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THE CANADIAN HORTICULTURAL MAGAZINE

MONTREAL HORTICULTURAL SOCIETY
M. AND F.G.A. OF P.Q.

PUBLISHED BY THE MONTREAL HORTICULTURAL SOCIETY

y, 1898. Entered at the Post Office Department of the Dominion of Canada as second-class mail matter. Vol. II. No. 2

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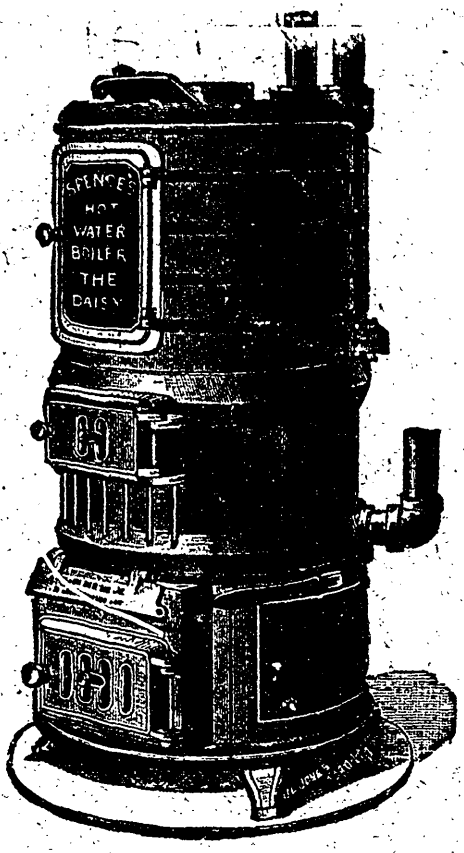

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THE CANADIAN
HORTICULTURAL MAGAZINE.

Vol. II. May. 1898. No. 2.

CHATS ABOUT FLOWERS.

BY MRS. G. W. SIMPSON, MONTREAL.

PART XII.—CONCLUDING REMARKS.

This being the last "Chat" of the desultory series which I have been allowed to write by the courteous Editor of this Magazine, I ask the indulgence of my readers for a few concluding remarks.

While hoping to awaken an interest in the subject of Botany, especially in the minds of young persons, I have had no thought of making a botanist of anybody. Botany is a science, indeed it is the substratum of all science; and a botanist is a life-long student, and not a mere writer or reader of ephemeral literature. But just as we may have men and women for friends without being anthropologists, and learn to know them apart, and even to know their names, without being anatomists or physiologists, so we may make aquaintance with the plant world, learn its manners and customs, distinguish its different nationalities, and beautify and fill our lives with its quaint wisdom and rich gifts. I can imagine that most persons, taking up plant study, are in earnest in the beginning, at all events, and hope to obtain a true insight into the mystery of plant life. It is most important therefore not to disappoint a right and healthy ambition, and I desire to modify the statement I have just made by declaring that the slightest knowledge of plants—if it be true and simple knowledge—is a real personal gain, a possession for all time, to receive additions as opportunity offers, and the mind expands.

But I lay stress upon the words—*true* and *simple* knowledge. How may this be most easily obtained? To begin at the beginning it should be taught in all schools, by simple and inexpensive methods. There are many possible ways open to the teacher, but

this is not the place in which to enlarge upon them. I am addressing myself chiefly to those who have left school and desire to take up the study of plants more or less as a recreation. In pointing them to a true and simple and yet not laborious way of obtaining the knowledge that they seek, I advise them to get a good *Flora* to begin with, and learn to place the few flowers they know by name, into their proper families. As a next step I advise the constant use of the pencil as an aid to observation and memory. Every one who can write can draw an outline; and a pencil, a pen-knife and scraps of waste wrapping paper will afford all the material needed unless the student is an artist, which is another thing, of course.

To the beginner, of whatever age, I would say:—Make outlines of the leaves, the stem, the parts of the flower, and notice, not only the shape of each part, but the way in which the parts are set, the one upon the other. I mean, notice right hand and left hand leaves; the joints of stems; and the way in which each leaf and flower occupies a place on the plant or tree; notice the peduncles or leaf-stalks of the willows and poplars; of the elms and oaks; of the twining plants, etc. You may carry such practice as this to any length, and awake some day to the fact that, if not a *scientific botanist*, you have gained a measure of true and simple botanical knowledge which you would not be without, on any account.

We believe that God made the world;—then, we have in plants and animals, in rivers and seas, in rocks and fertile plains, so many sacred subjects for study and reflection. Religion is a power of communion with God, and through His works we may learn to know Him. Once this idea gets possession of the mind we shall not be content to remain ignorant of our common surroundings; we shall want that knowledge which brings us directly into touch with Him who is "the author and giver of all good things."

We cannot in these conventional days, especially in cities, bring living animals in any number or variety into the home circle. But we may have plants as many as we desire, and with them, many living insects, to our profit and amusement. A few spiders living on a potted plant in the window afford great pleasure. They are

hunters, and in pursuit of game, help to keep window plants clean and healthy. One winter the writer watched two spiders on a cactus waging war on the mealy bug,—a most disgusting vegetable feeder. As soon as the 'mealy' attained a certain size the hunters seized him and disposed of him entirely. If you should be so fortunate as to have some tiny spiders locate themselves, say, on an araucaria, don't destroy them; they will give you at least as much amusement and knowledge as the plant itself. Plants and animals are not separated in the economy of Nature. Plants are food and medicine; they are health to the world, from the least even to the greatest. On the polar seas, far away from land of any kind, the sun, melting the surface of the ice-floes, produces fresh water; and in those fresh water pools animal and plant life appear together,—a new created world! A microscopic forest, as Nansen tells us, often several inches thick, teeming with animal life—struggling, fighting, feeding, like their larger, more ponderous relatives, the quadrupeds and bipeds of the dense primeval tropical forests.

As your powers of observation increase and strengthen you will see many floral wonders you never perceived before. In a waste of golden-rods, growing often close together, you will gather golden-rods with narrow leaves, wide leaves, grey leaves, green leaves; golden-rods with heads panicled and corymbed; golden-rods *gold*, and golden-rods silver. In wet meadows in spring you will find violets in endless variety of colour and form; and in the woods beautiful orchids and heaths, the stamens and pistils, each a profound study in itself. Almost unconsciously you will begin to generalize, discriminate and classify; not, perhaps, quite after the manner of the books, but after a true and simple manner of your own, which will enable you to compare your own experience with what you read, in order to verify or distrust the one or the other.

Believing as I do in the full enjoyment of leisure and freedom for reflection and reading while plant studying, I think it yet advisable to carry in mind a plan of study, more or less elastic, lest one should lose one's way on the path of knowledge. Botany is well divided into departments, for example Morphology, Anatomy, Physiology, Classification, and others not necessary to mention here.

It seems to me that Morphology and Classification may be taken up together, and also that Anatomy and Physiology go well hand in hand. If you have an illustrated *Flora* it will be a great assistance and help in elementary classification. Make up your mind to master the hard words as they occur. They are so often repeated that in a few months you will have the right name for most things, and these words are to Botanists what the mother tongue is to a nation, that is, a true medium of communication on all subjects of mutual interest. A lady lately invited a friend to go with her to get *marsh marigolds*. The friend said she did not know the flower. Oh, you must know them, they grow in the marsh below the hill, close by, the other replied, and she tried to make herself understood by using the botanical name, *Calltia palustris*. But her friend had no botanical knowledge. When the marsh was reached and the flowers pointed out the friend cried: "Oh! you mean *Cowslips*." Now to the old country woman Cowslips signify a variety of the *Primrose, Primula veris*. So the two friends, not having a common botanical language, found great difficulty in understanding each other, and but for the presence of the flower itself would have been unenlightened to this day.

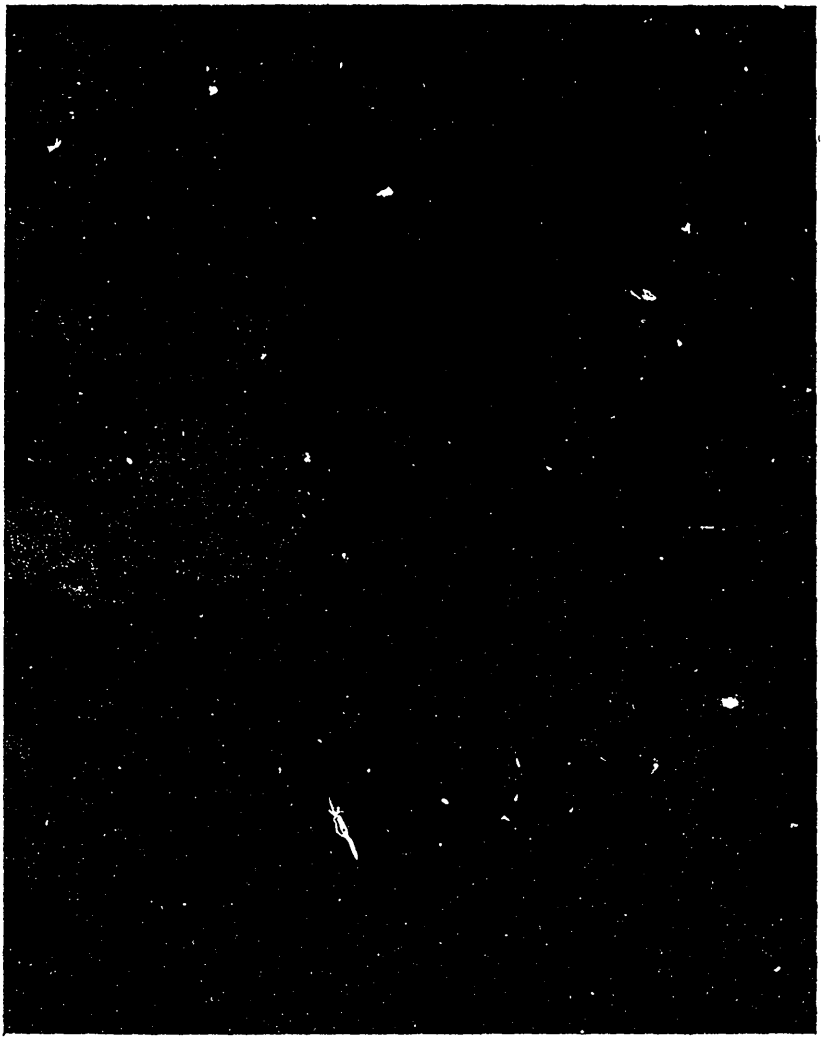
As soon as the *Flora*, illustrated or otherwise, begins to be a familiar friend the want of structural botanical knowledge will in many cases make itself felt, and works on anatomy and physiology will be sought. In the study of these branches good reading matter will be found, and classification will go on apace.

Some people like to measure their progress and set themselves tasks,—so many new flowers to be examined and classified each month. But others I am aware prefer, and are able, to make their own plans of study, so I forbear to add to these suggestions. The summer season is at hand.

In the snowing, and the blowing,
In the cruel sleet,
Little flowers begin their growing
Far beneath our feet.

Softly taps the spring and cheerly:
"Darlings, are you here?"
Till they answer, "We are nearly,
Nearly ready, dear."—(*Anon.*)

LUCY SIMPSON.



MR. WATSON'S GARDEN, - 388 Lansdowne Ave., Westmount.
Second Prize in Suburban Cottage Garden Competition.

THE CULTURE OF SEA-KALE.

How many readers raise, or even know the taste of, sea-kale? I have talked with a good many people owning kitchen-gardens who had never heard of it, and yet it is an easily raised and delicious vegetable. The great gardener, Peter Henderson, described it as having "a flavor something between asparagus and cauliflower, but is much preferred to either," so that its palatableness cannot be questioned. It is a perennial, a bed of it lasting for several years if well established and taken care of; being of the cabbage family, it needs good soil, well manured, if perfection of growth is desired. It can be raised from the roots, or rather pieces of roots, as well as from seed; for the family garden I would advise a first purchase of roots, a dozen of which (price about $1.50) will suffice. You can enlarge your bed afterwards, if necessary, by propagating from the old plants; a crop is secured a year sooner from roots than from seed. Plants should be set 2½ feet apart, and for the first year nothing is required but clean cultivation until winter comes, when a covering of five or six inches of manure (other coverings will do, but manure is the best) must be given the crowns; the manure can be forked in in the spring. It being necessary that the growing shoots should be blanched to make them eatable, large pots or cans of some sort must be put over the crowns the second year in early spring to exclude the light; butter firkins answer the purpose well. Only a moderate cutting of shoots should be made, but the third and subsequent years all that is required can be cut.

It can be had much earlier in the season if, as soon as the frost is out of the ground, fresh horse manure is placed all around and to the tops of the pots or firkins; being forced rapidly in growth by the heat of the manure the shoots make more delicate eating. If it is concluded to raise plants from seeds sow in hills, two and a half feet apart, six or eight seeds in a hill, afterwards thinning out to three or four of the best plants; hoe and keep clean the first and second years, and the third proceed as for second year of plants.

raised from roots; the crowns must be protected, however, every winter. When growing it in England I found that slugs and snails often injured the crowns, but I have never seen or heard of any damage done by insects in this country, although it is not at all unlikely as there are but very few vegetables that have not some insect or fungus enemy. There is some little waiting and expense connected with raising sea-kale, but I feel sure that no grower will begrudge that, after he has once partaken of a dish of it from his own kitchen garden. An excellent way of preparing the dish is, after boiling, to place the kale on slices of toasted bread and pour over the whole a drawn-butter gravy.

To obtain new roots, dig up one or more of the old plants in the fall; cut up the roots into lengths of two or three inches, placing them in a box of sand in a dry cellar for the winter; early in March, in the absence of a hot-bed or greenhouse, plant them in boxes (having about three inches of good loam in them) in the house; when they have made roots and tops transfer to pots, harden them by degrees and set in garden as soon as growing weather is fairly assured.—J. H. C., *in Country Gentleman.*

OUR NATIVE FERNS.

The Reverend Dr. Campbell has kindly consented to write, for this magazine, an article on our native ferns. It will appear in parts—during the summer—and will be illustrated from specimens in the Doctor's possession. This will be a comprehensive guide to our numerous wild ferns, and from the cuts it will be a simple matter to learn the names of the different varieties.

SPRAYING AND OTHER NOTES.

MR. A. McD. ALLAN.

SPRAYING.—A few points are worth remembering. As a rule, we do not begin early enough in the season. One application of Paris green just as the currant and gooseberry buds are breaking will do more to prevent the ravages of the worm than three or four applications later on will accomplish. It is also a mistake to apply the Paris green without lime, but the most valuable combination of all is Bordeaux mixture. Use this mixture always if you want best results. Before the mixture is applied it should be well mixed and strained into the pump tank. The pump should be powerful, and the nozzle fine, so that the spray will be simply a mist. Begin at the trunk and branches and spray every part of every tree in the orchard and garden. If your neighbor does not go and do likewise at once he will learn of your good results, and next season will find a large addition to our ranks against the inroads of fungi and insect enemies.

SALT is being used largely, especially upon light soils, and pear growers attribute the scarcity of blight the past few years to the liberal use of this great corrective of the soil. We use only "Rice's Chemical Orchard Salt" and can vouch for its value.

FRUIT.—If frost does not destroy the blossom, the crop of 1898 will be a very large one, both in small and large fruits. The orchards, generally speaking, are in good order and trees in full vigor to give us best results. But the brightest forecast thus early may be dispelled.

MELONS.—I had a letter lately from a Covent Garden fruit dealer in which, among other matters, he enquired for the green flesh nutmeg melon, such as he remembered seeing at the exhibition of 1886 in London. He feels that "London would take all that Canada could produce of such high quality dessert melons"! I quite agree with his opinion, but will limit the territory to the

island of Montreal. I have never seen that variety in such excellence as when grown in your island, and I have no doubt but when introduced properly to high class British consumers that you would not be able to supply the demand at prices much higher than at present obtained. Of course such a market will bring up the question of

STORAGE.

for fruits crossing the Atlantic. I fully believe in the cold blast system for this purpose, at once the most perfect because the most natural. But the ocean blast when introduced into the fruit compartment must be dry, and the circulation and change of air complete. When this is accomplished the question of placing all our softer fruits in prime condition upon the British market will be solved.

EMIGRATION.—Perhaps I am now touching upon a subject more of a political nature than within horticultural lines. But, Mr. Editor, I am not a practical politician. When in Britain in 1886 I had occasion to look into the practical side of our system of emigration and it struck me some reform would be beneficial to Canada. I looked at it from that point of view which seemed workable in favour of our soil tillers, and it struck me that instead of distributing literature of Canada through that medium it could be more naturally done through the medium of the offices of our great railways and steamship lines, where the intending emigrants would naturally go to get particulars of transportation, etc. Such agencies will always gladly distribute all literature put into their hands to induce travel. Then, in place of the salaried staff of emigration agents, I would suggest that our government select the most capable, practical men in the various provinces to lecture for a term of two months or so every year throughout Britain, and thus bring before the various classes the capabilities of our country for development. I believe in this way practical results would follow that would be astonishing. Modern, up to date lecturers, would be able to dispel many erroneous ideas, and impart information of a practical nature that would induce a generally desirable class in the various lines

most required to come and settle upon our lands or invest in enterprises. When in Britain I had the pleasure of attending several gatherings of agriculturists and horticulturists, and it convinced me that such a method could be worked most successfully and at a much smaller cost than the present system.

Our "tillers of the soil" would be benefitted by the thoroughness of the old land "tillers," and more money could be made from smaller holdings than is now realized from large farms. The successful British farmer could realise a larger measure of success here, and he would enter into the system of mixed farming and fruit-growing, I believe, more perfectly than is often done by our own farmers. Generally speaking, the orchard is the neglected spot upon our farms, which, I feel, would not be the case where the practical British farmer would come over to follow a system intelligently discussed with him. He sees the value of our orchard product in his markets and would naturally take up a reform of our too general rule of letting the orchard take care of itself. We often remark that if our farmers paid the same attention to the orchard as they do to the production of crop upon any other portion of the farm they would find it the most profitable.

ALEX. McD. ALLAN.

Goderich, Ont.

The illustration this month is a view of Mr. E. K Watson's garden, 388 Lansdowne Ave., Westmount, which was awarded the silver medal two years running in the Suburban Cottage Garden Competition, namely, 1896 and 1897.

ROSE PRUNING.

One of the reasons why roses are not more frequently seen at their best in many gardens is owing to the plants not being properly pruned—and indeed many of our hardy shrubs suffer from the same cause.

There is an erroneous idea with many, that in pruning it is right to remove all the previous year's growth, and unfortunately this method is too often practiced, even in our public parks and squares where many shrubs are too often pruned in before they flower and made to look symmetrical from the pruner's point of view, with the result that few of our handsomest flowering shrubs are ever allowed to blossom.

It is on the previous year's growth that most of the shrubs produce their flowers, and therefore, if it is desired to have flowers, pruning must be done with care, and with a knowledge of what it is being done for.

A safe way for beginners is to remove the dead wood only.

In the case of roses, however, it is a little different, and it is necessary sometimes to prune pretty closely to produce the best results.

Different pruning will be required for the different varieties.

The ever-blooming roses which comprise such varieties as Teas, Chinas, etc., require closer pruning than the hardier varieties.

They produce their blossoms on the young wood and therefore if cut down to within two or three eyes from the ground, they will send up strong shoots with an abundance of blooms on the ends.

It is not always necessary, however, to prune so closely, even with the Teas, and they often do admirably if say one-third of the previous growth is removed.

The ever-blooming roses are tender in this locality, and are not familiar garden flowers. They are grown principally by florists for winter blooming. They seldom survive a winter in the open ground.

Our hardy roses of most importance are the hybrid perpetuals.

They usually produce one crop of flowers in early summer, and only a stray blossom now and then afterwards.

They do not require such close pruning as the ever-blooming varieties.

Their flowers are produced from the wood of the previous year, and a safe mode is to remove say one-half such wood—for instance, cut a four foot shoot back to within two feet from the ground—cutting away the weaker growths altogether.

Climbing, Moss and Cabbage roses require much the same treatment as the hybrid perpetuals.

That grand old fashioned rose, the Persian Yellow, succeeds admirably without pruning at all, as also do the Rugosa or Russian roses, which have become so popular of recent years.

The handsome foliage of the latter seems to resist all the pests so troublesome to keep in check with other varieties, and with no pruning, excepting now and then the lopping off of a branch to keep the plant in shape, they make very pretty specimens.

The single and semi-double sorts are sometimes exceedingly pretty, and they all seem to possess a vigor and hardiness equal to our own native varieties.

The Austrian, as well as the old familiar Sweet Briar, require pruning only to keep them shapely.

Roses are generally pruned in spring, after it is known what injury the winter has done, when all winter killed tips are removed.

COLD STORAGE AS A MEANS OF KEEPING APPLES.

The keeping of fruit by cold storage is a checking of the cellular fermentation, commonly called "ripening," which commences in the fruit immediately after picking, and progresses according to the temperature of the air surrounding it.

An apple picked off the tree is generally tough and woody and not easily digestible. Considerable of its substance is cellular tissue and which by ripening is converted into sugar.

Each cell of the fruit acts as a yeast germ and heat and gas are formed by the fermentation.

Warm temperatures aid this fermentation. Thus, as every one knows, in a warm room, an apple will ripen quickly and rapidly decay. The cooler the atmosphere the slower the fermentation, until at low temperature, such as below 40° Fahrenheit, it is very slow indeed.

There is every reason to suppose that there is a certain temperature which will completely arrest it; and in process of time experiments will discover this. The temperatures used in Montreal at present run from 32° to 40° Fahrenheit, and are not rigidly stationary in any storages.

These are found to be very good, but it is questionable whether even lower than this might not be better. It is a mistake to suppose that an apple will freeze at 32°; every substance has its own freezing point, 32° is that of water.

I have found the freezing point of sweet cider by many tests to be 29°, varying slightly with saccharine strength. From observations of effect of frost on apples, I believe that 30° may be used with impunity, and even as low as 28° without injury, though of course some varieties are much more sensitive than others.

Apples picked for cold storage should be packed in cool weather if possible, or in the morning, as hot air contains more moisture. The barrel should be well shaken, but not pressed too tightly, as bruised apples are certain to decay early.

It is of the utmost importance that the packages, as soon as packed, go in at once. Standing a day in an orchard at a temperature of 75° or 80° would ripen it perhaps as much as a month at 34°. It will generally be found only profitable to put first-class apples in storage. The extra care in packing, the cost of storage and the extra cartage cannot be afforded by second-class fruit.

It has been recommended by some to pick apples on the green side, but the markets do not consider them to be first-class, and they are sold with difficulty and at lower prices.

There is a stage in the growth of the apple when it takes a good colour and still remains firm and hard. This condition should be taken advantage of and not let them get ripe on the tree.

My experience with keeping apples in this way has not as yet been very extensive. The most satisfactory variety I have found to be the "Wealthy;" ordinarily handled, it keeps to about December 15th; in storage it has kept until April perfectly, and it may be kept longer.

The "Fameuse" is rather difficult to keep, its skin is so sensitive to fungous growths; if it is clean and bright it will keep to the 1st of May, but generally speaking is not as good a keeper as the "Wealthy."

The "Alexander" I have kept very well into February, and will sell easily, competing with the "Northern Spy."

The "Duchess of Oldenburg" have held very well into January, but they are not of good enough quality to sell well. They should be stored only in cases of great glut of early apples or great scarcity of late ones.

In all these cases there is shown quite an extension of season, the commercial advantage of which is easily seen when we have gluts and low prices at certain times even in seasons of general scarcity.

This principle of keeping fruit may solve or partly solve a problem that is concerning the province, the finding of a late keeping variety.

The province now grows easily a number of early winter apples, the best of which are finely coloured and rich flavored, and while

they last command better prices than any apple shipped here. I speak more particularly of the "Wealthy," the "MacIntosh Red," and the "Fameuse." Now, if the season of these may be extended as long as the late keepers, why should we need one of this class, the quality of which is not likely to be as good, and perhaps for its proper development our climate is not adapted.

C. P. NEWMAN.

CARNATIONS FOR SUMMER FLOWERING AND POT CULTURE.

Carnation blossoms, "the Divine Flower," find ready and steady sale everywhere that flowers are in demand. The charming flowers with their spicy fragrance have seemingly endeared themselves to the hearts of this American people; in the flower stores, in the greenhouse and as pot plants, the unassuming carnations are prime favorites. In 1891 the American Carnation Society was organized at Philadelphia for the purpose of fostering and propagating the interest in these flowers. The wonderful creations of new and of improved varieties, and the keen appreciation with which the flower-buying public regard them, are, we have no doubt, largely due to the active work of this Society and the pleasing exhibitions they have given. Carnations for winter blooming in the house and summer flowering in the garden are the two branches of carnation culture that are of interest to the amateur. For the former purpose the preparation of the plants must begin at an early date. Procure the young plants as soon as the ground can be dug and the danger of severe frost is over, set them in the open ground not less than one foot apart; somewhat sandy soil produces decidedly the largest and most desirable carnation plants. As the leading shoots begin to run up to flower they should be cut well down, this adds vigor to

the growth and encourages production of numerous side shoots that are necessary for good winter-blooming stock. Do not do any pruning after August 1st, or the first crop of flowers will be late. Potting may be attended to as late as the end of October and good results obtained, but early in September is much better. The best time for lifting the plants is a vexed question; some deeming it nonsense to lift them during a hot spell of weather, and others claiming that such weather is the only time this work should be done. After a few weeks of dry weather the growth hardens somewhat and is semi-dormant. If carnations are potted at such a time they will be found to wilt but very little, and this is a decided gain. Do not make the mistake of keeping pot carnations in too high a temperature; 50 to 55 degrees at night will be found best; in day time 60 to 70 degrees may be permitted. Well grown, neatly staked, clean plants will reward you with a luxury of dainty, spicy blossoms. The only insects that may be called enemies are "Green Flies" and the "Red Spider"; for the latter, spraying with water or a moist atmosphere is needed, tobacco smoke or some liquid extract of tobacco will quickly dispense with the Green Flies or Green Aphis. Some fungous diseases now attack the carnation, though they are frequently fought with a degree of success where the flowers are grown commercially. It is we think the most satisfactory for the amateur to rely on clean healthy plants to begin with and proper culture during the flowering season.

Some of the newer largest flowered kinds are unsurpassed as pot plants, when well grown:—Mme. Diaz Albertina, pink; Emily Pierson, scarlet; Bride of Earlescourt, white; Meteor, crimson, are all fine. Flora Hill, one of the very newest and very largest whites, promises well for pots. For summer flowering it is not the strongest grower nor the largest flowering that should be chosen, free growers and free flowering habit are more necessary features:—Silver Spray, Portia, Wm. Scott, Thos. Cartledge, Eldorado, J. J. Harrison, Mrs. Fisher, Lizzie McGowan, and Pres. Garfield, are all suitable. Pres. De Graw, white, we have found one of the freest of varieties for summer flowering; it is rather short-stemmed, how-

ever, and has been so seldom offered of late years, that we doubt if it is now in commerce at all.

Begin the propagation of plants in February, the larger you have them at planting time the earlier your flowers. Simply pinch the leading shoots twice while still in pots; it is better to let all the shoots run to flower after planting. If the soil is suitable and well enriched, you will be rewarded with lots of good bloom from July 15th on. The New Margaret strains which are raised from seed are really effective summer bloomers. The most carefully saved seeds will produce about eighty per cent. of double flowers; but as it cannot be said till they flower which are the single flowers, they are somewhat disappointing at times. Some overcome this difficulty by setting the plants rather thickly, so that when the single ones are weeded out, the bed still presents a good appearance.

WEBSTER BROS., *in Canadian Horticulturist.*

ASPARAGUS.

No vegetable garden should be without its bed of asparagus, and while all localities and conditions do not suit asparagus alike, still few vegetables can put up with more hardships and still pay for the room it occupies.

The soil best adapted for its cultivation is a rich, deep, friable loam which should be heavily manured, in fact it cannot be too rich. The bed should be trenched at least two feet deep, and three feet would be better still. An abundance of old rotted manure, or if rotted manure is not at hand, plenty of cow manure should be dug into the bottom of the trench.

For small beds it is generally most convenient to buy plants, when it is intended to plant a bed of asparagus, as the plants are better when they are two or three years old. They may be safely transplanted even quite late in the summer after they have made

considerable growth. The shoots will die down, but new ones will set out from the root.

In small beds, in gardens where weeding is carefully done by hand, plants may to advantage be set as close as one foot apart, but where asparagus is grown for market some of the principal growers set them four feet apart each way, thus giving room to cultivate between. On cultivating and constantly loosening the soil a great deal of success depends, therefore keep the bed free from weeds.

It is safe to plant the crowns six inches below the surface of the ground, and in the early spring rake and scuffle the top of the bed before the shoots appear, and when they do appear dig and loosen the soil between the plants.

The asparagus is a very gross feeder and can stand almost any quantity of rotted manure. Other fertilizers can also be used quite liberally. It is the custom with many to give the asparagus bed a good top dressing of salt each year. Some growers doubt the direct advantage of salt applied in this way to the plants, still it is known that a quantity of salt spread over an asparagus bed may not hurt the asparagus, and yet kill nearly every weed in the bed. As soon as the crop is gathered allow the shoots to grow and ripen, and before the berries fall remove the tops and burn them.

As the success of next year's crop depends on the ripening of these old tops, do not remove them until the berries start to fall, and then only to prevent them sowing their seed. Otherwise the seeds will produce young plants, which in an asparagus bed, is one of the most troublesome weeds.

Water copiously in dry weather. Mulch the bed in the fall. For this the best material is a very thick top dressing of fresh manure, and in the spring rake off the coarsest litter and dig in the rest.

PERENNIAL PHLOX.

Perennial Phloxes are the most available and the most effective of the many beautiful herbaceous plants that bloom so freely in our open borders.

Perpetual bloomers like perennial Phloxes are tested to the fullest extent, as the tendency of such blooming plants is too rapid seed formation, which, added to the vigorous root action necessary to support florescence, leaves no weak point in their claim to hardiness that might need apology. The varieties of phloxes are constantly increasing. Some introductions of 1896 are the finest that we have. They all succeed under ordinarily good garden culture.

The line of improvement has steadily inclined towards rich crimson, clear lilac, mauve, pink and pure white, shades away from the dull, murky, purplish-red that was the color of the original type. This objectionable shade will obtrude itself now and then, in the best assorted collections. The remedy is to take up, by the root, the plant that bears the bloom and throw it away. It is a stubborn fact that the finest hybrids in all classes of plants have an inclination to revert to the most strongly marked side of parentage. The same tendency to sport, or change type, gives us the wonderful conformations of varied blooms that break the monotony and make bright and gay the borders.

Few flowers in the open border equal the perennial Phlox. The panicles are large, closely built and more showy than the Hydrangea. In oblong-rounded panicles, held firmly upright on the tall straight stalks or stems they combine size, strength and delicacy. None of the phloxes are coarse in any suggestions. The texture of the largest blooms is exquisitely fine and the colors though rich, are never glaring. The larger the heads of bloom, the more advantageous the texture of the flowers and their soft shades of color appear.

The tall growing and the dwarf sorts alike produce large pani-

cles. The term dwarf applies only to the height of the low growing sorts. They bloom together both tall growing and dwarf, beginning early in the summer and continuing until November. The tall varieties are admirable on the far side, or back line of borders and in the centres of beds; and the dwarf are fine for the front line of borders or outline of beds, massed or otherwise, so there is an unbroken line of bloom of the phloxes themselves, or with other flowers that harmonize, produce the effect of velvet of richest hue, draped and cast so as to reflect the light of the sun in soft undulations.

It is quite interesting to order mixed varieties and await the blooms. There is sure to be a pleasant realization; never disappointment.

Perennial Phloxes prefer rich but mellow soil, well drained. The sun suits them better than the shade, they bloom quite well shaded by mixed shrubbery. The roots under the soil are growing and gaining strength all winter, while the tops are not making growth. They are then ready and well prepared for beautiful growth and early and continuous florescence.

The young plants from seeds will, if sown in Autumn, bloom in spring. The plants also make many volunteers. It is the nature of the phloxes, annual and perennial to self-sow themselves. Of course it is well known that no flower blooming so freely should be allowed to form seed, else the blooms grow less in number Phloxes are highly available for cut flower purposes, for nearly six months of the year, if managed properly. They need water, work and fertility, through the growing season, and a warm covering of rich earth over the crowns when the tops have been removed for the winter. Whenever the main head of bloom is cut the stalks produce collaterals, every one of which bears a flower of smaller size. The roots continually send up flower stalks as it is the nature of the plant to multiply and bloom without cessation.

The young stems and full, fluffy blooms of rich and delicate hues, render the perennial Phlox pre-eminent for filling large vases. Combined with the feathery fronds of Maiden Hair Ferns or the

light and airy green sprays of Asparagus plumosus, the arrangement needs no special gift on the part of the decorator.

Should there be any flower that I might say in, and of itself, should constitute a garden of bloom, when I note the perennial Phlox among the flowers of spring, of summer, and yet more elegant with the Dahlias, Roses, Chrysanthemums and Cannas of Autumn, that flower would be the one named.

—*Southern Florist and Gardener.*

IMPORTANCE OF THINNING FRUIT.

In fruit-growing sections, the necessity of thinning was emphasized during the season of 1896. This work must be done in order to save the strength of the tree and improve the size and quality of the apples. With apples more than with any other kind is this true, for nearly all of the larger fruits produce at intervals immense quantities of bloom and set an abnormal crop of fruit. If this is allowed to mature, the trees will be so badly exhausted that it will require several years for recovery, and in addition, the fruit will be small and of poor quality.

In a case of this kind thinning can be resorted to with profit. To one who has never thinned fruit, the work may seem impracticable in that the cost of thinning will be greater than any benefit derived from it. This, however, is not true, as has been demonstrated by many practical growers, and particularly by the Massachusetts experiment station during 1896. The tests made with Gravenstein apples were hardly satisfactory, as this variety dropped its fruit prematurely that season. However, even with this drawback, it was shown that there was considerable profit in thinning fruit. In one case the fruit from a tree properly thinned brought $2.33 more than that from the same tree untreated. The cost of thinning was 48c., which left a net profit of $1.85. In another

test, in which the Tetofsky apple was the variety selected, the thinned fruit sold for $1.20 more than that not thinned. The cost of thinning was 35c., leaving a net profit of 85c. in favor of thinning.

The Massachusetts station found that there was not only a distinct advantage to the fruit, but it decreased the ravages of fungous diseases and insect pests to a small extent. This was especially noticeable with brown fruit rot, which often ruins the peach or plum fruit in wet seasons. The man who does the work must take care to remove all inferior specimens, leaving only the best.

Mr. Moody, a successful fruit grower in western New York, states that he finds great profit in thinning fruit. On his peach trees he had fewer specimens but more fruit, and the crop sold at $1.50 per bushel, while fruit that was not thinned was a drug on the market at 37c. to 50c. At the Geneva, New York, experiment station, in 1896, the thinned fruit was all first-class, especially when thinned to four inches apart. Scarcely any sorting was necessary, and being highly colored and of the highest quality, the fruit sold on sight and was in good demand. Where the apples were thinned to six inches, the fruit was no finer but more fruit buds were formed. —*New England Homestead.*

ASTERS FOR EXHIBITION.

To grow Asters well for exhibition is no small task, and few plants respond to good treatment more quickly than the Aster.

Like nearly every other annual, the mistake is often made of sowing the seed too early and allowing the plants to become stunted before they are planted out. From the middle to the end of May is a very good time to sow the seed, if blooms are wanted for the fall. The seed should be sown thinly in a well prepared bed in the open ground, and when the plants have formed the first two leaves, they should be transplanted carefully to the beds where they are to

bloom. One foot apart each way, as a rule, will be sufficient space to allow, but in some instances more would do no harm. If the bed has been heavily manured and prepared last fall, all the better, if not, a very liberal amount of well-rotted manure should be dug in and if possible the bed trenched.

Asters are very strong feeders, and it is hard to give them too much manure, if it is well rotted. Water in dry weather and apply liquid manure frequently. To produce show flowers, it is necessary to dis-bud freely. This should be done by removing all the buds as they appear, leaving only the terminal and three or four other ones. It is not desirable to leave only one flower to a plant, as this makes the plant look bare, and often the flower produced is coarse. A mulch of rotten manure, three inches deep, spread over the beds, is beneficial, and helps to keep down weeds and retain moisture. The blooms are improved if shaded from the very bright sun and when practicable should be protected from rain for a few days before the blooms are wanted for an exhibition.

The last two requirements are not always easily practiced, and in fact no convenient form of either seems to have been devised; still, where the pains and trouble are taken to shade each flower and protect it from the rain and sun, a marked improvement has been found in the quality and finish of the bloom.

All the tall growing varieties produce fine blooms. The Comet and Ray Asters are of most recent introduction, and the former is now very popular. The dwarf varieties make good pot plants and are admirably suited for beds and borders, as are also the tall growing ones, which, if grown for this purpose, do not require disbudding.

EXTENDING STRAWBERRY FRUITING SEASON.

Where berries out of season bring a very high price, cold storage has been employed quite successfully. However, this is beyond the reach of most of us, hence the great mass of family gardeners must be content with simpler methods. A number of early and late varieties of strawberries have been produced which will enable anyone to prolong the season several days, by simply selecting varieties with reference to their time of fruiting. Early varieties may be hastened in the spring by planting on a warm, sandy soil, with a southern exposure. If the mulch is removed as soon as the ground is in condition to work, and the early varieties thus exposed thoroughly cultivated until the berries begin to ripen, their fruiting season will be hastened.

However, the opposite process may be more successfully employed with one of the latest varieties. The late ones should be given a northern exposure and left unmulched in the winter until the ground is deeply frozen, and then mulched lightly with straw or coarse manure. After this mulch has settled and is covered with snow or ice, spread on a thick layer of straw, the thicker this second covering is the better. Both of the layers should be left on the late strawberries until the earlier ones are in blossom, when it should be removed and the plants helped through the first mulch in case they do not readily come through alone. Plants left covered until late in spring have less ability to help themselves through any mulch than those that have been allowed to start early.

Gandy's Prize, deeply mulched in a manure as described above, may be made to fruit through the last of July, and with considerable watching I have found no trouble in extending its season into the month of August. If left covered too long after warm weather, they should be carefully watched and uncovered as soon as they show signs of smothering. When uncovered, plants that have been heavily mulched will be thoroughly blanched, and in this condition

they may be left covered as long as the young leaves remain plump and fresh. For a long time Gandy's Prize has seemed well adapted to this kind of treatment. In this section it is a shy bearer, but its extra late fruiting season and large, firm berries have kept it in the field. The Western has been highly recommended of late as having the good qualities of Gandy's Prize and at the same time being more prolific. The Michigan is another late variety which has been much improved, and is claimed to be from ten days to two weeks later than Gandy's Prize. The berries are said to be firm, large and the vines very prolific.—C. B. Cook, *in New England Homestead.*

PRESSED FERNS.

HOW TO MAKE A COLLECTION THAT SHALL BE SATISFYING.

Next to the possession of a fernery where the various forms of our native ferns may be grown, is the fern portfolio, consisting of pressed fronds of such ferns as we may be able to gather from the fields and woods. By the exercise of care and considerable searching for the best specimens one may make an admirable collection in one season, beginning in the early summer. Of course it is desirable to preserve the most perfect specimens of the fronds, and if there occurs any breakage or unnatural discoloration, such specimens should be discarded. A little care is also necessary to obtain fronds that are fully developed, and in the most perfect state of growth.

The different varieties of ferns arrive at maturity at varying seasons of the year, hence a knowledge of the time of ripening of the fructification, or spore cases, is essential, so that the fronds may be gathered just before this period in their growth. If the spore cases are ripe when gathered they will burst in pressing, and injure the appearance of the fronds.

The thing of importance in making a collection of ferns is to preserve the color and form in a dry state. So at the start provide

a quantity of thick absorbent paper in good-sized single sheets, say 12 by 18 inches. A number of sheets may be taken and the fronds placed between the sheets as fast as gathered; or they may be gathered and taken to the house, to be more easily arranged at home. The chief point is to have the fronds laid smoothly, and all in a natural position. Use two or three sheets of paper between each two lots; have a couple of boards cut to the same size as the paper, and on one lay the sheets with fronds between, and the other board on top of the whole.

Place a moderate pressure by putting weights upon them. In a day or two remove the fronds, place in a dry paper and press as before. The former sheets of paper may be dried for use again. Repeat the process two or three times, or until the fronds are thoroughly dry; the period will depend upon the kinds of fronds and their more or less succulent character. The collector will find it quite interesting to have two specimens of the fronds of each species, so that the front and back may be shown side by side.

Arrange the fronds in a portfolio containing sheets of heavy white paper; the specimens should be lightly fastened to the paper by threads passing over and secured at the back of the sheet, arranging them according to genera. Attach to each specimen a label bearing its name and the place and date of gathering. In this way, and with careful handling, they may be preserved for a long time.

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