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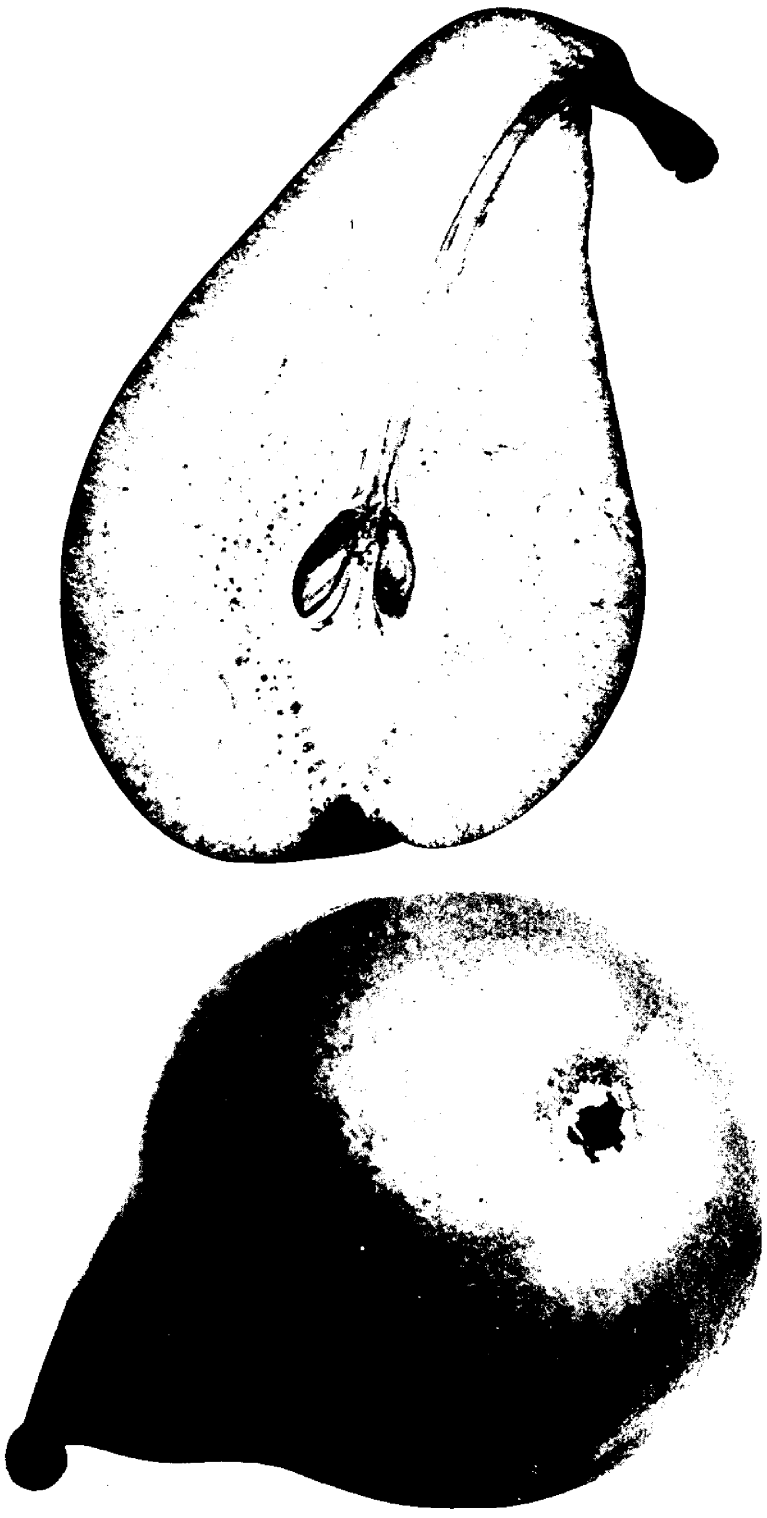
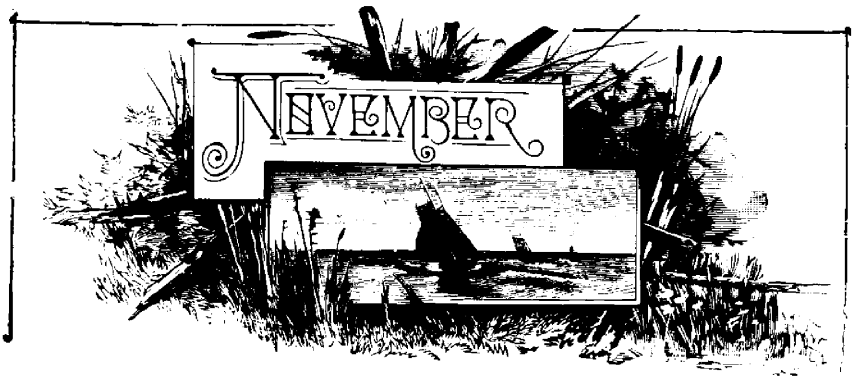


BEURRE CLAIRGEAU.
(From photograph by Miss Brodie.)

THE
CANADIAN HORTICULTURIST.

VOL. XX. 1897. No. 11.



BEURRE CLAIRGEAU.

AS a commercial pear, especially for a distant market, we know of no variety of the same season that is superior to this variety. Its large size, and the beautiful cheek which it takes on during the month of October, its excellent shipping and keeping qualities, all these combine to make it a profitable variety, and one that is easily grown, either as a dwarf or standard, though usually large and fine sized as the former. The quality is variable according to conditions of growth; in France it is counted first quality; in England, third quality; with us, when well ripened, it is second rate.

Origin—Nantes, in France, with a gardener named Clairgeau, about 1834.

Tree—First class in vigor, hardiness and productiveness; wood stout, and upright in habit of growth; branches numerous, grown as a dwarf can be trained to make a fine pyramid; an early bearer.

Fruit—Large, 4½ inches long by 3½ inches in width, one sided, pyriform; skin green, turning pale yellow at maturity, almost overspread with splashings and dots of russet, which completely covers it about the stalk and about the calyx; orange red on sunny side; stalk, ¾ inch long, stout, fleshy at the base, usually set at an angle with the axis; calyx small, open, in a shallow furrowed basin.

Flesh—White, coarse grained, juicy, with sweet, aromatic and vinous flavor.

Season—October to January.

Value—Home or foreign market, first rate.

Quality—Cooking, good; dessert, second rate.

Adaptation—Succeeds admirably as far north as Thornbury; and east as far as Prescott.

FIG. 1232.—MRS. W. H. WILKISON.
President of the Napanee Horticultural Society.

THE NAPANEE HORTICULTURAL SOCIETY.

THE Napanee Horticultural Society was organized in March, 1895, through the untiring efforts of Mrs. (Judge) Wilkison, who has been the President since its first inception. This was the first instance, we believe, of a lady being elected to the position of President of a Horticultural Society in Ontario; and the success which has marked the Society's existence has proven the choice then made to have been a most judicious one. We notice that other Societies have since followed the course of the Napanee Society, and elected a lady President. Mrs. Wilkison has associated with her an active directorate, each of whom strives to outdo the other in advancing the interests of the Society. The directors started out upon the principle that the easiest way to induce the members to cultivate flowers, was to present them with seeds, bulbs and plants, together with complete instructions for the management of them. Accordingly the Society has made extensive purchases from the most reliable dealers, and up to date has distributed among its members—

FIG. 1233.—"CHESTNUT LAWN," RESIDENCE OF MRS. W. H. WILKISON.

7600 Tulips.	65 Brugmansias.
4000 Crocuses.	66 Begonias.
1028 Hyacinths.	66 Dahlias.
1966 Gladioli.	59 Chrysanthmeums
327 Cannas.	70 Palms.
59 Primulas.	

15 lbs. Sweet Pea, Aster, Poppy, Hollyhock and Dahlia seed.

At the meetings of the Society the elementary requirements of floriculture

FIG. 1234.—MR. J. E. HERRING, *Sec'y-Treas.*

are studied and discussed. Occasionally an essay is read. Last year the Society offered prizes, open to students of the Collegiate Institute, for the best collection of classified Botanical specimens of plants growing wild or commonly cultivated in Canada. The pride of the society, however, is the annual Flower Carnival which now takes rank as one of the events of the year to which the citizens generally look forward with pleasurable expectation. A very good account of the one held in September, appeared in the October number of this journal, and our readers will see by reading that account, that the Napanee Society was at considerable expense, and spared no pains in striving to make their "Flower Show" a success.

The Society has for some time past had in view the establishing of a small model park in the central part of the town, and have hopes, with the assistance of the town, that the matter will, in the coming year, be brought to a successful issue.

JAPAN PLUMS.

SPEAKING of plums, which by the way rank among the highest from a nutritive and a hygienic standpoint, the Satsuma Blood is unexcelled, if equalled, by any other of the Oriental types. Unfortunately, however, the trade knows nothing whatever about this fruit, nor how to handle it. The dealers, bless their hearts, most of them evolved from a Minnesota blizzard, or an entry clerk's high stool in some down town warehouse, are in complete ignorance of the almost infinite variety of new fruits which are every year being sent from California orchards.

Take this Satsuma plum, for instance; it will hang on the trees till late in August, or even September, and then is actually superb in quality. But the trade orders it shipped early in July, and for no other reason except that a Bradshaw plum must be picked as soon as it gets a little colored, or it will get soft. The Satsuma gets deep red a month before it is even mature; the Grand Duke gets black and stays black for several weeks on the tree before it gets soft; Wickson must be picked before it gets a speck of color, and yet in ten days, wrapped in paper, it is completely covered with an intense carmine.

Fruits of all kinds differ vastly in their habits of maturing and ripening, and it is these hordes of draymen and office boys, who have saved a few hundred dollars, who make such hash of the best California products; nothing is easier than to go into the commission business. —Leonard Coates in California Fruit Grower.

FIG. 1235.—"FOUNTAIN HALL,"
Residence of Mrs. Archibald McNeill, a Director of N. H. S.

UNFERMENTED GRAPE JUICE.

ONE SURE WAY.

Weigh out 20 pounds of clean, ripe Concord grapes. Pick from stems into a three gallon granite kettle, rejecting spoiled or green ones. Put in four quarts clean, fresh well water, and set kettle on the fire. Heat to boiling point, but don't boil; remove from fire, mash well with a wire potato masher, and pour into a cheese cloth bag; hang up to drain into an earthen crock or granite vessel, or pour into a wire drainer set into a crock, this is more convenient. It will drain dry in two hours or less. Now measure this juice and add one pound granulated sugar to each gallon; set on the fire and heat again to boiling point, and let it boil just one minute (more boiling thickens it); skim off the surface skum and remove from the fire. Meanwhile have some quart bottles or Mason jars heating in a pan of hot water. Now set a funnel (one with wide top and medium fine wire gauze strainer is best) into a bottle or jar and fill with hot juice. Screw on Mason covers, or cork bottles at once and cover top of corks with hot sealing wax. It is best to soak corks in hot water twenty minutes before filling bottles. Stand up in a cool, dark cellar. This keeps five years as well as one year so long as it remains sealed. This makes a very fine, rich, strengthening drink in sickness or health, alone or diluted one half with water, warm or cold, and agrees with almost everyone.

FIG. 1236.—CLEMATIS PANICULATA, (JAPANESE ORIGIN).

Perfectly hardy and a rapid climber, producing a mass of pure white, sweet scented flowers. Unlike any other Clematis, the flowers are borne in long panicles and appear in August; the foliage remains fresh and green into early winter. This Photo was taken from a vine which had only been planted five months.

THE HOME SURROUNDINGS.

THIS Canada of ours is a charming country, with its rich and varied autumn hues, and picturesque views, and pleasant homes ; but alas how little has been done by man to take advantage of his privileges. Driven by sheer necessity, our farmers begin life by working early and late, and lose sight of almost everything except the intensely practical. To mow the lawns is a waste of valuable time that should be given to hoeing potatoes ; a lawn mower would be wild extravagance ; and to prepare a flower garden would be entirely out of the question. Even the front lawn of the farmers' home is too often strewn with chips and brush, and the walk left to follow the cowtrack in utter disregard of all æsthetic rules.

It is time that a change was made in this regard. Canada is before the world as the foremost of British Colonies as the most important part of Greater Britain. Let us then stir up our self-respect, and add to the stern necessities of life a little of the ornamental, that our exterior may keep pace with our real worth and progress. This it will be the object of our Horticultural Societies to attain, and many of them are already doing themselves and the country credit by the enthusiasm being aroused in beautifying the public parks and the home surroundings.

FIG. 1237.—MRS. MACKLEM'S FRONT PORCH, CHIPPEWA.

We have received from a member at Chippawa, a photograph showing a little view of the front porch, prettily decorated, evidently the work of a lady's fingers. Mrs. Herbert Macklem is the one, and she writes :—

"I saw in one of the numbers of your paper a paragraph requesting the members to send some views of their flowers, etc. I herewith enclose a corner of foliage plants and begonias and vines growing on our porch, which has been very much admired; trusting it will find a place in your paper."

Too little use is made of climbers for beautifying the porch, festooning the gables, or hiding defects of our houses. The finest home may be made attractive by their use, and the most dilapidated house, without paint or ornament may become artistic and interesting through their transforming grace. Nor need the cost be much. The Virginia Creeper grows well in Ontario, in many places festooning the trees from trunk to branch. It may easily be transplanted, and being a vigorous grower it soon covers a bare wall with trifling supports. Even the Morning Glory is not to be despised, growing up from seed so quickly, and climbing up a cord with its wealth of color. Then we have in Muskoka a native clematis of considerable value—C. Virginiana. Samples of this climber were sent us a few years ago by Mr. J. P. Cockburn, one of our members at Gravenhurst, and we have been much pleased with it, for it is a graceful climber, dying back only a portion of the new growth each year, while its numerous corymbs of small white flowers are very pretty. Besides these we have the Climbing Bittersweet, the Sweet-scented Wild Grape, and several others.

FIG. 1238.—SPIRÆA VAN HOUTTI.

Then there are a great many elegant exotic climbers for those who can afford the expense. The clematis especially affords a great variety, the best-known of which is C. Jackmani with its wealth

of large showy purple flowers. A beautiful variety is also shown in our full page plate, viz., C. Paniculata, taken from a photograph of a vine only five months planted. The flowers are pure white and sweet-scented, borne in long panacles, and appear in August.

In some future article we may be able to give fresh illustrations of some of the numerous other creepers within reach, as, for example, Akebia quinata, Japan ivy, Hall's honey-suckle, English ivy, etc.; also, of some of the many interesting native exotic shrubs suitable for the lawn. We have before us an excellent photograph by Miss Brodie, of Spiræa Van Houtti, which is worthy of a general introduction to our readers, because it is hardy, a free grower, and so easily propagated that if you have one bush you can soon have an abundant supply.

This picture shows the bush in full bloom, as it appeared early in June, 1897. Of all spiræas this one is, perhaps, the most satisfactory for lawn effects, where pure white color is needed. Some have used it as a hedge plant with excellent results, as it bears the shears well, but of course it would be for ornament only.

In previous numbers of this journal we have drawn attention to the importance of the Approach in laying out the grounds surrounding a house that has any pretentions to elegance. In such a case it should not be too nearly in front of the house but so much to one side as may be convenient in order to give a fine sweep of carriage road up to the door, and to allow of such planting as will hide the beauties of the lawn within, and house front, until the entrance at least has been made. A beautiful example of this is

FIG. 1239.—ENTRANCE TO A GARDEN IN NIJNI-NOVGOROD, RUSSIA.

here given ; it is an entrance to a garden in Russia, more elaborate than would be attempted by many of our Canadian gentlemen, but giving some suggestions well worthy of consideration. The picture is from the American Florist, and belongs to a garden at Norgorod, which is one of the finest in that city.

PLANT LICE OR APHIDS.

IT is becoming more apparent every year that to be successful, the horticulturist must be familiar with the essential principles and facts of economic entomology. Every season has its especially bad insect pest, and, generally speaking, so little is known of the life histories and characteristics of even our common forms that they are often neglected till too late, or are fought with inadequate and ineffectual weapons. No better illustration could be given than the case of plant lice. We have had a scourge of these most injurious insects this year. I do not recall so bad a visitation for six years, and the damage done by them has been greater than that by any other insect, yet, in a very limited experience, I have heard of many cases, where afflicted gardeners and fruit growers have dosed the enemy with Paris green, and have been very much astonished and disgusted to find that it "didn't fizz on them." A very little insect lore would have saved them from such a mistake.

The question of why we get a big plague of this and that insect, and then are free from trouble for years is an extremely interesting one, but would take too long to enter into here. Climatic conditions are largely responsible, and the other main cause is the absence or presence of nature's checks, the parasitic and predaceous forms of insect life. A decrease in a predaceous species means an increase in its prey. After a while the predaceous insects catch up, the oscillation is continued *ad infinitum*, and the balance of natural forces is thus maintained. It is, of course, comforting in a vague way to know that Nature is on our side ; and to feel that next year our special enemies of this year may be wiped out. The comfort is very considerably lessened by the fact that we are "getting it in the neck" meanwhile. We must forge our own weapons, but a knowledge of the foe's vulnerable points becomes indispensable, and so, *revenons à nos moutons.*

Plant lice are members of the family Aphidæ, belonging to the section Homoptera, and the order Hemiptera. This section or sub-order Homoptera, includes all the bark lice, leaf hoppers, plant lice, mealy bugs, scale insects, etc., and contains practically nothing but injurious forms of insects, some of them extremely difficult to fight. They are characterised in common with all the hemipterous insects, by the possession of a suctorial mouth apparatus, only taking their food in a liquid form, whether it be animal or vegetable. They are further marked by the general insignificance of their size, and the extraordinary rapidity with which they breed, dangerous characteristics as far as we are concerned. Of the family Coccidæ in this order one would like to speak, if time permitted. The Coccids or scale insects are lice that form over their bodies a protective, waxy scale of various kinds. The most injurious of

these insects are found in the sub family Diaspinæ,—"the armoured scales,"—familiar species being the oyster shell bark louse (*Mytilaspis pomorum*); the "scurfy" bark louse (*Chionaspis furfurus*), and the dreaded San José scale "*Aspidiotus perniciosus*). These, like the plant lice, are inconspicuous, and extraordinarily prolific. The life histories vary somewhat, but the feeding habits are much the same, and the principles which govern the methods of fighting the one, hold good also against the other.

The family Aphidæ contains so many species of plant lice that it is out of the question to give even the briefest description of many of them. Probably the two best known to fruit growers are the black cherry aphis (*Myzus cerasi*), and the green aphis. Less familiar species are the hop-louse, melon-louse, cabbage-louse, etc. Some of these species feed on an immense variety of plants. A large number of species concern themselves mainly with the roots of plants, and are extremely difficult to eradicate; the corn-root louse and the peach louse (*aphis persica-niger*) are examples. Then there are the gall producing types, such as the "cock's comb" gall, and finally the "woolly plant lice," which are highly injurious, and are typified in the "whoolly apple louse."

The life history of most of the plant lice is as follows: They winter in the egg stage. Directly warm weather arrives and growth commences, the eggs hatch, and in a very short time the wingless aphid gives birth to living young. In five or six days the young aphids are ready to reproduce, so that by the end of a few weeks the progeny of the original "stem-mother" mounts well into the millions. All this time no males have been produced; plant lice in the early part of the season always breeding agamically, that is, without the intervention of a male. If reproduction is very rapid a scant food supply is guarded against by the birth of winged forms, which hie off to "fresh fields and pastures new." As the cold weather approaches, and growth of vegetation ceases, the plant lice develop both sexes, the female being wingless. A few eggs are laid, sometimes very few, usually at the ends of the twigs, or near buds where vegetation is likely to start first in the spring. The eggs are tough, and resist successfully ordinary insecticides and severe climatic conditions. The lice, of course, live on the juices of the plant or tree, the effect on the tender growing shoots being woful. When sap is abundant, and the lice are present in great numbers, the "honey dew" which they excrete to ease themselves, glazes all the adjacent foliage, and a fungus disease develops which rapidly kills the vegetable tissue. It has been thought till quite recently that this "honey dew" was ejected from two little tubes frequently found on the upper part of the sixth abdominal segment. Professor Comstock states that this has been found to be a mistake. The flow of this sticky liquid is from the hind opening of the alimentary canal.

The relationship of ants to the plant lice is now so well known that it is hardly necessary to refer to it. Readers of Sir John Lubbock's works, of Darwins' "Origin of Species," etc., will readily recall the interesting chapters dealing with the relation of these insects to each other. The principal food of the ants seems to be this same "honey dew," and though ants are not directly injurious to vegetation, they are, undoubtedly, indirectly injurious, inasmuch as they protect and colonise the various species of aphids. I look upon

the ant, however, as an extremely useful warning signal. Half the time we should be unaware of the existence of the lice on the trees, if it were not for the ants scurrying up and down for their favorite food.

Now, as to the practical bearing of all this. It is a case evidently where delay is disastrous. It is true that fighting these pests is a highly disagreeable business, and that applications are useless if not thorough. It is also true that some seasons are so unfavorable for their development that it hardly pays to bother with them. Nevertheless, taking one year with another, it would undoubtedly pay, and pay well, to fight them systematically before the colonies have increased to any extent. Some of us left our cherry trees this year, in the hope that matters would not be so bad. We know the result. The black aphis literally covered the trees. A large proportion of the cherry crop (one of the few "paying" crops this season) was utterly ruined. Branches, twigs, leaves and fruit all carried a load of lice. The state of things was simply loathsome. No wonder that pickers "kicked," and that buyers complained of "sticky" cherries. The work of the green aphis on the new shoots of plum and pear trees was equally injurious. Growth was stopped or retarded, and the trees terribly weakened.

The really satisfactory remedies are confined to about three, viz. :—kerosene emulsion, fish-oil soaps, and tobacco. It cannot be too often stated that no stomach poison, such as the arsenites, are any good whatever against plant lice or any other hemipterous insect. We can only "fix" them with applications that clog the spiracles through which they breathe. It should be borne in mind that the darker species of aphids are much harder to kill than the green species. Kerosene emulsion diluted with ten or twelve parts water is efficacious against the green lice, but to be effective against the black aphids, especially the mature ones, it is necessary to dilute only with from six to eight parts water. Fish-oil soap may be diluted with half the above quantity of water. Tobacco is often recommended at the rate of one pound to six gallons of water, but unless a good sample and thoroughly boiled, it is not effective in that proportion against the black cherry aphis. The addition of a small quantity of fish-oil soap to the tobacco water will be found helpful. The thing to be continually borne in mind is that the work must be thorough and, above all things, must be begun in time. A stitch in time saves nine hundred and ninety-nine in this case. I have spoken above of the natural checks against injurious insects. There are many predaceous enemies of the aphids, and though we should be unwise to place too much reliance on their assistance, that assistance is sometimes of great value. Some of these beneficial insects may be referred to at a later date.

M. BURRELL.

St. Catharines.

BAKED PEARS.—Put into a pan pears which have been washed, but which are unpared, add one or two spoonfuls of water, and then bake; sprinkle with sugar, and serve with their own syrup. Many pears which are not as nice as they might be originally, when baked as above turn out to be very good indeed.

FIG. 1240.—TROPICAL PLANTS IN CANADA.

A FINE CACTUS.

REGARDING the cactus, I might say that twelve years ago I got a small cactus leaf from a friend in Wingham, which I planted. It received very little care or attention, but appeared to thrive well from the start. During the winter months little or no water is given to it, but in summer it is watered freely. It commenced to bloom when seven years old, having about a dozen flowers the first year, and has flowered every year since, and the past summer it contained at one time 150 blossoms. During the winter months it is taken into the house and kept in a room with moderate temperature, but on one or two occasions other house plants that were in the same room, were slightly injured by the frost, but the cactus did not appear to be hurt. In summer it is put out on the lawn, where it is left till late in the fall. It is eleven feet nine inches high, eight feet wide, and the stalk is eighteen inches in circumference. THOS. MATTHIE.

Lucknow.

GRAPE CULTURE.

DR. J. W. GOODELL, of Lynn, Mass., contributed an article to the "Transactions of the Essex Agricultural Society," on the subject of "Grapes and Grape Culture in Essex County," of which the following is an abstract: The use of grapes stimulates the digestion, and is an acknowledged blood maker, building up the system in wasting diseases. In certain foreign countries the use of the grape has the title of "the grape cure," each patient eating several pounds of grapes per day, and gaining both strength and flesh. This should lead to increased culture of the grape in our gardens.

The vine may grow in almost any soil but does not flourish unless the ground is well drained, sandy loam, well enriched with old, well-rotted fertilizer. It requires water, though that should be supplied from the surface, rather than from the subsoil. The situation should be fully exposed to the sun and a free circulation of air. It should be sheltered from the north and west winds, which are liable to cause blighting of the young fruit.

An important factor is the variety to be planted and the length of time required to grow and ripen both fruit and cane. The season of 1891 should not be taken to guide the decisions, when three weeks of October passed without the tenderest plant being injured by the frost. It is safe to say that any grape which requires any portion of October to ripen its fruit in this section should be discarded.

In the average year we have damaging frosts by Sept. 25. The fruit will seldom improve after the foliage has been chilled. If left on to absorb the frozen sap, the fruit will lose its original character, become flat and tasteless, also decaying in a short time. Any vine which does not ripen its wood in September will run the risk of being winter-killed, and should be discarded, or simply tested as an experiment.

If one has a well sheltered location, or is willing to take the vines down from the trellis in the Autumn, cover them with some coarse, loose material, and put them back each Spring, he may succeed. The great majority of New England grape growers raise grapes for their own consumption, and not for market, hence the first consideration is quality and early ripening. The first vine selected would be *Moore's Early*, which possesses all the good qualities required. Second, the *Hartford*, whose greatest fault is dropping. This can be in a great measure prevented by free irrigation while the fruit is ripening. This irrigation will also improve the size and quality of the fruit. Third, *Brighton*, one of the finestflavored grapes we have, that will ripen in September. Fourth, *Concord*, a good grape, hardy and prolific, yet often overtaken by the frost before its fruit is well ripened, therefore uncertain. The planting of the *Worden*, as superior in many respects, and ripening one week earlier, is advised. The *Niagara* has not given satisfaction to its patrons and cultivators in this section. Neither has the *Pocklington* done as well as was expected of it. Our average season is too short for the last two varieties. Of all the Rogers 30 odd varieties, *No. 4* (Wilder) stands at the head, and is worthy of cultivation. Most of the Rogers varieties appear to blight, and are prone to take on all the

fashionable vine diseases. If you have room for only two vines, plant a Moore's Early and a Worden.

If you desire to plant more grapes in vineyard form, set cedar posts 10 feet apart and six feet out of the ground. Then commence 18 inches from the ground and run strong galvanized wire from post to post, fastening firmly with fence staples. Three other rows may be placed 15 inches apart. Plant your vines at each post, and train both to right and left, fastening the vine to the wire by means of leather or of soft pieces of cord. Copper wire is sometimes used for this purpose, and is very durable, though it is liable to cut the vines when heavily laden with fruit.

All dressings for the vine should be thoroughly composted. Bone for the phosphorus and wood ashes for the potash; sulphur, iron and some vege table mold as an absorbent are needed. Mix well, and sprinkle the pile well over with land plaster to prevent the waste by the evaporation of gases, especially ammonia. Apply in early spring, and work in thoroughly. Saving your soap suds on wash days and applying about the roots will well repay the trouble. Better still, partly fill an old barrel with ashes, soot, old iron and ground bone. Pour your suds on it, and apply the mixture from time to time.

Thinning the fruit requires courage. Take your clippers and go through the vines, and cut out all small and imperfect bunches sometimes even to one-third or one-half the number of bunches set. By this method you will grow larger and finer clusters and more pounds of fruit.

Careful cultivators bag the best bunches. When the grapes are about one-half grown they slip a common grocer's paper bag over the bunch they want to protect, and bind around the vine, on both sides of the stem. This keeps it free from dust and many insect pests. Though this method may retard the ripening for a week or so, yet the frost that would cut the foliage would not harm the grapes thus protected.

Another method to improve the fruit is to grow as little wood as possible. When a cane has attained the length you desire, nip it in. Go over the vines every week or so, nipping any straggling shoots. Cutting away leaves to let the sun in is a great mistake, and should never be done. The leaves are the lungs of the plant, and any injury to the foliage is an injury to the vines, and leads to disease, often death. The largest and finest bunches are found hidden beneath the dense foliage.

RUSSIAN APPLES.

AFTER several years of careful trial of a large number of the best Russian apples, I have come to the conclusion that, except for the most northern localities, where good, old, well known sorts will not live and bear, we have not gained much from those varieties hitherto introduced into this country. There are a few exceptions however. In the "Yellow Transparent" we have an exceedingly early apple of very good quality. This is probably the earliest kind ever introduced, and for family use and a very near market is valuable. Absolutely hardy—it may be planted anywhere.

Another very beautiful early apple that may come to be a strong rival to

the "Yellow Transparent" is the "Lowland Raspberry." This is of better quality and much more beautiful. It is of fair size—full medium—and bright color, yellow, marbled with bright crimson—and is a good bearer; flesh tender, breaking pleasantly sweet and juicy; a good, handsome apple of its season. The tree is besides very hardy.

"Switzer" is another surpassingly beautiful apple. It is not as good a bearer as either of the preceding varieties, nor as hardy, and it blights badly and begins to drop from the tree as early as the end of August, though the bulk of the crop may hang, and continue to increase in size, till the 10th of September. It will also continue to deepen in color, till at the last it is of a deep glowing crimson scarlet. For size, beauty, and quality it leaves nothing to be desired.

It is impossible to say, honestly, with our present knowledge, that there are any long keepers amongst the Russians, though now at the end of March, the winter "Arabka" is still sound and good, crisp, and fair flavored. This is a large apple, of good shape and deep dark red color. It is not of first rate quality, but fully equal to the "Ben Davis"—a variety that sells well in England—*vide* the Montreal "Star." The winter "Arabka" is rather slow to come into full bearing, but when it reaches that condition it bears well, and will, possibly, be a profitable kind. Its weak point is that it scabs badly and splits, and then it is worthless. Spraying may obviate that defect.

"Borsdorfer"—perhaps not a Russian though usually called so—is a good bearer of small apples of good quality, that keep a long time say till March at least—perhaps longer. The fruit of this variety is not larger than the "Pomme Grise," and like that old favorite is of good quality. It is a firm, crisp, sugary apple, a good family fruit, but too small for market.

"Autonovka"—This is an apple that promised well, and of which good hopes were entertained, but it has proved disappointing the last two seasons. The tree is of the hardiest character and bears profusely large, handsome green apples, but they do not keep till the first of November. Perhaps when we understand them better, and pick them just at the right time, they may keep longer. Picked last fall in the first days of September, they began to spoil almost immediately.

"Longfield."—This variety shouldnot be omitted. It is a most extraordinary bearer of apples of a very good quality. It is small however, never getting above medium, and the color is dull. It would consequently never make a good marketing variety. But for home use, or for cider making it will prove a very useful kind, especially as the tree is one of the hardiest, and begins to bear at once on being planted. This year it was still sound and good at the New Year, and delightful eating then.

A few that up to this time have borne only one or two fruits may yet turn out good keepers.

Fully ninety-five per cent. of the long list of Russians on trial are either summer or fall apples, and of the remaining five per cent. there will not probably be one that will be sound on the first day of May.—Robert Hamilton, in Canadian Horticultural Magazine.

SOME OF THE NOVELTIES.

JAPAN GOLDEN MAYBERRY.

THE appearance of this comparatively new introduction is very prepossessing. Its habit is erect and bushy with numerous slender branches and leaves. It is quite prickly and attains a height of about two feet. It has many adventitious root buds and is hence readily multiplied by suckers or root cuttings. When this is said, all is said. We have propagated and grown it for three years and have not yet succeeded in coaxing out of it a flower, much less a fruit. Yet it is puffed by the dealers who handle it as the earliest berry known—preceding in ripening even the strawberry—while the cuts of the fruit which they publish are beautiful and tempting.

I regard it as an unmitigated humbug—and equally as great a fraud is the

STRAWBERRY RASPBERRY.

This is really a dwarf Japanese raspberry (*R. sorbifolius*), which grows, under favorable circumstances, some ten or twelve inches high. It has graceful, delicate, pinnated or feathery foliage and multiplies with the persistance of a strawberry by underground stolons—even to such an extent as to become a veritable pest or nuisance. But when you come to look for fruit—you fail to find it. It blooms scatteringly through the summer, the blossom much resembling in size and appearance the flower of the blackberry. The petals of the corolla drop off, leaving the receptacle bare and dry ; on it, here and there, is occasionally found a single red drupelet (or seed grain) which has been accidently pollinated and adheres —but there is nothing that could be possibly magnified into a fruit. It is much less edible, in fact, than the berry of the little yellow flowered wild strawberry—the *Fragaria Indica*—of our church yards.

THE JAPAN WINEBERRY

is somewhat less of a fraud, but still a disappointment. It is a species of raspberry with stout canes, bearing numerous weak-red prickles and with foliage somewhat resembling that of the Logan berry. Its peculiarity consists in the calyx or hull entirely enclosing the fruit during the earlier period of its development. This husk, however, opens when the fruit is fully matured and before it ripens, exposing the berry within, which is small, much resembling a *Turner* raspberry, but harder, more crumbly and of a brilliant scarlet color, with a brisk, tart flavor. While the berries are borne in clusters and it is tolerably productive, it is not of any commercial value. It presumably propagates by tip-rooting, though I have sometimes found suckers at a good distance from the stools, indicating adventitious root-buds.

TREE CRANBERRY.

This plant (*Viburnum opulus*) is quite a novelty in the South. It belongs to the great honeysuckle family. It is a tall, nearly smooth shrub, with gray bark and scally buds, and seems to withstand our southern sun effectually. We only planted it at the Station last February, but it has borne this season large clusters of fruit somewhat resembling elder berries, but larger and more oval shaped. They are now (Aug. 18th) a bright red color, but still hard and evidently have not yet finished their growth. Whether they will form a satisfactory substitute for cranberries at

Thanksgiving time, remains to be seen. It is claimed that the bush, which grows some four feet high and is perennial, will hold its fruit well after frost.

It is perhaps not exactly correct to class the

ROCKY MOUNTAIN CHERRY

as a "small fruit," since it belongs, botanically, to the plum family—but a small fruit it is, in fact, and the public has been already put on notice that this was not intended as a scientific but a popular paper.

The plum generally known as the "Rocky Mountain Cherry," is the *Prunus pumila*, which grows, perhaps, four or five feet high and bears a small, oval, tasteless and worthless fruit. But this is not the Rocky Mountain Cherry that I mean. I refer to its sister, the *Prunus Besseyi* of Bailey, which is of much dwarfer, scrubbier habit, seldom reaching three feet in height, and sending out numerous laterals as long as its main stem. In fact, as my foreman, Mr. Jones, sententiously remarked, "it tries its best to wallow all over the ground!" Its leaves are larger, rounder and thicker than those of the *P. pumila.*

As for fruit, it is simply one mass of it, clustering thickly around the stem and laterals. I honestly believe a three-year-old bush will bear a gallon. The size and shape is that of a good-sized Bigarreau cherry—larger than a Morello—color being black and flavor distinctly that of a cherry, with a similar pit. It contains, however, both distinctiveness of acid and sugar, although possessing but little acid, and is quite agreeable eaten off the bush.

It grows anywhere and yields, as I have previously stated, phenomenally. Up to this season I should have recommended it without reservation; but the present year its blossoms were caught by a late frost—an accident I have never before known to happen to it, as it does not usually bloom prematurely. —Georgia Experiment Station Report.

THE STRAWBERRY RASPBERRY.

MR. A. E. SHERRINGTON, experimenter in Huron County, sends us samples of the Strawberry raspberry as fruited on his grounds, and from one of them we have taken a photograph which gives a truthful representation of its size and appearance. It is a singular fruit, quite interesting as a novelty, but in our opinion inferior to either of the fruits of which it is a supposed hybrid. Its property of continued bearing throughout the season, and the sweetness of its bloom, make it desirable for the amateur's garden, but for profit it would be of no value. The plant is a herbaceous hardy perennial, like the peony, and probably not in any way related to the strawberry. Mr. Sherrington's experience with this berry seems to be more favorable than that at the Georgia Experiment Station, given on page 413.

FIG. 1241.—STRAWBERRY RASPBERRY.

PRUNING AND TRAINING RASPBERRIES.

WE are too fond of shortening all the reserved canes to one height, and, as a consequence, there are usually thickets of fruiting shoots, at the tops of the stakes of fences and few lower down. The canes, whether trained to single stakes, fences, or espaliers formed with other wires or stakes, or grown market-grower's fashion (that is to say, without supports of any kind), should be shortened and laid in at least three different lengths, the smallest of those reserved at the preliminary thinning being the hardest cut. Shorten the latter to a length of 18 inches, leaving others to from thirty inches to three feet in length, and in the case of the taller growers the strongest canes may be left to a length of five feet or rather less. In this way perfect columns, fences, or hedges of fruiting growths are had, and a greater weight of fruit obtained than by shortening and training in the common fashion. It is true somewhat hard pruning is apt to favor sucker growth from the roots, varieties of medium height being particularly liable to produce far more sucker growths than desirable. This may to a certain extent be checked by either hoeing or hand-pulling, those left in the rows or near to the old canes also requiring to be timely and freely thinned out. There must be no hesitation about pruning newly-planted canes. Unpruned or only lightly shortened canes may and do produce fruit, but it is usually of an inferior character or comparatively worthless, added to which the plants will be exhausted in the attempt, and form no young canes worthy of the name. Cut them down to within six inches of the ground, and if they were properly planted all will push up strong young canes equal to bearing fruit next year. In this way the foundation of profitable rows of plantations of Raspberries will have been laid. Newly-planted canes should also be mulched, as owing to not having had time to send their "anchor" roots down deeply into the soil drought will quickly affect them. They ought further to be assisted by watering during dry, hot weather.

THE ADVANTAGES OF JUDICIOUS PLANTING.

JUDICIOUS planting and the skillful culture of plantations combine national and private interests in an eminent degree; for, besides the real or intrinsic value of the timber or ostensible crop, with other produce of woods, available for the arts and comforts of life, judicious forest tree planting improves the general climate of the neighborhood, the staple of the soil, as regards the gradual accumulation of vegetable matter, affords shelter to live stock, beautifies the landscape, and thus greatly and permanently increases the value of the fee simple of the estate and adjoining lands.

If we turn to these soils emphatically termed wastes—exposed, elevated lands, moors, marshes and sterile sands—composing a fair average of this Dominion, and naturally clothed by the lowest and least valuable products of the vegetable kingdom. The inferior grasses, rushes and sedges, we find that upon them the more valuable domestic animals can not exist. If we consider the reason

why they are so barren, waste, and unproductive, when compared with other lands not more favored by nature, and under similar circumstances of latitude and elevation, the cause will, in many instances, be found in the want of shelter and shade of trees, and of the ameliorating influence which plantations exercise on ungenial local climates.

The essential, permanent pasture grasses cannot be established on naked exposed situations, but when assisted by the shelter of forest trees they become permanent and productive. Plantations supply us with fuel, with materials for fencing, enclosing, building, corn crops, soiling plants, and root crops are obtained in succession under their genial protection. Many thousands of acres now unprofitable to the owners and to the community, might, by judicious planting, be reclaimed, and rendered highly productive; and it may be safely affirmed that there is hardly a spot of waste land in the Dominion so barren, which, by the exercise of skill in planting, and selection of proper species of forest trees adapted to the soil and exposure, might not be covered with profitable plantations.

Numerous instances might be cited from different parts of England, Wales and Scotland, where exposed and sterile lands have, by planting, been made capable of producing valuable arable crops and the best pasture grasses, and of rearing and fattening stock of improved breeds. This, in effect, is adding to the territorial extent of a country, to its wealth and strength, by conquest over the natural defects of local climate, soil and exposure.

Hamilton. FRANK BRUNTON.

(To be continued.)

POT CULTURE OF HYACINTHS.

THE cultivation of hyacinths in pots will always be the most popular form in which they are grown for early and indoor use; and in the common flower pots, single bulbs planted in 3½ inch pots will answer admirably for the ordinary amateur's use. In the first place, the soil is important; it should be light, preferably mixed with half well-decomposed manure is an advantage, and a supply of turfy loam, which will produce best results if moist when the bulbs are potted. Charcoal in the form of a cobble is advised, and, if used, should be placed in the bottom with a piece of broken crock to ensure drainage. In potting, simply fill in the soil, press the bulb into the earth and bring soil round and up to the sides of the bulbs. They should be pressed well into the soil, for firmness in this direction is a great advantage. After potting, place in a coolish location, and they will not need any other treatment until they begin to sprout. Directly the potting is finished, we think it is best for the pots to be placed in a cool dark pit, and if they are plunged in coal ashes all the better. If they are potted for forcing, they may be removed as soon as their spikes come through the ashes. —The Salisbury Series.

Flower Garden and Lawn.

THE NARCISSUS, OR DAFFODIL.

THE genus Narcissus is a very extensive and remarkable one, from the great diversity in the types and color of the flowers. It includes that most beautiful section known as the Polyanthus narcissus, the well-known Jonquil, and the several types of single and double narcissi popularly known as daffodils. The wonderful improvements in the way of new varieties has awakened an increasing interest among the lovers of the narcissus and placed the plant in the front rank of popularity, and well do the different varieties deserve all that can be said in their praise as plants for the flower border, producing, as they do, masses of gold and silver hue, and a delightful fragrance. They are equally valuable for growing in pots for winter blooming in the greenhouse or window-garden, while the cut flowers of some varieties are highly prized for bouquets and vases, and for this purpose are grown in immense quantities.

The flowers of the narcissus show in the different varieties many forms, and shades of color, ranging from pure white to deep orange, and all have most pleasing fragrance. They are easily grown, requiring no particular skill or care, and the bulbs can be planted at any time from September to December, but it is advisable to plant them as early as possible. In potting use pots proportionate to the size of the bulb, and as some of the bulbs are quite large, a single bulb will, as a rule, require a four-inch pot, and if it is desired to grow them in groups of three or more bulbs, larger pots should be used and the bulbs placed equal distances apart In potting let the pots or pans be properly drained, and use a soil composed of two-thirds turfy loam, one-third well rotted manure, and a fair sprinkling of bone dust; mix well and use the compost rough; fill the pots with soil to within three inches of the top, then set in the bulb and fill with soil to within half an inch of the top, water thoroughly and place in a cool, dark cellar to make roots, giving water when necessary.

In about six or eight weeks after planting, or as soon as indications of a vigorous top growth are noticed, a few of the most forward can be removed to a light, sunny situation, where an average temperature of fifty degrees is maintained, giving water freely and as much fresh air as possible. Keep the plants free from dust, and remember that the flowers will last for a long time

if placed in a cool temperature when fully expanded. By starting a few of the most forward into growth at different times during the winter, a continuous bloom may be enjoyed.

After the flowers have commenced to decay remove the stalks, and as soon as the foliage commences to turn yellow the supply of water should be gradually reduced and the plants removed to the cellar or placed under the greenhouse stage, where they can remain until fall and then be planted out in the mixed flower border, or the larger ones repotted for another winter's use inside. For inside use, however, I advise the purchase of a fresh supply yearly, as they can be procured at a reasonable price and the result will be much more satisfactory.

When grown in the flower border the narcissus should be given an open, sunny situation, and a deep, well enriched soil, and during the winter be heavily mulched with coarse littery manure; this mulch should be applied early in December, and gradually removed towards the end of March. In the border the bulbs do best when planted in October; they should be planted about four inches in depth and in groups of five or six, keeping them a few inches apart. Here they can remain for four or five years without being disturbed and by that time the bulbs will commence to crowd each other, then they should be carefully taken up, divided and replanted. The bulbs can be purchased in mixed colors or in named varieties, but I consider it advisable to procure the named sorts as the cost is so little and they always produce the best results. Of the many varieties in cultivation the following are some of the most desirable:

FIG. 1242.—NARCISSUS POETICUS. N. INCOMPARABILIS FL. PL. N. TRUMPET MAJOR.

Orange Phœnix, or Eggs and Bacon, as it is popularly known, is a very double, showy and distinct variety of N. incomparabilis aurantius. The flowers are of a soft sulphur or nearly pure white with a crimson center.

N. bicolor Emperor. Entire flower of

the richest yellow; trumpet of immense size. The petals of the perianth measure three and one-half inches across and are so broad that they envelope.

N. bicolor Horsfieldi. The King of the Daffodils. Very large flowers of pure white with rich yellow trumpet. An early and free flowering species.

N. incomparabilis is popularly known as the "Peerless daffodil." It has large primrose yellow flowers with a short sulphur crown.

N. incomparabilis Stella. Flowers star-shaped, three inches across; in white, with a bright yellow cup. One of the earliest and most free flowering varieties.

N. Poeticus is the Pheasant's Eye, or Poet's narcissus. Although one of the oldest varieties, it is the finest for all purposes. Flowers pure white with a showy orange-red ringed cup.

N. Poeticus flore pleno. The Gardenia-flowered daffodil has double, fragrant, snow-white flowers. Exquisitely scented, and should not be omitted from any collection.

N. trumpet major. Flowers large and of a deep yellow, with long, showy trumpet. Highly prized for forcing, and is extensively used for bedding purposes.—Vick's Magazine.

THE NEW SWEET PEAS FOR 1897.

NEVER before in the history of the sweet pea have there been so many new varieties offered by the seedsmen. The interest in the sweet pea the last few years has been so great, that every sport or chance variation has been seized upon, and in addition many specialists are working to produce new variations in shape and color by cross fertilization. The interest taken by sweet pea lovers in new kinds has stimulated the dealers to supply the demand, and some kinds have been sent out that are no improvement on existing varieties, and many are sent out too soon, before the type is properly fixed. The high prices paid for new varieties proves too great a temptation for the average grower to withstand, and varieties are sent out before they have got over the tendency to revert to the parent type, which is inherent in all variations, whether they originate from sports or are the results of scientific hybridizing. It takes several years careful selection and persistent "rogueing," or pulling out of all plants that do not come true to type, before a variation is sufficiently well fixed to be offered for sale as a new variety.

A very marked feature of the new peas of this season was their poor germinating power, particularly of the American varieties. Several of them did not grow at all, under circumstances that made it perfectly certain that the seed was at fault. Red Riding Hood and Maid of Honor were most vigorous growers, while along side of them in the very same soil, Brilliant and Creole did not have a single fertile seed. In their anxiety to save all the seed possible, the growers had evidently pulled the pods before they were properly ripened. Among the varieties of European origin only three out of fourteen failed to do well, while out of fourteen varieties of American origin, eight germinated badly, most of them a total failure. My experience is not at all in harmony with the claims of the introducers of the

American sorts, which were widely advertised as more vigorous, hardier and better suited to our climate than the foreign kinds.

In the following notes on the new sweet peas of 1897 is included what is known as Eckford's '96 set, as they were grown by so few Canadian gardeners last year, that they are practically new this season, and were not included in my notes on sweet peas in the January HORTICULTURIST. The only new varieties not noted below is an extra set of seven varieties sent out in limited quantity by Mr. Eckford, which, as far as I know, have not been grown in Canada this year, and only to a very limited extent in America.

Eckford's '96 set consists of six kinds, Little Dorrit, Captivation, Alice Eckford, Crown Jewel, Mikado and Countess of Aberdeen.

Little Dorrit is an improved form of that old favorite Blanche Ferry. It is slightly lighter in color, decidedly larger, but unfortunately has the same defective form, the standard is too wedge shaped and too much reflexed to come up to the modern standard of excellence. It has the same tendency as Blanche Ferry to sport into a strain with rosy pink spots on the back of the wings, and sometimes on the standard as well. It is a sufficient improvement on Blanche Ferry to supplant it.

Captivation—Large size and fine shell shaped form, a strong vigorous grower, the color a rosy-purple. While not agreeable to some, is very striking and unique. It is more like Dorthy Tennant than any other of the older varieties.

Alice Eckford—One of the most vigorous growers and most profuse bloomers in my collection. Standard straight, cream colored, faintly streaked reddish-pink, wings cream, hooded. A very handsome flower, one of the most desirable of the set.

Crown Jewel—Good size and form, standard slightly hooded, pale pink tinted and veined with rose, wings cream tinted pink, very broad, a handsome flower.

Countess of Aberdeen—A lovely shade of soft flesh pink in both standard and wings, the standard very much curved forward at the sides, running to a point at the top, wings over-lapping at the top, almost pointed at the sides. Much the same shape as Royal Robe, but a more delicate shade of pink, and a much more profuse bloomer.

Mikado—A seedling from Mrs. Joseph Chamberlain, said to be an orange cerise striped white. With me it was very variable in shape and color, some had hooded and others expanded standard, often both on the same spray, in color it varied from clear rose pink veined carmine, to rose pink streaked white, and some were as light as Mrs. Joseph Chamberlain, evidently sent out before it was well fixed in type, at its best the poorest member of the set, and not worth growing.

Eckford's '97 set also consists of six members :—Coquette, Lovely, Prima Donna, Mars, Royal Rose and Countess of Shrewsbury. Of these the finest is *Coquette*, considered by many to be the finest of all sweet peas. Large size and fine hooded form, the stardard close to the wings, curved forward at the sides, of a charming shade of primrose, flushed lavender, wings clear primrose. A strong vigorous grower, stalks long, frequently four flowered.

Lovely—A beautiful shaded shell pink of good size and fine hooded form. Changed shape and color considerably the latter part of the season, the standard became more expanded and the

color verged on rose pink, which rather took away from the beauty of the flower.

Prima Donna, next to Coquette the best of the set, a very beautiful shade of shell pink, sometimes flushed lavender, standard large and slightly hooded, wings very large and expanded, stalks long, three to four flowers, a more uniform color than Lovely.

Royal Rose—Another pink, while of large size is not an attractive shade, a rose pink with darker veining.

Mars—Though not perfect is upon the whole the best red to date, being much larger and finer form than Firefly, the best of the old reds. It is rather variable in shape, the standard generally hooded, is sometimes expanded, its weak point is that the color, a cherry scarlet, does not hold well with age, turning a dull red before fading.

Countess of Shrewsbury, should never have been sent out, being anything but attractive either in color or form, standard small and reflexed, and color a disagreeable shade of light reddish mauve.

The only other European novelties in the market were Lorenzs' striped Celestial, which did not germinate with me, and Cannell's Sultan, of which a few seeds grew, none of them being true to description.

What might be called Burpee's '97 set contains one-half of the new American varieties, and by far the best half, consisting of Aurora, Maid of Honor, Golden Gate, New Countess, Creole, Brilliant, Red Riding Hood and New California.

Aurora—A seedling of Mrs. Joseph Chamberlain, is as large and as fine form (but no better) as that grand old sort, differing from it in being streaked salmon instead of rose pink, a unique color and a decided acquisition, a weak germinator, not half of the seeds growing.

Maid of Honor—A selection from Butterfly, is an attempt to get rid of the objectionable notch at the sides of the standard in that old favorite. It is only a partial success yet, as many of the flowers are the very same shape as Butterfly When true it is a decided advance on that variety, and will take its place, being much more vigorous and a very free bloomer.

Golden Gate, is evidently also a selection from Butterfly, being much like it in color; and somewhat of the same shape. The distinguishing feature is the shape of the wing, which instead of enveloping the keel, stand straight and erect—like two gate posts—folded at the sides only; this peculiarity is not constant, as frequently one of the flowers in a spray will have the old type of wing, a strong grower and profuse bloomer.

New Countess—A selection from Countess of Radnor, no improvement in shape or size over that variety, but a finer color. The hot suns of America have developed an objectionable reddish mauve tint in that good old sort, which it did not possess when originally sent out by Eckford. New Countess is an attempt to get back to the original color, how complete the success. I can not tell from my own experience, as only one seed grew out of thirty planted, the flowers on my lone plant had a slight reddish shade on the standard, though not nearly so much so as in Countess of Radnor.

Creole—A seedling of Lemon Queen, same size and shape as the parent, but a beautiful shade of pale lavender, a very handsome flower.

Brilliant—Said to be a bright scarlet. Is not a scarlet at all, but a peculiar shade of red, might be called a

cherry crimson. Not a seed germinated of either two above sorts, with me. I was indebted to friends for specimens.

Red Riding Hood—This is a flower that no one would think of growing after seeing. It is an ugly abortion that does not deserve the name of sweet pea, neither in form nor color is it attractive. The standard is only about half the size of the wings, clasps them close behind, and is only visible when you look at the back of the flower. The wings are rose-pink, verging on magenta, shading to a dirty white at the base, and nearly enclose the bluish white keel.

New Californian—An unnamed seedling sent out to customers for trial by W. A. Burpee & Co. This is a decided acquisition, somewhat in the style of Butterfly, it has more color than that variety, the white ground of the standard is heavily flushed dark lavender, becoming darker towards the centre, in some flowers almost purplish red, wings lighter in color with darker edge. Standard much incurved at the sides, running to a point at the top, frequently notched at the sides as in Butterfly, needs selecting to get rid of these notches, and the tendency to purplish red. When true a very handsome flower and a good buncher.

Golden Gleam—Sent out to customers by the Sunset Seed and Plant Co., of California, is by far the best addition made to the list this year by American growers. Of largest size, finest shell form and a beautiful shade of clear primrose, nearer yellow than Mrs. Eckford or Primrose, and larger and finer shape than either of them. Only one seed grew of those sent me, but that one made a vigorous plant, covered with flowers from early in July till frost came.

All the other American novelties, five in number, Coronet, Columbia, California, Emily Lynch and The Bride, were introduced by the Rev. W. T. Hutchings, all of them, except Emily Lynch very poor germinators and weak growers, by far the best of the set is

The Bride—A very fine white, not quite as large as Blanche Burpee, but finer shape, and much superior to any other white in the market. It is said to be a seedling from Mrs. Eckford, and retains a trace of the parent color for a few hours after opening, but soon becomes a pure white, of fine substance and beautiful shell form, its weak point is poor germinating power, only about ten per cent. of the seeds planted grew.

Coronet resembles Aurora in color, but is not so fine a shade, and is much inferior to it in shape and vigor, the standard is too much reflexed and inclined backwards at the sides, which takes away from the apparent size, germination very poor, only two seeds grew out of the package.

Columbia—Said to be a red, white and blue, not well fixed yet, in most of them the standard was bluish white, streaked rosepink, the wings clearer whites lined lavender blue, but in many of them the pink was very faint, needs selecting, fairly fertile and vigorous.

California—A pale, delicate creamy pink, standard small for the size of the wings, which are very large and spreading, somewhat like Countess of Aberdeen, but inferior to it, a poor germinator and weak grower.

Emily Lynch—Came in two distinct flowers, one with rose pink standard and pale wings, not unlike Duke of York, the other with cherry-pink standard laced darker and white wings, both of the same shape, erect standard and spreading wings, good germinators, fairly vigorous and profuse bloomers. There

were also in the market two sets of new peas sold in mixed packets one called Flambeau seedlings by Rev. W. T. Hutching, containing about half a dozen varieties all good but not of special merit. The other Burpee's American seedlings of much higher quality and greater variety, some of them well worthy of names, and will no doubt be offered separately next season as new varieties. Among them were some very fine pinks and salmons, notably one like Venus in color, but much larger and finer form.

The introduction of so many fine varieties of which at least a dozen are worthy of a place among the best 24 sorts, makes necessary a revision of the lists of best varieties recommended in the January HORTICULTURIST. As a result of my experience this season, if limited to 12 kinds I would grow the following:—

Blanche Burpee, white; Golden Gleam, primrose; Coquette, primrose and lavender; Princess May, lavender; Katherine Tracy and Prima Donna, pink; Aurora, Ramona and America, striped; Maid of Honor, white and lavender; Mars, red; Stanley, maroon.

For a second twelve I would add the Bride, white; Little Dorrit, rose pink and white; Alice Eckford, creamy white and pink; Countess of Aberdeen and Lovely, pink; Duchess of York, white flushed pink; Day Break, red and white striped; Lottie Eckford, white and lilac; New Countess, lavender; Lady Beaconsfield, salmon pink and primrose; Venus, salmon pink; Senator, chocolate and white striped.

R. B. WHYTE.

Ottawa.

SHOWING CUT FLOWERS AT FAIRS.

THE cuts shown herewith give a hint as to a practical method of showing cut flowers at fairs, its special feature being the possibility of keeping the flowers in water, and still having

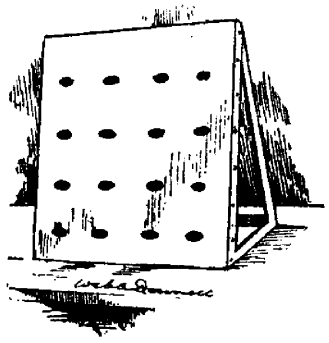


FIG. 1243.

them where they can be most readily seen. A frame of laths is covered with stout white paper—heavy drawing paper being suitable for this purpose. Oval openings are made, as seen in Fig. 1243, through which the stems of the cut flowers can be passed into the little flat tin broma, or cocoa cans that are glued to the back of the paper just below each opening, as shown in Fig. 1244. These cans are water-tight. At the front, below each opening, can be written or printed the name of the flowers above, with any information that may be desired. Such a frame will do duty for many years, for on each new occasion for its use a sheet of thin white or neutral-tinted paper can be pasted over the face and openings cut in it.—American Agriculturist.

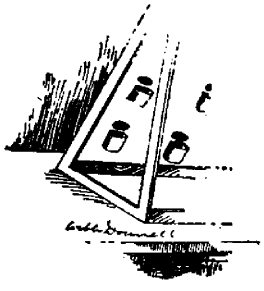


FIG. 1244.

SOME PRACTICAL POINTS IN BULB CULTURE.

IF we would meet the early snowdrops and crocuses, the gaudy tulip, and the princely hyacinth, with their companions, in the garden in the spring, we must become fall planters. Because autumn does not to many seem the right time for garden-making, no doubt many lawns and flower gardens are without these most charming flowers that otherwise would have them. There is no good excuse for this, it is just as easy to make up and plant flower beds in September or October as it is in the spring. In fact it should be easier to plant in the autumn, because usually there is less crowding of work than in the spring.

The great value of the hardy bulbs in extending the season of bloom in the garden, makes it inexcusable not to have them in abundance. Without this class, the lawn and flower beds are bare of bloom for several months in the spring, before they are occupied with the regular summer flowers. This state of things is oftener found in the handsome lawns of our towns and cities than in the country. It means one crop of bloom in the season, when with autumn planting the same beds could have succeeding crops, from early until late. Nor must we overlook the fact that of all our garden flowers, the sweet, beautiful Dutch bulbs, coming in the lovely springtime when nature draws us to the garden, excel all others in delightful qualities. And it is not in the garden alone that the advantages of this class of bulbs most strongly appear. Inasmuch as the season of bloom follows very quickly after warmth sufficient to start the growth sets in, they are matchless among flowers suited to home culture in winter ; whoever can succeed in growing any kind of house plants may without hesitation undertake the culture of hardy bulbs in the window, for the culture of no others is easier. With the hardy bulbs at our command, there is no excuse for not having an abundance of the most delightful flowers in our homes, during the winter and spring.—Vicks Magazine.

NELUMBIUM SPECIOSUM.

SIR,—A neighbour of mine made a water pond, and planted it with hardy water lilies. Among them was Nelumbium speciosum, or Egyptian lotus ; and it winter killed, while the rest all lived and are doing well. What is the proper way to winter it in this section, West Nissouri ?

JOHN MCAINSH.

This plant is not hardy without protection, but its beauty is sufficient to tempt one to experiment with it. It should be grown in tubs placed in shallow water, and these tubs can be stored in a cellar during the winter In warmer countries they can be grown in warm tanks or ponds in the open, but our climate is too severe for that. Even in the vicinity of Paris, France, a glass cover is placed over the tank, and throughout winter a covering of straw, or some other protecting material, as well. In this journal for 1893, page 181, Mr. L. B. Rice's success with our American water lilies, grown in tubs, is referred to. He cuts a kerosene board in two, places six inches of clay in the bottom and two or three inches of lighter muck on the top of this. He then sinks the tub in the lawn, plants the rhizomes firmly in the bottom, and fills the tub with water.

Regarding N. speciosum, we may further add that it is the Egyptian Bean of Pythagoras, and is a native of Asia, whence it was introduced to England about one hundred years ago The flowers are white, rosytipped, fragrant, and about one foot in diameter. N. luteum (yellow) is the American species, indigenous to the West Indies and the Southern United States.

HYACINTHS AS WINTER BLOOMERS.

HYACINTHS are sure to bloom in winter, if treated intelligently, under any circumstances, if keeping them too warm may be excepted. The bulbs can be planted at any time from the first of September until Christmas, and will bloom in from 10 to 12 weeks after planting.

Three bulbs may be put into a six-inch pot, or they do as well planted singly in four-inch pots. Any good garden soil is suitable for hyacinths, although if heavy or clayey, the addition of sand or leaf mould is desirable In planting do not press the bulb down into the soil, but make a cavity a little larger than the bulb, in the bottom of which place a teaspoonful of sand, if obtainable, on which set the bulb. Draw the earth around the bulb and press firmly, using enough to just cover it. The roots of the hyacinth start from the bottom of the bulb, and if it is pressed down into the soil, the roots will have difficulty in penetrating the compacted earth and the bulb will be thrown out of the soil when the roots start to grow.

After the bulbs are potted, water and put in a cool, dark location, preferably a cellar, but any place where they can be kept cool and dark will answer. Cover the pot to protect from rats and mice, water occasionally if the soil dries out. When the tops have grown two inches high, bring to the light and after a few days give them sunshine until they bloom. The blossoms will last much longer if the sun is not allowed to shine directly upon them.

To insure the best success with hyacinths in water, first plant in soil as above directed, and when the flower buds show, give the earth a good soaking, carefully lift the bulbs, and gently wash away the soil that clings to the roots by moving the bulbs carefully about in a dish of tepid water. Put a few bits of charcoal in the hyacinth glasses and fill nearly full of soft water, and place the bulb in position, with the base not quite touching the water. Bulbs prepared in this way give much better satisfaction than if started in the glasses, as the flower stalks are more robust and the blossoms larger and more enduring.—Eva B. Dunham, Maine, in American Agriculturist.

REX BEGONIA.

A CORRESPONDENT complains that Rex Begonia loses its leaves one after the other and is generally unhealthy. Is your plant in a sunny window or shaded? Strong sunlight is injurious to the Rex Begonia; a north window suits it best. Do not allow water to stand in a saucer under it, as it would be fatal to it. Be careful not to let water stand on the leaves of this family as it will rot them, and the plant should have room enough for the air to circulate around the foliage. Only repot them when the ball of soil is crowded with roots. Keep just moist, and water over the top of the pot; if allowed to dry out it will also drop its foliage and take some time to recover from the shock. In this case water sparingly until new foliage is made.—H. E. Goold, in Co-operative Farmer.

PERMANENT PLANTING OF HARDY BULBS.

THERE are many beautiful hardy bulbs that will take care of themselves in the border, and no flower garden can afford to be without them. Perhaps one of the showiest is *Tulipa sylvestris*, a group of which makes, in its clear bright yellow flowers, one of the prettiest displays imaginable, in April and May. The leaves are narrow and prettier than those of the kinds usually planted for temporary effects; the flowers are quite fragrant. There are a number of others that would doubtless do as well and be equally as interesting.

Many of the Narcissus thrive undisturbed; but one that has given the writer considerable pleasure *N. biflorus*, a pure white hybrid, blooming in May. As the name implies, two flowers are usually borne on one stem. It is deliciously fragrant, and very much like one of its supposed parents, *N. poeticus*.

Although by no means as showy as those already mentioned, *Leucojum æstivum* should perhaps be ranked as next in attractiveness. The individual flowers are small, bell-shaped, opening two or three at a time on one rather tall stem, and gracefully drooping; the color is of a good white, greenish at the base on the outside. They are excellent for cutting, lasting well and opening buds. Blooming in late spring, they complete a nice succession.

The well-known snowdrop is one that cannot be dispensed with *Galanthus Elwesii* is said to be the best, though the writer's experience has been confined to the common species, *G. nivalis*. This frequently blooms in Philadelphia, before the close of winter, a few days of warm sunshine bringing out the tiny flowers, which droop modestly as though abashed at their early appearance. The last snowfall sometimes catches them, but without doing serious injury. This, with the *Leucojum* and well-known crocus, is all the better for being undisturbed for four or five years,—or until the increase makes them crowded. Planted 3 inches apart, and about 4 inches beneath the surface in deep, well-drained and enriched soil they will give greatest satisfaction.

While September and October are usually the best months for planting hardy bulbs, do not omit them because it is getting late and November is at hand. As long as the soil can be worked, they will generally do well,—in fact they have been occasionally placed in holes made in frozen ground. But this method is by no means to be advised. If the soil is heavy, a little sand should be placed under each bulb.—Meehan's Monthly.

DON'T MARKET THE CULLS.

There is one of the most important truths in the science of marketing in a nutshell. It is not only the "little cull peaches," but the little cull strawberry, the little cull cucumber, the little cull tomato, the cull cauliflower, the little cull of any and all vegetables and fruits that break down prices and destroy the markets. The worst thing about marketing culls is that they destroy the demand. After a family has had, say, a bushel of cull tomatoes, they don't want any more soon, if at all; whereas if the fruit had been first-class, it would not only have received a much higher price in the first place, but would have made a market at once for more; and so on through the entire list of vegetables and fruits.

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.

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LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc.; but he cannot be responsible for loss or injury.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

Notes and Comments.

ERRATA.—On page 379, instead of "I have a trumpet, etc., read as follows: I have a *triumph* for hybridizing . . . *in* some pure white seedlings . . . giving a quality of pure *whites*, practically unknown." We regret the three errors which occurred through this paragraph going to the printer at last minute, giving us no sight of the proof.—EDITOR.

APPLES are advancing to old time prices this year. Orchards in the Niagra district are being bought at $2 per barrel in the orchard including firsts and seconds. No. 1 apples are worth about $3 per barrel packed.

THE NEXT MEETING of the Ontario Fruit Growers' Association will be held in Waterloo, beginning Wednesday, 14th Dec., at 9.30 a.m. A feast of good things for fruit growers and flower lovers is expected.

FIFTEEN CARLOADS of tender fruits have gone forward to London and Glasgow markets, and the returns are anxiously awaited. If success can be attained in exporting these fruits, a new impetus will be given to the fruit growing industry of Canada.

THE PRICE of all fruits except apples have been ruling extremely low during the season of 1897, so much so that many growers are feeling quite discouraged.

PRESENTATION.—We note the honor to Mr. Jas. Lockie, president, Waterloo Horticultural Society, in the presentation of an elegant roll top desk in recognition of his good work as Managing Director of the Mercantile Fire Insurance Company at Waterloo.

THE PLANTS AND BULBS distributed

this fall by the Picton Horticultural Society constitute quite a formidable list, as follows :—1 Kentia Belmoreana Palm ; 3 Hyacinth bulbs ; 5 single Tulip bulbs ; 5 double Tulip bulbs, early ; 5 double Tulp bulbs, late ; 5 Crocus bulbs ; 5 Freesia bulbs.

THE CHERRY in Delaware is the subject of the Del. Expt. St. Bulletin No. 35. Regarding the pruning we make the following extract : " The pruning of the cherry orchard should be done during the first two or three years of its existence, after which only the dead and interlacing branches will need be removed. In general, the sweet cherry should be so formed as to give it a spreading habit. When the sweet cherry is allowed to grow without paying attention to its form, it assumes a spire-like shape, but if the head is started 3 to 3½ ft. from the ground, and the three or four main arms are pruned in for two or three years, the trees assume more of the spreading apple-tree form. The spreading form of tree has many essential advantages ; it facilitates the operation of spraying, materially reduces the cost of gathering the fruit, and of greater importance, it shades the trunk and lessens the danger to it from sun scald and from the bursting of the bark.

SAN JOSÊ SCALE FUNGUS.—Professor Rolfs of the Florida Experiment Station reports that he has discovered a fungus that promises to be of incalculable value, by destroying the San Josè Scale. He first noticed in 1895 a seeming mortality among these insects, and in 1896 specimens of diseased insects were transferred to an orchard two miles away, where the insects were flourishing, and in six weeks the same mortality became evident in that orchard also. Let us hope that this news is not too good to be true.

THE FRUIT EXHIBIT AT THE INDUSTRIAL was very good. The bottled fruit as usual attracted a great deal of attention.

MR. W. M. ORR was constantly at his post during the Industrial, showing interested observers his specimens of the San José Scale for the purpose of putting the public on their guard against this dreadful insect.

THE CONDITION OF THE FARMERS' WELL has been made a special study by Prof. Shutt, Chemist at the Central Experimental Farm, Ottawa. In the analysis of samples of well water sent in to him, he has found many injurious elements which would favor the development of malarial fever, typhoid fever, diarrhœa, sick headache and the like. Our readers should see that their wells are at a safe distance from contamination, and if at all doubtful, they should send samples to Prof. Shutt.

THE FRUIT FARMS OF CANADA is the subject of a very interesting article in the London Daily News, by Mr. Wm. Senior, one of the staff, who passed through the fruit district last September.

MR. J E. STARR of Nova Scotia, has been appointed by the Dominion, as agent to visit England and report upon the British market for Canadian apples.

CREDIT is due to Mr. John Craig for the excellent photographs engraved on pages 370 and 372, showing Beebe Plain and doctor Hoskins orchard. Credit is also due him for the report accompanying the pictures.

WOODALL & Co.'s Annual Diagram American and Canadian Baldwins sold

in Liverpool is interesting. The total number of barrels in 1892-3 was 799 thousand; in 1893-4, 110 thousand; in 1894-5, 857 thousand; in 1895-6, 438 thousand; and in 1896-7, 1599 thousand. The lowest average for Canadian Baldwins was in March '97, viz. 9/, and the highest in March '95, viz. 30/.

THE FIRST EXPERIMENTAL SHIPMENTS of tender fruits in cold storage to England, of this season did not meet with the hoped for success. The temperature on steamship was too high to carry Crawford peaches and Bartlett pears without change of condition. On the Merrimac, leaving Montreal, Sept. 9th the temperature rose as high as 42°, and on the Sardinian it was 48° most of the voyage! What could be expected but failure of such cold storage as that with tender fruits like the above? The blame is due to the Steamship Company not carrying out Mr. Robertson's instructions, and we think the Company should be liable for damages. Notwithstanding the spoiled condition in which as they arrived, Bartlett pears sold as high as $1.25 a case (containing about 30 quarts), and tomatoes about the same. Peaches were in no condition to sell after being so long exposed to a temperature of 48° with a heat inside the packages of probably 8° or 10° higher.

The rate to Glasgow was only about ¾ a cent a lb., while that to London was about 1 cent. There are still eight or ten car loads to hear from and we hope to have better news for our next issue.

A STANDARD FRUIT CASE. — The Australian Colonies, according to the Agricultural Gazette, of Tasmania, have adopted a case for export of fruit, measuring 10 x 15 x 20 inches outside, for apples and oranges; and a half case, 5 x 15 x 20 for pears, grapes, cherries, plums and other soft fruit. The following good qualities are combined in this case: (*a*) Equal packing capacity with the old centre case; (*b*) more economical stowage on board ship; (*c*) requiring only such timber as can be easily and cheaply provided; (*d*) of such size, weight, and shape as to minimise risk of damage in handling; (*e*) offering equal facility for packing large or small fruit.

The Canadian shippers who have been making up the trial shipments of fruit in cold storage for London and Glasgow markets, for the Department of Agriculture, have agreed upon a very similar package. Our standard apple box measures 11¾ x 11¾ x 23½, a most convenient size for storing on shipboard, being about two cubic feet. The space occupied by such a package is easily computed, and no matter whether piled crosswise or lengthwise, it packs equally well. For pears and tomatoes, a half case will answer, but for peaches and grapes, about one inch shallower would be preferable.

GRAPE WINE.—Pick the grapes off the stems and mash with a potato pounder, allowing a pint of cold water to every quart of grapes *before* they are washed. Then add the water and let stand for three days, stirring each day. Strain through a jelly bag, and the following day pour off carefully from the sediment, and add three pounds white sugar to every gallon of juice. Put into large jars *loosely* corked to allow it to ferment, and at the end of three weeks (if it has done fermenting) add one quart of whiskey to five gallons of liquid. In three or four days bottle it, corking tightly. While the wine is fermenting the jars must be *kept filled* with some of the liquid reserved for the purpose.

Our Affiliated Societies.

FIG. 1245.—PHOTO. SHOWING ARRANGEMENT OF PLANTS AND FLOWERS IN CENTRE OF HALL.

Kincardine Horticultural Society.

On short notice, President A. C. Washburn and his board of directors set to work to hold a floral and horticultural exhibition in the town hall. The date was Friday last, afternoon and evening, and the success which attended the affair exceeded the most sanguine anticipations of the promoters. All day Thursday plants, flowers and fruits with a few vegetables were gathered from those who had an interest in the Society, and under the able direction of the president and Mrs. Washburn, willing hands in a very short time transformed the Town Hall into one vast bower of bloom and foliage. In the centre of the hall was an octagonal pyramid, having a diameter of about twelve feet, and towering up to about as many feet in height. This was surmounted by a magnificent pot of Dahlias, while the sides contained potted plants, many of them possessing magnificent bloom and others beautiful foliage. Extending down the east and west sides and across the rear of the hall, were arranged tables which bore a wealth of plants and cut flowers, including everything that was beautiful in Palms, Begonias, Oleanders, Hibiscus, Fuchsias, Geraniums, Lilies, Cannas, etc., with a profusion of cut Roses, Gladioli, Asters, Dahlias, Sweet Peas, etc.

The show of Plums and Pears with a few Apples was very creditable, while the larger vegetables were represented by Pumpkins and Squashes. The stage was beautifully set with foliage and flowering plants. One striking feature of the exhibition was the results shown of the fruit spraying in Norman McPherson's orchard by Mr. Dewar, who conducted the spraying during the spring months under the direction of the Agricultural Department of the Ontario Government. Mr. McPherson had some branches bearing fruit on exhibition. Some were cut from trees that had been sprayed, and alongside were branches from trees that had not been sprayed. It was plainly to be seen that Mr. Dewar had done his work well, and the striking object lesson was taught hundreds, the absolute necessity there was to have fruit trees sprayed, if the best results were to be looked for from the orchard. The trees that had been sprayed bore fruit of good size, clean and free from scabs, while those that had been left without spraying had fruit that was dwarfed, ill-shapen and scabby. The Horticultural Society has been the first means in this section of showing, in a public way, the splendid results which follow the proper spraying of trees, and it is quite certain that the exhibition made by Mr. McPherson will cause many to follow in the good work illustrated by Mr. Dewar in a Kincardine orchard last spring.

In the evening the Town Hall was filled with an audience which highly appreciated the exhibition. During the evening President Washburn called the audience to order and presented an excellent programme of music. In a brief speech he recounted the organization of the Society in Kincardine, showed wherein the members had been greatly benefited by the distribution of plants, bulbs and trees, and the dissemination of such literature as the CANADIAN HORTICULTURIST and bound volumes of the reports of the Canadian Fruit Growers' Association. The Kincardine Society had a membership of

between 60 and 70, and so pleased was every one of them, that all would become members for next year, and he would not be surprised if 100 additional names could be secured. Anyone who wished to give his name as a member should at once call on Mr. Joseph Barker, the Secretary of the Society, on himself, or any of the directors. The chairman also spoke of the advantages to be derived by the town, when citizens joined hands for the common purpose of adding beauty to our surroundings, whether it be in the orchard, the flower or vegetable gardens. This was the object of the Horticultural Society, and such being the case, very many of our citizens would be glad to give a helping hand. —Kincardine "Reporter," Sept. 23rd.

Annual Flower Show.

DURHAM HORTICULTURAL SOCIETY. — On Monday afternoon and evening last, (Oct. 00) thanks to the efforts of the Directors and Secretary, and many sympathetic members of the Horticultural Society a floral exhibit was made in the Town Hall which surprised even the greatest enthusiast in our midst. "Well done Durham," "Who would think Durham could show this," "Isn't it lovely," "Its just splendid," where some of the expressions used to faintly express the delighted feelings of the onlookers. We have heard many regrets from those who were unable to be present, those who forgot ! and from those who didn't know ! and it is certain that if anything of the kind is again attempted, a rush may be expected.

Mr. Gorsline, Mr. Firth, Mr. Arrowsmith and Mr. Thomas Brown were some of the chief workers, and they had a busy day of it collecting, and their labors were rewarded by the splendid exhibit. Perhaps with so much to do it was to be expected that some would be overlooked, but it was unfortunate, that some who had cut their best flowers by request should be forgotten in the collection. Next time a better system will prevent this little mistake.

Shall we attempt it ? To describe the scene ? Likely to be a failure, and our own account of necessity must be brief, the limitations being the lack of a Linnaean temperament and the abundance of our botanical ignorance.

A platform about 12 feet wide and 24 feet long was improvised on the top of the seats in the centre of the hall, and every part of this was covered with forms of beauty. Along the centre were ranged the larger plants forming the background of the banks of flowers on all sides. In front and nearest the spectator were boquets of cut flowers arranged with effectiveness as to color and variety. Here were found rich hued dahlias, beautiful asters and petunias and the sweetest of sweet peas. Some modest ferns interspersed, were suggestive in their green beauty of the coolness of their native home, as the evening was a warm one.

Geraniums were a large display and some brilliant specimens were seen, though one or two would stand some pruning to advantage. The tender drooping fuchsia hung gracefully, the gaudy gladioli glared their gladness and made the fiery cockscombs blush the deeper. Variegated phlox Drummondi made a bewitching display and the tuberous begonias captured all eyes. Over all this waved the fronds of the feathery palms, five kinds of which came from the greenhouse of Mr. Kelly. At each end of the centre row stood on guard large specimens of the harsh yet curious cactus, while were seen, first time for many specimens of cactus grafting, done by naturalist Firth. A profusion of "rat tails" grew out of a corn cob variety, and other fantastic specimens of the spiny tropical plant was there.

Of curious there was no lack. Here was the Norfolk Island pine, almost like our balsam, the Australian silk oak, whose slender form did not suggest the ruggedness with which we associate the oak, a ginger plant, a banana tree doing well far from home, plants called dracena and acacia and the fleshy-leaved rubber plant, all being supplied by the enthusiastic florist Mr. Kelly. Mr. Thos. Brown showed a lemon tree 22 years old, which, two years ago, had undergone a life and death struggle with king frost but was victorious ; he had also a tobacco plant.

The band delighted the ear while the sense of sight and smell were being gratified.

Many specimens of plants from seeds supplied by the Society were shown.—*Durham Review.*

Desoronto Horticultural Society.

The Desoronto Horticultural Society was organized in December last, under the Agricultural and Arts Act, 1895, and is therefore less than a year old ; but although young, it is a strong and active Society, and has been doing something ever since it started. This year it has already made three distributions of seeds, plants and bulbs worth more than double the membership fee ; it has given lectures and has had valuable papers read at its meetings, most of which have been published in the Tribune ; it has distributed good and interesting literature on horticultural and entomological subjects and has advocated the best and most approved methods of combating and overcoming fungus and insect diseases of plants and trees. The directors had some doubts as to the advisability of holding a flower show this fall ; and they had many reasons against it, amongst which were the youth of the Society, the inexperience of many of the members in preparing plants for show, the failure in the growth of numerous plants owing to extremes of temperature throughout the summer, and the lateness of the season. But they decided that if the flower show was to be an annual affair, the first year of its existence should

inaugurate the institution, and the citizens of Desoronto are very much indebted to them for that decision.

The directors and officers are deserving of great credit for the prompt manner in which they acted upon their decision. Their first meeting on the subject was held on Saturday evening, 18th Sept. On Monday morning the prize list and rules were in the hands of the printers, by Thursday morning following they were printed and bound and by Friday they and the complimentary tickets were in the hands of the citizens.

The show was held in Union Hall on Friday afternoon, from 3 until 6, and in the evening from 7 until 9. The hall was tastefully decorated for the occasion, and on entering the building, everyone was pleasantly surprised at the brilliant display at this late season of the year, and perhaps none more so than the exhibitors themselves. At the back of the hall, above the platform, was a broad band of evergreens, in the centre were the initials D. H. S., worked in rich yellow Marigolds by the president, while over them and stretched all the way across the hall, British ensigns were festooned in graceful folds. To the left as one entered the building, was a fine display of farm produce, exhibited by James K. Mitchell, the background being Corn stalks: there were some immense Squash, Pumpkins, Mangolds, etc., and also some fine specimens of grain. To the right was a fine collection of Greenhouse plants, shown by E. W. Rathbun; noticeable amongst other beautiful things, was a magnificent specimen of "The Crown of Thorns," which attracted great attention and was much admired. Alongside this collection was a collection of Cacti by the same exhibitor, in which was a very fine specimen of the Night-blooming Cereus. Three tables ran the whole length of the hall; on the centre table there were some very fine exhibits of Grapes, Apples, Pears and Plums, also a fine show of vegetables. H. Townsend's collection which took first prize, was very nicely arranged, and Jas. K. Mitchell's made a splendid second. C. Bennett showed some fine specimens of very large Tomatoes, they looked good enough to eat. The Cabbages, Savoys, Parsnips and Beets were good, but the show of Celery and Brussels Sprouts was poor.

On the table to the right was a fine show of cut flowers, some tastefully arranged in bouquets of garden flowers and bouquets of wild flowers; there was nasturtiums galore and very fine ones too, also some fine sweet peas, the beautiful, pure white sweet peas, of the Emily Henderson variety took 1st prize. There was a good show of geraniums of all shades from deep crimson and bright scarlet to pure white; some pretty spikes of hybrid gladioli were also shown. Asters, zinnias, balsams, pansies, roses, carnations, dianthus and stocks were well represented, but being so late in the season, the Verbenas were poor. On the same table were shown the Amateur Exhibits of plants, and judging from the grand display made there must be many ardent lovers of flowers in Deseronto. It would be almost impossible to single out plants that were specially worthy of mention, they were all so good, but we will have to notiee a very fine specimen of Maidenhair fern, a Lilium speciosum roseum and the collection of begonias — Rex, Maculata and Tuberous. There were some fine coleus, cannas, geraniums and hanging baskets. The Professional exhibits were shown on the table to the left, and the first thing one noticed was a very fine design by C. Bennett; the ground work was the white blossoms of the Sweet Allysum with the letters D. H. S picked out in Zinerarias, yellow dahlias were placed at the corners and a pretty border worked all around it. The display of plants was good. Some fine specimens of ferns, tuberous and Rex begonias, etc., were here in bewildering profusion. The upper portion of this table was devoted to collections of fruit. E. W. Rathbun's collection was very fine, also H. Townsend's which won the Leslie prize On the centre of the platform was a grand collection of greenhouse plants shown by Mrs. F. S. Rathbun. It was composed of very many beautiful and valuable plants, the names of which are quite beyond the layman, and we will have to hope that the Horticultural Society will so educate us, that these grand names will be as familiar to us, as household words. Behind this collection and arranged on a terraced stand was a grand collection of palms and coleus exhibited by Mrs. E. Walter Rathbun and James K. Mitchell. To the left was a fine display of plants by C. Bennett, flanked by some grand specimens of palms by Mrs. F. S. Rathbun, and a fine jasmine in full bloom by H. Briscoe. To the right was the ice cream stand, where there was a profusion of flowers and an abundance of grapes, cakes and ice cream, which were supplied by the fair hands of the President and the lady directors to the eager throngs that besieged the stand throughout the evening. The background of the stand was a splendid collection of palms exhibited by E. W. Rathbun, who also supplied the two immense rubber plants which were placed on either side of the platform. In the evening the Citizens' band occupied the gallery and discoursed sweet music, and the Society feel deeply indebted to them for their assistance in making the Flower Show the most successful event of 1897, in Deseronto.

Smith's Falls Horticultural Society.

When a little less than a year ago, Dr. McCallum called a me ting of those interested to organize a Horticultural Society in Smith's Falls, the response was not so hearty as might have been expected, only about two dozen gentlemen putting in an appearance at the Town Hall. The society was organized how-

ever, and Dr. McCallum was elected President. Since then, owing to the energy and earnest work of the president, the society rapidly increased in membership, until to-day it numbers on its roll 146 members. with a splendid Board of Directors, and may now be called one of the most flourishing in Ontario —and the interest in its welfare is increasing.

On a recent Thursday afternoon and evening the first exhibition under the auspices of the society was held in the Town Hall, and so successful was it both in the way of attendance and display, that it had to be continued a second afternoon and evening so as to give all an opportunity of viewing the hundreds of rare and beautiful plants; the splendid collection of fruits, the handsome paintings and the very attractive display of fancy needle work which had been so very carefully and tastefully arranged. The only trouble in connection with the exhibition was the lack of sufficient room in which to display the many plants so generously supplied, and indeed many who had been asked to allow their plants on exhibit were not called upon by the collectors for the simple reason that the supply was too great for the room at the disposal of the society. To the ladies who so kindly lent their time and attention to the arranging of plants, as well as to the contributors the thanks of the people are due. We will not attempt a description, sufficient it is to say that every one was more than delighted with the splendid exhibit, and the very pleasing entertainment in the evening.

Each member of the society was to receive a collection of one dozen bulbs, but owing to some delay they did not arrive in time, and in fact have not yet arrived, but when they do they will be promptly distributed among the members.

The society is to be congratulated on this its first public exhibition, and next fall if a suitable place can be secured a much grander display of plants, flowers, fruits, works of art, etc., may be looked for.

Open Letters.

Discouraging.

SIR,—As the fruit season is now in full blast, the question rises as to where we had better ship our plums and pears. We receive circulars from many commission men asking for consignments, and ship to them hoping for good returns, but alas,—as an example, we shipped twenty baskets of beautiful Clapp's Favorite in No. 1 condition, and all that we have heard is that they sold at 25 cents a basket, just enough to pay the freight, commission and basket. Plums are no better. On the same day the daily papers quoted pears from 40c. to 60c., and plums 45c. to 70. I think a change in the mode of marketing our fruit is absolutely necessary, and that some men will be honest enough to give us back the cost of picking. A great many of the apples in this district are badly spotted and cracked, especially were spraying was neglected. One quarter of a crop will be all that will be harvested.

R. L. HUGGARD, *Whitby, Ont.*
August, 1897.

Flowers Blooming in the Beaver Valley.

On the 2nd of November we received a box of flowers and fruits from Clarksburg, from our old friend Mr. C. W. Hartman; accompanied by the following lines:

"SIR,—By same mail I am sending you some fruit and flowers gathered out of doors to-day, (Nov. 1st.) The pansies, sweet peas, and verbenas are from the garden of Mr. Jas. Walker, our local florist, the balance are from my own place, and had time permitted I could have collected many more perfect specimens in Clarksburg and Thornbury.

"The HORTICULTURIST has taken considerable interest in the "Beaver Valley' as a fruit district, and I merely send the samples to show that even at this late date, we have plums, grapes and flowers uninjured by frost, and until lately tomatoes on the vines in my own garden."

Our Fruit Table.

We desire to acknowledge the following fruits:

Oct. 20.—FROM THOMAS BEALL, LINDSAY: seven varieties of apples. No. 1 slightly resembles Snow; No. 2 is probably Gravenstein, but deficient in coloring; No. 3 is Shiawassee Beauty; No. 7 is a seedling from Township of Stanhope of great beauty, and of considerable merit as a cooking apple.

Oct. 20.—FROM A. M. SMITH, ST. CATHARINES, *Smith's October plum*, in good condition; fruit medium size, roundish, skin thin, dark purple, with greyish bloom; flesh dark yellow, tender, juicy, flavor rich, sweet and very agreeable; Campbell's Early grape in good condition, but inclined to loosen from the stem. Mr. Smith says: "I enclose sample of Campbell's Early grape received about three weeks ago or more from Geo. Gosselyn, of Fredonia. It is going to be valuable. I think he claims it is as early as Moore's Early, a better grower, good foliage, good quality, a good cropper and first-class shipper."

Question Drawer.

Diseased Plum Leaves.

969. SIR,—In July, '96 I found the leaves on one branch, of several plum trees, looked as though they had been painted with exceedingly thin white paint. In August they became spotty and ragged and fell off early in September. This year *all* the leaves on those trees are diseased with the same thing. I enclose a sample of them and wish you would be kind enough to tell me what ails them.

Reply by Mr. John Craig, Central Experimental Farm, Ottawa.

The plum leaves forwarded by Mr. Magor are affected by a leaf rust known as *Puccinia pruni-spinosa.* They are also affected to some extent by the leaf form of fruit rot—*Monilia fructigena.* Plum foliage has been very generally injured by these two diseases the present season. Also by Shot Hole fungus, another very injurious trouble. All these diseases may be prevented by timely spraying with Bordeaux. It will pay growers to use Bordeaus mixture in their plum orchards much more freely than they have done so in the past. Loss of foliage means a depreciation in the quality of the fruit, and much of the fruit this season is both undersized and poorly coloured. This is principally on account of the falling off of the leaves early in the season.

Ripening Tomatoes.

Mr. C. W. Young, of Cornwall, writes: —It is too late to be of use this year, but the best way to ripen tomatoes is in a cold cellar, without much light. They ripen solid, with good color and flavor, while if put in the sun, as is usually the case, they are watery and without full flavor. This was given me by a friend from the Northwest territories, where it is usually impossible to ripen tomatoes outdoors. I tried it with a few baskets this fall, and was more than pleased with the result.

Cecropia Moth.

970.

The Editor
Can. Horticulturist
Grimsby.

Grimsby Ont.
Oct. 1st. 1897

Dear sir,

I would like to ask you a few questions about insects I managed to capture a full grown larva of the Cecropia moth About the middle of Aug. On its back there were 3 or 4 batches of small white eggs between the prickles, and I want to know wether these are its eggs or not. Does it go into its cocoon and leave them there to hatch and come out on the tree. What is the best way to kill it when the moth hatches. I have managed to capture four chrysalises of the Papilio Philenor, and I would like to know wen its eggs are laid, and what color the butterfly is. I am a little boy aged nine, and hope it will not be too much trouble for you to answer these questions.

Yours truly
George B. Pattison

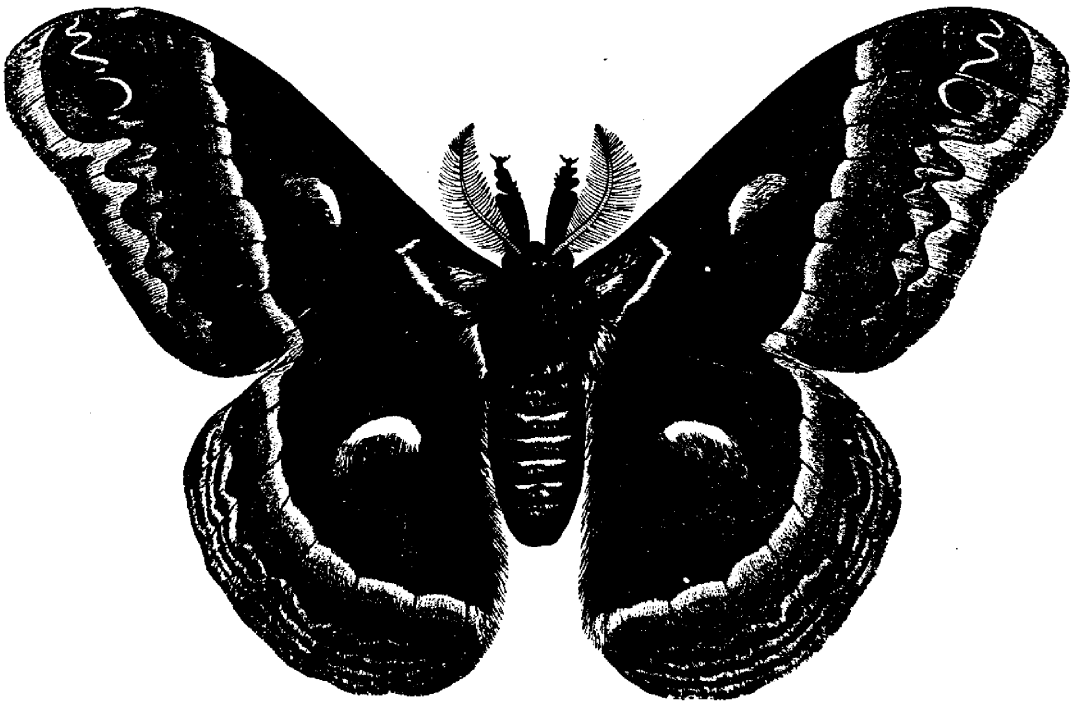

FIG. 1246.—CECROPIA MOTH.

FIG. 1247.—COCOON OF CECROPIA MOTH.

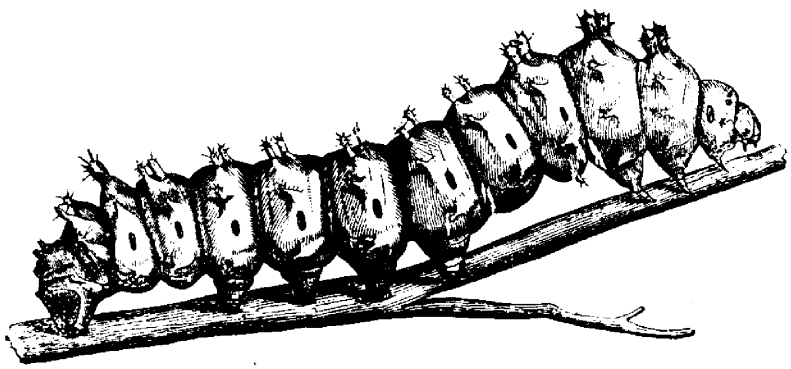

FIG 1248.—LARVA OF CECROPIA MOTH.

FIG. 1249.—P PHILENOR.

It is very commendable in a boy of nine years of age, that he should become so interested in the study of insects as Master George. We will attempt to reply to his questions.

The eggs he found between the prickles of the Cecropia larva no doubt belong to the long-tailed Ophion a large yellowish brown Ichneuman fly. The eggs are deposited on the skin of the Cecropia larva, soon hatched out, and then sustain themselves by sucking the life blood of their victim. Such insects are called parasites, because they live at the expense of others, a despicable habit in men, but an important provision in the insect world. The larva of this fly is a footless grub and when the Cecropia moth goes into its chrysalis it spins its cocoon therein, and in the following spring escapes as a fly.

Of the genus Papilio, or Swallow-tail butterflies, there are about three hundred species known, but most of them are tropical. Only seven are found in Canada.

P. Philenor is black with whitish spots and a metallic green lustre on the hind wings. We hope that Master George will succeed in having his chysalis open out next spring, so that he may see one of those interesting butter flies for himself.

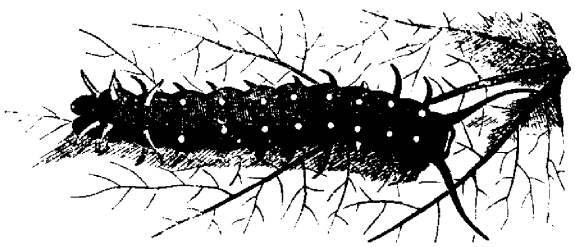

FIG. 1250.—P. PHILENOR (LARVA).

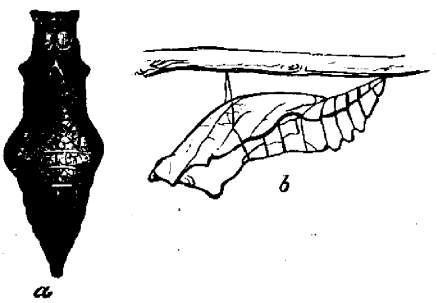

FIG. 1151.—P. PHILENOR (PUPA).