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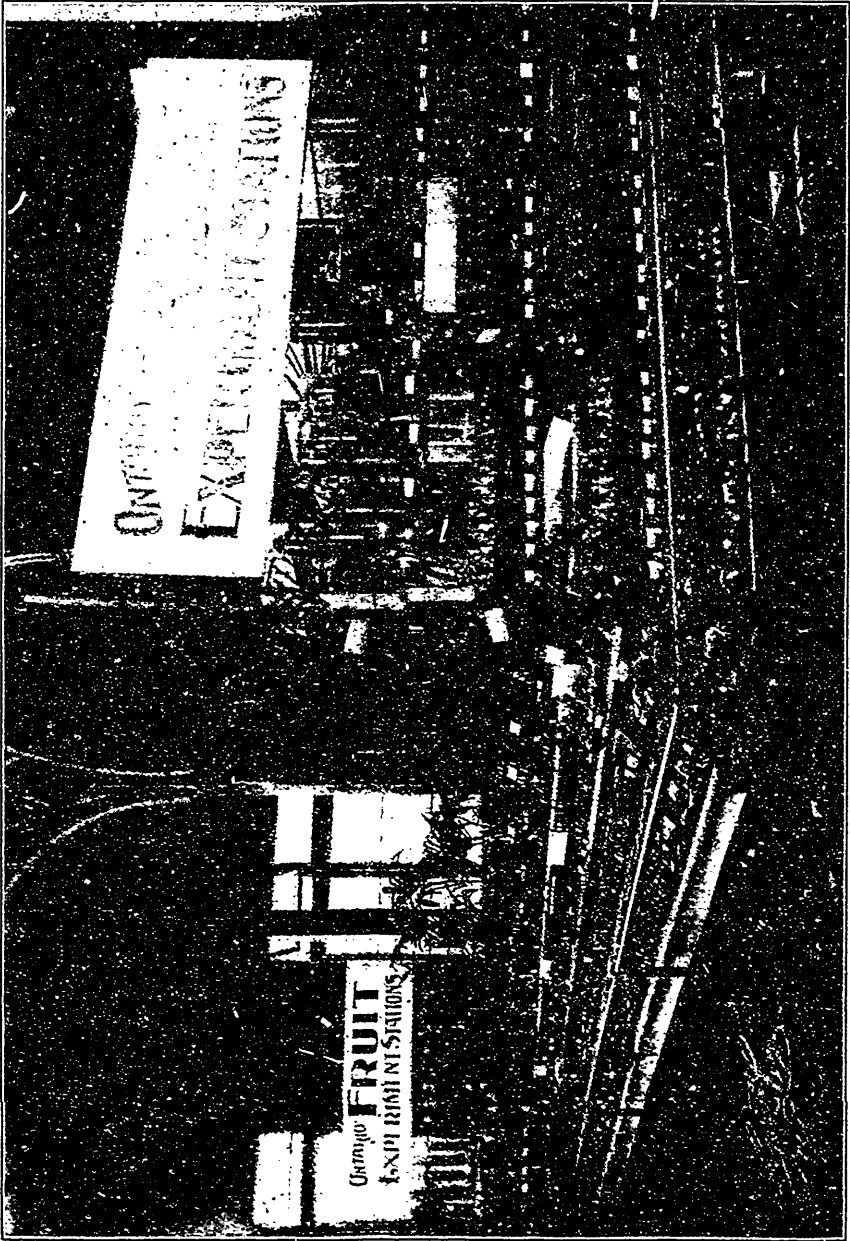


EXHIBIT AT THE INDUSTRIAL EXPOSITION.

THE CANADIAN HORTICULTURIST.

VOL. XXII.

1899.

No. 10



FRUIT AT THE INDUSTRIAL.

THE Industrial Fair is about one week too early for a fruit exhibit to be at its best, for while it has the advantage of taking in plums and peaches, it shows our best apples and grapes at a great disadvantage. The best Rogers grapes, for example, have no color, and the finest winter apples, such as Spy and King, are still very green.

The change in the tables to raised shelves instead of flat is very helpful to a display and breaks the monotony of the fruit exhibit; but the shelves should be nine inches wide instead of twelve, and four set of them instead of three, so that there would be no waste of space. The risers also are at least an inch too high.

On the whole, the fruit exhibit never showed to such advantage; thanks to our President, who is chairman of that department.

Our experimental exhibit is beginning to be of real use to fruit growers, and will be more so every year, as the new varieties come into bearing.

This year our apple specialist, W. H. Dempsey, Trenton, shows 140 varieties, labelled in alphabetical order.

Of the older commercial varieties, his Alexander, Stark, Ben Davis, Fall-water and Kentish Fillbasket were exceptionally fine, the last two, Fall-water (though a showy variety) never pays, because not productive enough; and Fillbasket drops too early to be a paying summer variety. His Primates were exceptionally fine, so large and highly colored. They hang from July to October, and no variety of its season is a greater favorite for eating.

Among the newer varieties shown by Mr Dempsey we notice:

Golden White, not a white apple, but striped, large in size, a Russian fall apple, very desirable for its hardiness, as well as good appearance.

Rochelle, another large apple, red striped, very promising.

Winter Banana, a deep red streaked apple, of good size and much promise.

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Starr, of good size, yellow with red cheek.

Winter Red, a kind much in favor in Illinois, but which does not show sufficient color, nor possess such quality as to hold its friends.

The *Trenton* is an entirely new variety, which originated some years ago with Mr. P. C. Dempsey, near Trenton, having some of the Fameuse blood in it. It is a fine dessert apple, both on account of its deep red color, and its good quality for eating.

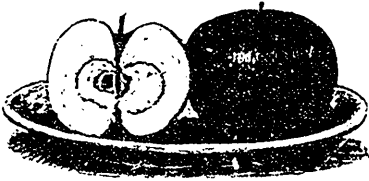


FIG. 1656.--THE WALTER APPLE.

The *Walter* (Fig. 1656) is also a fine apple, striped red, large and productive. It was named after Mr. Walter H. Dempsey, our fruit experimenter for the Bay of Quinté District.

Mr. Murray Pettit, of Winona, contributed a fine exhibit of 102 varieties of grapes, prominent among which were fine samples of Moore's Early, Worden, Delaware, Moyer and Clinton. The bunches were well grown, under average conditions.

Mr. A. W. Peart, of Burlington, contributed a fine collection of bottled black and red currants, preserved in acids by the Secretary. He also showed twelve pyramids of commercial varieties of pears, intended to give to the public reliable information as early as possible. The twelve varieties thus exhibited as worthy of planting are Goodale, Louise, Vicar, Bartlett, Sheldon, Howell, Duchess, Boussock, Kieffer, Anjou and Clairgeau.

Mr. Mr. Burrell, of St. Catharines, showed a mixed collection of 62 varieties of fruits, and among them the following desirable kinds of peaches, viz : Early Crawford, Garfield, Foster, Reeves, Mountain Rose, Barnard, Champion, Old Mixon, Carlisle, Yellow St. John, Elberta and Crosby. He also showed the Augusta grape, a seedling of Concord and Rogers 4, raised by Mr. J. Broderick. The Champion peach is very showy, large and fine cheeked. It also fruited this season first at Maplehurst, and we were much captivated by its beautiful appearance.

Mr. Caston, of the Simcoe Station, showed 54 varieties of apples, including nine of Crabs, all the latter small, but one or two very showy, especially the Florence, so regularly striped with bands of red about the whole surface. His Duchess were fine, a favorite market variety with him : his Gideon, Baxter, Alexander and Wealthy were also all fine samples. One would think the County of Simcoe especially suited to apple growing.

Mr. John Mitchell, of Georgian Bay Station, showed a very valuable exhibit of 40 varieties of plums, including Chabot, Satsuma, Tage, Abundance and Burbank—Japan varieties, also Shippers' Pride, French Damson, Brunswick, Weaver, Hammer, etc.

Mr. Huggard, of Whitby Station, showed 83 varieties of mixed fruits, including some very fine Clapps, Bartletts, Louise and Clairgeau.

The first prize for Horticultural Society exhibit was taken by Burlington, which showed 225 varieties of fruit, and the second by Louth fruit growers, who showed 125 varieties.

On the whole, the fruit exhibited in classes for prizes was well up to the mark. There were some wonderfully

A FRUIT EVAPORATOR.

fine bunches of grapes among the single plates, the largest bunches of Concord we have seen — weighing about two pounds each, and Brightons proportionately large. The former were grown by F. G. Stewart, of Virgil.

It may interest our readers to know a few of the first and second prize lots of fruit, so we give a few samples :

GRAPES, 12 varieties — 1st prize and silver medal :—J. Haines, St. Catharines. Kinds : Concord, Rogers 44, Agawam, Worden, Pocklington, Brighton, Catawba, Vergennes, Niagara, Lindley, Delaware, Moore's Early. The Lindleys in this collection were exceptionally fine.

APPLES, 20 varieties.—1st prize :—Frank Onderdonk, Albury (silver medal); 2nd prize :—H. Marshall, Hamilton.

5 varieties for export.—1st prize :—P. McCulloch, Burlington. Kinds : Spy, King,

Baldwin, Ribston, Greening ; 2nd prize :—A. R. Brechen, Toronto.

5 varieties for cooking.—1st prize :—H. Marshall, Hamilton. Kinds : Duchess, Spy, Greening, Alexander, Fall Pippin.

5 varieties for dessert.—1st prize :—P. McCulloch, Burlington. Kinds :—Spy, Ribston, Spitzenberg, Gravenstein, Swazie.

PLUMS, 6 varieties, Red or Blue.—1st prize :—E. A. Wilson, St. Catharines. Kinds : Pond-Glass, Lombard, Burbank, Duanes Purple and Bradshaw.

6 varieties, Green or Yellow.—1st prize :—A. Glas, St. Catharines. Kinds : General Hand, Coe's Golden, McLaughlin, Washington, Yellow Egg and Imperial Gage.

PEACHES, 10 varieties.—1st prize :—John Stevenson, Niagara-on-the-Lake. Kinds : Wheatland, Late Crawford, Mountain Rose, Early Crawford, Fitzgerald, Elberta, Henry's Golden, Reeve's Favorite, Foster, Old Mixon.

A FRUIT EVAPORATOR.

THE G. H. Grimm Manufacturing Co., has invented an evaporator, especially for fruit and vegetables ; a low priced machine which any fruit grower could safely invest in. We always grieve over the amount of fruit which wastes in our orchards and many times we are tempted to invest in a fruit evaporator of some kind, to save it, but the price of the evaporator is the bug bear. The cooking stove size has six trays, giving 7 square feet of drying service, and affords a capacity of two pecks of apples in 12 hours. No. 1 has capacity of 2 to 3 bushels of apples per day, No. 2, 3 to 5 bushels, No. 3, 10 to 15 bushels, and No. 4, 18 to 25 bushels.



FIG. 1657. FRUIT EVAPORATOR.



FIG. 1658.--GIANT SPRUCE IN STANLEY PARK, VANCOUVER.

SOME NOTABLE TREES IN CANADA.



FIG. 1659.—FRENCH THORN ON THE BASTION AT FORT ERIE.

I'll take a branch of it he said, across the
stormy sea,
That roars between New France and Old, and
plant it solemnly.

It will remind and teach mankind
Of pains that blessing bring."

SO cries Count Bois le Grand as
in the poet's Idyll he stands
beside cross and holy thorn
tree in Old France and swears
fidelity to his fair, angelic wife. From
Palestine the tree had come, a plant
from that which supplied the crown of
thorns of sacred memory.

Commandant of the Fort at Niagara
the Count plants the thorn on the plain
hard by. The English begin a long
forest march to seize Niagara Ere
they arrive "a dame of charms most
radiant, the queenflower of the gay capital
Quebec, enthalls his heart.

"He loves again despite the pain
And stinging of the thorn."

A hunting party rides gaily along.

The thicket stirs before the fair dame.
She shoots and finds her victim, no wild
animal, but alas! her soldier lover.
Tenderly she nurses him but as justice
would have it, the thorn spray she wears
as a token of contrition, estranges him
from her, reminding him of his far-off
spouse

Niagara is taken A bitter life des-
troying thorn it is to the disabled
warrior to see the flag of England rise.
The cry "O thorn of penitence" bursts
from the dame.

"She kissed his mouth,
Fell by his side.
And both lay dead as stone"

The most enduring monument of the
French occupation, a group of these
trees, though a century and a half has
elapsed since their planting, still stands
near the Grove of Paradise at Niagara.
Our illustration is of one of their pro-
geny on the South Western bastion, Fort
Erie.



FIG. 1660.—HISTORIC WILLOW ON DUFFERIN ISLAND, NIAGARA FALLS.

Overhanging the water, there is on Dufferin Island, near Niagara Falls, a weeping willow, a descendant of the trees that kept vigil by Napoleon's tomb and formed a feature of the landscape of which it occurs to us the great commander would have fully approved. For intensely practical and military though his mind was, he had yet enough appreciation for the beautiful and venerable in Nature, to make him, when he was laying down the plan for a great road in the Alps, actually to turn aside its course to avoid an ancient representative of that other grave-yard tree, the Cypress. This tree it may be of interest to remark, was that which a defeated monarch, some three hundred years before, struck with his sword in childish petulance

There are on the banks of the Detroit river, some pear trees, old and weird of aspect, planted by the French before the year 1760. One of the oldest is said to date from 1705. There is a story that a settler brought from France three seeds in his vest pocket and planted them near Amherstburg. The old trees there now are the children of those which sprang from these trees "The trees are productive," says Professor

Craig, to whose writing we are indebted for information about them, "but the fruit is not valuable."

In the famous apple-growing country of the Annapolis Valley in Nova Scotia there are also apple trees still bearing that were planted about the middle of last century. Prince Edward Island can also boast apple and cherry trees set out in old French times

Plum growing, according to Mr. Craig, has been a special industry for a hundred or more years in L'Islet County, some seventy miles north-east of the City of Quebec "Reine, Claude de Montmorency is delicious and peculiar to this region. The Damson plum trees grow in stocky form and produce out of all proportion to their size. The Kentish cherry has through heredity developed hardy forms well adapted to its new home and ripens a month later than the same variety grown at Ottawa."

At the home of the editor of the HORTICULTURIST an apple tree was cut down five years ago, whose limbs had 98 rings, showing its age to be as many years. A Rhode Island Greening here has a record of having one season produced twenty barrels of marketable apples. A thirty year old Yellow Spanish cherry tree on this farm once yielded a crop of 360 quarts. The apple tree at Waterloo shown in Fig. 0000, was grown from seed bought from Pennsylvania in 1800. It is the oldest apple tree in that locality. It measures at the base three feet in diameter and at a distance of five feet from the ground two and a half feet.

Of interest are some rare specimens of southern trees found within our borders. There are a few bearing fig trees to be found here and there. They have been successfully cultivated at Niagara, Winona and even as far north

SOME NOTABLE TREES IN CANADA.

as Goderich. The Custard apple, the Sassafras and the Sour Gum grow in the mild spray laden atmosphere of Niagara Falls. Queen Victoria Park, at the Falls, contains some rare trees under cultivation, among these are the Paulownia, the Chinese Cypress and a fine specimen of the Umbrella Magnolia. This is perhaps the only magnolia of its kind in Canada and has beautiful white flowers from four to six inches across in June. At the residence of Mr. Suckling, College street, Toronto, there is a Magnolia which when clothed in its glory of pink and white flowers, attracted a great deal of attention. A tulip tree, some sixty feet in height, grows close to the road on the grounds of the Leslie Bros. Nursery, East Toronto. Hundreds of blossoms which are somewhat like green

tulips, make it a sight worth seeing in early summer. Though large for a cultivated specimen, this tree is small in comparison with forest representatives of its species along the Niagara River.

The forest trees of Eastern Canada are not particularly remarkable for their size or age. They have their rise, progress, and decay in a much shorter time than European trees, and a tree two hundred years old is a rarity. Here and there, however, are trees solitary or in groups, that are worthy of note. On the road between Cobden and Beachbury, in Eastern Ontario, stands a huge elm; near Windsor there are some large ash trees; a great maple, the largest specimen of our national tree of which we know, is a feature of the road from Picton to the sand banks.



FIG. 1661.—AN OLD APPLE TREE AT WATERLOO.

The wild cherry, though not a native of this continent, sometimes attains a large size, though to vie with the great specimens some 14 feet in circumference that Pennsylvania boasts, we can only instance in our own country one about three feet in diameter that formerly grew on the shores of Balsam Lake. The oldest Black Walnut in Ontario, of those grown by man is on the farm of Mr. W. H. Dempsey at Trenton and was planted about 1800. Of mature trees in Canada the smallest perhaps is a dwarf evergreen in the Horticultural Gardens, Toronto; though some forty years of age this is only about a foot in height. It was brought from Japan some years ago by Mr. Geo. Anderson a commissioner of the Dominion Government. Japanese gardeners make a large use of dwarf



FIG. 1662.—MAGNOLIA.

trees to blend with the minaiture mountains and lakes they are so fond of in their landscape compositions.

A great contrast to this tiny conifer is the Douglas spruce of our frontispiece, standing in Stanley Park, Vancouver. Some distance from the ground a fairy like balcony of Licorice ferns relieves the gaunt expanse of its trunk. The trees of this park are in general tall and majestic and in some places rise from luxuriant thickets of bracken higher than a man's head. A fine view at the end of the drive in Stanley Park is the subject of our next illustration (Fig. 1663.)

The Rocky Mountain region and the Pacific slope of our Continent have always been remarkable for the size of their trees. There is a story of a gigantic fossil tree alleged to have been found by a party of gold diggers in Nevada in 1860. It lay on the ground and its trunk was 666 feet in length. The "Monarchs of the Mariposa," sustain

in later ages the claim of the west to majestic trees.

British Columbia has species of large cone-bearing trees. One of the most interesting of these is the Sugar pine (*Pinus Lambertiana*) so called because its resin, when half burned by the passage of a fire is sweet. Ford notes a fallen tree of this species 215 feet in length and 57 feet 9 inches in diameter. The same writer speaks of pines of a certain species growing on the Columbian river that attains the height of 240 feet.

In running the boundary between British Columbia and the United States the axe-men had in one locality the herculean task of hewing out the line through patches of gigantic Douglas spruce, many of which were 30 feet in circumference and from 200 to 250 feet in height.

In Eastern Canada some years ago two old pines of remarkable size enjoyed a local fame as the Old Man and Old Maid of Kempenfelt on the shores of the bay of that name.

There is an Indian legend that shows very well how the aboriginals the children of the forest esteemed the pine and cedar for their size, stability and length of life. Glooskap was a divinity. "Hearing that they could win the desires of their hearts there went forth men unto him; and all got what they asked for in any case, but as for having just what they wanted that depended on the wisdom with which they wished and acted.

Three brothers journeyed from afar to the isle of enchanting beauty where in three wigwams dwelt Glooskap with Cuhkeo, the Earthquake and Cool-pig-ot a man without any bones. The first of the brothers who was very tall and was vain of his comeliness asked to become

SOME NOTABLE TREES IN CANADA.



FIG. 1663.—SCENE IN STANLEY PARK, VANCOUVER.

taller than any Indian in all the land. And the second wished that he might ever remain where he was, idly gazing on the beauty of the scene. The third wished to live to an exceeding old age, and ever be in good health.

Then Giooskap called Earthquake and bade him place them with their feet in the ground and as he did so they became, as one tradition declares, pines, and another, cedars. The head of the first now rose above all the forest and he

who listens in the wood may hear him murmur,

“ Oh, I am such a great man !
Oh, I am such a great Indian !

The second too, has his wish, being fast rooted in the ground and obliged to stay there, whilst the third, who wished for long life, is still standing as of yore.

A. E. MICKLE.

Maplehurst.



FIG. 1664 —GLOOSKAP TURNING A MAN INTO A CEDAR-TREE.

THE MOYER GRAPE.



FIG. 1665.—MOYER GRAPES.

IN December 1888, we gave our readers a colored plate and a description of a new red grape, called the Moyer after the introducer, Mr. Allen Moyer, of Jordan. This gentleman had purchased the right of propagation from Mr. W. N. Read of Port Dalhousie, who had originated the grapes about ten years previous by crossing the Delaware with Miller's Burgundy. Mr. Moyer brought us a basket of his grapes which impressed us most favorably as to quality and earliness. Now

after ten years more of general experience with this grape, we are able to confirm most of the statements there made concerning it, and being of Canadian origin we are all the more glad that it has made so good a record, and that it holds so good a place in the estimation of the public.

We do not commend it for the commercial vineyard because the vine does not seem sufficiently productive to give large crops to the acre, but no one who is planting a collection for his own table

PAN AMERICAN EXPOSITION.

should omit the Moyer, for, unless we except Campbells Early, a variety this year bearing for the first time with us, we know of no grape of its season to compete with it in flavor. It is not the equal of its parent the Delaware, in this respect but it comes only a few points behind that excellent variety. One quality of the vine is its freedom from mildew, a disease which so often ruins our finest Roger grapes.

The bunches of the Moyer are about the same in size as those of the Delaware, usually shouldered, and sometimes double shouldered ; it is fairly compact, though much looser than Delaware.

The berry is very irregular in size,

varying from half an inch to three quarters in diameter, which is not a good point. The color is amber, or where ripe, a dark wine color ; pulp is tender and juicy and the flavor sweet, rich and excellent.

One great point which gives the Moyer a chance for propagation is its early season. A vine in our experimental plot ripened its fruit this season about the 20th of August, along with the miserable Champion, which has done more harm to the grape industry than a dozen fine varieties can help it forward.

We notice several other varieties coloring just after Moyer, viz., Janesville, Marion, Early Victor, Pearl, and Ohio.



FIG. 1666.—SITE OF THE PAN-AMERICAN EXPOSITION, to be held at Buffalo in 1901 ; View across North Bay of Park Lake, from near the Country Club, (from Farming.)

THE PAN AMERICAN EXPOSITION, by the colonies and republics of the American hemisphere, to be held in Buffalo, N.Y., from the 1st of May, to the 1st of November, 1901. At this exposition Canada should be very prominent, and

we hope that energetic measures will be taken to make a most creditable exhibit. It is said that the management is well prepared financially to make the fair a grand success, having at their disposal \$5,800,000.

BIENNIAL MEETING OF THE AMERICAN POMOLOGICAL SOCIETY.

THE 26th biennial meeting of the American Pomological Society was held in Philadelphia on the 7th and 8th inst.

The city was in gay attire as the G. A. R. encampment took place during that week. The weather was fine, the attendance good, and taking everything into consideration this was thought to be one of the most successful meetings in the history of the Society. Nearly 150 delegates were sent by the various State horticultural societies, chosen from among their most successful men.

Many of the professors of horticulture of the several experiment stations were also present, and other prominent men. Seldom has there come together at one meeting so many and well known horticulturists.

The exhibition of fruit while good was not representative, the chief exhibitors being the New Jersey State Horticultural Society and Ellwanger and Barry of Rochester, N.Y., the latter firm exhibiting about 100 hundred varieties of pears.

The papers and addresses were all of a high order and showed the rapid advance that horticulture has made during the past few years.

The programme was carried out almost as advertised and the chairman kept the audience strictly to business.

Thursday morning was devoted to the addresses of welcome and response, followed by the President's address, which was very encouraging for the future welfare of the society. Prof. Thos. Meehan in his address on "Philadelphia's Contributions to the History of American Pomology" were very interesting, as he told of the introduction

and origin of many well known fruits. The talk on "Culture" by Mr. J. H. Hale was such as one would suppose a man of Mr. Hale's force of character would be supposed to give. No half way measures please Mr. Hale, and the striking examples he gave of the advantages of thorough cultivation, were ample proof of the wisdom of his practice.

On Thursday afternoon there were several instructive papers. All who were interested in fig culture were well pleased with Dr. Howard's address. Prof. Waugh's address on "Nomenclature and Systematic Pomology," or in other words, the advisability of some change in the rules regarding nomenclature," received the attention it merited and a committee was nominated to discuss the matter and report at the next meeting of the society. The results of Prof. Lazenby's studies on "The origin and development of buds in certain fruit plants," showed that there was a wide field for research in this direction. Prof. Whittens experiments in the whitening of the buds of trees to retard the swelling of the flower buds in late winter and early spring, were explained in a very clear manner and listened to with great attention.

Thursday evening, Mr. H. J. Webber by means of lantern slides illustrated some of the important work he is doing in plant breeding, especially in relation to the orange cotton plant, and Indian corn. Mr. W. T. Sivinglis' slides illustrating "Horticulture along the Mediterranean" were also interesting. Two other papers were given by Prof. G. H. Powell and Prof. W. M. Munson. Prof. Powell's paper on the "Importance

BIENNIAL MEETING OF THE AM. POMOLOGICAL SOC.

of the plant individual in horticultural operations" showed that the individual characteristics in fruit were, as a rule, constant, thus proving that it was important to propagate from plants of trees with the best characteristics. Prof. Munson's paper showed the possibilities in growing of blueberries, which is an important industry in some parts of Maine.

On Friday the election of officers resulted in returning the same men as had been in office for the past two years. President, C. L. Waltrous, Des Moines, Iowa; Secretary, Wm. A. Taylor, Washington, D. C.; Treasurer, L. R. Taft, Agricultural College, Michigan.

In his paper on "American Horticulture at Paris in 1900, Col. G. B. Brackett emphasized the necessity of preparing an exhibit worthy of the United States, and of the importance of the fruit industry. Mr. J. W. Kerr, Denton, was very severe on dishonest packers and commission men but did not seem very hopeful that they would do much better in the future. We favoured selling direct where possible, and also trying to induce purchasers to come and buy

rather than to sell through commission men.

Prof. Wm. B. Alwood gave some interesting facts regarding fruit growing in Virginia, but lack of time prevents him from fully covering his subject. Prof. John Craig read a paper on the effects last winter on fruit trees in the west. He said that when the roots were protected in some manner there was not so much injury. He strongly recommended cover crops.

On Friday afternoon, Prof. S. A. Beach addressed the meeting on the "Improvement of the Grape," a subject of much interest to many present. The improvement in the native grapes during the past fifty years has been remarkable.

While the papers were all instructive, it was felt by many present that if there had been fewer papers and more discussion from the delegates who had come from widely different climates and varying conditions, more information of a practical nature would have been obtained.


W. T. MACOUN.

Ottawa.

BRITISH PREJUDICE AGAINST OUR GRAPES is absurdly strong, and we have a task before us to overcome it. Unfortunately all attempts thus far made to introduce Canadian grapes have been with mixed varieties, of which Concord and Niagara were prominent, and these are extremely poor in quality when compared with the English hot-house grapes. From these our English friends have judged all Canadian grapes unfavorably, and the wholesale fruit men entirely discourage any further attempts to introduce this fruit. Nevertheless we still intend to persevere, but on a different line. The Ontario Fruit Experi-

ment Station Board have authority from the Hon. John Dryden to make an experimental shipment of Rogers grapes to Manchester, and we will forward these about the end of September. This is a kind that is sure to win favor and overcome the present prejudice. At the fruit building of the Industrial, we had a visit from two educated Scotchmen, and we asked them what about sending over our grapes. "Oh," they said, "they are a bad flavor." We handed them a bunch of Rogers 9, and asked them to test them. "Why," they said, "those are fine!" One instance of prejudice overcome already!

THE UNPRODUCTIVE ORCHARD.

 ONE of the most discouraging features of fruit growing is unproductiveness on the part of orchards of bearing age of apples. The Baldwin has developed this fault to an alarming extent in some fine orchards in the Niagara peninsula which have been planted twenty-five or thirty years. The Kitchen orchard for example, over thirty years planted has never given more than three or four real good crops and is now being taken out root and branch. The E. J. Wolverton orchard is following after much the same fault, although in 1896 it yielded a tremendous crop. As we remarked in our last article (p. 344) on unproductive orchards, this evil may result from soil uncongenial to the apple; viz., a sandy loam, of such natural depth and fertility that the wood growth is stimulated rather than the fruit production. This is substantiated to some extent by the productiveness of the same variety on clay soil under good cultivation, where the fruit is also better colored. Bailey suggests a startling possibility in his Principles of Fruit Growing, namely that after years of unproductiveness, trees may perhaps be-

come so fixed in this bad habit of unproductiveness that no amount of good treatment can make them bear satisfactorily. Another explanation may be in the propagation of the variety. We all know that certain trees in an orchard have a tendency towards scanty fruit bearing, and scions cut from such a tree would perpetuate the fault. Nurserymen seldom consider this, and cut their scions indiscriminately, and possibly this may explain the wide spread unproductiveness of the Baldwin.

Now for a remedy. First let us say we would recommend digging out the orchard unless it is comparatively young. There is too much value in the fine trees of fifteen or twenty years growth, to throw it away in a brush heap and then begin de novo with new plantings. We would advise top grafting with a variety that is productive. The Ontario, for example, has all the excellence of Spy as winter export apple, and is almost over productive of large even sized fruit. If the unproductive Spy was top grafted with it or some other first class productive variety no doubt the result would be most satisfactory.

THE REPORT OF THE COMMISSIONERS on the San José scale has just been published. The following are the suggestions made:—

“That the utmost care be taken to prevent the scale from spreading.

That valuable trees be not destroyed when it may seem possible to save them without serious risk of infesting neighboring orchards.

That the owners of orchards, especially those who are directly interested by infestation or exposure, be enlisted as far as possible

by and with the official workers in the effort to exterminate the scale.

That a brief circular of instruction in regard to the most important facts in the life history of scale-insects, and of the San José scale in particular, and the approved methods of treatment be prepared at once and sent to every orchardist in the infested areas.

That a plan, something like that submitted herewith, be adopted, to encourage every owner of an orchard in the Province to make a careful inspection of his orchard next winter, with a view to discover whether or not there is any San José scale in it.”

REASONS OF FAILURE IN SPRAYING.

BY JOHN B. PETTIT, FRUITLAND, ONT.

THE display of sprayed and unsprayed apples that was put on exhibition at the Toronto Industrial Fair by Mr. W. M. Orr, Superintendent of spraying experiments for the Province of Ontario, could not be anything but a most excellent educator to the agriculturists of the Province and more especially to those being engaged in fruit growing. While there were thousands who appreciated it as such, there were many, who claimed to be up-to-date fruit growers, declared that it was not an honest exhibit and that they had personally proved the art of spraying to be a failure. While we do not mean to say that all who have carried on the work have experienced benefit therefrom, it is almost unnecessary to state that the reason of this is not because there is no efficacy in the work, but that the work has not been properly carried on.

There are several reasons why spraying has proved a failure in some instances in the past, the principal ones being:— (a) The use of wrong mixtures; (b) uneven distribution; (c) applications made at improper time; (d) lack of thoroughness in work.

In the various papers that have in the past devoted space to the subject of horticulture, there have been many formulas printed, some being correct, while others again have been decidedly wrong. When we consider the success that has attended the efforts of the Government in experimental spraying, we would naturally conclude that the solution used was a proper one, or nearly so. The use of the same has also been advised by most State experimental stations.

That this solution may be evenly dis-

tributed, the ingredients must be dissolved and kept agitated. It is a mistaken idea with many farmers, and not a few fruit growers, that as long as the Paris green and water meet in the barrel everything will turn out satisfactorily, and accordingly the poison is weighed (or, what is a very bad practice, *measured by guess*) and then it is thrown into the barrel. This is the careless, lazy man's method, and worthy of nothing but condemnation, as much of the Paris green will float on the water and never become dissolved, and as a result the insects would sustain no injury. To properly dissolve the Paris green, it should be put in a cup or bowl and a few drops of water added to it. Then stir until the water is taken up and add a few more drops. Keep this up until you have a thin paste, which will be but a very short time, and every particle of the poison will be thoroughly dissolved. Then put it in the barrel of water.

To dissolve the copper sulphate, it should be put in a coarse cloth or leno and suspended in *hot* water. Keep it *hot*, and it will take but a few minutes to get it ready. Be sure it is dissolved in a wooden receptacle, as the sulphate would ruin any metal vessel. When these ingredients are thoroughly dissolved and lime is slaked, all are mixed, passed through a screen into the barrel and kept thoroughly agitated, and even distribution of the poison is assured.

As to the time of spraying, the orchardist should give considerable thought. Many insect eggs hatch before the buds burst and the young feed upon the swelling buds. As these worms are more easily killed when small than when they have attained full growth, it is advisable

to give one or two applications before blooming time. This is also the best time to combat fungus. To be effective against the Codling moth, the apple's worst insect enemy, the applications should be made immediately after the bloom has all fallen, and then again ten or twelve days later, before the calyx cavity has closed up, as it is in this cavity the most of the worms are killed. Care should be exercised to select a time when the air is quite still, and when appearances point to at least two or three fine days to follow, and spray with the greatest care.

But of all the reasons of failure in spraying, the last mentioned—"lack of thoroughness in work"—is the most prevalent. Some men appear to think that as long as the solution is thrown at the tree the work is done, but it must be remembered that "whatever is worth doing is worth doing *well*." Every part of the tree should be covered, from the point where the soil encircles the trunk, to the tips of the longest and highest limbs. The trees should not be drenched, but *sprayed*. If one holds a piece of glass over the mouth of a teakettle, it soon becomes covered with what appears like a heavy fog or dew. Hold it few seconds longer and the dew will

drop off in the form of water drops. Just so will the solution act upon the leaves of a tree. When the leaves and branches become coated with the spray the tree should be left, as but a very little more will cause the solution to begin to drip; it will then run to the edges of the leaves and drop off, and they will simply have had a wash, and the insects will eat away unharmed. That this may be done successfully, the spray must be broken up into *very fine* particles. To thoroughly spray trees, it is necessary to have a good spraying outfit. The pump must have great power, the hose and extension must be of good length, and the nozzles must break the spray into very minute particles. At this work one should act as at voting time—"early and often."

With the exercising of more care in the preparation of solutions and applying the same, better results would follow, and many who now condemn spraying would be loud in its praise.

NOTE.—The writer has had charge of the Government spraying experiments in the "Eastern" division for two seasons and has had ample opportunity to prove the effectiveness of thorough spraying.



THE ROYAL HORTICULTURAL SOCIETY OF ENGLAND.

THE Royal Horticultural Society of England being very old and most favorably located, is very strong. There are now about five thousand members. These pay in membership fees and in special funds about \$30,000, or \$6 apiece yearly; something like \$15,000 more is realized as receipts at their shows, making an annual income of \$45,000.

Amateur science is a great fad in England. Many wealthy men take up science for science's sake and make much out of it. Numerous men of comparatively small incomes also make a specialty of some line. Preachers, bankers, merchants and even prominent brewers have their specialties, in which they have gained more or less eminence. Many of these men have been interested in botany, entomology or some other line associated with horticulture, and they naturally sought the congenial atmosphere of the horticultural society and of the various gardener's clubs, which abound in England. While these scientific men form a very interesting group of the membership, the society is made up largely of growers of flowers, fruits and vegetables.

There are not so many professional scientists in England as one would expect to find, especially in the sciences related to industries. Private enterprise having assumed to develop, direct and control things scientific, parliament and the lesser legislative distributors of the moneys accruing from public taxation have not undertaken to build up great government schools, experiment stations and scientific laboratories. We, coming after them and seeing the great need of scientific development, have

begun to push these institutions with public moneys. While our people are still in the stage of hastily getting riches, and individuals are not ready to take up all the burdens of higher education and of research, our states' taking hold of these affairs has tended to curb private enterprise. I wish we might do more to encourage amateur scientific research of a high class. Numbers of these English amateurs have done wonders in making new flowers. What could some of our bright young business men or professional men do to make their spare moments pleasant and of use, better than to work up something useful? The country homes of these wealthy amateur scientists are places of joy to the visitor.

We have much to learn from English life. They live more. They are not in such haste to leave the country for the city. I trust that the entrance of girls into our superb agricultural high school is a most important step looking towards better living in our farm homes.

Besides holding meetings and shows, the Royal Horticultural Society issues many reports and does much to promote the work of horticultural scientists. It has trial grounds where new things are tested, and if found of superior merit given certificates. Certificates and prizes are awarded at the shows also. Horticultural schools and horticultural professorships are much in the back ground, that field being occupied by the amateur workers. What little government aid there is doled out is in the main given in small parcels to various general educational schools. We are bound to lead them in horticultural

pedagogics, and their best men sorrowfully admit the fact.

While we may be able to push ahead of them in the science of horticulture, we cannot hope to do so in its practice. Their long training, their cheap labor, their more salubrious climate, their larger markets and their long experience with the things they are growing, give them the lead. Then, too, they are here near this great centre where the libraries, the botanic gardens, the large meetings and the much communication permissible by their short distances, enables the individual to learn much from others. As I listened to the venerable men of their society tell of the growth and achievements of the organization, I thought of the reminiscences of our older members. Taking everything into account, the Minnesota Horticultural Society has done a wonderful work for the people of the state. If Uncle Harris and his elderly fellow members of the Minnesota Society could be in the meetings and shows of the Royal Horticultural Society, they would go home feeling none the less proud of

having led in the growing of apples, plums, small fruits and flowers in the north star state. Peter Gideon would have felt at home in the international conference of plant breeders. His intensely practical work would have interested these men, many of whom see only the scientific principles involved.

The Royal Horticultural Society did a good thing in calling this conference. The American representatives have their heads together for a similar meeting on our side. I only wish we might have it in Minnesota. Plant breeding is in a great boom. The Americans were complimented for their keen sense of the practical. Later on I hope to present to the society a brief report of the plant breeders' conference.

The English people constantly express their warm feeling of friendship for America. They did this constantly in the meetings and banquets and before the representatives of other nations, I sometimes feared to the discomfiture of the latter.—*Prof. Hays in Minnesota Horticulturist.*

POTATOES.

OF Plums, we have the large, the small, the long, the round, the black, the purple, the red, the yellow, and other colors; and in flavor, the acid, the rough, the smooth, the sweet, and the rich, fine Gages. Varieties to please the eye, suit the purpose, and the palate.

And so with our Pears — varieties for all, from the hard, perry-making, to the scarcely less hard baking Pear; the musky, the vinous, the sugary, the buttery, and juicy; some large, some small, some round, some oval, and some pear-shaped; but, like the Plum, each so differentiated from the other

as having among them something to suit the most fastidious.

And again in the Apple, what a multitude of sizes, colorings, shapes, and textures; some semi-sweet, some semi-acid, some with just "a thought" of bitterness, some soft, some crisp, some hard (so much so that they might well be called the Dentist's Favorite), some rough to the eye, as Russets, with a pineous flavor; some smooth and brilliant in skin, pleasant to look at, but only just a little good, and some with not much quality but beauty. This is the "eye-taster," and these are called *good market* Apples; as though the

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public bought twice when they had been taken in by appearance once.

Now, this brings me to my subject. If with all these varieties, fine, luscious, and delightfully-enjoyable fruits, different form, color, and flavor to suit all eyes, palates, and tastes is offered, and fruit-lovers are not made to eat all sour, all acids, or all sweets, either one or the other, with no change or interchange; but such is the pomologist's catering, that it must, indeed, be a continuous indulgence to the fruit-lover in trying to select amongst the many, where no two are alike, that which pleases him the most.

But with the Potato, how changed is all this! We are told, but I am loath to believe it, that one that boils to "a ball of flour" is the right thing, and it must be white, and not yellow; why, I know not. I was praising a Potato a short time since to a grower, when he said, "Yes, it is pretty good; but it won't sell, mind you, for it is yellow fleshed." "Oh!" said I, "then color has something to do with it?" "Just so," said he; "they (the Potatoes) must boil white, and be 'balls of flour.'" "Oh," said I—"but why? I hate a mere tasteless ball of flour in my mouth. I want a Potato with some flavor."

Why not have different flavored Potatoes as we have different flavored fruits? I own in the shape of the Potato there is an advance, but the texture, taste, and flavor, are gone. Why is the "ball-of-flour" man to be catered for entirely, to the exclusion of those who will not have such a kind of Potato on their table? Why are yellow Potatoes not "the right thing?" When I was young, and that is a very long time ago, my brother, John Jenner Weir, F.L.S., etc., and myself, used to look forward to the coming of the new Potato. How we longed for the time. How eagerly we

looked for "the coming dish" of the then bright yellow new Potatoes; and for our dinner we wished for, wanted not anything else but these, and—butter; firm in texture, but slightly mealy, and then there was a flavor—a flavor that was not in any other vegetable; a genuine, fine mellow Potato-flavor. Oh! how we and others used to enjoy them with a never satiated appetite. "Oh, those were the days!" But now for some time I have asked for my table some new Potatoes; yes, and have had them! They, "the young" of "the balls of flour" outvie their parents in their want—tastiness. Some were like pulp of an undistinguishable kind in one's mouth, with only the knowledge that it was "nasty"; others with a sort of semi-transparent, sickly, tallowy-look like a consumptive's cheek, and these were at the "improved" price of 4d. a pound. No, there has been nothing nice or "potatory" about them! Who eats these I do not know, nor do I care, so long as they are not put before me again as food. I daresay they are very good croppers, so are called "good market Potatoes."

Not they. A good tradesman must now cater for the public's appreciable taste; rubbish may be bought once or twice, but not often. As it is with me, so with my friends. We will *not* eat the present sort of Potatoes when—"new." What I ask is, let us have a variety of flavor, flesh, or what not; let us enjoy our different textures, tastes, and not be "jumped upon," as it were, when we say we do not like insipid, dry, tasteless, powdery, balls of flour. We do not want such hot flour, but *Potatoes*, and the real quality of the Potato, with a fine and delicate though slight perfume, giving a pleasureable feeling to the palate—that from a tasteless "ball of flour" is non-existent.—Gardener's Chronicle,

CENTRAL EXPERIMENTAL FARM NOTES.—I

HORTICULTURE is a prominent division of the work at the Central Experimental Farm, as a result of which there are many objects there to interest lovers of trees, shrubs, fruits and flowers ; and it seems unfortunate that so few have the opportunity of seeing them. Thinking it might prove profitable and acceptable to readers of this magazine who are unable to visit the Farm, or who, if they do visit it, come but rarely, it is proposed to contribute monthly such notes on matters relating to Horticulture as may be deemed the most interesting and seasonable.

Unlike Western Ontario, there was comparatively little winter-killing of trees and shrubs at Ottawa last winter ; nor have things suffered so much from dry weather this summer, as in some other parts of the province. July was exceptionally wet, nearly 10 inches of rain falling during that month. August was dry and warm and by the beginning of September rain was again much needed. On account of so much rain falling when the season's growth was nearly finished, followed by warm weather, some trees blossomed the second time this year.

The Experimental apple orchard, now containing more than 600 varieties of apples, furnishes abundant data of interest to fruit growers. The apple crop was light this year, but there was about 150 varieties which fruited. A few valuable varieties which are thriving particularly well, and which are producing good crops this year, are : McIntosh Red, Shiawassee Beauty, Gano, Malinda, and Patten's Greening. The indications are that Shiawassee Beauty is going to be a valuable tree in this section of the country. It is a heavy bearer of medium sized, highly coloured fruit, which hangs

well on the tree, there being few wind-falls. The quality is very good. McIntosh Red needs no words of praise, it is one of the finest appearing and best dessert apples grown. While not bearing as heavily as some varieties, there are so many points in its favour that it will probably prove in some districts one of the most profitable apples grown.

The Ben Davis seems quite hardy at Ottawa ; but the Gano, which resembles it very much, is, I think, the better tree to plant in this part of Ontario. The Gano is much more highly coloured than Ben Davis, though no better in quality. The trees are vigorous and appear perfectly hardy.

Malinda and Patten's Greening are two promising hardy varieties from the Western States. The former is an almost sweet apple, keeping in good condition until April or May ; the latter is a large green cooking apple : season, October. Its hardiness, productiveness, and the uniformly large size of the fruit will probably make this a valuable apple in the colder parts of the country.

The collection of plums is now quite large, there being about 130 varieties growing in the orchard, most of which are improved American sorts, especially desirable for certain parts of Canada. Although there were but few plums of any kinds at Ottawa this year, 35 varieties fruited at the Experimental Farm ; most of the trees, however, bore but light crops. A few of the American varieties which are the most promising, are : Cheney, Wolf, Stoddard, New Ulm, Bicksley, and De Soto. Wyant and Hawkeye are two large varieties ; the former, however, is not as good in quality as any of those previously mentioned, while the latter is not perfectly hardy here.

CENTRAL EXPERIMENTAL FARM NOTES.

There are now 169 varieties of grapes being tested. Last year more than 100 varieties ripened perfectly here; this year there will not be many more than 25 varieties ripen, as the season has not been favorable. The first variety to ripen was Florence, a grape of inferior quality, followed by Champion, which is not much better.

A catalogue of the trees and shrubs tested in the Arboretum has been issued this month, in which may be found the names, with synonyms, of all species and varieties of trees and shrubs that have been tested here, with notes on their hardiness. This list should prove very useful to those interested in trees and shrubs, and should also prove a guide to nurserymen as to what should succeed in the colder parts of the country. This list may be obtained free on application to the Director of the Experimental Farms, Ottawa.

Very few shrubs bloom in September, and it should not be out of place to again draw attention to that now very

popular and widely planted variety of Hydrangea, *H. paniculata hortensis* (*H. paniculata grandiflora*). Beginning to flower about the 1st of August, this fine shrub is a mass of attractive bloom until October. To have this shrub bloom to perfection, it should be severely winter pruned and given an abundance of water during the summer. It has been freely planted at the Experimental Farm, and at this season of the year is very attractive, a large bed of them being particularly so. A shrub which is not so well known as the Hydrangea, but which is very attractive in the latter part of September and early October, is *Lespedeza Sieboldi* (*Desmodium japonicum*; *D. penduliflorum*). It is killed to the ground every winter, but makes a vigorous growth of about four feet during the summer, and is covered with spikes of bright, purplish-red, pea-shaped flowers in autumn.

W. T. MACOUN,
Horticulturist, Cent. Exp. Farm.

SPIRÆA VAN HOUTEI.

If further testimony is needed to insure the planting of this shrub in every garden, its behaviour this year should be recorded, for hereabouts it has been a wonder. Four plants, catalogued as "3 feet" and set out in the spring of 1896, were so wreathed with bloom as to nearly hide the foliage, and others noted flowered quite as profusely.

In an old garden filled with a greater and better variety of plants than the average garden, this *Spiræa* was particularly noticeable for its lack of pruning. Old wood that should have been cut out years ago, not only failed from

lack of vitality to bloom well, but obstructed the egress of light and air that would have perfected the struggling younger growth that should have been in its prime, so that no part of the shrub was able to do well; yet both old and new wood "did what they could" to make the world flowery and prove the excellent intentions of this shrub of the people.

If only one shrub is grown, *Spiræa Van Houtei* is a safe selection; and if a shrubbery plantation is to be made, *Spiræa Van Houtei* may well head the list.—Gardening.



FIG. 1667.—MR. KERMAN'S RESIDENCE WITH CRIMSON RAMBLER.



FIG. 1668.—CRIMSON RAMBLER FLOWER.

PASSING Mr. Herbert Kerman's one day in June we were so charmed with his Crimson Rambler roses that we stopped for a view of it to show our readers.

He has eight or ten others climbing beautifully over arches in his garden, and covered with wonderfully large and fine trusses of pretty roses, but the one climbing the verandah best illustrates our present theme, and shows the excellent effect which may be had in two or three years by its use. Figure 1669, shows one of the many trusses of roses which hang in such profusion from every plant and attracted the attention of every passer by. One lady passing in the electric car, in her enthusiasm said

to another, "Oh look at them cockscombs climbing up trellises!"

In order to give our readers a correct idea of the rose, we have photographed one single rose out of the many in a cluster (Fig. 1668) We have said a good deal in praise of this rose when promising it to our readers as a part of our plant distribution, but really we have not said enough in its praise, and we hope all our readers may have as good satisfaction with it as Mr. Kerman has had.



FIG. 1669.—A TRUSS OF CRIMSON RAMBLER FLOWERS (reduced).

THE FLORAL EXHIBIT AT THE INDUSTRIAL.



FIG. 1670.—BED OF CANNAS AND RECINI AT THE INDUSTRIAL.

It is not often that such a fine collection of choice exotic plants are to be seen at any exposition, as were on show at the Industrial this fall. The fixing of an exhibition at one central place, in proximity to so many florists and gardeners, and to so many fine public and private collections makes it possible for the Industrial to greatly excel in this respect. The very approach to Horticultural Hall was a triumphant success, bringing much credit upon Mr. Chambers the gardener in charge at Exhibition Park. Our illustrations were taken in 1898, but will serve quite well to show the excellent effects secured by the use of palms, cannas, ricinus, etc., on the lawn outside.

The exhibits inside the Floral Hall were arranged with unusual skill, and won much admiration. The following

is a partial list of those collections to which our attention was directed.

12 foliage plants in 10 inch pots, 1st. prize, Mr. Chambers, Exhibition Park, *Deffenbachia*, *Dracena Lindeni*, *Maranta Zebrina*, *Cocos Weddeliana*, *Pandanus Veitchii*, *Ficus elastica* var., *Croton*, *Anthurium crystallinum*, *Cissus discolor*, and three others.

The second prize went to Mr. Houston, gardener at the Central Prison. We noticed in this collection a fine sample of *Livingstonia rotundifolia aurea*, *Cocos Weddeliana*, and several varieties of palms.

50 foliage plants, 1st. prize, Reservoir Park collection, in which we noticed a rarity in a fine specimen of *Cycas revoluta* (sago palm) in bloom, a *Strobilanthus*, and an *Ophiopogon*.

The second prize went to Mr. Cham-

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bers of the Exhibition Park, in whose collection we noticed some splendid palms, crotons and marantas.

The third prize went to Mr. Houston, gardener at the Central Prison. In this collection there was a most remarkable plant of *Cissus*, and the best variegated

collection we noticed fine blooming plants of *Erica hiemalis*, and numerous lilies, album and rubrum.

Mr. Rennie showed a fine collection of gladioli bloom, and took the 1st prize for 10 varieties, and Mr. Houston took the first prize for collection of twelve



FIG. 1671. —AT THE INDUSTRIAL.

croton, viz., *Dracena doucethi*, probably the only one in Canada.

A pretty feature in Floral Hall was the groups of plants for artistic arrangement, and much credit was due for the success attained.

The 1st. prize was given the Horticultural Gardens exhibit; the second to Messrs. Manton Bros., florists, in whose

blooms of Waterlilies; Messrs. Manton Bros took 1st for display of fifty cut flowers, and R. Cameron the 1st prize for 50 hardy plants.

One or two fine specimens of *Acalypha hispida* were shown, and attracted considerable notice with its long cord-like floral appendages. This is an old plant, re-introduced under the name of *A. Sanderi*.

PLANTS FOR THE DWELLING AND CONSERVATORY.



FIG. 1672.—*FICUS, ELASTICA.*

THE flower-loving public is ever on the watch for something new, something wonderful, something they have not seen before, and immense is the capital that at one time or another has been made out of the fact by unprincipled growers in foisting upon the market worthless novelties or old re-named plants and advertising the same with the greatest vigor till the flower buyer: have found out the fraud.

True novelties there is always a place for, but it is not always the new that give the greatest satisfaction; in many classes of plants the very old varieties are equally as good as the newer ones that appear each year. We will endeavor to give a short list of plants that are suited to growing in either conservatory or dwelling house. The selection must

necessarily be carefully made, for an almost endless variety of plants that flourish in the moist, congenial air of the greenhouse, utterly refuse to do themselves justice in the drier air of a dwelling house. Palms are always among the first plants to be chosen, but they do not always give entire satisfaction on first trial, their culture in the conservatory hardly needs noting, shading should be carefully looked after from April 1st to October, or the sun may burn the foliage, which is a great defect. Excepting the presence of coal gas, there is no reason why palms may not be successfully grown in any window where geraniums will grow. Choose a soil as nearly all leaf-mould as you can procure, put a few pot-sherds at the bottom of the pot for drainage and then



FIG. 1673.—*ARAUCARIA EXCELSA.*



FIG. 1674.—BEGONIA HAAGEANA.

pot the palm firmly ; there is more in firm potting than is usually credited ; plants well firmed in potting require less water than if potted loosely, and such plants will make a sturdier and more compact growth. The foliage should be kept free from dust and the roots neither too wet or dry. These plants are impatient of extremes. The greatest insect enemy of palms is scale, and unless a brush is used to displace them, insecticides seem to take no effect ; the scales seem to stick so close to the leaves and stems that even powerful remedies do not seem to take effect. For years we have used a solution of whale oil soap and cheap tooth brushes to rub it in and remove the scales. The plants when cleaned receive a spraying with clear water. Fir tree oil would be equally effective as the whale oil and of decidedly more pleasant odor.

The Rubber Plant, *Ficus elastica*, is a good plant ; indeed, very few seem to

fail to grow it to their entire satisfaction. For table and mantel plants the most enduring of the Ferns will do real well. *Nephrolepis Exaltata*, the Sword fern, is a very fine plant for the house or conservatory, so are nearly all the Nephrolepis. The new variety, *N. Bostoniensis*, is particularly fine ; its strong, quick growth and the fact that with age it attains added beauty, recommends it. The Adiantums are rather difficult ferns to manage in the house unless you have provided a special fern window. The same may be said of the beautiful *Selaginella emeliana*,—it revels in a shady place in the conservatory.

At this time when fern dishes are in such favor, a few words on the subject will be appropriate. Some of the china and silverware dishes that one sees seem to be made for show rather than for use, as no drainage is provided. If you get your florist to fill such a dish, be easy



FIG. 1675.—SELAGINELLA EMELIANA.

PLANTING HARDY BULBS.

on him if the plants begin to sicken at an early date. With the exception of water plants nothing will do well in a vessel where water stagnates about the roots.

Sanseveria Zealanica is one of the most enduring plants we have ever come across; it will stand extremely dry air, and getting dry at the roots does not seem to bother it much either. On the other hand we have seen fine large specimens destroyed and rotted in three weeks by overwatering. *Araucaria excelsa*, the Norfolk Island pine, is one of the most ornamental of all Conifers; it grows quickly and holds its charming tree-like form surprisingly. It is not hardy. The dwarf Otaheite Orange is a beautiful pot plant; it is hardly ever without flowers, and when the pigmy plants bear a load of their bright, small-sized fruit they are always admired. Geraniums are old-time favorites because of their easy management and persistent flowering.

Cuttings rooted last month and grown

along as rapidly as possible will make far better plants for the winter than the bare ungainly plants lifted from the flower beds.

Flowering Begonias are among the most satisfactory plants we can mention. The variety of flowers and foliage is very great; in fact, one might fill a greenhouse with specimen plants, one of a kind, and still not include them all. The old variety, *Met-Willia*, is the progenitor of a large family of seedlings and hybrids. *Velutina*, which is perhaps the most magnificent of these, bids fair to be eclipsed by the new variety, *Haageana*, the subject of the photo engraving. The leaves of this variety are larger and more handsomely shaded, and the growth is more compact. *Erfordii* is another new gem among the Begonias; a neat compact grower, producing its loads of pretty pink flowers almost incessantly.

WEBSTER BROS.

Hamilton, Ont.

PLANTING HARDY BULBS IN THE FALL.

THERE is no other class of flowering plants that gives as little trouble or can be so successfully managed by the amateur flower-lover as the bulbous class. The culture is extremely easy, as throughout their growing time they require no more care or labor than does a potato to bring it to maturity, and during their time of rest no attention whatever is necessary.

Of all the bulbous plants, the spring-flowering bulbs are most to be desired. These, which are generally called "hardy" or "Holland" bulbs, come into bloom early in the spring, some of them even showing their dainty flowers

while the streamlets are still frozen in the woodlands and the snowdrifts hang along the mountain's brow. After months of intense cold, cloudy days and seeming endless nights, there is nothing more pleasant to the eye or that gives more genuine pleasure to the heart than to see the dainty spring blooming bulbs forcing their heads through the recently frozen earth, and defying the ice king to again venture on his death-dealing mission. They come at a time when it is impossible to have any other plant out-of-doors. The house plants cannot stand the frosty nights, the perennials are just beginning to grow, and the seeds of the annuals have just been planted in

some pan or box in a sunny window. The fact that plants giving bloom at this very desirable time are of such easy culture, and that the different kinds of bulbs can be secured at such a moderate price, should induce everyone to plant extensively.

To have a succession of bloom from the time when snow is still to be seen until the last of June, one should plant scillas, snowdrops, crocus, hyacinths, narcissus, crown imperials, pæonies, daffodils, tulips, etc.

Bulbs will thrive in any kind of soil and in any situation, so no one should be without them. While this is a fact, better results are obtained when more care is exercised in the selection of soil and location. A good deep sandy soil gives best satisfaction, located where the bed may receive at least a part of the forenoon sun. In preparing the bed, it should be spaded up deep and made fine. The bulbs should be planted from two inches to six inches deep, and from three inches to six inches apart. The bed should be slightly raised above the surrounding soil, so that water will not settle around the roots and bulbs.

Although most of the Holland bulbs are perfectly hardy, they do much better if they have some protection through the winter. A covering of stable manure over the bed after it is planted in the fall, to the depth of from four to six inches, is the proper thing. This will keep the bulbs from being repeatedly thawed out and frozen up, should the winter be an open one. Besides this, the strength is washed out of the manure down into the soil by the autumn rains, and annually enriches the soil. By this annual covering the flowers are made much larger and of a more brilliant color. Of course, it must be removed as soon as the frost is out of the ground in the spring.

All these hardy bulbs should be

planted in the fall, and the earlier they are put in the better. While they may be planted on into November, if the ground is not frozen, far more satisfactory results are obtained from earlier plantings. The bulbs have to make the most of their roots in the fall, before the ground becomes frozen, for as soon as the frost is gone in the spring the bloom makes its appearance, and there is no time for the bulbs to make roots, as, instead of that, the roots must be feeding the flower and producing a new bulb. The sooner they are in the better, as more time is given for root growth, and the stronger the root the larger the flower the following spring. The first of September is the time when bulbs should be planted to give most satisfactory results.

In planting bulbs, do not mix the different kinds in the same bed. Keep the tulips in a bed by themselves, and the hyacinths by themselves, and the same with the other varieties of bulbs. Nothing gives more displeasure than to see a bed of all kinds and sizes mixed. Hyacinths of dwarf growth and tulips with long stems do not look well together. Keep each kind by itself.

Many people take their bulbs up annually, after they have ripened up in the summer, and replant them again in the autumn. This is useless. They should be left in the ground three or four years, and then the clumps should be taken up and divided and replanted. By leaving in the ground year after year finer flowers are produced, and the labor of replanting is done away with. They also multiply more rapidly when left undisturbed for some time.

Every lover of flowers should plant freely of these hardy bulbs, the culture of which is so very simple, and whose brilliant bloom is produced at a time when most desired.—Farmers' Advocate.

ROSES—CHOICE OF VARIETIES, AND WINTER CARE.

IT must be very gratifying to the amateur gardener to see the amount of interest which has developed during the last few years in the cultivation of the Rose, more especially as there seemed to be a prevailing idea that roses could not be grown successfully in this northern climate. I have been trying for the past three or four years to awaken a more lively interest in the propagation and growth of this the Queen of flowers, and think I may add, with some success.

It is from the standpoint of an amateur pure and simple (what I mean by amateur is one whose hothouse is the open garden, and old Sol furnishes the heat) that I beg to offer a few suggestions:—1st, as to choice of varieties; 2nd, their care through the winter.

Hybrid Perpetuals (so-called) are roses that will stand this northern climate with slight protection, even the hardest is better with a little covering.

I have given considerable attention to the gilt-edge list of Hardy Roses which Mr. Race kindly furnished in last month's *HORTICULTURIST*, and to say the least, I was somewhat disappointed.

With your kind permission, I will name the following, which I know from experience are worth cultivating:

DARK HYBRIDS.

"Duke of Edinburgh," "Fisher Holmes," "Louis Van Houtten," "Prince Camille De Rohan," "Charles Lefebre," "Earl of Dufferin," "Gen-Jacqueminot."

LIGHTER REDS.

"Marie Bauman," "Capt. Heywood," *Port Hope*.

M. P. Wilder," "John Hopper," "Sir G. Wolseley," "Lady Helen Stewart."

PINK.

"Mrs. J. Laing," "La France," "Magna Charta," "Madame Gabriel Luizet."

WHITE.

"Margaret Dickson," "Mabel Morrison," "Merveille de Lyons," "Marchioness of Londonderry," "Perle des Blanches."

The above list, taking all things into consideration, I believe to be as near gilt-edge as you can get.

I do not claim all this list will stand a temperature from 10° to 30° below zero; but I do claim, that if a few hand-fulls of long straw are placed lengthwise and bound to the bush, and the roots banked up with leaves or long manure, no fatal results will follow.

I would like to say a word in defence of that grand old rose, "La France." Some time ago I remember reading an article in the *HORTICULTURIST*, which I think did not do justice to this lovely flower. I would like to ask, what are its faults? As a *pink* rose, I doubt very much if it has an equal; as a constant bloomer, it is as near perfection as you come. There has not been a week during this summer I could not cut the grandest blooms from it. And for fragrance, it certainly is not lacking. To those who have not got this variety in their collection, I would strongly advise to procure soon as possible. Let me add, all my roses are "dormant budded." I would like to give my plan of protecting "Tea" roses, and may possibly do so next month.

J. G. JACKSON.

THE INDIA RUBBER PLANT.

FICUS ELASTICA (the India rubber plant), is popular as a decorative plant for rooms and windows, as a good specimen from one to three feet high, with thick stem and dark rich green glossy leaves, presents an attractive appearance. With proper treatment they remain some time in this condition, and if grown in a cool shady room the plants succeed better than in a dry and heated atmosphere. One point which helps to maintain them healthy is frequent sponging the leaves so as to free them from dust. This is an easy matter with *Ficus elastica*. Both sides of the leaves should be sponged, using soapy water. The most likely insect to attack the leaves is that little black insidious pest known as thrips, which soon does damage.

The growth of *Ficus elastica* has the tendency to extend as one stem only, and very handsome plants are formed while they remain within a length of four feet. Young stock may, however, be topped at an early stage, and this will cause lateral growths to break, two or three of which can be allowed to extend for forming plants of a more bushy habit. This is chiefly a matter of taste, and adapted in cases where numbers of plants are grown.

Suitable sized plants may be grown in from five to eight-inch pots. These are useful for room and window decoration, and for the side stages in the conservatory. Turfy loam, leaf soil, sand and charcoal, with the addition of a little peat, form an excellent compost. Plants that have been growing freely the last few months may now require a

shift so that they will become established before winter and the pots filled with roots. Pot firmly, making the fresh material as substantial as the ball of roots. The pots ought to be clean and well drained.

Watering is not a difficult matter with these plants, but it is often mismanaged in the case of house plants. What is wanted is regular attention, not exactly at stated periods, but some time every day or every other day. Apply water in sufficient quantity to pass right through the ball of roots, and wait until more is needed. Just after potting one good watering will suffice for some time, but when the pots are becoming well occupied with roots water is needed oftener. A fairly light, but not a sunny position, suits the India rubber plant best, and if the house or window is hot, shade should be afforded during the hottest portion of the day. Sour soil caused through errors in watering is the chief cause of the lower leaves turning yellow before they ought to do. It is natural for the lower leaves to fall, but when they do so the leaf-stalk separates readily from the stem.

Another course which will throw the plants into bad health is allowing them to become very dry when the pots are full of roots. If temporarily this should occur, the best course to rectify it is to plunge the plant into lukewarm water in order to moisten the soil and roots completely. When well-established and growing freely cool treatment is the best, but in spring, after repotting, or when propagating, heat and moisture are essential for encouraging new growth.—
Journal of Horticulture.

HYDRANGEA PANICULATA GRANDIFLORA.

THE notes which have recently appeared in your columns in relation to *Hydrangea Hortensia* lead me to refer to another most useful species, *H. paniculata grandiflora*. This one is probably of more value to the florist than *H. Hortensia*, producing, as it does, its large panicles of white flowers during August and later, when flowers of this color are usually scarce.

It is pretty well understood that, unlike *H. Hortensia*, this species may be pruned as severely as desired, with no loss of flowers. The result of close pruning is to lessen the number of shoots and increase the size of the heads of flowers. The florist will consider whether it suits him better to have a few large heads or a greater number of smaller ones, and regulate his pruning accordingly.

Left to grow naturally, we get our first flowers in early August, but it may be a useful hint to some to say that a partly broken branch will bloom earlier than others. A slight twist or break given a branch will cause the flower heads to expand sooner, and in this way flowers can be had two weeks before the perfect ones.

To prolong the season, cut back some of the young shoots when about a foot

in length, which, with us, is about the first week in June. New shoots will form, which will flower about the time the others are over. Still another way is to set out plants very late in spring. By the time their growth is well advanced the earlier ones will be well ahead of them, and this difference will be kept up throughout the season.

Of the typical form, *H. paniculata*, not *H. paniculata grandiflora*, there are two well marked varieties, and one of these, at least, should prove of value to florists. I refer to the early and the late flowering ones. The early one is through blooming before *H. paniculata grandiflora* comes in. The late one comes in with *H. paniculata grandiflora*. Neither makes the fine display the latter does, but where white flowers are desired the early flowering *H. paniculata* would be found useful.

The hydrangeas are easily propagated either by green cuttings in greenhouses in summer or by layers in the open ground, the cuttings and layers rooting readily. By these means immense quantities are raised without much expense, which accounts for the low rates at which they are generally sold.—Joseph Meehan, in *Florist*.

SOIL FOR POT PLANTS.

Any good, rich, open, garden soil will answer for most plants, but a soil that is suitable to grow nearly all species of plants usually grown in houses is made by cutting sods from an old field or pasture, about four or five inches thick, piling them up in a compact heap, grass side down, placing between each layer of sod one-quarter in bulk of manure (cow manure is best, but good stable manure will answer. This compost if kept moist

will be fit to use in a few months. When well rotted, cut it down and store it for use; do not sift it, except for fine-rooted small plants, but use it in rather coarse form. The sods can be rotted as above and well rotted manure added when used. This compost will grow almost any plant, and is what is generally used by all plantmen. If sod is taken from a stiff clay, add a little sand to the compost.—H. E. Gould, Sussex, N. S.

✻ Our Affiliated Societies. ✻



FIG. 1676.—NORTH AND SOUTH.

Photo. by A. H. Dingman.

NORTH AND SOUTH.—One of the trees in the above photo is a hardy apple named the Bismark, said to be a native of New Zealand; the tree is about three feet high, and about four years old. The other tree to the right of the picture, is a Southern Florida Orange, about six years old, grown in a pot. There are three apples on the apple tree, the size of a large Northern Spy, and also three oranges on the orange tree, weighing about half a pound each.

These trees were grown by Mr. Walter T. Ross, Secretary and Treasurer of the Picton Horticultural Society, and are indeed a curiosity.

We think a good name would be North and South, as the fruits of these two extremes, are brought together in this unique picture.

KINCARDINE —Friday, Sept. 8th., the third annual exhibition under the auspices of the Kincardine Horticultural Society was held in the opera house. There was a profusion of flowering and foliage plants, all neatly arranged upon tables extending along three sides of the hall, while the stage was artistically set out with beautiful specimens of the florist's care and attention. A pyramid of well arranged flowering plants occupied the centre of the hall. A fine portrait of noble Queen Victoria, draped with British flags, contributed by E. Miller, one of the directors of the society, made a fine setting in the centre of the platform. The work of the Horticultural Society is a good one. It has done more in three years to encourage the cultivation of plants, flowers and fruit than any other means would have accomplished in a quarter of a century. Although cash prizes are not offered, there is keen competition among the members numbering about one hundred, to bring everything to as near perfection as possible. The money expended

by the Horticultural Society, goes for literature dealing with horticulture, and securing the best stock from the nurseries. In the afternoon the school children were admitted free. In the evening an excellent program was presented to a good audience. Mr. S. W. Perry, *President*, occupied the chair. An instrumental duet was given by Misses L. Smith and Ada Gentles; piano solos by Misses Mackendrick, Alberta Murray, Mabel Wilson and Myrtle Huffman; vocal solos by Miss J. Malcolm and Jno McDonald, of Chicago. Mr. McDonald has a splendid baritone voice and he is an accomplished vocalist. He responded to an enthusiastic encore. Miss Miller and Mackendrick were the accompanists. Rev. Dr. McDonald gave a thoughtful and interesting address, closing with a Gaelic solo. The Horticultural Society is a flourishing institution.

PORT COLBORNE.—The first Flower Show in Port Colborne was held under the auspices of the Horticultural Society, in Mathews' Hall, recently. The hall was granted free for the occasion.

The centre of attraction was the Children's table of Asters. Such a magnificent collection was never seen in Port Colborne. Early in the summer the Society distributed packets of aster seeds to the children in the Public Schools of both villages. There were six prizes offered in each room for the best blossoms and plants. There were sixty entries, and considering the extra dry summer, this was considered a large number. In foliage plants there were seventy-seven entries, and in fruit and vegetables thirty-five entries.

The exhibition opened to the public at four o'clock and continued till ten p. m. From four to six the children of all the schools were admitted free and were entertained with two gramophones, operated by Mr. Casseis and Mr. Kenold.

In the evening a slight charge was made, and the afternoon programme was repeated.

The judges were, for the children's flowers, Mrs. DeWitt Carter and the Rev. J. M. Smith; for foliage plants, Miss Henshaw and Mr. Samuel McCoppen; for fruit and vegetables, Mr. Edwin Boyle and Mr. John Richardson. The competition was keen and many bouquets deserved notice.

The Society ought to feel encouraged to attempt something the same on a larger scale next year. Much credit is due the following members of the committee for their untiring faithfulness and energy in the matter: the Rev. J. M. Smith, chairman; Miss Henshaw, Messrs. E. Boyle, J. McCoppen, E. Milleken, Otto Kanold and S. McCoppen.

No prizes were offered in any department except for the children. In their case a first prize is three hyacinth bulbs, a second prize two, and a third prize one. These will be

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got immediately, and the children will see in the papers the date on which they are to apply for them.

CANADIAN HORTICULTURAL ASSOCIATION.—The second annual convention of the Canadian Horticultural Association began Sept. 19th, in Goldsmith's Hall, Spark street, Ottawa. The chair was occupied by the President, Mr. Wm. Gammage of London, and the other officers present were as follows:—Vice-Presidents, C. S. Crim, Ottawa; J. McKenna, Montreal; Treasurer, J. H. Dunlop, Toronto; Secretary, A. H. Ewing, Berlin Executive Committee—H. Dale, Brampton; T. Manton, Eglinton; O. Johnston, Kingston; J. Bennett, Montreal.

Shortly after the meeting opened his Worship Mayor Payment and the Civic Reception Committee waited on the session and gave the visitors a welcome to the city. The address was responded to by Mr. J. McKenna, Montreal.

The President, Mr. Wm. Gammage of London, delivered his annual address. Among other things he said:—"The past season has been one of unusual activity, and we look with pride upon those who since our last meeting have placed upon the market new and worthy varieties of roses, carnations and other plants. A certificate from the society to worthy and meritorious introductions would be a curb to over-zealous introducers and unscrupulous advertisers, and a guarantee to the purchaser that the article had been passed upon and endorsed by competent judges." The report was lengthy, and contained suggestions as to the re-adjustment of the tariff, and expressed the hope that the members would all work with experimental farms, colleges, horticultural societies and park committees to make these a success. All support should be given to exhibitions.

The Secretary's report showed a good membership, but no change from last year. There were no deaths during the year. The report of the Treasurer showed the finances to be in a healthy state, although the association was only in its infancy.

PICTON.—We have several times written the Express concerning the tropical plants cultivated by Mr. Walter Ross, of H. M. Customs, Picton, and after visiting his garden a few days ago, we cannot refrain from mentioning them again. The one great curiosity that is attracting the attention of many fruit growers in the county is a New Zealand apple tree. This tree seldom attains a greater height than three or four feet. Mr. Ross's is about three feet and has several apples about the size of the Northern Spy variety. Another attraction is a fig tree with about sixty large green figs. Then we noticed magnolias, pepper trees, mimosa plants, South Carolina fly-traps, banana tree,

and besides many others an orange tree with five or six large half ripened oranges. All these Mr. Ross manages, and brings to perfection without a greenhouse. His collection is ever varied and intensely interesting.

CARDINAL.—The Floral Exhibition given in the town hall, last Friday afternoon and evening, by the Horticultural Society of Cardinal, was a great success and was admired by all who visited the hall. To our Reeve, Mr. R. B. Dowsley, the members ascribe the success of the exhibition, for he it was who had the management of the exhibit. All the members of the society took a keen interest in the display and many who are not members contributed to the exhibit. The town hall was most tastefully arranged and the display in the evening was very beautiful, all the different colors and effects showing up most vividly in the brilliant electric light. To most of our citizens the display was a great surprise and the admiration and interest shown by all who visited the exhibit well repaid the exhibitors for their trouble. The school children were admitted after school on Friday and it was a charming sight to see the little ones wandering in speechless admiration among the beautiful flowers. In the evening the hall was visited by nearly the entire population of our town as well as by many from the neighboring country. The two special prizes were both won by Mrs. J. Brennan whose exhibit was unusually fine and testifies to that lady's love for flowers and her energy and skill in caring for them. The special prize given by Mr. R. B. Dowsley for the largest and best exhibit was a beautiful and costly vase.

The president of the society, Mr. Wm. Beddie, gave a special prize, a very handsome jardiniere for best collection of house plants. Among the plants and flowers that attracted the most attention was a magnificent palm from Mrs. Benson's conservatory, a very fine fuchsia exhibited by Miss Monaban, and an extremely fine rex begonia exhibited by Mrs. Gow. The collection of sweet peas exhibited by Mrs. Gow was the most beautiful the writer ever had the pleasure of seeing, and the pansies shown by Mrs. J. Brennan were exceptionally dainty, and most artistically arranged. We have not space however to enumerate all the beautiful flowers that were exhibited. We hope that the society will flourish; for nothing conduces more to the good of a town and the elevation of our youth than the successful work of such a useful society. The work accomplished already has been wonderful, and the society deserves great credit for their unselfish and energetic work in the interests of our town, in cultivating the taste for the beautiful and artistic. Their first exhibition has been successful beyond the fondest hopes of its promoters and we hope the next one will be still better.



The Canadian Horticulturist

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

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

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

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

Notes and Comments.

THE COLUMBIAN RASPBERRY originated with Mr. J. T. Thompson, Oneida, N. Y.

EXPERIMENTAL FARM NOTES will be a new heading in this Journal. Beginning with October, Prof. Macoun, the horticulturist at Ottawa, will write articles treating of the results attained at the farm, of most interest to fruit growers. This will form a pleasing addition to the subjects treated on by THE CANADIAN HORTICULTURIST.

CERRIES AND MILK if taken together are counted unwholesome, owing to the amount of prussic acid contained in the former. Especially should over ripe cherries be taken in milk with caution, lest they cause fermentation and much pain. Even poisonous effects might result if taken too freely.

WOMEN are usually found to be the best packers of fruit. Their fingers are nimble, and they have good taste in arrangement. At Maplehurst the apples, pears, peaches and plums are gathered by men, and brought to the packing house, where the women do the principal part of the assorting, grading and packing. Miss J. L. Buchan is spoken of in the Fruit Trade Journal as the pioneer fruit packer of grapes at Southern Pines, N. C. She has a corps of experienced girl-workers trained by herself, who pick the grapes, trim the clusters, line the baskets with paper lace, and her success is largely due to the attractive get up of the fruit. Miss Buchan also superintends the shipping.

A NEW APPLE CASE.—The Department of Agriculture at Ottawa is said to have adopted a new case for the export

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of Canadian apples. It is a wooden box 10 x 18 x 12 inches, with four sets of card board divisions, so arranged that the whole case will hold twelve dozen apples. The same principle has previously been used by Mr. R. W. Shepherd, of Montreal, in the Cochrane case, which he has used in shipping tender summer apples to Great Britain. We gave cuts of the Cochrane case on p. 115, CANADIAN HORTICULTURIST for 1893. Such a package will insure uniformity of size, but the same object is secured by use of an apple grader, and the ordinary bushel box, 12 x 12 x 24, can then be used with results, in our opinion, quite as good.

PEARS IN LONDON.—So early as July 27th, French pears were coming into the London market, and Williams (our Bartlett) were making 6s. to 7s. per box of 48, and the California Williams 6s. 6d. to 7s. 6d. per half case, and the Souvenir du Congres from 6s. 6d. to 7s. 6d.

THE ALICE GRAPE is a new red variety, originated about ten years ago and now being placed on the market. The quality is excellent, and the season a little in advance of Concord. It is a good shipper and long keeper.

THE CARRIAGE OF OUR APPLES in transit to Great Britain, in the past, has certainly been extremely faulty, and has resulted in thousands of dollars loss to our Province. The agitation for honest packing and careful selecting and grading is a vain effort, unless the steamers are better fitted up so as to carry our apples in ventilated chambers instead of locking them in the oven like holds in which they have been stowed in the past. Mr. Robertson in his evidence on the "Apple Trade," given 16th of May, 1899, says :

"Taking the shipments on Canadian Apples last fall which are Ontario mainly, a few perhaps from Quebec, sold in Liverpool by two different sets of salesmen ; taking a quantity of 14,416 barrels going by 17 different steamships and sent forward, as near as I can make out from the brands, in about 185 different lots, the brand is sometimes so much like another brand that it may have been the same—but that is a very wide range you see of data from which to make a calculation. There were nearly 15,000 barrels on 17 steamships sent forward in 185 different lots. The account sales show this that out of the total quantity there were only 5,928 barrels sold as tights. There were 2,793 slacks, 2,446, slightly wet, 1,997 wet, and 1,252 wet and slack. That is to say rather more than one half of the apples shipped in these lots were sold as slack, slightly wet and wet. The difference in price realized by these apples is very great. The only way to get any fair information on this is to take a lot of apples sent by one ship and pick out the apples of the same class sold as tight, and the others of that variety sold as slacks or wet. Going over the list and taking out the apples of the same variety under these conditions the slacks on the average sold for two shillings and seven pence less than the tights. The slightly wets, for three shillings and eight pence less than the tights, the wets for seven shillings and three pence less than the tights, and the wet and slacks for nine shillings and eleven pence less or nearly ten shillings and of these wet and slacks there were 1,252 barrels."

We are promised by the Department at Ottawa, that a special inspector will be provided at the great shipping ports to see after the proper storage of our apples and shipboard, and we can there-

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fore expect a vast improvement in our returns this season.

—
DISHONEST PACKING is so crying an evil that our association must not let it drop until the evil has been done away. The subject will be again debated at our next meeting, which will be held at Whitby, next December. The Superintendent of the Government Cold Storage building at Calgary, last year, bought a barrel of Canadian apples for himself, and found two rows of good apples at each end of the barrel, and the rest made up of windfalls and other rubbish.

—
SAUNDERS is the name of a new seedling gooseberry, originated by Dr. Saunders, Ottawa, the best of quite a number of his hybrids. A cut of the gooseberry appears in the report of the Horticulturist for 1898 and it is described as follows: Bush, a vigorous grower and a moderate bearer; fruit, very large, nearly round, sometime slightly oval, brownish-red, smooth; pulp sweet, sprightly and of fine flavor; quality very good. Ripe 22nd of July. Free from mildew. Our readers may secure this report by writing (postage free) to W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

—
THE PROGRAMME of the meeting of the American Pomological Society at Philadelphia, last September, showed a feast of good things. The following are a few of the papers and writers: "Nomenclature of Systematic Pomology," Prof. Waugh, Burlington, Vt.; "Origin and Development of Buds in certain fruit plants," Prof. Lazenby, Columbus, O.; "Relations of Cold to the Flower buds of the Peach," Prof. Whitten, Columbia, Mo.; "The Blue Berry, its Past, Present and Future," Prof. Munson, Maine; "Systematic Plant Breed-

ing," Herbert J. Webber, U. S. Department of Agriculture; "Evils Attendant on Providing Methods of Marketing," J. W. Kerr, Denton, Md.; "Relation of Commercial Fertilizers and Soiling Crops to Fruit Culture," H. E. Vandeman, Parksley, Va.; "Improvement of American Grapes," Prof. Beach, Seneca, N.Y.; "American Fruits for America," Prof. E. S. Goff, Madison, Wis.

—
SAN JOSE SCALE.—We trust the Department of Agriculture, Toronto, may be sustained by fruit growers generally in their efforts to clear the country of this pest, while the infested area is confined to a few square miles which is definitely known to the inspector. Let every tree and bush in that area be destroyed, at whatever cost, rather than allow it to spread.

—
THOMAS F. RIVERS, the eminent horticulturist, of Sawbridgeworth, Herts, England, died August 17th. We know him in Ontario as the originator of the Early Rivers peach, Czar and Grand Duke plums and many other fruits. Mr. Rivers was the recipient of the Victorian Medal from the Royal Horticultural Society, and is widely known as a contributor to the horticultural press.

—
THE BING CHERRY is reported in the Northwest Horticulturist as being most successful in the Puget Sound district, Washington. Trees in an orchard at Buena yielded 60 lbs. this season.

—
LEGAL SMALL FRUIT PACKAGES have been adopted in New York State; fruits are to be sold by the standard of a quart package, containing even full 67 cubic inches; the fruit package therefore being 33½ and the half pint 16¾ cubic inches. Any package of less capacity must be plainly marked

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"short," or the owner will be subject to a fine of \$5 to \$25. This law comes in force January 1st, 1900.

LIQUID AIR may yet take the place of ice as a refrigerator. Mr. Bobrick of Los Angeles, writes in the California Fruit Grower, concerning his visit to Prof. Tripler's laboratory in New York City, as follows:

"I spent almost twenty-five days with Mr. Tripler in his laboratory. What I have seen would take pages to describe. As a refrigerant there is no doubt that liquid air will replace ice just the same as gas and electricity have replaced the old kerosene lamp, and the cable and electric cars have replaced the old horse car. It is only a question of time."

Oranges were put into liquid air in my presence. They were frozen solid, then pulverized like a piece of marble. After thawing somewhat the juice was extracted by squeezing then concentrated by cold produced by liquid air, in the following manner. First Tripler froze the water contained in the juice and removed it as ice. Certain acids contained in the juice froze at a lower temperature and these, too, were removed in the form of ice. Subsequently the pure juice itself froze at a still lower temperature, leaving an acid, which required an even still lower temperature for freezing. The acid was poured off and the frozen syrup, absolutely pure in a concentrated state, was used for making ice cream, etc.

CROP REPORT.—Bulletin 70 of the Bureau of Industries is just to hand, from which we make the following extracts:

Fruit.—There is likely to be a scarcity of fruit this season owing to various causes. The severe winter destroyed a larger proportion of the fruit trees in some sections, and appears to have injured many which survived. Heavy rain during the blossoming season greatly interfered with fertilization, as did frost in some neighborhoods. The tent caterpillar, curculio, codling moth and other injurious insects have also made great havoc among the orchards, except where they have been kept in check by systematic spraying. The apple crop is very light, but as a rule the

quality is good, and the fruit fairly free from scab. The winter varieties promise better than the earlier kinds. Plums have done rather better than apples, though greatly subject to attacks of the curculio. The yield in most localities where they are grown is poor, but they will be abundant in some places. The peach crop is practically a failure owing to the general destruction of the trees, which suffered more severely from the winter than did the other varieties. Those which remain have borne fairly well in some neighborhoods, but the total product is small. Pear trees have not been so prolific as usual, and the supply will be light. There was about an average crop of cherries, though some damage from worms and black-knot is specified. Reports concerning the vine yards are highly encouraging, the vines being healthy and well laden.

Potatoes.—There promises to be a good yield of potatoes, though in many quarters rain is badly needed, and in consequence of long-continued drouth the early potatoes have been somewhat small in size. Reports as to the present appearance of the late potatoes are generally favorable, one especially encouraging feature being the decrease in the numbers and destructiveness of the potato bug, caused by the severe frosts of last winter. In some neighborhoods, however, this pest is still as active and injurious as ever, and on low-lying lands a good deal of damage was occasioned by excessive wet in the early part of the season.

JUDGING AT FAIRS. — One of the most difficult duties facing the Board of Fair Managers is the securing competent judges. Of late some of fairs are referring the selection to the various associations for lists of suitable persons. In this connection the following on

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grape judging from the Gardener's Chronicle, may be of interest :

"Your correspondent seems to be of the opinion that no man can be a proper judge of anything he has not grown. His proposition is very much like the old saying "He who would breed fat oxen should himself be fat," It far from follows that because a man is a grower, good or indifferent, that he is therefore the best judge of the merits of the thing as presented in competition. One of the great needs for a judge is a capacity to determine merits readily—in fact, to have a thoroughly judicial mind. Then he should have no bias, and none is so likely to have bias for or against certain products, kinds or varieties, as a grower of them. How many of our best judges are there who are other than growers ; or if they have been growers, have not been so for years, yet have judicial capacity to determine merit in the highest degree ? Why, in the case of grapes, growers like to surround the question of judgment with a halo of sacred limitation, but the man in the street, in this case the crowds in the tents, are as keen to distinguish points as are the smartest of growers. If there are judges who entertain such egotistic

notions with respect to their own exclusive capacity, let them mix, when a show is thrown open, with the crowd, and listen to the people's comments. It will do much good in helping to tone down complacency. I have, in a wide experience of shows, extending over some forty years, found more mistakes of judgment made by pure growers than by those not so, and having far wider general knowledge and more liberal ideas. After all, it is the general and not the specific judge who brings to the consideration of his labors, as such, the least biased mind.

THE COLUMBIA.—In response to our inquiry about the origin of the Columbia, the originator, Mr. J. T. Thompson, Oneida, N. Y., writes :

"It is not a chance berry but I saved the seed of Cuthberts, near a Gregg black cap, fourteen years ago, as stated, and with the results as shown in the Columbian. I first put the plants on the market in the fall of 1894, and since then have sold 458,000 plants, the larger part of them transplants. I have received orders already for the coming fall and spring, for more than my present stock.



❖ Question Drawer. ❖

Blair's Seedling.

1107. SIR,—I am sending you a peach a boy took off my seedling tree, it is evidently a new one; a stranger among later kinds. Hard yet; will come in about September 20th; seemingly of fine texture and likely to be pretty; small pit and perfectly free. This is one of five; only four left; one of which is very much larger, the other three fully equal, if not better than this, as it was the lowest one on the tree and the boy reached it as easy as Eve. They will be large when ripe. Give us your opinion and oblige,

Yours truly,
JOHN BLAIR.

The sample is very pretty in appearance, and has a well colored cheek, and white flesh. The size is only medium, but large enough for a dessert peach. The specimen was scarcely ripe enough to judge of the quality.

Millionaire Peach.

1108. SIR.—I am sending you a sample of my Millionaire Peach which you will see ripens immediately after the Early Crawford.

E. D. SMITH.
Winnona.

We are in receipt of a very beautiful sample of peach to-day from Mr. Smith (Sept. 12th), which well deserves notice providing the tree is hardy and productive, and the fruit should average anything like this specimen. It very much resembles a fine sample of Early Crawford, but the form is rounder, the cavity and suture deeper, and cheek a darker red. The flesh is a beautiful yellow, of tender texture, juicy and highly flavored, quite equal to that of the Early Crawford, while the pit is smaller. Coming in at the season of the late Crawford, it has no competitor that we knew of unless it be the Wonderful, which is also of about the same season. It precedes Elberta, apparently by about a week.

Seedling Grapes.

1109. SIR,—I am sending you by mail a bunch of grapes to see if you can give me the name of them. It is a pure seedling.

JOHN DOUGLAS,
Newcastle.

A seedling grape has no name, it is not a known variety at all, but a new variety produced by growing a plant from seeds. When it is given a name it is no longer called a seedling. The sample was crushed in the mail being packed in a pasteboard box.

Mr. Penny's Bill Regarding Fruit Packages.

1110. SIR,—I should like to know whether Mr. Penny's bill relating to the size of fruit packages is now, or likely to become law?

D. J. STEWART,
Aitken's Ferry, P. E. I.

No, Mr. Penny's bill has not become law; but the amendment to the Weights and Measures Act, of which the text was given on page 307, has become law. This regulates the size of the Canadian apple barrel, making it 27 inches between heads, inside measure; head diameter 17 inches, and middle diameter 19 inches. The barrel must be head lined and sufficiently hooped. Anyone shipping apples in barrels not in accordance with the Act is liable to a fine of 25 cents for each barrel.

It will soon be necessary for the Act to be still further amended, so as to regulate the size of bushel boxes and other cases for fruit.

Shaffer or Columbia.

1111. SIR,—Which is the best raspberry, Shaffer or Columbia? I want a kind that will not sucker.

F. HEBEL.

There is little difference between these two varieties of raspberry. Probably the latter is a little stronger grower of the two; neither are inclined to sucker, but root from their tips the same as Black Caps do. Any nurseryman will supply them.

Mealy Bug.

1112. SIR.—I should be glad to know how to deal with mealy bug on house and greenhouse plants?

I. A. R.,
Chateauguay Basin, P. Q.

In case there are only a few mealy bugs, try brushing the parts affected with alcohol; if bad, try kerosene emulsion, applied with Mitchell's hand sprayer.

Miller Red and Marlboro'.

1113. SIR.—How many days earlier are the Miller Red and Marlboro' raspberries than Cuthbert?

How do these varieties compare with Cuthbert in productiveness and shipping qualities?

D. J. STEWART.

About ten days. These are not nearly as productive as Cuthbert, but on account of their earliness they are profitable.

Early Blackberry.

1114. SIR.—Can you name a hardy productive blackberry, earlier than Taylor's Prolific? I have Taylor's Prolific, which is not very productive and is too late.

D. J. STEWART.

The Snyder is an equally hardy variety with the Taylor and more productive, but the berries are usually smaller, and about the same season.

Agawam is hardy, though perhaps not equal in that respect to either of the two last, but it is earlier, and of superior quality.

Early Harvest is of good quality, quite early, but not very productive.

The Spaulding Plum.

1115. SIR.—What do you know about the Spaulding plum?

D. J. S.,
Aitken's Ferry, P. E. I.

This plum belongs to sub-section *Prunus domestica*, which includes the European varieties. The tree is of Pennsylvanian origin, a strong vigorous grower. The fruit is large, round, yellowish green, with delicate white bloom; flesh pale yellow, firm, sweet and good, especially for canning. Succeeds in Canada and New York State, how far north in Canada, we have not yet determined.

Glen's Arborine.

1116. SIR.—Have you tested an article called Glen's Arborine, manufactured in Montreal, a tree paint for all sorts of fruit trees? Can you recommend it?

H. KLIPPERT,
Slayner, Ont.

We have never tried this preparation for any purpose. Who of our readers can reply?



* Open Letters. *

Annual Plant Distribution.

SIR,—As an example of the value of the annual premium plant distribution, I may say that from the two Conrath Raspberry plants you sent me I will have 525 tip plants and 50 one-year plants this fall, which at \$5 per 100 for tips and \$8 per 100 for one-year plants amounts to a snug sum.

Yours truly,
D. J. STEWART.

Aikens Ferry, P.E.I.

Japan Plums in Simcoe County.

SIR,—As there is much interest taken in the Japan plums at present in Ontario and many doubts expressed as to their ability to stand our climate in this northern section of the province, allow me to give my experience with the two varieties of these plums. Three years ago I sold a number of Abundance and Burbank trees in this neighborhood, being doubtful about their hardiness. I sold only two to each person, and after selling to six farmers stopped recommending them.

I have watched these trees closely and have to report favorably. Last year they all bore a dozen or so of fine plums and made a wonderful growth of wood.

This spring I was almost afraid to visit them, but did so and found the buds all right, and better still, they not only came through the hardest winter on trees ever experienced here, but have made a splendid growth during the summer and have borne fruit. A gentleman told me a few days ago that his trees gave a nice little crop and that he was delighted with the quality.

I have set out a couple of Wickson, Willard, Abundance and Burbank so as to test them at home.

S. SPEEDWELL.

The Church in its Relations to Horticulture.

SIR,—One of the primary and standard dogmas of the church militant is the fall of man as recorded in the inspired account of the creation and subsequent banishment of man from his primary surroundings. The one side only of that dogma has been dwelt upon by the church from its very earliest days down to the present time, while the other side is scarcely ever touched upon. The condition to which man fell with his weary toiling and his sweating, his physical burdens and his mental suffering have been pictured to him, without stint and without end. The primitive condition from which he fell and the desirability of returning to them is scarcely ever intimated from the pulpit or in the Sabbath

School room. Surely it is a more attractive and pleasing theme to contemplate—the happy condition from which man fell than the miserable state to which he descended. Why not dwell more upon man's surrounding in his harmonious relations to his Creator than upon his fallen state? In his first condition man was perfect in his moral relation to his God, and his surroundings were in keeping with his perfect moral nature. He dwelt in a paradise. This was his estate, the condition to which he was created. When he fell through transgression he was driven from his surroundings. The bare and naked earth was good enough for him in his degenerate nature and he had to toil for a living. But he had a means provided for him whereby he might renew his moral relations to his maker and again bring himself into harmony with his Creator. This the church has preached to him throughout the ages and endeavored to lead him back to God. But what about his outward surroundings when he does come back?

If God intended man to dwell as a perfect creature amid perfect and beautiful surroundings what does he expect of him when he seeks to be restored to his higher condition in his moral relations? If the fruit of the vine and the fig tree were necessary to his perfect life, and the paradise of flowers and shubbery were his natural surroundings, why are these things not essential to his social, moral and physical happiness in his regenerated nature? In accepting the atonement in order that he may bring himself into moral harmony again with his Creator as he performed more than half his obligation to be performed—that is to surround himself with the fruits and flowers and all the beauties in nature which God had given him—where does the obligation of the church lie?

Has it not been the experience of every horticultural lecturer to hear the excuse given for the small attendance at local society meetings that there is something going on in some of the churches? Has it not been the experience of every horticultural society that they cannot get the people, and especially the young people, to attend their flower shows because of some, perhaps unimportant social function in some of the churches? If there is a circus coming to town, or a horse race, or any other manner of entertainment of suspicious morals or questionable influences the church will naturally feel it its duty to preach against it and exhort its people to keep away. This is the duty of the church universally acknowledged even by those who heed not its exhortations. But when the people of a community provide an attraction that is really refining, socially and really elevating, and in every sense instructing, by collecting together an aggregation of fruit, and flower and plant and shrub, the best and most beautiful in nature the church cannot lift their voices

against it, or exhort their people to stay away but they can and often do provide—unthinkingly perhaps—some trifling social function to keep them away. Is the church fulfilling its mission to man, to the world, in neglecting the cultivation of the outward adornments of regenerated mankind and teaching the value of beauteous and attractive home surroundings?

If there was a little more time devoted by the church to teaching God through nature and a little less given to dogma, creed and the catechism, it would have built up a brighter, broader and better manhood and womanhood in our fair land. Not that I disbelieve in either dogma or creed, but I hold just as firmly to the doctrine that the professed Christian man or woman, who neglects to cultivate the outward surrounding to harmonize with the regenerated moral nature has performed half only of the obligation. And I hold it the duty of the church, in the performance of its full mission, to cultivate in all communities the best side of life by its teachings, its influences, and its examples. Let it continue to preach moral and spiritual regeneration through Christ; let it continue to exhort against the circus and the horse race, but it can well afford to forego some of its trifling social functions to encourage the love of nature among its young people in the cultivation of fruits, flowers and all manner of refining home surroundings.

Where there is a local Horticultural Society every clergyman in the place should be an

active member of that society. If he lack taste, natural inclination, or fail to fully appreciate his whole obligation to the Divine ideal, he should be made an honorary member and prevailed upon by constant solicitations to give his encouragement to nature study; and to stimulate in the hearts of his young people especially, a deeper interest in the charm of attractive home life and a greater love for the cultivation of those things which tend to the social and moral elevation of mankind. As an association of horticulturists we need the co-operation of the churches in our work.

T. H. RACE, *Mitchell*.

Cardinal Horticultural Society.

SIR,—We had our exhibit on the 15th ult., and I may say it was a success, as it was a very much better display than I had any idea we would be able to get up. We gave the members full swing in getting up their exhibits, i. e., we did not keep them to plants, etc., of their own raising. Next time each exhibitor will have to show their own product. I am afraid our subscription list next year will swell too high for our grant if the people feel about it as they do now. I enclose you a clipping from the local. I may seem a little flowery but I think it expresses the general feelings. The writer of the article is not a member of the society.

E. E. GILBERT, *Sec.*

CULTURE OF HYDRANGEAS.

To have a fine display of large flower clusters upon the Hydrangea, as soon as the old clusters begin to fade cut them away, taking with them a large part of the branch upon which they are produced. New, vigorous sprouts will then push out from the base of the plant, and these can be left untouched till spring. The plants will drop their leaves in the autumn, and should be kept in a cool but frost-proof place through the winter, watering, however, without interruption, as the plants are injured even in a resting state, if allowed to become dust-dry at the roots. As the buds begin to swell toward spring again, cut back to a few eyes, and encourage the growth of new, vigorous sprouts from the base, each one of which will produce a fine large flower-cluster. To promote a vigorous growth use manure water while the plants are

developing, but when the buds and flowers appear avoid it if you wish flowers of a clear, bright color. Iron filings may be used then to give a bluish color, and bone-dust to brighten the pink color. A six-inch pot will answer for the same plant for several years, if treated in this way.

Hydrangea paniculata when grown outdoors should be vigorously pruned in the spring. Some persons recommend cutting the plant every year almost to the root—apparently cutting the entire top away. For a grand display of bloom this vigorous pruning is worth adopting. The panicles are not so numerous, but are far larger and show finer flowers. For autumn-blooming this is one of our best shrubs. It is alike useful for either garden or cemetery. It likes a rich, moist loam and sunny exposure.—*Park's Mag.*

PLUMS—A COMPARISON OF VARIETIES.

THE following list of plums contains some of the most desirable for the State. Those varieties which are denominated as American are natives of this country, and, as a rule, are hardier than either European or Japanese varieties. The American sorts are subdivided into several classes, but no classification is attempted here. Because of reliability most of them may be safely planted, but they are less salable than the European varieties, hence as an orchard venture, the planting of American sorts could be easily overdone.

Successful orchard culture of plums must, in the future, depend very largely upon the selection of the best varieties for market. As a rule these must be those bearing the largest and most showy fruit, and must be so selected as to cover as long a period of ripening as possible. All of those named, and many more, have been grown at the Ohio Experiment Station, but the conclusions drawn are not merely from the Station tests but from observations elsewhere as well.

German Prune—A reliable variety, especially valuable for market. Fruit medium to large; dark purple; of good quality, season medium to late. Rather a weak grower and succeeds better if top worked on some free growing sort.

Pond's Seedling—Fruit large to very large, of medium quality; bright red; tree vigorous and prolific, but fruit inclined to rot. Not regarded as a very profitable market sort, and not high enough in quality for dessert. Season late.

Grand Duke—A very fine, large, late variety; dark blue in color and very attractive in appearance. A slow grower and ought to be grafted on some other vigorous hardy variety.

Lombard—An old standby. Reliable and valuable, although considerably inclined to rot. Medium size; coppery red; fair quality. Inclined to overbear and needs close pruning.

Bradshaw—Tree a fine grower and prolific, but rather long in coming into bearing. Fruit

large, purple and of good quality. The earliest of the large sorts and one of the best for all purposes.

Wolf—One of the best of American varieties, but inclined to overbear. The trees begin bearing early and need close pruning to thin the fruit.

Spaulding—A yellowish green plum of excellent quality. Choice for home use but may not be sufficiently prolific for market. The claim of the introducer that it is curculio proof is unfounded.

Yellow Egg—A fine large yellow plum, suitable for canning, but not of first rate quality. Season medium to late. Inclined to rot on the tree.

Cor's Golden Drop—A large, late ripening, yellow variety. Tree a slow grower and should be top worked on some free growing sort.

Tatge—Said to be very hardy but can hardly be distinguished from the Lombard.

Weaver—One of the best of the midseason American sorts. Rather dull in color but excellent for culinary purposes.

American Eagle—One of the best of the American sorts because of large size and good quality.

Imperial Gage—A greenish yellow plum of the best quality. Especially desirable for the home garden.

Richland—A reliable midsummer variety, but too small for market purposes.

Missouri Green Gage—A greenish yellow plum, similar to Green Gage, but a little larger. Of the very choicest quality. Season medium to late.

Reine Claude de Bavay—Greenish yellow; late in ripening, of the best quality and very prolific. One of the best either for home use or market.

Arch Duke—A large dark purple, late ripening sort and very promising, but not fully tested.

Reed—A wonderfully prolific American variety. Fruit of medium size, bright scarlet; very beautiful and with very much of the Damson flavor when cooked. Very ornamental in foliage, flower and fruit.

Golden Beauty—A very pretty yellow fruited American sort. Suitable for canning.

Prairie Flower—A medium to large American sort of good quality with but little astringency. Does not drop as badly as some varieties of this class and appears to be very promising.

Hawkeye—One of the largest and best of the American varieties, but with rather too much astringency next to skin and stone.

Forest Rose Improved—A little later and larger than Forest Rose and more attractive in color as well.

THE CANADIAN HORTICULTURIST.

Chabot—One of the best of the Japanese varieties. Medium to large yellow, nearly covered with scarlet, and of good quality. Later, hardier and less inclined to rot than Burbank.

Bailey—Appears to be much like Chabot, but as we have it it seems to be hardier.

Gold—A prolific and early bearer; fruit a clear yellow, partly overspread with red; medium to large but not of first rate quality.

Lincoln—Fruit large to very large, coppery red and of good quality. Valuable for home use or market, but slow in growth and should be worked on some other variety.

Red June—One of the hardiest and best of the Japanese sorts. Especially valuable because of earliness.

Abundance—Tree upright in growth and prolific; fruit medium to large and of excellent quality. Desirable.

Burbank—Tree a vigorous grower; very prolific and begins bearing when very young. Fruit medium to large, showy and of good quality, but much inclined to rot.

Queen—A reliable dark purple variety. Although much inclined to rot it should be included in the list of profitable orchard sorts.

Moore's Arctic—Rather too small for market but the fact that it is hardier than most other varieties of its class makes it valuable.

Wild Goose—On account of earliness, great prolificacy and extreme hardness this must be ranked as a valuable variety.—Ohio Agricultural Experimental Station.

POTS AND POTTING.

All new pots should be well soaked in water before using, and all old pots well washed and soaked also. In potting plants from seed flats, or plants that have been grown in boxes, use as small pots as will comfortably hold the roots. In re-potting plants, use only one size larger pot than the one the plant is removed from. In re-potting, instead of digging the ball of soil out of the pot with a knife or stick, simply place one hand over the top of the pot, turn the pot upside down, give the edge of the pot a sharp rap or two on any hard substance, and the ball of soil and roots will come out whole; having drainage in your larger pot, place a little soil over it, place the ball on that and fill in around it, pressing the soil down, as you place it in, with a thin stick so as to leave no air spaces around the old ball. Fill within an inch of the top, water once thoroughly, afterward as needed.—H. E. Gould, Sussex, N. B.

DRAINAGE FOR HOUSE PLANTS

This is of the utmost importance, for no plant, except true aquatics, will thrive unless free egress is provided for the surplus water given. The best materials are broken pots, charcoal and coke; any other material that is sufficiently firm and porous will answer. From one half to one inch of this should be placed over the drainage hole in all pots above three inches in size that are used. If saucers are used under pots, place a handful of gravel or coarse material in them under the pots. Make sure of good drainage, and each time of watering all plants (other than aquatics) be sure to empty all surplus water out of the saucers that may drain into them; *water remaining in saucers under plants is a fruitful source of disease and death.* Plants do not usually need re-potting until the soil is crowded with roots. All boxes in which plants are grown should also be well provide with drainage.—H. E. Gould, Sussex, N. B.

THE WINTER MEETING of the Ontario Fruit Growers' Association will be held in Whitby during the first or second week in December. Suggestions for topics and speakers will be gladly received by the Secretary.