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PROF. WILLIAM SAUNDERS, F.R.C.S.
Director of Experimental Farms of Ontario

THE
Canadian Horticulturist.

PUBLISHED BY THE
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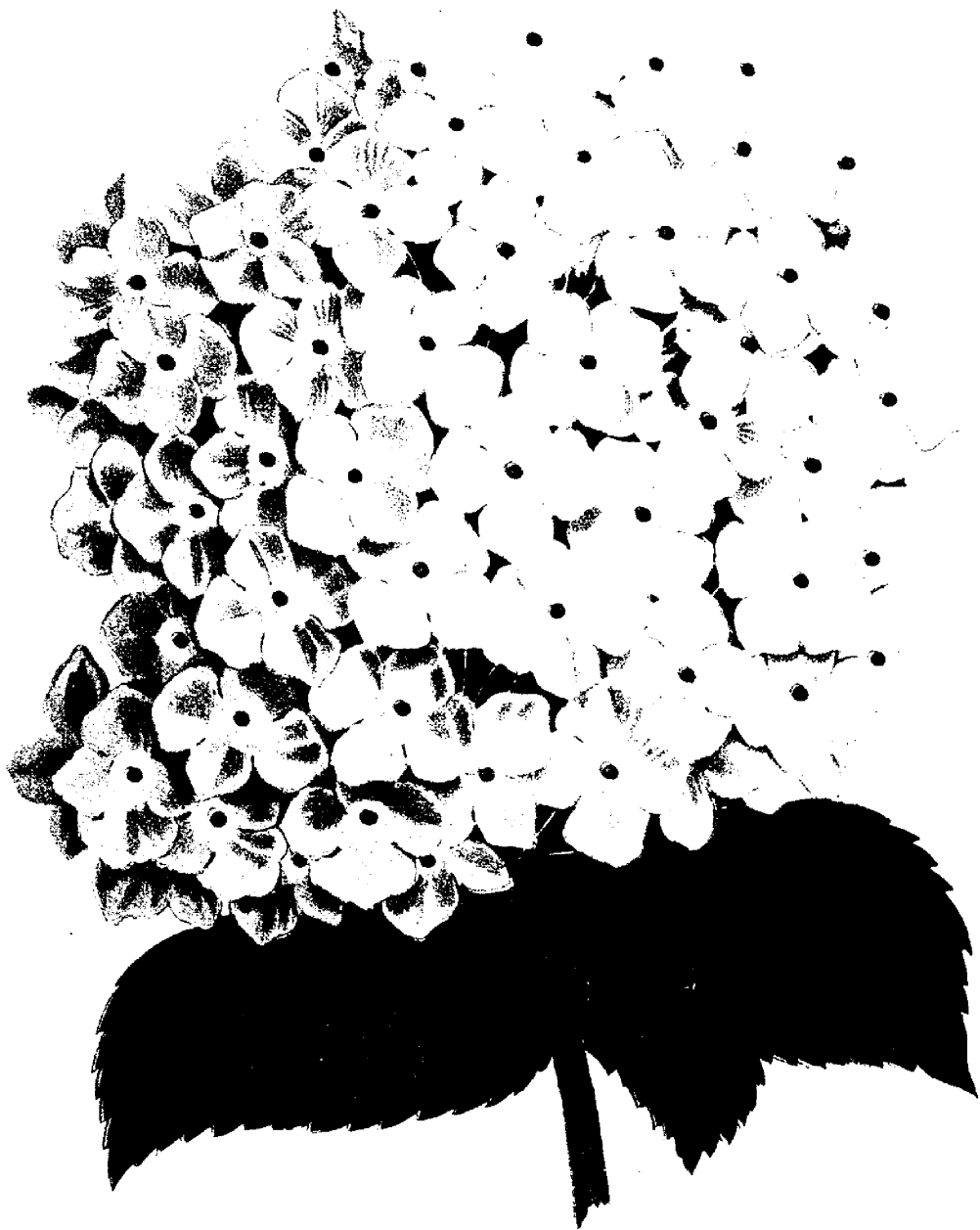
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JANUARY, 1890.

NO. I.

Written for the CANADIAN HORTICULTURIST by GRANDMA GOWAN.

1890.



FATHER TIME, of hoary age,
Appears again upon life's stage,
Withdraws old eighty-nine from view
As ninety makes his grand *debut* ;
And shouts his prologue to the world
Mid din of bells, and flags unfurled.

Hear our youthful king's oration,
His promises to every nation ;
He speaks of ending Ireland's ills,
Repeal eviction and coercion bills,
Give back to Ireland national life,
And equal laws to end its strife.

Why should our brethren weep and cower
'Neath the sad abuse of power ?
(God grant ere vengeful thoughts grow strong
And Ireland avenge its hated wrong ;)
Ah ! from the gulf of bloom Hope's silvery rays
Give a redeeming trace of better days.

Points to the land of the Sitting Sun,
And the mighty brotherhood in one ;
He frowns on " trusts " and combination,
Favors equal rights and emigration—
The blending of all human kind
In one grand universal mind !

Talks of a " Fraternal Union "
O'er the Almighty's vast dominion ;
In the millennium era, this may be,
When the angel stands on earth and sea,
With uplifted hand the world o'er,
And swears that *Time* shall be no more.

Mount Royal Vale.

THE HYDRANGEA.



SOUTH of Philadelphia, the tender varieties of the Hydrangea, of which there are about a half-dozen popular ones, are grown in the open air; but at the North, with the exception of one or two varieties, they are only grown as pot plants, either in the house or conservatory.

The Hydrangea belongs to the Saxifrage family, and is a near relative of the well-known Syringa, or Mock Orange, of our gardens. Its name is derived from two Greek words, *υδωρ*, water, and *αγγος*, a vase, and thus signifies a water vessel, in allusion to the shape of the fruit. It is widely

distributed over the world, some thirty-three species being known, some of them natives of Eastern Asia, Java and the Himalayan Mountains, and some of them natives of North-west and South-east America. A variety known as *Hydrangea arborescens*, is found growing wild on rocky banks from Northern Pennsylvania to Illinois and southward.

One of the best and most popular varieties for pot culture is the one represented in our colored plate, viz:—

HYDRANGEA OTAKSA.—Nothing can possibly be more beautiful as a decorative plant on the porch or verandah than one or two of these plants, with its huge tresses of flesh colored flowers. These, in botanical language, may be described as disposed in large terminal, globose, leafless cymes. The leaves of the plant are opposite and deeply serrate. Where well-grown it reaches a height of about two and a-half feet, and is hardier than some of the other varieties. This variety was introduced from Japan in the year 1868.

CULTURE.—The *Hydrangea Otaksa* may be easily propagated by cuttings, and florists, therefore, often make them annually, and allow them to produce one head of flowers each, and then throw them aside; but, for the amateur, a much better way is to grow it as a shrubby plant to bloom for a number of years in succession. The culture is easy, and any one can succeed by attending to a few simple particulars. The soil should be rich and may be made of loam and decayed cow manure, in equal parts. One very important particular is to give it plenty of water during the growing

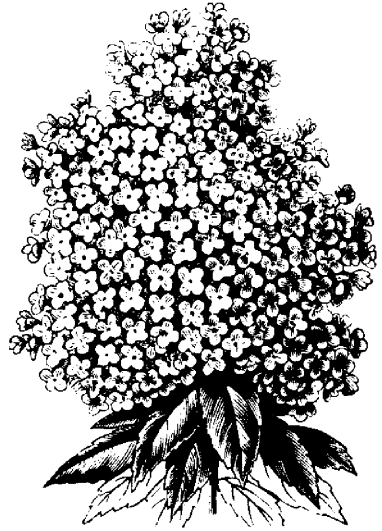


FIG. 1.—HYDRANGEA PANICULATA.

season, and a little shade from the burning rays of the summer sun. The display of bloom will be enhanced by the application of liquid manure during the flowering season. After flowering the plant may be set in the cellar until spring.

We do not know of any instances of this variety being grown in the open air in Ontario, but *Hydrangea paniculata grandiflora* has been tried and found perfectly hardy at least in Southern Ontario, as a lawn shrub, for which its beauty of appearance renders it especially desirable. The star-shaped flowers of this variety are white, and where well grown, are disposed in large leafy panicles of nearly a foot in length, see fig. 1, quite different in form from those of *Hydrangea Otaksa*, and more scattered. The perfect and the sterile flowers are mingled, the former being small, and the latter often as much as one inch across; it is late flowering, and most desirable on this account, as it has scarcely any competitors in its season of blooming. This is also a native of Japan, and was introduced from that country in the year 1874.

TREES FOR FENCES.

TWO experiences favorable to living fence-posts are reported as follows in the *Farmers' Review*—the first from Kansas, the other from Nebraska, the author of the latter saying that the trees "will last longer than you and your son, too," while even cedar cut and set involves a constant expense.

"I think there is nothing better. I use box elder planted eight feet apart; stretch the wires very tight to a well-braced corner post of dead timber. Attach the wire to every third tree by using a piece of smooth wire eight inches long stapled in the middle of the tree, the ends bent together and around the fence wire. The tree will then have to grow three inches before reaching the fence wire. It can then be pulled loose and the act repeated. Have never had a wire broken or a tree injured, yet the fence is built over a high hill, in what is generally known as a windy country."

"Ten years ago I built a mile and a-half of barbed wire fence and nailed on each tree a strip of board two and a-half inches wide to staple the wire to. I used narrow strips because the trees were small. It is a success; the fence now is ten years old on trees fifteen years old. Trees were cottonwood and five years old when used for posts. White cedar posts put in the same year are now being replaced, perhaps half of them. If you don't want them to shade too much ground, cut off the tops and keep them low; they won't die. Set trees for posts by all means where land is cheap."

THE WINTER MEETING.

OUR Meeting at Windsor on the 11th and 12th of December, was one of great profit, and will no doubt do much toward interesting the farmers of the County of Essex in fruit culture. The dark, rich land of that section of country seems to be peculiarly adapted to the culture of the grape, and already some very extensive vineyards have been planted, which give enormous crops of fruit.

The officers of the Association were taken out in carriages to Walkerville, to see the extensive industries which are being opened up in this suburb of Windsor, through the judicious expenditure of his wealth by Mr. Hiram Walker. As fruit growers, we were much interested in a visit to the Walkerville basket factory, where fruit packages of every style are being turned out in great quantities.

Few changes were made in the Directorate, except that A. M. Smith, of St. Catharines, was made President; J. A. Morton, of Wingham, Vice-President; D. Nichol, Cararaqui, Director for Agricultural Division No. 3; T. H. Race, of Mitchell, for Division No. 11; and N. J. Clinton, Windsor, for Division No. 12.

The town of Windsor rendered every courtesy, through the Mayor extending a hearty public welcome to our Association, and providing an excellent programme of music to enliven the evening sessions.

A novel feature of the Windsor meeting was the practical illustration of the renewal system of grape pruning, by Mr. O'Neill, of Windsor, for which a trellis and vines were brought upon the platform, and pruned in illustration of the principles laid down.

One of the most important tasks which the Association has yet undertaken is the preparation, by a committee consisting of Messrs. Beall, Allan, Dempsey and Bucke, of an ONTARIO FRUIT CATALOGUE, so arranged as to show (1) a list of the varieties grown in the Province, and (2) lists showing the varieties best suited to the climate, elevation, soil, etc., for every district and locality. These lists are to be so arranged as to enable judges at competition exhibitions of fruits, to intelligently estimate the true comparative value of any fruit of exhibition, and thereby secure a uniformity and fairness in judging fruits at such exhibitions.

The plan of rating supposes each variety to be a perfect specimen of its kind, and the maximum which any variety may have under each heading is 10 points. Frequently, of course, imperfect specimens are exhibited, in which case the values assigned must be reduced one or more points for each of such defects, as (1) under size, (2) unevenness of size on the plate, (3) wormy, scabby, or ill-shapen samples, (4) lack of stem or calyx, (5) bloom polished off, or for anything which tends to change the natural color of the fruit. The

total value is for use when prizes are offered for fruit, without designating the purpose for which such fruit will be required.

We give the values of a few common varieties of apples, from the catalogue, to show the principle upon which it is being prepared.

APPLES.	Season.	Quality for		Commercial Value in		Total.
		Des'rt.	Cook'g.	Home Mkt.	Foreign Mkt.	
Alexander	A	0	9	9	10	28
American Golden Russet	W	9	8	8	9	34
Baldwin	W	2	5	7	8	22
Ben Davis	W	1	1	8	9	19
Cabashea	W	2	7	8	9	26
Canada Baldwin	W	6	8	8	9	31
Colvert	A	1	9	7	8	25
Cranberry Pippin	W	7	8	8	8	31
Duchess of Oldenburgh	S	2	10	10	10	32
Fameuse	A	9	5	9	8	31
Gravenstein	A	9	9	10	10	38
Golden Sweet	A	2	4	1	0	7
King	W	8	10	10	10	38
Lady	W	9	0	1	9	19
Northern Spy	W	8	10	10	10	38
Ontario	W	9	10	10	10	39
Red Astracan	S	5	7	7	0	19
Rhode Island Greening	W	8	10	8	8	34
Roxbury Russet	W	6	8	8	9	31
Shiawassee Beauty	A	7	6	6	0	16
Tolman Sweet	W	2	7	5	6	20
Tetofsky	S	1	5	1	0	7
Wealthy	A	8	6	9	9	32
Yellow Transparent	S	6	7	4	0	17

PLUMS.—In the discussion of valuable varieties of plums, Mr. S. D. Willard, of Geneva, N.Y., a most successful plum grower, gave the following six as the most desirable for home use, viz:—(1) Bradshaw—one of the most profitable and the earliest good plum; (2) Lombard, among plums what the Concord is among grapes; (3) Geuwi, a hardy, profitable dark purple plum following the Lombard; (4) Hudson River Purple Egg, one of the best fancy plums for market, hardy and productive; (5) Peters' Yellow Gage, introduced by Mr. Barry, the very best light colored plum; (6) Coe's Golden Drop.

Where hardy enough, he would add the Reine Claude de Bavay, as being one of the most profitable of market plums.

In reply to questions, he said that Weaver, Wild Goose and a quantity of that trash, would do to experiment on; Quackenbos is very desirable, but a shy bearer; Stanton was one of the best for canning purposes; Field ripens ahead of Niagara, like it in size and appearance, and is one of the desirable new varieties; Grand Duke is a late introduction from England, and promises to be the best late plum for market; it has been sold at \$1.00

per basket of eight pounds; it is a seedling raised by Thos Rivers, England; Bassett is worthless; Prunus Simoni had been fruited by him, and he considered it not to be of the highest quality, but it was attractive in appearance, and would sell well on the fruit stands.

PEACHES.—In reply to the question, What are the six best varieties of peaches to grow for market in the Niagara district?—the President, Mr. A. M. Smith, gave the following list, viz:—(1) Alexander, (2) Early Rivers, (3) Hales, (4) Crawford's Early, (5) Wager, (6) Bowslaugh's Late. The latter is one of the surest bearers. Stevens' Rarripe is very desirable, an Old Mixon in appearance, but ten days later and much superior. It promises to become a first-class market variety. It has the quality of hanging well on the tree without decay.

In the evening a lecture was given by Prof. Panton, of the O. A. C. Guelph, on "Fertilization of Plants," which was most profitable, and made full of interest in the manner which Prof. Panton is so well known to treat scientific subjects.

Thus was ended a meeting long to be remembered by all those privileged to attend.

HARDWOOD IN ONTARIO.

By R. W. PHIPPS, COMMISSIONER OF FORESTRY FOR ONTARIO.

THE possible scarcity of that great requisite to the rural Canadian, hardwood for fuel, leads me to suggest that the ideas usually held as to the quantity within our reach are exaggerated. I see, in a later article, the *Bobcaygeon Independent*, a paper which should be well informed on such subjects, says:—

"What about our cordwood? That is a very important matter, and every year it increases in importance, for the sources of our cordwood become fewer and more remote. There is not so much cordwood left in Canada as is commonly supposed. Of the thousands of miles of railway operated by the Grand Trunk Company, the Midland is the only division that runs through a cordwood country, and only a portion of that division can supply fuel in considerable quantities. The City of Montreal is even now suffering from a dearth of cordwood. Maple in Montreal is selling at \$8.00 a cord, birch at \$7.50, and beech at \$7.00. A large dealer has publicly declared that there is no cordwood to be bought throughout the country. Toronto has for its chief sources of supply the Victoria branch of the Midland, the district around Penetang; the new extensions of the Northern Railway; two or three years will make a great reduction in those sources of supply, and then there will be the same condition of affairs in Toronto that now exists in Montreal. There are several facts connected with the cordwood trade which deserve

notice. The wood itself is of no value. It realizes nothing, the man who cuts it giving the wood gratis. When the wood reaches Toronto it sells for \$5.00 a cord, the \$3.00 being consumed in freight and profit to the dealer. The wood difficulty is becoming serious."

It would be well if those who are selling their wood as above would consider this. We should be planting instead of cutting so much down without any replacement.

BUSHEL BOXES FOR POTATOES.

NEXT to the potato digger, the greatest labor saver on the farm, in the line of potato culture, is our bushel box. Potatoes can go from the field to the grocer in the city, and then to his customer's cellar on spring wagons and under canvas, so they are fresh and nice as though just dug in the garden. The boxes, of course, are left with the grocer until emptied. When digging, the boxes are scattered through the field. A man can pick up a bushel almost without lifting, if he takes four rows at once. Then two men can empty them into the wagon, as it is driven through the field, very rapidly, or set them in, to go to the cellar. It is a great saving of labor over the common way of picking up in a basket and carrying them to heaps, then picking them up again from the heaps into the wagons. These boxes hold a bushel level full, so they can be set up three or four deep in field, wagon or cellar. We have board covers to put on when it looks like rain, or to keep the sun from injuring the potatoes. If you want to load a car from the field they are just the thing. There are hand holes in the ends, so they are about as easy to carry as a basket. The size is 13 x 13 x 16 inside measurement.—T. B. TERRY, *before a Farmers' Institute in Wisconsin.*

PACKING PLUMS FOR MARKET.

THE Plum is perishable, and more care in handling is required than often is given, especially on sorts designed to be sold on the retail stands of distant cities. These certainly should be picked with stems adhering and carefully laid in five pound to eight pound baskets; in all cases picking the small and inferior fruit by itself, to be marketed as second class. And while the varieties designed for preserving need not be so carefully packed, equal care should be bestowed in sorting that no imperfect fruit be packed in packages denominated first-class. In doing which you will find some one ready to purchase our fruit at its fair value, giving you fair compensation for all your labor and care, and you, in conclusion, abundantly satisfied that well-grown plums shipped in clean, neat packages, at the proper time and to the proper markets, are a crop not to be despised.—S. D. WILLARD, *Western New York Hort. Society.*

SOME VALUABLE NEW CANADIAN APPLES.

BY D. NICHOL, CATARAQUI.

HEREWITH I send you samples of four kinds of apples grown in my orchard.

No. 1 is the "La Rue," which has already been described in your journal. The twenty trees of it which I have bearing have proved to

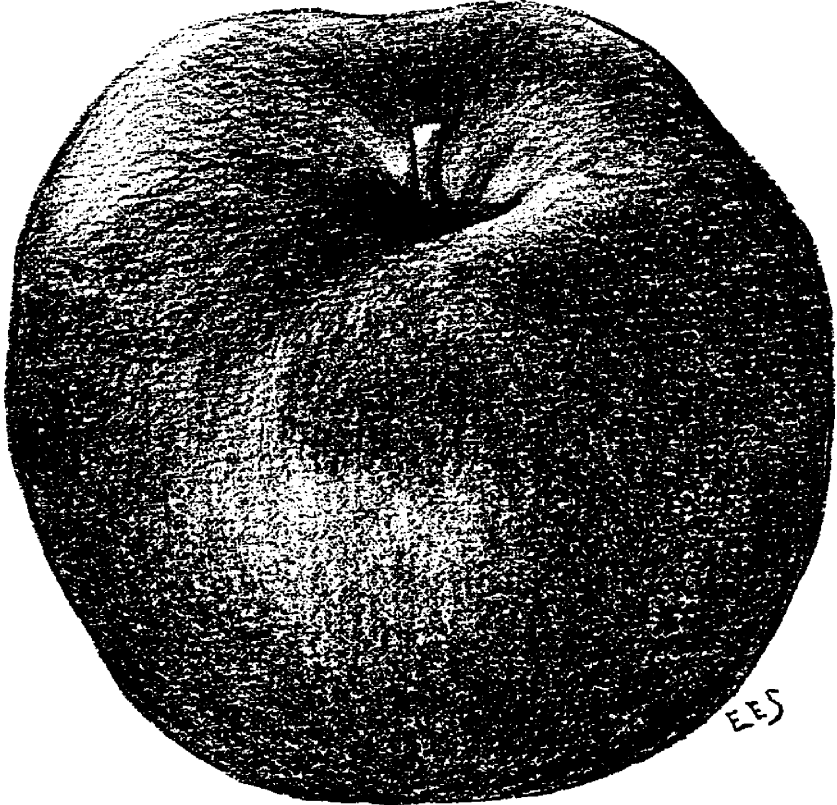


FIG. 2.—THE LA RUE, DRAWN AND ENGRAVED EXACT SIZE OF SAMPLE.

be the most profitable of any kind I have tried, and I have thoroughly tried almost every known variety. Large red apples are always in demand, and sell readily at the highest price in our local markets.

No. 2, which I have named the "Leeds," is a very excellent sweet apple, from a seedling which, thirty-three years ago, I found growing on the farm which belonged to the late Isaiah Griffin, in the township of Yonge, county of Leeds. As a baking apple it is decidedly superior to the Talman Sweet. On account of its large size it sells more readily and is

quite a good keeper. For canning purposes I do not know of any kind equal to this. The tree is a robust grower, a regular producer, and has never shown any signs of tenderness in this hard climate.

No. 3, which I have named the "Gibson," is, in my opinion, a first-class dessert apple. Thirty-four years ago I found the parent tree growing on a farm belonging to Wm. Gibson, in the county of Leeds, nine miles west of Brockville. This tree, I believe, is still alive and bearing heavy crops of fruit. It is probably a seedling of the Fameuse, having some resemblance to it. Its flavor is more aromatic, flesh firmer and crisper, size rather larger, color darker red—not so apt to spot; altogether it is an improve-

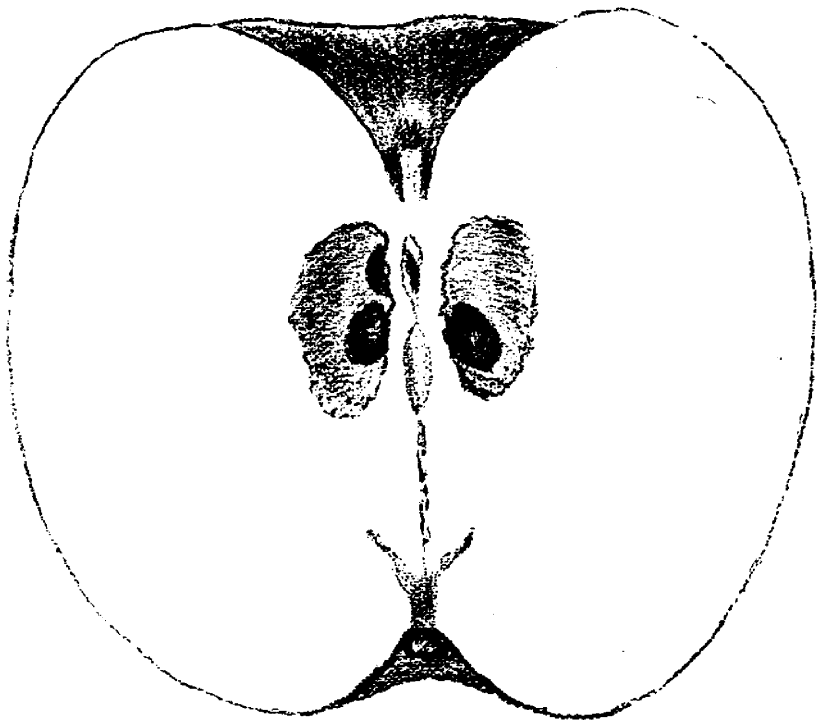


FIG. 3.—SECTION OF LA RUE.

ment on the Fameuse. The tree has proved to be as hardy as the Duchess, a free grower, but, like the St. Lawrence, does not bear early.

No. 4, which I have named the "McLean," is from a seedling found on the farm of the late Alex. McLean, of the township of Elizabethtown, county of Grenville. This I consider a dessert apple of the finest quality. Medium size, sub-acid flavor, yellow color, with blush cheek and very thin skin. Keeps till January. The tree is perfectly hardy, but rather a shy bearer.

Doubtless some will say there is no use in trying to introduce new varie-

ties unless we can produce something better than the Northern Spy, R. I. Greening, Ribston Pippin or King; but that argument only holds good in districts where they can be profitably grown. In this part of the country those sorts cannot be grown with profit, because the trees are not enduring in this climate. Just about the time they begin to bear well they begin to die. Some amateurs have contradicted this statement, but as they become older they are taught by experience. This is a matter which is not to be decided by ten or twelve years experience of a single individual. We sometimes have a succession of mild winters, through which almost any kind of apple tree survives; but when severe winters come, as occasionally they do, with the thermometer over 30° below zero, the lives of the half hardy kinds are considerably shortened. It requires a lifetime's experience to find out what kinds are most suitable for certain climates, therefore beginners at fruit raising should be guided somewhat by the experience of those who have gone through the mill, rather than be persuaded to purchase whatever kinds travelling agents may be pleased to recommend. In this part of the country we can grow apples of very fine flavor and high color, but here apple trees can be valued only according to their adaptability.

Our great need is a hardy, long keeping, good shipping apple of first-class quality and good appearance, with thick skin, in order to bear transportation well. Whoever will produce such would be entitled to a very large bonus.

The Ben Davis possesses all the requisites except quality—the Baldwin all except hardiness. It seems to me, there might be obtained a cross between the Duchess and the Baldwin which would fill the bill.

OUR GARDEN AND OUR WORK.

By JOHN CROIL, AULTSVILLE.

OUR Editor asks me and asks you, reader, to meet him in his sheet and take a turn at the wheel. What does the man mean? Isn't he paid to sit at that desk, day in and day out, from morn till night, and write, till he has made that little magazine of ours as attractive as pen can make it? Paid, we admit, but have some doubts whether our payments have been in just proportion to his labors, and the success that has accompanied them. Not only by his determined perseverance has our Association been freed from a cumbrous debt, but our magazine from small beginnings has risen to bear favorable comparison with the best horticultural papers of the day.

But the best machinery will, overtaxed, give out. We'll have to confess that it is our duty to strengthen his hands and encourage his heart. It

would add ten fold to the value of the HORTICULTURIST if all of you would give to its readers the benefit of your experience.

I'll try to practice what I preach with a few rambling thoughts.

With a lively remembrance of the fate of Lot's wife—*rather a salt subject*—we think it's well sometimes to look back. When these lines reach the reader another year will have run its course, another milestone past. What have we learned or what have we lost on the road?

I'm afraid I am safe in saying the season has been an unfavorable one for the gardener. In many sections of the country, the heavy rains of last fall and this spring left the ground in bad condition. A heavy frost on the 24th May did much damage to strawberries and other fruits. The blight struck the potatoes in this district so early as nearly to destroy the whole crop. The returns from the orchard were the poorest we have had for years, and the few apples we had were more than ever affected by the spot. Not a very encouraging report.

This year we will have to learn wisdom from our failures. We had not the control of the weather—better we had not. Our crop was unremunerative. We must take the good year with the bad, just as the merchant does. Apples are almost indispensable at the table, yet many will either have to pay excessive prices for them or do without. Will not the deprivation teach us the more to appreciate our next crop, and the folly, too, of complaining last year that apples were a drug and not worth growing? How many of our daily blessings, health among them, do we look on as things to be ours as they ever were, not appreciating till deprived of them? Some of you had a few apples, but they were badly worm eaten. If you had read your HORTICULTURIST well, you would have found a cure that would have well paid your trouble—spraying your trees.

The vegetable garden did fairly; let us take a look around it.

Beans.—Of six kinds planted, I found the Dwarf German was the best and most prolific; Henderson's New Bush Lima a novelty and a delusion.

Beets.—Edmund's and Dewey's Turnip both choice. Reeves' Imperial Long Blood turned out the first pure long blood beet I have come across for years. Seed purchased from J. D. Roberts, Cobourg.

Cabbage.—Burpee's Early Express stands first on the list for earliness and good quality. Henderson's Early Summer for medium and late we find good—never fails to head.

Cauliflower.—Failed with us this year. Have found Vick's Ideal the best.

Carrots.—Danver's Half Long as good as any for the table.

Celery.—Nelles' Self Blanching, Paris Large Golden, Henderson's White Plume, all did well. Red kinds failed to mature.

Corn.—Shakers' Early, good. Stowell's Evergreen for late.

Cucumber.—Tried Early Russian, found no merit in it. The old White Spine as good as any.

Melons.—A failure; season too wet.

Onions.—Red Wethersfield, poor crop.

Parsnips.—Improved Guernsey very fine and as large as we think desirable. I measured one 13 inches round, and like Bobby Burns' grace, as long as my arm. It tried the patience of a short tempered man to find the bottom of it. In volume 6, page 33, of the HORTICULTURIST, we read of one 18 inches round. The bulk of mine in the ground all winter may probably be larger in the spring than the above, dug 9th November.

Peas.—Belong exclusively to the sparrows and blackbirds here, the pods excepted, which they leave for us.

Potatoes.—Burpee's Seedling No. 37, for which \$225 was last year offered in prizes to the most successful growers, promises well. Early Puritan also, but was destroyed by the blight. Pearl of Savoy, the best early variety we can confidently recommend.

Turnip.—Burpee's Bread Stone Swede, good.

Tomatoes.—Mitchell's No. 1 (new), Volunteer and Favorite, about equal, all excellent.

Notes of some experiments with fertilizers would too much prolong these already too lengthy remarks. I may say, however, that I found the results from hen manure at least as good as from fertilizers costing \$40 per ton; and from the trial of nitrate of soda, am inclined to think very favorably of its application with superphosphate, as recommended by Mr. J. Harris in back numbers of the HORTICULTURIST.

Wishing the many members of our Association a Happy New Year, and many returning ones, I wish I could persuade each of them to obtain at least one new subscriber to our magazine. The result to the public and to ourselves would be marvelous. Try it, friends.

A REVIEW OF THE PAST OF OUR ASSOCIATION.

BY C. E. WOOLVERTON, GRIMSBY.

DURING the past fifty years what enterprise has begun, continued and succeeded better than fruit growing. Cæsar's words, "*Veni, vidi, vici*," was a short letter, but signified much to the Senate and Roman people. But when we think of the training, marching and suffering, in order that he could say those words, they speak volumes that the careless man little heeds; or when a youth neglects his studies or finds fault with his food, he little knows the suffering his parents may have endured to give him his privileges. And now while fruit growers in Canada rejoice, they forget the patient endurance and labor that has placed us second to no country beneath the sun. Rome was not built in a day; the soil and climate was there, yet it needed a Romulus to begin the work.

The days of neglect are fast passing away; we are not only putting our shoulders to the wheel, our hand to the plow, and foot to the spade;

but we are also using our brains and opening our eyes to do what nature tells us can be done. A few years ago there was only one fruit tree where now there is a hundred. Farmers came to Grimsby for miles after their winter supply of fruit, while their own soil and climate called them to sit "under their own vine and fig-tree." Some one said to Columbus: "It seems a very easy matter to have discovered America;" but his reply was, "Can you stand this egg on its end?" and when he failed to do so Columbus gave the egg a rap on the table and it stood—a thing easy enough when you know how. Sixty years ago we had the same soil and climate; but we said, "Trees will grow placed in the corner of the fence, trimmed with the axe, and browsed by the cattle." Why, trees are no better prepared to shift for themselves than our domestic animals; even Adam was to dress the garden in Eden, and how much more it was needed outside where the thorn and thistle grew broader and higher. Even the ancient poet Horace called the careless man "the wretch that struck the tree down, leaving a miserable stump of wood."

When fruit growing was in its infancy there were men found to cherish the enterprise. They looked not only at what it was then, but at the possibilities, proportionate to the energies of the soil and the power of man. The nucleus was small when Judge Campbell, of Niagara, centralized our gatherings; and the late Dr. Beadle, of St. Catharines, almost deserves to be canonized for his efforts, both of faith and works, in the good cause. If we fail to remember the words of these men, we at least caught enough of their spirit in those early days to engage in the enterprise of fruit culture. Some one has said, "Those who love virtue ought to teach their sons to love it too;" so our late Secretary, Delos W. Beadle, took the youthful Society in hand, and when he had us on the anxious seat, in the town hall, he began in good old Presbyterian style to catechise us—not on "What is the chief end of man," but "Where do you live? What kind of fruit do you grow? How do you cultivate your stock? Where do you buy and sell to get gain?" When he spoke of apples, A. M. Smith was on hand to reply; of pears, Mr. Holton, of Hamilton, took the floor; and when, at a later date, of grapes, Mr. Haskins, of Hamilton, ably discoursed on the fruit of the vine; but like MacKenzie, of '37, he did not reap a very rich reward from Navy Island. Mr. W. H. Mills, of Hamilton, also gave us much information on the plum, but time would fail me to tell of Messrs. Bruce, Leslie, Arnold and others whom the fruits and flowers of Ontario praise, except to add that the best wine was kept to the last, when our worthy Secretary, Mr. Beadle, would sum all up and add his own experience.

The Society, in those early days, was smaller and more sociable than it is possible for it to be in these days, when the meetings are so large. Often we were all invited to dine with one of the members, and as the wives often accompanied their husbands, to aid in testing the flavor of the new fruits, acquaintances were formed which we love to remember.

NOTES ON STRAWBERRY CULTURE.

BY L. FOOTE, NEPEAN, ONT.

AS there has been much written on the culture of the strawberry, one almost despairs attempting anything further, yet as one man's experience often proves and confirms another, and a relation of it serves to encourage others, there seems to be a partial excuse, at least, for humbly setting forth "what we know about strawberry culture." Indeed there is a need of more stimulating knowledge to be circulated, to excite in the minds of all land-holders (be their holdings large or small) a proper appreciation of the value of the humble, useful little fruit, the strawberry. How much health and comfort is the result of a free use of its fruit, can only be known by a fair trial, and if many who spend much time and money frequenting seaside and watering-place resorts, would retire to the quiet country on a few acres of land, and spend their time in the healthful exercise of gardening, fruit raising, etc., and eat the produce of their honest toil, how much more solid comfort would they take, and both regain and retain that much-to-be-prized boon, health!

One may safely express a belief that in giving the strawberry to man, the Creator of all good intended the moral lesson of humility and usefulness, for surely it teaches those qualities in a very marked degree, and anyone who loves to draw from nature themes of praise and thanksgiving, can find rich resources in the strawberry family to draw upon for that delightful pastime.

Fruit culture should not be stimulated by a love of the almighty dollar, but by a proper appreciation of its intrinsic value; by a love of the beautiful in Nature and of Nature's God; by a deep desire to search out and bring to light the hidden resources that lie wrapt up in the great reservoir of creative power! What a range of unexplored experience remains to be developed in the great field of fruit culture! Every year brings forth fresh attractions in the scope of variety, and yet "Hills peep o'er hills, and Alps on Alps arise," in the great arena of effort, to add fresh interest to the almost boundless stock now in existence, and manipulated by the active efforts of zealous fruit fanciers. All this can be said without extravagance, and when we take into account the different *varieties* of the different *kinds* of the great fruit family, we are almost lost in the contemplation of the field spread out before us. There is no danger of the interest in fruit culture waning. When we think of what remains to be surmounted in the introduction of suited varieties into localities not yet favored with fruit privileges, and when we consider that the strawberry will thrive where other kinds of fruit must fail, the thought adds additional interest to its culture, and serves to stimulate efforts to spread its usefulness. Many will spend money in efforts to cultivate the larger kinds of fruit, and perhaps get discouraged

when their efforts fail, while if they would pay more attention to strawberry culture, and other small fruits, they would not only have abundance for their own use, to preserve and can up for winter, but a surplus to send to market. Especially in a northern climate may this thought apply, and we may earnestly urge, with propriety, upon everyone possessing a few square rods of land, to try a hundred strawberry plants as a test whether he can or not add a delightful luxury to his table, and have in his garden objects of interest well worthy his attention and care. And then if he has a sociable friend upon whose stock of good humor and conversational powers he wishes to draw, let him invite that friend in and set him down before a dish of strawberries and cream, and if he has entertainment in his nature, out it will come!

By this time every well regulated garden has gone into winter quarters, and for fear we should have an open winter (the hardest on the strawberry), all the newly planted plants should be well covered with some kind of loose litter as a winter protection. As I need what straw I raised to feed the cows on this winter, I am using tomato tops, bean straw, loose corn leaves, evergreen boughs, etc., etc., as a protection for the strawberry beds. Forest leaves, where they can be had, are a good substitute for straw, as they work into the ground easily the next year. I believe a dry season more favorable for the pistillate varieties, as the pollen is more easily transmitted from their staminate neighbors in dry weather than in wet. I remarked that the Manchester, for instance, was not nearly so attractive a berry the past summer that it was the year before, and as this last year was much damper than the previous one during the strawberry season, I have thought that the wet weather was against it for the above named reason. Though the matted row system is the best paying one in which to grow the strawberry, the hill system produces the finest specimens. It *pays* to keep the weeds down, and runners well cut, that the plants may stock up well for producing fine fruit. The two "Jessie" plants sent me a year ago last spring from the F. G. A., have multiplied in a marked degree. I set out nearly three hundred new plants from them in October, and have more to set in the spring. The "Jessie" bears out well its mooted character. The culture of the strawberry is much on the increase in the neighborhood of Ottawa in the past two years. I believe the stimulus afforded by what has been done on the Experimental Farm, is going to be profited by largely, and well it ought to be. As agriculture is the mud-sill industry of the nation, anything done to promote its interests and stimulate its workings is effort in the right direction. The amount appropriated by the Government to promote the agricultural growth of the nation is very small compared to that appropriated to the carrying trade in building railways and other kindred enterprises, and surely the farming interests have a strong plea in their behalf to call out aid from "the powers that be" to assist in distributing grains, seeds, fruits, etc., among the farmers of the Dominion of Canada.

II.—LETTERS FROM RUSSIA.

BY JAROSLAV NIEMETZ.

THE ROSTOV PEA.

THE Russians are very fond of roasts served with sweet dried peas, and, indeed, of the latter in many ways. A variety under the name of the "Moscow," is grown in large quantities in Russia. The kitchen gardeners of Rostov, a town of the Jaroslav Government, are occupied with the these dried this they have a which is very species, known Pea, is the very being the sweet-pea kind; even Marrowfat, or foreign kinds, much its in- its excellent productive and Russian vege-

I will describe method of dry- advise all Amer- give it a trial. peas, before ripe, are taken pods, and put which is speed- a cauldron of and left for a After the first basket is taken and then again This is again third time. basket is plung- water, and the peas are put in an absolutely they are nearly

are put for final drying in a hot bakery. Any one having an evaporator can use it for this purpose. It must be remembered that for preserving the



FIG. 4—THE ROSTOV PEA.

preparation of peas, and for native species, sweet. This as the Rostov best for drying, est of any Euro- the English any other of the are found to be ferior. Besides flavor, it is very hardy, as are all tables.

the Russian ing, and would ican ladies to All the young they are over out of their into a basket, ily plunged into boiling water, few minutes. plunging, the out, shaken up, plunged in. repeated the After this, the ed into cold when taken out on linen cloth, dark place, until dry. Then they

green color, which is the beauty of dried peas, the drying must be done in a dark place. For trials, on a small scale, a sieve can be used in place of a basket, and a large pot in place of a cauldron. I now send you a sample lot of the Rostov Pea, and if the members of your Association wish it, I can send you some more.

CRIMEAN APPLE "SYNAP."

The "Synap" is a very ancient Tartar species, propagated in large quantities at Crimea, where there are large orchards, some of them one hundred acres in extent, and Crimean orchardists prefer it for profit to all French Noble Reinettes. Crimea produces one million pounds (one pound equals 36 kilogrammes*), and this quantity always sells at good prices in the markets. There are three varieties, all somewhat resembling

each other in oblong, viz:— which is red, quality; 2. Sary is the most vated and is 3. Kandyl Sy—somewhat lar—handsome than one, but is not fig 5.). The color and Sary Synap beautiful, being stem, and the low with a red sunny side. trous. the flavor pleasant and much so that eaten while yet fruit is har-

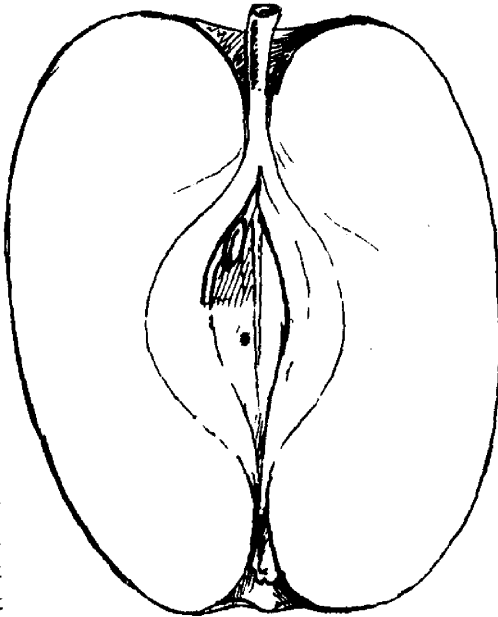


FIG. 5. KANDYL SYNAP.

shape, which is 1. Kara Synap, and of poor Synap, which widely culti—perfectly hardy; nap, which is ger and more the preceding so hardy (see of the Kandyl is remarkably white at the remainder yellowish on the The skin is lus—particularly aromatic, so the fruit may be immature. The vested about

the end of September, and ripens at Christmas, but will keep until the new crop is ready. At St. Petersburg, Moscow and Riga, in the month of May, when there is no other apple to be seen in the windows of the shops and in the markets, the Synap is to be found quite fresh. There are often samples of the Synap to be seen which have been kept two years.

For firmness and consequent adaptability for transportation in large quantities, I do not know its equal in Russia, or indeed in all Europe. How it will stand shipment is proved by the fact that when there was no railroad

* 1 Kilogramme—2.20 lbs.

in Russia, the Synap was exported on carts from Crimea to the Siberian towns, Perm and Archangel, a journey which occupied from three to four months. Another good quality of the Synap is that it never rots. The tree grows in a pyramidal shape, like the Conifers, yields very large crops annually, and thrives best in moist soil.

The question may arise, Why do I describe a kind, the origin of which is in Southern Russia, where the temperature is never lower than 10 degrees (Rea)? The Synap has been planted at the north, and has proved its hardiness during the last severe winter, when only the Atonovka, Anis, Duchess and a few other kinds escaped, while all others were frozen to the roots. Thus, the Synap remained uninjured when the temperature was 20 degrees (Rea). It is said, however, the fruit is neither so aromatic nor of so handsome a color at the north. Perhaps so, but this apple, growing equally well at the south or at the north, will prove an excellent variety both in Canada and in the United States.

I send you scions for testing, both of the Sary and the Kandyl Synap.

THE FOXGLOVE AS A BORDER PLANT.

WILBUR F. LAKE, BUFFALO.

THE common Foxglove, *Digitalis purpurea*, has long been known in our grandmothers' gardens as a meritorious, hardy plant, but has fallen out of popular favor in the rush and craze for bedding plants. Not only has this fine subject been grossly neglected, but a multitude of other old-time favorites, many of which are now so improved by the European growers that we would scarcely recognize them in their new forms.

There are several greenhouse shrubs which have, in old books of then the best authorities, been classed as *Digitalis*, are now found under their proper headings, but the common garden Foxglove, of which reference is made in this article, is a native of Central Europe, and popularly known as Witch's Fingers.

In Europe also has the plant been neglected, but it is now coming again into general culture, and exciting much interest on account of the magnificent new forms which have developed in the hands of those making a specialty of the plant, showing that it is not an exception to the ordinary in plants when given liberal cultivation and careful, intelligent selection. In the common form we really did not have enough range of color to warrant an extensive planting, and it may be due to this that the plant has been allowed to drop into the background, but now varieties appear having the recommendations of freedom of flowering, robust growth, and individual blooms of great substance, bold form, and wide range of beautiful colors

and shades. One form that is always admired, either on the plant or cut, is the pure white with purple spots on lower portion of the bell-shaped bloom. So great has been the improvement in size and shape of the blooms that they compare very favorably with the improved Gloxinias, which they considerably resemble in this respect. For the present perfection of the Foxglove, we have to thank the French nurserymen for their untiring efforts in selecting and hybridizing until perfection be reached.

The best use, no doubt, to which the Foxglove may be placed is in the border, as we often see the Hollyhock now employed with evergreens as a background. A bold clump thus placed and grown in greatest health gives us a change and one which will be greatly admired.

Generally speaking, such tall growing things are best kept at a distance, though well arranged clumps may be used with great effect in a conspicuous place, pretty well forward occasionally, but it is necessary to give the matter of such a location

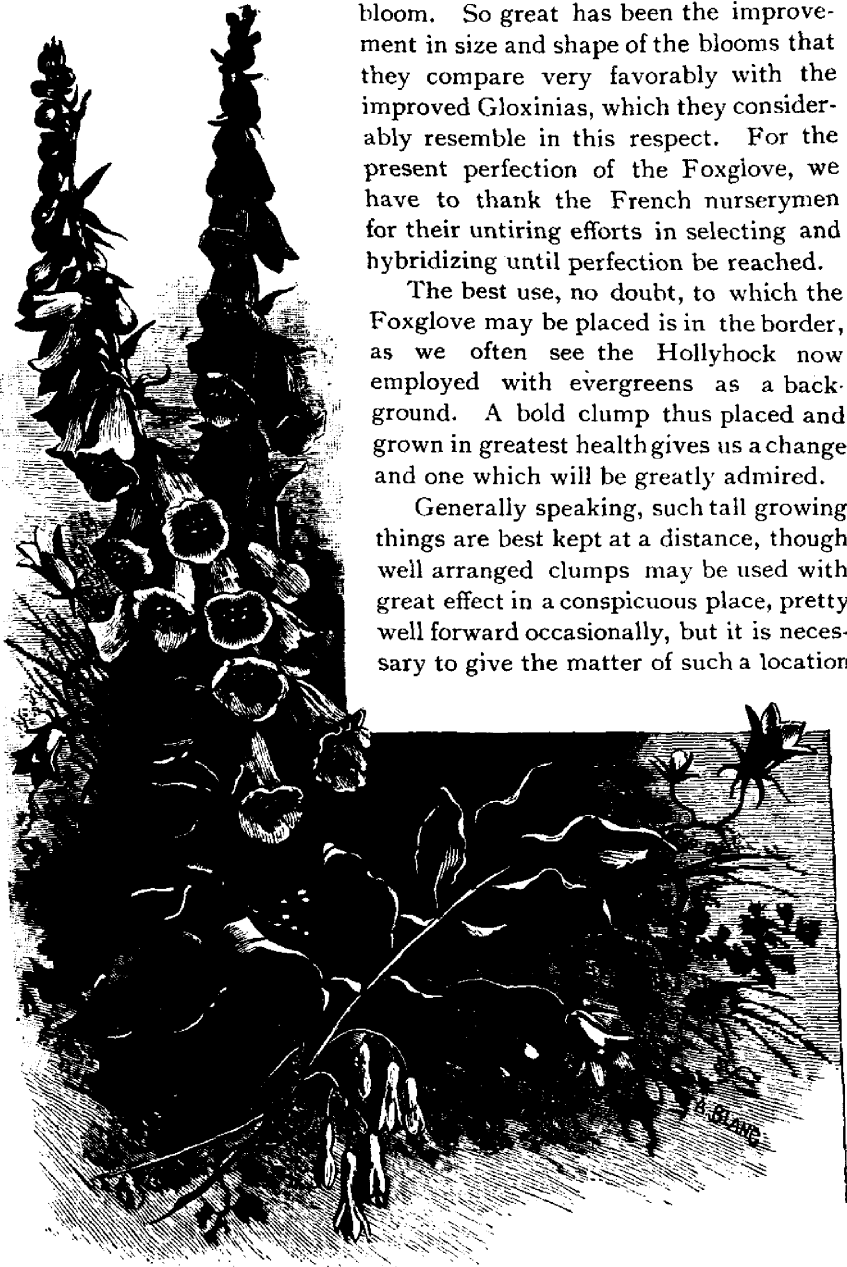


FIG. 6.—FOXGLOVE.

considerable study, as it will mar one's grounds if not properly placed.

One great advantage of the Foxglove is that seedlings come up of their own accord in countless numbers, where all the flowers are not cut, so that it is only necessary to do the thinning out and transplanting in order to keep up the supply. However, there is one objection, that is, the losing of many of the finest kinds, as one cannot tell what the seedlings will produce unless grown in separate clumps of single colors.

The wild garden and our parks afford excellent opportunities for introducing the Foxglove, and when once established, one need not fear of its becoming much crowded out by the other subjects. While its beauty and appearance are so out of the ordinary growth, its time of flowering will be eagerly looked for each season when once the finer introductions become known.

A package of mixed seeds of the latest hybrids may be had for 50 cents of some of the larger seed houses, and will give nearly all of the desirable varieties. Sown first in a pan or box, and afterward transplanted to 18 inches apart, they will give a fine display.

The best soil is a loose loam, thoroughly enriched and well drained.

ARUM MACULATUM: OR THE SPOTTED ARUM.

BY HERMANN SIMMERS, TORONTO.

I WILL endeavor to give a few brief points, not only to encourage the culture of the Arums, but also to further the knowledge of their excellence, and to try and persuade the readers of THE HORTICULTURIST to study the habits of these and other plants.

The "Spotted Calla," or *Arum maculatum*, is naturally abundant in most parts of Europe, growing chiefly in moist, shady woods and under hedges. This variety having been brought to such perfection as a house plant, differs, of course, in size from the wild variety, and has been so much improved that it grows nearly twice as large as the wild variety; the leaves are densely spotted with small white blotches, giving it the appearance of a sickly plant, but still having a pleasing effect, when understood by the culturist. It has a tuberous, perennial root, its leaves are all radical, on long stalks, strongly arrow-shaped; the root has a burning acrid taste, which, however, it loses in drying or boiling. In a fresh state it is a drastic purgative, too violent for medicinal use; and, indeed, it, as well as the leaves, is an active poison, yet a nourishing farina is prepared from it, after the acrid juice has been removed. A cosmetic is made from the plants in France, and in Switzerland they are used as a substitute for soap. Aside from these technical points, I will proceed to describe their culture in the house or con-

servatory. I do not think they will ever become as popular for house culture as the *Richardia Æthiopica*, or Egyptian "Calla" Lily, but being just as easy to cultivate, I see no reason why every flower lover should not have one or two in his collection, the culture being the same as for the latter.

The bulbs are planted in the fall in a seven inch pot, the soil used being a mixture of sand, loam and well rotted manure, in which place the bulb, and after watering freely, place the pot under a table or bench in the conservatory, not necessarily excluding the light entirely. They will appear not to make any progress for at least five or six weeks, just as in the treatment of hyacinths, tulips, and other winter flowering bulbs. After having remained under the bench for the required time, they may be brought to the light and freely watered until they have finished flowering. Previous to blooming a liberal amount of liquid fertilizer may be applied, which will greatly improve the flower, as well as brighten the white spots on the leaves.

After flowering allow the plant to grow for at least six or eight weeks longer, when the bulb may be taken out of the pot and exposed to the sun until thoroughly dried, when they will be in proper form for replanting in the fall. If the few details mentioned are closely adhered to, a very interesting growth may be had for the amateur's pains, as they are distinct from other plants in that the leaves and flower are both exceedingly pretty.

CAN PLANTS BE ACCLIMATIZED?

BY P. E. BUCKE, OTTAWA.

THE above question is one which ought to be answered for this locality, as well as for other parts of Canada. If it can be answered in the affirmative, then we could probably grow in this Dominion all the tropical and sub-tropical perennials, trees and shrubs whose fruit and flowers are so attractive to the eye, and so pleasing to the palate. If in the negative, what time, labor and expense would be saved in planting varieties of the vegetable kingdom unsuited to the locality it is desired to grow them in, when a thermometrical test would settle the whole question.

A careful examination of the works of scientists, who have done much in experimenting in this subject, and from a little practice of my own, the fact has been disclosed to my entire satisfaction that habitual attempts to grow plants in a greater degree of cold than that in which their life was destroyed at the first attempt, however much prolonged, produced no effect on such as are propagated by buds, grafts, layers or cuttings. The hardiness which is found to exist in plants is innate and inherent in themselves, and appears to consist chiefly in the power of the sap-cells to contract and expand readily, under different degrees of temperature. One of the peculiarities of the hardiness of vegetable forms is that many of our frost-resisting plants have come to us from warm climates, where they are found in their wild

state, such for instance as the Japan lilies, which, in suitable localities, bloom profusely. In this locality, where there is an average of over forty days during each winter when the glass sinks to zero, and not infrequently to thirty degrees below that point, certain classes of plants which can be artificially protected during severe winter weather, can be cultivated with success as far north as the summer season is sufficiently lengthy to open its flowers, or ripen its fruits. Allusion in flowers is made to the rose, and in fruits to the grape, the blackberry, etc. One would suppose that any plant so protected would succeed, but many attempts to cultivate the peach by artificial protection has invariably failed.

With regard to the hardiness of some cultivated fruits, it must be borne in mind that soil and situation have a good deal to do with the power of the plants to resist cold. Often when the border line of the freezing limit is reached, a well drained soil and good cultivation will give such robustness to vegetation that the plant defies the icy air which whistles through its branches. As a rule the vegetable kingdom is as much opposed to wet feet as are mothers in regard to their young offspring. It is certainly true that many of our domesticated plants do produce seedlings hardier than their parents, such as the plum, the grape, or the apple, but this after all may be, and probably is, a relation to the original stock, such as the wild vine, the crab, etc., so that after all we must conclude that the weight of testimony is against the theory that plants may be made to resist a greater degree of frost than the original hardiness which exists within themselves when first procured in a wild state.

RICHARDIAS.

AMONG the many favorites for the window garden, there is perhaps none which is more generally grown in Canada than the one we call Calla Lily. Its large sagittate leaves, and its pure white spathe thrown back to disclose a bright yellow spadix, fully covered with flowers proper, make it a rich ornament to any window. No funeral decorations are thought complete without a liberal supply of the African lilies, and the length of time they will keep in a fresh condition is an additional point in their favor.

It will be a surprise to a good many to be told that the name "Calla," by which this flower is commonly known, is a misnomer, although perhaps too wide-spread to be corrected, except among florists. The name belongs to another species of the Arum family, viz., *Calla palustris*, or Water Arum, a low perennial herb, which, although originally introduced from Europe, is quite common in the northern United States in boggy places, but is not worthy of a place in the window garden.

The *Richardia* takes the name from L. C. Richards, a French botanist, and is a genus comprising five species of marsh plants, natives of South Africa, four of which have been introduced for greenhouse cultivation.

They are of very easy cultivation, the most important point being to give them a plentiful supply of water during their growing season. They will succeed best in a rich soil, made of a compost of good loam and cow manure in equal parts.

Richardia Africana is the proper name of the variety above referred to



FIG. 7.—VARIEGATED CALLA, *RICHARDIA ALBO-MACULATA*.

as most grown by amateurs. It is a winter and spring bloomer, and is usually allowed to rest in the summer months, by turning down the pot on its edge and leaving the plant without water; or it may be planted out and left without care until early fall, and then potted.

R. albo-maculata, or the white spotted Calla, is by far the best of the other three for amateur cultivation. This one is highly prized for its foliage, which has a variegated appearance, while its greenish-white spathe, though smaller than that of *R. Africana*, is still very interesting.

CANADIAN APPLES IN IOWA.

BY J. L. BUDD, AMES, IA.

AS I lay down the ever welcome CANADIAN HORTICULTURIST, I will say that in 1879 we put in orchard all the Canadian apples noted by the late Robert Burnet, and a number of others exhibited at the American Centennial in 1876. Of them all, the Winter St. Lawrence and McIntosh Red have proven hardiest in tree, most perfect in foliage, and the best bearers of well developed fruit. The others have failed wholly or in part from sun scald, blight or winter injury.

The two named are not as hardy as Wealthy, but I believe in our climate they are somewhat harder than Fameuse, and the fruit does not scab to any serious extent as does the Fameuse. I believe over large areas of our State, south of the 42nd parallel, they will prove profitable.

The Montreal Peach I do not believe originated in Canada or this country. It is a true Russian in tree and fruit, and much like some we have fruited. It is a perfect ironclad with us and a fair bearer of excellent and handsome summer fruit for home use. For market it is too perishable and tender in flesh.

ROSE NOTES.

BY F. MITCHELL, INNERRIP.

FASHION or caprice affect the popularity of almost any other flower but the rose, but a perfect, well-grown rose can always command admiration. This season, as in all the past, the rose has been in popular estimation the flower of all flowers. The heavy frost of the 29th of May very much thinned the first bloom of the out-door rose, and later the black spot again made its appearance, but in spite of these drawbacks there was, throughout the whole season, a great amount of fine bloom produced.

I did not experiment as much as usual with new varieties this past season, and of those I did, I did not get bloom enough to speak with assurance of their merits or demerits. As I have before stated, it is not wise to pronounce positively on any new variety with only one year's acquaintance, and perhaps but a very few blooms at that. Varieties vary greatly different seasons. Instancing this I may mention that that grand old variety, "La France" was this season not even a third-rate rose, while "Ulrich Brunner" (not usually very good) this year produced magnificent blooms. Of those that have been out two seasons, "Mrs. John Laing," of which I hoped much last year, has proved itself a very valuable rose. The best of all the later

arrivals, "Dinsmere" (which was sent out by Peter Henderson with such a flourish of trumpets, as something beyond anything ever before produced) is a fairly good and very free blooming red rose, but I have as yet failed to detect any difference (save in name) between it and "Madam Charles Wood," introduced nearly thirty years ago.

The black spot has again seriously interfered with propagation by cuttings. The leaf, when affected with it, drops before the cutting is rooted, and then the chances are that the cutting will not root at all. I have as yet found no remedy for it, but as it has only been here two years, it may again disappear. It is not altogether confined to the rose, but affects currant and other leaves.

In spite of a few minor discouragements like these, the season has, on the whole, been a satisfactory and encouraging one to the rose culturist.

THE CHRYSANTHEMUM CENTENARY.

THIS was the great event of the month of November in Horticultural circles in England, and was celebrated during the first week of November at the Royal Horticultural Society's Gardens at Chiswick, by both a conference and an exhibition. At the latter it was the aim to collect together as many varieties as possible, which may be instated that there are many varieties grown in gardens alone. At the valuable papers were subjects as the History of the Chrysanthemum, Progress in Varieties, etc. The cultivation in China of antiquity, but about a hundred years ago it was known in one hundred years were brought into these, a purple one named as a valuable plant surprises have forward ever since, either through fresh importations, or through hybridization, until the interest in this flower has become a perfect furore, and almost every form and color may be hoped for.

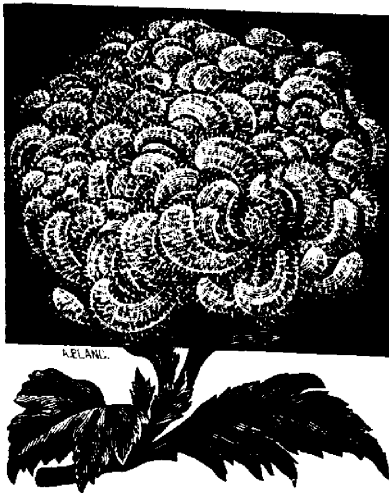


FIG.—8. MRS. ALPHEUS HARDY.

many of the known and the number of aged when it is no less than 900 the Cheswick Garden conference some valuable read, on such subject of the Chrysanthemum's Culture, New beginnings of its and Japan are lost in two hundred years Holland, and about ago three varieties England; and of was at once recognized autumnflower. Con- been brought for-

The latest surprise is a Japan novelty, known as "Mrs. Alpheus Hardy," named after an American lady of that name who showed some kindness to a Japanese student of Harvard College, and who in return sent to his native land for some *Chrysanthemum* roots as a present for her. Among them was this variety. At first view it appears to be an ordinary incurved Japanese variety, but on closer inspection it is seen to have numerous coarse hair-like excrescences on the reverse of the florets, which it is hoped may prove a fixed feature, and give rise to kinds with even a greater degree of hairiness.

A GREENHOUSE FOR AN AMATEUR.

A BALTIMORE correspondent of *Popular Gardening* furnishes the following description of a cheap greenhouse, which he had found most satisfactory, and as it furnishes a reply to one of our correspondents, we give it in our pages also.

Size of building 9 x 16 feet, being a lean-to against the dwelling. Cost \$28.50 complete, including the heating contrivance, which consists of kerosene oil stoves and drum with connecting hot-air pipe about twelve feet in length and three and a half inch in diameter inside measure.

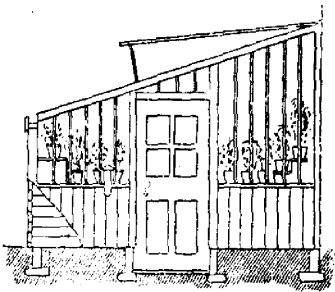


FIG. 9--A CHEAP GREENHOUSE.

The average cost of heating is but ten cents a night. A pipe leads from over the lamps to the outside of the building to conduct away any smoke or smell from the lamps. This pipe turns upwards outdoors, and is protected with a cap-like cover to keep the rain out.

The plan of putting up the structure was this: First, six 4 x 4 inch posts were set in the ground, resting on stones with some smaller ones between, and to these for making the sides, boards one foot wide were nailed lengthwise. Over these horizontal boards a second layer was nailed, but to have them run up and down, and with strips nailed over the joints. Two coats of paint were given to the exterior. The inside surface of the wall was covered with heavy building paper, an eighth of an inch thick. Altogether this wall is so warm that during the great blizzard, which last March (1888) visited our correspondent's region, a night heat of 47° was easily maintained.

Concerning the plan of heating with oil stoves, Mr. Emmerich says that in his case it is entirely satisfactory. Two small stoves, made by the Kerosene Oil Stove Co., and having two four inch wicks each, and an oil receptacle containing seven quarts to each. The drum from which the

hot air pipe extends, is situated upwards from and between the lamps. While the $3\frac{1}{2}$ -inch pipe is effectual in conveying heat to its further end, still Mr. Emmerich is of the opinion that if it were a size larger it might be even more satisfactory.

Regarding oil lamps smoking when put to such a use and of which some complain, no trouble has ever been realized. The lamps are kept perfectly clean and nothing but the best 150 tested oil is used. Care is taken, however, to not have them turned up too high at any time,

for if they were, naturally they would smoke. By means of the pipe leading outside all smell of the burning oil is removed.

Concerning the general success of this house, the writer says he wishes our readers could see the beauty and perfection of the many plants grown within its walls. Still it must not be forgotten that the general attention bestowed on plants has at all times quite as much to do with their success as the providing of sufficient heat and light for their wants.

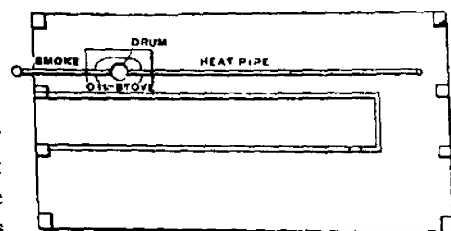


FIG. 10. PLAN OF GREENHOUSE.

THE FARMSTEAD LAWN.

FAMILY games, the out-door games, of summer, must be provided for. Everybody, almost, plays croquet, and lawn tennis is rapidly becoming an equally popular game. The boys also want a place to play ball, and at least the small boys can be allowed a chance upon the small area reserved for the two home games referred to. These ought, of course, to have as level a spot as possible, with trees around it for shade, but not too near. Seats may be provided beneath these trees for weary participants or elderly on-lookers. It is well worth while to take considerable pains with this play ground, so that the games may be played in a satisfactory manner, and skilled players be satisfied with the facilities for displaying their accomplishments. The levelling ought to be done with care, and a fine, thick June Grass sod secured by good preparation of the ground, liberal seeding, and a regular but moderate use of the lawn mower. These things take time; but "the labor we delight in physics pain," saith the poet, and both the boys and the girls of the family will willingly help to prepare the ground devoted to social recreation and the entertainment of visiting friends and kinsfolk. All that I have indicated can be carried out nicely on the space of a single acre.—From "Some Thoughts on Lawns," in *Vick's Magazine for November*.



The Canadian Horticulturist.

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

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

A PROSPEROUS NEW YEAR.

THIS heading expresses the wish of THE CANADIAN HORTICULTURIST to its many readers. And in line with the wish it shall be our earnest aim to aid our Ontario fruit growers in every possible way to that success which their industry, coupled with a favorable soil and climate, so well merit.

We again appeal to all our readers to aid us in our object by contributing items of their experience, criticisms on the subject matter of the journal, or interesting notes of any kind bearing upon our work.

Photographs also, of special trees, shrubs, fruits, lawn views, etc., are also solicited, and if suitable will be engraved and used as illustrations.

A JAPANESE FLOWERING APPLE.

THE *Garden and Forest* gives an engraving of a novelty in the ornamental line, in the way of a flowering apple, which was brought from Japan by Von Siebold, and is being

sold as *Pyrus malus floribunda*. The beauty of its delicately colored masses of bloom is beyond description, and no small tree is better suited to be planted on the margin of a large shrubbery, or as single specimens on the lawn. The fact that it is perfectly hardy is important to us in Canada.

THE AMERICAN HORTICULTURAL SOCIETY meets in Austin, Texas, on Monday, the 17th day of February, 1890.

"WHERE FLOWERS BLOOM" is the title of a column in the *Woodstock Sentinel Review*, describing a visit to the grounds of our ex-director for Agricultural Division No. 9. It seems that Mr. F. Mitchell has adopted floriculture as a profession, and is becoming very successful in his chosen line. His three specialties are the rose, the dahlia and the gladiolus. Of roses alone, he has now about one hundred varieties in cultivation.

QUESTION DRAWER.

THE PEARL GOOSEBERRY.

Mr. Wm. Saunders, of the Experimental Farm, Ottawa, writes that he believes this gooseberry was a cross between Downing and Ashton's seedling, an English variety. With regard to its size, Mr. Smith says it will not average double the size of the Downing, although it is considerably larger, and much more productive. We should also credit the present ownership of this berry to Messrs Smith and Kerman, and not to Mr. A. M. Smith.

KEEPING CABBAGES.

SIR,—Please inform me the best way to keep cabbages through the winter.—AN ENGLISHMAN, Bracebridge.

Reply by A. Gilchrist, West Toronto Junction.

Cabbages are kept successfully by putting them into bunches, covering lightly with soil, in the driest spot in the garden. Some gardeners put the roots up, that the leaves may shed the water off better, but the frost runs down the stem and sometimes injures them. I prefer the root down. If only a few are to be kept, a narrow trench will do; if a quantity better make the trench four or five feet wide, cover with a few leaves or straw and put on about three or four inches of soil. A little frost will not injure them. If kept too hot they will get yellow.

GERANIUMS KEPT IN THE CELLAR.

SIR,—I have heard geraniums may be wintered successfully in a frost-proof cellar;

if this is the case, kindly tell me how to manage them in the right way, and oblige.—AN ENGLISHMAN.

Reply by A. Gilchrist, West Toronto Junction.

Geraniums can be kept in a light cool cellar. Put them in boxes or pots; place them as near the cellar window as possible; give very little water, In the spring take cuttings of them and throw the old plants away.

SEEDLING GERANIUMS.

SIR,—I have a very nice seedling geranium about three years old, which has never flowered, and shows no sign of doing so. Can you give me a receipt to make it flower. I slipped it some two months ago, but that has made no difference.—D. A. FERRIER, Fergus.

Reply by A. Gilchrist, West Toronto Junction.

Florists wishing plants to bloom keep them pot-bound. If the seedling geranium has not bloomed at one year old, it will very likely be a shy bloomer, and not worth keeping.

MIXING VARIETIES.

I. Will you please tell me when different kinds of strawberries are planted in rows side by side, if either kind will run out, that is, will the pistillate kinds produce staminate flowers, and the staminate kinds produce pistillate flowers; if so, which kinds are most likely to get mixed in the blossoms. the pistillate or staminate variety?—E. ROBINSON, Glendale, Ont.

The fertilization of one blossom by another will have no effect upon either flowers or berries of the growing plants. The effect will only be observable in the seeds produced by the flowers so fertilized, and will be seen in the seeds only.

OPEN LETTERS.

SMALL TREES vs. BIG TREES.

DEAR EDITOR,—I take pleasure in sending you the enclosed clipping written by Mr. T. C. Robinson, of Owen Sound. His true reasoning is in accordance with nature and botany, and also quite agrees with my little experience of the last four or five years planting of trees.

SMALL TREES BEST.

"When a man wants an apple tree, he wants a big one." I suppose this is true of every customer who orders, unless he has had considerable experience. We all like to realize on an investment as soon as possible; and the very look of a big tree makes a man think he is so much nearer the large luscious fruit than if he set out something about the size of a good raspberry bush. I wonder if it is any use trying to combat this intuitive idea. Let me try. My friend of the BIG TREE, you know, of course, that it is not mere *timber* that produces the fruit; but both *timber* and *fruit* depend on the *roots*. Now here is a little tree, with stem as thick as your finger and eighteen inches long, to examine beside your *favorite*. Now what difference do you see in the roots of the two? No nurseryman living can afford the time to dig up large stock so thoroughly as to save the full length of the roots, at ordinary prices. No, a man at each side quickly thrusts the spade down about a foot from the trunk, then *pry, twist, shake*, and there is your BIG TREE with a few prongy big roots, but the main mass of fine fibrous feeding roots left behind in the nursery! Now look up and down the fine showy trunk; notice what an expanse of *bark*, and consider that unless that bark is kept moist *all summer* by sap coming down from the leaves, it becomes *hid-bound*, and the tree is apt to die. Now see on your fine branches how many many buds there are. Recollect that each bud will try to make a new leaf-covered branch, and that each leaf will evaporate moisture and help to pump your tree dry, and then ask yourself how those few prongy roots are ever going to manage to send out enough small feeding roots to support the enormous demand for sap, by the time the hot dry weather rushes down upon us. Is it any wonder some trees die every year? Isn't it a great wonder so many live—though stunted and sickly?

"But now look at my modest *little tree* that was scorned before; see on the short stem, with so few buds and so small an expanse of bark, there is not one-tenth the *demand* for sap

that there is in your BIG TREE; while down below, the roots had not time to grow beyond the spade-stroke, and so the fine feeding-fibres are right here ready for business, so that there is capacity for furnishing immediately *ten times the supply* of sap that there is in your BIG TREE. As a consequence, of course, the *little tree is far more certain to live and will be very apt to outgrow the other, and come into bearing first*. Now add to all this the lower price of the small stock, and what is your conclusion?"

And I beg to add that small young trees have, specially to our very cold climate, the great advantage to be more easily winter protected; just before hard frost, bend them carefully, for fear of breaking, to the ground, putting a stone or a piece of wood on the head to keep it there; then throw over a few branches of evergreen or some such stuff to gather snow. Then in the spring they are all right and fresh, and get more easily used to our rough climate.—L. PASCHE. *Bryson, P. Q.*

CATALPA SPECIOSA.

Editor Canadian Horticulturist.

SIR,—In the issue of your valuable serial for November of the present year, L. H. Kirkly condemns the *Catalpa speciosa* as specially liable, on account of the large size of its foliage, to be broken down and ruined by the wind.

I have grown and observed this tree for many years, and have suffered more or less in the manner he describes. My trees are near the bluffs, on the east shore of Lake Michigan, and fully exposed to the strong winds from the lake, which occasionally nearly destroy the foliage, not of the *Catalpa* only, but even of the peach and of exposed forest trees, especially in early autumn.

I have several *Catalpas* in cultivated ground, which make strong annual growths and which have suffered more or less seriously in the manner described. I have also a much greater number standing in ground not under tillage, which have made moderate, healthy, annual growths, and not one of which has lost a branch from this cause. It seems a pity that so beautiful and vigorous a tree, for ornamental purposes, should be condemned and cast aside, if, indeed, so easy a remedy as mere neglect shall suffice to render it acceptable.—Very respectfully, T. T. LYON.

THE SUMMER FROST.

SIR,—In my letter of Dec. 4th last year, I gave you in brief detail a statement of all the plants I had received from the Ontario Fruit Growers' Association to date, and the results of my experience with them, and hoped to have been able to give you a correspondingly satisfactory account of the results of the past summer; but am sorry to have to report a very different state of affairs. The frost of the 28th of May last did a something amount of damage to the fruit crops of Ontario. Few, if any, localities escaped harmless, while to the Province generally the effect of it was most disastrous. Doubtless it was felt more severely in many places than in our favored Toronto; but, even here, in most cases, it was ruinous to orchards and gardens. I lost of my grapes four-fifths, strawberries two-thirds, raspberries three-fourths, apples two-thirds, all my plums—though I believe the curculio had something to do with this, and the portions I did save were inferior in quality and deficient in quantity. I had good yields of gooseberries, currants—red, white and especially black. Of these the quality was exceptionally fine; also blackberries.

In Canada, early springs are inevitably injurious to most of the products of the soil, and I sincerely hope it will be long before we have another spring like that of the present year.—Believe me, yours very truly, J. L. THOMPSON, *Toronto*.

GOOSEBERRY MILDEW—JOHN HOPPER ROSE.

SIR,—I notice complaints about mildew on gooseberries. I have "Downing" and "Crown Bob," and have never seen a speck of mildew during the last ten years. I always plant them where they can get plenty of sun and air, and never apply any manure except the house ashes from hard wood.

I have had "John Hopper" rose for several years. It is a splendid rose and flowers all the summer. I first saw it on a garden wall in Scotland.

Wishing you the compliments of the merry season, I am, yours faithfully, A. D. FERRIER, *Fergus, Ont.*

THE SWITZER APPLE.

SIR,—The Switzer apple that I received has had fruit on it two years. The fruit is very good and a good size. It has the flavor of a peach when ripe. If it is let remain on, it changes its flavor. It is as hardy as the Duchess, and ripens the same time. It does well on clay and is one of the best summer

apples, and a strong grower.—S. GREENFIELD, *Archville, Nepean, Carlton Co.*

THE GOOSEBERRY MILDEW.

SIR,—I am deeply interested in the gooseberry discussion. Will not the fact that the wild gooseberry mildews here, even worse than the cultivated varieties, and worst in the bush, give some light on the cause of the disease—and this was unknown only a few years ago. I have no doubt, therefore, that heat and dampness does aggravate the disease, but doesn't seem to cause it. Industry with me, not only have the fruit destroyed, but the bushes are killed. Shall remove what are left in the spring to a high clay ridge.—S. SPILLETT, *Nantye*.

A FEW LINES FROM MR. GARFIELD.

SIR,—It was with sincere regret that I found it necessary to take so sudden a leave from your meeting at Windsor. I was greatly interested in your discussion, and it would have given me great pleasure to have remained until the close of the convention; but this is a busy world, and I am one of the busy people in it. Yesterday our local Horticultural Society met at my house, and, although a rainy day, filled us up to our utmost capacity. We have fifty-one families represented in the organization, and the families attend. One of the most delightful talks yesterday was given by a lady in encouragement of children's horticulture. She explained how seeds, plants and bulbs will increase from the smallest beginning, and illustrated by a case in hand. She took a single bulb of a popular variety of *Gladiolus* and in the five years, closing with this year, her stock had grown to 5,000 salable bulbs, and 45,000 bulblets. I hope we can, by agitation and example, awaken a thorough interest in this subject. I thank you and your associates most heartily for the cordial reception you gave us Michigan brethren, and trust we may, in the near future, be enabled to reciprocate.—CHAS. W. GARFIELD.

WINE THAT DOES NOT INTOXICATE.

SIR,—As a director of the Ontario Fruit Growers' Association, inquiries have been made of me as to whether there is manufactured and kept in stock by any grape grower in Ontario, a purely unfermented wine, suitable for sacramental purposes. Knowing that Mr. P. E. Bucke, of Ottawa, has had some experience with purely unfermented native wines, we would be pleased to hear from him through the columns of the *HORTICULTURIST* on the subject.—DIRECTOR, *London, Dec. 13.*

OUR FRUIT MARKETS.

FRUIT EXPORTS OF ONTARIO.

DEAR SIR,—I enclose you a table showing the total exports from Ontario nine years, ended June 30, 1888, value and price per barrel:

Year.	Price per bbl.	Barrels.	Value.
1880.....	\$2 37	32,250	\$ 57,248
1881.....	1 50	99,834	159,118
1882.....	2 10	90,024	191,160
1883.....	3 15	47,639	149,962
1884.....	3 25	12,323	40,047
1885.....	2 21	62,433	141,951
1886.....	1 85	102,303	189,837
1887.....	1 92	141,260	271,595
1888.....	2 06	226,070	403,587

Total imports into Ontario for eight years ended June 30, 1888, value and price per barrel:

Year.	Price per bbl.	Barrels.	Value.
1881.....	\$1 46	8,147	\$11,953
1882.....	1 82	4,167	7,588
1883.....	2 49	6,850	17,088
1884.....	2 71	6,028	16,348
1885.....	2 10	5,448	11,459
1886.....	2 00	5,258	10,539
1887.....	1 99	4,344	8,345
1888.....	2 34	2,989	7,053

—Yours truly, P. E. BUCKE, *Ottawa.*

OUR BOOK TABLE.

AMERICAN POMOLOGICAL SOCIETY. Session of 1889, containing the proceedings of the 22nd session, held at Ocala, Florida, Feb. 20, 21, and 22, 1889; compiled by the Secretary, Mr. A. A. Crozier, Ames, Iowa.

PROCEEDINGS OF THE FIFTH ANNUAL CONVENTION OF THE SOCIETY OF AMERICAN FLORISTS, held at Buffalo, N. Y., Aug. 20, 21, 22 and 23, 1889; Secretary, Wm. J. Stewart, Boston, Mass.

SEVENTH ANNUAL REPORT OF THE OHIO AGRICULTURAL EXPERIMENT STATION FOR 1889. Prof. W. B. Lazenby, Secretary of the Board of Control, Columbus, Ohio.

DIGEST OF THE ANNUAL REPORTS OF THE AGRICULTURAL STATIONS OF THE UNITED STATES FOR 1888, published by the authority of the Secretary of Agriculture. Part I., June, 1889.

TRANSACTIONS OF THE IOWA STATE HORTICULTURAL SOCIETY FOR 1888. Twenty-third annual session, held at Des Moines January 15, 16 and 17, 1889. Secretary Geo. Van Houten, Lennox, Iowa. Cloth pp. 494.

ANNUAL REPORT OF THE STATE HORTICULTURAL SOCIETY OF MISSOURI, 1889. Cloth,

pp. 501. Secretary, L. A. Goodman, Westport, Missouri.

CATALOGUES:—The Idaho Pear, published by the Idaho Pear Co., Lewiston, Idaho, with colored plate of the pear.—Lovett's Illustrated Catalogue of Trees and Plants; J. T. Lovett Company, Little Silver, N. J.—Descriptive Catalogue of Dutch, French and other Bulbous Roots, Fruit Trees, Roses, etc.; John Laing and Sons, Forest Hill, London, S. E., England.—Wm Paul and Son's Catalogue of Roses, Waltham Cross, Hertfordshire, England.—Nursery Trade List for Autumn, 1889, and Spring, 1890; P. E. Transon Bros., Orleans, France.

MRS. ALPHEUS HARDY: OVERHEARD AT THE CONFERENCE.—“Oh, ma, here's a bearded Chrysanthemum!” exclaimed a little girl at the Chiswick Conference the other day. “You should not say bearded, my love; you should call it hirsute.” “Her suit, ma? I see it is named Mrs. Alpheus Hardy. Does she wear a hair suit?” “No, my child, of course not. I mean to say that the flower is hairy; that is the meaning of the word hirsute.” “Well, ma, I can't see the difference between bearded and hairy. I am sure Mr. Barnum would be delighted to get this bearded lady for his great show. What a jolly bit of fun it would be.”