagara Falls.

Send fruit news from your district for publication.

FOR SALE AND WANT ADVERTISEMENTS

Advertisements under this heading inserted at rate of two cents a word for each insertion, each figure, sign or single letter to count as one word, minimum cost, 25 cents, strictly cash in advance.

YOUNG MAN, CANADIAN, wants situation on good fruit farm in Niagara District or elsewhere, where experience could be gained in all branches of fruit raising. Good recommendations.—Box 102, Arnprior, Ont.

STRAWBERRY PLANTS FOR SALE—Twelve standard varieties. First class, well rooted plants \$2.50 per 1,000; 40 cents per 100, post paid. Send for list. Ontario Nurseries, Wellington, Ont.

STRAWBERRY AND RASPBERRY PLANTS, Seed Potatoes. Send for list. Mention this paper.—R. C. CRYSLER, St. George, Ont.

GINSENG ROOTS AND SEEDS, best quality. For prices address R. McGregor & Co., 99 Gladstone ave., Toronto.

STRAWBERRY BOXES, \$3.00 per 1,000; plant boxes, \$5.00 per 1,000.—George Keith and Sons, 124 Queen St. E., Toronto.

FIVE ACRES BEST FRUIT LAND, Niagara District, excellent location. Half mile from Grimsby. Choicest fruits. Bargain if taken at once. Box 135, Grimsby, Ont.

WANTED.—Position as gardener or groom and gardener. Age 29. Married, no family. Address E. Trowhill, Box 22, West Toronto, Ont.

THE NEW CANADIAN Black Cap, Gibraltar, Early King, Outhbert, Eldorado and other popular bush fruits; also strawberries. Send for list. N. E. Mallory, Blenheim, Ont.

GARDENER SEEKS SITUATION. Age 40, married, one child. Life experience in gardening in all its branches. Eighteen months from England. Good references. Apply, "Gardener," care of Canadian Horticulturist, Toronto.

LANDSCAPE GARDENING.—Plans drawn to scale for laying out and planting parks, cemeteries, public or private grounds. Work supervised. C. Ernest Woolverton, landscape architect, Grimsby.

BLACK WALNUT WANTED, for re-forestation. A thousand or more small trees or nuts that will grow this year. Quote prices.—O. W. Hartman, Clarksburg, Ont.

WANTED.—Persons to grow mushrooms for us at home. Waste space in cellar, garden or farm can be made to yield \$15 to \$25 per week. Send for illustrated booklet, and full particulars.—Montreal Supply Co., Montreal.

Weather and Fruit

A factor of predominating importance in fruit culture is the weather at blossoming time. As records given in Bulletin 299 of the Agricultural Experiment Station at Geneva, N.Y., show, in 13 years out of the 25 between 1881 to 1905, unfavorable weather during mid-May seriously affected fruit yields. Little can be done to control such injury after fruit plantations have been established, but in deciding upon locations and varieties to be set, careful consideration should be given to weather conditions, since many factors, both general and local, influence frosts, rainstorms and wind.

The bulletin mentioned above discusses the various climatic features which make up "weather," the manner and the extent of injury to fruits due to each, methods of preventing such injury and the resistance of the different species and varieties of fruit to climatic stresses. Topographic and weather records are given for 100 localities in the state; so that the prospective orchardist can study intelligently the problem of locating his plantation.

Get one of our Fountain Pens.

THE TWO LEADERS

Williams and Senator Dunlap, Strawberry Plants, \$3.50 per thousand. Order now.

R. C. CRYSLER, St. George, Ont.

FOUNTAIN PEN FREE

Send us \$1.20 to pay for Two New One Year Subscriptions to The Canadian Horticulturist. We will send you as a premium a 14 kt. Gold Fountain Pen. These pens are guaranteed to give satisfaction. A little work on your part will secure one.

The Canadian Horticulturist
 PETERBORO, ONT.

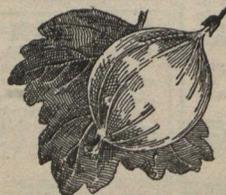
THE WILLIAMS STRAWBERRY This celebrated strawberry still maintains its lead in the Niagara District as the best all round commercial berry. In size, vigor, productiveness and the qualities that go to make up a first-class shipper, it stands at the head of the list of proved varieties, and is now more largely grown than any other strawberry in this section. We can supply a limited quantity of first-class plants at lowest rates.

W. H. BUNTING, The Carleton Fruit Farm, St. Catharines, Ont.

IF YOU HAVE APPLES OR POULTRY TO CONSIGN

we can handle them for you to advantage. If apples are in car lots, write us and we can sell them for you f.o.b. your station.

THE DAWSON COMMISSION CO., Ltd., Cor West Market and Colborne Sts. TORONTO, ONTARIO



SMALL FRUIT PLANTS

Gooseberries, Josselyn, Red Jacket, Downing, Pearl, Houghton.—Currants, Perfection, Ruby, Cherry, White Grape, Lee's Prolific, Champion, Black Naples.—Raspberries, Herbert, Cuthbert, Marlboro, Brinckle's Orange, Strawberry-Raspberry.—Garden Roots, Asparagus, Rhubarb, Perennial Celery.

Wm. FLEMING, Nurseryman, Box 54, Owen Sound, Ontario

Horticulture at Macdonald

Much labor and expense has been put into the equipment and preparation of the horticultural department at Macdonald College. It promises to be complete in all details. Besides work along the lines of experimentation and investigation, excellent courses in horticulture have been outlined and already are being given to students. During a visit to Macdonald College last fall, an editorial representative of THE CANADIAN HORTICULTURIST learned from Mr. W. Saxby Blair, the Horticulturist, that this department aims to give one and two-year students as complete and practical instruction as possible in small fruit growing, vegetable gardening, orcharding and plant propagation. In addition to this, several lectures and laboratory work on the improvement and beautifying of the home grounds, including amateur floriculture, will be given. The improvement of horticultural crops by selection will also be dealt with in a general way. The object is to acquaint those who cannot follow up the complete horticultural course with the general prin-

ciples underlying successful horticulture, and to demonstrate their application as far as possible by laboratory practice. For this purpose the college has provided a laboratory-greenhouse, where the planting, pruning and care of various small fruits is carried on representative of actual field work. The same applies to vegetable growing and amateur floriculture.

In the orcharding course, in addition to lectures, they not only use the greenhouse for demonstrating the laying out, planting and pruning of an orchard, especially with reference to young trees, but have as well laboratories for the mixing of spraying materials, budding, grafting, and so forth. This, together with an apple-packing room where the student has an opportunity of doing practical work in apple packing in boxes and barrels, affords as complete and practical a course in this branch as can be given during the winter. In the plant propagation course, material is supplied in the laboratory-greenhouse so that the student can see and practise the multiplication of plants in the most practical manner.

The third and fourth year courses deal

Northern Grown Trees

Apple, Pear Plum, Cherry, Peach, Grapes, Small Fruits, Deciduous and Evergreen Ornamentals, Roses, Flowering Shrubs, Climbers, etc. Specialties: Mammoth Dewberry and Wismer's Dessert Apple. Catalogue Free: it tells the whole story.

J. H. Wismer, Nurseryman - Port Elgin, Ont.

Garden-Making

By L. H. Bailey

A book published for anyone who has a love for growing things. It tells of ornamental gardening of any range, treats of fruits and of vegetables for home use, and should be in the hands of anyone interested in making and caring for a garden. Finely illustrated

Price, post-paid - - \$1.67

Our catalogue of Farm and Garden Books sent free on request

BOOK DEPARTMENT
THE HORTICULTURAL PUBLISHING CO., LTD.
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"QUALITY" SEEDS

Mean a whole lot to the man who wants to get the utmost out of his time, labor and money. Nature will do her share, but she can't produce good results from poor weak seeds.

Ewing's "Reliable" Seeds

have made a name for themselves from coast to coast, because they bring results.

The purchasing price of Ewing's Seed may seem dear when compared to some bargains that are offered you, but the wise sower will look to the future. The value of good seeds is apparent at harvest time.

EWING'S SEEDS are good Seeds, and they sell on their merits. Don't accept substitutes. If your dealer can't supply you, write as direct FREE-Our Illustrated Catalogue. Write for it

Wm. Ewing & Co., SEEDSMEN, McGill Street, Montreal



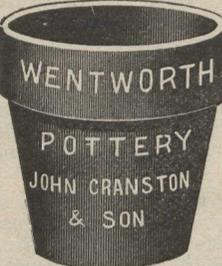
SEED POTATOES
New Argyle

This potato originated right here with me and has proved itself to be of real merit to all growers, being early, a splendid general cropper, a very choice cooking variety and the most attractive smooth, white, regular striped potato I have ever seen. Its yield for two seasons now has been from 400 to 450 bushels per acre, last year and this under ordinary cultivation. The Experimental Farm at Ottawa, upon receiving a report of this variety, sent for a sample, which I have forwarded to them.

I have only a limited amount to part with this Spring, as I am planting heavily myself, but have made the price very reasonable for a new and valuable variety, viz.; lb. 20c. postpaid; peck 50c. bushel \$1.50; bag \$2.25; bags free, carriage extra.

Order early, as the supply will not last long at these prices.

W. E. FARWELL, Orillia, Ont.



WENTWORTH POTTERY

The Home of Reliable Pots

ornate Pots
Flower Pots
Hanging Baskets
Fern Pans
Flower Jars

Prompt Shipments
Quality Unequalled
and Prices Right

Send us an estimate of the Pots you will need this season and we will quote Lowest Prices

JOHN CRANSTON & SON, HAMILTON, ONT.

HORTICULTURAL BOOKS

Write for our Free Catalogue of Horticultural Books to BOOK DEPARTMENT

The Horticultural Publishing Co., Limited
PETERBOROUGH, ONT.

more especially with special horticultural studies, such as elementary forestry, systematic pomology, greenhouse management, plant breeding, landscape gardening, literature of horticulture and research work.

The apprentice students have an opportunity of spending the summer working in the different outside departments, thus getting into close touch with the best way of doing work on the farm. Those specializing in horticulture, should they wish to continue as apprentice students after the second summer, have an opportunity of taking up some special line in investigational work under the supervision of the head of the department for which they will be held responsible. In this way the college aims to develop graduates having some knowledge of planning and directing experiments of value. The horticultural department of some 70 acres has been planned with this object in view, and affords ample scope for giving students just such a training and, at the same time, an opportunity to work out various problems of horticultural importance.

China Aster Plants

FROM BEST SEED

Queen of the Market,--white, early
15 cents per dozen, 40 cents per hundred, postpaid

Early Wonder,--white and pink
Lavender Gem,--early
Royal Purple,--medium early
Vick's Branching,--white, medium early
Vick's Branching,--white and pink, late
15 cents per dozen, 50 cents per hundred, postpaid

Packed to go anywhere by mail.
May be planted with good results until 15th June.
Not less than 25 of one variety at 100 rates
Orders received now will be filled in latter part of May and in early June.
Please send postal note with order.

John Cavers, Oakville, Ont.

GLADIOLI

Groff's World's Fair Collection

Groff's New Blues
Groff's New Yellows
Groff's New Named Kinds also

Cannas, Dahlias and Pæonies

Send for Catalogue

CAMPBELL BROS.
SIMCOE - - ONT.

The New "T.-S." Niagara Spray Nozzle.—Patents purchased by Time-Saving Coupler Co., Toronto, March 11, 1909.—Pamphlets ready in a few days. This nozzle will throw a spray 14 feet wide. The same amount of water is delivered with the spray as with a straight stream. It is the only nozzle on the market that will do so. Made in "T.-S" or thread connection. The water is thrown up in air by spoon or flange and drops naturally, thus making it impossible to break or damage the most delicate plants.

Secure one of our special "HORTICULTURIST" collections of seeds. Read our offer on another page.

DAHLIAS THIS IS A FINE TIME TO BOOK YOUR ORDER.

CACTUS WE HAVE A FINE STOCK OF THE (NEWEST AND BEST) \$1.00, \$1.50, \$2.00 PER DOZ. ALL DISTINCT

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T. H. P. HAMMETT & CO.
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Pear and Apple Blight

We have positively Demonstrated that

WE CAN CURE THIS DISEASE

Write us for particulars

Pear Blight Remedy Co.
Vacaville - California



WALKERVILLE TORONTO MONTREAL ST. JOHN VANCOUVER VICTORIA 222

PAGE WHITE FENCES

Get the Best. Styles for Lawns, Farms and Ranches. Made of high carbon wire, galvanized and then painted white. Tougher and stronger wire than goes into any other fence. Get 1909 prices and illustrated booklet.

THE PAGE WIRE FENCE CO., LIMITED
Largest fence and gate manufacturers in Canada

Satisfied Customers from Newfoundland to B.C.

TREES, SHRUBS, ROSES, SEED POTATOES, ETC., IN VARIETY

THE PARSONS Co. write from Newfoundland "Trees came in fine shape. Well pleased."

HILL & HARVEY, of B.C., "The 1348 trees all planted, and must say they are the finest lot of trees we have seen."

MR. HARRIS, Ont., "I want to tell you the 500 peach trees are every one growing fine. My neighbor bought from an agent, 40 per cent. are dead."



Send for our prices for paying results, and order direct from

A. G. Hull & Son
The Central Nurseries
ST. CATHARINES, - ONTARIO

POULTRY DEPT.
Conducted by S. Short, Ottawa

With the advent of spring, rural life and pursuits appeal more strongly than ever to many people employed in cities or towns, who, through stress of business or ill health, seek rest and strength in agricultural employment. Having no knowledge of farm work, poultry keeping suggests itself as requiring the least (?) skill or knowledge and the least outlay, two very important factors.

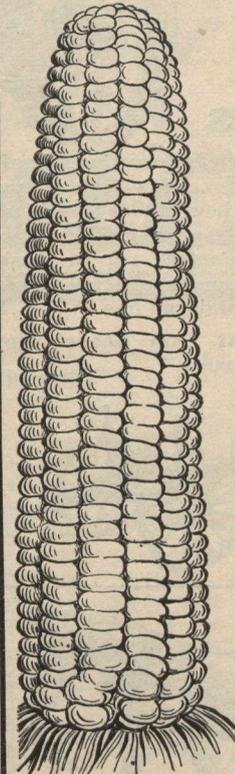
With regard to knowledge of poultry keeping, it is essential that to be successful at least one or two years' experience is required. It looks easy in perspective—“simply feed the hens and collect the eggs—cost per hen for one year, \$1.00. 10 dozen

eggs per hen in one year at 30 cents a dozen, \$3—profit per hen in one year \$2. 1,000 hens at \$2 each, \$2,000 a year. All the charms of rural life—poultry keeping on the side which brings in \$2000 a year.”

Well this is only a “castle in Spain.” We have no poultry keepers in Canada making \$2000 a year. I doubt if there are any making over \$1,000 a year. In the state of New York and Rhode Island there are many duck and poultry raisers making good incomes but they are not men worn out with other work or young sickly men but men in the vigor of life and large sums invested in huge breeding and incubating buildings and land and have the advantage of the best market on the continent at their doors. They have not the rigors of a Canadian winter to contend with.

There are poultry fanciers making money in Canada chiefly in Ontario, but they are exporters who have studied the points of and conditions for breeding exhibition stock. They have the wisdom to and breed

CANADIAN GROWN SEEDS
FOR
FARMERS & MARKET GARDENERS



Devitt's Early Sugar Corn

Originated by Ben. Devitt, Esq., of Waterloo, about 30 years ago and steadily improved by him.

It is the table corn par excellence—just what you gardeners want for your select trade, the sweetest of all, very early—white kernels and good size ears.

We are the only seed men in Canada growing on their own fields, vegetable, flower and Field Seeds. It is of vital interest to you.

Free Package

Write for complete catalogue and free package of Devitt's Early Sugar Corn, also give names of your neighbors.

ONTARIO SEED CO.
PIONEER CANADIAN SEED GROWERS
38 King St., Waterloo, Ont.

If You Have a Big Wash To Do

tell your husband he must get you a

“Puritan”

Reacting Washing Machine

It takes all the work out of wash day. Improved Roller Gear makes washing quick and easy.

The “Puritan” is the latest and most improved. If your dealer does not handle the “Puritan,” write us for literature and illustrations.

DAVID MAXWELL & SONS, St. Mary's, Ont.



How to get bigger crops

Get a Planet Jr. Saves two-thirds your time, prepares the ground better, and with less seed, gives greater results. No other farm and garden implements do the work so well or last so long.

Planet Jr.

No. 25 Planet Jr. Combined Hill and Drill Seeder, Double Wheel-Hoe Cultivator and Plow opens the furrow, sows the seed accurately in drills or hills, covers, rolls, and marks out next row in one operation. It also has perfect plowing, hoeing, and cultivating attachments.

Planet Jr. 12-tooth Harrow Cultivator and Pulverizer is a wonderful tool for berry-growers and market-gardeners. Works deep or shallow, without throwing earth on the plants, and pulverizes the soil thoroughly. Invaluable wherever fine close work is needed.

Write to-day for our new free 56-page catalogue of 1909 Planet Jrs.—45 kinds—a tool for every gardener's need.

S. L. Allen & Co., Box 1106 G, Philadelphia, Pa.

Write for the name of our Nearest Agency.



QUEBEC GROWN PLANTS

HEALTHY AND HARDY

The newest
Raspberries
by Express

KING, best early, 75 cents per dozen, \$4 per hundred.

HERBERT, most productive, hardy, 90 cents per dozen, \$5 per hundred.

EATON, largest and most productive, \$1 per dozen, \$6 per hundred.

Cuthbert, Marlboro, London, Baumforth, 60 cents per dozen, \$3 per hundred.

Mail postpaid 10 cents a dozen extra.

Strawberries

SPRINGDALE BEAUTY, a fine early.

PARSONS BEAUTY, most productive market berry.

UNCLE JIM, the finest of the large berries.

WILLIAM BELT, best garden berry, and others.

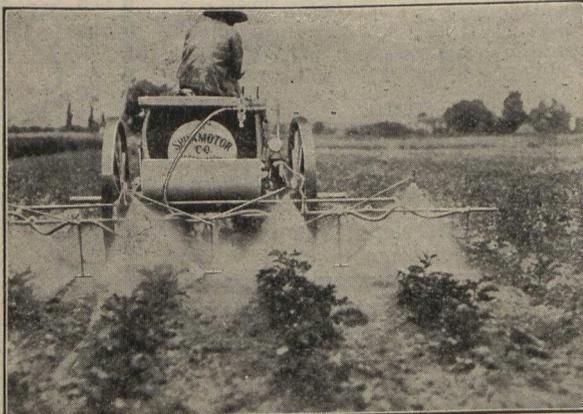
60 cents per hundred, \$4 per thousand.

Mail postpaid 20 cents extra per hundred.

Send for price list and descriptions.

C. P. NEWMAN

Box 51, - Lachine Locks, - QUEBEC



This shows the H.P. Spramotor arranged for spraying potatoes, three nozzles to a row and four rows, two spraying from the sides and one from the top; adjustable as to height and width up to 40 in. rows. Nozzles absolutely will not clog. 12 gallon air tank, automatic and hand controlled; 100 lbs. pressure guaranteed with 12 nozzles open. An acre can be sprayed in 20 minutes. Has agitator clean-out pressure relief into tank, and nozzle protector all under control of the driver from seat. For 1 or 2 horses. Fitted for orchard, vineyards and grain crops. Can be operated by hand. This ad. will not appear again in this paper. If interested write now.

HEARD SPRAMOTOR CO.

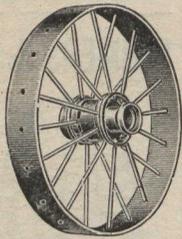
1069 King St. - London, Ont.

the utility breeds such as Plymouth Rocks, Wyandottes, Orpingtons and Leghorns and

besides breeding beautiful exhibition specimens, they have combined with the fancy points, splendid laying qualities. The profits from breeding such fowl are derived from the sale of thoroughbred stock from \$2 to \$50 each and the sale of eggs in the hatching season from \$7 per 100 to \$7 per 15, so that it can easily be understood that money can be made at such prices if business is good. To make business good it is necessary to buy the fowls to do it.

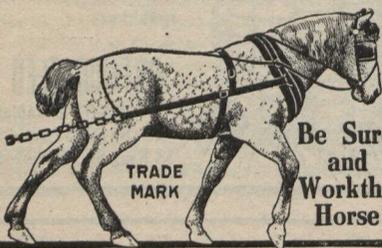
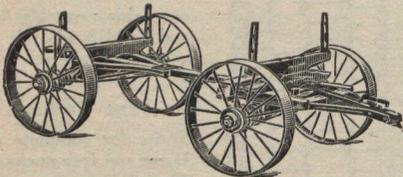
H. R.—Enquirer who signed initials "H. R.," and asked about lily of the valley is requested to send name and address.

End Your Tire Troubles



No bothersome, expensive resetting of tires. No wooden spokes to rot. You end your tire troubles with our Low, Wide-tire Steel Wheels. Lighter, stronger, cheaper than wooden wheels. Guaranteed not to break in coldest weather or on rockiest road. Fit any size axle. Catalogue free. 3

Dominion Wrought Iron Wheel Co. Limited
ORILLIA, ONTARIO



Be Sure and Work the Horse

TRADE MARK

HE CAN WORK EVERY DAY

If you use Bickmore's Gall Cure your teams can work right along and be cured of Saddle and Harness Galls, Chafes, Rope Burns, Cuts, Scratches, Grease Heel, etc. while in harness. The more work the quicker the cure.

BICKMORE'S GALL CURE

is the standard Remedy for all these and similar troubles. Is excellent for Mange and Sore Teats in cows. Above trade mark is on every box. For sale by dealers. Money refunded if it fails. Sample and Horse Book every farmer should read.

WINGATE CHEMICAL CO. LTD., Canadian Dist'rs,
645 NOTRE DAME ST., W. MONTREAL, CANADA

Imperial Bank

OF CANADA

HEAD OFFICE—TORONTO

Capital Authorized, \$10,000,000.00

Capital Paid-up. . . 5,000,000.00

Rest, . . . 5,000,000.00

D. R. WILKIE, President

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Branches and Agencies throughout the Dominion of Canada

Drafts, Money Orders and Letters of Credit issued available in any part of the world
Special attention given to collections

Branches of the Bank have recently been opened at Cochrane, the junction of the Transcontinental and T. & N. O. Railways and also at Gowanda.

Savings Department—Interest allowed on deposits at current rate from date of deposit.

How many beginners are prepared to give the time to studying these conditions? It takes several years of study to know the first-class show bird when one sees it. In fact I know several breeders who never mastered the points of a show bird of the breed that they had bred for years.

My object in writing so plainly is to discourage any one who may have some means or a good situation and who may now be contemplating investing all they have or leaving their position to begin, without experience, poultry raising for a livelihood. For eggs and poultry for market, the only people that make a profit are farmers who keep about 100 hens and raise that number of chickens annually and who have unsaleable grain and skim milk to feed their fowl at small expense.

With reference to the correspondent who recommends giving warm water and making the fowl vomit the grain, etc., this is the remedy for simple cases and which I believe I mentioned in my article. The surgical operation is necessary for cases when the fowl has eaten long pieces of hay or grass and which has become matted in the crop. It is quite impossible to remove the contents of the crop in any other way.

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We have been manufacturing Safe Lock Shingles for over ten years, and roofs laid when we started in business are still "as good as new," to quote from hundreds of letters we have on file in our office from our pleased and satisfied customers.

In all this time these roofs have not cost one cent for repairs of any sort.

In all these years no building covered with Safe Lock Roofing has ever been destroyed by lightning.

Do you know that Safe Lock Shingles fully meet the rigid requirements of the British Government for Admiralty and other public service. Think what that means. Let us illustrate.

Every farmer knows from experience that ordinary galvanized fencing seldom lasts longer than two or three years without showing signs of rust. On the other hand, galvanized wire for Government use gives years and years of service, owing to the splendid galvanizing insisted upon.

Safe Lock Shingles are galvanized the same as Government wire, and therefore may be depended upon to give long service. We really do not know how long they will last. Safe

Lock Shingles in use for more than ten years show no signs of wear.

To-day we are using better material in their construction than ever, the steel is of higher grade, and the galvanizing is heavier. We have also made several improvements in manufacturing. For instance, every shingle is cut accurately to size before it is galvanized, thus protecting the edges of the shingles instead of leaving them raw and exposed to the decaying action of moisture.

We want you to remember the

thus causing a leaky roof.

Safe Lock Shingles cannot be blown off, nor can they be pulled apart by warping of the sheeting, or any other cause.

Study the small illustrations on this page, and you will be convinced of the truth of this statement.

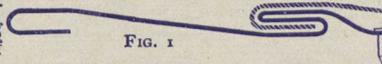


FIG. 1

In Fig. 1 the solid black line shows the top lock, the shaded line the bottom lock. Notice that a

SAFE LOCK SHINGLES are the only shingles that—

1. Give you a positive guaranty against Lightning, backed up by a policy signed and guaranteed by the manufacturers.
2. Meet fully the rigid requirements of the British Government for Public work.
3. Lock on four sides, and cannot be pulled apart.
4. Have three (3) thicknesses of metal along upper edge at point of greatest strain.
5. Completely protect nails from weather.
6. Have edges galvanized after being cut to exact size.

name Safe Lock. No other shingle has that name.

No other shingle is a Safe Lock Shingle.

Safe Lock Shingles lock positively on all four sides. Other shingles grip only on two sides. This is not enough for a permanent, durable roof. We know of many instances of buildings covered with these shingles being entirely unroofed in a stiff breeze. Another objection is that these shingles are apt to spread apart owing to the warping of the sheeting to which they are nailed,

double fold forms the top lock instead of a single fold, thus giving twice the strength at the point where the greatest strain comes.

With Safe Lock Shingles the nails are driven full length into the sheeting, and are protected by the peculiar lock construction from any possibility of water backing up and starting rust.

FIG. 2

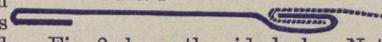


Fig. 2 shows the side locks. Note the deep firm grip which allows ample room for expansion and

contraction due to heat and cold. They cannot unhook.

Illustrations 3, 4 and 5 show the construction of other metal shingles.



FIG. 3

No. 3 is the old-fashioned cleat shingle now almost entirely driven from the market by the Safe Lock. These do not always shed water, and it is almost impossible to keep them from leaking after they have been on for a season or two.



FIG. 4

Note in No. 4 that the nail is only about half way driven into the sheeting, leaving a large surface exposed to the weather. This makes a very insecure fastening for a roof, and this is still further weakened by the springiness of the steel, which has a tendency to pull out the nails, causing a loose, leaky, rattling roof.



FIG. 5

No. 5 is a side slip pattern, similar to many now on the market. The one shingle slips into the other, but does not lock. Shingles constructed in this way pull apart easily and must not be confused with the positive lock in our Safe Lock Shingles, as shown in Fig. 2.

Safe Lock Shingles are absolutely uniform. We have spent time and money to perfect their construction, which is fully protected by patent. They are now easier than ever to lay, and a Safe Lock roof cannot leak, if the shingles are laid in accordance with our printed instructions.

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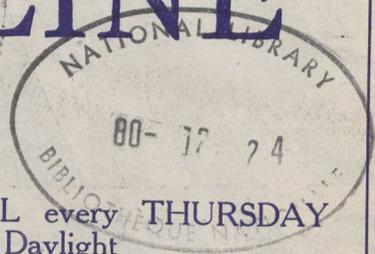
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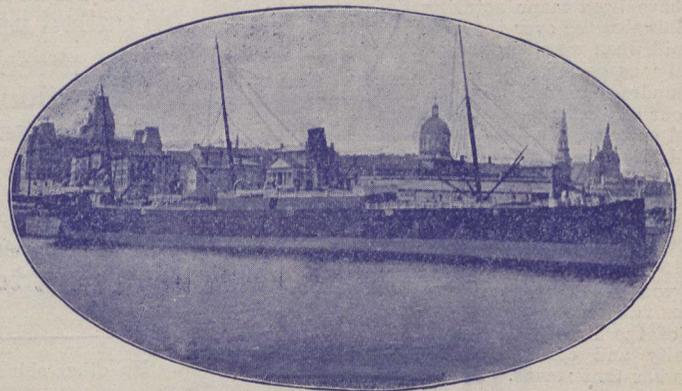
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