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FEBRUARY, 1897. W. G. Scott

The
**CANADIAN
HORTICULTURIST.**

A JOURNAL DEVOTED TO
FRUIT, FLOWERS & FORESTRY

PUBLISHED BY
THE ONTARIO FRUIT GROWERS' ASSOCIATION

EDITED BY
L. WOOLVERTON M.A. SECRETARY
* GRIMSBY, ONT. *

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A Friendly Word to Mothers.

LOTS of people write to tell us that the best reading in the newspapers is (and has long been) the series of articles of which this is one. We appreciate the compliment, and try to deserve it. It is not that we are wise above all the rest of mankind; but because we say our say in plain English and in a friendly, helpful spirit towards everybody. And it is in this spirit that we now say to all the women in England who are mothers of growing children, that they ought to be more watchful of those children, especially in all matters that concern their health. Too many of the young people of this country are ill—quite too many. And death is too busy among them. There are too many *short* graves in the churchyards. Come, come now, let's have a bit of a talk about it. And let one good mother speak first.

"In November, 1893," she writes, "one of my daughters took cold, which threw her into a low, weak state of health. She grew to be very despondent, listless, and altogether out of sorts. She refused her food, saying she didn't want it, that she had no appetite. Still she ate something, as of necessity, but did not relish it, and it gave her no strength. Then she would be troubled with giddiness and a rush of blood to the head. At times her head was so bad she was not able to move about, and took no interest in anything. We were in hopes that the ailment would wear off, seeing that she was young, and that she would soon be herself again.

"Instead of that, she seemed to get worse, and complained of great weakness. In this strait we consulted a doctor, who treated her for a time, yet none of his medicines appeared to reach the source of her disease. For six months she remained in this condition. We knew not what further to do, and waited with a natural anxiety for any turn for the better or worse.

"It was in May, 1894, that I read in a little book or pamphlet that had been left at our house about Mother Seigel's Curative Syrup, and how many cases with the same symptoms as my daughter's, had been cured by it. What impressed me was the plain, straightforward speech of the letters of people printed in the book. They sounded honest and true, and I made up my mind that the medicine that had been a blessing to other families might prove so to mine.

"Well, I got a supply of the Syrup from Mr. J. V. Lewis's Stores, Blackwood, and after having taken it for only a few days, my daughter experienced great relief; and, by the continued use of it for a few weeks, she fully regained her health. Since then she has been as strong and well as before the illness came upon her. Seeing what Mother Seigel's Syrup had done in this case, I used it for another daughter who suffered from indigestion and rheumatism—with the best results.

"Out of my knowledge of the merits of this remedy I would strongly recommend it to all women, especially to those who are at a critical age, and liable to illnesses which may so easily prove more serious than at first feared. In hope my words may reach and be of use to others, you have my consent to the publication of this hasty letter. (Signed) M. E. Davies, Blackwood, Newport, Monmouthshire, November 28th, 1894."

It is not really needful to add anything to what Mrs. Davies has said. We may, perhaps, venture to say that, in all probability, her daughter's complaint—indigestion and dyspepsia, with resulting nervous prostration—actually set in *before* she took the cold to which Mrs. Davies attributes the attack. At least in the great majority of such cases that is the order of events. Let mothers look more closely into the subject and then say what they think. One thing nevertheless is clear, and can be acted upon now. Parents can place a bottle of Mother Seigel's Syrup in the house, whether they need it to-day or not. Then give the young people a dose on the *first signs* of anything wrong. Simple carelessness and slack attention. Dear Mercy, how many vacant places they make in our homes.



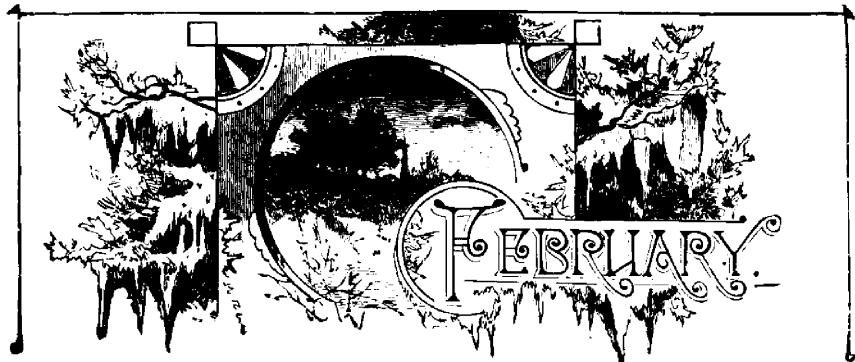
SOME OF PROF. HUTTS CHRYSANTHEMUMS

THE CANADIAN HORTICULTURIST.

VOL. XX.

1897.

No. 2.



PROMINENT CANADIAN HORTICULTURISTS—XXXVII

H. L. HUTT, B.S.A.



FIG. 1048.—PROF. H. L. HUTT.

INTIMATELY associated with the present interests of Ontario fruit growers, is Prof. Hutt, Horticulturist of Ontario Agricultural College, Guelph. Although a young man, and but a recent graduate of the College, he is working so systematically and upon such lines, as will in time enable him to serve the interests of the fruit grower in very many ways.

Born in the Niagara District, within sound of the Great Cataract, and brought up to practical work on his father's fruit

farm, he early learned the business side of fruit growing. From earliest boyhood he was a horticulturist, for as a little child, he was making gardens and planting little trees—and the ardor of this child love was not dampened by the hard practical work of after years, for even yet his horticultural duties at the college are pursued with the same loving devotion that was evinced by him in the little "play garden," of his childhood. Such men usually succeed, because they take a real interest in their work.

In 1890, Mr. Hutt received his diploma for a full course at the O. A. C., together with a gold medal for general proficiency; and in 1891 he took his degree of Bachelor of the Science of Agriculture, at the University of Toronto. He then returned to his father's farm and spent a couple of years in putting into practice the lessons learned at college; and it is stated that within three years the cropping of the farm was nearly doubled owing solely to the adoption of improved methods learned at college.

PROMINENT CANADIAN HORTICULTURISTS.

In 1892, Mr. Hutt was selected as one of the speakers at the Farmer's Institutes, and has continued every year since; but we hope that in future the Department may send him to lecture to our Horticultural Societies instead.

In 1893, Mr. Hutt was appointed to his present position of Professor of Horticulture at the O. A. C.; but before entering upon his duties he took a special

Our engraving (No. 1053) shows one of Prof. Hutt's classes in Horticulture engaged in practical work in Hybridization, and the accompanying cut of the College Garden (Fig 1049) shows the field of some of Prof. Hutt's practical work. One special line in which he was engaged in 1896, was in testing strawberries, of which he had under cultivation about one hundred and twenty varieties. There



FIG. 1049.—THE COLLEGE GARDEN, 5½ ACRES.

The foreground represents the experiments now being made by Mr. Hutt, the College Horticulturist, in the cultivation of strawberries. In the distance are to be seen the dairy stables, the silo, the new dairy buildings, the experiment dairy buildings, and, in the extreme left, the residence of the manager of the Poultry Department, immediately behind which are the new poultry buildings.

course at Cornell University, and visited the leading Horticultural establishments in the United States. By virtue of his position he is also a member of the Board of Control of our Fruit Experiment Stations, and official visitor to these stations every summer.

were twelve feet of row for each variety and carefully labeled. These are shown more plainly in Fig. 1051, showing the Experimental Strawberry Plot in the college garden. It was the results of his work in this line that furnished the material for an excellent paper on "The

FIG. 1050.—WEST SIDE CONSERVATORY, AT ONTARIO AGRICULTURAL COLLEGE, GUELPH.



PROMINENT CANADIAN HORTICULTURISTS.



FIG. 1051.—EXPERIMENTATION IN THE HORTICULTURAL DEPARTMENT.

The engraving represents part of a plot (a little over an acre in extent), in which 125 varieties of strawberries are in test, under Mr. H. L. Hutt, the College Horticulturist. The photograph was taken in the latter part of June, about two months after the plants were planted. Each variety is plainly labelled upon a white wooden stake, as shown in the engraving. Mr. Hutt intends giving a full report of the yields made from 120 varieties that fruited this year in the next College report.

Strawberry," given at our meeting at Kingston. We are indebted to our worthy contemporary, "Farming," for the two engravings.

Another favorite line in his greenhouse work is the cultivation of the chrysanthemum. So attractive a display as that at the college is not seen short of Toronto, and the visitors are very numerous not only from Guelph but from the surrounding country. We give two views of the interior of this house in "mum" season, (Figs. 1050 and 1052) which give some idea of the excellence of the exhibit, and our frontispiece shows a few choice varieties.

In reply to an enquiry about the varieties in bloom, about Thanksgiving Day, 1896, the professor replied as follows:

We have 120 varieties of chrysanthemums now in bloom. The following

are some of the choicest. I have not time to give full descriptions of each now: *Enfant des deux mondes*, feathered, white; *Ivory*, dwarf white; *Pres. Smith*, light pink; *Ivory*, pink, curled quilled; *L. B. Bard*, pink, straight quilled; *Pitcher and Manda*, cream with yellow centre; *Golden Gate*, golden yellow; *Louis Boehmer*, feathered, dark pink; *Rohallion*, quilled, sulphur yellow; *O. P. Rasset*, very deep red; *Philadelphia*, cream; *Tiger*, bronze and old gold; *Judge Hoitt*, anemone centred.

During the winter of 1897-8 we expect the Department of Agriculture will allow us to send Professor Hutt out as lecturer to our Horticultural Societies, and no doubt one of his subjects will be the "Cultivation of the Chrysanthemum." Perhaps his visits may stimulate each Society to attempt a Chrysanthemum show in 1898.





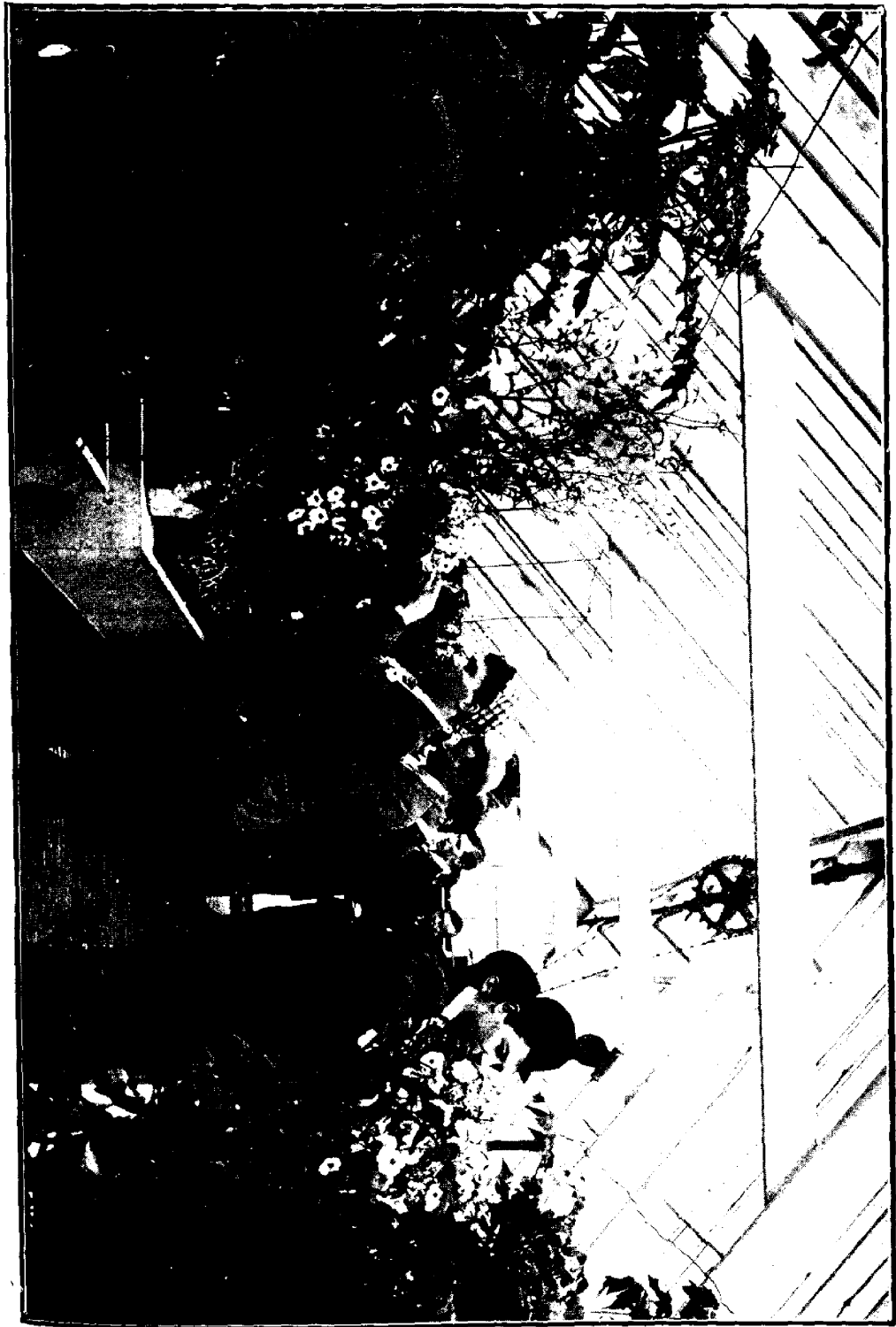
FIG. 1052.—VIEW IN COLLEGE CONSERVATORY.

LILIES IN POTS.

THE genus *Lilium* comprises about forty-five species of hardy, half-hardy, or greenhouse bulbs, and generally the prettiest and most effective bulbous plants that can be grown, either under glass or in the open air. The white lily (*L. Candidum*) is always to be seen in the wholesale market when in season. Only during the past summer we had the pleasure of seeing a splendid display coming on in a little orchard. The soil was undoubtedly rich and well drained. In this situation, we were informed, a gorgeous display of magnificent blooms are cut season after season. We mention this fact to show that with proper conditions *L. Candidum* may be readily raised to perfection. It is a very handsome and popular species. We do not purpose lengthily reviewing the numerous species of this genus. A word or two, however, on *L. Speciosum* in pots may not be out of place. Most lilies are especially suitable for pot culture on account of their pretty foliage, and suitability generally for greenhouse or conservatory decoration. When growth commences they may be plunged in the open ground, and allowed to remain there till the blooms are ready to expand, when they should be taken under cover. For general purposes the bulbs should be potted singly, in 6in. pots, so that they may be readily shifted when in bloom, if required. This is a good way to raise them for decorative purposes.

Potting Lilies.—The simplest process is as follows:—When the bulbs are received they are laid on an outside border, and just covered with some light or

sandy soil. Then as the roots at the base commence to push freely they are potted. The best material is composed of loam, well-decayed manure and sand. The bulbs should be potted well down, so as to leave space at the top for additional soil as time goes on, that is when the root stems develop. After potting they should be placed on a bed of ashes, and be covered to a depth of three or four inches with the same material. When the tops are about to start through the soil the covering should be removed, when the pots may be plunged into the open ground to remain till the flowers are on the point of opening. It is important to remove the covering of ashes before the shoots make their appearance above ground, otherwise they will be blanched and will need protecting; whereas if exposed before the tops are above ground they will then push away sturdily from the very first, and, of course, resist the cold better. Under this system later blooms are obtained than if they were raised under glass, and consequently may be better appreciated by villa residents and suburban and amateur growers. In the summer they will simply need a little water, and as the pots get full a top dressing will be of great benefit to the plants. As the buds appear it is well to give manure water once a week. A stick for support is necessary. The flower is pure white, or more or less spotted with claret red. Large supplies come from Japan, and it is productive of fine, bold, handsome blooms.—*Fruit Grower.*



YARD DECORATION.

IN no way is the character of the occupants of a country home more truly judged by the passer by, than by the taste shown in the lawn and its surroundings. An attractive exterior is certainly important for the house, but not so important as a well laid out lawn.

beauty of the place does not at all consist in the house, which is but a plain square building, but rather in the well kept lawn, the graceful curve of the carriage way, and the graceful trees and shrubs, which form a beautiful setting for the house itself.

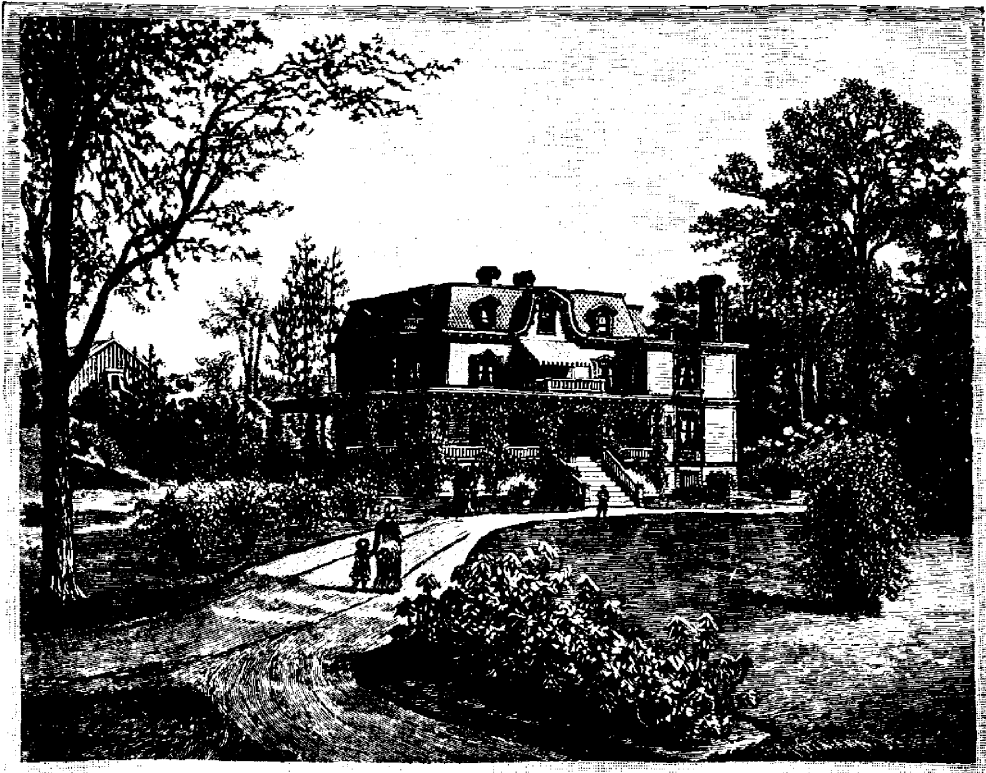


FIG. 1054.—“SPRINGHURST.”

We are glad to learn that many of our affiliated Horticultural Societies are giving especial attention to the cultivation of a taste in this direction both in public parks and private lawns, and truly it is time that our country began to make some steps in advance in this line of art.

In the accompanying illustration, for example, it is quite evident that the

Prof. Bailey, of Cornell University, has recently issued a valuable bulletin on “Planting Shrubbery” which we have read with much interest. He first condemns the nursery type of planting a door yard, as shown in Fig. 1055. How frequently one meets with this error. Instead of an open stretch of greensward, which is the beauty and ornament of a well-planned house yard, we

YARD DECORATION.

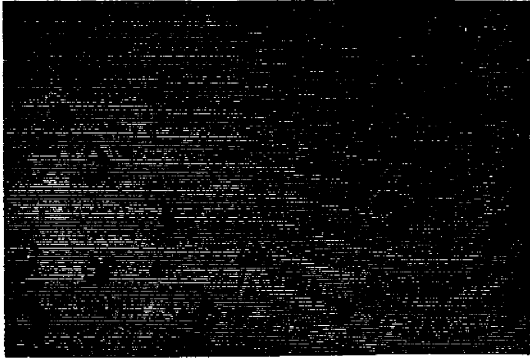


FIG. 1055.—THE COMMON OR NURSERY TYPE.

find more or less regular rows of shrubs or evergreens, dotting it over without the slightest purpose or aim in the way of making a beautiful whole. Prof. Bailey says that every yard should be a picture, and by way of contrast draws attention to Fig. 1056, "where the central idea is the residence with a warm open green-sward in front of it. The same trees and bushes which were scattered haphazard in Fig. 1055, are massed into a frame work to give effectiveness to the picture of home and comfort."

To quote Mr. Bailey still farther: The making of a good and spacious lawn, is the very first practical consideration in a landscape garden. This provided, the gardener conceives what is the dominant and central feature in the place, and then throws the entire premises into subordination with this feature. In home grounds this central feature is the house. To scatter trees and bushes over the area defeats the fundamental purpose of the place,—the purpose to make every part of the grounds lead up to the home and to accentuate its home likeness. Keep the centre of the place open. Plant the

borders. Avoid all disconnected, cheap, patchy, and curious effects.

It is not enough that the bushes be planted in masses. They must be kept in masses by letting them grow freely in a natural manner. The pruning knife is the most inveterate enemy of shrubbery.

Flowers appear to the best advantage when seen against a back ground of foliage, and they are then, also, an integ-

ral part of the picture.

The flower garden, as such, should be at the rear or the side of a place, the same as all other strictly personal appurtenances are; but flowers and bright leaves may be freely scattered along the borders and near the foliage masses.

What kinds of shrubs and flowers shall I plant? This is wholly a secondary and largely personal consideration. Be sure that the main plantings are made up of hardy and vigorous species, and have lots of them. Then get the things which you like. I like bull-thistles,

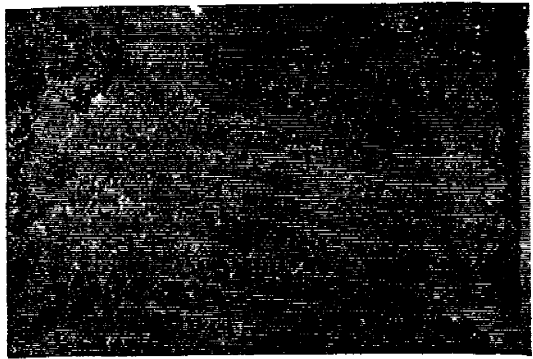


FIG. 1056.—THE PROPER OR PICTORIAL TYPE OF PLANTING.

lilacs, hollyhocks, burdocks, rhubarb, dogwoods, spiraeas, elders and such careless things. But others have better



FIG. 1057.—BACK YARD WITH BORDER (LEFT) PLANTED AS WILD GARDEN.

tastes. There is endless merit in the choice of species, but the point I want to emphasize is that the arrangement or disposition of the plants is far more important than the kinds.

Wholly aside from any artistic value,

a simple collection of common wild plants is always full of interest and merit.

Fig. 1057 shows a plantation which answers the double purpose of a wild garden and a border mass-planting. The area is about three feet wide and ninety

YARD DECORATION.

feet long, and lies along one side of a small back yard. The soil was originally a most tough and obstinate clay.

These various pictures will fix in the reader's mind the importance of a simple structural design for the home grounds. The essential elements of this design are the open centre and the well-planted sides. It is particularly important that the view to and from the front of the dwelling house be kept open, for otherwise there can be little conception of pictorial effect in the composition. It is a grave mistake to cover up or to obscure the one central and important feature of the place. This architectural composition would have little place or merit in the landscape if the foreground were promiscuously planted.

But if one has no area which he can make into a lawn and upon which he can plant such verdurous masses, what then may he do? Even then there may be opportunity for a little neat and artistic planting. Even if one lives in a rented house, he may bring in a bush or an herb from the woods and paint a picture with it. Plant it in the corner by the steps, in front of the porch, at the corner of the house, almost anywhere except in the centre of the lawn. Make the ground rich, secure a strong root and plant it with care; then wait. The little clump will not only have a beauty and interest of its own, but will add immensely to the furniture of the yard. About its base one may plant stray bulbs of growing tulips or dainty snowdrops and lilies of the valley; and these may be followed with pansies and phlox and other simple folk. Very soon one finds himself deeply interested in these random and detached pictures, and almost before he is aware he finds that he has rounded off the corners of the house, made snug little arbors of wild grapes



FIG. 1058.—A CORNER AND DOORWAY
DRAPED WITH HONEYSUCKLE.

and clematis, covered the rear fence and the outhouse with actinidia and bitter-sweet, and has thrown in dashes of color with hollyhocks, cannas and lilies and, has tied the foundations of the buildings to the greensward by low strands of vines or deft bits of planting. He soon comes to feel that flowers are most expressive of the best emotions when they are daintily dropped in here and there against a back-ground of foliage. Presently he rebels at the bold, harsh and impudent designs of some of the gardeners, and grows into a pure and subdued love of plant forms and verdure. He may still like the weeping and cut-leaved and party-colored trees of the horticulturist, but he sees that their best effects are to be had when they are planted sparingly, as flowers are, as borders or promontories of the structural masses.

It all amounts to this, that the best planting, like the best painting and the best music, is possibly only with the best and tenderest feeling and the closest living with nature. One's place grows to be a reflection of himself, changing as he changes, and expressing his life and sympathies to the last.

HORTICULTURAL REMINISCENCES.



BY. CHAS. E. WOOLVERTON, OF GRIMSBY.

FIG. 1059.—C. E. WOOLVERTON, *from photograph by L. D. Oakley.*

Mr. C. E. Woolverton was born in Grimsby, in August, 1820. His father, Dennis Woolverton, who farmed about four hundred acres of land, was at one time M.P.P. for Lincoln County, and widely known among the early settlers of the Niagara District. Charles was from a boy accustomed to the occupations of the farm, as well as the orchard. Often he was sent to Hamilton with loads of peaches or apples, before there was any Grand Trunk Railroad, and so low was the price, that very often they would lie ungathered on the ground.

He was given a college education, after

which he decided to settle upon the farm. In company with Mr. A. M. Smith, he engaged for many years in the nursery business at Grimsby, planting also a large acreage of peach, apple and cherry trees of many varieties. Mr. Woolverton was one of three constituent members of our Association, still living; the other two being A. M. Smith and D. W. Beadle; and on this account he was especially invited to write this paper. He is now about 77 years of age, a constant reader, and a frequent contributor to the public press.

HORTICULTURAL REMINISCENCES

IN the time of the Revolution, some sterling men, called U. E. Loyalists, settled in the Niagara District. King George gave them land in the wilds of Canada where nuts, plums and crab apples grew. They had read that one of the finest trees in Rhode Island sprang from a seed dropped in the grave of Roger Williams, so many tried the experiment of sowing apple seeds, but few apples of any size were produced, and the small ones were often gathered with the wooden scoop. About 1790 John Smith offered his right to 200 acres for a cow, but found no buyer; but about 1798 he sold it for 40 pounds of York currency; my grandfather and the said Smith gave five natural apple trees to bind the bargain. About the year 1830 there came a man from England about 50 years of age and weighing about 14 stone, and he called himself Peasley, the grafter. He carried with him scions which he declared would bear pound apples, full sixteen ounces to the pound. When at work, he took his stand on a wooden chair, clothed in a huge jacket with pockets like the pouches of the kangaroo, in one of which he carried wax and scions and in the other grafting tools. After grafting in our neighborhood, he returned to the Mother Country, and after six or seven years came out again. I remember his joy when he found his word true and saw the pound apple which he said was the Gloria Mundi. I thought of old Santa Claus with his gray whiskers and loud laugh, and "his little round belly that shook when he laughed, like a bowl full of jelly." He hailed from England, but his port and bearing were of the German order. He came out in the reign of George III, and when he swore, it was "Py George," the then popular oath of the U. E. Loyalists; for the king gave them their farms, their government and their church, and that

they might not fracture the third commandment, allowed them to swear by his name. He brought the Ribston Pippin, Pearmain, and English Russet. When Peasley's Pearmain, Ribston and Gloria Mundi began to bear, I took a load to Hamilton and supplied that village where Carey kept the hotel and Stinson the principal store.

Dr. Beadle was selling trees from St. Catharines, and one Moore, a Canadian, brought a few pears and peaches from Rochester. Delos Beadle had graduated from the Grantham Academy and, I think, was studying law at Harvard. He afterwards took up his father's calling, and at his instigation the fruit growers met in the Chief Magistrate's room in the Court House at St. Catharines.

About 1857 A. M. Smith appeared on the scene. He had learned the nursery business with Mr. E. Moody, of Lockport. Mr. Moody came over for Canadian evergreen trees, he stopped at Grimsby to give us some advice about raising peaches. He praised our soil and said he had only one objection to living in Canada, and that was that he could never be president of the United States.

When our Association met at St. Catharines, we were twice surprised. First, at the knowledge of Judge Campbell and Delos Beadle about fruit, climate and soil; and secondly, at our own ignorance of the fruit we had handled for a term of years. The genesis of our Association budded in St. Catharines. Judge Campbell was the first life-member, but did not live to see it bloom. Delos Beadle was the Moses of our exodus, leading us out of ignorance into the present fruit bearing stage.

The formal organization of our Association elected W. H. Mills, of Hamilton, as President. He was not of the mills of which it takes ten to make one

HORTICULTURAL REMINISCENCES.

cent, nor was he a wind mill to crack corn, but he honored the goddess Pomona by cultivating fruit and flowers, and at one of our meetings he took us out to see how faithfully he raised the finest plums and pears by the sweat of his brow.

Charles Arnold had rather a set countenance and appeared somewhat cross, and he believed in cross fertilization of fruit and grain, but his crossness was something like the chestnut burr, only on the outside, for we never had a more welcome visit than at his residence when he invited the Association to Paris.

A. M. Smith and the writer were honored with a like visit at Grimsby, when we followed suit and invited the Association to our hearts and homes. I cannot forget the two who brought their wives to add to the sociability of the occasion. Mr. Holton and Mr. Haskins, of Hamilton. It seemed at once to put a link in the chain of friendship which

death alone could sever, and that only for a time.

In conclusion, I may say, that I have had the honor of being a full private member of this Association all these years, and have seen with pleasure its rise and progress to its present character, and the assistance it received from such noble men as Rev. Mr. Burnett, Wm. Saunders, Judge Logie, P. C. Dempsey and others. And I wonder why I, who have done so little to advance the work, should still live at nearly four score, while those useful men, younger than I, have been called away. But we bless their names for their works which follow them, and we hope to meet

"On the other side of Jordan
In the sweet fields of Eden,
Where the tree of life is blooming,"

where the eternal tree of life bears everlasting fruit, instead of temporary trees bearing perishable fruit only once a year.

CLIMBING VINES.

CLIMBING vines have many different methods of attaching themselves to their support—some encircle a branch of the host by twining their main bodies around the support. A hop vine is a familiar illustration of this. More delicate ones cannot twist around their stakes, but need to have string or some similar material to cling to. The ordinary morning glory is an illustration of this class; but there are some which simply climb by twisting the leaf stalk around the support. This is especially true of the different kinds of clematises, yet it is not unusual in some gardens to see stakes as thick as walking canes put for the clematis to run upon; but as it is unable to do this they

have to be tied to this pole by twine, while the leaves go on twisting themselves in order to find something to cling to, and as a consequence, the vital powers of the plant are exhausted. In many cases the clematis, especially the variety known as Jackmani, will die completely and suddenly from the attack of a minute fungus; but it is more likely that this occurs oftener in cases as described for want of the proper means of support. Thread or twine for the leaves to twist around, or even a little brush wood, such as we would give to a crop of peas, is much more likely to produce healthy and vigorous clematises than when they are deprived of all means of using their leafstalks as tendrils.—Meehan's Mon'y.

CHRYSANTHEMUM CULTURE,

AS PRACTICED BY AN AMATEUR.



FIG. 1060*

PHILADELPHIA,

GLADYS, SPALDING, MRS. GEO. GLENRY,

IVRA,

LOUIS BOEHMER,

JOEY HILL.

MRS. H. CANNEL, JUDGE HOITT,

ENFANT DES DEUX MONDES,

THE chrysanthemum will live and do something almost without care, but perhaps no other plant will better appreciate proper conditions and attention, and repay more for them than it will; and even in our short, dry seasons the amateur can, with a reasonable amount of care, reap a rich reward in its cultivation.

My own experience is not very extensive, but I will try to tell, as briefly as possible, what I have learned about their culture.

In the fall or winter, when the old plants are through blossoming, they may be stood in a light cellar or anywhere out of the way where they will not freeze and will have some air and light until

*This engraving is from a photograph of chrysanthemums at the O. A. C., forwarded by Prof. H. L. Hutt.

CHRYSANTHEMUM CULTURE.

February or March, then bring them to a sunny window for a few days, and you will have plenty of shoots sufficiently hardened for slips, or the young plants may be taken up with some root. This latter plan I prefer, as they are less trouble to get started. They should be

when turned out, they should be shifted to four or five inch pots.

Sometime from the middle of May to the first of June they may be transferred to the open ground. In the selection of a suitable place for them in the garden it should be remembered that the

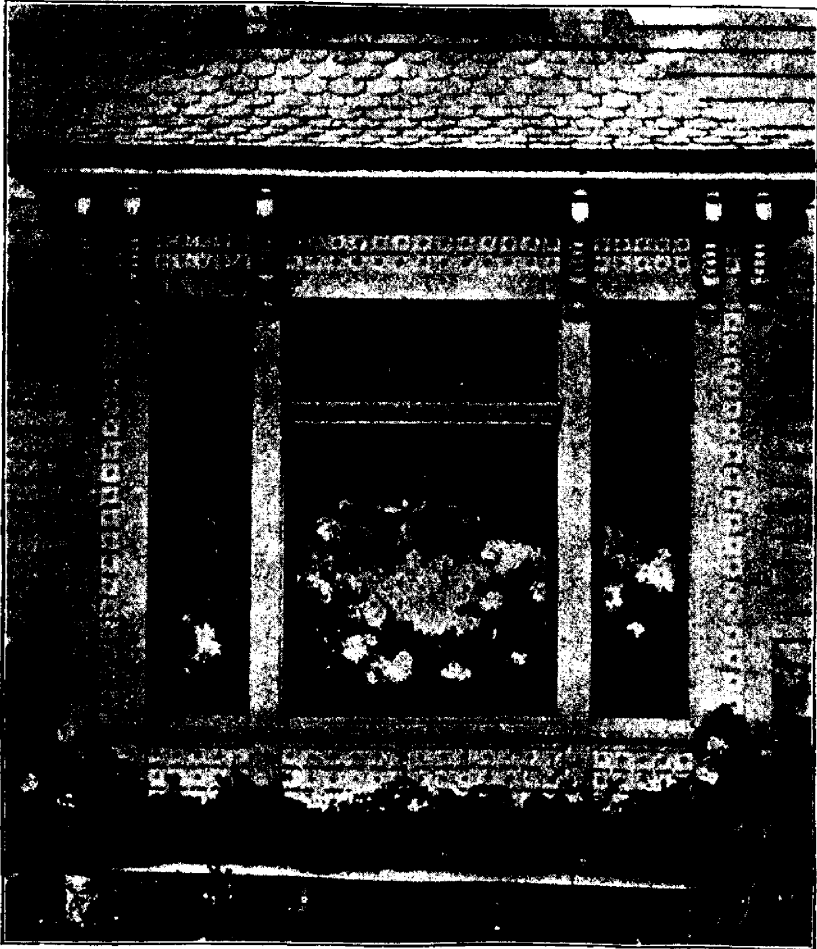


FIG. 1061.—CHRYSANTHEMUMS AS WINDOW PLANTS (FROM GARDENING).

placed in quite small pots with good drainage, and be kept in a healthy condition, but not pushed.

As soon as these small pots begin to fill with roots so they are seen upon the bottom and sides of the ball of earth,

chrysanthemum is a sun loving plant and must have a good exposure to the sun for at least six or eight hours every day that the sun shines. And yet, if possible, they should be protected from strong winds. The plants should be set

CHRYSANTHEMUM CULTURE.

about eighteen or twenty inches apart. The ground should be very loose and rich, should be made level so the water will not run off, and before the dry weather sets in be carefully mulched. The plants should be pinched back when about six inches high, and again when the new branches are three or four inches long.

This twice pinching will probably keep the plants sufficiently bushy, but an occasional other pinching may be necessary to keep them in proper shape.

They will need stakes almost or quite as soon as planted out, not so much to prevent breaking as to prevent being switched about by the wind. They must be carefully watched for either the black or green aphid; the aphid may be exterminated or kept at bay, either by hand picking and the careful use of a proper brush, or by the use of either tobacco water or kerosene emulsion.

If specimen flowers are desired pick off all the buds as they appear except the terminal, or the best one for each branch. You may thus have ten to twenty or more splendid specimen flowers to each plant. But if you prefer to leave all the buds you may have very showy plants, though the flowers will be smaller and less perfect.

Before severe frosts they should be lifted and placed in ten or twelve inch pots or boxes. Water well and place in the shade for a few days. Be careful that the change from out door to indoor life is not too sudden. Unless good health be preserved they are liable to be attacked by insects or by mold. Manure water may be used two or three times a week, whenever the plants are in a thrifty growing condition, but not otherwise. Instead of setting your plants out in the open ground in the latter part of May, it is equally as well, and perhaps better, to retain them in pots and plunge for the summer.

Repot in good rich soil, using this time, six or seven inch pots. Dig a trench deep enough for plunging them, and fill the bottom with coal ashes to keep angle worms out, then set the pots upon this, about eighteen inches apart, and fill the trench about them to the rims. In selecting a place for these pots remember sunshine and shelter as when planting out in open ground.

Pots plunged in this way need careful watching lest they get too dry.

Examine early in July and if the pots are nearly filled with roots take them up and transfer to eight or ten-inch pots and plunge as before. Perhaps by early in August they will be nearly filled with roots again, but now it will be better not to repot again, but instead furnish plenty of manure water or other stimulants, They will require the same attention in regard to pinching, disbudding, etc., as if in the open ground. By thus growing them continuously in pots we do not get quite so much foliage, but we avoid the shock of taking up and potting in the fall. And I think we have more and perhaps better flowers.

Besides these two methods of growing the chrysanthemum there are three others that perhaps deserve to be mentioned. The first is to simply retain the old plants or roots and grow them in large tubs or boxes from year to year. Numerous stems and a great show of imperfectly developed flowers are thus obtained.

The second plan is to divide and plant parts of the old bunch of roots. This is similar to the first, but better, as the stems are less crowded and the flowers somewhat more perfect.

The third method consists in selecting shapely branches near the ground and laying them some time in August or early in September. When rooted they are separated from the parent plant

THE AMATEUR'S ROSE GARDEN.

and put into three or four-inch pots, in which they are bloomed. Usually not more than from one to three flowers are allowed a single plant. By this method very good flowers are obtained. They are convenient to handle and make a very pretty display.

Chrysanthemums are very easily raised from seed, but extra good kinds are thus only rarely obtained. So the ama-

teur, who wants only a few good plants, can hardly afford to rely upon seedlings.

For the past two years leading florists have been making great efforts to obtain good varieties that flower early. As a result we may now have very good chrysanthemum flowers during the month of October, and a few as early as September.—Gardening.

THE AMATEUR'S ROSE GARDEN.

WE find mention of the rose in the earliest writings, both sacred and profane. It was undoubtedly very generally esteemed and used for ornamentation on both public and private occasions. As an instance, it may be mentioned that the Romans put it to a very significant use at some of their private dinners and feasts. A rose was placed over the principal door and he who passed under it silently bound himself not to reveal anything that was said or done within. Hence arose the saying, "Sub Rosa." The limits of this paper will not allow me to give an history of the rose, but of the way to cultivate it.

There have been so many papers read on the rose, and so many good books printed, that it is hard to say anything new, but, as most of the books written and papers read have been English and suitable to an English climate, therefore, they would not do for this climate, and are a little confusing to the amateur. This paper is for this locality, further south you can start earlier, and further north a little later. The first requisite in the culture of the rose is the preparation of a suitable place for planting them. The best position is none too good for

them. What I consider the best is facing the east, with protection on the north and west. I do not mean protected by large trees, but by fences or hedges. The rose likes to have a fairly open exposure with a free circulation of air about it, but, when I say that, I do not mean such a circulation as would drive a forty-horse power windmill. In connection with the choice of location, we must see that the roses are provided with a proper soil. They will do well in any good garden soil free from standing water. The soil must, of course, at first be thoroughly manured, as the rose is a gross feeder.

Roses that have been grown out of pots should, if possible, be planted while in a dormant condition in the spring, as it is almost impossible to lift a rose while the sap is running, and at the same time have it make a good rose. Roses that are pot-grown can be planted any time in this latitude, from 10th of May to the 10th of October, but, if set out in midsummer, a little extra care will be needed in watering them. Respecting the size of plants that should be set out, I advise those who can obtain them to put out plants of two years' growth. Do not put out bantlings. If

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you do not know what bantlings are, they are plants sent out by mail, 20 for \$1.00. Of course you get a beautiful catalogue with them and a colored plate of roses. Look well at the picture, as it is about all the roses you will see from plants sent out by mail. If you have a greenhouse to nurse them in for a season, you may succeed with them, but one honest two year old pot grown rose is worth fifty of the baby roses that are sent out by mail.

In planting the bed, if of more than one variety, the strongest plants should go in the centre of the bed and the weaker ones at the outside.

The pruning of roses is one of the most important features connected with their culture. All roses that come from the open ground should be pruned immediately after planting, as the shock of transplanting must be met by a shortening of both shoots and roots. The shoots being shortened, the number of buds to draw upon the sap is reduced and a more vigorous growth follows. Pot grown roses will not require pruning the first year they are planted, as there is no disturbance of the roots in planting them. Plants of delicate habit should have severe pruning. Do not prune till the spring, as you can better see then the damage that has been done by frost. Besides pruning the plants in early spring, a summer pruning in the middle of July is helpful in order to induce the formation of flower buds later in the season.

Just here, it would be well to say a few words about planting the rose. I will not take up your time by telling you all the ways it is done by amateurs, but I will tell you the right way. The heaped up mound of soil that would make a pretty bed of geraniums is not the style of bed for roses. You may elevate your bed above the level if you

like, but it should be as nearly flat as possible on top and moderately firm. Make an excavation with a trowel, or anything suitable, one inch deep and two inches wider than the ball of the plant you are going to plant, place the plant in the centre of the excavation, press the soil around the ball of roots and fill up level to the surface. Be sure you plant them firmly, as more plants are lost by loose planting than by insects. The distance to plant is about two feet apart. If planting them in a low border, I would plant them 18 inches apart in the rows, and three feet between the rows. This, with a good watering, will complete the operation of planting. If you syringe well every fine bright day, you will find in ordinary weather that it will keep the soil moist enough.

About the first of June, after the roses have broken freely is the time to put on a mulch of rotted manure. The plants will also be benefited by digging in the manure after the summer crop of roses is over and applying another mulch on top, cutting all weak growth out and shortening back the flowering shoots. If you follow this up, you will be gladdened by very fine roses in September and October. Manure, if new, should never be applied to come in contact with the roots, but should be spread on the surface of the earth as a mulch. All animal manures are useful for roses. Horse manure mulch is better for heavy soil than for light soil. Well rotted, cow manure, is best for light sandy or light black soils, but do not use it for any soils that are inclined to be wet and sticky. Before you can grow roses in a wet or stocky soil, it might be underdrained. There are also other good fertilizers for the rose, such as root, spent-hops, flower of bone and bone meal, also a dressing of lime when you dig in the winter mulch in the spring and another dressing before

SEASONABLE WORK.

you put the winter mulch on in the fall. Wood ashes are also an excellent fertilizer for the rose. During the formation of the flower buds, which will be about the first of June, an application of liquid cow manure, will help to swell

the buds and give texture to the flowers, but do not use any after the flower buds begin to show color.

O. G. JOHNSTON,
Florist.

Kingston.

SEASONABLE WORK.

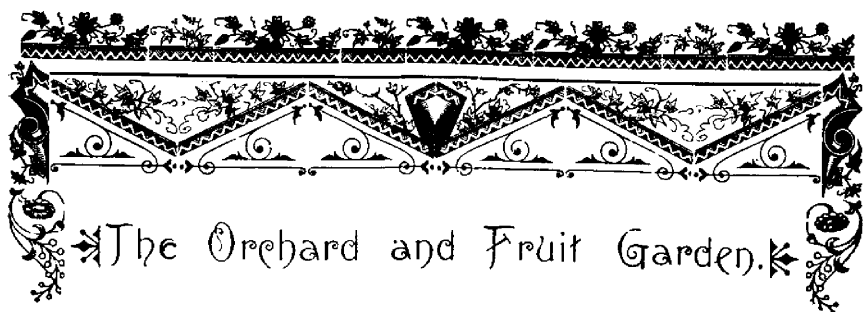
THIS is an excellent season to do a little propagating, so as to have nice plants for bedding out. Geraniums, which may be growing tall and straggling, will yield cuttings which may be potted firmly into soil in two-inch pots; they will do quite as well as though put into sand. While they need warmth and protection from draft when rooting, the air of the room in which they are kept must be pure and free from the fumes of gas or coal oil. The escape of illuminating gas is always very destructive to plants, especially when in bloom; the usual result is immediate dropping of the buds, followed, in the case of such subjects as begonias, by dropping of the leaves also.

Ageratums may also be propagated now, as they will soon begin to grow straggly, and when the cuttings are rooted, the old plants may be thrown away. We find them very satisfactory as a window plant, providing plenty of bloom. They should be carefully looked over for traces of mealy bug; if any of the tiny white cottony dots are observed,

rub them carefully off with a soft pointed stick. These bugs are a great nuisance on soft-wooded plants. If some old coleus have been carried over from last summer, propagate them from the young shoots; the old plants, which are usually dull in color when cold weather sets in, will be getting very angular and stalky, as they so often drop their leaves when in a low temperature. They should, however, have plenty of "breaks" or young shoots for propagating. Ivy geraniums will now be throwing out long shoots, and they will be all the better for stopping; the top shoot should be pinched off, to produce a more stocky growth, and this severed shoot may be planted in a small pot, thus increasing the stock. Ivy geraniums have been wonderfully improved of late years, and there is no reason to grow the old-fashioned type with small single blooms, when we can get the fine new varieties, such as *Souvenir de Charles Turner*. Their luxuriant foliage and trailing habit render Ivy geraniums indispensable where basket plants are required.—R. N. Y.

LILIUM SPECIOSUM ROSEUM, the lily to be sent to members of our Horticultural Society by the Ontario Association is a grand lily, and succeeds well here and is certain to bloom if protected in winter by a heavy coating of manure. They also increase rapidly. C. L. Allen in his book on Bulbs says: "As a whole this species of lilies (*Speciosum*) far surpasses any other species of herbaceous plants for the garden or for the green house. Among the lilies there are none to compare excepting 'L.

Candidum' which has no peer," and Paxton describing this variety "*Roseum*," says: "In the exquisite loveliness of its flowers, their superior size, and the stronger and more robust habits of the plant, this charming variety almost outvies the splendid species (*Speciosum*). The dazzling brilliancy of hue for which the species just mentioned is so deservedly admired alone as to maintain its ascendancy, for in every other respect it is decidedly unequalled."—JAS. LOCKIE, Waterloo.



CURRANTS—HOW TO GROW THEM.

OF all fruits that can be grown in this country the currant gives the greatest return for the labor expended. No matter how poor the soil, or how careless the cultivation, you can expect a crop of currants. Though the difference between a box of currants such as is generally offered for sale, and a box of, say, "Moore's Ruby," such as I have grown, every bunch with 20 to 24 berries on it, is very great, and the difference in quality is even greater.

There is no fruit that responds so readily to good feeding and careful cultivation.

The best soil is a good sandy loam, which should be deeply spaded and well manured before planting, as the roots grow very close to the surface, and should be interfered with as little as possible after planting.

All varieties grow freely from cuttings of the present year's growth, which do best planted in August, though very well any time before frost, or in the following spring.

Make cuttings about 6 in. long, plant in rows a foot apart, inclining the cuttings at an angle of 45° , so that the lower end won't be too far below the surface, leaving one end above ground; mulch with light manure or sawdust, to keep the earth moist, and by the end of the following summer 90 per cent. of them will be good strong plants, ready

to be set out in their permanent quarters. Give them plenty of room, about 6 feet each way is little enough. After planting mulch with well-rotted manure. Of course a year can be saved by buying your plants from a nurseryman, and they are sold so low now, that when only a few are wanted for home use, it is the better way.

All the cultivation that is necessary the first year is to keep down weeds and pinch out the tip of any shoot that is growing too fast for the rest.

The second year there will be a few bunches of fruit, the third year enough to pay expenses, and a full crop every year after for ten or twelve years, when it is better to start a new plantation, as the finest fruit is got from bushes three to six or seven years old.

Pruning after the second year consists in cutting out all surplus canes from the centre of the bush, and all that tend to lie on or close to the ground. The best season is in August, after the fruit is off and wood growth has ceased.

If you want to grow the largest berries possible, in June, when the new wood is about 6 inches long pinch out the ends of every shoot, by so doing you check wood growth, and throw the energies of the plant into the fruit, and also very much reduce the amount of pruning necessary in August.

Good feeding requires a mulch of

CURRANTS—HOW TO GROW THEM.

three or four inches of stable manure every fall, two to three feet on each side of the row, which should be supplemented by a dressing of bonedust, and a good potash fertilizer at the rate of $1\frac{1}{2}$ lbs. of the mixture to each bush in the spring; the winter mulch may be forked on *very lightly* in the spring, or may, if not objected to on the ground of untidiness, be left on all summer. The less the earth is disturbed within three feet of the stem, the better, as the roots being near the surface a great deal of mischief is done by deep cultivation, even with a digging fork. A spade should never be used near currants. If the soil is very light a mulch of straw or marsh hay is very useful in conserving moisture in a dry season, but if water is available and the rake is industriously used to keep the surface friable, a mulch is not necessary.

The great enemy of the red and white currant is the "Currant Worm," which works such havoc in May, if not checked, destroying in a few days every leaf on the bush; and with the leaves goes the crop for that season. The first brood is hatched out in this locality about the 20th to 24th of May. As soon as they begin eating the leaves, apply Paris green; one teaspoonful to a wooden pail of water, with a whisk, or, better, a spray pump, being careful to get it well into the centre of the bush when the worms begin their work. One application as a rule, is enough for the season, but some years a second brood appears as the fruit ripens; it is not safe to use Paris green then, but a good substitute is White Hellebore, about 1 oz. to a wood pail of water, applied in the same way as the Paris green.

The only other enemy of the currant worth considering, is the currant stem borer. The parent insect lays her eggs near the buds; when hatched the larva

eats into the centre of the stem travelling up and down, living upon the pith, their presence may be detected by the sickly look of the leaves and small size of the fruit. The only remedy is to cut out the affected canes and burn them.

In black currants, Lee's prolific is a good variety, much superior in size and flavor to Black Naples or Black English. Champion, and Prince of Wales are said to be good kinds, but I have not fruited them yet. The Cromwell, so industriously puffed by some nurserymen, is nothing but the old Ribes Auseum or Golden Currant of old gardens, a very pretty flowering shrub, but as a fruit it is utterly worthless; the crop is so small as not to be worth picking, and the quality so poor that I have never met anyone that would eat a second one.

In white, by far the most extensively grown is "White Grape," long considered the finest flavored of all currants; unfortunately, it is rather small in size, and has a bad habit of dropping the end berries of the bunch. Last summer I fruited for the first time, "White Gondoin," and was very much pleased with it; though rather more acid than White Grape, it is so much larger in bunch and berry, that it will prove a formidable rival to that old favorite.

Among the reds, "Moore's Ruby" is decidedly the best variety I know of. An upright, strong grower; bunch long, frequently 22 to 24 berries in the raceme, berry large, a prolific bearer, and quality the very best, sweeter and finer flavored even than White Grape. I have grown it for ten years and have yet to find a fault in it.

An excellent variety is "Wilder Red," not so sweet as "Moore's Ruby;" not very desirable, as large in bunch and berry as "Fay," and a much stronger grower. The weak growth of the "Fay" is its greatest defect; one of the largest

SMALL-FRUIT CULTURE FOR MARKET.

berries, good bunch, good quality, and a heavy bearer, but it is such a straggley grower, and so prone to split in the forks when loaded with fruit, that it will always be a short-lived bush.

A new variety, much advertized, "North Star," does not justify the claims made for it. Though a strong grower, and apparently growing to be a heavy cropper, neither in size or quality is it the equal of any of those mentioned above.

"Raby Castle" and "Victoria" are two old sorts that if not the same, are so

nearly alike, that there is no use growing both of them; heavy bearers, but only medium in size and quality.

The "Cherry," though a large, showy berry, is too shy a bearer to be a good market variety, and too acid to be suitable for home use.

"London Red," though a very heavy bearer, one of the heaviest with me, is too small and too acid to be desirable.

"Red Dutch," though better in quality, is too small to be profitable.

R. B. WHYTE.

Ottawa.

SMALL-FRUIT CULTURE FOR MARKET.

IT is the purpose of this paper to present in compact form the general principles upon which the successful culture of small fruits is founded. It is designed for beginners rather than for experienced growers, and is therefore largely devoted to points which the man without experience is likely to ignore, or at best to regard with insufficient attention. Some of the methods suggested may need modification to meet the needs of the individual grower, but it is believed that such changes as may be necessary will suggest themselves to the thinking cultivator who carefully considers his particular location and surroundings.

The growing of small fruits requires a comparatively large investment of capital per acre and also a better soil than is necessary for the production of most of the tree fruits. It is therefore better suited to the small farm, under the direct supervision of the owner, than to the large estate, whose proprietor cultivates by proxy. To balance the comparatively large capital required we have the fact that, aside from the value of the land and perma-

nent improvements, the chief outlay is for labor, which may be done by the grower and his immediate family, while the returns are much quicker than from the tree fruits or the grape. In a few sections, so situated that large markets, either near or remote, are accessible, the culture of one or another of the small fruits may be profitably undertaken on a large scale, but these instances only serve to emphasize the fact that small fruit culture is primarily a homestead pursuit. The narrow bed or garden border of fifty years ago, enriched, dug, and weeded by hand, has developed into the field, fertilized, plowed, and cultivated by horse-power, yet the requirements of the various species remain much the same, the methods of accomplishing the desired results alone differing. As practised by advanced growers in North America, the methods followed in the culture of small fruits are peculiarly of American development; while with the exception of the currant, the varieties extensively grown are of American origin.

The fruits to be considered are the strawberry, blackberry, raspberry, currant, and gooseberry.

SMALL-FRUIT CULTURE FOR MARKET.

CHOICE OF LOCATION.

No small-fruit plantation is likely to be profitable if located far from a market or convenient shipping point. In selecting a location special attention should be paid to the character of the roads, if the fruit must be hauled by waggon for any considerable distance. If railroad or steamboat transportation is to be depended on, the efficiency and enterprise of existing lines should be investigated, as the character of their service will be of great importance when fruit shipments begin.

In any given locality the most important consideration should be the selection of a site reasonably safe from killing frosts in spring. Away from the influence of bodies of water such sites are usually found on small plateaus or gentle slopes terminating in abrupt ravines or valleys where prompt and thorough cold-air drainage exists. Flat land, remote from open water and unbroken by ravines or hills, should always be regarded with suspicion, particularly if underlaid by a cold and badly drained subsoil. Bottom lands, in which admirable soil for small fruits is often found, are usually too uncertain in their fruit production, owing to frequent frost injury.

The soil requirements of the different species vary considerably, but all thrive in a moderately deep loamy soil that holds moisture well at all times without becoming soggy during protracted rainfall.

The exposure to be sought varies with the latitude, the climate, and the aim of the grower. If earliness is requisite to secure profitable prices, and the locality one in which late frosts are infrequent, a southern slope is preferable; if, on the other hand, a uniform and regular demand exists, regardless of a few days' difference in time of ripening,

a gentle northern or north-eastern exposure should be selected. In most localities, however, the matter of slope is of much less importance than that of comparative elevation of the site. It should be higher than the adjacent land without being bleak, and should furnish a soil of at least fair fertility.

PREPARATION OF SOIL.

The selection of the proper preparatory crop is a matter of much importance. In general some hoed crop should precede the planting of any of the small fruits. With the strawberry at least two years of cultivation should intervene between well-established sod and the planting of berries, in sections where the white grub abounds. Corn or potatoes, well manured and kept free from weeds throughout the season by thorough cultivation, are good preparatory crops. In trucking regions almost any of the annual vegetables will do to precede small fruits. The objects to be attained are (1) to free the ground from seeds of annual weeds, (2) to eradicate established perennials of every sort, including grasses; (3) to get rid of noxious insect larvæ, and (4) to leave the soil in that lively and mellow condition which the grower characterizes as "good tilth." If any portion of the field remains wet long after rains during any portion of the year, it should be drained before planting. In most soils and locations tile underdrains are preferable, though boards, poles, or stones are sometimes used to good advantage. If all of these are impracticable, land naturally wet can sometimes be made to yield fairly good crops by planting on ridges thrown up with the plow and depending upon open ditches to remove surface water.

Stumps, loose roots, and stones large enough to interfere with the cultivator

ONION CULTIVATION.

should all be removed before the final plowing. The grower should bear in mind that thorough preparation of the soil will materially increase the probability of securing a good stand of plants, on the one hand, while it greatly decreases the amount of hand work necessary in hoeing and weeding, on the other. This is particularly true on new ground and on all soils of a clayey or tenacious character.

The preparatory plowing should be

as carefully done as for a garden crop, and in most soils it should be as deep as possible without turning up much of the subsoil. Surface soils less than 8 inches deep should be plowed to their full depth. Where a compact or retentive subsoil is found, its stirring with a subsoiler will benefit the crop in most regions by affording prompter drainage and promoting deeper root growth.

(To be continued)

ONION CULTIVATION.

THE next vegetable in importance to the potato for practical utility is certainly the onion. In most European and Asiatic countries in its different forms, such as leeks, shives, garlic, etc., it is probably more used than the potato itself; this latter vegetable to some extent being superseded by bread, rice or macarony.

It is believed the onion in Ontario does not receive the attention it deserves. Our climate and soil both appear to be well adapted to its cultivation, whilst the prices obtained are fairly remunerative. Why then is its growth and use so much neglected? Perhaps it is from the simple reason that sufficient information as to its culture is not obtainable, and yet there is little difficulty with proper care in producing first-class bulbs. The three best varieties to cultivate are the Red Wethersfield, Yellow Danvers, and the new foreign or Spanish onion. This latter is globe shaped, and not infrequently, when well grown on a suitable soil, individual specimens will tip the scale at sixteen ounces. The best soil for onions is well drained bottom and, that is black earth from which a dense cedar bush has been removed. In this alluvial deposit, made originally

from the washing in past centuries of leaf mould from the surrounding high ground, as well as from the decaying vegetation produced by a thick growth upon the land itself. It must not be supposed because this land is black that it is also rich, as this is by no means always the case, but it holds manure well, and is just lovely to work. A good coating of two or three inches of well rotted manure plowed under lightly in the autumn, and in the spring a drill run with the plow where the onion rows are to be placed, and a second dose of fine compost, such as road sweepings from a block pavement or a similar application to that given previously in the fall, will, when covered by the rake with fine earth, make a suitable seed bed for the crop. This black soil is by no means insisted upon as a nice sandy loam would be found equally efficient, but the muck soil is generally quite level, so that it is free from being washed by heavy rains, and if it is thoroughly cleaned from stumps and roots, it has no gravel or boulders to obstruct the plow, seeder or hoe. The earth also is so fine that the seed sprouts easily and regularly along the row. If the cultivator has not the convenience of a seeder

ONION CULTIVATION.

(drill), he will find the readiest and evenest way to sow the seed will be to stretch a line and mark the ground with the end of a rake or corner of the hoe; if the row is a long one, the line should be fastened to stakes, say every fifty feet, so as to insure its being perfectly straight from end to end. This will assist materially when the weeding process is commenced.

There are three methods of growing the large seed onions. First, from seed direct; second, from "sets"; and third, from plants previously started in a hot-bed.

If the first plan is adopted, the seed must be sown so soon as the frost is out of the ground in the spring, the earlier the better, if good results are expected. One ounce of seed will sow about one hundred feet of a drill; it will take from four to five pounds to sow an acre with drills from fifteen to eighteen inches apart. If the cultivator has no seed drill, his best plan is to secure a small tin can an inch and a half or two inches in diameter, say three or four inches deep; a small mustard can is as good as any. Make five or six holes in the bottom of this with an awl of sufficient size to admit the seed to come out when the box is shaken. If the awl is tapered from the point to where it enters the handle, the proper sized holes may easily be obtained. The seeder may be tested as to its proper capacity to deliver the seed by shaking it over a board or piece of paper, on which the result can be noted. A four foot lath should be split flatways at one end, the edge of the tin cup inserted and a tack driven through the lath and tin to keep it firmly in place. It should perhaps be stated that the holes should be pierced from the inside of the tin cup, as this will insure more regular seeding. Armed with this seeder a drill can be sown very evenly at a

slow walk, the box being raised and lowered with a sharp jerk. As the seeder is kept close to the ground whilst the seeds are being delivered, they can be deposited quite well even if a wind is blowing. After the seed is sown, the ground should be firmed down by the rake, stamped over with the feet or pressed with a heavy roller.

For the second plan of sowing, the sets are planted by pressing them into the soft soil along the line from three to four inches apart. The amateur generally prefers a large "set," but experience teaches that the smaller the set, so long as it has life in it, the better it is, as they are not so liable to run to seed as those of larger growth. Growing from sets is probably the simplest and easiest method of raising onions, but as the sets come expensive when a large quantity are used, and as the keeping qualities of the onions are not considered equal to those grown from seed, they are not so reliable for winter use.

The third method is the new hot-bed process. The seed is started early in March in a moderately cool frame. It is sown thickly but evenly. When the onion is about the size of a lead pencil or a little smaller, and the post well out of the ground, they are transplanted along a line somewhat similarly to the sets. Care should be taken to handle the plants as little as possible, so that the "bloom" on the stems may not get rubbed off, as this would check their growth.

Sometimes a gardener will plant the young onions two inches apart, when they are of sufficient size, removing every other one. A friend of mine claims he can sell sufficient of these "bunched" onions to pay for the expense of the seed and the labor bestowed on the entire crop. Certainly his yield of onions is a marvel to behold, his soil

ONION CULTIVATION.

is a very sandy loam, but is situated in the sewage field of a large public institution. There are sewage ditches on each side of the bed, which is ten feet across. An engineer from Cleveland came one day to inspect the sewage farm just as the gardener was having the onions taken up, seeing them lying in rows on the ground as they had been pulled, he said, "Oh, I see you are hauling your onions here to dry them before storing them away for the winter." "Why," said the man, "these were all grown on the ground as you see them." Mr. Engineer laughed him to scorn for trying to impose such a yarn on him, but my friend fortunately had a patch at the far end of the bed still unremoved from the ground, so he took the Clevelander down to where they were growing, and gave him ocular demonstration of the enormous yield, which the engineer declared if he had not seen he would not have believed.

The greatest trouble in growing seed

onions is the first weeding, but if the rows are put in very straight and the hoe is kept keen and sharp, with a moderately fine flat file, so as to cut the earth to within a hair's breadth of the seedlings, a good deal of the labor is removed. After the first weeding has been accomplished, the wheel hoe cultivator may be employed successfully.

To keep the onions through the winter they should be placed on benches made of slats a couple of inches wide, placed an inch apart, so that the air may pass through them. Not more than two layers of onions should be placed on each bench or tray. The temperature should be reduced to 40°. It is said that onions grown by highly concentrated fertilizers do not keep so well as those raised by well rotted barnyard manure, but of this the writer cannot speak authoritatively, never having tried the experiment.

P. E. BUCKE.

London, Ont.

HOW TO HAVE BEAUTIFUL PANSIES.

PANSY seed sown now in pots or boxes in a warm room or hotbed, will, if properly cared for, produce blooming plants all summer. The seed should be scattered very thinly and covered not more than one-eighth of an inch deep, then pressed down with a piece of board and kept moderately moist all the time. When the plants are large enough to be handled, they should be pricked off about two inches apart, and when danger of severe frost is over, planted outdoors about 12 inches apart each way in a position where they are sheltered from the mid-day sun. In dry weather they require a good deal of water, and an occasional

watering with liquid manure will help them wonderfully. All faded flowers must be cut off at once else they will produce seed and detract a great deal of strength from the plants. With pansies, as well as many other plants, the oftener the flowers are cut off, the more new ones will be produced. For early spring blooming, the seed should be sown in August, outdoors, in well-prepared seed beds. During hot dry weather it is best to shade the seed from the direct rays of the sun until they have germinated, which will be in about ten or twelve days. The soil can hardly be made too rich and deep for pansies. — F. M. Hexamer, Amer. Agriculturist.



Flower Garden and Lawn.

SOME GOOD HERBACEOUS PERENNIALS.

HERBACEOUS Perennials are those plants whose roots remain in the ground from year to year, the foliage dying down to the surface of the ground every autumn to grow up with renewed vigor in the spring.

As most plants of this class do best if their roots are not disturbed for several years, it is necessary in preparing a perennial border to dig deeply and fertilize well before planting. Though many of them are perfectly hardy without protection, all are the better of a coating of four or five inches of straw manure in the fall; leave it on as late as possible in the spring so that the rain may wash out the soluble plant food. As soon as growth begins rake off and remove the surplus straw and rake or very lightly fork over the surface, being careful not to disturb the roots. Never use a spade in the perennial border.

A very frequent objection to the free planting of herbaceous perennials in the garden border is that it costs too much to buy the plants. There may be some truth in this if one wants to get all the novelties as they are sent at high prices, but there are many of them that cost little more than geraniums or other bedding plants that have to be renewed each season, with this great advantage in favor of perennials, that they increase in

vigor and beauty every year, and after the third season most of them can be divided and multiplied as much as desired. While if one is willing to wait a year many of them can be grown from seed at very small expense.

All of the following are well-tested sorts, quite hardy even in the cold section of Ontario, and vary in flowering season from the first week in May till snow falls:

Papaver Nudicaule—*Iceland Poppy*.—This dainty little poppy one of our most valued perennials opened its first flowers on May 4th, last season, and was more or less in bloom till the end of October. The flowers in white, yellow and orange red of which yellow is the commonest are somewhat cup-shaped $1\frac{1}{2}$ to $2\frac{1}{2}$ inches across on long wirey stems about 12 inches above the leaves, are well adapted for cutting, if cut in the morning early after opening they last for several days. It is easily grown from seed and will bloom the first year, if sown in April or early in May. It, like all poppies, does not take kindly to transplanting and should be sown where it is to remain. They are easily wintered even as far north as Ottawa if covered in the fall with straw or cedar brush.

Papaver Orientale.—A great contrast to the dainty little Iceland is the gor-

SOME GOOD HERBACEOUS PERENNIALS.

geous Oriental poppy one of our most striking and showy garden flowers. The great flowers 6 to 8 inches across, dark scarlet in color are held well up above the leaves on long leafy stocks. Unfortunately the flowering season is short, two or three weeks in June and their glory is gone, though some years they show an odd bloom during the summer. They also can easily be grown from seed and are quite hardy.

Doronicum.—A very desirable perennial, that is not as well known as it should be, is the tall Leopards' bane, *Doronicum plantagineum excelsum*, a very early blooming yellow composite, coming into flower early in May, and lasting two to three months. The large flowers about 4 inches across, are borne on sparsely leafy branching stems three to four feet high, rising from a large cluster of heart-shaped leaves on long petioles: this is decidedly the best yellow composite. Another Leopards' bane is *D. Caucasicum*, not so large a plant or flower but otherwise much like it, both are usually propagated by division in spring or fall.

Helianthus Multiflorus fl. pl.—A deservedly popular autumn flowering yellow perennial is the double sunflower, rather rough in leaf and stalk to make a good cutting flower, but very effective in the garden. The flowers are from three to four inches across, a good rich yellow, perfectly double, and last a long time after opening. In bloom from August till frost comes. It has not proved perfectly hardy here and requires the protection of a good mulch of manure during the winter.

Platycodon grandiflorum — Chinese Bellflower.—The best blue perennial we have, grows from two to three feet high and is covered from middle of July till October with deep blue bell-shaped flowers, from two to three inches in diameter, perfectly hardy and easily grown from

seed. If planted in May it will flower abundantly the following year. There is a white form that is not so desirable, a slight tinge of blue gives it a faded look.

The genus *Spiræa* furnishes some of our very best perennials. Among the shrubby species Van Houtti, Burmalda, and many others are well worth growing when space will permit. The best of the herbaceous species are the following: *Spiræa Ulmaria fl. pl.*, Double-white Meadowsweet. From a dense cluster of root leaves rise leafy stalks about three feet high, covered on the top with a solid mass of creamy-white, fluffy flowers, from about July 1st to August 15th. The foliage is quite ornamental before and after flowering, if the flower stalks are cut out after blooming. It is propagated by division in spring or fall and should be shifted every three or four years, as it increases so rapidly that it is apt to die in the centre of the clump if left too long in the one place.

S. Venusta, "Queen of the Prairie."—A weaker growing species and does not make such a bushy clump as *Ulmaria*, but grows about a foot higher, the clusters of flowers are more elongated and are a bright pink in color, season about a week later, decidedly the showiest of the herbaceous spiræas.

S. palmata elegans.—A very graceful plant about three feet high, with flattish clusters of pink and white flowers, lighter and more delicate in growth than *Ulmaria* though somewhat of the same habit, it is upon the whole the most beautiful and desirable of the genus.

Phlox Diccussata.—The new varieties of the old fashioned perennial *Phlox* have raised it from the position of a very commonplace flower, limited in color and small in size, to that of one of our most valuable perennials. From no other can we get such a mass of color

SOME GOOD HERBACEOUS PERENNIALS.

in the border, or such a variety of shades. One English house catalogues 145 varieties, ranging from white through all shades of pink, to dark red, and from the palest violet to dark purple. There the season of bloom is from July till fall, some varieties flowering earlier than others. The first clusters are the largest and finest but if the tops are cut off some of the shoots as soon as the buds form, they branch out and produce firm heads of flowers late in the season. A good half dozen varieties are, The Pearl, white; Sir Richard Wallace, large white with violet eye; La Soleil, lilac rose; Isabay, orange salmon; August Riviere, fiery-red shaded violet; Frau Von Spiemen; salmon pink, a very fine sort, flowers $1\frac{1}{2}$ inch across slightly curled inwards at the edge.

Dictamnus Fraxinella, or Gas Plant, is a very showy and interesting plant that should be more widely known. While far from being a novelty, it increases so slowly, often growing for years without any apparent increase in size, that it has not been very widely disseminated, very few gardens being so fortunate as to possess a good specimen. It grows about two feet high, a well established plant being about as much in diameter, each stalk terminated by a spike of rosy flowers eight or ten inches long, at their

best for a month after May 20th. The leaves resemble those of the ash, and if gently pressed emit a perfume like lemon peel, but if bruised the odour is balsamic and somewhat strong for most tastes. The volatile oil that produces this odour is secreted so freely, that if a match is applied to a newly opened flower on a hot day a slight explosion ensues. D. F. alba is a very handsome variety with pure white flowers.

Lysimachia mummularia. — If you have any place too much shaded by house or trees for any of the ordinary flowering plants—or even grass—to grow, but which you would like to have covered, try *Lysimachia mummularia*,—moneywort or creeping jenny, by far the best creeping perennial we have for that purpose. It spreads rapidly, rooting at the joints, and throwing out lots of side branches; but as it does not produce underground shoots it is easily kept within bounds. The leaves are oval in shape, about $1\frac{1}{2}$ inches long, of a rich dark green color, and are produced so freely as to completely cover the ground. The flowers, bright yellow, cup shaped, about $\frac{3}{4}$ of an inch across, are in great abundance during June and July.

Ottawa.

R. B. WHYTE.

(To be Continued.)

KEEPING ROSES IN BLOOM —As soon as they have found their first flowers in the open ground, pinch off the end of the first shoot, and as soon as the rose is fully opened, pick it off. No rose should be left to fade upon the bush, as when so left it exhausts the plant in the formation of seed. As the plants grow, pinch back the ends of the shoots when they have grown six inches, and rub out all puny shoots, thus keeping the plants in a rounded open bush form. If strong

shoots alone are left to grow, they will soon control the strength of the plant and the flowers will be few and often of imperfect form. Should the season be hot and dry, a mulch of fine fresh grass or sawdust, or moss from the woods, should be placed all over the soil, three inches deep, and at night watered thoroughly, not sprinkled, but wet like a days' rain.

A. H. CAMERON.

Tiverton, Ont.,

THE HOME SURROUNDINGS.

THE present being a season of comparative leisure, is the best time for those desiring to improve the appearance of their gardens or pleasure grounds to consider the subject. All planting or re-planting that may be done with a view to improved effects will prove more successful if done with a definite object; for instance, before an experienced landscape gardener begins such a work, and before any manual work is done, he inspects the grounds, making a rough sketch and a few notes. This visit may be repeated more or less often as the case may demand, but the result is that he carries away to his office or workroom all that is needed to enable him to convert the waste, or vacant place, into what will be in a few years at the furthest, a pleasing and beautiful spot, increasing in beauty from year to year as the different shrubs, trees or plants employed become established and develop their respective beauties. In the accomplishment of this work he will, of course, remember past mistakes, and avoid their repetition, always observing certain well-known laws, the non-observance of which would defeat his efforts. He seldom treats an individual shrub or tree as a specimen; for illustration, imagine in the one case a number of shrubs planted either at regular or irregular distances upon the lawn, in the other the same shrubs or trees grouped with a well defined object. The result in the first case will be doubtless some very pretty specimens, but no stretch of lawn, nothing restful to the eye, nothing that will create a pleasant and lasting impression; while in the other case the impression given would be "what a beautiful lawn," "what a delightful home." It is never desirable to plant

shrubs in holes cut in the grass, the effect is disappointing at the best. "Landscape" does not necessarily imply an expansive view, and it is well, in designing the grounds that are limited to the ordinary city lot, to remember that grounds that are large and beautiful would lose their beauty if the same effects were attempted on a small scale. Whether the work in view be on a large or small scale, no workman has a larger choice of material from which to make his selection than the landscape gardener. If a fence is to be hidden, there are the wisteria, clematis, bignonia, ampelopsis, aristolochia, akebia, celastrus, and many others. If for a wind break or a blind, nothing will so perfectly answer the purpose, and at the same time afford such a comfortable appearance in the winter season as the evergreens, among which may be mentioned Norway spruce, everyone's favorite; White spruce, of a finer foliage and denser growth but not as well known; Nordman's pine, quite hardy and of great beauty; Colorado blue spruce, *Abies Orientalis*, a beautiful variety; *Abies Canadensis pendula* or weeping hemlock; *Abies Canadensis*, our native hemlock, has also much to recommend it; also our native Cedar, *Thuja occidentalis*. Many of the *Thuyas* are very beautiful, and well adapted for planting over a large part of Canada. Some of them are of a very dwarf habit, and can be planted where other conifers would be too large. By no means the least important factors in the decoration of the grounds surrounding the home are the flowering shrubs. With this often badly used and not very well understood class of plants, an endless change of varied and beautiful effects is obtainable, but no clipping, no attempts to convert

THE COOL SECTION OF THE GREENHOUSE.

a shrub into a tree, or good-bye to their natural beauty. Beginning with the Forsythia, Xanthoceras, Flowering Currant, Spirea prunifolia, fl. pl., Cydonia japonica, which flower in May; closely followed by other Spireas, Deutzia, weigelia, Double Flowering Almond, Philadelphus, Rose Acacia, Lilac, Snowball, Hydrangea, Althea, Hypericum, etc., these will give an uninterrupted succession of bloom up till the end of September.

There are number of shrubs whose chief beauty is in their foliage, viz. : Berberis thunbergia, Golden Elder, Variegated Cornus, Mahonia, and many others, every one having their own distinctive points of beauty, and when planted in groups or masses serve to bring out the

beauties of each other. Let the planting be done thickly, it is easy to thin if needed, but by no means as easy to start a young shrub among a lot of older ones; study the general appearance, time of flowering, habit, etc., in short, let the arrangement be the result of careful study and observation, although apparently careless as far as possible, eliminate all straight lines, for Nature knows them not. The student of Nature in matters pertaining to gardening will utterly ignore the freaks of fashion such as cast iron bull dogs, gigantic frogs and other such uncouth monstrosities, none of which will find a place upon the lawn of the true lover of Nature.

WEBSTER BROS.

Hamilton, Ont.

THE COOL SECTION OF THE GREENHOUSE.

DURING the first months of the year while the plants in the warm section of the conservatory are in a dormant condition, the cool house is in all its glory.

For mid-winter bloom there are no plants equal to the Primula and the Cyclamen, the latter of the new grandiflorum strain is my favorite, both of these should be raised from seed and that only of the best quality. The Primula is the easier to bring to maturity, ten to twelve months from sowing will produce large plants requiring five and six inch pots by blooming time.

Sow the seed early in the year on the surface of the soil, preferably a light sifted loam, in a pot or shallow box, press down evenly and water with a fine rose which should cover the seed sufficiently, if not press them just below the surface, cover the pot with glass to prevent drying out but always leave a small opening for ventilation or the plants will damp off.

keep from direct sun during all stages of growth.

When the first leaf appears prick into thumb pots or flats, shifting as growth advances until the bloom pots are reached in early autumn. Never cover the crown in potting, and pinch out all flower buds, that may appear before they are established in the blooming pots. The above course will produce large exhibition plants the first season, with flowers of the largest size. Greater satisfaction will be given if new plants are grown each year and the old ones discarded after blooming.

The Cyclamen is a gem of the first water and has no equal as a winter bloomer, the pure delicate beauty of its flowers, and the rich marbling of its thick leathery foliage, coupled with great substance and durability, fairly entitle it to a first place in the cool section.

In order to ensure the highest degree of success it should be grown from seed,

THE COOL SECTION OF THE GREENHOUSE.

but unlike the *Primula* the bulbs may be kept on for several years until they show weakness. They may also be bought as plants, but dormant bulbs are undesirable, as the one point to be observed is that they never be allowed to dry out.

About fourteen months is necessary to bring the *Cyclamen* to blooming size. Seed sown in October and given much the same treatment as the *Primula*, will produce strong plants which will bloom freely in January and February the second year. Sow the seed in flats, barely covering with soil, keep in partial shade at all times, give air at all stages of growth, this is particularly necessary as the blooming season approaches, which may be prolonged by keeping an even temperature, say 55 degrees at night, and 60 during the day. Five degrees less will materially lengthen the season of the *Primula*, which lacks the substance of its beautiful contemporary. It is not necessary to cover sown seeds of the *Cyclamen* with glass. Never pot the bulb deeper than scant half its depth.

The *Azalea* is a most satisfactory cool-house plant, blooming freely at this season. Continued success depends entirely on the proper treatment, which is directly contrary to the advice given in past years. After blooming give full exposure to the sun in order to keep the new growth healthy. After danger from freezing pick off the seed pods, and pinch back all uneven growths to keep the head in good form, re-pot if necessary, and plunge in the open ground for the summer, giving full exposure to the sun. The best results will be attained where the most syringing of the foliage is given, with a decided under cut, during the hot dry season. By this course the plants

may be yearly increased in size and value.

Space will not admit detailing the treatment of many other useful plants for the coolhouse. Carnations planted in shallow boxes do better than in pots, the same may be said of roses. *Swainsonia* bears a pretty pea shaped flower with delicate perfume. *Genista* may be added. The *Clivia*, an evergreen, bears a gigantic truss as large as a child's head, and if kept in an even temperature the last flower will open before the first falls, making a grand show for fully a month. *Cypripedium insigne* brought in from the warm section as the flower buds open, will remain in bloom for three months.

If the size of the house will admit, the following may also be given a place in the collection: English primrose, geranium, abutilon, fuschia, chrysanthemum, nasturtium, and mignonette. In bulbs the hyacinth, narcissus, crocus, freesia, tulip, and some varieties of iris, not forgetting Bermuda and Longiflorum lilies, also the species *Speciosum* about to be distributed by our Association.

The coolhouse if properly ventilated at all times, and freely syringed in the morning of all bright days, will be free from insect pests, and may be a mass of delicate beauty and brilliant colors from December to April.

If pressure of the advancing season will admit, I hope later on to refer to the intermediate house with a night temperature of sixty degrees, and also to a model propagating house, with a combination of hot water and flue, the ideal heating system of my experience.

H. H. GOFF.

Simcoe, Ont.

* Our Affiliated Societies. *

The date of annual meetings of the Horticultural Societies of the province were fixed by law for the 13th of January at 7.30 p.m. At this meeting it is usual to attend to the annual business, the election of officers, etc. We are receiving from our Affiliated Societies lists of officers elected and, in many cases, some account of their work. These will be printed in full in the annual report which will soon be published by the Department of Agriculture and placed in the hands of every member. It is not necessary, therefore, that a full list of the officers appear in the journal, but, for convenience of correspondence one with the other, we give the name of the President and Secretary of each Society.

NIAGARA FALLS SOCIETY.—This active and flourishing Society numbered over one hundred members in 1896, and has already reached over fifty for 1897. On March 7th, 1896, a show of house plants was made, at which Messrs. A. McNeill of Windsor, Jas Shepherd of Queenston, and T. Greiner of La Salle, N. Y. delivered instructive addresses to a large audience. On the 18th of June, the Society made an excursion to the Ontario Agricultural College at Guelph. On August 27th, a fine exhibition was made in which begonias were most prominent. An orchestra in the evening was much appreciated. Many members exhibited plants and flowers. Wild grapes and some very fine Japan plums figured among the fruits. In September a very fine chrysanthemum exhibition was held. The Society holds a business meeting on the second Monday of each month and on the third Monday an open meeting to which all the mem-

bers and their friends are invited, and at which essays, lectures and discussion are in order. A small flower show is often an attractive feature. The directorate make up a happy family, and includes our ladies in the list for 1897.

E. MORDEN, *Sec.*

PORT DOVER SOCIETY.—The annual meeting of the Port Dover Society was held in the town hall on Wednesday evening, January 13th, and was well attended and full of interest. The auditors' report showed a small surplus, and the Secretary-treasurer was complimented upon the neatness and accuracy of his accounts. The Society was inaugurated in 1896 with only twelve members. It has now the full complement required by law to entitle it to the Government bonus of \$100 which will help not a little to increase the efficiency and influence of the organization during the coming year. Its members comprise a good many of the prominent and influential fruit growers and others in the district and, if the present interest in it is kept up, it will prove of great value to the community. All members are entitled to a copy of the CANADIAN HORTICULTURIST, recently enlarged and improved, a bound copy of the annual report of the Fruit Growers' Association and a share in the plant distribution.

The Secretary.

WATERLOO.—The following circular has been issued to the members of our Society:

The Ontario Fruit Growers' Association have notified us that they will send in time for Spring planting one of any of the four

AFFILIATED SOCIETIES.

Special Premiums below for each member of the Waterloo Horticultural Society who asks for it before the end of January, 1897.

Special Premium No. 1, one plant of new Japan Lilac, very choice and valuable. No. 2, one bulb of Japan Lily "Speciosum Roseum" very handsome and easily cultivated. No. 3, two plants "Courath" raspberry, the largest early black cap known. No. 4, one pear tree, three years old, "The Dempsey," a cross between Bartlett and Duchess.

This is in addition to the premiums already offered by this Society. Please inform any of the Officers of this Society which of these special premiums you prefer, and please remember that unless you ask for one of these special premiums none will be supplied you, as it will be concluded you do not desire any of them.

JAS. LOCKIE, *Pres.* W. A. RAYNO, *Sec.*

WATERLOO.—There was a good attendance at our annual meeting, including quite a number of ladies. After reading of reports, the directors report was read and officers were elected for 1897. The following is an abstract of the Directors report:

The membership has increased during 1896 to 125, each of whom has received the CANADIAN HORTICULTURIST. The Society distributed trees and plants as follows:—61 cherry, 61 plum, 61 pear, 23 sperreas, 23 roses, 23 clematis, 96 cannas, 32 dahlias, 320 gladioli, 312 house plants, and 1,500 hyacinth bulbs. Open meetings for discussions have been kept up during the year. On the 17th of March last the F. G. A. sent Mr. D. W. Beadle, the well-known horticulturist, to us, who delivered an excellent lecture on "The Garden," to a good audience. On the 20th and 21st of August, 1896, the Annual Free Exhibition of flowers, fruits and vegetables, was held in the Town Hall, and was a fine success, the plants being so arranged by the ladies as to show off to the best advantage. Your directors feel that this manner of conducting the affairs of the Society, and not spending our money in giving prizes for exhibits, and having our exhibitions free, is the best plan, and fully carried out the intention of the Government in assisting these societies.

JAMES LOCKIE, *Pres.*

[The above will appear in full in our Annual Report.]

GRIMSBY.—The Annual meeting held on Wednesday, 13th January. Treasurer's report showed balance in hand of \$28.95. The total receipts were \$119.30. The following is a list of officers for

1897: President, E. J. Palmer; Vice-Presidents, L. Woolverton and Mrs. Adolphus Pettit; Directors, Mesdames Lucas, Smith, Nelles, Messrs. Grout, VanDuzer, Pettit, Reid, Terryberry, Gibson; Secretary-Treas., E. H. Reid.

The Society has decided to make a distribution of chrysanthemums in April. Each member is to receive five fine potted plants assorted colors. These are now being grown by a florist, who will transplant them several times to five inch pots, so that they will be almost sure to bloom even in the hands of amateurs. Should they succeed well, the intention is to have a chrysanthemum exhibition in November.

PORT HOPE SOCIETY.—At our annual meeting the reports showed our Society to be in a flourishing condition.

During the year the sum of \$333.54 was received from all sources, and \$238.94 expended in bulbs, plants and magazines (HORTICULTURIST), leaving balance of \$94.60 with which to begin the year 1897. Six ladies have been added to our officials as Advisory Board and sub-directors.

A. W. PRINGLE, *Sec.*

PORT COLBORNE.—There was a gloom cast over our annual meeting, because one of the most active and influential members has passed away, viz., Mr. L. G. Carter, who died at his residence, "Rose Lawn," Dec. 30. It was through Mr. Carter's efforts that the Horticultural Society was organized here, Feb. 23rd, 1895, and he was 1st Vice-President at the time of his death. Our Society passed the following resolution:

Resolved, that this Society desires to place on record its sincere sorrow at the loss of Mr. L. G. Carter, who for many years took a prominent and public spirited part in all undertakings tending to promote the progress and welfare of this community, and whose name is honorably identified with the history of this locality during the greater portion of his long and useful life.

A. E. AUGUSTINE, *Sec.-Treas.*

AFFILIATED SOCIETIES.

A LIST OF SOME OF THE AFFILIATED HORTICULTURAL SOCIETIES :

Pictou—President, Lieut. Col. T. Bog ; Secretary, W. T. Ross.

Simcoe—President, Rev. Canon Young ; Secretary, Henry Johnson.

Brampton—President, Dr. C. Y. Moore ; Secretary-Treasurer, Henry Roberts.

Napanee—President, Mrs. Judge Wilkinson ; Secretary-Treasurer, E. H. Reid.

Grimsby—President, Mrs. Edgar Palmer ; Secretary, E. H. Reid.

Lindsay—President, W. M. Robson ; Secretary, F. J. Brampton.

Port Hope—President, H. H. Burnham ; Secretary, A. W. Pringle.

Port Colborne—President, E. O. Boyle ; Secretary, E. O. Augustine.

Durham—President, Christopher Firth ; Secretary, Wm. Gorslin.

Woodstock—President, D. W. Karn ; Secretary, R. B. Thornton.

Belleville—President, W. C. Reid ; Secretary, W. Jeffers Diamond.

Smith's Falls—President, J. S. McCallum, M. D. ; Secretary, not given.

Port Dover—President James Symington ; Secretary, W. J. Carpenter.

Meaford—President, Oscar Boden ; Secretary, A. McK. Cameron.

Niagara Falls South—President, M. P. Lyon ; Secretary, E. Morden.

KINCARDINE HORTICULTURAL SOCIETY.—SIR,—I beg to inform you that conformably to the Agricultural and Arts Act the Society here met on the 13th inst.

for organization and election of officers. Mr. A. C. Washburn was elected President, and Joseph Barker, Secretary.

The Secretary was instructed to acknowledge the receipt of a bound copy of the HORTICULTURIST and one of the Fruit Growers' Reports, for our library, from the Ontario Society.

JOSEPH BARKER, *Secretary.*

LINDSAY HORTICULTURAL SOCIETY.—

DEAR SIR,—I send you some extracts from my report as Secretary, read at our annual meeting :

During the year we have held six Directors' meetings and one public meeting. We have distributed 1,600 hyacinths and 2,000 tulips, also a large number of other plants. Also we have circulated among our members 102 copies of THE CANADIAN HORTICURIST. Our grant from the Ontario Legislature was the liberal sum of \$95, the benefit of which is given our whole membership, as indicated above.

F. FRAMPTON, *Secretary.*

DURHAM.—At the annual meeting of our Society, after the election of officers it was resolved that this Society affiliate with the Ontario Fruit Growers' Association. We hope to send you at least one hundred names.

WM. GORSLINE.

PLANTING HYACINTHS.

IN the matter of January planting of Hyacinths, we believe that as a general rule better results can be obtained by earlier planting, although we have never found that the September started bulbs resulted any better than those started one or even two months later. If the bulbs are stored in dry sand, in a cool place ; it is quite probable that if planting is delayed even as late as January, that good flowers may be obtained ; yet we would prefer to plant early, say in four inch pots, and plunge the pots in a cold frame, covering with leaves, the pots however must be brought into a warm and dark place

for three or four weeks preparatory to placing them where they are to bloom, as in cold quarters they will make little if any roots during the winter months, and the pots must be well filled with roots before exposing to the light, in order to have good spikes. We think that the rather obscure meaning of the sentence referred to in the article upon "Hyacinths," in the January number, is that the soil should as far as possible be kept at all times uniformly moist until the bulbs have made a good start, and that in a dark place.

WEBSTER BROS.

Hamilton.



The Canadian Horticulturist

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

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 4,000 copies per month.

✦ Notes and Comments. ✦

PHOTOGRAPHS WANTED.—In order to furnish our journal with original illustrations we would be pleased to receive from our subscribers photographs with descriptions of the same for publication. Of course we do not promise to engrave every photograph received, but only those most suitable to our work. Among those most desirable are views of: (1) country houses and flower gardens; (2) flowering plants; (3) borders, groups of hardy plants, ferneries and rock gardens; (4) lawns, old orchards, wild gardens, grass walks, and picturesque drives; (5) rose gardens; (6) best garden fruits.

THE COLD STORAGE TRANSPORTATION SCHEME.—The Committee on this subject met the Hon. T. Fisher, Minister of Agriculture, and Mr. James Robertson, Dairy Commissioner, at the Royal Hotel, Hamilton, on the 20th January.

The committee claimed that it would be desirable to forward at least a car load a week of the choicest Canadian fruit, in order to make a fair commercial experiment; that these shipments should continue throughout August,

September and October, with tomatoes, early apples, pears, grapes, peaches, etc.; that these should be stored in cold warehouses at shipping points and be chilled before placing in refrigerator cars, and that a Dominion agent in Great Britain should watch the British markets—advise as to consignees, and report fully concerning the reception of our fruit among British consumers.

It was also claimed that owing to the uncertainty about the success of the undertaking—the valuable nature of the choice fruits proposed for shipment, each carload being worth about \$400—and the fact that at first the work is purely experimental and for the good of the whole country, it should be sufficient on the part of the growers if at two or three points they would combine and agree to furnish one experimental carload each week, of choice assorted fruit, and that the Dominion should erect at these points small store houses, which the growers would on their part agree to take over at a valuation within three years, should the scheme prove a success.

The Minister considers these points somewhat favorably, and it is probable

NOTES AND COMMENTS.

that enough growers in the Grimsby, Winona and Burlington district can be induced to combine upon this experimental work, so that it may be thoroughly tested for the general good.

—
WISMER'S DESSERT APPLE.—On January 7, we received from J. W. Wismer, Port Elgin, a sample of his new winter dessert apple. It is medium in size, beautifully colored, with flesh of such fine grain and buttery character that one might easily take it for a pear if one's eyes were closed. The flavor is excellent, and judging by the sample it is unsurpassed for the dessert table.

—
ERRATA.—We regret the accidental transposition of titles on pages 8 and 11, the former being the Hospital for the Insane, and the latter the Art Building of Queen's University.

—
DECEASE OF ONE OF OUR DIRECTORS.—Mr. A. McD. Allan writes to acquaint us of the death of Jno. Stewart, of Benmiller, on the 12th of January, at the age of sixty-two. Mr. Stewart was with us at Kingston, and seemed in good health, taking a deep interest in our proceedings; and we grieve to hear of this sudden and unexpected loss. Mr. Allan writes "He was a quiet man, who never pushed himself into office of any kind, and yet, in his career in Huron, his name has for many years been uppermost when the people desired to fill any public position of trust. In his own business he enjoyed to a full degree the confidence of the people, as his word was always a guarantee of truth and uprightness. For over a quarter of a century he belonged to the Goderich Horticultural Society, of which he was for some time president. He had been an active worker on the Board of the West Riding Agricultural Society, the

Township of Colborne Society, and in later years of the North-Western Exhibition. We all miss him; we have lost a friend, a horticulturist of the truest stamp, who read in all his studies of Nature, the hand of the Great Creator. It can be truly said the world is better because he lived in it."

—
THE NEXT MEETING of the O. F. G. A., will be held in the town of Waterloo, in December. Invitations have been received from St. Catharines, from the Whitby Horticultural Society, and the South Essex Horticultural Society at Kingsville, and no doubt these places will all be visited in course of time. It is urged by the latter that Essex is a very important fruit growing county, for peaches, grapes and small fruits, one grower alone having about forty acres of peaches in bearing, a single raspberry plantation has yielded over 1800 baskets in a single day, and one grower of strawberries in 1896, has picked and packed one hundred and twenty-four qt. crates of these berries in a half day.

—
SOIL TOO POOR.—It is a common complaint this season that fruit does not pay as well as it usually does, and many are discouraged. Now we are convinced that much of the failure is due to poverty of soil. Many of our foremost fruit growers apply little or no fertilizers to their orchard and garden; all the manure goes to the corn or turnip fields. Now such treatment will not produce good fruit, and good fruit is the thing wanted now-a-days, while second class stuff goes begging at any price.

Every apple tree when it has reached bearing age should receive about 50 lbs. of stable manure, 10 lbs. of bone meal, or superphosphate, and 20 or 30 lbs. of wood ashes every year, and we would like to know how many

NOTES AND COMMENTS.

orchards receive any such treatment. In nine cases out of ten, they receive no fertilizers at all, and yet they are expected to yield abundant crops of fine fruit.

Each bearing cherry tree, too, ought to have, say 25 lbs. of stable manure (one lb. nitrate of soda), 5 lbs. of bone meal, (or dissolved rock), and about 12 lbs. of wood ashes. Does it receive any such treatment? Instead of this, it gets no fertilizer at all, and heaps of abuse for not yielding finer fruit and more of it.

We have much to learn yet, if we would be successful fruit growers.

NOTES OF FAILURE.—In the December No. you ask why members do not write about their success or failures. I will write a few lines about my failures since I have been in Canada. Some four years ago I planted ten acres of grapes and, owing to the dry season, many of them have died and have been

ploughed out. The rest did well until last year's frost, since which many of them have never leafed out. I will have to dig the rest and plant them near together. Last year I worked a ten acre vineyard on shares and had nothing for my labor. This year my share was 300 gallons of wine, and I will have to wait until next year before I can sell it. At present I have not enough money to pay my subscription to your journal, which is too bad. What little money I have had was made out of 1500 gallons of cider, or what we Germans call "apple wine." I put pure cane sugar in it, which will make a good drink. I have had lots of experience, but very little result. I would be glad if any of your gentlemen could find me a market for my wine which will be ready in about a month. I believe, if I could find a place with a large fruit grower, I would do better than keeping on with the old vineyard.

J. GRUENBECK, *Cayuga, Ont.*

FORCED LILY OF THE VALLEY.

LILY of the Valley is now to be seen in the flower stores during fully 11 months of the year. It is very readily forced into bloom, the "pips," as florists term the little bulbs, being merely planted in pure sand, freely watered, shaded, and kept in a high temperature. Twenty to twenty-five days of this treatment bring them into bloom. Sand is used because they are not expected to produce roots, merely to force out the flower through the nutriment stored in the bulb. Under ordinary conditions, while the flowers could be produced at any time during winter previous to the normal period of blooming, they could not be produced

after that, but the florists have obviated this difficulty by putting the bulbs into cold storage until needed, these cold storage roots providing the summer flowers. The lily of the valley bulbs forced in this country are all imported, being grown in France, Belgium, Holland, Germany and Russia. It is easy enough to force this plant by digging up some clumps from the garden bed. A square clump might be dug before the snow covers the bed, and stored in a cold place until wanted. Freezing will not do any damage. In this case, the bulbs should not be disturbed, the whole clump being put in a pan, and brought along gently.—Ex.

➤ Question Drawer. ➤

Amaryllis not Blooming.

907. SIR.—Why is it that my Amaryllis will not bloom? I have had it several years, and given it ordinary treatment with other house plants.

A SUBSCRIBER.

Reply by Prof. Hutt, O. A. C., Guelph.

In answer to your correspondent's question as to why her Amaryllis will not bloom, I would say: This is a very general complaint, and the trouble generally is that the habit of the plant is not understood. The Amaryllis must have a period of rest after each period of growth, and unless it get such a rest, it will not be likely to bloom. As long as the plant is sending out new leaves it should be given plenty of light and watered regularly, but as soon as the new leaves stop coming and the lower leaves begin to turn yellow, it is an indication that a rest is needed. This should be encouraged by taking the plant out of the light and giving only water enough to keep the bulb plump. If all of the leaves dry up no harm will be done. After several weeks of complete rest the plant will begin to resume growth, and often the first signs of it will be the appearance of a flower-stalk. When growth commences the plant should be put in the light, be given a little more heat and should be watered freely. A very dilute application of liquid manure once or twice a week at this time will help to increase the size of the bloom and the vigor of the plant.

Fertilizers for the Lawn.

908. SIR.—I have a large lawn, 110 ft. x 200 ft. Kindly tell me what quantities of nitrate of soda and phosphate of lime I should use, and should these substances be dissolved, or applied dry, and at what time of the year?

A. BOEHMER, *Berlin, Ont.*

For a lawn of about half an acre, such as the one described, we would recommend about 100 lbs. of nitrate of soda and about 100 lbs. of superphosphate. This latter might wisely be applied in the form of bone meal, 50 lbs., and acid phosphate (dissolved rock) 50 lbs. We would also recommend the addition of potash in some form, say, 200 or 300 lbs. of wood ashes. These may be applied separately, in a dry state, and each sown evenly over the ground. The best time for the application is in early spring.

Pears for Algoma.

909. SIR.—What pears would you think suitable for this locality? Also, would quinces succeed?

W. H. McNAB, *Jocelyn,
St. Joseph's Island, Algoma.*

We have as yet no definite information regarding the suitability of that district to our various fruits. We would advise our subscriber to try Flemish Beauty and Sapiieganka pears. Possibly Clairgeau would succeed also. Try also Orange quince on well drained soil, and report the result.

Fertilizer for Raspberries.

910. SIR.—What is the best concentrated fertilizer for raspberries and other small fruits.

W. R. CRUX, *Mimico.*

Would recommend for an acre half a ton of wood ashes to furnish potash; and three or four hundred pounds dissolved phosphate rock; and say one hundred pounds nitrate of soda.

* Open Letters. *

Early Potatoes.

SIR,—In the Question Drawer No. 881 of the CANADIAN HORTICULTURIST, A. F., of Ridgetown, asks the name of a first class early potato. I have had considerable experience with quite a number of varieties, and must say that the best in commerce at present is Burpee's Early. A new sort, however, will be sent out this season called Early Thoroughbred, a most wonderful variety. I tried it myself the past season, and am confident it is the greatest acquisition ever known in the potato line. Others who have tried it report the same. Earlier than Burpee's, in appearance and cooking qualities equal or superior, whilst a much larger cropper, in fact, I had double the crop, whilst one of my friends had a bushel from one tuber. As I have more than I require, it is probable I may advertise them in the CANADIAN HORTICULTURIST.

W. J. KEMISH, *Toronto.*

Hardy Grapes.

SIR,—I read an article in December number of the HORTICULTURIST in reference to grapes shown at Rockwood Co. Fair. If your correspondent is correct in saying that the Moore's Early Grape was grown and exhibited at Rockwood successfully, why not advise Mr. Frankland to try some of the more hardy varieties, as I have seen the Moore's Early Winter killed in the neighborhood of St. Catharines. I would advise one variety which I think is somewhat neglected, and I consider it one of the earliest and best of the Rogers varieties, Rogers No. 33. It is easily distinguished by the following description, a short stout and well shouldered bunch and the stem very short between the bunch and the cane, black berry. Rogers No. 3 would be also worth trying, although it sets poorly sometimes. I think the quality better than No. 9, and it is also earlier. No. 3 being a red grape, I will allow some one else to name a white.

RODERICK CAMERON, *Niagara Falls.*

The Improved Journal.

SIR,—I have just received your circular proposing to improve the CANADIAN HORTICULTURAL JOURNAL in the way of devoting more space to floriculture, etc. A journal treating on the culture of flowers has been a great want in this Province, and I know that the CANADIAN HORTICULTURAL JOURNAL will be greatly appreciated, especially by the twenty-five Horticultural Societies in the

Province of Ontario. For instance, we have a Horticultural Society at Niagara Falls South for 1896, the number of members was 107, and I hope that every one of them will take the CANADIAN HORTICULTURIST. I hope to see its first number turn out as its name suggests, a thorough horticultural journal in every branch of the art. You have skill galore in Ontario if you only get them started to take an interest in one part of the art or the other, and I intend to contribute a few notes myself from time to time. Wishing the CANADIAN HORTICULTURIST every success.

RODERICK CAMERON.

Tariff on Fruits.

SIR,—Until recently our fruits mostly found a market at home. Now the fruit production has overtaken the local demand and an outlet is the crying need. A prohibitory tariff on the smaller fruits has not prevented this state of affairs.

This outlet must be to the south, where we can reach markets *after* their own local supply has ceased. We in return must accept their earlier fruits *before* our season arrives.

A great and rapidly increasing market has been opened up in Buffalo and Detroit, which are contiguous to our chief centres of fruit production. Berries from Buffalo are shipped further south, where no local supply then exists.

Profitable berry culture in Southern Ontario depends upon the outlet. To retain this market, Canadians must imitate the liberality of our American friends, who exact no duties on the smaller fruits. This course on both sides will be of decided advantage to producers as well as consumers.

Growers are usually most anxious to sell fruit *when they have it* to sell. At other times bananas and oranges, duty free, injure our chances more than an early and necessarily high-priced supply of the ordinary fruits could injure us.

To secure our exclusion from the American markets and the consequent wiping out of our small fruit industry, our growers have only to continue their high tariff agitation. Supreme selfishness will get its appropriate reward sooner or later.

Our neighbors in this matter at least have exceeded the most extreme views of the Scriptural injunctions. Peradventure they may become "weary of well-doing."

Frontier fruit growers who have for years sold the bulk of their fruit in the United States comprehend the situation. This with us is a live question.

E. MORDEN,

Niagara Falls South.

OPEN LETTERS.

Planting Hyacinths.

SIR,—As it is to the interest of all readers of the HORTICULTURIST that articles appearing in that Journal should be criticised, if the advice given be at all doubtful, an article appearing in the January number on the hyacinth is certainly open to criticism. The advice given there to plant hyacinths in January is against all well known authority. Instructions on growing bulbs always advise their being planted as soon as possible after being procured, and as hyacinths arrive in this country in September, would they produce good flowers if kept out of earth until January. Would not the better plan be to plant them as soon as received, and retard their flowering by keeping the pots in a box of ashes in a cool place. The sentence "until the shoots are two inches long, about the same proportion of water should be kept

around them and the bulb, keeping them from the light and air," is very puzzling, and needs explanation.

T. A. W., *Napanee.*

We quite appreciate the general good that will result from criticisms and notes of experience from all our readers, whether fruit or flower growers. We did not take the article under consideration to advise planting in January rather than earlier, only to say that it could be planted early in that month for Easter blooming. We have ourselves planted a dozen bulbs to test the matter.

EXPERIENCE WITH CARNATION.

SIR.—Some two or three months since I observed a letter in your valuable monthly enquiring about Carnations. I intended at the time to send my experience as I have always been a lover of that flower; but something hindered until I saw in your last issue a notice soliciting communications on floriculture.

Steele Bros. of Toronto, advertised Marguerite Carnations which would bloom in four months from the time of seed-sowing and promised about 80 per cent. of double flowers. I sent for a ten cent packet and sowed them in March in a shallow box, in two rows about $\frac{1}{2}$ an inch deep; I believe every seed came up; I had about twenty plants, which I set out in spring in a border about a foot apart. Nearly every one had some bloom in the fall and I had about 18 double flowers. Before the frost came I potted the double ones,

took them into the house and had some blooming all the winter, not freely, but perhaps 6 or 8 all the time. As soon as the frost was gone I bedded them out and as they are apt to grow high and need support, I put in slender stakes, some of them were altogether too high and I cut them down which caused them to grow more stocky. When the flowering time came I had a magnificent display of carnations so that I frequently would give a good handful for a bouquet to a visitor or neighbor and there still seemed as many as before. Perhaps they will not do much this year, but they had done so well that I could not throw them away, so I cut them pretty well down and have left them out all winter under a covering of stalks and leaves, by way of experiment.

JOSEPH WALLACE, SR.

Orillia, Jan. 19, 1897.

↗ The Markets. ↘

Recovery of the Apple Market.

Messrs. Woodall & Co., Liverpool, cable under date January 13th, as follows: Active consumptive demand, 4,900 barrels sold,—Baldwins first bringing 13/ to 17/; seconds, 7/ to 10/; Russets, 11/ to 15/; Greenings, 9/6 to 10/; Spys, 13/6 to 14/. They cable under to-day's date, 4,500 barrels sold,—strong demand,—market firm with good demand at last quotations.

Messrs. M. Isaacs & Sons, Ltd., London, cable to-day,—Baldwins first, 8/ to 10/, with improved demand.

No report from Glasgow.

Shipments from Portland this week are as follows:—Liverpool, 7,771 barrels, Canadian; Glasgow, 898 barrels, Canadian; Liverpool, 422 cases, Canadian; Glasgow, 177 barrels, Maine; Liverpool, 2,355 barrels, Maine.

The ocean freight to Liverpool, via Portland, is 1/6 and 5% primage; to Glasgow, 2/ and 5% primage.

The quotations given by Messrs. Woodall & Co., Liverpool, show a sudden and complete redemption of the market, a recovery from the demoralized condition into which the market had fallen was looked for with the turn of the new year, but it was not generally anticipated that it would have recovered with such rapidity. There is no doubt that this sudden reaction is due in a great measure to the cleaning up of over-supplied and unattractive fruit which has invaded the market with such persistency, and also to the curtailment of the excessive quantities which have so thoroughly tested the market during the first half of the season. The improved change will, no doubt, inspire shippers with a new hope and expectation of better prospects and remunerative prices, and that a bright period is now before us.

The quotations given in our cables represent the prices realized on the very limited supply of about 5,000 barrels, and until the demand of the market can establish remunerative figures, with the arrival of heavier supplies, we recommend caution on the part of forwarders, and advise them not to be over-sanguine about the future. We believe, however, that European requirements during the Spring of 1897 will be very large, and the general outlook could not be better. But shippers should thoroughly understand, that only really prime stock in good sound condition will be wanted, and that the markets are not prepared to take quantities such as have lately gone forward. The probable weekly requirements to return remunerative prices should be about 35,000 barrels, and at the utmost not to exceed 50,000.

The Edinburgh Apple Market.

SIR,—For your guidance we herewith beg to advise you market prices for apples. In the first place we are pleased to state that our market has taken a decided turn for the

better. The bulk of the wasty apples have now been cleared out and anything good arriving from now is sure to make remunerative prices. We had a few fresh landed apples sold yesterday. Condition of them was fair, although the quality left much to be desired, being very poor and showing considerable signs of frost, especially the Greenings, which had many black apples in them, and of a soft spongy feeling.

Golden Russets, best realized from 11/ to 12/ bbl.; do., very small, 10/ to 11/; Baldwins, 11/ to 12/; Greenings, very poor quality indeed, 8/ to 9/; Roxboro' Russets, 11/ to 12/; Spitzenburgs, 11/6 to 12/; Ben Davis, 10/6 to 11/6; Canada Reds, 10/6 to 12/.

Spies, not any on the market; but really sound fresh packed Spies would have realized about 11/ to 14/, as they are now much wanted.

We also expect that prices will advance other 2/ next week, and it will not surprise us to see apples going for the next two or three weeks at from 14/ to 16/, probably more for anything fine.

Of course all apples arriving now will have to be fresh packed when shipped, as any old packed apples will simply arrive dead rotten, and it is great folly on the part of shippers to send such apples as have been arriving lately. They appear to have been in the barrels for three or four months and the waste that takes place while they are lying about gets all burst with the fresh movement in transit. Hence apples get all wet and slack, which starts a fresh decay and the consequences are, when they land here, they are simply *muck*, especially Spies and Greenings. We have never seen the like of it before and we hope we shall never see it again. One lot of Spies we had, when they landed on the steamer, and previous to them being carted, we really thought they were in fair condition; but the cause of them not shaking was, that they went into a solid body, and the minute they were put on to the waggons and carted to the stores, they ran out all over the place, even the juice was running from the lorry on the way to the store, and when landed in the stores the juice of them went down below into another flat.

Any shipments you have to send to our care will now do well for the next five or six weeks. After that the high prices that will be realized between now and then will likely bring in again heavy shipments, when there will take place another glut; so beware of it. But prices will not be anything like as bad as they have been, that is, if they continue to come in good condition. It was the very bad condition that brought the market down and demoralized the demand for anything fair. Intending shippers should ship at once two or three shipments, then stop until further advice. We hope you may have some fresh packed now on the way. If so, you will be sure to make a big hit.

Yours faithfully,

JAMES LINDSAY & SON.

* Our Book Table. *

FARMING, published by the Bryant Press, Toronto, Canada, for only \$1 a year, is a magazine well worthy the patronage of every Canadian farmer. It contains about 75 pages of the most valuable information for the progressive student of agriculture, and is full of fine half tone engravings, prepared at great expense. It is thoroughly up to date in every respect, and reflects great credit upon its able editor.

BROWN'S NURSERIES P.O., ONTARIO.—In the advertisement in our January Number, of Brown Brothers Co., we wish to correct a typographical error in stating that the nurseries of this Company were located at Hagersville, Ontario. It should have read Brown's Nurseries P.O., Ontario. This P.O. has recently been opened at their nurseries, and all letters to this Company should be addressed there. We make mention of this error so as not to confuse the patrons of this Company as to the location of its extensive nurseries in our Province. The Company's ad. appears again on back cover page.

CATALOGUES.

A. M. SMITH'S ANNUAL, 1897. Fruit and Ornamental trees, plants and vines, Dominion Nurseries, St. Catharines.

SPECIAL LIST FOR 1897, Bloomsdale Nurseries, Woodstock, Edwin Hersee, Prop.

STEELE BRIGGS SEED CO.'S, 1897, Toronto Ont.

HAMMOND'S SLUG SHOT AND ITS USES, 10th Edition, 20 pages, illustrated, free.

1897 TRADE PRICE LIST TO DEALERS. Slug Shot kills insects, etc., 4 pages.

JAMES J. H. GREGORY & SONS, Catalogue of Home Grown Seeds, Marblehead, Mass., 72 pages illustrated, free.

E. W. Reid's Nurseries, Bridgeport, Ohio. Everything for the fruit grower, 1897, 46 pages, illustrated, free.

A. G. HULL & SONS, Trees and Plants for successful planting, St. Catharines, Ont.

THE SILAS WILSON Co., Catalogue and Price List of leading new fruits, Atlantic, Iowa.

H. H. GROFF, Simcoe, Canada. Cannas, Gladioli, Clivias, 1897.

FRED. E. YOUNG, Rochester, N.Y. Fruit, Ornamental Shrubs, Roses and Trees.

D. M. FERRY, Windsor, Ont. Seed Annual, 1897.

STORRS & HARRISON Co., Painesville, O. Seeds and Plants, 1897.

W. ALTEE BURPEE & Co., Philadelphia. Sweet Peas, up-to-date, 10 cts., a valuable pamphlet.

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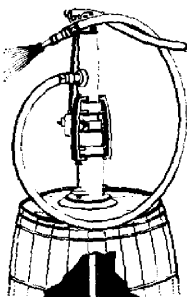
Celebrated "IDEAL" Spray Pump.

BRASS WORKING PARTS. A PERFECT AGITATOR.

MADE FOR SIDE OR END OF BARREL.

SOME FEATURES.

This pump is so constructed as to force at both upward and downward strokes of the handle, causing the liquid to be discharged in one unbroken stream or spray, as desired. It also has great forcing power, and is particularly adapted for spraying the largest as well as the smallest trees with ease. It is always primed and ready for business. It is simple in construction, and not liable to get out of order, for there is no leather sucker to wear and always need repairing as in other pumps. It is declared by those who have tried it to be the best pump manufactured for spraying.



SOME TESTIMONY.

L. Woolverton, Secretary O.F.G.A., Grimsby: I am happy to make a good report of the work done by your pump "Ideal" in the first spraying operations of this season. We have been using it for sulphate of copper, and my foreman thinks it the best pump he has ever tried, and he has used some of the best American ones.

R. J. Doyle, Owen Sound: We have been using one of the double-nozzle spraying pumps manufactured by the Goold, Shapley & Muir Co., Brantford. It is working very well indeed with us. We have sprayed 4,000 trees in a little over five days with three men and a team on the ground. It is giving entire satisfaction.

Benjamin Squire, Farmer and Fruit-Grower, Essex Co.:—I have used your "Ideal" Spray Pump with the best of satisfaction. It surpasses anything I have ever seen, and for work it is perfection. Anybody can operate it with ease. It will spray the largest fruit that tree grows.

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- No. 1. Iron Pump for end of Barrel, with Agitator, Galvanized Suction Pipe and Strainer, 10 feet of Hose, two Nozzles (1 Boss and either a Vermorel or McGowan) \$8.00
- No. 2. Exactly the same outfit, but for side of Barrel \$8.50
- No. 3. Same outfit (for either end or side of Barrel) with Brass working parts) \$10.00

Terms. Payable May 1st, 1897, or 10 per cent. discount for cash during February, and 5 per cent. for cash during March. Every Pump guaranteed, and a fair trial given responsible customers. We are prepared to furnish all extras at reasonable prices, viz., Stopcocks, Extension Rods, etc.



GREGORY'S HOME GROWN SEEDS

are known the country over to be exceptionally reliable. They have a reputation of forty years back of them. They are sold under three warrants. It would not be wise to plant without consulting Gregory's Vegetable and Flower Seed Catalogue for it describes with engravings several new vegetables of great merit to be found in no other. Catalogue sent free to anyone anywhere.

J. J. H. GREGORY & SON,
MARBLEHEAD, MASS.

NEW CROP

SEEDS

We mail free our new SEED CATALOGUE for 1897, beautifully illustrated, and containing a full description of the best introductions in

Flower and Vegetable Seeds

with complete details of the farmer's requirements in FIELD ROOTS, CLOVER AND GRASS SEEDS, SEED GRAINS, FODDER AND ENSILAGE CORN. Write for a copy to

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HAMILTON, ONT.

Fruit Growers' Needs

is our special study—supplying them, our sole business. Have you need of small fruits, fruit or ornamental trees, vines, roses? Our stock is the largest and fullest in the United States; our prices the lowest. All of the best old varieties, the choicest of the new kinds—many sorts exclusively ours. Great reduction on large lots—estimates furnished upon application.

Send for complete illustrated catalogue and learn how you may save 50 per cent.

Fruit crates and baskets.

REID'S NURSERIES, BRIDGEPORT, OHIO.

LORENTZ PEACH

COLORADO BLACKBERRY

DR. CARSON'S STOMACH BITTERS.

The Great Stomach and
Liver Cure.

Ask or write Malcolm McBean, Esq, 32 Queen St. West, Toronto, what it has done for him. He will tell you it is the only medicine sold that does all that it claims to do; that is cures Dyspepsia and all stomach and liver troubles. After three bottles he was well for the first time in years.

50 cents a Bottle.

All Druggists.

DIRECTORY OF CANADIAN AND AMERICAN Seedsman and Nurserymen

Name, address, and specialty, inserted for 10c. per month, or \$1.00 per year; free to advertisers.

- A. G. HULL & SON, St. Catharines.
- A. M. SMITH, St. Catharines.
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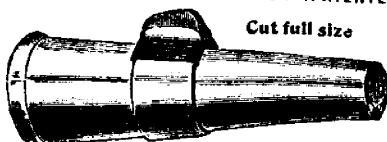


NEW PLUMS

TATGE
The Best.
MILTON
The Earliest.
CHAS. DOWNING
Most Beautiful.
Send for catalogue.
Silas Wilson Co.,
Atlantic, Ia.

MAPLE SUGAR MAKERS

Tap your trees with
THE RECORD SAP SPOUT (PATENTED)



Cut full size
and make your syrup in the
Champion Evaporator

Sample Spout and Illustrated Catalogue Free. Address
THE G. H. GRIMM MFG. CO.,
64 WELLINGTON STREET. MONTREAL.

A DANDY WINDMILL, MAKE IT YOUR-SELF.

I have a neighbor that made one of the People's Windmills, and I have been watching it closely; it is the best mill I have ever seen, and anyone can make one for less than \$10. I am going to make two immediately, and don't see why every farmer cannot have a windmill when he can make it himself for so little money. The mill is durable, powerful and runs easily. Any person can get diagrams and complete directions by sending 18 two-cent stamps to Francis Casey, St. Louis, Mo., and any active man can undoubtedly make money anywhere putting these mills up for others, and I see no use of paying \$50 or \$80 for a mill when you can get one just as good for \$10.

A BETTER FARMER.

50 YEARS'
EXPERIENCE.

PATENTS

TRADE MARKS,
DESIGNS,
COPYRIGHTS &c.

Anyone sending a sketch and description may quickly ascertain, free, whether an invention is probably patentable. Communications strictly confidential. Oldest agency for securing patents in America. We have a Washington office. Patents taken through Munn & Co. receive special notice in the

SCIENTIFIC AMERICAN,

beautifully illustrated, largest circulation of any scientific journal, weekly, terms \$3.00 a year; \$1.50 six months. Specimen copies and HAND BOOK ON PATENTS sent free. Address

MUNN & CO.,
361 Broadway, New York.

THAT WONDERFUL CHURN!

I want to add my testimony to the list of those that have used the Lightning Churn. It does all that is claimed for it; you can churn more butter than with the common churns. I never took the agency for anything before, but so many of my neighbors wanted churns that I ordered 30, and they are all gone. I think in a year every farmer will have a Lightning Churn, in fact they can't afford to be without one, as they make so much more butter, and a good little bit of money can be made in every township selling these churns. By writing to J. F. Casey & Co., St. Louis, Mo., you can get circulars and full particulars about the churn.

A READER.

NEW

Perpetual Blooming,

Hardy Climbing Rose

"EMPRESS of CHINA"

We will send this wonderful new, constant blooming Rose, free by mail for ten cents in stamps, together with our Illustrated Catalogue of

Roses, Cannas, Dahlias, Flowering Shrubs, Hardy Plants choice Flower Seeds, etc.,

WEBSTER BROS.,
HAMILTON, ONT.

STRAWBERRY PLANTS.

A SPECIALTY.

PRICES TO SUIT THE TIMES. 50 VARIETIES TO CHOOSE FROM. Send for Price List.

JOHN LITTLE, Granton, Ont.

CLYDE AND BRANDYWINE
STRAWBERRIES.

Miller and Loudon Raspberries,

Eldorado Blackberry.

Red Jacket Gooseberry.

Campbell's Early Grape,

and Hosts of other Good things, new and old described and offered in my Catalogue for '97. Send post card for it EARLY.

T. C. ROBINSON,
Drawer 72, St. Catharines, Ont.

YOU WANT
SEEDS
THAT
GROW
SAVES TIME AND MONEY
The leading Catalogue in Canada
Yours for the asking—write for it.
Tells about Best and Rarest seeds known
Seeds by Mail—safe arrival guaranteed
THE Steele, Briggs Seed Co. LTD
LEADING MERCHANTS Toronto, Ont.
SELL THEM
"Canada's Greatest Seed House."

Leading dealers
everywhere sell
FERRY'S SEEDS
Don't risk the loss of time, labor and ground
by planting seeds of unknown quality.
The market is full of cheap, unreliable seeds. FERRY'S SEEDS
are always the best; do not accept any substitute. Seed Annual Free.
D. M. FERRY & CO.,
Windsor, Ont.

ALLEN L. WOOD, WOODLAWN NURSERIES,
Rochester, N. Y. Wholesale Trade List—
The Goulds Manufacturing Co., Seneca Falls,
N. Y., Pamphlet, How to Spray, When to
Spray and What Pump to use.—*The Fruit Growers' Catalogue and Market Senders' Guide for 1897,* edited by Sampson Morgan,
4 Adelaide St. Charing Cross, London, Eng.
—*The Universal Horticultural Establishment,*
New, Rare and beautiful Plants, Seeds and
Bulbs, offered, raised, or introduced by W. A.
Manda, Horticultural expert, South Orange,
N. Y.

A PENSION FOR LIFE FOR MEN AND WOMEN.

The Pension Bond Policy of the **Manufacturers Life** Guarantees an income for life of from \$100 to \$10,000 a year for any age after 45. No Medical examination required, should death occur at any time before the pension becomes payable, all the money paid by the assured to the Company will be returned to his or her beneficiaries. This is the **easiest, cheapest, simplest and most convenient** way of providing for old age. Same rates for both men and women. NO Medical Examination required.

MANUFACTURERS LIFE INSURANCE Co., TORONTO, CAN.

GEO. GOODERHAM,
PRESIDENT

GEO. A. STERLING,
SECRETARY.

J. F. JUNKIN,
GENERAL MANAGER.

New and Choice Plants

1. Japan Lilac,

One of the blooms of these choice lilacs is shown in accompanying illustration—Choice and valuable prepaid by mail.

2. *Lilium Speciosum Roseum*,

A very choice, handsome variety of *L. speciosum*, one of the most showy and easily cultivated of lilies. The petals are rose tinted, and from three to five inches in length, and the flowers grow in broad racemes of from three to ten. Stem one to three feet high. Imported from Japan. Prepaid by mail.

3. Conrath Raspberry,

Two plants. Said to be the largest early black cap known, and much earlier than the Gregg. Originated near Ann Arbor, Michigan, in 1886. Prepaid by mail.

Special 4. The Dempsey Pear,

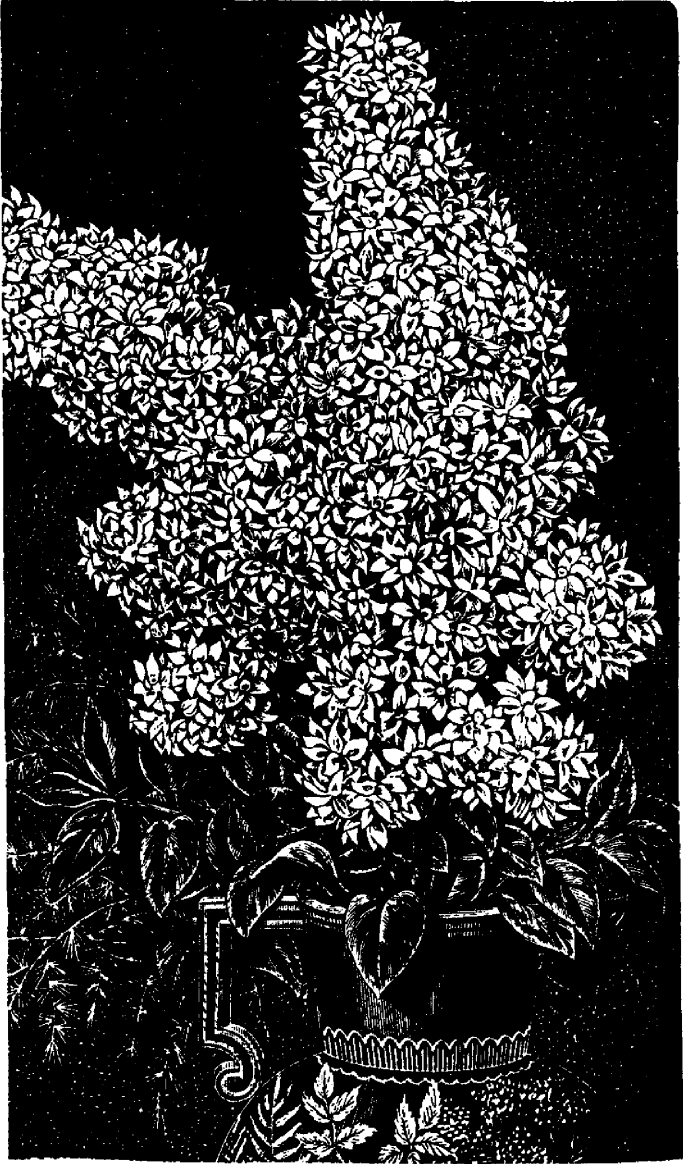
So well known to our subscribers through the pages of our Journal and Reports. A cross between the Bartlett and Duchess. Three year old trees for distribution. The express charges will be prepaid in case of twenty-five trees to one address, but in lots less than twenty-five the express charges must be paid by the agent who orders the lot. This is a grand opportunity to work up a large list of subscribers.

NOTICE.

No plant on this list will be sent to any subscriber who does not ask for it previous to March 1st. We will take it for granted that anyone who does not think it worth while to send a post card asking for a plant, does not care for one.

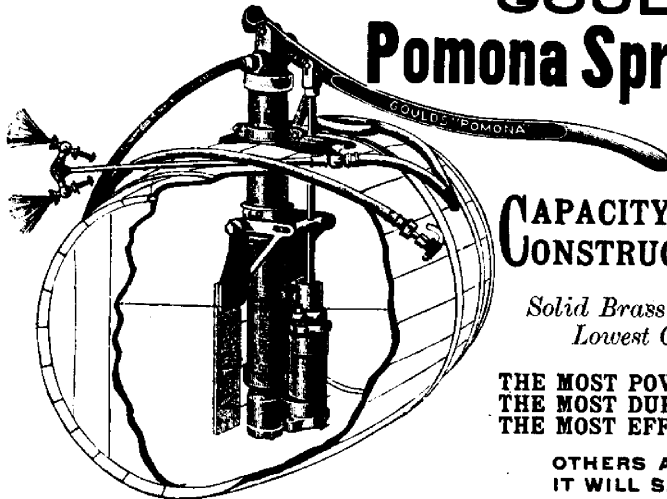
Horticultural Societies may send for their plants or bulbs to be sent in bulk by express, for distribution at a meeting in the early spring if desired. In this case, of course, larger plants can be sent than if sent by mail.

L. WOOLVERTON,
Secretary O. F. G. A., Grimsby, Ont.



JAPAN LILAC.

GOULDS Pomona Spray Pump



THE
PUMP WITHOUT
A PEER

CAPACITY—Large
CONSTRUCTION—Simple

Solid Brass Working Parts.
Lowest Construction.

THE MOST POWERFUL Not a Single
THE MOST DURABLE Complaint
THE MOST EFFICIENT during the
Season of 1896

OTHERS ARE SATISFIED
IT WILL SATISFY YOU

THE GOULDS POMONA SPRAY PUMP wins the Grimsby Spraying Contest. We don't claim it; we leave that for the other ten competitors, and they are all rapidly doing it. We do claim, that we made a stir among Spray Pumps and spectators, and that we were very much in evidence at that contest. We offer the Pomona strictly on its merits, not because it was manufactured in Seneca Falls, N.Y., by the largest pump makers in America, but because it is absolutely without a peer for the work for which it was designed—spraying fruits and trees. Red and blue paint on a barrel, nozzles, gas-pipe and bamboo extension rods, brass strainers, don't make a spray pump. We talk SPRAY PUMP. We will also furnish you with all the other attachments you require; everybody sells them, our people manufacture them, they are the originals. Don't trouble about "Expensive American outfits on which duty has to be paid." Pomona's price was lower than any of the other three pumps in Group I at Grimsby. Don't think that, because you saw the score of two or three pumps, you saw it all. There are others. In the Judges' opinion they only saw three points difference in the four pumps in Group I without accessories. In selecting a pump to offer the Canadian Fruit Growers we did not limit ourselves to the Canadian market, but were after the best obtainable. It may not be patriotic, but it counts when you come to spray trees. We have not space here to give you the complete score of the now famous Grimsby contest, but write us if you want it. We will give you a full one, and talk pump too. See Pomona and you see A SPRAY PUMP.

WILLIAM FORBES, Canadian Agent, Grimsby, Ont.

ADVERTISING RATES

... in ...

The Canadian Horticulturist

Published by the Fruit Growers' Association of Ontario, at \$1.00 a year; average circulation, 4,000 copies per month, among all the leading Fruit Growers and Gardeners of Ontario, and distributed to nearly 1,000 post offices.

Notwithstanding the increasing circulation and growing demand on its space, we have still kept down the advertising rates to the following code, which will be strictly adhered to:

Advertisements will be inserted at the rate of 10 cents per line each insertion, one inch being about fourteen lines. Advertisements for longer periods as follows, payable quarterly in advance:—

One page,	\$30.00	\$48.00	\$72.00
Half page, or one column,	15 00	24.00	36.00
Half column,	9.00	15 00	24.00
Quarter column,	7.00	11.00	16 00
One inch,	3.50	5.00	10.00

Commission Merchant's Directory, and Nurseryman's Directory—Card inserted at 25 cents each insertion.

Yearly advertisements paid quarterly, charged every three months without extra charge.

All communications and advertisements must be in our hands by the 20th to insure insertion in issue of same month. Address, "Canadian Horticulturist, Grimsby, Ont."

FOR SALE OR EXCHANGE Advertisements of Fruit Farms, SITUATIONS WANTED, Etc.

Advertisements of 27 words, including address, received for these objects at 25 cents for each and every insertion, and one cent for each additional word.

No better medium can be found for introducing the English and Canadian Commission Merchants to the Canadian Fruit Growers; or for sale of fruit trees or flower and vegetable seeds.

All kinds of supplies for the fruit grower, as baskets, pruning tools, trees, shrubs and plants, may be advertised in these columns.

All questionable advertisements, are refused insertion at any price. No goods taken in exchange for advertisements. A discount allowed to any one acting as agent in procuring honest, reliable advertisements, which are in line with our objects.

Address: **L. WOOLVERTON, Sec. Ontario Fruit Growers' Association,**
GRIMSBY, Ontario, Canada.

BUY NO INCUBATOR



AND PAY FOR IT BEFORE GIVING IT A TRIAL.

The firm who is afraid to let you try their incubator before buying it, has no faith in their machine. We will sell you ours **ON TRIAL, NOT A CENT until tried, and a child can run it with five minutes attention a day.** We won

FIRST PRIZE AT WORLD'S FAIR and will win you for a steady customer if you will only buy ours on trial. Our large Catalogue will cost you 5 cents and give you \$100 worth of practical information on poultry and incubators and the money there is in the business. Plans for Brooders, Houses, &c., 25.

N.B. Send us the names of three persons interested in poultry and 25 cents and we will send you "The Bicycle: Its Care and Repair" a book of 180 subjects and 80 illustrations, worth \$5.00 to any bicycle rider.

VON CULIN INCUBATOR CO.

Box 484, DELAWARE CITY, Delaware.

THE NEW HOOK SPOON FREE TO ALL.

I read in the Christian Standard that Miss A. M. Fritz, Station A, St. Louis, Mo., would give an elegant plated hook spoon to anyone sending her ten 2-cent stamps. I sent for one and found it so useful that I showed it to my friends, and made \$13.00 in two hours, taking orders for the spoon. The hook spoon is a household necessity. It cannot slip into the dish or cooking vessel, being held in the place by a hook on the back. The spoon is something that house-keepers have needed ever since spoons were first invented. Anyone can get a sample spoon by sending ten 2-cent stamps to Miss Fritz. This is a splendid way to make money around home.

Dec. 13. Very truly, JEANETTE S.

DIRECTORY OF European Houses Receiving Apples, etc., for Sale.

Names and addresses (with cable "address" and code in brackets) are charged 6/ for one-half year, or 10/ for one year. Advertisers Free.

W. N. WHITE & CO., (Ltd.) Fruit Auctioneers, Covent Garden, London, and 64 Stanley St., Liverpool.

J. & J. ADAM & CO., Monument Buildings, London, Eng. (Telegram "Auctioneer," London, A. B. C. Code).

MORGAN & BIERMAN, Cardiff, Wales. (Telegrams: "Morgan, Cardiff")

WOOD, ORMEROD & Co., Edinburgh, Scotland "Wood" Edinburgh.)

MARRY THIS GIRL, SOMEBODY!

I have been reading in your paper about several men and women that have been very successful selling self-heating flat irons, and I concluded I would see what a girl could do. I have worked 12 days and have sold 151 irons, and have 218 dollars left after paying all expenses. Everybody is delighted with the iron, and I sell one almost every place I show it, as people think they can't afford to be without one, as they save so much fuel and time and don't burn the clothes. I know I can clear five thousand dollars in a year. How is that for a girl?

A GRADUATE.

Splendid, my girl, splendid, you are a true American girl. Anyone can get complete information about the self-heating iron by addressing J. F. CASEY & CO., St. Louis, Mo. It seems to be a winner, as everybody selling it writes in its praise.

POPULAR SCIENCE

Nature, Invention,
NEWS Archaeology, Electricity, HEALTH
Chemistry, Mineralogy,
Health, Hygiene, Medicine.

FORMERLY BOSTON JOURNAL OF CHEMISTRY

ENLARGED and IMPROVED

This popular monthly contains a large number of Short, Easy, Practical, Interesting and Popular Scientific articles, that can be appreciated and Enjoyed by any intelligent reader even though he knew little or nothing of Science. It is intended to interest those who think.

Profusely Illustrated and Free from Technicalities.

Entirely Different from and Much Superior to other papers with a similar name.

Monthly, \$1.75 per year. Newsdealers, 15 cts

Largest Circulation of any Scientific Paper in the World

CONDUCTED BY BEN. LILLARD,
108 Fulton St., New York.

Mention this paper for a sample copy.

By a special clubbing arrangement we can now furnish CANADIAN HORTICULTURIST and Popular Science, both for one year, for only \$2.40. Retail price of both \$2.75. This special combination order must be sent only to

"CANADIAN HORTICULTURIST,"
Grimsby, Ont.

HOW THE DIPPER SAVED THE FARM.

Father was sick and the mortgage on the farm was coming due. I saw in the Christian Advocate where Miss A. M. Fritz, of Station A, St. Louis, Mo., would send a sample combination dipper for 15 two cent stamps, and I ordered one. I saw the dipper could be used as a fruit jar filler; a plain dipper; a fine strainer; a funnel; a strainer funnel; a sick room warming pan and a pint measure. These eight different uses makes the dipper such a necessary article that I went to work with it and it sells at very near every house. And in four months I paid off the mortgage. I think I can clear as much as \$200 a month. If you need work you can do well by giving this a trial. Miss A. M. Fritz, Station A, St. Louis, Mo., will send you a sample for 15 two cent stamps—write at once.

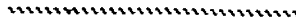
Dec. 13. JOHN G. N.

A GREAT CHANCE TO MAKE MONEY.

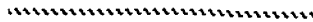
I want to tell you of my wonderful success. Being a poor girl and needing money badly, I tried the Dish Washer business and have cleared \$200 every month. It is more money than I ever had before, and I can't help telling you about it, for I believe any person can do as well as I have if they only try. Dish Washers sell on sight; every lady wants one. The Mound City Dish Washer Co., St. Louis, Mo., will give you all necessary instructions, so you can begin work at once. The Dish Washer does splendid work; you can wash and dry the dishes in two or three minutes without putting your hands in the water at all. Try this business and let us know how you succeed.

ELIZABETH C.

ESTABLISHED 1837.



TO INTENDING SHIPPERS OF APPLES

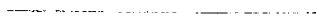


Make Your Consignments of Apples to

SIMONS, JACOBS & Co., - - Glasgow, Scotland
SIMONS, JACOBS & Co., - - Edinburgh, "
MICHAEL, SIMONS & Co., - Leith, "
SIMONS, JACOBS & Co., - - Hamburg, Germany
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WALTER WEBLING, - - - - - 1 S. Market St., Boston
W. W. WOOLFORD & CO., - - 18, S. Charles St., Baltimore
A. R. FOWLER, - - - - - 2 St. John St., Montreal
A. R. FOWLER, - - - - - 193 Commercial St., Portland
C. S. NIXON, - - - - - Kentville, Nova Scotia
J. M. SHUTTLEWORTH, - - - Bow Park, Brantford, Ont



The above have exceptional advantages for the handling of American Apples in Europe, personal attention is given to handling and sale of the fruit, and prompt cable returns are made to every shipper.

TREES-SHRUBS-ROSES

The largest and most complete collections of **GENERAL NURSERY STOCK** in America, including all desirable **novelties**. Beautiful Catalogue (168 pages—1896 edition) free to customers; to others 10 cents. Every intending buyer should have it.

ELLWANGER & BARRY, Mount Hope Nurseries, Rochester, N. Y.

Removed

FROM THE FROSTY NORTH
TO THE GARDEN OF CANADA.

ALL
KINDS
OF

SMALL FRUITS

AND
GRAPE
VINES

PROMISING NOVELTIES AND OLD STAND-BYES.
CHOICE PLANTS, CAREFUL PACKING, PROMPT ATTENTION TO ORDERS.

PRICES RIGHT

Send for Free Descriptive Catalogue.

T. C. ROBINSON,

Drawer 72, ST. CATHARINES, ONT.

Thousands of Fruit Trees

CANADIAN HOME GROWN STOCK.

30,000 Peach Trees.
15,000 Plum Trees.
10,000 Pear Trees.
5,000 Apple Trees.
5,000 Cherry Trees.

Currants, Gooseberries, Raspberries, Ornamentals, Roses and every thing in the Nursery Stock Line, at Wholesale

Prices for the Retail Trade. Write for Price

List to the

Grimsby Nursery,
GRIMSBY, ONTARIO.

Beautiful Binding of the Canadian "Horticulturist"

We will bind the Annual Volume in a **BEAUTIFUL CLOTH CASE, HANDSOME DESIGN**, embossed in Ink and **GOLD and GILT LETTERING**, for the sum of 40 cents or with gilt edge pages 50 cents and returned free of postage.

CENTRAL NURSERY.

Fruit and Ornamental Trees.

SHRUBS, ROSES AND CLEMATIS.
GRAPE VINES, SMALL FRUITS, ETC.

New Catalogue ready for customers. Free. See it before placing your order. PRICES LOW. STOCK the BEST.

No Agents. We give our Customers the benefit of Commission.

A. G. HULL & SON,
St. Catharines, Ont.

JAPANESE BULBS.

LILIES, IRIS, etc., for spring planting. Largest and cheapest assortment in Canada. List free.

ADDRESS

M. J. HENRY,
Mount Pleasant,
Vancouver B. C.

SEED POTATOES.

All the best new and standard varieties

CATALOGUE FREE.

CLOSSON BROS.,
Highland Creek, Ont.

EDINBURGH, SCOTLAND.

Wood, Ormerod & Co. FRUIT MERCHANTS

AND
COMMISSION SALEMEN.

Solicit consignments of choice apples, via Glasgow or Leth. Personal attention given to each shipment, choice produce a speciality.

REFERENCE—The National Bank of Scotland, High St. Edinburgh.

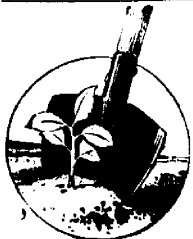
Oct. 95. Telegraphic Address—Wood, Edinburgh.

JOHN & JAMES ADAM & Co. Fruit Brokers

Receivers of Apples and green fruits of all kinds.

MONUMENT BUILDINGS,
LONDON, E.C., ENGLAND.

Cable address, "AUCTIONEER" London.
Code A.B.C.



International Horticultural Exhibition

IN HAMBURG, 1897,

Beginning March 1st, 1897.

DUDLEY & BURNS, PRINTERS, TORONTO

Potash

is a necessary and important ingredient of complete fertilizers. Crops of all kinds require a properly balanced manure. The best

Fertilizers

contain a high percentage of Potash.

All about Potash—the results of its use by actual experiment on the best farms in the United States—is told in a little book which we publish and will gladly mail free to any farmer in America who will write for it.

GERMAN KALI WORKS,
93 Nassau St., New York.

Wm. MORGAN

E. BIERMANN

Telegrams: "Morgan, Cardiff."

MORGAN & BIERMANN
Fruit Salesmen and Auctioneers,
HOPE STREET
CARDIFF, WALES.

MAKE YOUR OWN LANTERN.

Your home is incomplete without it and the price is within reach of all. I ordered one for my own use—and it was so handy and convenient I went to taking orders for them and sold 51 in one day making over \$5 clear. It gives a beautiful white light, chimneys never break from heat, it is always clean and ready. Francis Casey, St. Louis, Mo., will send sample for 13 2-cent stamps, write for one. I got my start from him.

Dec. 13 I.

GEORGIA B.

MARRY THIS GIRL QUICK.

I saw in your paper that a 13 year old boy made \$1.25 the first hour he worked selling the Perfection Metal Tip Lampwick. I ordered a sample and went to work, and the first week I cleared \$10, the second week I cleared \$15. I expect to run up to \$25 a week in the near future, as the Perfection Metal Tip Lampwick makes such a beautiful white light and does away with smokey chimneys and bad odor and saves oil, it is easy to sell. If you wish to try it send 13 two cents stamps to Miss A. M. Fritz, Station A, St. Louis, Mo., and she will send you sample outfit, this is a good way to make money around home.

Dec. 13.

MISS TINAJW.



The Aylmer Spray Pump Leads.

So says the

GRIMSBY SCORE,

So say the public, so say the readers of the *HORTICULTURIST* and so says the Royal Botanical and Horticulturist Society by awarding the

AYLMER PUMP

highest place over all competitors at

MANCHESTER, ENGLAND.

Endorsed by Prof. Craig of the Central Experimental Farm, Ottawa, and Prof. H. L. Hutt, of the Ontario Agricultural College, Guelph.

Reasons Why our 1897 Spray Leads all Others.

1.—**COMPACTNESS.** We have but half the parts of any other high grade pump in the country.

2.—**DURABILITY.** The only part of our pump to wear is the plunger with a bearing of seven inches long, having patented metallic ring packing. The first we guarantee to you for ten years, the second for five years, which costs but 25c. to replace at the end of that time.

3.—**POWER.** We produce a pressure of 250 lbs. to the square inch with one hand on handle, and we test every pump to this with its own handle before leaving the factory. Also spray with ease with three nozzles wide open, holding a pressure of 100 lbs. to the square inch.

4.—**EVENNESS OF DISTRIBUTION.** Having the most powerful we make the finest spray, consequently must do the best work.

5.—**NOZZLES.** At the Grimsby score our nozzles received the perfection mark.

6.—**STOP COCKS.** The Grimsby score gives us perfection.

7.—**AGITATOR.** Our 1897 pump agitates from the handle without disconnecting any part whatever, also without forcing any of the solution into hose or nozzle. This most important part of our pump is so near perfection that we do not ask you to strain your solution, but put in your mixtures as you make them, and by so doing we *guarantee* that you will not hurt or clog the pump.

(Watch this space in the next issue.)

THE BEST IS ALWAYS THE CHEAPEST.

This is Particularly True of Nursery Stock.

We have the best and it costs no more than the inferior. Send us a list of your wants (large or small) for early spring planting and we will quote you genuine bargains. We grow a complete assortment of the best.

**Fruit and Ornamental Trees,
Shrubs, Roses, Grape Vines,
Raspberries, Blackberries, etc.**

Our location is the best, being between Lake Erie and Lake Ontario. Our stock is healthy, vigorous and well rooted. No matter where you have been buying, we can make it an object for you to buy of us. Quality and price talk.

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