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The Canadian Forticulturist.

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VOL. I.] NOVEMBER, [NO. 11. 1878.

THE YUCCA FILAMENTOSA.

ADAM'S NEEDLE.

The engraving with which, through the kindness of Mr. Vick, of Rochester, N. Y., we are enabled to embellish this page, is an excellent representation of a very interesting and beautiful plant, which is sufficiently hardy to endure our northern climate in some parts of Ontario without any protection, and in others with the aid of the shelter of a few evergreen boughs thrown over it during the winter.

There are not many things of such a tropical aspect that can be grown in our climate, indeed we cannot now recall another that so much resembles the Aloes and Century-plants of more southern latitudes. The leaves are armed at their points with a strong sharp spine, while from their edges float slender, light-gray filaments or threads, so that it did not require a very imaginative temperament to see in the spine the needle, and in the filaments the thread, wherewith Adam and Eve sewed together their fig leaf aprons. It is a perennial plant and ever green, contrasting strangely with our winter snows, in truth so strangely that it seems like a migratory creature that has failed to wing its way to sunnier lands, when all its mates departed.

Its strong branching flower-stalk, laden with its beautiful flower-bells, is well shewn in the

engraving, while the single flower in the corner gives an idea of the form and size of each flower. This stalk rises to the height of about five feet, forming near the top numerous branches, all of which are completely covered with blossoms. These are of a delicate creamy white, slightly tinged—as seen in the glare of sun-light —with green; but in the moon-light look like frosted silver. It must be seen in the moon-light to be seen in its beauty; then the plant looks stately, and the silver bells glisten and shine in the soft rays of the moon with a most bewitching loveliness. Yet it is not true that it blooms only at the full of the moon. It is too bad to break the charm that Margaret Fuller has thrown over this flower, holding it spell-bound by the moon, unable or unwilling to open its flowers until she shines forth upon it in full orbed brightness; yet we have seen a bed



of them that bloomed and faded before the moon came to the full, only here and there a flower upon the almost naked stalks to reflect her light; yet it is none the less true that its beauty can be seen in its perfection only if it be in full bloom when the moon is at the full, shining upon it from a cloudless sky, in the soft air of a July night. One stands and looks at it with wondering eye, amazed at the purity of its whiteness, as though some fairy's wand had touched it since the evening hour, transforming its greenish petals to a frost-work of silver, and turning its dull grey filaments into silver threads.

This plant thrives best in a rich sandy soil, and if planted in a bed large enough to hold half a dozen plants two feet apart each way, and allowed to remain without being disturbed, the plants will increase in size and strength, flowering more and more abundantly. A bed planted with ten of them for four years, produced fifteen flower stems, fully six feet high, upon which the flowers could be numbered by thousands. We hope many of our readers will plant a bed of them, and enjoy the pleasure they will most assuredly give.

THE EARLY CANADA PEACH.

It is quite refreshing in these days of shams to find now and then a genuine article; to find that a fruit, for instance, which has been put forth under certain claims and pretensions turns out to possess all the good qualities claimed for it—that all is not mere pretence, but reality. Three or four years ago we were shown a peach by one of our members, Mr. Allen Moyer, which was then ripe, it was July, and informed by him that he had taken it from a tree growing in a fence corner on the farm of Mr. High, not far from Jordan Station. We were not then permitted to taste it, but noted that the sample was of good size, and well colored. We were surprised to learn that so large and so early ripening a variety should be found under such circumstances, and ventured the caution that some unnatural cause had brought about a premature ripening. Last year, (1877,) we went with Mr. Moyer to see the tree on the first of August, and found it loaded with fruit which was just ripe, and found that in point of quality and general character, it bore a strong resemblance to Hale's Early, but ripening some time before that variety.

Meanwhile it seems that this variety has been placed in the hands of Mr. Chas. Downing, Newburg, N. Y., and Mr. J. H. Watkins, of Palmetto, Georgia, and from the August number of the *Gardener's Monthly* we learn that Mr. Watkins has fruited, on the same tree, Alexander, Amsden, Honeywell, Early Canada, Brigg's May, Beatrice, Louise, and Rivers, and he says of them "that in appearance the four first named were strikingly similar, the Honeywell slightly smaller, but equal to any in flavor, with the exception, possibly, of the Early Canada, which showed the highest color. If there was any difference at all in the earliness of the first four peaches, the Early Canada certainly had it; the Canada is almost a perfect free-stone, adheres very slightly, unlike the others in this respect, so far as I had an opportunity to examine. The hardiness of trees, quality, and appearance of fruit, size, flavor, &c., will determine which is most suitable for general cultivation, the Alexander, Amsden, Honeywell, or Early Canada, as the slight difference in time, when it exists, is of no practical value."

Mr. Downing says, "My experience with Alexander, Amsden, Honeywell, and Early Canada, with two years fruiting, is about the same as Dr. Watkins, and, as I have before stated, if the four kinds were put in a dish, it would puzzle a good pomologist to separate them, and yet there is no doubt but that they are all distinct kinds."

It may be then set down as an ascertained fact that the Early Canada is as early, as large, and of as good quality as the Alexander, Amsden or Honeywell, while to us it has the additional quality of being a native of our climate, and therefore likely the better to bear its peculiar vicissitudes. We trust our cultivators will yet take the peach in hand, and give us a race of Canadian seedlings, hardier, healthier, and better than imported sorts.

DUCHESS OF OLDENBURGH APPLE.

It is a good many years since this variety was brought to the attention of Canadian fruit growers. There has been time enough to allow of its being tried in a great variety of soils, exposures, and latitudes, and in which to test the quality of the fruit, and to ascertain the position it will take in the markets. The charm of novelty has had time to pass away, and the fruit to assume its true place, the place that will be assigned to it by its intrinsic worth.

Our climate is one that demands of our apple trees a hardy and healthy constitution. It is essentially a cold climate—with quite a range of variation in the degree of cold, it is true, but in no part of our Province toned down to anything warmer than temperate, while in much of it the cold may justly be termed severe. Hence it is of the first importance in a very large part of the country that the apple trees to be planted there should be able to endure a great degree of cold. Owing to the neglect of this very important matter, many hundreds of apple trees have been planted, only to struggle for a time with the rigours of the climate, and sooner or later to give over the unequal contest. The result has been that planters have become discouraged, and have given up attempting to grow apples, under the impression that it is impossible. Those who reside in those unfavorable localities may be compelled to forego somewhat in quality and richness of flavor, and to content themselves with varieties that do not come up to the pomological standard of "best," but fortunately we have even now several varieties that will endure a severe degree of cold, and bear fruit if not "best" in quality, certainly a great deal better than to do without apples.

The Duchess of Oldenburgh has proved itself to be one of those varieties which can bear without suffering a very intense degree of cold, and yield an abundant crop of good sized,

handsome looking, and truly valuable apples; and which can therefore be confidently recommended for planting in any place where an apple tree can be expected to grow. The tree is hardy, not only, but vigorous, forms a handsome rounded head, and is truly an object of beauty when the broad glossy-green foliage is set off in contrast with the bright showy fruit. It also comes early into bearing, and every other year yields large crops. The apples are above medium size, very regularly and handsomely formed, quite uniform, and very free from blemishes of any kind. The skin of the fruit is smooth, yellow, washed and streaked very beautifully with red, and covered with a light-blue bloom, which gives it such an attractive and showy appearance, that it will command at all times a ready sale in the markets. The flesh is yellowish-white, tender, juicy, and of a brisk sub-acid flavor. It is a splendid cooking apple, there being none to rival it in its season. In the County of Lincoln it ripens in the end of August or early part of September. It does not keep long, hence it is not safe to plant it very largely for market, unless assured of being able to dispose of them quickly.

This variety originated in Russia, and from its hardiness one might suppose that its birth place had been quite on the borders of Siberia. It has taken very kindly to our Canadian soil and climate, and gives promise of,—nay, may we not say has already established,—a reputation for fruitfulness, beauty, and utility, in every part of the land.

THE DOWNING GOOSEBERRY.

BY F. J. GRENNY, BRANTFORD.

On page 71, of the report of the Fruit Growers' Association, for 1877, the worthy President says, in his interesting prize essay on "Results accruing from the distribution of trees and plants by the Association," "The gooseberry dissemination was from some cause a failure." This remark does not apply with justice to the Downing gooseberry bush I received from the Association in the spring of 1874. Last year it was heavily laden, and this year the product was carefully measured, result, seven imperial quarts of very fine large berries; every branch was covered with them, hanging as closely together as grapes. The bush is planted in a partially shaded situation, on low land, rather moist sandy loam and black mould. The treatment consists of hellebore for the foliage when needed, with a half bushel or so of coal ashes spread under the bush in the spring, with a light thinning out of shoots from the centre. I have never perceived any signs of mildew, although an English gooseberry bush near it had some mildewed berries after the same treatment.

GREEN NEWTOWN PIPPIN, AND RHODE-ISLAND GREENING APPLES.

Of the last of these two apples it has been justly said, that it is the best to keep, the best to eat, and the best to cook. We might add, the best to carry. It can be marketed anywhere. Of the former, we have the best authority for saying, that "it stands at the head of all apples." Such an estimate is not to be lightly weighed, for it is the testimony of Downing himself. It may be truly said, that the individual who cultivates these two varieties has the best apples for both early and late winter use. Perhaps these two apples cover a greater number of weeks than any other two in the catalogue. The Rhode Island Greening is one of the most esteemed and profitable among early winter fruits; and the Green Newtown Pippin comes into excellence just about the time when the former is going out. We imagine that we have noticed *varieties* in the Rhode Island Greening, we are almost satisfied of the correctness of this statement. The true is yellow-fleshed, "fine grained, tender, crisp, with an abundance of rich, slightly aromatic, lively, acid juice;" the spurious is green-fleshed, not so sprightly or fraiche, and though possessing many of the outward characteristics, has none of the excellencies of the former in perfection. The true cooks as well as it eats, and in February and March is one of the best dessert apples going.

The Newtown Pippin, when in perfection, is acknowledged to be unrivalled in all the qualities which constitute a high flavored dessert apple. It combines the qualities of long keeping, without the least shrivelling, retaining its high flavor to the last. In the Niagara district both varieties attain to their utmost perfection. J. G. Miller, of Virgil, cultivates both varieties with the greatest success, and is skilled in distinguishing the true variety of the Green Newtown Pippin. The color of this apple is dull-green, with a brownish blush on one side, dotted with small gray specks, and its distinguished and unfailing characteristic, delicate russet rays around the stalk. For years we cultivated the Yellow Newtown Pippin, thinking it the genuine Newtown; experience taught us the difference; they are entirely distinct. The Yellow Newtown Pippin is a good apple, but very apt to spot; it grows to an immense size.

We need not say that this short paragraph is intended as a way-mark for intending fruit growers; another contribution to the benefits conferred on the fruit growing community by the HORTICULTURIST.

BEGONIAS.

These pretty plants may be conveniently divided into two groups, the one cultivated on account of their large and beautifully marked leaves, the other grown for their flowers.



Through the politeness of Mr. James Vick, of Rochester, N. Y., proprietor of *Vick's Monthly Magazine*, which is devoted entirely to floriculture, we are enabled to give our readers an engraving of Begonia Rex, which will enable them to form some idea of the markings of the foliage of some of them. They are all beautifully marked, some are dotted with silver spots, others banded after the style of Begonia Rex, with an almost endless variety. The varieties known as Rex, Marshalli, Queen Victoria, and Argyrostigma, are among the most desirable in this group.

The varieties that are grown for their flowers are many of them exceedingly showy, the

flowers hang so gracefully from out the foliage, and contrast often so richly with the shining green leaves. The variety known as Fuchsioides is exceedingly graceful and pretty when covered with its coral red bloom. Saundersi is most profuse in its flowering, and is exceedingly gay all the winter long, with its showy crimson scarlet flowers. Many of the tuberous rooted varieties seem to be always in bloom.

All of the Begonias require heat, with a moderate amount of moisture. They do not thrive in a low temperature, and should therefore be placed in the warmest window, and where there is no danger that the plants will be chilled. Those who have a conservatory will find them very easy of cultivation, and very suitable for table or parlor decoration, and the flowering varieties most useful for bouquets.

FRUITS GROWN IN THE OTTAWA VALLEY.

BY P. E. BUCKE, OTTAWA.

The Ottawa valley has never been celebrated for its production of the large fruits. The ceaseless borer and the severity of the climate are the chief enemies of the apple. Of this noble fruit, the early summer varieties appear to be borne on the hardiest trees, and are consequently those that are chiefly grown. Amongst these may be mentioned the Red Astracan, the Duchess of Oldenburg, Talman Sweet, Alexander, and the Fameuse. The Brockville Beauty is being introduced, and the Gatineau Belle, a fine showy apple, ripe end of September, proves quite hardy, and though not of first quality is a great acquisition. The St. Lawrence is also sparingly grown. All the Crabs are hardy, but suffer more or less from blight and borers. Apples here as elsewhere are injured considerably by the Codling Moth larvæ. I regret to say I can make no quotations in pears; a few Flemish Beauties have been raised, but the trees are more ornamental than useful, and do not live to "a good old age." Of plums, the most successful are the Common Wild Red, which have been a good deal improved by raising seedlings after the Van Mons system. Sometimes a few Blue Plum trees fruit, but these cannot be relied upon for a crop; in fact none of the finer varieties appear to yield very abundantly. Mr. Greenfield, a great enthusiast and one of our members, has a seedling said to be raised from the Magnum Bonum; it is a good sized red plum, and an abundant bearer, so far it appears to be quite hardy, having been fruited three years in succession; it is quite a step in advance of the best red seedlings from the wild sorts, and if in the hands of some skillful propagator, might be disseminated about the colder districts of the Dominion with advantage; it ripens about the 15th August. The black-knot and curculio are unknown here.

The small fruits, with the exception of the blackberry, are all raised in quantities. The raspberries are all more or less tender when there is a short snow fall, as there was last winter, and although the wild ones are exceedingly plentiful, the cultivated ones sell readily at remunerative prices notwithstanding. The Houghton and other improved native gooseberries are being extensively grown, and also the strawberry. Both these fruits are being largely imported, owing to the western and more southern grown being earlier, and parties from a distance can supply the market, when the lack of fresh fruit, owing to the long winter, secures for the earliest berries gilt edged prices.

Each succeeding year appears to awaken more and more interest in the fruit business and fruit culture, and though sometimes we raise all the fruit we consume, still nothing is exported from

here; and all our winter apples, and most of the summer ones, are imported from the west and from over the line from the United States. Both citizens and grocers are looking for the time when the Alden, or some other equally successful fruit drying establishment, shall have started business in the more favored parts of this Province. Parties having a good dried article of fruit to ship, may be sure of a large and ready sale in this market. Dried fruits have a considerable advantage over green, the freight is cheaper, and they do not spoil by keeping, if not placed in too damp a situation.

I should have mentioned, that although hardly a vine was seen here ten years ago, grape culture is very rapidly extending. The pure bright air and unclouded sky appears to suit this luscious fruit, and though our hot season is comparatively short, the grape ripens as early here as in more western sections. The Champion has so far proved the earliest variety, and though it has no great excellence of quality, it is highly thought of as the first of the season.

HORTICULTURAL GOSSIP. IV.

BY L. WOOLVERTON, M. A., GRIMSBY.

THE ÆSTHETIC IN HORTICULTURE.—We think that in no department of rural life are there so great inducements to the cultivation of a refined taste as in horticulture. The farmer must year by year turn up his soil and plant over, so that no arrangement is permanent; but the grower of fruit plants trees that are to endure for two or three generations. The latter may plan out his roadways throughout his orchards, and decorate them with ornamental trees and shrubbery; he may also remove all those hideous cross-fences which disfigure a grain and stock farm, and if he has means, so arrange his trees and driveways that his grounds shall almost deserve the name of park. We know some would cry out against such waste of valuable ground; we plead for it nevertheless to a greater or less extent, according to circumstances. Is everything to be for the mouth and nothing for the eye? Is the body to have all, and the mind to starve? Was it not a wise hand that gave the purple bloom to the grape, and the blush to the apple? Might not the sun have given us as much comfort, and yet never have tinted the western sky with glorious hues? And who will say that these things are not beyond money value? So also will it be with the home and its surroundings; and while we cultivate our gardens and fruit farms for profit, why shall we not mingle the beautiful with the useful, and so cultivate a refinement of taste that shall be a source of pleasure through life?

The Apple Tree Pruner.—This beetle, whose technical name appears to be *Stenocerus Putator* (Peck,) is becoming almost too friendly a visitor among our orchards. Twelve years ago, at a meeting of the Fruit Growers' Association, at St. Catharines, the first specimen noticed in Canada was exhibited by Mr. Arnold, of Paris, as may be seen by consulting the Fruit Growers' Report for 1870, p. 75. If its pruning were done with an eye to the symmetry of the tree we would not object to its increase, but when we find it only consults its own convenience, and prunes off limbs that are loaded with fruit, we decidedly place it among the enemies of the fruit grower. The larva is but little more than half an inch in length, and has six small legs. Its jaws are peculiarly fitted for boring in hard wood, which it does with wonderful neatness and precision. The infant grub first uses its jaws in boring through the soft young wood of the twig in which it hatches, but soon finds its way to the heart of the larger branch. Before transforming to the pupal state it cuts the branch in which it lives nearly off, but cunningly leaves a few threads that it may creep safely

into its burrow before the fall to the ground. The winged beetle appears in the month of June, and belongs to the $Cerambycid\omega$, or family of long-horned beetles, so named from their long recurved antennæ, which are very prominent.

We add the following account of its habits, taken from the report above mentioned. "The parent beetle, with a view to provide soft and easily masticated food for the tender jaws of the infant grub, lays its eggs in the green fresh growth of a twig proceeding from a moderate sized limb. The young worm, immediately upon its exit from the egg, burrows down into the centre of the twig, and consumes all the soft pulpy matter of which it is composed. By the time it reaches the main branch, it has become sufficiently matured to be able to feed upon the strong meat of the hard wood, and accordingly makes its way into the branch, leaving the hollow twig to gradually wither and drop off. It now eats its way downwards a short distance, half an inch in the specimen before us, through the centre of the branch, and proceeds deliberately to cut off its connection with the tree, and make its way to the earth by the shortest possible route. This, however, is a somewhat delicate operation, and requires the exercise of all the insect's wonderful instinct or skill, for were it to gnaw too much of the wood away the branch would break during the proceeding, and probably crush the workman to death. But with admirable forethought and precision, it leaves the bark and just enough woody fibre untouched to sustain the branch until it has time to make good its retreat into its burrow. 'But,' as Dr. Fetch relates, 'the most astonishing part of this feat remains to be noticed. The limb which he cuts off is sometimes only a foot in length, and is consequently quite light; sometimes ten feet long, laden with leaves, and quite heavy. A man, by carefully inspecting the length of the limb, the size of its branches, and the amount of the foliage growing upon them, could judge how far it should be severed to insure its being afterwards broken by the winds. But this worm is imprisoned in a dark cell only an inch or too long in the interior of the limb. How is it possible for this creature, therefore, to know the weight and length of the limb, and how nearly it should be cut asunder? A man, moreover, on cutting a number of limbs of different lengths so far that they will be broken by the winds, will find that he has often miscalculated, and that several of the limbs do not break off as he designed they should. This little worm however, never makes a mistake of this kind. If the limb be short, it severs all the woody fibres, leaving it hanging only by the bark; if it be larger, a few of the woody fibres on the upper side are left uncut in addition to the bark. If it be very long and heavy, not more than three-fourths of the wood will be severed. With such consummate skill does this philosophical little carpenter vary his proceedings to meet the circumstances of his situation in each particular case.'

Having performed this operation successfully, and closed its hole, that the jarring of the branch when it falls to the ground may not shake it out, the grub retreats to where it first entered the limb, and goes on eating up through the heart for about six inches or a foot, and this it does both before and after the branch reaches the ground. The object of this amputating process it is difficult for us to understand fully; but the obvious remedy for these singular insects, when they attack fruit or other valuable trees, is to gather up the fallen limbs and burn them before the grub has time to complete his transformation into the perfect state."

The Glut in the Apple Market.—The year 1878 has not been a prosperous year for the fruit grower in many ways. Cherries failed completely; strawberries fell to a price that scarcely paid for picking and marketing; and now, (Sept. 1st,) fall apples have followed suit. From \$6 per barrel apples have fallen to \$1.50 in Montreal market, and one shipment of ordinary quality was sold as low as \$1.25 per barrel, which, after deducting cost of barrel and expenses, left about fifty cents for the fruit.

Our commission agent in explanation wrote: "We are sorry to have to make such a poor show for apples, but the fact is, our market is so loaded with American fruit, which is selling at from \$1 to \$1.50, and fine apples they are too, that we cannot do better than follow suit. We think that

when good Canadian, hard keeping apples begin to come in, they will command better prices."

The natural lesson from this is that it will not pay to trust largely to fall apples for market. Good keepers are the only ones with which we are not liable to be overstocked. Still there are two or three varieties of fall apples that have kept up to fancy prices notwithstanding the demoralized state of the markets. The Gravenstein, the Duchess of Oldenburg, and the Cranberry Pippin, coming along in succession with a profusion of beautiful fruit never fail of attracting buyers at high prices. The Fall Pippin has completely lost favor in many sections as a market variety, on account of its spots, which start decay in the apple as soon as it is placed in heaps, or in the barrel.

The commission system we think a good one so long as the connection be made with an honorable house. The writer has shipped in this way for the past five years, with, on the whole, satisfactory results. As a rule however it seems best to choose such houses for consignments as do not mix matters. A commissioner should confine himself to that branch in order to gain confidence, otherwise he may be suspected of putting his own goods to the front, and sacrificing those he has on commission to attract custom; or in a full market he may allow goods on commission to waste, in order that his own may be sold to advantage.

The Yellows.—It appears, as has been shown by a previous writer in these pages, that we are in danger of an invasion from this plague of the peach orchards. Growers here, being unable to get sufficient quantities of home grown trees, have in time past imported largely from the States, without sufficient enquiry about their origin. In this way some trees have been imported in which the Yellows was hereditary, and is now showing itself.

The premature ripening of the fruit, the spotted skin, the deep color about the pit, the appearance on the tree of adventitious shoots, slender, and bearing yellowish leaves, all prove conclusively that we have need to beware of danger, and speedily to destroy every vestige of such trees from our orchards.

At a recent meeting of the peach growers, in the Town Hall, Grimsby, the following resolution was moved by the writer, and carried: "That whereas we are made aware of the presence of the Yellows in one or two peach orchards about Grimsby, therefore *Resolved*, that we do most strongly advise every grower to carefully watch the first indications of its approach, and at once to uproot every tree affected by it; and further, to use the utmost caution in the selection of trees for planting."

The following letter will be of interest in this connection.

Newburgh, N.Y., Sept. 11, 1878.

Mr. A. M. Smith, Dear Sir:—Your favor at hand, and in reply say that you describe the Yellows very correctly. I know of no positive cure, and the only preventive that I know of is to mark the trees when you discover that they are diseased and remove them the following fall, otherwise those standing near will take it the next season. The first appearance of the disease is that one or two branches will ripen their fruit a week or two before the usual time. When you notice this, mark your trees and remove them. We have had the Yellows here at intervals for over sixty years, sometimes continuing for five or six years and then several years free from it. But much depends upon the care that is taken to keep rid of it, not only yourself but your neighbors.

Very respectfully,

CHAS. DOWNING.

THE GLADIOLUS.

In our climate there is no part of the garden more gay during the month of August and continuing often into September than the bed devoted to the Sword Lilies, as the Gladiolus is commonly called. Such has been the improvement wrought by skillful hybridization that we have now an almost endless variety of colors and markings, many of which are exceedingly beautiful. They are the offspring of two species, G. floribundus, which is a native of the Cape of Good Hope, and was brought to England about the year 1788; and G. psittacinus, a native of Port Natal, from whence it was brought in 1829. The first hybrid was raised on the continent of Europe, and received the name of G. Gandavensis, from the town of Ghent. The hybrid variety has been found to cross freely with all other varieties and with some of the species, and to this we owe the many beautiful and showy varieties which we now possess.

There are many other species of Gladiolus than the two above named, some of which are hardy, while many of them are so tender as to require greenhouse culture. Johnson mentions in his Gardener's Dictionary more than fifty different species and sub-species. These have been laid under contribution by those who have interested themselves in the improvement of this flower, and so far as has been found practicable, made to contribute to the beauty of our garden hybrids.

These garden varieties thrive best in a rich well drained loam; soils that are cold and wet are not suited to them. If one can command a good loamy soil, with a porous gravelly sub-soil, he may be sure of growing these beautiful flowers in their greatest perfection. However, such a soil is not by any means indispensable, the writer having grown them for many years with very good success where the sub-soil was a very firm sandy hard-pan. In preparing beds for the Gladiolus it is necessary to avoid all fresh, partially fermented or undecomposed manures, for these tend to produce disease in the bulbs, or properly speaking, corms. Thoroughly rotted cowdung is the best manure for them. An excellent compost is formed by putting up a heap of sods in alternate layers with cow-dung, and when the sods have become rotten, mixing the heap thoroughly together. It is well to spade a good dressing of this into the bed intended for the Gladiolus in the



fall, leaving the surface rough during winter, and then spading it again in the spring just before planting them out. In this way the manure becomes thoroughly mingled with the soil.

After the weather has become settled and danger of severe frost is past, the corms may be safely planted out, say ten inches apart each way, and four or five inches deep. Our seasons are often very dry, and when planted deep the Gladiolus do not suffer from the drouth as much as if set more shallow. If it is desired to keep up a succession of bloom, plantings may be made every fortnight until the middle of June. As soon as the plants appear above ground they will require to be carefully hoed and the ground loosened and stirred. This should be done occasionally during the growing season, in order to keep down the weeds and the ground loose, so that air and moisture may penetrate. Unless the plants are actually dying from drouth it is not desirable to water them.

As soon as the stalks and leaves turn yellow in the fall, or the frost has killed them, the corms should be taken up, spread in the sun and dried rapidly. The stalks should be cut off about an inch from the crown, the corms separated, the larger packed in a box with dry sand and stored in some cool dry place that is perfectly free from frost, and if it is desirable to multiply them as fast as possible, the little tiny bulblets that will be found at the base of the large ones may be saved, put

up in paper bags and stored away where they will keep safely not only through the winter but also through the summer and the succeeding winter until another spring. If these little things are planted out the first spring, hardly one in a hundred will grow, but if they are kept over until the second spring not one in a thousand will fail to grow and form corms that will bloom the following summer.

Our climate is much better suited to the cultivation of the Gladiolus than that of Europe. The seedlings that are raised in America are much finer than theirs, and if our amateurs would turn their attention to the selection and hybridization of this flower, we would soon have a much better race than any that can be imported. If the seed be gathered and sown as soon as ripe it grows readily, and if one has a greenhouse may be kept growing, with short intervals of rest, and made to bloom in less than two years. The seed may be kept until spring, and sown in boxes by those who do not have the convenience of a greenhouse, and made to bloom the third year.

Except for those who make a specialty of this flower, there is nothing gained by purchasing named varieties at high prices. A dozen of mixed colors of very fine varieties, without name, can be purchased for one dollar, or a mixed dozen of those which have white ground color variously marked, or pink ground with different colored markings, can be had for a dollar and a half to two dollars per dozen. These massed in beds will give as much satisfaction to ordinary cultivators as the named sorts.

Some idea may be gained of the varied coloring of these flowers by reading the description of a few of the named sorts which is here given.

Achille; beautiful currant red, with a white stripe in the middle of each petal.

Antonius; cherry colored, slightly tinged with orange, blazed with carmine red, with very fine pure white stains.

Ceres; pure white, spotted with purplish rose.

Diomede; white, flamed with crimson, with dark carmine violet blotch.

Eldorado; clear yellow, the lower petals streaked with red.

Fulton; velvety vermillion, with bright purple blotch.

Horace; rich scarlet, large pure white blotch, feathered red.

Rosea Perfecta; fine rose tinted with violet, and white veins on all the petals.

Vesta; pure white, with purplish carmine blotch on yellow ground.

They are very useful as cut flowers for parlor or dining room decoration, for if the cut stalks be put in water all the unopened buds will blossom in succession as though they were yet united to the parent stem.

The accompanying engravings which we are enabled to place before our readers, through the courtesy of Mr. Jas. Vick, of Rochester, N. Y., give a good representation of the plants when in flower.



TRANSCRIBER NOTES

Misspelled words and printer errors have been corrected. Where multiple spellings occur, majority use has been employed.

Punctuation has been maintained except where obvious printer errors occur.

Some illustrations were moved to facilitate page layout.

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