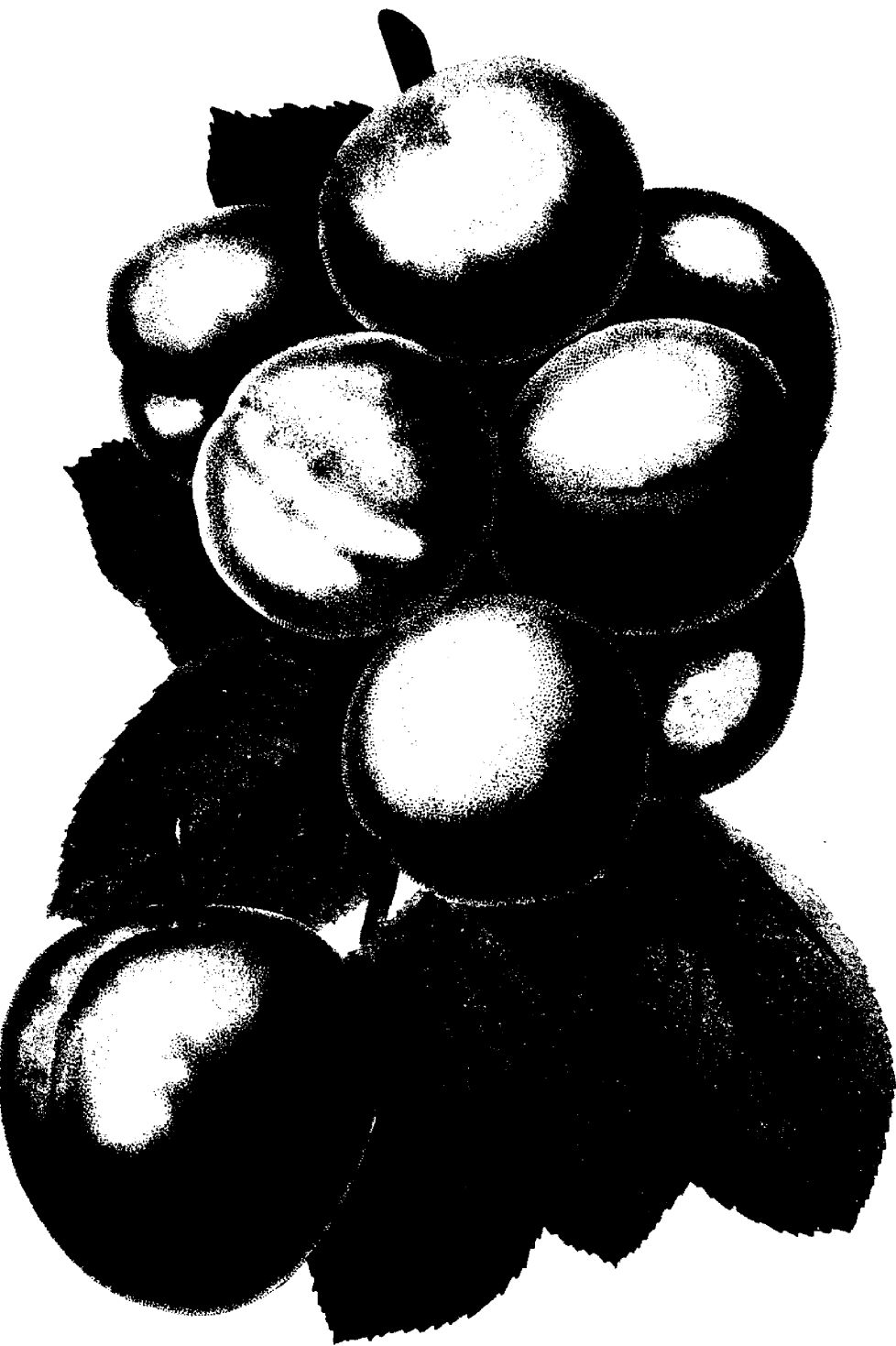


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ABUNDANCE.

THE
Canadian Horticulturist

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No. 8.



ABUNDANCE PLUM.



THE Japan plums are quite distinct from either our native, or the widely known European, varieties. In habit of tree they resemble somewhat the vigorous Chickasa varieties, but their foliage is peculiarly large and distinct. A few of the Japan plums are fairly hardy, but most of them are better adapted to the Middle and Southern States than they are to Ontario, and there their introduction has given a fresh impetus to plum growing, owing to their large size, beauty and excellent flavor.

There are two varieties which have been considerably pushed by nurserymen through their agents in Ontario, namely the Abundance, which is an American name for one of the Botan plums, and the Burbank. The latter will be treated of later on in this journal; the former, we have chosen to use as a frontispiece in this number. It is yet too early for any reliable statements to be made concerning its adaptability to our Canadian climate; but, from the fact of its succeeding well during the last three or four years in New York State, and Michigan, it is natural to infer that it will also be a success if planted in Southern Ontario.

Mr. Lovett, of Little Silver, N. J., viewing it from a nurseryman's standpoint, says of the Abundance: "This plum is unlike any other. In growth it is strong, and handsome enough to be planted as an ornamental, and equals the

Kieffer pear tree in thrift and beauty. Its propensity for early bearing is such that it loads in the nursery rows, bending the limbs with the weight of the fruit until they sometimes break. The fruit is large, showy and beautiful; color amber, turning to rich bright cherry, with a decidedly white bloom and high perfume; flesh, light yellow, and exceedingly juicy, tender and sweet; free stone; excellent for canning; season very early, ripening in advance of other plums."

Mr. S. D. Willard, of Geneva, New York, writes concerning it: "I have fruited this plum for four or five years and find it hardy and productive, of fair quality, and well received in the markets. I do not think it equal to the Burbank in productiveness, or to some of the sorts of the Japan in quality, but its very beautiful appearance causes it to take well in the city markets."

Mr. VanDeman, Chief of the United States Department of Pomology, says of it: "This plum is of medium size, that is among the Japanese plums, being fully as large as the larger of our common cultivated plums (*Prunus Domestica*), heart-shaped, of very good quality and, I think, hardy over a large part of the United States. Color, greenish-red."

FIGHTING APPLE BORERS.

Prof. Forbes, Illinois State Entomologist, makes the following timely suggestions in reference to fighting apple borers:

1. *Preventing the Laying of Eggs.*—This is best accomplished by washing the trunk and the larger branches of the tree three or four times in summer, with a strong solution of soft soap, to which has been added a little crude carbolic acid. The soil should be evenly smoothed down about the base of the tree, so that the mixture may reach the lower portion of the trunk where the round-headed borer is apt to lay its eggs. Washing soda added to the soft soap, until the whole is of the consistency of thick paint, is also thought to make an excellent wash for repelling the beetles. In Ontario the first application should be made early in June or about the middle of May, and succeeding applications at intervals of about three weeks.

2. *Destroying Eggs and Larvæ.*—This should be done in August, September, and October. By a careful examination of the trees during this time the eggs and young larvæ may be detected, and by the judicious use of a knife they may easily be killed. If the ground is smoothed off about the young trees early in the season the insects in the lower part of the trunk are more readily reached; or an excellent way is to compel the beetles to lay their eggs where they can be easily reached, by mounding the bases of the trees either with sand, which is best as it does not crack open and allow the beetle to deposit below the surface, or with ordinary soil. According to Hon. J. W. Robinson, for many years a successful orchardist in Central Illinois, one man can usually examine and kill all eggs or borers in five hundred or more trees per day.

SIMON OR APRICOT PLUM.—*PRUNUS SIMONI*.

SOMETHING like a dozen years ago this fruit began to be talked about in North America, although it did not gain any notoriety until six or seven years ago. It had been introduced from France, where it was first described under its present name and with an admirable colored plate, in 1872, by Carrière, in the *Revue Horticole*. I do not know when the fruit reached Europe, but it could not have been introduced long prior to 1872. It was named for Eugene Simon, who sent pits to the Paris Museum while he was representing the French Government in China. It is probably native to China, although Hemsley, in his recent *Flora of China*, does not mention it; but this author evidently adopts Maximowicz's opinion that it is indistinguishable from the nectarine and does not regard it worth distinct

discussion. It was disseminated by Simon Brothers at Metz, in Alsace, and by Thibaut & Keteleer, at Sceaux, France.

Prunus Simoni began to fruit in this country about 1885 or 1886. I fruited it in 1886. The fruit was also figured and described in *The Rural New Yorker* in October, 1886. The fruit, which is shown about three-fourth's size in the engraving, is flattened longitudinally, marked with a deep step cavity and a very prominent suture, and is borne upon a very short stem. The color is very intense and striking, being a glowing dark red, slightly mottled with lighter shades. The flesh is yellow, hard, and clings tightly to the somewhat apricot-like pit. The flavor in all the specimens which I have tasted is very disagreeable, being mawkish bitter, and leaving a pronounced bitter almond taste in the mouth. I have never tried a specimen which I could say was edible, and this is an unwilling confession because the fruit is exceedingly attractive to look upon. Other persons appear to have had pleasanter experience with these fruits, for I occasionally read of favorable, or at least only indifferent, comments upon their quality. It is said that its bitterness passes away in cooking, although my experience in this direction has not been re-assuring.

But there are other demerits in this plant besides its mawkish-bitter fruits. It is not a productive tree so far as I have observed, and I have seen it in many different plantations. It bears young but the fruiting is not profuse. Many of the fruits are borne upon spurs upon the old wood, and they are often found well down to the base of the leaf-bearing portions of the top.

The two transcendent merits of the fruit of *Prunus Simoni* are the very

handsome shape and color, and its long keeping qualities consequent upon its hard flesh. Ripe fruits will ordinarily keep a week or ten days in good condition. And, aside from these merits, the tree appears to be as hardy as the common plums. But it blooms early and is often caught by late frosts. Professor Budd recently speaks of it as follows in Iowa: "Fruit large to very large, red in color, and is shaped much like a smooth tomato. Its fault is in the way of too early blossoming. It will pay to grow this fine fruit by laying down in winter, as recommended for the peach. This tree is not fully hardy at Ames without winter protection.

The fruit of *Prunus Simoni* ripens with the early peaches. The fruit often drops before it is fully ripe and it frequently rots on the tree. Although it is apparently less liable to attacks of curculio than peaches and plums, it is not exempt from such injury, as it is often said to be.

Prunus Simoni is a wholly distinct species from any other stone fruit. It is not a hybrid between the plum and apricot, as some have supposed. Botanically it probably belongs to the peach section of the genus *prunus*, although it is more plum than peach in character of fruit and habit of tree.—L. H. BAILEY, *Cornell University Experimental Station.*

PRUNING FRUIT TREES.

No time of the year is more suitable for the pruning of fruit trees than directly after the fall of the leaf. Where summer pruning has been judiciously performed very little will be required to be removed. The summer pruning of apples and pears is intended to obviate the barbarous system of mutilating the trees once a year—viz., in the winter. There are very few gardeners who leave the pruning of fruit trees until late in the winter, because, besides being a very uncomfortable operation then, late pruning has a detrimental effect upon both trees and crops. The pruning of fruit trees, principally apples and pears, consists in removing all portions of the shoots that are not wanted so that the tree may throw its strength into developing the shoots you wish to remain. If the spurs of the tree have been duly pinched in during summer, another growth from each portion that was left has been formed, and it will therefore be necessary to cut the portion left in the summer to within one or two eyes of the preceding year's growth, according to fancy or strength of the respective buds. Gooseberry and black currant shoots should be thinned out when required, and red currants should be spurred. Some cherries require spur-pruning, but the Morello does better on walls if the young shoots are laid on annually and some of the older branches cut short.—Hort. (Eng.) Times.

Too much water while the plants are in too low a temperature is frequently the cause of the buds of fuchsias falling off.

WEEPING TREES.



I HAVE frequently been asked whether weeping trees were, or were not, made by inserting grafts or buds top downwards, and I have often heard it asserted (although not lately), that that was the way weepers are made. During the past few years I have been afforded considerable amusement watching experiments by a person who has on his lawn a tree which, when planted, was a weeping mountain ash. After the sapsuckers girdled the trunk, the fairly good sized head died and was taken off. A vigorous upright shoot came out from near the root, and in course of time it grew to be quite a tree which showed no indication to weep. Not understanding the cause of this phenomenon the owner drove tent pegs into the ground, bent down the branches and with cords fastened them to the pegs, thus making the tree have somewhat the appearance of a weeper. Last year, however, all the young shoots inclined to upright growth, and now the tree is in the shape of a round crowned hat, with an up turned rim.

On a lawn, not far from this tree, grows another (so called) weeping mountain ash, with stem or trunk only six feet high. The straggling trailing branches about twenty feet long, and propped up with crotched sticks, forming altogether a very distasteful object.

Similar instances are not at all uncommon. Whoever will have artificial weepers, should procure only such as have suitable stems or trunks. For the mountain ash the trunk should be not less than twelve feet long. For elms and poplars the trunk should be longer. I have noticed that on dry land, all the willows are short lived. I used to think they were not hardy enough. They require moisture throughout the summer. When on Wolfe Island last summer I observed a number of magnificent specimens of the common weeping willow (*Salix Babylonica*), tall trees with long, slender pendulous branches, far exceeding in beauty any artificial weeping willow I had ever seen. They are nearly all growing either by the sides of streams, pools or inlets, or near the lake shore, where their roots could reach the water.

The various kinds of weeping birch thrive well on either dry or wet land. When planted on dry ground they soon send down roots to where moisture is obtained, and I have seen good specimens growing on land too wet for many other trees. They expand their beautiful glossy leaves very early and retain them late in the season, and with their silvery bark and graceful form, are particularly attractive. Moreover, they are hardy enough to stand in any climate where trees grow.

The weeping beeches, also, do best on their own trunks. There are a

number of weepers with which I have but little experience. I know the Laburnum does not endure this climate. I tried the Dogwood, it was killed down to snow level the first winter. The Hawthorn is not a thrifty grower. I do not know the Pea-tree.

Perhaps some of your readers will kindly furnish us information regarding the Filbert, and the Hornbean; no doubt they are hardy enough for this part of the country.

Cataraqui.

D. NICOL.

TABLE FOR SORTING BEANS.

All beans before they go into the hands of the consumer are supposed to have been hand picked—that is, carefully looked over and all the spotted, injured, and slit ones removed. This operation is usually done while in the hands of the grower. It is a slow, tedious operation, as some years the beans are so badly damaged in the field that it takes a very active person to carefully hand-pick four bushels in ten hours' time, while with a crop secured in good condition four times that amount is fitted for market in the time mentioned. In either case it is very tiresome work, especially with the plan usually followed, whereas by the use of a sorting table the labor is greatly lessened.

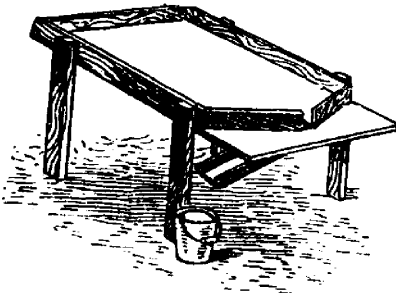


FIG. 568.

A good contrivance consists of two boards, one foot in width and three feet in length, nailed together and provided with four legs nailed firmly in position at the point shown. Those in front are three inches shorter than those in the rear. A light railing, two inches high is placed around the edge and brought to nearly a point in front. At this place a hole is cut through the boards, and the marketable beans, as fast as they are

looked over, are allowed to fall through this opening into a spout and thence a pail, basket or other receptacle. The damaged beans, of course, are removed from the good ones, and placed in a separate basket, which should be conveniently located, one upon each side of the table, as an expert always picks with both hands.—American Agriculturist.

ONION seed is gathered when the heads are matured but before the seed begins to fall. The heads should be cut off and placed in a sack or laid on a cloth and carried to an airy loft or vacant room where they can be spread out thin on a cloth or sheet and be left for some time to dry. When quite dry the seed can be beaten out.

THE BLACK APHIS OF THE PEACH.



Ll. growers of the peach, both nurserymen and orchardists, have reason to be on the lookout for this new pest. It is very common in the peach sections of New Jersey, Maryland, Delaware and Virginia, and is said to come next to the yellows in destructiveness, having ruined in one nursery some 100,000 young trees in about three weeks. It has been introduced into Niagara County, State of New York, on trees imported from Delaware. This aphid feeds on the roots and swelling buds and young twigs and leaves. Often it does not appear in any considerable number on the tree, but works on the roots, stunting the trees, and causing the leaves to turn a sickly, yellowish-green color.

Also it has two forms: one without wings, which is the more common form, the other with four wings.

The one without wings is nearly one-tenth of an inch long; color, a dark shining brownish-black, parts of the legs yellowish. The winged form is more slender and a little longer: the antennæ are longer, and the wings transparent. All of these that have as yet been found are females, neither males nor eggs discovered. These females of both forms give birth to other females, which in turn give birth to more females, and thus keep up a succession of female breeders. Doubtless there is a period in their life history when males appear, but how many generations of female breeders intervene is not yet known. It is only the winged form that works on the roots, there they multiply and are to be found at all seasons, but some of them come out when the buds begin to swell, and by means of their wings fly to other trees and to neighboring orchards.

This pest in both forms feeds by suction, being provided with a beak and fine bristles or setæ with which it penetrates the tissues and sucks up the sap. Therefore they cannot be killed by spraying with poisons that must be taken into the alimentary system. Spraying with kerosene emulsion, diluted with ten parts of rain water, or a strong decoction of tobacco, say five pounds of stems steeped in three gallons of water for three hours, diluted to seven gallons, will kill those on the branches. Spraying should be done early in the season, for the aphid begins its work as soon as the buds swell. But this will not destroy those on the roots. No experiments have come to the writer's knowledge made for the purpose of killing those on the roots. It is suggested by Mr. Sling-

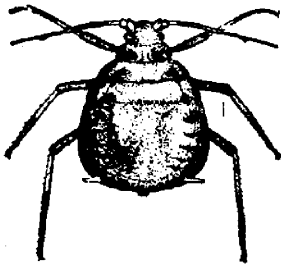


FIG. 569. - WINGLESS FEMALE
MAGNIFIED.

erland, of the Cornell University Experiment Station, in Bulletin 49, to whom we are indebted for the above facts, that possibly a very liberal application of kerosene emulsion just before or during a rain might result favorably, such an application having proved efficient in exterminating a species of white grub from the lawns about the Capitol at Washington.

Purchasers of peach trees, especially if from infected districts, are advised to dip every tree, root and branch, in the diluted kerosene emulsion immediately on arrival,

letting it remain in it for three minutes. This, it is believed, would destroy any of the aphids that might be upon any part of the tree.

Will it not be advisable to place upon our Statute Book a law similar to that of California, which requires all trees, plants, cuttings, grafts, buds, seeds, pits and scions coming into the State to be disinfected on arrival, which is done by fumigating them with hydrocyanic gas.

Toronto, Ont.

D. W. BEADLE.

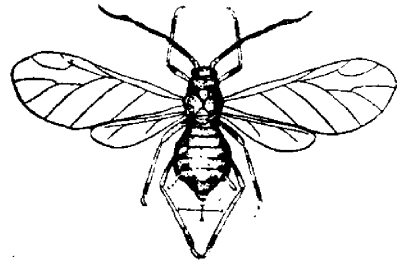


FIG. 570.—WINGED FEMALE MAGNIFIED.

A Hint Worth Remembering.—The owners of geraniums, coleus plants, etc., who are in the habit of picking them for bouquets should understand a little point which is too often overlooked. The practice of simply picking the leaves is a pernicious one, for it induces the plant to grow in a spindling manner, producing few leaves and long ungainly stalks that destroy the utility of the plant and its beauty in one operation. The true way is to generously break off a large end of the branch or shoot three or four inches from its terminus, when new sprouts will at once start out and take its place, and the plant will preserve a bushy appearance, producing a luxuriance of foliage which is very grateful to the owner. The best results, however, cannot be obtained with these plants more than with those of any other variety, unless the ground is kept exceedingly fertile. Do not be afraid to fertilize it in every possible way. For this purpose phosphates, ashes, soot, bones and scraps from the table, and even the dishwater, water from the washing, etc., containing the soap suds, is of great benefit.—Farm and Home.

THE apple tree borer can be destroyed in the following simple, cheap and easy manner. Pour spirits of turpentine into the hole, which may be done with a teaspoon or a small oil-can. If the borer works up, take a piece of wire and run it up to the top of the hole; then with a knife cut through the bark and throw in more turpentine. This will kill the borer every time without harm to the tree.—SYLVESTER BURRELL, Ulster County, N. Y.

HANDLING APPLES FOR EXPORTATION.



WILL give you my ideas and methods, which are based on the experience of many years of active practical life in the orchard, and I hope that what I shall write may induce some others to take up the subject and give their methods and experience, so that we may finally get at the best and most economical method of placing our apple crop on the markets of the world.

I start with the idea that fruit should be handled as carefully and as little as possible, and so packed that it cannot move in the package until it is taken out for consumption. To this end we must be provided with proper tools, viz., baskets, ladders and sorting table, also packages and packing material. Baskets of light ash or oak splits with swinging bails, holding about half a bushel, are best, and should be lined with blanket or other thick woollen material, and have a hook made of 5-16 inch iron, tied securely to the bail, to hang it to a branch or the round of the ladder when picking.

Ladders—Are made of light spruce poles cut at midsummer and peeled. Bored for the bottom rounds with an inch bit, the middle $\frac{7}{8}$ -inch and the upper $\frac{3}{4}$ -inch, then ripped in two and seasoned under cover. Rounds are made of seasoned white maple, lower one 2 $\frac{1}{2}$ feet, upper 8 inches; the sides are brought together above the upper round and secured with two or three clinch nails. They are made of different lengths, and are very light and strong.

Sorting Table.—This is made of $\frac{1}{2}$ -inch pine, on a light frame well braced. It is about 3 $\frac{1}{2}$ by 7 feet with a 4-inch rim around the edge; the legs at one end are short and attached to a long axled wheelbarrow wheel. The others are well spread at the bottom to make the table steady, a pair of handles provided to move it by, and a common, coarse grey blanket is spread on the table when in use.

Package.—We always use the barrel, and get the best made, neatest and tightest dry barrel in the market, of full flour size. We try to lay these in early, so that at odd times we may prepare them for use by nailing on the bilge hoops, nailing in the heads and taking out the bottoms, but leaving them in the barrel. We also lay in a stock of good white or manilla paper, cut in sheets 18 inches square (round would be better), and a lot of excelsior shavings, finest grade.

On commencing to pick, the sorting table is wheeled near, but not under, the tree, the blanket spread on it, and a bit of board or plank laid on the ground alongside to stand the barrels on. As the pickers fill their baskets they are carefully emptied on the table, and the packer, after placing a thin layer of excelsior in the barrel, puts a sheet of paper over it, and then "faces" the barrel by laying the first layer of apples, stem down, until the layer is full, then filling the barrel with the same grade directly from the table, occasionally giving the

barrel a gentle shake to settle the fruit into place, and when full the bottom is slipped in without pressure, wrong side out, name and quality written on it with a lumber pencil. Three grades or sizes are usually made, called extra, choice, and medium, and all apples that fall on the ground either before or during picking, are put into barrels by themselves, and set away for future examination, as they cannot be depended on for keeping.

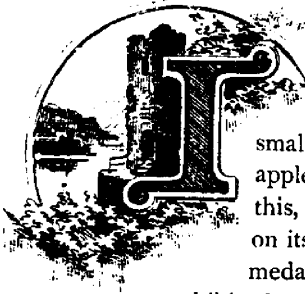
When the barrels are filled, they are taken to the fruit room and stored on end, head down as filled, until wanted for market, when the bottom is taken out, the barrel filled as full as we think safe, a cushioned head is then laid on, and a man, seizing the chime by both hands and laying his fore arms on the head, rocks the barrel back and forth on the floor to shake the apples into place, and fill any shrinkage that may have occurred; then a sheet of paper is laid on the fruit and excelsior is spread on; the bottom is pressed in (right side up this time) and securely nailed. The barrel is now turned over and stenciled with name and quality of the fruit and grower's name and address, and it is ready for shipment. The reasons for turning the bottom at first are to give more room in the barrel and to prevent disfigurement by the packers' marks, which are turned inside and so out of sight.

We use excelsior on the ends, both as a protection against bruising and as a material that will absorb the moisture exhaled by the fruit and swell, so as in a measure to fill the shrinkage and keep the package full. It is clean and sweet and does not head or develop blue mould as chaff or straw is liable to do, while the quantity used is so small that practically it makes no difference in the weight of fruit in the barrel.

Experience has taught us to distrust the keeping qualities of any apple that has lain on the ground over night, consequently they are kept apart, and usually put up for local markets as a separate grade. Our principal market is London, and the freight and other expenses are from 5s. to 5s. 6d. per barrel, and we find that a very few *spotted* apples in a barrel or a slight *slackness*, as it is called, when the fruit is found to move in the package when shaken, will cut the price from 20 to 50 per cent. below the market. This being the case, the importance of this subject can be easily estimated.—R. W. S., in Country Gentleman.

BEANS should be picked just as the berry begins to form and before it is perceptible. The universal complaint is that beans are too large. Spread in a cool dry place until thoroughly dry and cool. Pack in a regular vegetable crate, square or octagon—either will do. Settle carefully in filling, using a slight pressure, as the contents will shrink moderately in transit. The round bean sells much better than the flat variety and the wax bean generally higher than either, though the market will not consume near as many of the latter. The flat (Early Mohawk) is the earliest and most valuable on this account. The Valentine or round bean is tenderer and less stringy and sells higher. Pack in one-third bushel boxes. In packing exclude all the moisture possible and let them be as cool and dry as circumstances will permit.

NOTES FROM THE WORLD'S FAIR—IV.



The Judging.

It would be obviously impossible to deal with a great Exhibition like this as we would with a small country show, where plates of a single variety of apple compete for the first or second prize. Instead of this, each exhibit by a State or individual is to be judged on its own merits, without reference to any other. The medals are valuable works of art, given only where the exhibit shows a certain number of points of merit, while the points upon which the award is made are engrossed in an accompanying diploma. The Canadian judge in Horticulture is Mr. Starratt, of Nova Scotia, and the American, so far appointed, are Mr. Babcock, of Arkansas, Mr. Charles Garfield, of Michigan and Mr. Warder of Ohio.

Canada's Vegetable Exhibit attracts a great deal of attention. Nearly two hundred varieties of potatoes, besides numerous varieties of beets, turnips, mangolds, carrots, etc., in enormous piles, proved to the astonished gaze of the foreigners that Canada has a fertile and productive soil. In the centre is a table groaning under an enormous load of pickles and canned goods, over which the word **CANADA** stands pre-eminent. The writer has entrusted the care of this court largely to the assistant superintendent, Mr. M. C. Swanson, of Goderich, Ont.

The judge to whom the work of judging this exhibit was assigned, is Mr. Warder, of Ohio, son of the late Dr. Warder, of pomological fame. He was much pleased with the remarkable character of the exhibit, and we feel assured that it will receive full justice at his hands.

Prof. L. H. Bailey, of Cornell University, has written a good notice of Canada's vegetable exhibit in the Garden and Forest of June 21st, and it will be of so much interest to Canadians to read his remarks that we quote them in full:

"In stored vegetables Canada makes the only noteworthy exhibit. This Canadian show is remarkable because of the great territory concerned, contributions coming from Assiniboia and Manitoba to Prince Edward Island. These exhibits are made under the auspices of the provinces of Ontario, Quebec, Prince Edward Island, the Experiment Stations and the Department of Indian Affairs. These vegetables have been kept in cold storage, and include such things as potatoes, beets, carrots and turnips. The display is really a very large one, and is well disposed upon a series of rising shelves in the north end of the Horticultural Building. Ontario shows 182 plates and 86 varieties of potatoes, 22 varieties of turnips, all the leading field and table carrots, table beets in variety, sugar beets, mangolds, extra good winter radishes, parsnips and onions. In all the potato exhibits the predominance of varieties of more recent intro-

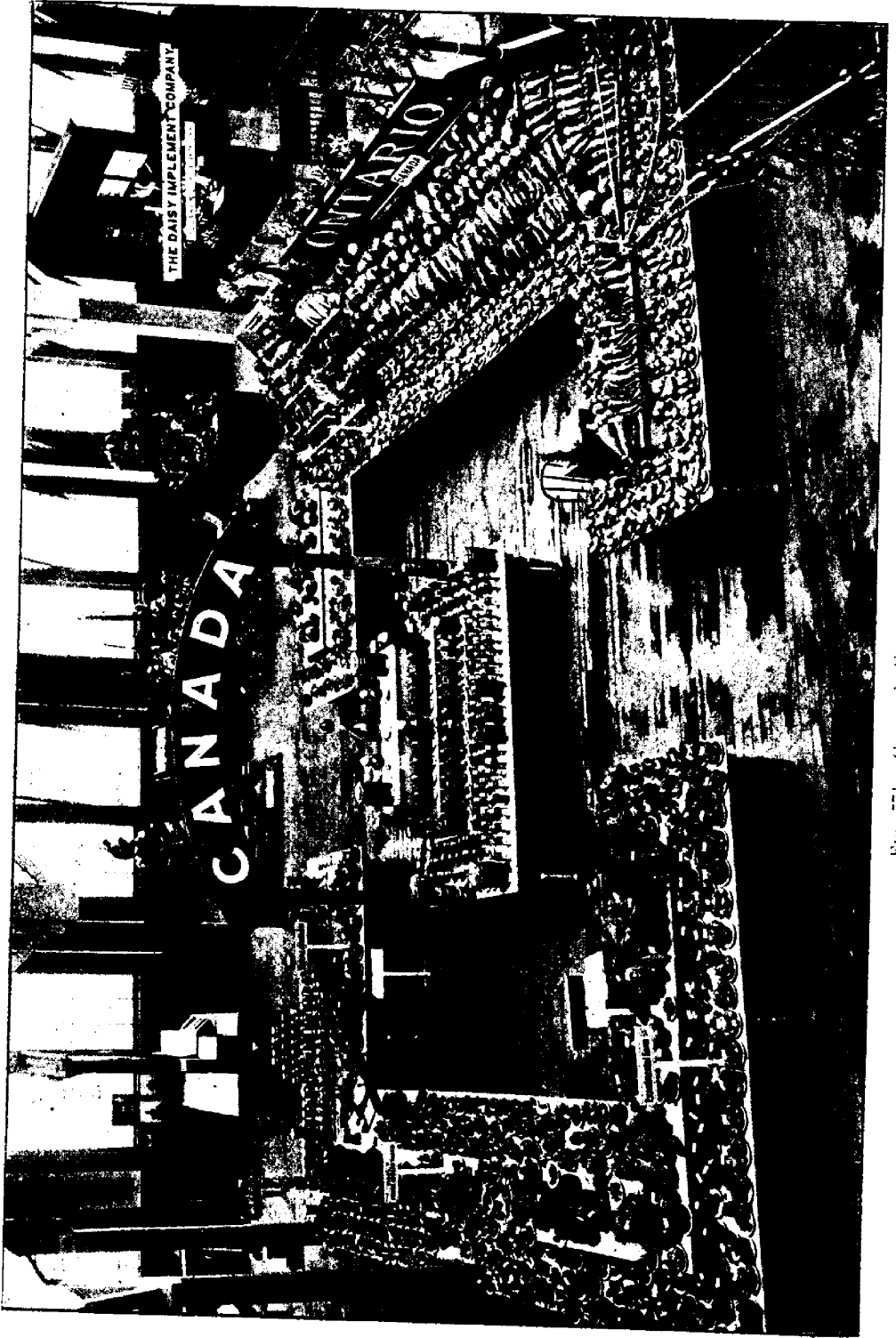


FIG. 57L.—CANADA'S VEGETABLE EXHIBIT.

duction than the Early Rose is noticeable, showing that the commercial life of varieties of potatoes is not of long duration. Prince Edward Island shows but 8 varieties of potatoes, 16 other kinds, which were shipped for exhibition, having been accidentally lost. Here the Empire State seems to be the leading variety. This province shows of carrots 6 varieties, of turnips 4, of beets 3, with mangolds, parsnips and kohlrabi. Quebec lost much of its exhibit, but now has 5 varieties of potatoes, 3 of carrots, 2 of turnips and 1 of parsnips.

The Experiment Station displays for Canada fall under four general heads: the show of the Central Experimental Farm at Ottawa, and of the branch stations at Nappan, in Nova Scotia; Brandon, in Manitoba, and Indian Head, in Assiniboia. The exhibits from the branch stations—at least from Nappan and Indian Head—are collected from various farmers as well as from the experiment farms themselves. The Central Experimental Farm now has on exhibition 14 named varieties of potatoes, and 76 unnamed seedlings, the latter being unusually promising; also several varieties of carrots, onions, beets, mangolds and parsnips. From Brandon, Manitoba, there are 29 sorts of potatoes, with other roots. Very striking potatoes in this exhibit are two local seedlings—Village Blacksmith, a medium-sized, white, very scaly tuber, and Rock, a very firm, white variety. These are judged to be valuable potatoes for Manitoba. The displays from the North-West Territory (Assiniboia) are an astonishment to most observers. The products are shown in great variety, and they are usually very large. A tuber of the Man potato on exhibition weighs four and a quarter pounds. This and other varieties exhibit the same tendency to large size which is shown in tubers from Idaho and other parts of our north-west. From the station at Indian Head alone there are 70 varieties of potatoes, while no less than ten other villages are well represented in potatoes and roots. Indian Head has a large collection of turnips, beets, carrots, with kohlrabi and other vegetables. It was a happy and most effective thought on the part of the Canadians to show these excellent products of its almost boundless north-western territory.

Nova Scotia and New Brunswick are represented by collections made by the Experimental Farm at Nappan. Nova Scotia has 8 varieties of potatoes, 3 each of turnips, beets and carrots, with some mangolds. New Brunswick is represented by products obtained from its farmers, in 21 varieties of potatoes, with onions and various roots.

One of the most interesting of the Canadian displays is a collection from the Department of Indian Affairs, showing 10 varieties of potatoes, various carrots, turnips, onions from seeds, tops and potato-onions, and mangolds, grown by Indians in reservations in Ontario. Some of them were grown by chiefs. Six hundred pounds of vegetables were contributed by these Indians; and there are also a dozen varieties of apples of their raising shown in the fruit-exhibit.

Altogether, the visitor is impressed with the adaptability of the Canadian provinces to the growing of potatoes and roots, both for human food and for the support of animals."

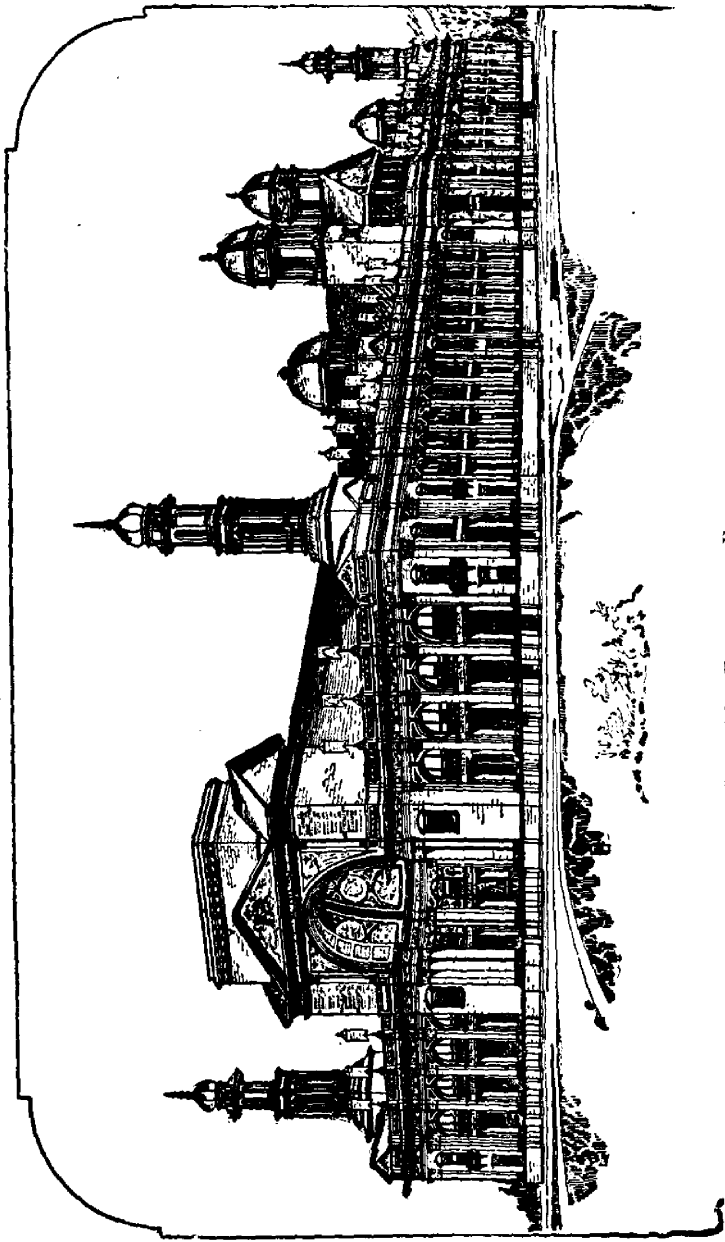


FIG. 572.—ELECTRICAL BUILDING.

Among the apples of 1892, the most prominent variety shown by the States of Idaho, Washington and Oregon, is the Ben Davis; and no wonder, so superior is this apple in size and beauty as grown under irrigation to the same apple as grown in Canada. Even its insipidity of flavor is less apparent than it is with the same apple grown with us. Surely the advantages of irrigation are wonderful.

The Willow Twig, an apple little grown in Canada, which has a peculiar nutty flavor, succeeds wonderfully in Delta County, Colorado, and in the State of Iowa. Mr. C. L. Watrons, of Iowa, showed magnificent samples, which had been kept over in cold storage since 1891, a testimony to the good keeping quality of this variety.

July 1st.—Dominion Day was heartily celebrated by Canadians at the World's Fair. The Military Band and Guard from England, which has been giving tournaments in the city, escorted us in a large procession to Festival Hall, where the Union Jack was prominent, and patriotic speeches in both English and French aroused the utmost enthusiasm; interspersed with patriotic airs rendered by the band in the most artistic style. Mayor Harrison, of Chicago, overstepped the line of courtesy in pointing out the future of Canada as a part of the glorious American Republic; but Commissioner Larke's reply was most appropriate. He pictured Miss Canada as being wooed by Mayor Harrison, but declining to be won, and saying significantly for his comfort that "she would be a sister to him." Another happy hit was in answer to the Mayor's point that the destiny of two such nations lying side by side with similar interests was eventual union, Mr. Larke reminded him of the axiom that "parallels never meet."

Altogether, the celebration was a happy one, and will be long remembered by all present.

July 4th.—This great national holiday of the United States quickly succeeds our own, and differs little from a similar celebration at home. The "small boy's" fire-crackers sound just as irksome, and the larger bombs are just as startling as they are in Toronto or Hamilton. The evening fireworks were magnificent, especially the set pieces such as showed "President Cleveland and the Stars and Stripes." The Canadian Courts are all well decorated with Union Jacks and with Canadian flags, but on this day Miss Canada paid her respects to Uncle Sam by investing about \$200 in Stars and Stripes, and hoisting one such flag in each Court in the most conspicuous spot possible. This was a proof of our friendly spirit toward the American nation, and the courtesy was heartily appreciated and most favorably commented upon in the Chicago dailies.

The grand illuminations all seem to pale in comparison with the display in the Electrical Building, where may be seen the most novel and brilliant exhibit in the whole Exposition. The building itself is very fine, and cost about \$375,000, but the exhibits are marvellous. Cooking by electricity, lightning used as a plaything, electric motors, the telantograph, which must soon displace the telegraph, and brilliant displays of every kind, all tend to make this building one of the most delightful on the grounds. Who knows but that very soon we may not only do all our cooking by electricity, but all our plowing and drawing of heavy loads, thus saving the heavy expenses of keeping horses.

THE PEACH TREE BORER.

(Ægeria exitiosa.)



THESE gay moths (fig. 573), resembling wasps in appearance, come forth in July, August and September. I have hatched them in all of these months. They soon pair and then the egg-laying commences. The eggs are laid just at the base of the trunk. Soon after the whitish larvæ will be found, as they have commenced boring in the bark and sapwood just beneath the surface of the ground. Wherever they work, just beneath the earth will be found a sticky mass formed of the oozing gum and their chip-dust, which gives quick indication of their presence. These larvæ are found of varying sizes, which is easily understood from the fact of the length of time at which the moths come forth, from July to September. These larvæ will be found at work till about the first week of July, when we will often only find pupæ encased in a rough cocoon of chip-dust, earth and gum. By seeking out these oval cocoons anyone may, by keeping them in earth in a close box, rear the beautiful moths. The female (1, Fig. 573) is larger, darker than the male, and has a bright, yellow band across her abdomen. The male (2, Fig. 573) expands about an inch. In hatching a large number I have found that the ratio of males to females is about one to five, which would seem to indicate that polygamy reigned among insects. In pushing out of their cocoon, the pupa-skin is always left projecting from the opening. Perhaps the split cocoon serves them as a vice, thus aiding them to gain their freedom.

This is a most destructive insect when allowed to increase for a few years without molestation, and their multiplication should be prevented by all possible means. The eggs are deposited in the summer on the base of the trunk near the collar, where the bark is soft. There they are hatched, and bore their way under the bark of the tree, either in the stem or roots, or both, producing an effusion of gum.

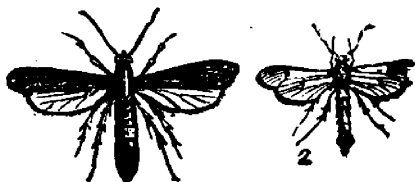


FIG. 573. —1, FEMALE ; 2, MALE.

REMEDY 1, *Mounding*.—Bank up the soil firmly around the stem eight to twelve inches directly after blooming, taking it away in the middle of the following August, and trace the grub through its holes in the tree and kill it ; then place a shovelful or two of wood ashes around the base. Wood ashes or slaked lime may be applied every spring, and at the end of summer may be scattered about the tree, either of these articles forming an excellent dressing for the peach.

Judge J. G. Ramsdell, so well and favorably known as a pomologist, tells

me of a new method of mounding, which is without the usual objections, and he claims a great saving of labor. He hooks tins around the trees—the same used to keep the cut worm at bay. He fills in between them and the tree with earth. This is done about the first week of July, after the cut worms have ceased work, and in time for the first eggs of the borer. In September he removes the tins and destroys the caterpillars, which can be done with far less labor than when we have to dig them from beneath the earth at its usual level.

REMEDY 2, *Digging out the Borer*.—The best method, and, I believe, a cheaper than the above, is to dig them out in the fall, the last of September. The oozing gum leads to their quick detection, when they can be easily crushed. Our best pomologists, for fear some wee depredators escaped detection, go over the trees again in May. This is not a tedious process and should never be neglected. I have seen whole orchards languishing, and many trees killed outright, by neglect to destroy these hateful borers. Such neglect in case of a fruit so rare, so delicious, and so profitable wherever it can be successfully grown, is unvenial.

REMEDY 3.—Secretary Bateham, of Ohio, tells me that washing the base of the trees with the following compound is an effectual preventive, and he thinks the cheapest: Thin one quart of soft soap with water, heat this to nearly the boiling temperature, then add one ounce carbolic acid in crystallized form. When cool, add ten times its bulk of water. Apply in July with brush to the base of the tree. This prevents egg-laying.—P. C. LEWIS.

ESTIMATE OF CROPS IN ONTARIO.

The estimate below was published by an American exchange, under date of the 15th of July.

| COUNTY. | Cherries. | Blackberries. | Red Raspberries. | Blackcaps. | Huckleberries. | Blueberries. | Cranberries. | Currants. | Gooseberries. | Plums. | Early Apples. | Late Apples. | Peaches. | Early Pears. | Late Pears. | Quinces. | Grape. | Apricots. | Oranges. | Lemons. | Melons. | Tomatoes. | Chestnuts. | Hazelnuts. | Walnuts. | Shipped per cent. | Outlook. | |
|---------------|-----------|---------------|------------------|------------|----------------|--------------|--------------|-----------|---------------|--------|---------------|--------------|----------|--------------|-------------|----------|--------|-----------|----------|---------|---------|-----------|------------|------------|----------|-------------------|----------|------|
| Brant | 59 | 93 | 95 | 89 | | | | 94 | 88 | 88 | 50 | 40 | 75 | 51 | 67 | | 109 | | | | 75 | 100 | | | | 56 | Fair | |
| E. Northumb'd | 25 | 100 | 100 | 100 | | | | 75 | 50 | 50 | 75 | 23 | 50 | 25 | | | 75 | | | | | | | | | 90 | Poor | |
| Halton | 45 | 100 | 15 | 16 | | | | 84 | 80 | 90 | 77 | 29 | 75 | 37 | 15 | | 100 | 50 | | | 100 | 100 | | | | 99 | Fair | |
| Hastings | 100 | 100 | 100 | 100 | | | | 80 | 80 | | 80 | 80 | | | | | | | | | | | | | | 90 | Poor | |
| Huron | 50 | | 80 | 80 | | | | 50 | 75 | 70 | 60 | 50 | | 60 | 60 | | 60 | | | | | 80 | | | | 30 | Fair | |
| Lincoln | 60 | 90 | 90 | 90 | | | | 80 | 87 | 64 | 75 | 40 | 74 | 75 | 75 | | 60 | 70 | | | 70 | 70 | | | | 77 | Good | |
| Muskoka | | 100 | 100 | 100 | 100 | 50 | | 50 | 50 | | 50 | | | | | | | | | | | | | | | | 60 | Good |
| Perth | 75 | | 90 | 40 | | | | 80 | 90 | 80 | 60 | 50 | | 50 | 65 | | | | | | | | | | | | 50 | Good |
| Peterboro | | 100 | 100 | 100 | 100 | | | 100 | 100 | 100 | 75 | 75 | | | | | | | | | | | | | | | 25 | Fair |
| Prince Edward | 57 | 99 | 95 | 99 | | 100 | | 83 | 80 | 85 | 50 | 83 | | 50 | 62 | | 90 | | | | 70 | 95 | | | | 83 | Good | |
| Victoria | | 75 | 100 | 100 | | | | 100 | 100 | 60 | 80 | 40 | | 10 | 20 | | 100 | | | | 100 | 100 | | 100 | | | 25 | Fair |
| Wellington | 10 | 25 | 90 | | 95 | | | 50 | 50 | 10 | 15 | 15 | | 5 | 25 | | | | | | | | | | | | 75 | Poor |
| Wentworth | 50 | 85 | 90 | | | | | 90 | 100 | 75 | 100 | 25 | 100 | 50 | 30 | 100 | 75 | | | | | | | | | | 75 | Fair |
| York | 77 | 90 | 90 | 90 | | | 87 | 87 | 75 | 75 | 65 | | 90 | 77 | 77 | | 80 | 88 | | | | 100 | | | | | 75 | Fair |
| Average | 49 | 87 | 86 | 89 | 98 | 100 | 50 | 80 | 75 | 71 | 66 | 48 | 82 | 49 | 51 | 80 | 80 | 60 | | | 83 | 92 | | 100 | 67 | | | |

↗ The Garden and Lawn. ↖

LAYING OUT HOME GROUNDS.



HIS higher practice of the profession of landscape gardening should begin with the selection of the site upon which the home is to be located, as the landscape gardener, in consultation with his client, not only learns his wishes concerning the form and location of the house, but also discovers his tastes and requirements respecting the whole estate, and can wisely determine the amount of land necessary and the respective advantages and disadvantages of different sites in the same neighborhood, thus by his trained judgment saving his client from much needless expense—and often disappointment—in the completed place. In most towns the pieces of land combining the greatest possibilities for the making of an original, interesting and often unique place are very likely the longest neglected, because their picturesque natural advantages, or irregular surface, will not lend themselves readily to the smoothing out process which most land undergoes under treatment by the real estate agent and land surveyor and the unskilled professor of landscape gardening. Many such sites are to be found within easy reach of railway stations and at low valuation.

In the selection of land healthfulness should be one of the first considerations. Well drained land, or that which can be well drained, preferably a porous, sandy or gravelly soil, should be chosen. Good sanitary conditions in the neighborhood are as important as good drainage. If in a thickly settled district, the ground may be saturated from leaking cess-pools. Rubbish collections, barnyards, sink-drains or cess pools should be investigated, and the purity of the water supply should be assured. A pleasing outlook is a desirable feature. A steep slope toward or away from the road is expensive to build upon, but may be slightly and cool in the summer, and warm in the winter if on the right side of the hill. A gentle slope either toward or from the road may, if properly managed, prove very eligible. Ledges, boulders, well-grown native trees or groups of them give character to an estate.

The success of a new place depends much upon the cordial co-operation of the house architect with the landscape architect ; much depends upon the proper fitting of the house to the grounds—in character, outline and elevation—by the former, and proper arrangement of roads, walks and vegetation with reference to the house, by the latter.

The character of the place having been determined, the location of the house and arrangement of the grounds are next to be considered. The house will be located with reference to views, exposure, the sub-division of the grounds, the surrounding buildings and the approaches, all which points should be studied before the house site can be determined.

Roads and walks are essential to secure convenient and comfortable access to the buildings and grounds, and are more important than fine views from the windows ; but they are not in themselves objects of beauty, and should be limited to the real needs of the place, and be inconspicuously located. They should be thoroughly constructed, with easy grades—about one foot in fifteen feet in roads, and one foot in ten in walks, and graceful curves, if any are necessary. Next the sub divisions of the distinctively home grounds must be considered. These are the lawn, the broadest piece of unbroken surface near the house ; the flat area for tennis and other games ; the flower garden and the vegetable garden, as well as the yards and ground for stable or other accessory buildings. These requirements would include the whole of a village lot, but the principle would apply to home grounds upon a farm or a large estate in the country. On the more extended domain there should be a distinct division between these home grounds, which should be nicely kept and the larger areas devoted to other purposes.

The house location having been determined and its construction commenced the next step is the grading of the grounds. This is an important matter, especially on that part which is not to be planted. A graceful and natural fitting of new surfaces to the old requires some skill. A gently undulating surface and long, gentle slopes are more natural, more pleasing and more easily cared for than short, steep slopes. The latter are seldom seen in nature. Her process is to gradually wear off sharp upper edges and fill it in at the abrupt base, thus in time producing what is called an O. G. curve ; this is what should be imitated in lawn grading. A formal terrace should be distinctly formal, with angles sharply defined and maintained. Very steep, abrupt slopes are sometimes necessary. They can be filled, and held in place with heavy natural boulders, and planted to imitate a similar slope in nature. It is desirable to secure a shallow, turf gutter at the base of a bank sloping toward the road, to prevent the water from flowing on the gravel surface. This water can be intercepted by occasional catch-basins, and carried across the road (if on a side hill) or disposed of by drains.

Where a permanently vigorous growth of plants or constantly fine turf is required, deep trenching and liberal fertilizing are essential. But masses of some native shrubs—barberry, etc.—do not need this treatment.

Drainage and disposal of house waste must be provided for in the original plans, and the work of construction of the place. The tight cesspool—periodically emptied—is the safer method of caring for wastes, in the absence of a public sewer ; but the drainage, even if it is necessary to carry them through an adjoining estate, should be put in for the disposal of surface water.

Planting, while an important part of the work of the landscape architect, is still only the dress and ornament of a place. There are many thousands of species and varieties of hardy plants in common cultivation in the North-eastern

United States. There are four or five thousand species and varieties of woody plants alone offered in American and foreign catalogues, of which three-fourths would probably survive the ordinary winters here in Boston and vicinity. Of these a very large number, known by the landscape architect as valuable for ornamental planting will enable him to produce results and secure effects which cannot possibly be done by a person of more limited knowledge in this direction. While the great variety gives opportunities to produce a much longer season of flower and more interesting winter effects, it is safer to select a few reliably vigorous varieties having good healthy foliage through the season (more of them natives than exotics,) and let them predominate in the planting; then add to the interest—where it comes under more frequent observation—by using a selection of native, exotic or garden forms of woody plants, or hardy perennials. A low border plantation of flowering dogwood, with a few of its red flowered variety, the paniced dogwood, clethra and wild rose—all natives—would give a better result than the same number of exotic varieties, or a many-times increased number of other varieties. If desirable to have more interesting details, large masses of loose-strife, golden-rods, asters, perennial sunflowers and the like would give it, without detracting from the effect of the woody plants.

The use of colored foliage in a lawn planted in a natural way, seldom produce a pleasing result, but we should not say that it cannot be used; still it is more properly a feature of the garden. There is more or less fashion displayed in the planting of a lawn. It would be better if the vagaries of fashion were confined to the garden, and that the lawn should partake more of a bit of landscape, or a grassy glade in the midst of shrubbery or wood. It should have a fringing of green varying in texture, color, and outline, with a frequent glow and constant sparkle of flowers with groups and fine individuals breaking out from the bordering masses, but not interrupting the open centre of the lawn, excepting to increase the appearance of distance. You would expect to use a larger assortment in a lawn than in a distant border plantation, more exotics and more garden varieties, having a variation in flower, but certain reliable varieties should predominate and establish a character for the planting in keeping with the character of the place.

The position of groups on the lawn will be governed by the views and the topography of the ground. In general, elevation will be planted high and depressions low, or not at all, in order to increase their apparent height or depth. The planting would be arranged so that a slope would be away from it rather than toward it. A border plantation having an irregular edge with points and depressions gives more variety, more effects of light and shade, than a straight edge. In selecting plants, take those which will not attain a size too great for their positions. A border plantation should be an irregular mass of foliage rather than a series of individuals. Thick planting will best serve to produce this result by causing a quicker growth, and natural, graceful outline, with less care and culti-

vation. Judicious trimming each year will secure better results than Nature's own work; but be careful not to make a broom-headed shrubbery. If the ground has been thoroughly prepared in the beginning and a good top-dressing given every winter, but little further cultivation will be required, after the plants have grown sufficiently to cover the ground.

Shrubs and small growing trees should predominate in a small place. Large growing trees thus placed, will in time become obstructions. Broad-leaved evergreens, while more expansive are, as a rule, better and more permanent for a winter effect on a small place than coniferous trees. The best plants are those nursery grown. Wild plants of certain varieties, if properly handled, will transplant well and produce good effect; but these require experienced skill, else the result may prove unsatisfactory.

The employment of a trained gardener upon a small or medium-sized place is not practicable. Men offering themselves as gardeners at day laborer's wages are more likely to bring discredit than credit to the profession that requires for success, intelligence, enthusiasm and a true love of the work. A good gardener loves his plants and flowers next to his family, and is as impatient of neglect and bad treatment of the one as of the other. Such a man soon finds and stays in a good position with fair pay. I believe it is safe to say that the majority of those who call themselves gardeners, but who are drifting about, and ready to except a position at any price, are not safe men to have on a place, but can and doubtless would do more damage to it than the proprietor could. For this reason it is better for the owner to employ a willing and industrious man who claims no knowledge of gardening, but will do as he is told and give him directions how to do the work. The errors then made will serve to increase the knowledge and interest of the proprietor and also his man.

In this writing I have had in view especially small or medium-sized home-places. I have hardly touched upon the service a landscape architect may be to the real-estate owner in planning his property to avoid steep grades and heavy cuts and fills; to preserve and develop the natural features; in so arranging the lots that each may be accessible and have as nearly equal advantages as possible; and in planting, to utilize all the material on the grounds; to the village, town or city in designing public recreation grounds; advising in regard to street tree-planting or roadside improvement; to cemeteries in designing the grounds and their decorations; to public amusement resorts in providing a convenient and pleasing arrangement of buildings and grounds laid out in a manner to educate and elevate rather than to degrade public taste. I believe the time is not far distant when the man who is to build a new place, or remodel an old one and who wishes to secure the best and most economical result, will call in the landscape architect to help him plan the ground, as he now calls in the building architect to help him plan the building.—W. H. MANNING, before Mass. Hort. Society.

ABUTILON.



AMONG the most satisfactory house plants we have is the Abutilon, being of good, free growth and bloom, pretty foliage, seldom troubled with insects, handsome flowers, and of the easiest culture; it ranks next to the geranium for the window garden. It likes a light, loamy soil, not too sandy nor too stiff; turfy matter with good garden loam is the best. Of course, good drainage is indispensable with this, as with all other plants. Watering should be thoroughly done, giving enough each time to wet the ball of earth entirely, but do not water too often, so that the soil will be kept in a wet, soggy condition, as soil that is not allowed to dry out will become sour, and so greatly injure the plant. No plant looks well when the foliage is covered with dust, as the leaves are the lungs of the plant, and should be clean and free from dust, by frequent washings and syringings. The blossoms are bell-shaped, pendulous, and grow on long, slender stalks, very graceful in appearance. The colors vary, from red, yellow, reddish-orange, rose, cream, and white. Some varieties are more abundant bloomers than others, yet all are quite satisfactory in that respect, and bloom well in summer or winter. Because of the resemblance of the leaves to the well-known maple leaf, the abutilon is often called the flowering-maple; from the shape of the blossoms it is also called fairy bell. Two and three-year old plants make fine large specimens, from five to six feet high, forming a beautiful object when dotted all over with the long, pendulous blooms, amidst the clear, shining, green foliage, which always is beautiful, even without the blossoms. If short, bushy plants are wanted, pinch of the top when it has grown as high as desired. The laterals will then start, and these in turn should be pinched back also, keeping the eye open with regard to the good shape of the plant. If the plant is preferred in the form of a small tree, allow but one stalk to grow, and no side branches, until it is three feet in height; then pinch out the top of this, when the side branches will grow, until there are as many of them as desired, being careful, however, to preserve a graceful shape to the small tree, and allowing no laterals to grow below two feet from the bottom. Among the best varieties we find:

Beule de Neige, pure white, comparatively dwarf, but strong in growth, and a free bloomer.

Eclipse, scarlet flowers in a yellow calyx; a trailing variety.

Hibiscus, canary color, marked with violet; flowers resembling a Hibiscus.

Thompsonii plena, the only double variety, having reddish-orange flowers with green and gold foliage.

In keeping abutilons over for winter bloom it is best to put them in a cool, shady place during the heat of the summer, not allowing them to bloom any, as they will then have more strength laid up for winter blooming.—GRETA BEVERLY, in Orchard and Garden.

THE VIRGINIA CREEPER.



THE Virginia creeper, *Ampelopsis quinquefolia*, so brilliantly beautiful in woods and gardens until late in autumn, is used for adornment in a variety of ways. Indeed, it is a question whether this hardy, rampant-growing vine cannot in most cases be employed with finer effect away from buildings than against them. There are objections to its use for covering painted wooden houses or verandas, in its inviting decay and refusing to cling readily; while, if employed on brick and stone residences, it invites the English sparrow in a way not tending to increase our esteem for that cheerful little town-bird. For covering rough or backyard buildings,

such as barns, ice-houses and sties, as well as walls and fences, it is most admirable, for here various objections that may be raised to its use about the house or veranda can readily be overlooked.

The Virginia creeper is best known as a beautiful building-draper, but we illustrate some other uses for which it is finely adapted. Fig. 574 shows a simple, vine-covered column, formed by planting ampelopsis at the base of a dead tree stump. If such a stump is lacking, any section of tree-trunk that is covered with bark for the vine's roots to strike into will answer the purpose, if set in the earth about four feet deep. The advantage of the stump is, that until their decay its roots brace it erectly, and the erectness of such a column has much to do with its beauty.

The soil about the roots of the stump must be made very rich with old manure, using as much as a bushel for each four vines set, and incorporating it well with the earth. From three to five roots of ampelopsis should be set at equal distances about the base of the stump. Strong plants, set in such soil in spring, should cover the stump to the height of fifteen feet the first season. One special merit of this vine is that it produces fine effects in a very short time. A column such as is illustrated imparts a stately, dignified effect to a garden, and to produce it is one of the easiest exploits in gardening.

Fig. 575 shows the use of Virginia creeper for festooning trees on the lawn. Festoons of this character are always pleasing, and are easily produced where there are clear tree-trunks of some height, say ten feet or upwards, and not more than forty feet apart. It is rarely that we see such attempts at introducing garlands of green in garden ornamentation, but we can assure our readers of

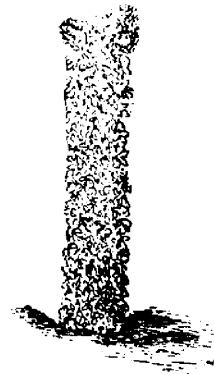


FIG. 574. — PILLAR VIRGINIA CREEPER ON LAWN.

their beauty, both from an individual and a landscape point of view. Still the excessive use of the festoon must be guarded against. In planting the Virginia creeper for this purpose, the same course may be pursued as in planting for a column, excepting that from one to three strong vines, set at each tree, in well-

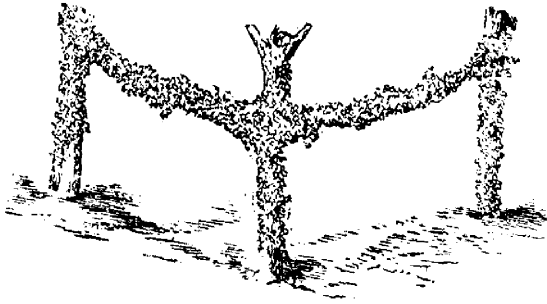


FIG. 575.—FESTOONS OF VIRGINIA CREEPER BETWEEN TREES.

manured soil, will suffice. The support of the garlands between the trees should be heavy galvanized wire. This should not encircle the trees, but be attached to a band of iron so formed that it can expand from one side, adapting itself to the growth of the tree.

One of the finest uses to which the Virginia creeper can be put is the formation of screens in a garden where these are needed. Fig. 576 shows a screen separating the backyard and stable from the street, in the case of a home situated on a street corner, the view being from the side street. The opening through the screen in the form of an archway represents the approach to the stable. For the support of the vines forming the screen, nothing is better than coarse galvanized-wire netting, the kind in extensive use for fine fence-making. If this material is not convenient, then ordinary galvanized fence-wire, extended about five inches apart horizontally from post to post, with some perpendicular wires reaching from bottom to top, a foot or more apart, and attached to the cross ones, will answer. The posts of such a screen should be not more than eight feet apart, while six feet apart would be better. Assuming that the screen need be so high as twelve or fifteen feet, if posts of such a length above ground are not readily procurable, then scantling can be spiked or bolted against ordinary posts, to give the proper height. When finished, the framework should have a scantling extending lengthwise along the top of the uprights to secure shapeliness in the upper part of the screen.

Vines that are to cover the screen should be set

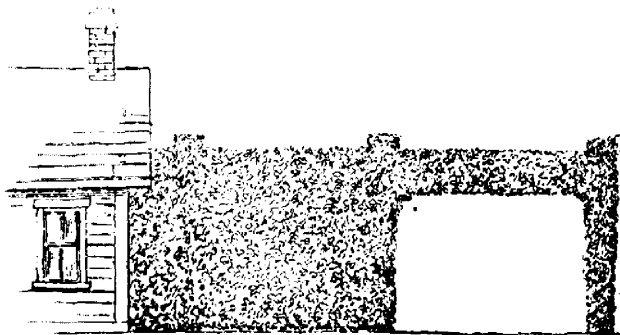


FIG. 576.—SCREEN AND ARCHWAY OF VIRGINIA CREEPER.

about two feet apart, in soil enriched as for the column, and in a few seasons they will form a wall of green twelve feet in height. Such a screen will present a lively, picturesque appearance for many years, with almost no care beyond that involved in getting it started. The soil about the roots of the plants should be kept clear of obnoxious growth, a proper course being to have the grass of the lawn come up quite against the vines. If the hose be turned upon the plants frequently during seasons of drouth, their growth would be much finer and stronger.

Screens or dividing lines of Virginia creeper can be made of any height or breadth. Their use in place of hedges in gardens is well worthy of consideration. They develop much more quickly, and are cared for with less trouble than hedges. They are also devoid of the air of stiffness which, to the minds of many, is a great objection to close-clipped hedges.

SOME VARIETIES OF CALIFORNIA LILIES.



SEVERAL different varieties of wild lilies flourish in California, all of which are extremely beautiful, and are worthy of more extended cultivation. Most all the varieties of California lilies occupy high lands and mountain meadows of the upper Sierras, and are extremely hardy and vigorous growers. The varieties with which I am acquainted, are as follows :—Sierra White lily, undoubtedly one of the most beautiful lilies known ; it has very large blossoms, which are a dazzling, snowy white, and are spiced with an intense, nameless fragrance. This variety grows very high, and many flowers are in bloom at one time, making it a surpassingly beautiful plant. Sierra Red lily, is a beautiful, glowing caffery, red in color, blossoms very large, and exceedingly attractive. Common Tiger lily is also quite a showy and attractive plant, blossoms large, orange, yellow, interspersed with reddish-black spots. Dwarf Tiger lily is a *fac-simile* of the common tiger lily, except that the blossoms are about one-tenth the size of the common tiger lily. Bush Lily of the Valley, or Andromedia, another exceedingly attractive plant, with glistening and sparkling dark green leaves, and with flowers exactly resembling those of the lily of the valley. It is a very profuse and long-season bloomer, and rarely attains a height of four feet ; this plant is an evergreen. Marijasa lilies, or tulips, are extremely showy, and brilliant flowers, of all shades and blendings, of the colors of red, white, yellow, black, orange, etc. These plants are so distinctly and delicately penciled, that they are rendered very conspicuous and showy among thousands of other plants ; there are varieties with large and small flowers ; some varieties are upright bloomers, and others have bell-shaped flowers. These plants grow only about fifteen inches in height.

Grizzley Flats, Cal.

S. L. WATKINS.

THE COMMON BIRCH.

(BETULA ALBA.)



HIS is met with in all the countries of Europe, and in the north of this continent, as well as in Northern Asia and America, it forms extensive forests. In Sweden, Norway and Lapland it springs up in places where fir, pine and beech forests have been destroyed by fire. The size and appearance of the birch vary considerably, according to the nature of the locality in which it grows. Upon lofty mountains it becomes comparatively small and shrub-like, thriving best upon slopes and plains. Its usual height is from forty to fifty feet, but it frequently attains seventy feet. The bark of young trees is of reddish-brown hue, but with increasing age, it whitens until it assumes a beautiful silvery color; the larger branches also become white, but the small twigs always retain their original hue. The birch throws off the outer layers of its bark annually, and thus it generally presents a smooth and shiny appearance. Upon very old trees, however, the bark is sometimes burst and rent in all directions. The branches are slender, and at their extremities, divided into numerous small twigs and rods. The leaves droop downwards, and give a peculiar appearance to the tree, by which it can readily be distinguished from its forest companions.

The timber of the birch is white, close-grained, tough, light and pliant. It makes excellent firewood and yields superior charcoal for smelting. The *sabots*, or coarse shoes worn by the peasantry in some parts of France, are made from the wood of the birch; in Germany, spokes, ladder beams, axe-handles and cattle-yokes are made from it; and in Great Britain it is used for turnery, hoops and fish-barrels. Almost every part of the tree is utilized. Brooms and switches are made from the small twigs and rods.

In Sweden and Norway the leaves are often gathered while green, and given to sheep and goats in place of fodder. Prepared with alum, they yield an excellent dye, which imparts a beautiful permanent yellow color to linen and woollen materials. The outer bark of the tree is very tough, and contains valuable balsamic and antiseptic qualities. In Sweden, Norway and Finland the bark is used instead of slates for roofing houses. Along the Volga and in some parts of North America, canoes are constructed from the bark, and fishermen make their shoes of it. In Siberia and Lapland it is employed in the manufacture of boxes, baskets, hats, ropes, and drinking vessels. In Russia a bright reddish-brown oil is distilled from the bark of old trees; it is used in the preparation of Russian leather, to which it imparts a peculiar odor. In Poland the inner bark is highly esteemed by tanners. When holes are bored in the trunk or branches, in spring, before the leaves begin to expand, the sap

readily flows out. This liquid is clear as water, and has a pleasant, though somewhat acid taste. Some trees yield a large quantity of sap, and as much as 10 lb. of it may be obtained at once, especially if a bright sunny day follows upon a cold night. The sap contains a large amount of saccharine matter, and, when fresh, forms an agreeable beverage. In a fermented state it is known as birch wine.

The common birch is propagated by seeds, layers, suckers, and cuttings. The seeds do not retain the power of germinating for more than one season. Sandy wastes may be reclaimed by being planted with birches; but at the time of planting, it should always be remembered that such principal masses or trees as are to remain permanently must be arranged first, and their future size and character taken into consideration, so that the effect hereafter may not be left to chance.—The Garden.

PEAR TREES IN GRASS.—The editor of the Country Gentleman says:—Rules are often laid down for and against the practice of allowing pear trees to grow in grass, without any reference to the richness of the land. If the soil is thin and poor, the addition of a crop of grass will check the growth of the trees, give them a stunted character, and they will be likely to bear small and knotty fruit. On a very rich soil they may still do well and give handsome specimens, if properly treated in other respects. Trees in grass often do well if copiously top-dressed. Pear trees which assume a handsome and symmetrical form, are very suitable for the more remote parts of lawns, provided the grass is kept short and like a green carpet, and provided the whole surface receives a good annual top-dressing. The effect will be very different if the grass is allowed to grow rank and rampant, and to receive no manure on poor land.

THE peach crop, on June 1 of this year, as compared with the same date of the two preceding years in the principal peach producing States, showed an average condition this year of 85 as compared with 72 a year ago and 75½, on June 1, 1891. The largest increases are in New Jersey, Delaware, Maryland, Ohio and Virginia, while the condition this year is lower in Michigan, Georgia and California. The figures are as follows:

| STATES. | 1891. | 1892. | 1893. |
|-----------------|-------|-------|-------|
| New Jersey..... | 94 | 85 | 104 |
| Delaware..... | 72 | 65 | 93 |
| Maryland..... | 90 | 55 | 93 |
| Virginia..... | 73 | 50 | 63 |
| Georgia..... | 50 | 89 | 82 |
| Ohio..... | 62 | 55 | 74 |
| Michigan..... | 60 | 95 | 86 |
| California..... | 95 | 85 | 83 |
| Average..... | 72½ | 72 | 85 |

✦ The Kitchen Garden. ✦

VEGETABLE NOVELTIES FOR 1893.



THE first of these specialties which is worthy of our attention, is the Buckeye State Tomato. It surpasses all others in size, solidity and quality, has a smooth surface, and is of a deeper red than the average tomato. It being so large a fruit would naturally lead one to believe that it is a shy bearer. This, however, is not true, as the fruit is even more abundant than on the standard varieties now in cultivation, and we would urge all who are interested in the growing of this fruit, to give the Buckeye state a trial.

Then we also have Livingston's Dwarf Tomato, which very much resembles the champion dwarf in both size and color, but excels it by far in flavor, productiveness and quality. It is very desirable for forcing under glass and growing outside for early marketing.

The Tip Top Melon, which after a thorough test has been pronounced the best muskmelon ever introduced, was first found by a gentleman in the east, who discovered it growing in a patch of variety melons. He cultivated it for a number of years, and when later he came to Ohio, he brought with him some of the valuable seed. For several years it has been grown exclusively for a fancy vegetable house, and has always been sold for twice the price of other melons; but we have been fortunate enough to secure some of this seed, so that every gardener may now have a corner of this most excellent melon. While its outside appearance is not as attractive as that of most others, yet it excels all in flavor and quality, and is eatable to the very outside coating.

Livingston's New Silver Coin Sweet Corn, is fully as early as Stowel's Evergreen, and is the most profitable corn the canner can grow. Its kernels are broad, deep and of a pearly white, the ears being larger than the ordinary corn, and growing two or three on a stalk. Those who like to eat corn without gnawing the cob, will hail the New Silver Coin with delight.

The Edible Podded Melting Sugar Pea is ahead of all other peas, not only in the size of pod and prolific bearing, but also in its delicious flavor. It grows five feet high, bears large, broad, light green pods, which are so brittle that they snap without any strings. Last season we were compelled to return many orders for this splendid pea, but we now have a fine stock in store with which we will be able to supply all orders intrusted to us.

Bush Lima Beans are something which have long been desired by growers. The bushes grow from 18 to 20 inches high and are always erect, yet branching so vigorously that each plant develops into a circular bush from 2 to 3 feet in diameter. Each bush yields from 50 to 200 of the handsome large pods, well filled with the largest of beans, which are precisely like the large Pole Limas in size and flavor and are of incalculable value for the fact, that now the best Lima

Beans can be raised the cheapest and without the expense and labor attached to the use of poles.

We offered the Turkish Watermelon for the first time last season, and when we consider all things, we do not hesitate to claim for it the first place in early market sorts. It is of a dark green color, round in shape, smooth surface, and averages about ten pounds. It is certainly of very fine quality, and owing to its fine appearance and quality will sell readily.

The Juno Pea is by far the best wrinkled Pea of its class to-day. It has a robust vine and stout straight pods which are filled from stem to tips with from seven to nine sweet, delicious dark green peas of immense size. It grows two feet high, and its season is from medium early to main crop. We are positive that it will become a standard variety.—By W. D. LIVINGSTON, in Journal of Columbus Horticultural Society.

HOW TO SHIP EARLY POTATOES.

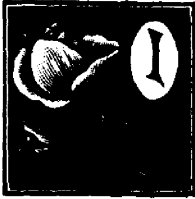
One of the great mistakes made by early shippers is that of putting in with the better stock very small potatoes. Half a bushel, or even a peck, of these little worthless things, spoil the sale of the whole barrel or package, and shippers have no idea the injury they inflict upon themselves and on the market, by gathering and shipping such objectionable stuff. The greatest care must be exercised in the gathering, handling, packing, etc—must, in fact, be handled like berries—to avoid the many bruises that very soon afterward become visible through becoming red, dark and discolored, and thus largely depreciating their market value, those not fully matured always shrinking up badly. At the early stage quality and not quantity must be considered. This is so with all early perishable stuff. The buyers of priced goods want only good stock; the inferior they won't take at any price.

For early shipment the packages must be thoroughly ventilated, whether boxes or barrels are used, and should be well filled so as to prevent shaking while in transit. The unripe, or those not fully matured, are easily bruised and soon become so discolored as to spoil the sale of all. Many growers ship a little too soon and lose money by doing so. It is very important that potatoes should be barreled as soon as possible after they are dug, as lying in the sun heats them and causes them to rot. Avoid digging immediately after a heavy rain. All potatoes should be barreled when as dry and cool as it is possible to have them. Assort very carefully and ship nothing but the largest having them as uniform in size as possible. Use full-sized, well ventilated standard barrels, fill them to heaping and shake down thoroughly.

MANY farmers raised popcorn last year in anticipation of a large demand for the World's Fair. The result is that stocks are plenty and prices low.

* The Apiary *

AUGUST MANAGEMENT.



It is during the latter part of the honey flow, and often in August, that mistakes are made with bees that result in heavy winter losses. Those who do not observe their bees closely are extremely apt to take away honey when it should be left with the bees for winter. As a rule, with basswood or linden the honey flow is over. True, a few localities give buckwheat or golden rod and boneset honey, but these even yield in but few localities, and even then rarely, so they must not be depended on. Colonies run for comb honey are more apt to have sufficient honey in the lower storey than those run for extracted. I make a practice, as before stated, of having extra frames of honey on hand; these are reserved until I find in September that each colony has sufficient stores, when the extra frames are extracted.

A Langstroth hive, single-walled, eight frames, should weigh, without cover, 55 to 60 lbs., bees and all. The bees should, in other hives, have 25 lbs. of honey, if not, remove, as soon as the brood is hatched, the combs with least honey, and put the full combs of honey on the outside, closing in the remaining combs. Every colony should be examined, and have a fertile queen; if it has not this it should be given one or destroyed. Many waste 25 lbs. of stores on bees without a queen, and then report they do not know why their bees died; they had lots of honey and no dysentery.

R. F. HOLTERMANN.

A SELECTION OF HARDY ROSES.

Mr. W. C. Werner gives the following list of varieties of roses, assorted for color, in the journal of the Columbus Horticultural Society for March, 1893:

Crimson and Dark Red.—Alfred Colomb, Gen. Jacqueminot, Prince Camille de Rohan, Xavier Oliba, Madam Chas. Wood, Marshall P. Wilder, Marie Bauman, Ulrich Brunner.

Rose Color.—John Hopper, Paul Neyron, Victor Verdier, Caroline de Sansal, Magna Charta.

Pink and Light Rose.—La France, Anna de Diesbach, Silver Queen, Baroness de Rothschild, Mrs. J. H. Laing.

White.—Coquettes des Alpes, Coquette des Blanches, Madam Alfred de Rougement.

PRODUCE well put up is half sold because the buyer will be quickly tempted to purchase what looks neat, clean and attractive.

MR. R. F. HOLTERMANN, THE APIARIST.



WE have the pleasure of introducing to our readers this month the face of an enthusiast in bee-keeping; Mr. R. F. Holtermann, of Brantford, who has been contributing to these pages so much valuable matter in the apiary department. He first appeared before our Association at our meeting in Brantford, in December, 1892, and read a very interesting paper on "Bee-keeping and Fruit-growing as a United Industry," which appears in our last report on page 34. In it he shows that bee-keeping, if intelligently conducted, is profitable; but even if not directly profitable to the fruit-grower, it is indirectly so, by reason of the work done by the bees in the fertilization of the blossoms.

Richard Ferdinand Holtermann was born in Hamburg, Germany, in 1860. His boyhood was spent in the County of Renfrew, and his education was acquired at the Ottawa Collegiate Institute, Upper Canada College, Day's Commercial College, and the Ontario Agricultural College, Guelph. His knowledge of practical bee-keeping was gained by two years with Mr. D. A. Jones at Beeton, who is the Bee King of Canada.

In 1882, Mr. Holtermann was made Secretary of the Ontario Bee-Keepers' Association, and in his representative capacity is a frequent attendant upon the meetings of the various Convention of bee-keepers in the neighboring Republic. He has also held various other offices as Secretary of the Ontario Experimental Union, President of the same, President of the Brant Bee-Keepers' Association, Lecturer at the Farmers' Institute, besides being an active member of various other educational societies.

Mr. Holtermann is not without experience in fruit growing, having been one of the first to attempt growing apples and pears in the County of Renfrew. His venture was not very successful, owing to the selection of unsuitable varieties. Since that time, thanks to our Association, certain varieties have been proved hardy enough to be planted in that district. He is a warm friend of the fruit grower, as is evidenced by the tone of his recent



FIG. 577.—R. F. HOLTERMANN.

contributions to this journal. He often says that less cake and pastry and more fruit consumed, would result in a healthier race of people. For himself, he says there are many things he cannot afford, and, among them, he cannot afford to lay by money which should be spent in purchasing for his family such health giving food as fruit and honey; and he thinks farmers should grow fruit more abundantly for their own table. Once a day honey, and three times fruit is a wholesome addition to one's daily bill of fare.

We wish our young and enthusiastic friend much success in life.

THE APPLE CROP OF NOVA SCOTIA.

The reports regarding the apple orchards show great local differences in the effect of the dry weather. The June crop has been somewhat serious in the region of shallow and light soils; but broadly, the outlook must thus far be considered as fairly good. Gravensteins in many orchards have set well, and the same is true of Baldwins, but many of the varieties which, in good years form no inconsiderable part of our shipment, are apparently below the average. Indeed it is estimated in some quarters that the Gravensteins will probably constitute one-half the total crop of the present season. It is to be remembered, however, that at this time of year estimates based on any but the most careful observations are likely to be under, rather than over, the mark, and the fact that almost no orchards are reported as disastrously barren of fruit is in itself an encouraging sign.—The Acadian Orchardist.

He Was a Little Dull.—A Penobscot County farmer, speaking of a former hired man in his employ, remarked quietly: "He's a pretty good sort of fellow, John is, but he's a little dull—a little dull." After a moment's further thought he continued, "It may be necessary to explain that a bit. I'll tell you how 'tis with him. I had a pretty nice field of onions growing, but they stood a little thick together and needed thinning out. So I told John he might do it. He worked away at them for a day or two and then I went out to see how he was getting on. I found he had pulled up all the biggest ones and thrown them away, leaving only the smallest plants in the rows. I asked him what in creation he had pulled out all the best ones for, and he said 'twas 't give the little fellows a chance, 'cos the big ones had crowded them and they couldn't grow.' A little dull, John is, a little dull."—Exchange.

THE GENERAL SHORTAGE OF APPLES this fall throughout the whole North American continent seems to be almost certain. Apple growers are much disappointed, but possibly prices will be high enough to make up.



The Canadian Horticulturist

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

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

Notes and Comments.

TWO FOREIGNERS called at the Canadian Fruit Court on the 22nd ult., viz., Prof. Dr. I. Singer, of Vienna, and Mr. E. Wagner, of Denmark. The latter discussed the possibility of opening up in his country a market for Canadian apples. When the crop is short in Denmark, and prices low in Canada, he believed it would pay Canadian exporters well to send their apples to Denmark direct.

THE TERRIBLE COLD STORAGE FIRE, which was such an awful holocaust of brave humanity, was also a serious damage to our Canadian fruit and vegetable exhibit. We still had some fifty or sixty large cases of fine vegetables and fruits there stored away from which to draw fresh supplies from time to time for replacing those on the table. Canada's was the only exhibit of vegetables of 1892, and the loss of our reserved supplies is a most serious calamity.

We must depend on our provinces and our Experimental Farms to forward fresh fruits and vegetables of this season's growth as soon as possible.

THE SALE OF CANADIAN APPLES in Chicago as a special line of business is proposed by Mr. R. H. Napier, Chicago, formerly a resident of Ontario. He called upon the Canadian Fruit Court a few days ago, and we discussed the prospects. Thousands of barrels of Canadian apples are yearly sold in Chicago, and they are more sought for than those grown in the United States, because of their superior flavor. The Canadian-grown Spy is the great favorite here, an apple which grows in Ontario to great perfection, but is less suitable than some others for export to great Britain. The present duty of 75c. per barrel is almost prohibition; still it is quite possible that this will soon be removed.

THE AMERICAN PAPERS compliment Canada quite freely on her exhibits. For instance, the Country Gentleman, of Albany, dated 29th June, says of our Horticultural Exhibit: "As the visitor enters the north-west curtain of the Horticultural Building, the first exhibit that will meet his eye is that of Canada. This country has done nobly, and is represented by the Provinces of Quebec, Prince Edward Island, British Columbia, Nova Scotia, Manitoba and Ontario. A larger and finer collection of fruits at this season of the year would be hard to find. The list embraces varieties of apples that approach a hundred, many of which grow, and to perfection, only in Canada. A few plates of fresh grapes and pears are also shown. Quantities of fruits preserved in liquids are also displayed, of which mammoth gooseberries are one of the chief attractions. This country will, no doubt, contribute large quantities of all kinds of fruits as the season advances. Canada probably shows the greatest variety of vegetables now—carrots, beets and potatoes, immense turnips and rutabagas, for which this country is famous, adorn the tables.

RULES FOR JUDGES IN HORTICULTURE.—The following are the modified rules of the American Pomological Society, adopted for the guidance of judges in awarding prizes on fruits at the World's Columbian Exposition.

RULE 1—In estimating the values of collections of fruits, judges are instructed to base such estimates strictly upon the varieties in such collections which shall have been correctly named by the exhibitor, prior to action thereon by the committee on nomenclature.

RULE 2—In estimating such values, judges are instructed to consider: 1st, the values of the varieties for the purposes to which they may be adapted; 2nd, the color, size and evenness of specimens; 3rd, their freedom from the marks of insects and other blemishes; 4th, the apparent carefulness in handling, and the taste displayed in the arrangement of the exhibit.

RULE 3—No comparison shall be made between any two exhibits, but each must contend against a standard of supreme excellence.

RULE 4—Judges are instructed to apply the principles enunciated in above rules to entries of single varieties.

THE EXTENSION OF CANADA'S TRADE with other nations is one of the objects in view in placing our exhibits before the world at the Columbian Exposition. This object will no doubt be gained in many lines, for there is a universal testimony to the excellence of Canada's goods. In agriculture she stands first in the Agricultural Building, and in fruit she occupies a similar position in the Horticultural Building.

On the 20th of July, we had a call from Mr. R. Napier, a Canadian who has lived some twelve years in Chicago, and he stated that the demand here for Canadian apples was much greater than any one imagined. Many thousands of

barrels were brought in last year from the Counties of Huron and Grey, kept in cold storage, and sold at a fine advance this spring. The variety from Canada most sought for was the Northern Spy, a variety which reaches great perfection in the Province of Ontario; and next in popularity is the Greening, and then the Russets. If our growers can but establish a brand, and a character for honest packing, seeking it as earnestly as they do in the market of Great Britain, there is no reason why apples may not form an important article of export to the United States.

Mr. Napier thinks he may be able to forward this industry in Chicago in the near future.

FRUIT PROSPECTS.

BRANT CO.—*Sir*,—Cherries and pears will be a light crop. Apples almost a failure, except some early varieties—Kings and Greenings. Grapes and plums promise well.—J. R. HOWELL, *Brantford, Ont.*

CORNWALL.—*Sir*,—Strawberries, good crop; currants and gooseberries promises to be very good; no cherries or raspberries grown here; plums, a failure; apples, a poor crop.—W. S. TURNER, *Cornwall.*

CATARAQUI.—*Sir*,—Apples will not be more than one-quarter of a crop; pears, very few grown; plums, almost a failure, caused by curculio.—D. NICOL.

NANTY.—*Sir*,—As we have just finished picking strawberries, I take the liberty of reporting. From a bed of eight square rods we picked 400 quarts, at 7½c., \$30; of these, three rows were Bubach, great in yield and size; two rows Haverland, medium; one row Jessie, almost *nie*. Black currants, almost *nie*; Red Fay, fair crop; raspberries, Shaffer, enormous. Gooseberries, loaded; but, *sir*, I cannot see any difference between Downing and Pearl. Same in leaf and wood; the fruit is the same shape—round—and the same size. Of course, I may not have the pure thing; if so, I should like to know it. If I have, I think the public ought to know that they are no improvement on Downing.—STANLEY SPILLET.

[Our correspondent has, no doubt, planted the Downing in place of the Pearl. The latter is both larger and more productive than the former.—ED.]

OTTAWA.—*Sir*,—Strawberries have been very abundant; raspberries promise to yield one of the largest crops we have had for some years; currants, gooseberries and grapes are almost equally promising, although grapes will need careful spraying in order to prevent mildew. Summer apples are medium to poor crop; winter apples are almost a total failure. Plums and cherries, medium to poor. Pears are not raised to any extent. On the whole, the season will be characterized by a heavy crop of small fruits and a very light crop of tree fruits.—JOHN CRAIG, *Horticulturist, Experimental Farm.*

FRONTENAC COUNTY.—*Sir*,—It has now become quite evident that the apple crop here is almost a failure. In this district there will not be ten per cent. of a crop. Pears the same. Plums about the same. Blackberries (wild) abundant.—D. NICOL, *Cataraqui, Ont.*

CORNWALL COUNTY.—*Sir*,—Yours received, and as near as I can find out, the percentage of fruit is as follows:—Apples, 25 per cent.; plums, 20 per cent.; grapes, 75 per cent.; gooseberries, 100 per cent. No pears, peaches or blackberries grown here.—W. S. TURNER.

HALTON COUNTY.—*Sir*,—Percentages estimated as follows:—Apples, fall, 30 per cent.; Greening and Ribston, 50 per cent.; other winter varieties, 20 per cent.; pears, Bartletts, 30 per cent.; other kinds, 50 per cent.; plums, 100 per cent.; grapes, 100 per cent.; blackberries, 100 per cent. Peaches not much grown, but there will be more than usual.—GEO. BUNBURY.

PRINCE EDWARD COUNTY.—*Sir*,—In reply to yours, *re* fruit prospects for my district:—Apples, excepting Early Harvest and a few late summer varieties, not a quarter crop;

cherries were almost a failure; plums, same; pears not a quarter crop; strawberries were about half a crop; red and black raspberries, about half a crop. No peaches grown in this locality. The cold, wet spring destroyed fruit prospects.—H. BOULTER.

LINCOLN COUNTY.—*Sir*,—From present appearances, fruit in this section will be about as follows:—Apples, about 10 per cent.; pears, 10 per cent.; peaches, 80 per cent.; plums, 50 per cent.; grapes, 100 per cent.; blackberries, 80 per cent.—A. M. SMITH, *St. Catharines, Ont.*

SIMCOE COUNTY.—*Sir*,—In answer to your enquiry as to fruit prospects in this section, I may say that, so far as I have been able to ascertain, the situation is about as follows:—Small fruits plentiful and correspondingly cheap; about four-fifths of the plum trees in this district winter-killed, any that are left are bearing well; pears, fair crop, but some varieties, such as Flemish Beauty, badly scabbed; early apples will not be so plentiful as last year, but will be a fair crop; winter apples almost a failure; taking 100 as representing a fair average crop, I would not place it this year at more than 25 or 30 per cent. for this district.—E. C. CASTOR.

PERTH COUNTY.—*Sir*,—Apples are not going to turn out one-quarter of a crop in this county; pears are no better; plums are a pretty fair crop, 80 per cent. at least; grapes are good, but not extensively grown; blackberries not grown; cherries very plentiful.—T. H. RACE.

WELLAND COUNTY.—*Sir*,—The fruit prospects are:—Apples, 25 per cent.; pears, 50 per cent.; Bartletts, 90 per cent.; peaches, 150 per cent.; plums, 100 per cent.; grapes, 125 per cent.; blackberries, 125 per cent. Compared with a good average crop, peaches and apples are hard to percentage, as we often have very short crops of them.—E. MORDEN.

HURON COUNTY.—*Sir*,—Since last report, a change has taken place. Apples indicate little over 25 per cent.; pears, 45 per cent.; plums, 35 per cent.; grapes, nearly a full crop along lake front; raspberries and blackberries, good crop; cherries had rot badly, reducing the crop one-half; plums fell badly after forming; apple scab, bad; blight in pears more prevalent than last year. Insects worse than usual, even lice in young wood of plum and cherry.—ALEX. McD. ALLAN.

HURON COUNTY.—*Sir*,—In my last communication I stated that the prospects for fruit was: apples, scarce; cherries and plums full of blossom. Since that I find the cherries and plums failed to set in a great measure so that they are a light crop. Pears, I forgot to mention, a very few varieties have a medium crop, others nil, blight appearing again. The Baldwin Rib-Pippin and R. I. Greening was generally full of bloom, but the fruit is very scarce, other varieties almost failed to bloom. I don't think there will be enough apples for home consumption.—WALTER HICK, *Goderich, Ont.*

YORK COUNTY.—*Sir*,—As far as I could ascertain on short notice apples bid fair for a good average crop. Crabs wilted. Plums, cherries, gooseberries, black caps and red rasps are yielding handsomely. Grapes, I think, suffered from the hard winter and are full of dead wood, those kept below the snow line appear to be more hopeful. All of these are in my own garden and show well, except red and black currants, which will prove a failure. My neighbors state pretty much the same condition of fruit prospects.—WM. HARRISON, *Richmond Hill.*

PEEL COUNTY.—*Sir*,—Answering your card of a few days ago, I may say the apple crop in this section is away below the average, being a great deal less than last season's. Plums and pears, fair crop, but not nearly as large a crop as last year's. Small fruits apparently very good.—JAS. STEWART, *Brampton, Ont.*

CARDWELL COUNTY.—*Sir*,—In answer to your post card of the 24th inst., I may inform you that the fruit crop in this section will be far below the average—apples and pears a very poor showing. Many plum trees were killed during the winter, and those that are left are not doing well. Currants, gooseberries and strawberries are a very fair crop, especially strawberries. Cherries are but little grown of late years, owing to ravages of black knot.—S. C. WALFORD, *Bolton, Ont.*

PEEL COUNTY.—*Sir*,—Apples are a very light crop all through this section, although they will be better quality than last year. I think the scarcity is due to the late spring and the heavy crop last year. Pear crop will be very light this year, although there are a few on nearly every tree. Plums will be a very large crop; trees are at present nearly breaking down, and very few seem to be falling off. Grapes will be a medium crop; they were very late in budding out this spring.—A. A. GAGE, *Mount Charles, Ont.*

RENFREW COUNTY.—*Sir*.—The following is as near an estimate as I can make at the present time of the probable yield of fruits yet to ripen in this district. These yields are based on a scale of 100 points being a full crop :—Summer apples, 90 ; winter apples, 50 ; native plums, 75 ; foreign plums, 50 ; grapes, 100 ; blackberries, 80 ; peaches, not grown ; pears to a very limited extent. Apple and pear blight has been more destructive in the Ottawa Valley this summer than ever before. It has attacked some varieties which hitherto enjoyed immunity and has caused serious damage. Wealthy, among others, has suffered severely.—JOHN CRAIG, *Ottawa*.

PERTH COUNTY.—*Sir*.—On a basis of 100 for average, the apple crop in this district will probably run somewhere about 25 ; pears 40. The latter has cracked and dropped considerably since last report, notably so Flemish Beauty. Plums, 65 ; grapes, 100. Peaches and blackberries generally a little too tender for successful cultivation in our section of country, consequently no average is given.—J. D. STEWART, *Russeldale, Ont.*

ESSEX COUNTY.—*Sir*.—The percentage of yield will be about as follows :—Apples, 25 ; pears, 75 ; plums, 50 ; grapes, 100 ; blackberries, 85 ; peaches, 40. Hail damaged a few vineyards July 16, but not enough to materially lower the yield. Apples a poor sample ; plums and pears fair.—A. McNEILL, *Windsor, Ont.*

GRAY COUNTY.—*Sir*.—In answer to your request concerning an estimate of the fruit crop in this section, I have to say I have not been much out in the country, and reports are conflicting ; but so far as I can learn, apples will be under an average crop ; pears, a light crop ; plums promised well some time ago, but the curculio and rot is thinning them out very fast. Those who sprayed their trees will have a good average. Cherries, an average crop ; peaches not much grown here ; small fruits, an abundant crop ; gooseberries, a very large crop ; grapes not grown to a large extent, what is grown seem heavily laden at present.—R. TROTTER, *Owen Sound*.

✧ Question Budget ✧

The Blenheim Orange Apple.

Answer to Question No. 27.

The Blenheim Orange, or Blenheim Pippin, as known in Nova Scotia, is one of our most valuable commercial apples, and is growing in favor yearly. It is an early and annual bearer, of fine appearance, with comparative freedom from spots, and but few culls. Seems well adapted to our sandy soils, but is grown successfully on heavier land. The Blenheim will compare favorably with Northern Spy in productiveness. Bears earlier and classes with the Spy, among our most valuable commercial apples.

S. C. PARKER.

✧ Open Letters ✧

Plants Received.

SIR,—The Douglas fir and the Haverland strawberry plants arrived in good condition. I have a nice bed of the Williams strawberry from the plants you sent me two years ago ; they are looking well. The Moore's Diamond grape I got last year is doing well. Small fruits are likely to be a large crop here, also plums and pears. Winter apples will be scarce.

WILLIAM LEONARD, *Woodstock, Ont.*

➤ Question Drawer. ◀

TREATMENT OF AZALEA.

579. SIR,—A friend of mine has a fine azalea which bloomed very profusely last spring and is now looking well and healthy. Will you kindly let us know what is the best way to treat it during the summer, and also when we may expect it to bloom again, and very much oblige,
GEO. D. GOODHUE, *Danville, P. Q.*

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

After blooming, the azalea should be watered freely and fertilized with liquid manure till its growth has been completed, when it should be allowed to harden off somewhat by lessening the amount of water and placing it in a somewhat drier and cooler situation. Previous to blooming, the plant should again be watered freely and well fertilized. During the period of its rapid growth, care should be taken to keep the plant in good form by pinching back the straggling shoots which are occasionally developed. Such treatment will probably bring it into flowering again in January or February.

THE BLACK KNOT.

580. SIR,—I have read a good deal about black knot as a fungus, but I cannot believe in the theory, because I always find white maggots in them, when the knots are about half grown. I enclose a sample. This evening I found a curculio in one of the knots, and I wonder if this insect deposited the eggs in the knot?

F. L. GERNDT, *Paris, Ont.*

Reply by John Craig, Experimental Farm, Ottawa.

It was originally supposed that the excrescences on plum and cherry trees which we call "black knots" were caused by insects, but microscopic examination proves beyond doubt that while insects may often infest and inhabit these knots, they do not occasion their development. The fungous origin of the black knot cannot be called a theory, but is an established fact. All gall-producing insects form their own characteristic galls exactly alike according to its species in each instance, while in the case of the black knot of the plum and cherry many insects of different kinds may be found harbored in the irregular crevices of these unsightly outgrowths. It is much wiser to cut out and destroy the knots than to search for an insect which may have formed them.

TOMATOES should not be picked too ripe nor too green, but should be all about the same ripeness or some will rot before others ripen. When shipped long distances from market they should be packed as soon as they begin to color and when nearer market they should be ripe. Let the size be even and pack tightly, so that they will not shake and become bruised.



JACQUES CARTIER WINTERING IN ST. LAWRENCE RIVER.