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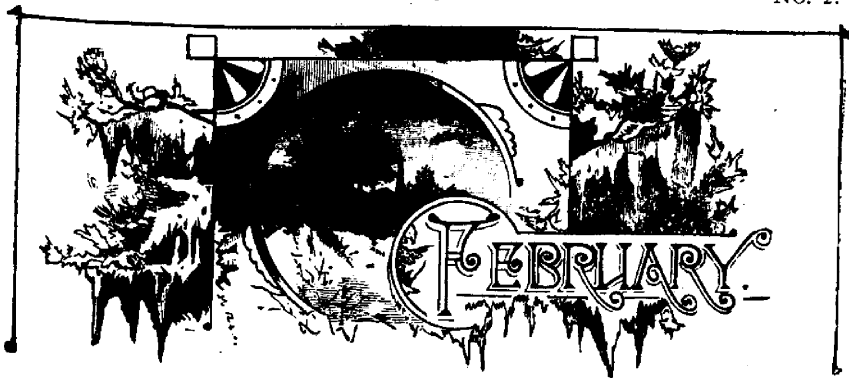


THE
Canadian Horticulturist.

VOL. XIV.

1891.

No. 2.



THE YUCCA.



OUR readers will, we are sure, appreciate our efforts in endeavouring to place before them hardy varieties of trees and shrubs suitable to our Canadian climate, and in warning them against planting tender kinds, which, after careful nursing, must sooner or later succumb to our cold winters. The Yucca is a tropical plant, a native of the Southern United States and Mexico. It belongs to the botanical order Liliaceæ, and is commonly known under various names, as "Adam's Needle," "Bear's Grass," "Spanish Bayonet," etc. The plant presents a very striking appearance; its leaves are like bayonets and are twelve to fifteen inches in length; its flowers are creamy-white, and grow in great clusters. One traveller in California states that he there discovered a specimen which carried one thousand four hundred to one thousand five hundred blossoms to each flowering stem.

There are over a dozen varieties known to botanists, some of which have a very sweet perfume and are very beautiful. Yucca baccata, for instance, a native of Mexico and Colorado, has flowers from two to three feet in length, and inflorescence from five to six feet. The fruit of this variety is fleshy, and is eaten by the Indians as we do bananas, which it somewhat resembles in flavor.

Yucca baccata has been also grown in the south of France, where it succeeds admirably and produces even larger flowers than in its own natural habit. But this and most other varieties are too tender for our climate.

There is one variety, however, which may be safely planted in Canada, namely, *Yucca filamentosa*, which is shown in our colored plate. This has been grown by Dr. Beadle, at St. Catharines, and by us here at Grimsby, without winter protection. In the words of Dr. Beadle: "It is a perennial and ever green, contrasting very strangely with our winter snows; in truth, so strangely, that it seems like a migratory creature that has failed to wing its way to sunny lands when its mate has departed." Its name, *filamentosa*, is the Latin for thready, and has reference to the thread-like appendages of the leaves; these latter are pointed with sharp spines, giving rise to the common name "Adam's Needle," from the poetical notion that it was used by Adam when he made his fig-leaf apron. The flowers of this variety are from one-half to two inches in length, and the inflorescence reach a height of from four to eight feet, so that our readers must not make the mistake of planting in a small bed, or in a situation too near the garden walk. Indeed, it shows to the best advantage planted in the back-ground in beds of a dozen or so plants, set two feet apart each way.

The *Yucca* delights most in a rich, light soil, and, when once established, will last many years, constantly increasing in strength and vigor. Anyone who has once furnished his garden with a few plants will soon be able to enlarge the bed to any extent from natural increase, for it may be propagated with great ease by simply subdividing the roots.

THE WINTER MEETING.—I.



THE Winter Meeting of the Association at Hamilton was an excellent one. The city council placed at our disposal their new and elegant council chamber, which was in every respect adapted to our purpose. The dais was kindly decorated by Messrs. Webster Bros. with some fine plants from their greenhouse, and the fruit exhibit in the adjoining room was full of interest.

On Tuesday evening Mayor McLellan welcomed us to the city and addressed the meeting in a most courteous manner.

An interesting feature of the meeting of Wednesday was the visit of Mr. John Dryden, Minister of Agriculture, who gave us a most encouraging address, showing the deep interest which he took in our work. Among other things, he kindly promised us that he would bind a sufficient number of copies of our annual report to furnish every member of our Association with a copy. This statement was received with cheers from the members present, and

the distribution of this valuable book will, we feel sure, serve to largely increase the list of new members for 1891.

One of the very practical subjects which was discussed at the meeting was the manner in which express companies in Ontario handle our tender fruits in transporting them to the various markets. This matter was first introduced at the Summer Meeting, by Mr. T. H. Race, of Mitchell. Many complaints were made by various members present, showing what great damage had been done to their packages of choice fruit by careless handling in loading and unloading, and in setting away on board the cars. It was thought that better accommodation should be provided, and that more time should be given for the careful loading and unloading of such perishable goods, especially considering the very high price which these companies charge. The whole matter was referred to a committee, who brought in the following report, which was adopted by the Association :—

That the Ontario Fruit Growers' Association, on behalf of the fruit growers and shippers of this Province, hereby condemn the action of our express companies in their system of handling, stowing and transferring their fruits from the points of loading to the markets. That through their unnecessary rough handling and delays in transferring the fruit, growers are constantly sustaining heavy damage, for which, at present, there seems to be no reasonable remedy. We, therefore, hereby memorialize the Dominion Government to enact such legislation in the premises as will relieve the fruit growers and shippers by providing an enactment that will enable them to recover substantial damages from such express companies, and that the companies be compelled to carry such fruits to points of destination upon express train scheduled time.

Another subject of practical importance to our fruit growers was the inspection of fruit. It was agreed by all present that it would be a great boon to fruit growers in Ontario if there was some standard of excellence by which the various fruits could be sold upon mentioning their grade. If some plan could be devised by which buyers would be able to judge with confidence of the quality of the fruit they were purchasing, the prices which they would offer would be much in advance of those at present received by us, and we would find much more ready markets for our fruits. This also was referred to a committee, whose report also was adopted. Their report was as follows :—

That we deem it in the best interests of the fruit growers, shippers and customers, as well as the good name of our country, that a standard of excellence be established for such fruits as are shipped in barrels and other close packages into the markets of our cities and towns and for exportation to foreign countries, and that this Association memorialize the Dominion authorities to appoint an inspector for that purpose.

There was an attempt made at the preparation of a district fruit list, showing the fruit best adapted to each agricultural district, or division of such, in our province. This, however, was very incomplete, and will be subject to very considerable amendment before it is adopted. For instance, the Early Harvest was given, as one reported by a large number of local growers, as among the most profitable of summer apples (for their district). Now, it is evident to all who have had experience with this apple that it is utterly worthless on account of the scab. This renders it wholly unfit for market, and, of late, it is also

so horribly disfigured that it is even unfit for home use. Mr. A. McD. Allan gave in amendment to the list presented for the County of Huron, the following as the varieties he would recommend to planters of orchards for commercial purposes, viz. :—For summer, the Yellow Transparent and Duchess ; for autumn, the Gravenstein, the Peewaukee and the Blenheim Orange ; for winter, the Baldwin, the Ontario and the Golden Russet.

Mr. S. D. Willard, of Geneva, N.Y., gave a very interesting address upon Fruit Growing in Western New York during the past season. Mr. Willard is Vice-President of the Western New York Horticultural Society ; he is a most enthusiastic fruit grower, and infuses life into any meeting at which he is present. He highly recommended the Yellow Transparent as a summer apple. The Sutton's Beauty, he said, keeps better than the Baldwin, and is an apple which will be wanted for every orchard as soon as it is generally known. Among peaches, Hill's Chili, though not a very good variety for eating out of hand, is an excellent one for canning purposes ; Early Rivers is comparatively a hardy variety, enduring cold that will destroy the fruit buds of many other varieties. Its child, the Horton Rivers, is very similar, but a free stone. The Yellow St. John, he considered the earliest of yellow peaches, and a variety he had never yet known to fail. The Garfield, or Brigdon, quite a new variety, promises to be a standard orchard variety, for it possesses great merits. Listening to Mr. Willard, one could not help becoming an enthusiast in fruit culture. He spoke in terms which seem almost extravagant regarding the profits of this industry. For instance, speaking of pears, he stated that his best paying crops had been taken from his Bartlett and Kieffer orchards. Of the latter variety he has one orchard of two hundred and fourteen trees, planted upon a little more than an acre of ground, and this has yielded him in three years the sum of \$3,000 ; during the year 1890, \$1,250 of this amount. Notwithstanding its poor quality there is not a variety that is growing more rapidly in favor than the Kieffer. In speaking of plums, he said the most profitable varieties were those ripening for the very early or very late market, but that it would be wise to plant for market a list of varieties covering the whole season, and possessing the characteristics of hardiness, productiveness and firmness, for distant shipments. The Windsor cherry he considered the best dark colored cherry that he had ever marketed. He had sold it in the City of Philadelphia as high as 20 cents per pound.

In reply to a question by some one present regarding the pruning of plum trees, one gentleman stated that he allowed his trees to grow as they chose, without any pruning. This brought Mr. Willard to his feet again, and he stated that formerly he had done the same, but, on visiting the Hudson River plum growers on one occasion in winter-time, he found them busily engaged in pruning their plum trees. Upon enquiring the reason of their practice, they said that if they neglected to do this their trees would be broken with the load of fruit ; but by shortening them in they were made to stiffen up and support heavier loads. Since that time he has made it a rule to cut off from one-quarter to one-

half of the new wood on all rampant growers, and finds that this makes them able to support a much heavier load of fruit, and withstand the violent storms of wind. This work should be done in the winter-time, or some time when the trees are dormant ; never in the month of May.

SPRAYING *vs.* JARRING FOR CURCULIO.

WHO is to prescribe when doctors disagree? We have before us two bulletins, published simultaneously, one from the Michigan Agricultural Experiment Station, and the other from the Ohio Experiment Station, giving growers contrary advice regarding the benefits of spraying for the curculio. Mr. C. M. Weed, entomologist of the latter station, considers that he gave the spraying a thorough test in a commercial orchard of nine hundred trees on the south shore of Lake Erie, and, as a result, he says that, "so far as one experiment can be relied upon, this method is as efficient as jarring, while it is vastly cheaper and easier of application." Mr. Weed used four ounces of Paris green to fifty gallons of water, and gave the orchard four applications. There were nine hundred plum trees in it, and half of these were treated with Paris green, and the other half carefully jarred in the usual manner. Both parts of the orchard bore a heavy crop, but not over three per cent. of the fruit on the sprayed trees was stung, while four per cent. of that on the jarred trees was injured.

Prof. Cook, of Michigan, says, on the other hand, that he has been experimenting with arsenites for the curculio during the past ten years, indeed, ever since he discovered the usefulness of Paris green for destroying the codling moth, and only once has he had results that were entirely satisfactory to him. During the same period he has been comparing the benefits of the old method of jarring, with spraying, and his opinion now is, that the former is the "surest, cheapest and best method of saving our plums." He acknowledges that the parent beetle eats the foliage and fruit of the plum tree during the time when it is engaged in oviposition, viz. : from the 20th of May until the 1st of July, and that the consumption of these leaves will kill it ; but in actual practice, he says, one cannot rely upon the beetles eating enough of the poison to put an effectual stop to their work of destruction.

The jarring must be done either early in the morning or late in the evening, for the lazy little turk hides away under chips or other rubbish on the ground during the day-time, and comes forth at night, like other evil doers, to do his mischievous deeds. For this latitude, the work should begin about the 20th of June and continue until about the 1st of July, at which time the old beetles will have completed their work ; and although the young beetles will be coming forth in succession, the fruit will be beyond danger on account of its size, unless, perhaps, the stings they make may predispose some of the plums to rot. The jarring should be repeated nearly every day, unless very few specimens are found, in which case it might be omitted for a day or two.

Prof. Cook gives some good hints on the method of jarring, which may be useful to those of our readers who wish to experiment for themselves as to the comparative merits of these two modes of combatting the curculio, therefore we give the following extract from this bulletin :—

The method of jarring is, in short, to place a sheet under the tree and give the tree, or in case it is quite large, each branch, a quick, sharp blow. The insects fall to the sheet and are easily gathered and crushed.

The sheet may be mounted on one or two wheels, like a wheelbarrow, in case of large orchards. The frame holding the sheet may be so made as to give the form of an inverted umbrella, and a narrow opening opposite the handles will permit the centre of the sheet to reach the trunk of the tree. A cheaper, simpler and more common arrangement is to have two sheets on light rectangular frames, which, when brought side by side, will form a square large enough to catch anything that may fall from a tree under which the sheet is placed. If each frame has a square notch in the centre of one side they may be brought close together about the trunk of the tree, so that the sheets will surely catch whatever may fall. With two men to carry these frames and a third to do the jarring, the work proceeds with great speed. Less than a minute is required per tree. In case one has only a few trees, and no help, the sheet may be square, and slitted from the middle of one side to the centre. Opposite this side it is tacked to a light, slender piece of wood, and opposite this it is tacked to two similar strips, each one half the length of the side. This makes it easy to carry the sheet, to place it entirely around the tree, and to roll it up, in case we wish to set it away in a barn or shed. Of course the sheet should always be large enough to catch all that falls from the trees.

The mallet with which we strike the tree or limb should be well padded and carefully used, so as not to wound the tree, or may be iron or wood unpadded, in which case a bolt or spike is driven into the tree to receive the blow. Sometimes a limb may be sawed off to receive the blow. I have used the padded mallet successfully for years with no injury to the trees. I find that I can fell all the beetles to the sheet with such a mallet. Unless we are very careful, however, in the use of the padded mallet we may do serious damage to the trees.

When two carry the sheet, and a third party uses the mallet, we may jar several trees before we stop to catch and crush the insects.

It is usually cool at the early or late hour, and the insects are rather sluggish and will generally remain motionless for some minutes. If one uses a sheet like the last described above, it is, perhaps, best to kill the insects each time after jarring. In case of the wheel-sheet there is sometimes a box placed at the centre, and the inclined sheet makes it possible to shake the beetles from the sheet into this box. I am not sure but this is better in theory than in actual practice. The curculio may be brushed into a vessel containing kerosene, or crushed between the thumb and finger.

The expense of jarring will, of course, depend upon the excellence of the apparatus, and upon the skill and quickness of the operators. Our largest and most successful plum growers in Michigan estimate the expense at about ten cents per tree. I inquired of several of our best pomologists and the estimates run from five to fifteen cents per tree per season. Surely this is not an extravagant amount.

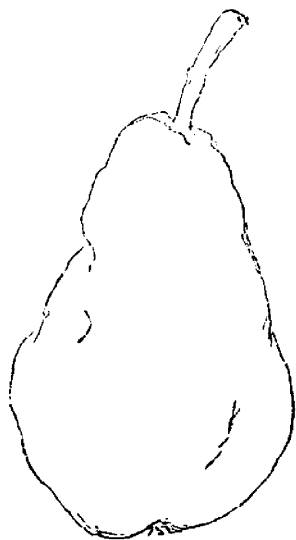
In conclusion, let me say that I believe it would pay all our fruit growers to set plum trees thickly among the other fruit trees of the orchard, and then to fight this insect as described above. This will not only secure a fine and very profitable crop of this luscious fruit, but will at the same time tend to protect the other fruits from this scourge of the careless orchardist, without extra expense.

It is rather a comforting idea, this of Prof. Cook's, that the curculio is to be classed among the friends of the fruit grower, being an assistant to him in the much neglected work of thinning his fruit. Certainly one who works for nothing and takes his pay in waste fruit ought to be entitled to some consideration ; but we fear it will be some time before our plum growers will look upon this insect otherwise than as an enemy.

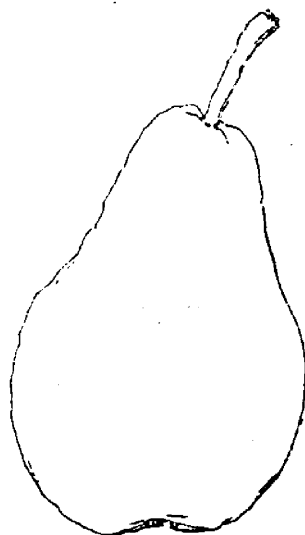
That Paris green is a failure in preventing his injurious operations will, as yet, be hardly taken as proved by some of our Canadian plum growers, until

more fully experimented with. We have ourselves had several undoubted successes in its application, but, of course, that is no proof that it will succeed in every case. Mr. Geo. Cline, a neighboring grower who has an orchard of several thousand plum trees, is confident that he has on several occasions saved his crop by the use of Paris green, applied in the strength of three ounces to fifty gallons of water.

We have also sprayed our Duchess apples and Bartlett pears for the purpose of warding off the curculio stings, and whereas, formerly, there were a large proportion of pears that were knotty and classed as No. 2 from this cause, as in



No. 1.



No. 2.

Fig. 1, now the great proportion are free from these blemishes, as in Fig. 2, except where affected by *fuscadadium*, a fungus which is more to be dreaded than the ravages of any insect.

Last season we tried spraying with hellebore and water, using it both on plum and cherry trees in about the proportion of one ounce to three gallons of water, and we were surprised at the good results obtained. No count was made from which to make definite statements, but from one application we are inclined to think that it is a more certain remedy than Paris green. In the interest of plum culture we sincerely hope that our scientists will prescribe some more easily applied cure for this evil than the old jarring process, which needs such frequent attention in a season when the fruit grower has his hands too full to give it the daily attention it requires.

A COLD GRAPERY.

Would you kindly inform me how to prepare a border for vines in a cold grapery? Also would it not be better to plant them inside as they would be better protected in the winter and the roots could run into a border prepared outside as well? What kinds are most suitable? The building is to be 45 feet long, and would hold eight vines, say 2 Black Hamburgs, 1 Golden Hamburg, 1 White Frontignan, for foreign kinds, and 1 Salem, 1 Mills, 1 Catawba for hardier kinds. Could you suggest a better selection? Also would you advise to train to one or two stems to top of house? And what distance apart, and how many?

A. J. COLLINS, *Listowel.*

REPLY BY D. W. BEADLE, ST. CATHARINES, ONT.

Preparing a border for vines in a cold grapery.

If the soil be a retentive clay, and, as is usually the case, cold and wet, it is necessary to provide perfect drainage. To do this thoroughly the whole of the soil to the extent of the intended border and to a depth of three feet, should then be thrown out, the bottom being made to slope evenly to the front with a fall of one inch to the foot. Along the front of the border, and just below the edge of the bottom, a tile drain should be laid, with a fall of one inch to the foot, so that all the water that runs to the edge of the border shall be carried off promptly. The bottom should then be covered with broken stone, or with brick rubbish, or very coarse gravel, and upon this a layer of gravel a little finer, then other layers, gradually increasing in fineness of material until the last layer approaches the texture of ordinary soil. This drainage material should be about nine inches deep, and covered over with inverted sod. This border should be five or six feet wide inside and as much outside. This will afford ample room for the roots of the vine the first year. The second year three feet more can be added both to the inside and outside portions. As the vines increase in size the border should be widened until the whole width is made up. It is better to increase the width of the border as the vines require than to make it the entire width at first. In sloping the bottom of the portion outside of the vinery, it should be borne in mind to have the slope descend towards the tile. Also it is essential that there be a good outlet at the lower end of the tile drain, permitting the water to be discharged without check.

The best soil with which to fill up the border is that taken from an old pasture, where the grass is fine and thick, paring off the sod to a depth of three inches. This should be stacked under cover for say six months, or until the grass is dead and the whole mass dry; then broken up and mixed with lime rubbish or old plaster; adding to every ten loads of the soil two of lime rubbish, one of charcoal, and two of fresh fermenting horse manure, together with four hundredweight of coarsely broken bones. This should be thoroughly turned over several times that the several constituents may be well intermingled. If the soil contains more than thirty per cent. of clay it will improve it to reduce it with sand, if it contains less, then increase the quantity of horse manure and broken bones. Horn shavings may be substituted in whole or in part for broken bone, if more easily obtained. While this compost is being prepared it should be kept dry. When prepared fill up the border with it, fill it say six inches above the level, so that when it has settled it shall not be lower than the surrounding soil.

Planting the Vines.

Plant the vines inside of the vinery; and settle the earth about the roots by watering moderately through a fine rose. Repeat the watering until the soil is well moistened throughout. Afterwards in watering the inside border give it always a thorough drenching, not a mere surface watering. Use rain water, tepid; at the first watering in the spring

when the buds are breaking, be sure to soak the border thoroughly; water afterwards as needed. If the rafters are placed three feet apart from centre to centre, which they should be, then a vine can be planted under each of the rafters, and trained under the rafters, thus giving to the laterals the full benefit of the glass, that is, of the light. If the house is 46 feet long, inside measurement, it will hold eleven vines. Train up only one stem under each rafter.

Vines for Cold Vinery.

Black Hamburg, Muscat Hamburg, Royal Muscadine, Chasselas Musque, Grizzly Frontignan, Golden Champion.

I note that Mr. Collins proposes to plant some of our hardy or native grapes in the vinery, such as the Catawba, Salem and Mills. I am under the impression that those who have tried growing native grapes under glass have not been satisfied with the results, but on this point cannot speak from either experience or observation. It seems to me that he could buy them at Pelee Island and pay the freight to Listowel at a much less cost than growing them under glass.

Permit me to add that it is always desirable to have some means of heating even a cold grapery, for it often happens that the warm days of spring are followed by a period of chilly weather accompanied by frosty nights, and unless the temperature of the house can be kept up, the vines become severely chilled, and sometimes in a single night they will receive a shock from which they will not recover for some time.

A NOVEL MODE OF SELLING APPLES.

MR. GEO. W. SHAW, of Garden Grove, Iowa, gave his mode of selling apples before the State Horticultural Society. He hires a car, and divides it into bins of about five feet wide, leaving a passage-way along one side. He places about six inches of clean prairie hay in bottom, and then fills in his apples, keeping the kind separate by means of these bins. He finds that he can in this way put about one thousand bushels in a car, which is more than can be put in a car in barrels, and saves their expense besides, for at the end of the journey he sells the lumber for about first cost.

He says there is no other way in which apples can be shipped and bruised as little as in this. The freight only amounts to about ten cents a bushel for a distance of five or six hundred miles. He arranges the apples tastefully, by contrasting colors in different bins; thus, Grimes' Golden and Yellow Belleflower contrast well with Jonathan and Fameuse.

When he arrives at a town, for of course he markets his own fruit and thus saves all commission, he first buys a few apples to get the market price, hires an intelligent, honest man to assist in measuring, and then advertises freely.

In canvassing for orders he addresses himself to customers somewhat as follows:—

We have at the depot, in our own car, 1,000 bushels of apples of our own growing; Fameuse for present use; Jonathan, Grimes' Golden, Northern Spy, and Wagner for early winter. Ben Davis, Willow Twig and Rawle's Genet to do until strawberry time next spring. Remember that the apples you buy at the stores pay nearly or quite a half-dozen profits; the banker has his for the money which he loans the shipper, the wholesale and retail men have theirs; now we can afford to divide the profits with you.

In about a week he has retailed out his carload of apples, got the top price with the least expense, banked his money and is prepared to load up another car for some other point.

Is there not a hint here for Ontario fruit growers? Do we try earnestly enough to get nearer to the consumer? Are not the middle men getting too large a share of our profits?

TREE ROOTS.

WHILE much has been written and said respecting the care of the stem, branches, fruit and blossom of trees, it might not be inappropriate to say a few words respecting their descending parts. Trees seem to lose, to some degree, their fruitful qualities by grafting scions, taken from grown young trees, instead of from those that are known to bear; but it seems evident that the practice of cutting the roots into fragments must retard, if not injure, the growth of the trees. Again, nurserymen are not as careful of the roots in digging as the nature of the roots require. Hence, every orchardist ought to say,

“Spare, man, spare the tree,
You dig for me.”

Some years ago we sent an order for one thousand peach trees to Zenia, Ohio, but the roots were cut so close to the stem that we might have set them out, like our grafts, with a dibble instead of spade. So we consigned them to the flames, the place for wood, hay, stubble of works that have been condemned. Then, when a tree has not been injured in stalk, stem or root, dig a place for it the diameter of which is twice the longest root. Let the roots descend at an angle of forty-five degrees, and that will give the depth at the circumference, and, if the roots be seven or eight, be sure and lay them straight and, at the highest part of the cone, sink the tap root until the stem is even with the surface, and pack the earth about it and the tree will not need a stake to hold it in its place. Never bury the stalk deep, unless to ward off the mice, and then be sure to remove the incumbrance in the spring of the year. That trees need air is evident from the fact that if you herd cattle around the roots the trees begin to fail and show signs of decay. Trees on river banks get air, food and moisture, and it is said of them, as of a good man, “their leaf shall not fade.”

Grimshy, Ont.

C. E. WOOLVERTON.

GRAPES IN MUSKOKA.

Mr. H. Reazin writes, in reply to question 84, as follows:—Clinton, perfectly hardy, and bears well at Bracebridge; Isabella, perfectly hardy, and bears well but fruit ripens late; Moore's Diamond, perfectly hardy, bears well; Moore's Early, perfectly hardy, bears well; Brighton, perfectly hardy, bears well; Moyer's Early, perfectly hardy, bears well.

THE VITALITY OF SEEDS.

FEW things are more vexatious to the tiller of the soil than the failure to grow of carefully sown seeds.

Experimenting gardeners seldom meet with disappointment in this way, because when they have any suspicion as to the quality of the seed they test it before sowing for crop.

Many dealers in seeds, as well as inexperienced cultivators, seem to have but vague ideas as to the length of time various seeds will retain their vitality. I once had the audacity to ask a country store-keeper, a familiar friend of my own, how he disposed of his surplus garden seeds; his reply was that those in bulk were generally mixed with the new stock, and those in packages, unsold, were returned to the wholesale dealer, and that he supposed this was the general practice throughout the country.

Professional seedsmen, who have served a regular apprenticeship at the business, are educated in the belief that honesty is the best policy. No publicly-known seedsman would sacrifice his reputation for the paltry sum he might be able to gain by selling a parcel of seed which he knew to be worthless. Our professional seedsmen as a class are entitled to our praise for their integrity and uprightness. They cannot, in any way, be held accountable for the transactions of some retail dealers, who have little knowledge of the evil consequences of selling old or injured seeds, nor for the rascally deeds of the itinerant scamps who live and make riches by swindling the agricultural community.

If buyers would order direct from responsible seedsmen there would seldom, if ever, be any cause for complaint about bad seeds.

Some seeds, such as purslane, plantane, burdock, red-root and pig-weed have much more vitality than some gardeners wish they had. It is said by some that wild mustard seed never dies. I know it keeps well under almost any circumstances.

Oily seeds, such as those of turnips, cabbages, rape and radishes, retain their vitality for many years if properly cared for. Yet cauliflower seed is very uncertain after it is more than a year old, and, even if old seed does germinate, the plants are apt to be feeble.

Two-year-old carrot, parsnips, celery, onion and salsify seeds are worthless, except to fraudulent vendors, who offer cheap seeds for sale.

All kinds of beet seeds retain their vitality for more than one year, but their thick covering becomes so hard and tough with age they will not germinate when old, except under very favorable circumstances.

Some kinds of pears and beans, if kept under favorable conditions, will germinate when very old.

Melon, cucumber and squash seeds may be preserved in good condition for many years, but often their vitality is injured by exposure to hard frost.

Some flower seeds are remarkably tenacious, for instance that of the Iceland

poppy, although almost microscopically small, will germinate when over twenty-five years old.

The coxcomb and all the amaranthus tribe will germinate when more than half a century old, and no one seems to know how long the vitality of the sunflower will last. Many of the grass seeds are good when two years old. Timothy seed will grow when more than ten years old.

Some tree seeds are remarkable for the short time they will retain their vitality. For instance, those of the soft or red maple, as soon as they drop and come in contact with the earth in the shade, they begin to grow; yet, if exposed to the sun for a few days they will never germinate. Just so with elms; their seeds must be sown in the shade soon after they are ripe, otherwise there would be no plants. Other tree seeds are remarkable for the length of time it takes after they are sown to germinate.

Hawthorn seed will not grow until the second season after it is covered with earth. Red cedar seed never sprouts until it has been in contact with the earth for two winters.

I have often seen apple and pear seeds grow after they had lain in the ground a year and a-half. Mostly all the coniferæ seeds also, if they do not grow the first season after being sown, generally come up the second. The vitality of many kinds of seeds is quickly injured by exposure to the sun. Generally speaking they should be dried in the shade.

This subject was suggested to me by the perusal of an article concerning a patented germinator sent out by F. P. Dimfel, of New York; through the use of which there are to be "no more short crops," and which gives absolute assurance of "perfect and complete germination of all kinds of seeds, and an increase in yield of more than twenty-five per cent." The patent is a compound solution in which the seeds are to be immersed and soaked for twelve hours, after which they are to be taken out and allowed to dry before being sown. I know nothing practically about the merits of this wonderful invention, but, if it restores to vitality all kinds of seeds, it will certainly soon become better known.

I have often gained time by soaking seeds in warm water for a time, yet I could not recommend the practice except to very careful manipulators, because, if the soil becomes very dry soon after the soaked seeds are sown, their vitality is injured, probably destroyed. Shading prevents this effect to some extent, but the shading of large fields is impracticable.

Some seeds endure great heat and a good deal of soaking without apparent injury. We all know that white clover seed will pass through an animal and grow, years after the ordeal. I used to suppose that allowing the manure pile to heat would be the means of destroying the vitality of all kinds of weed seeds, but, after considerable experience, I found that many seeds, such as those of shepherds' purse, purslanes, plantain and pig-weed, seem to be improved by the scalding, which seems to agree well with many other kinds of seed, but to enumerate would take up too much of your valuable space.

Reliable seedsmen are sometimes blamed for selling worthless seeds ; whereas the failure to grow is caused altogether by the indifferent treatment they are subjected to after they are purchased in good condition.

I have often seen failures caused by sowing too deeply in clayey soil. Soon after sowing perhaps a heavy rain would come, and immediately thereafter drying winds would form a hard crust on the surface through which no seeds, with the exception of black oak acorns and hickory nuts, could push their sprouts.

Seeds sown late in the spring are not nearly so certain of germination as when sown early.

The best crop of mangels I have ever seen was from seed sown in the fall, yet the practice of sowing mangel seeds in the fall could hardly be recommended, because, should the seeds germinate before the winter sets in, the young plants would almost certainly be killed.

In order to prevent disappointment and dissatisfaction it is generally advisable to test the quality of seeds before sowing for a crop, and the best way to do it is to fill flower-pots with good, rich, loamy soil, place them in a room of ordinary warmth and sow one hundred seeds of a kind in each pot. If over ninety-five per cent. germinate, you may rest assured the seed merchant had not been trying to cheat you.

Cataraqui, Ont.

D. NICHOL.

PROFITABLE METHODS.—Get the early fruit into neat crates and baskets and turn it into money. In some seasons very poor, gnarly fruit is saleable because fruit is so scarce. The sooner it is in market the more it brings. Handsome and honest packing, pay and be sure your name is on each package. If a surplus of cultivated or wild fruit forbids their sale it is often profitable to gather, dry, can or otherwise preserve them. Quite a business has been built up occasionally in this way from a small beginning. Cheap and effective fruit evaporators can now be bought which can be soon made to pay for themselves. Perhaps one of the boys or girls could make a few dollars in this way and lay the foundation for a successful business career at the same time.—*Farm and Home.*

SETTING OUT ORCHARDS.—Many orchards are set out in autumn ; still more in spring, the ground should well be prepared in autumn. If the soil holds water in wet seasons, it must be well underdrained. Subsoiling in most localities is of much value. This work, it is true, may be imperfectly performed after the trees are set and growing ; but the work is more easily done, and in a better manner beforehand. Some persons mistakenly recommend setting trees where nothing else can be raised, as on hillsides or among rocks and stones ; but as a good and well managed orchard is commonly more profitable for the acre it occupies, than almost any other crop, the best ground should be chosen for it, so that good cultivation may be given. It was formerly recommended to dig wide holes. This practise answered well enough for a limited number of trees, where the sub-soil was hard and had not been loosened.

❖ New or Little Known Fruits. ❖

LETTERS FROM RUSSIA.—VI.

GRAND DUCHESS OLGA.*



THIS is one of the best Russian winter Reinettes, and our celebrated pomologist Lieb has given it the name of Grand Duchess Olga; the same apple is also known in Germany as "Reine Olga." In the gardens and markets it is usually called Little Crimean Apple, Red Crimean Apple, etc. The fruit is large in size, and has a pleasant aroma; the skin is thick and quite smooth. The color at the calyx is green; the rest of the fruit is beautifully shaded with deep carmine dots and stripes on golden yellow ground. Whitish dots are observable on the red ground. The closed calyx is usually surrounded with five characteristic humps, which do not extend over the surface of the fruit and therefore do not change its round form. The flesh is yellow, fine grained, juicy, of pleasant vinous flavor, and delicious. It ripens in March and keeps till July and even later. It bears shipment well, and is very little affected with worms; indeed, it possesses every quality which a commercial apple should possess, for it is suitable both



THE OLGA.

*The Grand Duchess of Russia is now the Queen of Wurtemberg.

for dessert and cooking purposes. The tree is hardy, being able to withstand not only great cold, but also extreme heat and drouth, grows rapidly while young, and is very productive. It is also an early bearer. I can highly recommend this kind to you.

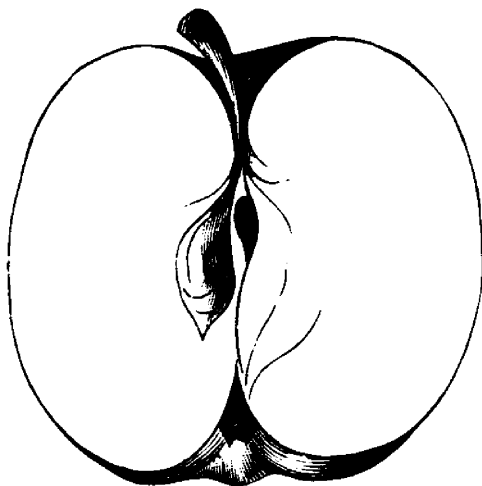
Rovno Wolinia, Russia.

JAROSLAV NIEMETZ.

N.B.—In my next letter I shall describe for you the grand Russian exhibition of fruits in St. Petersburg. In my letter, in June number of the CANADIAN HORTICULTURIST, please note the following errata in names of Russian scions sent you.

- 39 Solotarev read Zollotarev.
- 14 Ogust from Kankar, read Ogust, from Kau Kasus.
- 40 Gana, read Panna.
- 50 Plinka, read Tlinka.

J. N.



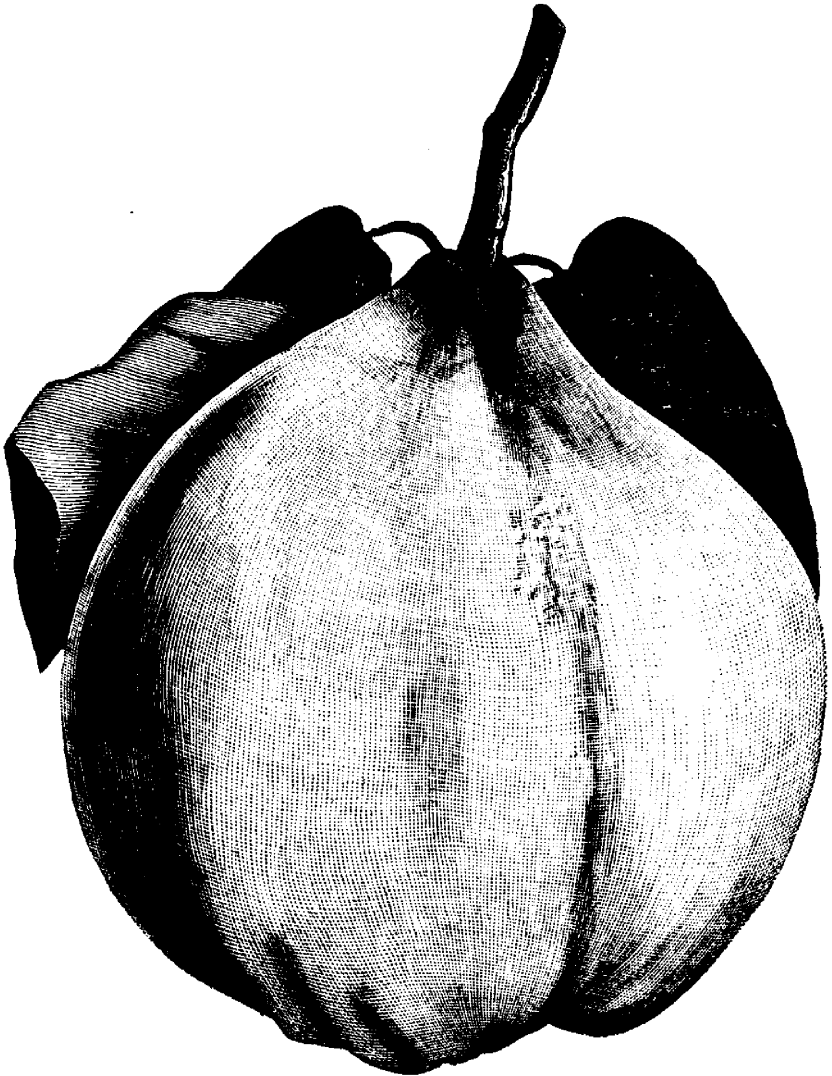
SECTION OF OLGA.

THE FULLER QUINCE.

W[®] E are obliged to Mr. J. F. Lovett, of Little Silver, N. J., for the accompanying engraving of a new quince, which, according to reports, is worthy of notice. It is named after Mr. A. S. Fuller, who, noticing a seedling tree on a neighboring farm to produce fruit of an unusual size, took some cuttings and thus saved it from oblivion. Many of these quinces are said to weigh a pound each, and some, even more. It is described as pyriform, with a small neck, sometimes ridged, and with a deep wide basin. It is of a beautiful and rich high color, which it assumes very early in the season, and its flesh is exceed-

ingly tender and fine flavored. It has a delicious perfume, and is said, when cooked, to be greatly superior in flavor and tenderness to all other varieties.

The Fuller Quince may be described as follows: Fruit large to very large; distinctly pyriform, often with a very abrupt and small neck; the surface some-

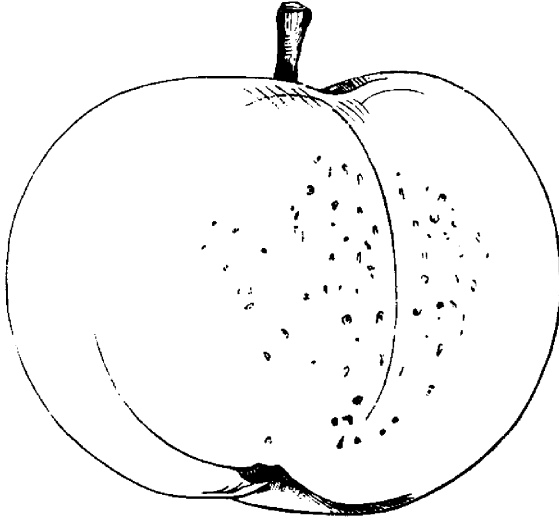


what ridged; the skin assuming a rich yellow color early in the season; calyx set in a deep, wide basin; flesh remarkably tender and well flavored. The quince is a most showy tree in flower and fruit, and the Fuller will be especially valuable to plant for ornament on account of its exceptionally large and brilliant fruit.

GEO. THURBER.

BABUSKINO, OR GRANDMOTHER APPLE.

By some oversight the engraving of this apple was omitted from page 11, where it should have accompanied Mr. Niemetz' description of it. We shall certainly appreciate the kindness of our Russian correspondent in thus introducing to our acquaintance from time to time the finest of the Russian fruits.



THE PARKER EARLE STRAWBERRY.—R. E. Williams writes in the *R., N. Y.* as follows :—Of the dozen or twenty kinds set this spring the most noticeable is the Parker Earle. I received from Mr. Munson a round dozen of these plants on April 22nd, and set them immediately. They were in bloom and had berries on as large as peas when received. Most of them were removed. The plants took hold at once and started to grow. The few berries left on, just to get an idea of the character of the variety, ripened, and every plant since has seemed determined not to be deprived of its right to bear fruit, has thrown up new fruit stocks, and yesterday (July 3rd) I picked a handful of ripe berries, and the plants are still blooming. Whether this is the mission of the variety to produce an annual crop of fruit, under any or all circumstances, or whether it is the acquired Southern habit seen in other varieties grown there—as shown in Florida—of ripening berries for two or three months in succession, I can't say. It is a feature I have never noticed in any other variety, and its performance next season, when thoroughly acclimated, will be interesting.

✻ The Garden and Lawn. ✻

THE CANNA.



IN another portion of this number we have described the Yucca as a very suitable plant with which to adorn our Canadian gardens. Another perennial of sub-tropical character, which may be grown in Ontario, is the Canna. In England, with winter protection, it may be left in the outdoor garden the year through, but it is too tender for that in our country. It needs to be lifted in the autumn and stored away in boxes with a little earth during the winter season, where, by giving it a little water occasionally to keep it from shrivelling, it will keep in good, plump condition until spring; then, after all danger from frost is over, it may be planted out in the garden. It is very easily propagated by root-division, for its root stocks resemble those of the Iris, and may easily be cut in parts, each of which, providing it is furnished with root and bud, will make a separate plant.

A sheltered spot in the garden is best adapted for the Canna, where it will not be subject to high winds. The soil should be rich and moist and never allowed to become dry. To avoid this it may be necessary to thoroughly drench it with water during the summer. With this treatment it will flower freely during the summer and autumn months, reminding one, in some of its characteristics, of the gladiolus, but far superior to it by reason of its beautiful foliage, which, in some varieties, is green, and others dark purple. Unfortunately those with the dark colored foliage are less beautiful in bloom than those with the green colored leaves, but possibly, through the efforts of our scientific gardeners, varieties may be produced in which both these excellences are combined.

The Canna is sometimes grown indoors, and is a very effective ornamental plant for the house. For that purpose the roots should be planted in six-inch pots, using rich earth, which should be plentifully supplied with manure-water in order to maintain a vigorous growth.

For the open ground a very desirable mode of planting Cannas has been suggested by Mr. Vick, in the accompanying illustration, where the tall growing



Ricinus, or Castor-oil Bean, forms the centre-piece of the circular bed, and is most appropriately surrounded by a ring of Cannas.

The oldest variety known is the *Canna Indica*, or *Indian Shot*, which was introduced to England from the West Indies in the year 1596. For a long time this was the only variety cultivated, and it was not until 1855 that the French gardeners began to pay attention to this plant, and have recently succeeded in



BED OF RICINUS AND CANNAS.

producing hybrids which are great improvements on that variety, both in leaf and flower. Among these the following are two of the most valuable, and we subjoin the description of them as given by Mr. Fewkes in *Popular Gardening*.

ADOLPH WEICK is by far the most valuable of the red-flowered Cannas, excelling all others in freedom of bloom and general usefulness. Though not a new variety, its great value has been but recently appreciated. It does not content itself with throwing up simple spikes of bloom, but each one branches into four or five side branches, which terminate in very full clusters of flowers of large size and great beauty. When well grown it will average about five feet in height, beginning to flower very early in the season. In pots in the greenhouse it will flower when about two feet high, and, if planted in a rich bed in June, will flower all through the summer until cut down by the frost.

PREMICES DE NICE.—Among yellows there is nothing better than this old variety, which was introduced about twenty years ago. The flowers are large, very freely produced, and of a clear, canary-yellow color. It reaches the height of about six feet, with pointed, light glaucous green leaves. The bright color and freedom with which the flowers are produced make this one of the most useful varieties grown.

NATIVE ORNAMENTAL SHRUBS.



WHEN laying out the grounds around the country home, it is by no means necessary to go to great expense in order to have them well planted out with appropriate trees and shrubs. No doubt the consideration of the high prices of the rare trees and shrubs usually sold for such purposes often deters the economical planter from filling out his grounds in such a manner as to set off the dwelling to the best advantage, and to screen objects that are not sightly.

A trip to the woods last autumn was well repaid in the large bundle of fine native trees and shrubs brought home for our own grounds; and the trip itself was a pleasure. To the unobservant the woods in winter are wholly uninteresting; they do not see a collection of individuals, each with its distinctive characteristics; but a monotonous whole, bare of beauty, only reminding one of the cold, dismal and wintry days of life. But the student of nature sees in each tree its own characteristics, in bark or bud or habit of growth; and even the various species of the same kind are easily distinguished by him.

Not to speak at this time of the trees suitable for planting in the house yard, there are a few shrubs of especial merit for this purpose, which impress the writer most favorably. One of these is the *Black Alder* (*Ilex verticillata*), which is found quite commonly in the Niagara district, in low and swampy grounds. In some neighborhoods whole acres are rendered gay with its bright red berries, which hang all winter unless robbed by the birds.

This and another species are the only Canadian representatives of the family, of which there are one hundred and forty-five species known. Although its natural habit is in swampy places, yet it will succeed in any good garden loam, and, for its winter beauty, it certainly deserves to be considered when filling up our lawns with clumps of shrubbery.

Walking along the brow of the so-called mountain, at the place called the "Fairview," near Grimsby, we found the *Witch Hazel* (*Hamamelis Virginica*), a tall shrub, which blooms very late in autumn and does not mature its seeds until the following summer. In form of growth this shrub is somewhat straggling, but, on account of its singularity, it deserves to be included in any large collection. Curiously it is not found anywhere in Ontario, except in some districts west of Toronto.

The Celastraceæ also furnishes us with some of our most showy native trees and shrubs; for instance, the *Strawberry Bush* (*Euonymus Americana*); the *Burning Bush* (*Euonymus atropurpuræ*), and the *Waxwork* or *Climbing Bitter Sweet* (*Celastrus scandens*).

The latter we found growing freely along the northern border of the Niagara escarpment, near Grimsby. One is surprised to find here and there in the month of November a thicket gay with berries of this beautiful shrub. They are not

really berries, but the effect is produced by the opening of the orange-colored pods displaying their scarlet seed covers. For covering bowers or trellis work this is an excellent hardy vine, and why it should be so little used in our Canadian lawns is to us a mystery, unless because of some inexplicable prejudice against using any plants or trees that are indigenous to our own soil.

A writer in the *American Garden* says of it,

Several years' trial have shown me that this aspiring vine can be trained. I have a gateway arch covered with bittersweet, and admired by all who see it. The arch is formed of ordinary water-pipe, with couplings and wire netting two feet in width. An upright of pipe on either side of the gate has a cross-bar of pine two feet long at its top, and from the ends of the cross-bar spring arches of small pipe upon which is laid a roof of wire



FIG. 1.—A SPRIG OF BLACK ALDER.

netting. The vigorous vines climbed the uprights of the arch like wild fire, and when I bent them down and fastened them to the netting they soon bristled everywhere with up-reaching branches, but under a free use of the pruning shears, cutting back two or three buds, they behave charmingly.

All summer the clean, thrifty leaves, waxy branches and bunches of plump green berries are a delight to the eye. But when autumn comes and the leaves turn yellow, and the berry capsules are orange, I almost think my arch is more beautiful than in summer. Still again, as winter approaches and the snow begins to fall and their yellow capsules turn back and show coral red berries hanging out from the snowy arch, I am in delight, and at Christmas time, when I am asked for bunches of berries for decoration, I am selfish enough to refuse to let them go, for they will hang as bits of brightness through the long northern winter, and I cannot spare them.

It is a marvel that this and so many other beautiful shrubs are despised simply because they are so common. There are the Elders, which are nearly

always destroyed as soon as possible because the farmer regards them as one of his enemies when growing in the field. But this shrub, when planted in its proper place in some clump of shrubbery of the lawn, is an ornament. This variety is most at home along the borders of streams, but there is another variety, which we find along the rocky sides of the "mountain," almost anywhere from the Niagara Falls to Collingwood, which is still more desirable. It is the red-berried variety (*Sambucus Canadensis*), and this grouped with the dark-berried one and other shrubs is by no means to be despised. To the same family that includes Elders, belong many other beautiful native shrubs, as, for example, the Snowberry, the Honeysuckles, the Cranberry tree, etc., all of which have special beauty, and would, if imported by some traveller from China or Japan, be highly esteemed. Why then do we not open our eyes to those beauties of nature which are about us, and beautify our house-yards with some of those charming Canadian shrubs which grow within our reach, and which may be had without cost?

FAILURE OF BLOOM.

QUONE cause of failure to secure blooms is injudicious watering—deluging at one time and withholding at another, and paying no attention to the needs of the different varieties. The appetites and needs of plants are so varied as those of people, and their temperaments differ, too; there are the sanguine, the sensitive, the plegmatic—each requiring to be dealt with accordingly. While one plant will thrive, notwithstanding the utmost neglect, and subsist on almost nothing, another must have nourishing food and warm drink. It is a good plan to adapt the water to the temperature of the room, and always be quite sure that the drainage is good. Often a plant will droop and look sickly, when, if the matter is looked into, it will be found that water stands in the bottom of the jar. A bent wire is always useful in this case, for by penetrating the holes at the base of the pot, and stirring the earth, passages will be made for the escape of stagnant water and gas. Then water freely, being sure that the water runs through quickly; drain all off, loosen the soil at the top of the jar, and withhold moisture until the plant is again healthy.

The calla, as is well known, requires plenty of quite warm water; if in a double jar, boiling water may be used in the lower jar, and will wonderfully hasten growth and blossoms. Fuchsias are thirsty plants, especially when in flower, and moisture is necessary to the Chinese primrose. The majority of plants require a weekly bath; in fact, nothing so invigorates them as a shower bath of tepid water. Those which cannot be removed readily for the showering may have their leaves sponged.—*Vick's Magazine*.

↔ The Garden. ↔

ASPARAGUS.—I.

ITS CULTURE FOR HOME USE AND FOR MARKET.



SPARAGUS is a luxury with which every household should be well supplied. It can be easily grown and delightfully prepared for the table without special culinary endowments, and, while satisfying the taste, accomplishes a valuable mission in the maintenance of good health. The principal reason why it is not a feature of every farm garden lies in the elaborate methods of growing it recommended by agricultural experts.

The mission of this monograph is to popularize the use of this excellent vegetable, especially among those who have the land upon which to grow it.

THE SEEDLING NURSERY.

Although he who plants a few roots of asparagus need not be instructed in the method of growing these plants, still it may be a matter of interest to know how it is done. The ground for a seedling plantation, if choice can be had, should be a rich, well-drained, sandy loam. A pound of seed, costing sixty cents, will be sufficient for several hundred feet of drill. The ground should be in the best of tilth and the lines of drill made about a foot apart and one inch deep. Impetus may be given to the germination of the seed by soaking in warm water twenty-four hours previous to planting. The seeds are placed about an inch beneath the surface and a few seeds of radish, cabbage, or some quickly germinating plant sown in the same drill to indicate the line for early cultivation in advance of the sprouting of the asparagus.

Once well above the surface, the plants should be thinned to three inches in the row and given good cultivation throughout the season with a scuffle-hoe and rake. Plants grown under favorable conditions are ready at the end of one year's growth to go into permanent garden rows. Well grown yearling roots should have several strong buds and a well developed root system. From a pound of good seed one should get four thousand merchantable plants.

THE GARDEN PLANTATION.

The best possible plan for a garden plantation of asparagus is to have it in a single row, parallel with the other varieties of vegetables and at one side. If the soil is fitted to grow a large crop of any other vegetable, it is good enough for asparagus. No special preparation is required, but it should be remembered that asparagus, although not a deep grower, is a gross feeder within the area upon which it draws for its sustenance. It reaches further sidewise than in depth. Its feeding time is not confined to the gathering season, but extends through the growing year. Hence the application of fertilizers is always in order.

For the reception of the plants, which should be strong yearlings, a trench or furrow should be made wide enough to admit the plants and the roots in their natural position, and of sufficient depth that the crowns of the plants, when in position, shall be six inches beneath the level of the surface of the garden, and three feet apart in the row. If two inches of earth are drawn over the plants and well firmed about the roots, the remainder may be filled in gradually during the season of cultivation.

This row of plants will utilize the ground five feet on either side and in a few years will have crowns a foot in diameter.

This plant is made for a half century, and if there is a choice of location with reference to the embellishment of the garden area, this matter should be given serious consideration at the outset. The row should be given clean culture. A dressing of salt will kill the weeds and asparagus will stand a large amount of it without apparent injury, but it is safer and better in every way to secure the result by good cultivation rather than saline application. I have for years used refuse salt from a hide packing establishment as a dressing for an asparagus bed, and have noticed that the larger the amount of animal refuse in the salt the more satisfactory the application, and am convinced, if the salt were reduced to a minimum and the animal refuse raised to a maximum, the results would be the most complete. Asparagus delights in a sunny location and will respond to food which is all ready for plant absorption very promptly. The most complete manure is barnyard dung containing very little coarse litter. The product from out-door-closets which have been kept inodorous by the free use of clay, dust, or coal ashes, as absorbents, makes a fine fertilizer for asparagus, and it is under treatment with this material that the largest recorded shoots have been grown. The asparagus row is a good place for throwing the wood ashes.

The keenest satisfaction may be derived by the amateur gardener from the growth of immense shoots of this garden esculent. They develop so rapidly in the growing season that hope is not long deferred after the shoots begin to thrust their heads through the surface. But at the outset one must wait for the first crop until two years from the setting of the plants, when a short season of picking may be made.—C. W. GARFIELD, before *Michigan State Hort. Soc.*

RASPBERRIES.—There has been no such change in the list of raspberries as with strawberries. Nearly the same varieties stand at the head of the list as held that position five years ago. Of the black caps the best that can be named are Tyler, Ohio, Hilborn, and Gregg, given in the order of earliness. The Palmer is much like the Tyler, perhaps being an improvement in vigor and productiveness. The best of the red sorts are Marlboro, Shaffer, Reliance and Cuthbert. The best for home use of the whole list is the Shaffer. A variety called the Muskingum resembles the Shaffer and is superior to it for market purposes, being firmer; but is no better for home use. Neither the Reliance nor Cuthbert succeed in all localities, but, where they are at home, are very profitable. The Cuthbert is the latest of the reds, and the Turner the earliest of those named. Thompson's Early Pride, a variety not fully tested, is very early and quite promising.—*Ohio Experiment Station.*



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

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

NOTES AND COMMENTS.

AMONG THE FARMERS.—During the month of January just passed the Department of Agriculture has sent out eight deputations to speak at ninety-four Farmers' Institutes, each consisting of a Professor from the Agricultural College, a practical farmer, and a practical fruit grower representing our Association.

The interest in these meetings is rapidly growing among farmers, and will soon surpass even their interest in political gatherings, for which they are so noted. Throughout Southern Ontario the topics, discussed by the fruit grower on the deputation, receive as much if not more attention as any others, a proof of the wisdom of including that department of industry among the subjects discussed. Hitherto fruit culture has been boomed by nurserymen and their agents, some of whom have spoken in such extravagant terms of the profits accruing from it, or of the wonderful merits of some new and untested fruit, that farmers generally look with much discredit upon any statements under this head. But now that fruit growers themselves are to speak of their own business, we may expect only such statements as are backed up by practical experience, and having no interest in inducing others to compete with them in their line of industry, they will be inclined to leave off the glitter, and speak less of the profits of fruit culture than of the best methods of meeting the difficulties in the business, and the best means of reaching the best markets.

INTENSIVE FARMING.—There is no doubt that many of our farmers are land poor. Could they be persuaded to devote the same attention to one-half or even one-quarter the amount of land, there would be some adequate returns. The other day, for example, a farmer was pointed out to us who was the owner of several large farms, and yet was always hard up, and was making no money; and about the same time we met with a commercial traveller, who, having a great

taste for gardening, gave much of his leisure to cultivating vegetables and fruit. Two years ago he actually sold off $\frac{1}{4}$ of an acre of celery and other products, amounting to the sum of \$400, as much cash as many farmers take off one hundred acres. Too often, where little stock is kept, the manure that ought to go on one acre is scattered over ten, the seed sown after half working up the soil, and what wonder if failure results? Something more is needed nowadays than a mere tickling of the soil to get any profit out of fruit culture or any other line of husbandry.

CELERY AND TYPHOID.—It has been claimed by some writers that the use of unclean manure should be avoided in the garden for fear of the absorption of injurious particles by the juices of the plants. But the best sanitarians and students of vegetable physiology, assure us that no fear need be entertained under this head, as no injurious substances have ever yet been detected in vegetables or fruits from the use of such manures.

An article, however, in the *Medical Journal*, states that there is a danger of disease in the use of such vegetables as are not prepared for the table by boiling, on account of injurious particles which may cling to the exterior, or lodge in the interstices.

Celery, for instance, is a vegetable which is often brought on the table with very scanty use of water, and indeed it is only with the most careful attention that the small particles of filth can be entirely washed out from the interstices between the stalks. Now it is well known among medical men that the bacillus of typhoid fever is frequently found in night soil, a manure which is so highly valued by market gardeners, who frequently apply it to their growing vegetables, in a liquid form. The danger of some particles of this filth clinging to the stalks of celery, after a careless washing, is evident; and we, therefore, wish to warn our readers of the danger in this regard, and to advise the most fastidious care in preparing this vegetable for the table.

A MEMBER BENEFITED.—Mr. Chas. Ellis of Meaford writes that a subscriber in that town reports that the CANADIAN HORTICULTURIST was the means of putting in his pocket the sum of \$80, by keeping him posted on the prices of apples and enabling him to sell in the best markets.

We hope to have arrangements made to get fuller reports of all the best markets during the coming season, and thus to help the fruit growers as much as possible.



BABY EDINA.

FOR THE CANADIAN HORTICULTURIST.

Lines written on the very beautiful child of Mr. Corbett, Foreign Freight Manager of the C. P. R.



HERE gat ye your 'een sae blue ;
 Hae ye been gazing on the skies,
 So they reflected back on you
 The beauty o' their azure dyes ?

Where gat ye your golden hair,
 Like silken tassel o' the corn ;
 How came ye by that sprightly air,
 Like sparkling dew on sweet hawthorn ?

And where gat ye those lovely cheeks ?
 Like peaches o' a Western clime ;
 And voice as when a brooklet meets
 A laughing brooklet o' its kind ?

And see those pouting, rosy lips,
 Can anything be half as sweet ?
 From top to toe, and finger tips,
 She is a Cupid so complete.

Her dimpled arms, see how she flings
 Around her mammy's neck ;
 God-forfend she'd spread her wings,
 Her mammy's heart would break.

GRANDMA GOWAN.

❖ Question Drawer. ❖

EXPERIMENTS WITH GOOSEBERRIES.

SIR,—I have given the potassium sulphide a trial season for gooseberry mildew. I applied it early, before any signs of mildew appeared, upon Industry bushes. The result was the foliage was kept clean and bright, and the bushes made quite a growth of new wood. Not having a syringe, the mixture was applied with a watering-can. The bushes being dense, the under part did not possibly receive its share, and here the fruit mildewed badly, and rotted, while, on the more exposed parts, the fruit was free.—STANLEY SPILLETT, *Nantye*.

ANTS.

SIR,—Will your Association kindly inform the public generally as to the best means to keep ants out of a greenhouse.—THOS. COTTLE, *Clinton, Ont.*

Reply by N. Robertson, Supt. Government Grounds, Ottawa.

This would be a rather laborious task as they will enter by the smallest crevice. But I expect an answer more directly applied will be, How to get rid of them when they are in? This is a thing I never was troubled with. I, therefore, cannot recommend with experience. Various cures are suggested. If they are dispersed all over the house, traps, such as pieces of bones or meat, a sponge soaked in treacle, on which they will congregate in great quantities, lifted and immersed in boiling water. Chloride of lime, sprinkled in small quantities on their runs or holes, is said to be a perfect guarantee that they will leave the house in a few days.

CINERARIAS.

SIR,—What causes the leaves of the Cineraria to curl up?—T. C.

Reply by N. Robertson.

Various causes may be attributed to this, as green fly, red spider and too high a temperature, or a dry atmosphere. To cultivate the Cineraria properly, a cool house, partially shady, is necessary. They do not stand much fire heat. They are very subject to vermin, and must be kept cool and moist to be succeeded with.

PRUNING MAPLES.

SIR,—What effect will pruning have on maple trees if done at this time of the year, and what is the best time to cut maple when large limbs have to be removed.—T. COTTLE.

Reply by N. Robertson.

When large limbs are to be taken off, the best time to prune maples is early in the fall, so as to allow the wounds to dry up. As we near the spring, the risk of bleeding is always greater. A fresh cut loses sap that would be beneficial to the growth of the tree, and, therefore, cuts should never be done late in the winter.

ONE VERSUS TWO YEAR OLD VINES.

SIR,—Are the grape vines usually sold by nurserymen as No. 1 one year old, and No. 1 two year old really of those respective ages, or is it simply a matter of grading one seasons vines and making that distinction?

In planting some three thousand vines next spring would you recommend me to set out No. 1 one year vines or No. 1 two year vines, and if the latter, should they be cut back to one bud in the same way as No. 1 one year vines would be?

R. B. BLAKE.

Reply by Mr. S. D. Willard, Geneva, N. Y.

Grape vines as usually sold by nurserymen are of the respective ages as stated, one or two year as the case may be. Our experience has been in favor of planting one year vines as a rule, and yet something depends on varieties and seasons. Some weak growing sorts would do better if two year old, and if the seasons had been unfavorable for maturing and rooting a vine properly at one year, we should give preference to a two year vine and cut back same as we would a one year.

FERTILIZERS FOR STRAWBERRIES.

SIR,—I have about two acres strawberries planted spring 1890, on sandy loam of not very good quality. 1. Would it pay me to apply some commercial fertilizer? 2. What would be best? 3. When should it be applied? 4. What quantity per acre?

J. P. W.

It always pays to fertilize the land well for strawberries. The best for them is plenty of barn yard manure, rich in nitrogen, which should properly be worked in the soil previous to planting. Dried blood is a special fertilizer for the strawberry, and should be applied between the rows, at the rate of three or four hundred pounds per acre. Commercial fertilizers are excellent if not adulterated; they cost about two cents a pound. A cheap fertilizer may be made by adding 100 pounds of sulphate of ammonia and 100 pounds bone meal to 40 bushels of ashes, for one acre. The best time to apply these is about the month of May.

GOOSEBERRY NOTES.

SIR,—Fall, 1886, I planted 350 Houghton's. Summer, 1887, bushes made good growth, and the tips mildewed a little.

1888—Fruited a little, mildewed badly. I applied lime, sulphur, ashes, sulphate of iron; checked mildew very little, if at all. I also noticed a few bushes where the green fly had worked.

1889—Mildew not as bad as 1888. Green fly worked at the tips of many of the bushes. Fruited well.

1890—Scarcely any fruit; green fly worse than 1889. (N.B.)—Plums are planted in every alternate row. I have Downing & Smith's Improved in same garden, but the texture of the leaf being different, the fly do not trouble them. Smith's Improved shed their leaves. Downing does well, also White Smith. Industry and Golden Prolific not any use. Crown Bob and some others with English blood, not fully tested.

What can I do for the green fly? (Aphis.)

J. P. WEEKS, *Horning's Mills.*

Try Kerosene emulsion for the green fly, made according to the following recipe:—Soft soap, 1 quart; 2 quarts hot water; 1 pint kerosene. Stir until all are permanently mixed, and then add water until the kerosene forms one-fifteenth of the whole compound.

↔ Our Markets. ↔

THE APPLE MARKET this year has been unprecedentedly high. A correspondent in Peterboro' writes that he is shipping apples to Montreal in half bushel baskets, and receiving as much as 90c. each for them. And in that section the apple crop has been so good this season, that it will no doubt result in great encouragement of the fruit growing industry.

In the New York market, choice Greenings and Baldwins are quoted by Mr. G. S. Palmer, at from \$4.50 to \$6.00 per barrel. The Montreal Market at about the same figure, with, however, the warning clause, that inferior qualities are a drug in the market, at a range of from \$1.00 to \$3.00 per barrel.

In Great Britain the prices are on the whole advancing. Baldwins are quoted at from 25 to 27 shillings. The King has been sold as high as 40 shillings, and the Newton Pippin has actually reached the enormous value of 60 shillings per barrel.

LIVERPOOL MARKET.

Messrs. Woodall & Company of Liverpool, write under date of Jan. 17th, as follows: Receipts are from Maine and Canada and also a few from New York, the bulk of which showed excellent quality and condition, the exception being where some lots had got touched with frost. There has been a brisk demand throughout the week at advancing prices, closing at yesterday's sales with an improvement on a shipment of Canadian 7/ to 10/ per barrel. Should supplies next week be equally small a further advance may be confidently expected.

Quotations for the Week for Sound:—New York:—Russets, 18/3 to 23/; Ben Davis, 25/ to 26/6; Newton Pip., 30/ to 33/.

Maine:—Baldwins, 23/ to 28/6; Baldwins 2nds, 16/ to 22/; Greenings, 18/ to 26/6; Kings, 28/6 to 39/; G. Russets, 25/ to 25/6; Spy, 19/ to 28/.

Canadian:—Greening, 30/ to 39/; Spy, 32/6 to 36/6; Baldwins, 30/ to 39/; G. Russets, 31/ to 34/.

↔ Our Book Table. ↔

REPORTS.

Annual Report of the State Board of Horticulture for the State of California, for 1890, with the compliments of B. W. Lelong, Secretary State Board of Horticulture. A work of 522 pages, bound in cloth, and carefully indexed, containing a great deal of valuable information for fruit growers, especially for fruit growers on the Pacific coast. Much of it is also interesting to us in Ontario, as for instance, those portions dealing with fungoid diseases, injurious and beneficial insects, and the use of commercial fertilizers. There are several colored plates in it, and altogether the work is of considerable value from a scientific standpoint.

Fourteenth Annual Report of the Montreal Horticultural Society, W. W. Dunlop, Secretary. This report, always full of interest, is this year even more full than customary. Among the subjects touched upon, we notice an article by Dr. Hoskins on Ironclad apples; five varieties of apples for profit, by G. E. Roach. Marketing aspects for fruit growing, by A. T. McBride, Montreal. Summer pruning of grapes, by W. Mead, Patterson, and Sod in orchard, by J. C. Chapais, of St. Dennis. Also, discussions on Blackheart in Canadian varieties, apples for home use, etc. It would be a very advantageous thing for both provinces could a complete exchange of reports be made, so that every member of each Society could have both reports.

Transactions of the Maine State Pomological Society for the year 1889, D. H. Knowlton, Augusta, Secretary. This is another report that is of interest to us Canadians, because the climatic character of the State of Maine corresponds closely with a good deal of the northern parts of Ontario. The following are some of the subjects discussed:—"Four acres enough; Fungus diseases of fruits; How should we maintain the price of Maine apples; Pear culture; Condensed fruit list, etc."

CATALOGUES.

The Steele Bros. Co's. (limited) Seed Establishment, 1891, 132 King Street east, Toronto. Seeds, Bulbs and Plants, for 1891, and containing illustrations and descriptions.

James Vick, Seedsman, Rochester, N. Y., Flowers, Bulbs, Vegetables and Plants, etc., etc.

Oranges and Vegetables of Florida, published by Bradley Fertilizer Co., 27 Kilby Street, Boston. Well illustrated. Free on application.

Improved Exeelsior Incubator. Geo. H. Stahl, patentee and manufacturer, Quincy, Ill.

Green's Nursery Co., Rochester, N. Y. 1891. Chas. A. Green, Manager.

Lovett's Guide to Horticulture, Spring, 1891. J. T. Lovett Co., Little Silver, N. J.

John A. Bruce and Company's 40th Annual Catalogue of Seeds. Office and Warehouse Corner King and McNab Sts. Hamilton, Canada.

Gregory & Sons' Retail Catalogue of Warranted Vegetable, Flower and Grain Seeds, grown and sold by James J. H. Gregory, Marblehead, Mass. Free on application, 1891.

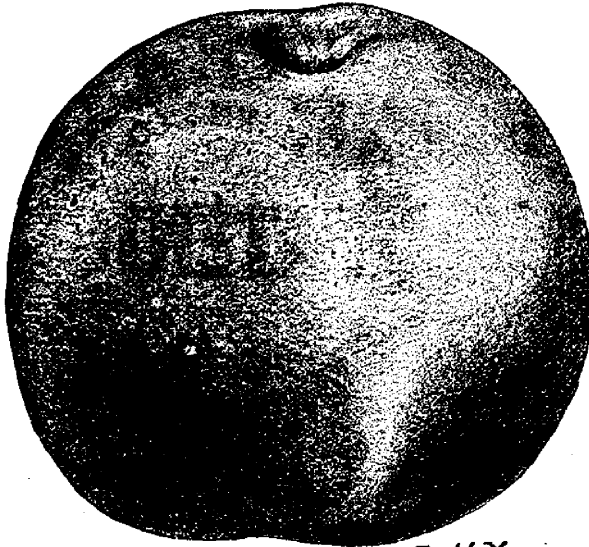
Plants for Florists, Welsh Bros. Wholesale Price List of Florists stock. Hamilton, Ont.

BOOKS.

"Raise the Flag," and other songs and poems. Rose Publishing Co., Toronto. An attempt in the right direction, for it is certainly important that a taste for Canadian patriotic songs should be developed in our country.

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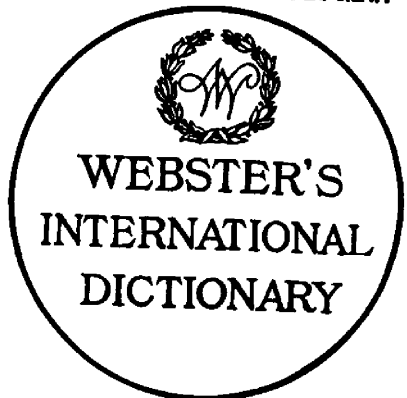
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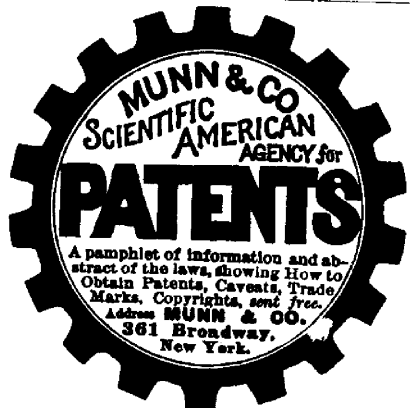
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