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Superior No. 1

ALEXANDER.

THE
Canadian Horticulturist

VOL. XVI.

1893.

No. 1.



THE ALEXANDER APPLE.

QUR colored plate gives a fine representation of one of the staple varieties of fall apples cultivated in the northern portion of Ontario. It is of Russian origin, and, as might be expected, it is very hardy, although not equal to the Duchess. It is of large size and handsome appearance, which commends it to buyers, and makes it a very profitable variety to grow for market, in those sections where the climate is too severe for the Gravenstein.

In our list of autumn apples recommended for cultivation, we find this variety included in the list for most of the northern counties, for instance, the following is the list of fall apples commended to planters in Stormont, Dundas and Glengarry; Alexander, Fameuse, Gideon and St. Lawrence: in Lanark, Renfrew, Carlton and Russell; Alexander, Montreal Peach, Wealthy and Haas.

It is called Alexander from a Russian Emperor of that name, and one of its synonyms is Russian Emperor. It is also called Aport.

Downing gives the following description of it:—A very large, showy Russian variety. Tree vigorous, spreading, productive. Fruit very large, regularly formed, conical. Skin greenish-yellow, faintly streaked with red on the shaded side, but orange, brilliantly streaked and marked with bright red in the sun. Calyx large, set in a deep basin. Stalk rather slender, three-fourths of an inch long, planted in a deep cavity. Flesh yellowish-white, crisp, tender and juicy, with a rather pleasant flavor. Good October to November.

It will be interesting to our readers to note what is said of this apple by

our correspondents in various parts of the country. R. Brodie, of St. Henri, Que., wrote of it some years ago: "We generally sell the Alexander as soon as they are well colored in the fall, as we get a good price, averaging \$3 per barrel for them."

Mr. R. W. Shepherd, of Montreal, says, "In this section it does well, but the tree is only fairly hardy. It bears good crops after once well established in the orchard. The fruit for cooking is much appreciated by hotel and restaurant keepers, but the experience of growers here is, that in a season like the last, when the fall St. Lawrence is a good crop, it being a much better fruit for all purposes, the Alexander, which crosses the market about the same season, is almost unsaleable. Some seasons, however, the Alexander proves quite profitable in this market. On the whole, it may be considered a desirable variety to plant in limited quantities."

G. C. Caston, of Craighurst, in the County of Simcoe, says, "The tree of the Alexander is quite hardy here, free grower and an abundant bearer. The fruit is free from fungus scab, colors well, and attains great perfection. The quality of the Alexander is only fair for cooking, and lacks flavor for a good dessert apple. Yet, on account of its size, clean skin and fine appearance, it is, at present, one of the most salable of our fall apples. It will keep fairly well till Christmas."

Thomas Beall, of Lindsay, Victoria County, writes, "The Alexander is the most profitable autumn apple grown here, because of its great size, beautiful color and known good cooking qualities. It always commands a high price. The tree is very healthy, and bears well with good treatment. It is more free from fungus diseases and insect enemies than most other varieties."

D. Nicol, of Catawaqui, County of Frontenac, writes, "The Alexander gives good satisfaction in this district. It is a good cooking apple, and an abundant bearer. It sells well when carefully handled. The tree is one of the hardiest we have. I would not recommend it for shipping purposes, because it is easily blemished."

A. McD. Allan, of Goderich, in the County of Huron, writes, "The Alexander is a fine, clean, thrifty grower as a tree, an early and good bearer, with fine-looking fruit where the land is kept in good heart. The apple is not only very attractive, but good as a cooker, and, if care in picking and shipping is exercised, it would reach Britain in good order, and bring fine prices. It would suit that market well, and it does fairly well in our own markets."

"You are a sweet peach," said a Pittsburg young man to a Pittsburg maiden.
 "And you a regular peach crop."
 "What do you mean by that?"
 "A chronic failure."

THE BRANTFORD MEETING.



SINCE a verbatim report has been taken of this meeting, to be sent out from the Department of Agriculture to all our members early in 1893, it is unnecessary to give any detailed account here of the work accomplished at our last annual winter meeting. Notwithstanding the unfavorable weather the local attendance was large, and the efforts of our directorate to encourage the fruit growing industry of the section, seem to be fully appreciated.

Principal Dymond presided at the welcome meeting at the Institute for the Blind, and showed us every possible courtesy, favoring us with a rich musical treat in the performance of several instrumental and vocal selections of classic music by the pupils. Mayor Secord, in well-chosen words, welcomed us to Brantford, and President Pettit in his address spoke hopefully of our work, and called upon the directors to aid him in making a creditable display of fresh fruit at Chicago, during the coming summer.

There was a large attendance for the day meeting at the Court House. The greater part of the first morning was spent discussing Prof. Craig's paper on "Plums Native to America." The classified list appearing in our report, with illustrations, will be exceedingly valuable for reference. The afternoon was largely occupied with apple growing, spraying, windbreaks, and bee-keeping as an adjunct to fruit growing. Mr. Holterman, who read the paper on this latter subject, did not advise a fruit grower to undertake bee-keeping if his time were already pretty fully occupied; in such a case it would probably not pay, but otherwise there is money in the business, even at the present low prices for honey. In his own case the profits of two years had about equalled the whole value of his stock of ninety-five colonies, worth, say, \$700. Besides this the fruit grower has the special advantage of the usefulness of bees in the fertilization of the fruit blossoms. In reckoning his profits he had reckoned his time at \$1.25 per day.

Prof. Pantan's lecture Wednesday evening, on "Enemies in Horticulture," illustrated with stereopticon views, was much appreciated, and will be put in shape for our report. Some excellent music was contributed by local talent, which much enlivened the meeting. In reply to a question on the best six varieties of apples to cover the whole season, Mr. A. McD. Allan, gave the following list: Duchess, Gravenstein, Ribston, Blenheim, King, and Ontario;

and if one wished four good specialties for the English market, he would recommend the Ribston, Blenheim, Gravenstein and King.

On Thursday morning the importance of a fruit experimental work was emphasized by Mr. A. M. Smith, and the matter was placed in the hands of a committee of which he is chairman. Mr. D. W. Beadle, of Toronto, as Chairman of the Committee on Pears, presented a revised report of the Catalogue of Pears, for guidance of judges. We give selections from it :

	Dessert.	Market.	Total Value.
Bartlett	8	10	18
Clapps.....	7	8	15
Souvenir.....	4	7	11
Buffam.....	4	4	8
Doyenne Boussock.....	6	8	14
Kieffer.....	3	5	8

This report was received from the committee, but laid over for further criticism.

An important part of the afternoon's work was the report of the Committee on Grapes, brought by George W. Cline, the chairman. The report of last year was carefully reviewed by the Committee, giving values of the various kinds, for use in judging collections. Here is a selection or two :

Variety.	Color.	Season.	Quality for Table.	Shipper's Value.	Market Value.	Total.
Agawam	R.	L.	8	10	9	27
Brighton	R.	E.	9	6	8	23
Champion	B.	E.	2	5	5	12
Concord	B.	M.	7	6	8	21
Empire State ..	W	L.	3	4	4	11
Lindley	R.	E.	10	9	9	28
Niagara	W.	M.	8	5	9	22

But another important part of their work was in a list of grapes recommended for cultivation for profit in the various districts of the Province. Thus, for the vicinity of Brantford, the following list was given : Black—Worden, Concord, Roger's 4 and 44, Moore's Early ; Red—Delaware, Lindley, Agawam and Brighton ; White—Niagara and Pocklington.

Few changes were made in the directorate, A. H. Pettit still continuing President. For Prince Edward County, Mr. Wellington Boulter, President of the Ontario Packers' Association, takes the place of the late lamented P. C. Dempsey, and Alexander O'Neil, of Windsor, succeeds Mr. N. J. Clinton.

The next meeting will probably be held in Peterboro'.

RAMBLING NOTES.—III.

HEDGES.



OME years ago a dense, neatly-trimmed Barberry hedge inclosed a pretty good sized plot, and was looked upon as one of the chief attractions of this neighborhood. Somehow or other—and I leave the solution to wiser heads than mine—the farmers living in this vicinity began to think that the said shrub was the cause of rust on their wheat. Personal argument and press editorials favoring the opposite opinion proved of no avail to dispel the impression. The feeling gradually became intense and widespread against it, and rather than let them remain in the belief that there was growing on the premises something detrimental to their interests, I allowed them to destroy it. A “bee” was speedily formed by some stalwart sons of the soil, and in a very short time every vestige of their supposed leaf spotted enemy, root stump and branch, was left in ashes ; and *still there is rust*. Immediately afterwards the ground, formerly occupied by the demolished hedge, was replanted with Japan Quince, and when reviving nature begins to assume her verdant mantle of green, it is almost needless to remark, how the eye loves to wander to and linger upon its rich and abundant bloom of lovely scarlet flowers. Dwarf Box makes a handsome edging for gravel walks if allowed the partial shade of overhanging branches, while its evergreen freshness gladdens the hearts of those born and nurtured on the “tight little island” beyond the seas. Buckthorn does well on an adjoining farm, and proves an impenetrable barrier to stock, and a safe retreat in summer months for the noisy, pugnacious sparrow. Roses, and particularly hybrid perpetuals, some twenty-five of the leading sorts, “in the rosy time o’ the year,” is a sight for lovers of the beautiful to halt and admire. As this theme however has been lovingly and professionally treated by enthusiasts, whose names are now household words in floricultural literature, it will be prudent on my part to make my bow and gracefully retire from the field, especially as our local rosarian’s poetic nature will soon be all aglow, when describing the queen of flowers in all her unapproachable loveliness. One word regarding another favorite. Taking for granted that your thousands of readers have a dearly prized solution of the many gems that sweetly deck our mother earth during the season of their florescence, let me simply suggest one (if it isn’t in their collection already), namely *Yucca filamentosa*, or, as it is commonly called, Adam’s needle. The plant is perfectly hardy and easily propagated by division of the roots. It throws up amidst its narrow pointed leaves an erect stem three or four feet high, bearing aloft for weeks in July a delightful profusion of creamy-white bell-shaped flowers. Once seen in bloom its place is secured amongst garden novelties.

Russeldale.

J. D. STEWART.

CONSTRUCTING A COLD STORAGE HOUSE.



SINCE a good many of our most enterprising fruit growers are considering the advisability of building cold storage houses, in order to prolong the season of certain perishable fruits such as Bartlett pears, we give an article which recently appeared in the American Agriculturist, with the engravings :

As usually constructed, cold storage ice houses are built with two stories ; the first story for the keeping of goods, and the second being filled with ice. The floor between is arranged with openings through which the air, chilled by contact with the ice, descends into the room. A flue is provided to conduct the warm air to the upper part of the ice chamber. It is dried by condensation of its vapor, and purified by contact with the ice, as it descends on being chilled. Drains with traps are required to carry off the meltage water, and to secure the water condensed from the warm air. Dampers, in the cold and

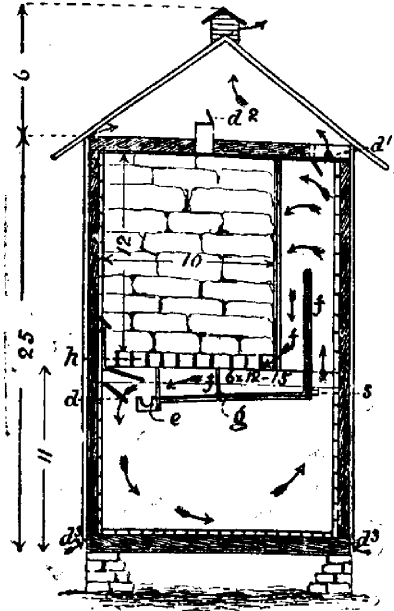


FIG. 486.—SECTION OF STORAGE HOUSE.

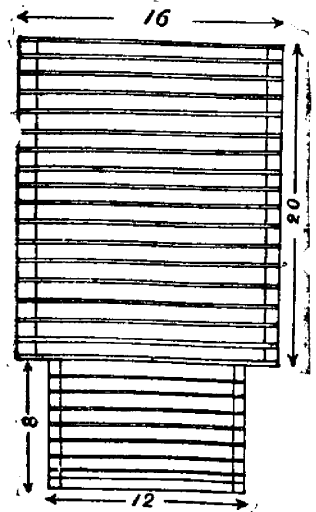


FIG. 485.—GROUND FLOOR.

warm air flues, assist in controlling the circulation, and ventilators placed in the roof keep the loft free from dampness.

The walls, ground floor and ceiling are constructed as nearly non-conductive of heat as practicable. No cracks or any channels through which warm or cold air can pass are permissible. Drains, which carry off the water, are securely trapped to keep out the air. Vestibules with perfectly fitting doors are placed at all entrances. Windows are fitted with three or four sashes and air spaces between. Dryness in the storage room is secured by a sheet metal floor under the ice,

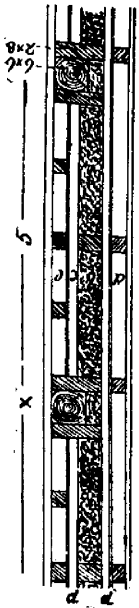


FIG. 497 — SECTION OF WALL.

usually galvanized iron, which forms a large pan or vessel in which all meltage water is collected. Water is very destructive to the ice, and the warm air is kept away from the top of the ice to prevent the moisture from being condensed there and settling into the ice. When the ice is low in the ice chamber, vapor may accumulate in the space above the ice. A ventilator in the top of the room is of service in conducting this away from the ice and keeping it dry. As the water from the melted ice will absorb air and gases, it is spread out over as large a surface as practicable, and the air is conducted over it to be purified. There are several plans by which these general features are accomplished in the construction of cold storage houses, some of which have been patented. The plans shown in the illustrations embrace the essential features of good cold storage construction.

The general arrangement of cold storage houses for any size is as shown in Figs. 485-488. Large houses require a girder and posts under the centre of the ice floor, and the air flues are best made double, with one set at each side of the girder along the centre of the room. The construction of the walls varies. Walls filled with sawdust, charcoal, tan bark, or other non-conducting materials, have been in use for many years. Carefully conducted tests, however, have proved conclusively that a wall of this description is inferior to a wall which contains dead air spaces, felt or paper linings, a section packed with mineral wool, and an outer circulating spaces *a* which are open to the outer air at the sill, and at the top open into air space. The wall shown in Fig. 487 gives good satisfaction. It comprises air the loft under the roof. Dampers (*d* Fig. 486) are placed at the bottom so they can be closed when desired. The next section of wall *b* (Fig. 487) is of dry sawdust, packed in place between walls of matched boards; the outer surfaces of these walls are lined with prepared waterproof paper. The inner section *c* contains dead air spaces which are about twelve inches square. The inner wall is of matched lumber, and the outer one is of weather boards. This construction keeps the sawdust dry and the walls free from dampness. There should be large flues *f* (Fig. 486) through which the air circulates. The drainage and meltage water is carried off by a trapped drain *e*. The galvanized iron floor can be flushed through openings *s* made for the purpose. A wooden backing *g* is placed below the iron floor. Wooden slats *h* hold the ice above the meltage water, and the outer air spaces carry off the heat imparted to the weather boards by the direct rays of the sun. When the air is humid or charged with moisture these air channels are tightly closed. The thickness of the walls may be varied with the capacity of the building. Additional sections of filling and dead air are required for larger houses where great quantities of goods are refrigerated. The cold storage house shown in Figs. 486 and 488

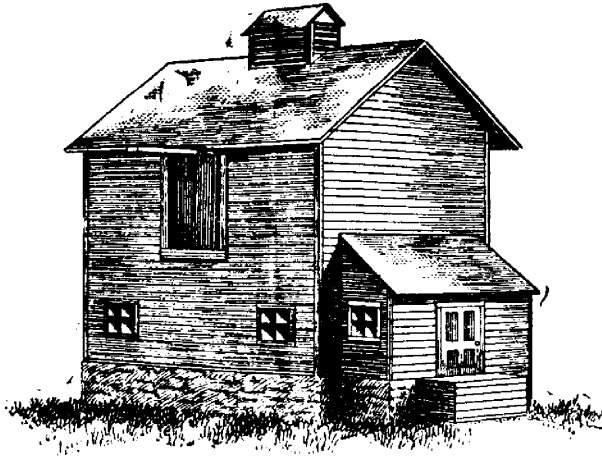


FIG. 488.—PERSPECTIVE VIEW OF A COLD STORAGE HOUSE.

forty tons of ice, and, with one filling, will be sufficient for all requirements for dairy, fruit and domestic use on a large farm. By regulating the outer air dampers, the circulation can be adjusted to meet all conditions. When these dampers are closed the ice wastes slowly.

THE PROTECTION OF ROSES.

Having tried many ways of protecting roses in winter, I have at last adopted the following method: About the first of December, according to weather indications, I trim the tops of my monthly roses, leaving a good strong growth above ground, a foot to eighteen inches, and in some cases even more. I then tie the branches together at the top and place from six to eight sticks around each bush. Then fill in between the sticks and the bush with fallen leaves, saved for the purpose, and after filling in well, tie the sticks close together at the top. I have tried this method four seasons and never have lost a rose bush which I considered healthy at the time it was tied up.

The branches keep perfectly wherever they are entirely covered or protected by the dead leaves. The sticks keep the leaves around them, and prevent their blowing away. Some litter should be spread over the ground between the plants so that it will not be frozen to any great depth. Where leaves cannot be procured, straw will be the next best material, but hay should never be used as it heats and burns the roses. In the latitude of Southern Ohio, roses should not be tied up before December, or they are apt to be killed before winter really comes, and they should not be untied before pleasant weather in April. If after that time cold frosty nights occur, the rose bushes should be thoroughly sprinkled with cold water in the morning before the sun shines on them. Young hybrid perpetuals should have the same protection as monthlies, and I always protect hybrid Teas the same as the monthly Teas.—American Agriculturist.

OUTLINE OF WORK IN SPRAYING FOR 1893.



OUR letter of the 5th instant, asking about spraying for apple scab, etc., is received. We believe our experiments have shown the Bordeaux mixture to be one of our best fungicides. We used a dilute form of it with good results last season, and would recommend your fruit growers to use it, as follows: Ten lbs sulphate copper (blue vitriol) per 100 gal. water, and about the same weight fresh lime or a little less. Dissolve in separate vessels and mix only when ready for use, as it is best if stirred constantly until sprayed on the trees or plants. For apples, spray with the mixture once before bloom after growth starts. Spray once or twice immediately after bloom for codlin moth, adding the necessary amount of Paris green or London purple. Another spraying or two with insecticide added to the Bordeaux mixture, may usually be profitably applied.

For grapes spray with sulphate copper solution before buds start, using 4 lbs. per 100 gallons water, but no lime. After bloom spray with Bordeaux mixture trees as above, at intervals of ten days to two weeks, until fruit is size of large nuts, when it may be best to use carbonate copper and aqua ammonia solution lest the Bordeaux mixture spot the fruit with the lime and make it appear badly. Our experience of last season demonstrates the value of spraying and confirms our belief, that it has "come to stay."

E. S. GOFF.

Horticulturist, Wisconsin Experiment Station.

THE people of this city have at last had a surfeit of Keiffer pears. The numerous orchards that have been planted have been rapidly coming into bearing, and the city has been flooded. The Italian fruit vendors, whose stalls occupy every foot of available sidewalk space in eligible localities, and whose carts swarm like locusts in our streets, bought them freely because of their fine appearance, and the public bought them—that is to say, each pear buyer bought one and then hated himself for an hour for thus squandering his nickle. The writer does not believe they will sell for as much as apples five years hence, and he most devoutly hopes the general planting of them in the North will be stopped. In the South, where the finer pears do not flourish, they may be grown with propriety.—Rural New Yorker.

A FEW days ago, we went into the markets and bought of a commission merchant 13 baskets (5 pounds) of Catawba grapes at 15 cents per basket. We must confess to a guilty feeling at buying them so cheap. There is mighty little for the grower in a five-pound basket of grapes which sells for 15 cents, out of which freight and commission charges are to be paid.

PROMINENT CANADIAN HORTICULTURISTS—XIX.

MR. LINUS WOOLVERTON, "THE SECRETARY."

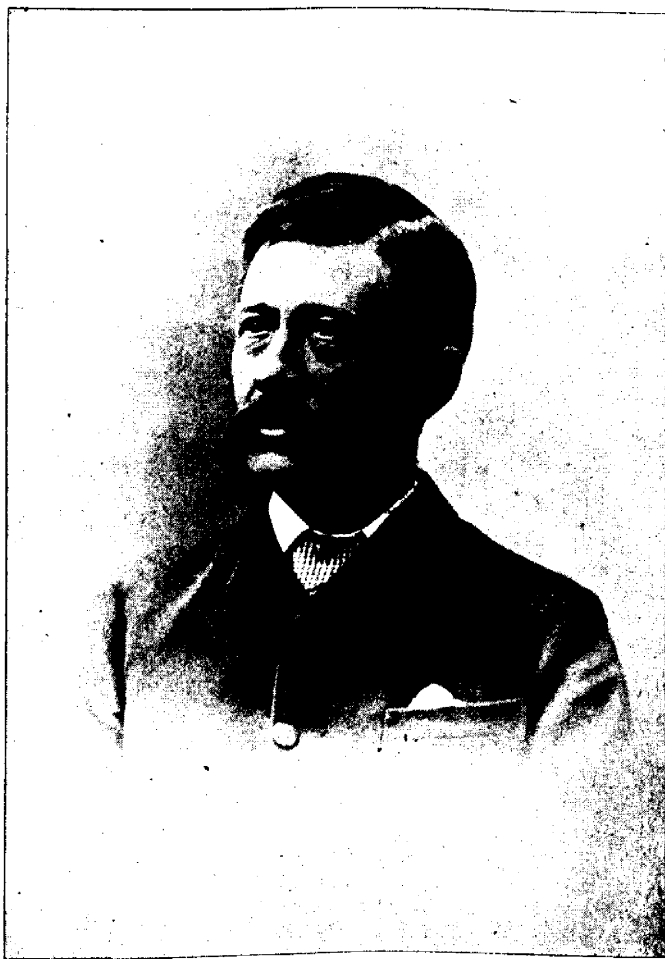


IN accordance with the wish of the Directors of our Association, we give, in this number, an engraving of our Secretary and Editor, in order to introduce him more fully to the readers of this magazine, who are already well acquainted with him by letter.

He was born on the 12th of December, 1846, at Grimsby, Ontario. The family of Woolvertons to which he belongs is one of the oldest of this early settled Niagara district, and trace their family history back through two hundred years to England, where there are still found several places of the name. His father, Mr. C. E. Woolverton, who had himself received his education at Madison University, New York State, so highly valued university advantages, that he spared no pains to give his son a thorough college training. This course was fully appreciated by the son, whose thirst for knowledge and love of books has always been one of his leading characteristics.

After due preparation at Grimsby High School, and one year at the University of Rochester, he entered the University College at Toronto, taking the first scholarship (\$120) ever taken at senior matriculation, in the department of classics. During his course at the University, he gave much attention to the study of natural science, and this has been of the utmost advantage in later years to him in his horticultural pursuits. In due time he was granted the degrees of B.A., in 1869, and M.A., in 1870. His first thought then was to pursue the study of law, and, with this in view, he entered a law office in Toronto and spent a portion of the winter of 1869-70 in legal studies. In October, 1870, he married Miss S. F. Lorimer, daughter of the late Rev. A. Lorimer, B.A., then Librarian of the University of Toronto. For a term of fifteen years after graduating he held the position of examiner in Classics and English at Woodstock College: a position he felt obliged to relinquish on accepting the work of Secretary of our Association.

Just about this time, Mr. A. M. Smith's retirement from partnership in the nursery business with his father, made an opening for the son to come into his place and carry on a business to which he had already given some attention. The business was largely local and no agents were employed, as the demand for nursery stock in this fruit section was at that time very considerable. After a few years Mr. Woolverton became so enamoured with fruit growing, that he resolved to quit the nursery business and give his whole attention to the former; and, with the consent of his father, who gave up the whole farm to his management on the most generous basis also deeding him a portion of it, he gradually planted out one hundred acres in fruit trees. This farm, spoken of in these



Yours truly,
L. Woodworth

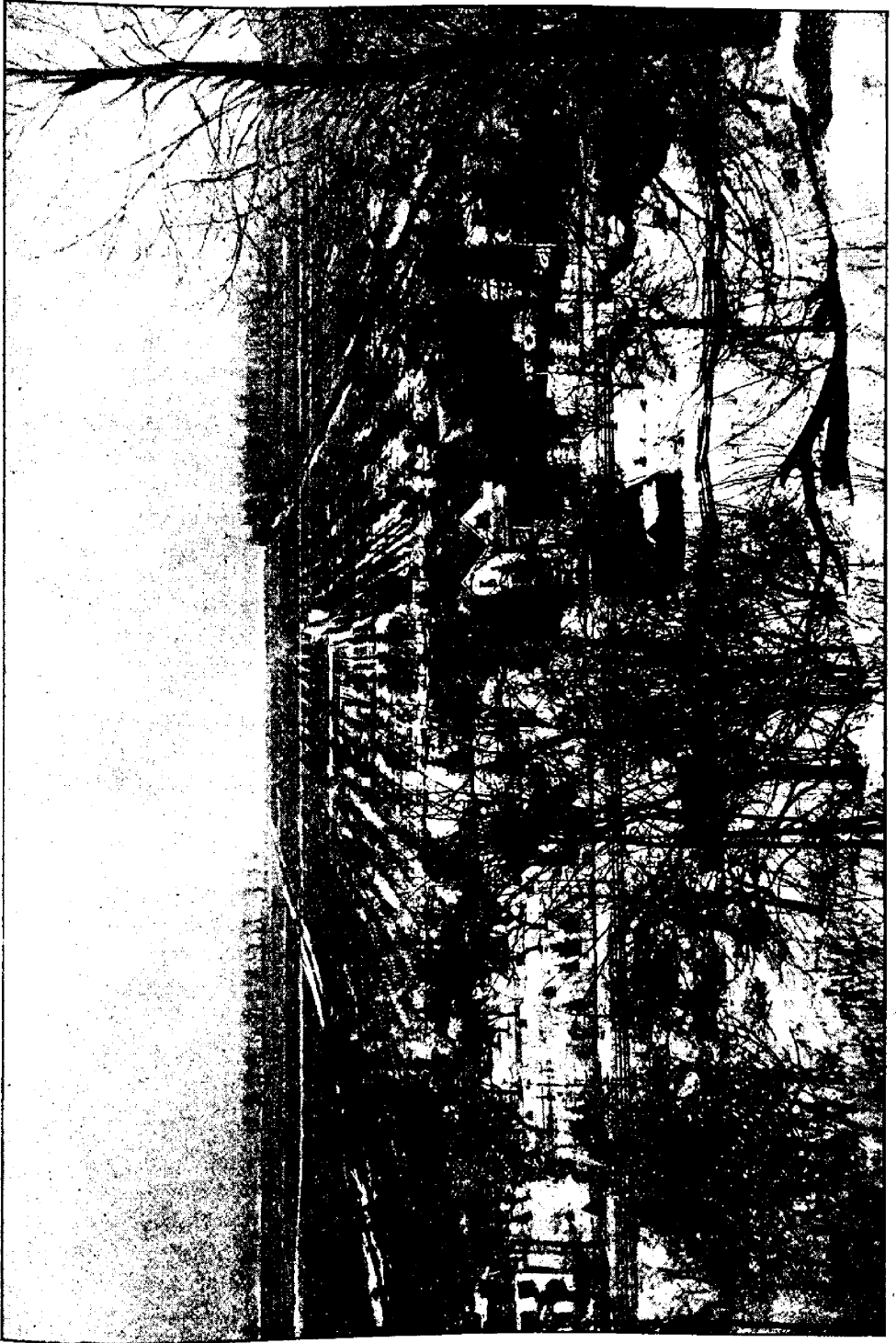


FIG. 489.—MAPLEHURST FRUIT FARM.

pages as Maplehurst Fruit Farm, is one of the largest of its kind in Ontario ; certainly no other has such a large variety of fruits of every sort under test. In grapes alone there are about ninety varieties, strawberries about fifty, and a large collection of cherries, pears, apples, peaches, plums, etc. ; and here is where the practical experience is gained, necessary for the proper and intelligent conduct of a horticultural journal. It was the consideration of his practical experience in horticulture, combined with his educational advantages, that led the Board of Directors of the Fruit Growers' Association to give him the appointment of Secretary and Editor, on the retirement of Mr. D. W. Beadle, the former Secretary.

Although Maplehurst Fruit Farm has already been shown in these pages, it will not be inappropriate to have it appear again in this connection, especially since it figures so prominently just now, in furnishing practical experience for the benefit of the Association. The photograph, from which the engraving was made, was taken about ten years ago, so that due allowance must be made for the growth of trees and many other improvements during that period. The management of this fruit farm requires much attention and would engross one's whole time ; but, by engaging a competent foreman, Mr. Woolverton has been enabled to give almost his whole time to our work.

For many years previous to his appointment, our Secretary was a regular attendant upon the meetings of the Association, having been present at Hamilton as a boy at some of the very first meetings, and almost regularly ever since. As a writer he was among the early prize essayists of our Association, as will be seen by consulting some of the older reports ; and to the earlier volumes of this journal he contributed a series of articles, entitled, " Horticultural Gossip." In 1885 he also wrote a series of articles for the *Canada Farmer*, entitled, " Seasonable Hints for Fruit Growers " ; and in 1886, a series for the *Farmers' Advocate*, entitled, " Hints for Amateur Fruit Growers." Last year he wrote an essay for the *Hamilton Scientific Association*, entitled, " Some Problems in Horticulture," dealing especially with the fungi affecting fruits, a body of which he had previously been made a corresponding member. Three years ago he was elected Vice-President for Ontario of the *American Pomological Society*, to whose report he has contributed considerable matter.

Lately, through the legacy from a relative, Mr. Woolverton has been enabled to build a beautiful house (Fig. 490), in which this Journal has for the present a convenient and suitable home. An engraving of a pen-and-ink sketch is given along with this article, since, under the circumstances, our readers will feel interested in a glimpse of the home of their Journal. The office occupies one of the principal rooms on the ground floor, opening out under the carriage porch on the west side, while the large attic is stored with back numbers, bound volumes, reports, electrotypes, etc., the property of the Association.

So much has the work of our Association grown, that an assistant is needed, and Mr. Woolverton is fortunate in having secured Miss Wilena Brodie for this

office, a competent stenographer and typewriter, to whose faithful care, it is only fair to say, is due the correct execution of the routine work of the Association, including the care of the books, mailing list and other important details. A.

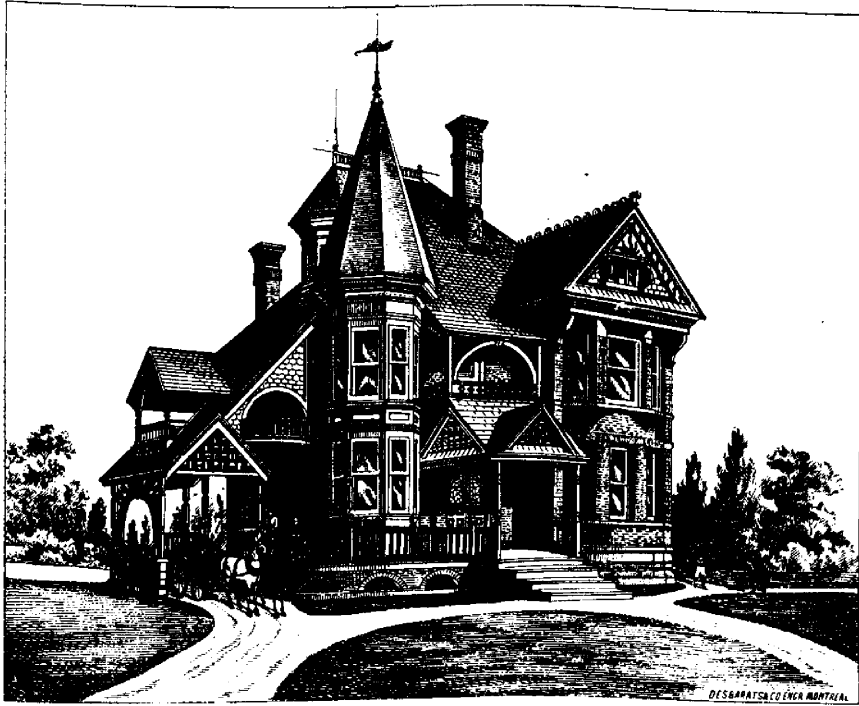


FIG. 490. — "MAPLEHURST," THE HOME OF THE SECRETARY.

DESPITE the advice given by some interested parties, we decidedly prefer spring to fall planting for grapes. The same is true of raspberries and blackberries. Fruit trees may be planted in the fall, but to secure the best results, the roots should be carefully looked after, making smooth cuts where the ends have been broken or mutilated. Unless this is done, they sometimes begin decaying before spring, while if they are cut smoothly, they will, as a rule, callus over before the ground freezes. It is well to do tree planting in the fall because of the pressure of spring work, which sometimes makes it difficult to accomplish in the spring.—Rural New Yorker.

THE French do all in their power to encourage thrift and saving among the common people. As a result the deposits in French savings banks are immense. In French schools instead of offering prizes of gaudy picture books as rewards of merit, a deposit of a few cents in a savings bank is offered.

THE BIG APPLE CROP IN WATERLOO.



THE past season's apple crop throughout Waterloo County has been the largest that ever has been harvested. Owing to the favorable weather which prevailed during September and the first half of October, the fruit was well developed, reaching its maximum size, and finely colored. Hitherto, in seasons of plenty, few purchasers for the export trade made their appearance in our markets, and, as a consequence, a large amount of the surplus crop was fed to stock, and made into cider, the home market not being of much account. The past season, however, was different, for quite a number of buyers were here, which induced a lively competition, and fair and remunerative prices obtained. Some were purchasing for the British markets, and others for the United States markets, the former only long keeping winter varieties, while for the latter, both fall and winter varieties of the best grades were largely sought after.

Many consignments were made to Chicago, some to St. Paul, to Iowa, and to Springfield, Mass. I am not in a position to give you the exact number of barrels shipped from the various railway stations throughout the county, but from what I have been informed at least 50,000 have left this fall. Owing to the scarcity of barrels (the coopers were not prepared for the emergency), a large number could not be got ready in time for fall shipping, and had to be stored for spring delivery. A local buyer here for the British markets has several thousand barrels on hand. A lively business has also been done in the purchase of cider for the Chicago market. A party in town has secured in the immediate neighborhood about 1,000 barrels, which he intends to ship as soon as the weather is favorable in spring.

Owing to the failure of the apple crop in the Western States, we had a good opportunity of getting rid of our surplus of fall apples (which, by the way, by far too many are grown in the province), otherwise we could not have disposed of them profitably, but the market for fall fruit does not often occur, consequently, we should plant such varieties that always find a ready demand in the British market, and are remunerative to the grower; the varieties being few, such as Spy, Baldwin, G. Russet, R. Greening, King and Blenheim. These are all good bearers, and the fruit will sell anywhere: the only early and fall apples that money can be made of are the Tetofsky, Duchess, Alexander and Gravenstein. A new Russian apple of recent introduction, namely, the Bietigheimer, is likely to become popular for home and export trade. The fruit is large, beautifully colored, and in quality good. It is hard enough to bear distant transportation.

A considerable amount of foreign money has been distributed through the county among the farmers, who are the principal apple growers, and which will evidently compensate for the low price obtained for wheat, which they complain of.

Berlin.

SIMON ROY.

THREE JUDGES, OR ONE.



IN your December number I notice this question, by Thos. Holloway : "Is the one judge system at fairs an advantage over three?" This is a question that has been much discussed, but so far no definite conclusion has been come to. I feel that the advice you append to his question is the sound one. And in support of this I will give an instance of it that came under my notice this fall. Three judges were appointed; two of them were local men, the other considered as an expert from a distance. After the prizes were awarded this expert returned to the building and openly declared he was not responsible for such judgment, pointing out the errors that had been made, and declaring he was overpowered by the two local men. So far astray had they gone that it was a noticeable feature amongst those that were acquainted with horticulture. Some went so far as to say ignorance could not do this, and imputed it to sinister motives as being the only possible cause. Now, had this one judge been left alone, his judgment would have been acknowledged as right, even amongst the competitors themselves. I have considerable experience with the working of horticultural societies, and know how hard a matter it is to please all parties where there is close competition and many parts in it. But when they are so far apart as this I have instanced, it tends only to disorganize and produce many inharmonious results which should not exist in such societies. So I say with you, appoint qualified judges for the different branches that now exist amongst horticulturists acquainted with the progress of the present age. The cost should be of little consideration, in consideration of the baneful effects of such bad judgment. Now-a-days a man may be a good judge on plants and yet have little or no conception of the florist's branch. Such are frequently associated together with professionals for one set of judges. The art is now so distinct that only a florist is capable of dealing with bouquets, roses, carnations, chrysanthemums, table, mantle, or other decorations especially belonging to their branch. Fruit has made so many changes in the past few years that it must be difficult to find men that have kept themselves up to the times. Vegetables may be less difficult, as the changes are more generally known. I perfectly agree with you; get proper judges at any cost if you wish to give confidence to exhibitors and the public.

Supt. Grounds, Ottawa.

N. ROBERTSON.

WHEATLAND PEACH.—Mr. E. Tyhurst, of Leamington, writes as follows concerning this peach:—"I have some trees of the Wheatland Peach set out for three years, but, so far, they have yielded very few specimens. They are medium in size, and of fair quality. I think it would be a fairly good peach for market; indeed I have no doubt that it will sell well, but I fear the tree will only be a medium bearer. It looks healthy, and possibly age may improve its productive qualities."



FIG. 494.—A SPECIMEN OF THE CANADA REINETTE APPLE.

✧ New and Little Known Fruits. ✧

THE CANADA REINETTE.



view of the inquiry from our British Columbia friends with regard to the resemblance of the Canada Reinette to an apple there called the British Columbian, we give our readers a very good engraving of the former apple, which appeared in a recent number of the *Prairie Farmer*.

Downing in his "Fruits and Fruit Trees of America," gives no less than twelve synonyms of this apple, by which it has been known in Europe, and which shows how highly popular this variety has been in the old country. He thinks that it is not truly of Canadian origin, as a French writer describes the same fruit in the seventeenth century, and thinks possibly that it was first brought to Canada from Normandy, and carried back hence under its new name. It is a large, handsome fruit, a good bearer, the quality is excellent, and the tree is vigorous and productive.

Mr. Downing describes the fruit as follows:—Fruit, of the largest size, oblate, conical, flattened; rather irregular, with projecting ribs; broad at the base, narrowing towards the eye, four inches in diameter, and three deep. Skin greenish-yellow, slightly washed with brown, on the sunny side sprinkled with dots and russet patches. Stalk short, inserted in a wide hollow. Calyx short and large, set in a rather deep, irregular basin. Flesh nearly white, rather firm, juicy, with a rich, lively, sub-acid flavor. Very good to best. Ripe in December, and if picked early in autumn, it will keep till April.

THE RUSSIAN APPLE.

DEAR SIR, —With thanks for copy of Ontario Reports, I take the liberty of calling your attention to two errors in "Letter from Russia," pp. 14 and 15: Bessemianka pear is so called not for its small seeds but because it is seedless; German name, *Sarmenlose*. P. 15, *Titovka* is by the description plainly not Tetofsky. *Titovka* (Titus), as I have it from Mr. Gibb, agrees with the description. The fruit is larger and better than Oldenburgh, but as yet, at least, not nearly so good a bearer. There are a number of *Aports*, *i.e.*, of the Aport family to which Alexander belongs. One I have, called by Mr. John Craig "Grand Duke Constantine," looks like Alexander, but is better in quality and keeps pretty well up to this time. I find I have at least four good Russians that are better keepers than Wealthy and as large and good.

Yours truly,

T. H. HOSKINS.

THE WESTERN JUNE BERRY.

SIR,—On page 378 of the December number of the HORTICULTURIST, Mr. A. C. Grant refers to the Western Juneberry, and the plate issued in your July number. The Western Juneberry is *Amelanchier alnifolia*, the Saskatoon of the North-West Indians. It is a far more valuable fruit than that of our eastern *Amelanchier Canadensis*, and has the very great advantage of ripening its enormous crop of berries all at the same time. *A Canadensis* varies very much, not only in botanical points but in the quantity and quality of its fruit. But none can compare with the Saskatoon of the West, which was one of the most important ingredients of pemmican in the olden times.

The "Oregon grape" is one of the barberries of the division, sometimes called *Mahonia*. There are three of these which grow wild in the British Columbian mountains: *Berberis Aquifolium*, well known as a garden shrub in many parts of Canada and the Old World. It is a low growing shrub with pinnate thorny-edged evergreen leaves, and dense panicles of bright yellow flowers, which open early in spring, and are followed later in the year with clusters of purple berries, which resemble little grapes, and have given rise to the name "Oregon grape." This name, however, is not confined to this species, but is perhaps rather oftener applied to *Berberis nervosa*, a species with much shorter stems and longer leaves, duller in appearance, but no less beautiful. The berries are abundantly produced, and being covered with a bluish-white bloom, form very attractive objects in the mountain woods. *Berberis repens* resembles *B. Aquifolium* very closely, but is smaller in all its parts, and should perhaps only be regarded as a variety of *B. Aquifolium*.

Ottawa, Ont.

JAMES FLETCHER.

A FAMEUSE SEEDLING.

SIR,—I send you a sample of a chance seedling of the Fameuse, which I have named Compton Climax. It is a good keeper, and, as you will see, very crisp, tender and juicy. The tree is a free grower and an abundant bearer. I have five acres of young trees coming into bearing, among which are the new Russians, Nos. 277, 413, 290, 230, 245, 185 and 161, and Wealthy, Wallbridge, Fameuse, Alexander, Bottle Greening and Talman Sweet, which are making a rapid growth, but, for a market apple, I believe this new variety is going to compare favorably with any of the others.

JOHN CARR, Compton Station, Que.

This apple is of excellent quality for dessert purposes, almost undistinguishable from the Fameuse in flesh, except perhaps that its texture is less firm, and it appears to be a little earlier in maturity. In size and color the apple also resembles the Fameuse, but is not quite so productive. If, however, it proves to be free of spot, it might be a very desirable variety for dessert purposes during the month of November.

THE PIONEER CURRANT.

At our exhibition held here on the 22nd inst., Mrs. James New, of the township of Horton, placed on the tables, a plate of very fine red currants, grown on one of her Pioneer bushes. These were a second crop, and as you will see by sample, (which I send under separate cover) were fully ripe and in every respect equal to first crop, *both in quantity and quality*. This to me is something very unusual—(especially in the cold north, where some people think nothing can be grown) in fact I never heard of the like before. Is it new to you? Perhaps the Pioneer variety is liable to act in this way. Mrs. New says that she has grown them now for seven years, and never had anything of the kind happen before. I may add that we never had so successful a fruit season as this, 547 plates of magnificent specimens having been placed on our exhibition tables.

A. A. WRIGHT.

Renfrew, Ont.

NOTE BY EDITOR. The samples are of fair size, and the instance of such a full second crop is remarkable. It was probably brought about by some peculiarity of the season, but should it become a characteristic of the variety it will be quite worth notice.

APPLES HARDY IN EAST ANGUS, QUE.

SIR,—I have eight varieties of Russian apple trees four years planted. The varieties are Nos. 277, 290, 230, 245, 185, 236, 407 and 1227. They are all doing well except No. 290, which, although as hardy as the Wealthy and the Canada Baldwin, is a little too tender for this section. The latter varieties were killed to the snow line in the winter of 1890-1.

Of a dozen of the finer varieties of plums which I have tried, all have failed except the Saunders. Two of these which I set out four years ago had their blossom buds killed winter before last, but last winter being milder, they came through in better condition.

East Angus, Que.

L. A. RIEF.

PROTECTION FOR YOUNG TREES.—We have tried many plans to keep rabbits and insects from injuring young fruit-trees, but the best thing yet is tarred paper. We buy the paper as it is prepared for roofing, and cut it into strips about six inches wide by two feet long. It is easily and quickly wrapped about the trees, and is secured with wire or strings. The offensive smell of the tar drives insects away, and they will not get between the tree and the wrappings, as when rags and veneering are used. We wrapped 35 acres of trees in this way, and the paper has now been on two years. This is certainly worth a trial.

—American Gardening.

✧ The Garden and Lawn. ✧

FREESIAS.



HERE is no class of winter blooming bulbs that better deserve their popularity than freesias. They are beautiful and fragrant and so cheap that all can have them. Last, but far from least among their merits is the fact that they are easy to succeed with. Give a good soil and good drainage. Pot three or four in a four inch pot and place in the window where they are to grow, and with an occasional watering until they begin to bloom, it is almost impossible to fail. When the buds begin to develop nicely give a little liquid fertilizer of some sort, but remember that in using these fertilizers the safe rule is "little and often." After blooming they require but little water, still it is advisable to lessen the quantity by degrees, in order to let the bulb fully mature before it gets thoroughly dry.

Perhaps the best of the freesias are those known as Giant Bermuda's. They are larger and stronger both in bulb and blossom, and it is poor economy to purchase cheaper ones. Plant any time from Sept. 1st, until the end of November, but don't fail to plant at least a few. When potted start them growing at once as they do not need to be kept in the dark while making roots, as the hyacinth and some other bulbs do.

There is another plant that in bulb, foliage and flower so closely resembles the freesia that is commonly called one. Its flowers are scarlet, with darker blotches, so it is spoken of as scarlet freesia, but its true name is *Anomatheca cruenta*. If this is wanted to bloom, as a companion plant with the others, it must be potted earlier, as it takes longer for it to come into bloom. It is slightly more expensive, but even one bulb adds greatly to the beauty of the collection. The Giant Bermuda freesias range in color from white to orange, some being solid



Fig. 495. --GIANT BERMCDA.

colors, while others are blotched or shaded, and the one only serves to enhance the beauty of the other, as there are no shades to "fight" with each other. --EVA GAILLARD, in *Farm and Home*.

CULTIVATION OF EVERGREEN TREES.



It is wise to consider the habitat of each specimen and endeavor to supply similar conditions of soil and exposure, so far as is in our power. Because a tree succumbs in a given case, it will not do to pronounce its variety unsuited to our climate. Forests of timber trees of the Hemlock flourish far to the north of us, and yet the Hemlock is undoubtedly too tender for exposed positions in this vicinity. We should provide sheltering windbreaks for plants of doubtful hardiness. On the other hand we would not naturally select a too warm and sunny position for such dubious Firs of the Rocky Mountains as *amabilis*, *nobilis*, and *grandis*. We should infer that they would receive too much winter excitement and that a protected, but cooler and perhaps northern slope would secure more nearly favoring conditions. It is obvious that the Pines will take the lighter soils; the Spruces, Firs, and Junipers choosing the intermediate, while the Retinosporas and Thujas will thrive in even a wet soil, though by no means preferring this condition. Though there are increasing evidences of the hardiness of the Sciadopitys, yet I have observed that in full exposure to the winter sun its foliage is liable to lose its fresh, green color and to become brown. Specimens looking north and shaded from the sun do not have this appearance. There can be no question that the rich and varied colors of some of the newer varieties depend in a considerable degree upon the nourishment received from the soil. You have observed the deep, luxuriant color of the Purple Beech under high culture, in contrast with the dull brown of the same tree in a poor soil. Similar results may be expected with conifers. It is an exploded idea that they will not endure enrichment. Fresh horse manure is undoubtedly too hot for the surface roots, if applied in quantity, but cooler composts will heighten colors to a surprising degree. Youthful vigor may also be thus restored to older trees. I have found that the silvery sheen of the *Picea pungens* may be greatly increased if removed from a heavy soil to a floury, well enriched loam.

We are but beginning to appreciate how well-deserving of the highest cultivation are these enduring products of Nature. They are not limited to a brief glory of inflorescence; they are not confined even to an entire season. They are ever-verdant, furnishing a cool and varying shade in the heat of summer, and a sheltering warmth and cheerfulness, which can brighten and glorify even a winter landscape. —W. C. STRONG, before Mass. Hort'l. Soc'y.

PRUNING.—The general rule to be followed in pruning most shrubs is, to remove old wood rather than new, as the latter is most productive of bloom. In pruning hardy roses, which may be done after November 15, thin the heads out well, leaving no weak or unhealthy growth. Moderate growers should be pruned closely.

BULBS FOR VASES.



THOUSANDS of vases standing upon lawns remain empty all winter. They might be filled at small cost with either hyacinths or tulips, and thus add a charm and cheerfulness to the home in early spring. In planting vases with bulbs, be sure they have perfect drainage. Let there be openings sufficiently large to allow a free escape of water at the bottoms of the vases. Over these openings place two or three inches of broken crockery or charcoal, and next a layer of moss or shavings, to keep the soil from clogging the drainage, in which case the earth in the vase would soon become sour and the bulbs diseased.

Soil for bulbs to be grown in vases should consist of equal parts of thoroughly decomposed horse-manure, turfy loam and fresh water sand. The bulbs can be planted two or three inches apart, so as to form a good, solid mass of bloom. Protect the vases with four inches of clean straw, put some bagging over the straw to keep it in place, and tie it neatly around the stems of your vases. Uncover the vases at the time recommended for uncovering the beds. When the bulbs are in bloom they need water at least twice a week. Be sure to soak the soil thoroughly, as the plants when in flower delight in plenty of moisture at the roots. They will also need staking. Galvanized wire of sufficient strength to keep the flower-stalks in place is much neater and better than sticks, and will last for years, if put away carefully when the bulbs are out in bloom.

When bulbs in the vases have ceased flowering they can be taken up, placed in some shaded spot, and lightly covered with soil. If no such spot is convenient, plant them in a sunny one and shake a little straw over them, taking care that it does not lie heavily atop. After a rain it should be shaken up to admit air and prevent rotting. When their leaves have all dried up, clean the bulbs off nicely, place them in bags or boxes, and set them in some cool, airy place until needed again for planting in the fall.—American Gardening.

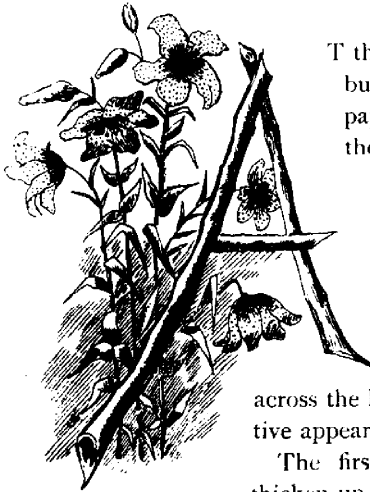
THE WHEATLAND PEACH.

Nine years ago I planted six Wheatland peach trees in my trial grounds. They made very fine trees but lack fruit: we never have picked over a 12-quart basket of fruit off any one tree in a season. We consider them not worth the ground they occupy, and have dug out all but two. Those are kept for variety. This last season they bore a basket and a half of very fine fruit; while a late Solway, in the same row, planted same year, same soil and cultivation, had nine 12-quart baskets of very fine fruit. I cannot recommend the Wheatland only for exhibition purposes, being large and good flavor, but not as well colored on our grounds as colored plate in December number of HORTICULTURIST.

St. Catharines.

A. G. HULL.

THE HOUSE YARD.



T this season very little outside work can be done, but it will be in order to draw out plans on paper for the improvements of the grounds about the home. So many of our country house-yards are arranged without any plan whatever; the paths and drives are just where the first carriages crossed the lawn. There are no edges either, and, consequently, the walks are not defined by any distinct mark. The borders along the boundaries are not wooded, while perhaps a few trees and shrubs are planted across the lawn itself, the whole having a bleak, unattractive appearance.

The first requisite in planting the house-yard is to thicken up the borders closely with trees and shrubs, so that all fences, barns and other objectionable objects are entirely hidden, leaving openings to show distant prospects of interest. Another consideration in planting the borders is to hide the house from the view of the public, except in its most attractive aspects, and, further, to screen from passers-by those portions of the lawn especially intended for lawn tennis or other games.



FIG. 496.—ENTRANCE TO A SUBURBAN HOMESTEAD.

A beautiful entrance from the road may be made by planting groups of ornamentals about the front gate, such as is shown in Fig. 496, from which the carriage road leads by a gentle curve towards the house. Generally speaking, the entrance is placed too nearly in front of the house. The approach will be

much more interesting if the entrance is placed farther at one side. Fig. 497 shows how such a drive may be made with a fork so as to provide for a near cut to the carriage house, and enclosing thereby a group of ornamental trees and shrubs about which to turn, without backing the horse over the lawn.

Many people make the mistake of planning out more roads and walks than can be kept in order. No path or drive should be made that is not itself a necessity; for while gentle curves are admissible and add much to the beauty of the yard, utility must never be sacrificed to attain them.

The American Agriculturist gives a couple of diagrams which are helpful in this connection. One is a plan for preventing weeds from encroaching upon the drives and walks. It consists simply in cutting a narrow V-shaped trench along the edges of the walk, and filling it in with sifted coal ashes, well packed down, as shown in Fig. 498. A subscriber writes that he had had such a walk so protected for seven years, and it has proved a perfect barrier against all grass roots.



FIG. 498.

The other is a lawn and drive roller (Fig. 499), a home-made affair for rounding and hardening up the walks and drives, and, at the same time, clearing them from weeds, moss and grass. The rollers are light; 18 inches in diameter and three feet wide, with a seat for the driver bolted to the platform. Near his feet is an iron rod which connects with a scraper resting below on the ground. The scraper is made of a plank, two inches thick and six inches wide, bolted to

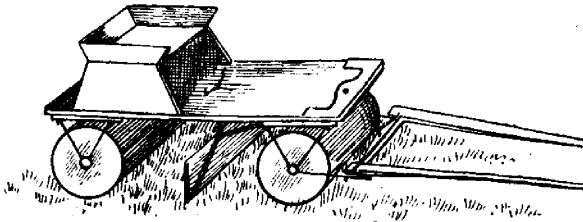


FIG. 499.

two irons by which it is drawn. It has a thin strip of steel bolted to its lower edge, which takes off more or less of the surface of the walk, according to the

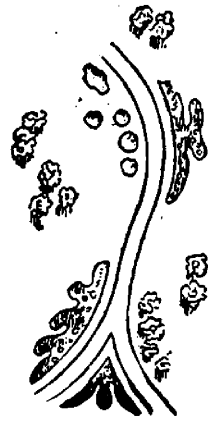


FIG. 497.

pressure it receives from the feet above. This scraper can be suspended by a connecting rod when not required. The first roller is drawn by shafts hung directly on its axis, and turns on a king-bolt, allowing the scraper and the hardening roller to be turned or backed. This is very useful on new or uneven lawns to work in advance of the mower. For carrying urns, jars, earth, water, stones, etc., this roller is exceedingly useful, never cutting the lawns even when the ground is soft.

RENEWING AN OLD APPLE ORCHARD.

As regards setting young trees in an old orchard, there are many theories why they don't do better. Some claim that the necessary fertilizing ingredients in the soil have been already used by the old trees; others hold the ground is too full of roots of the older ones, etc. My observation leads me to believe that the failure is owing more to first-class neglect than anything else. A thrifty apple tree will grow and thrive wherever other trees have grown, if it has proper care and attention. The farmer is apt to pasture his orchard at various times during the summer with horses and cattle, and the smaller trees make fine scratching posts for such stock. My attention was called to this fact last September when passing through an old orchard in which there were about 30 trees three or four years old. It was in clover, and as I drove by I saw two old cows making their morning toilets on the young trees.

The owner of that herd and orchard who was driving the cows, will say young trees won't thrive in an old orchard—and they won't in his. His theory may be, that the land is too lean, and that young trees must have the best of care or be a failure every time.

Use plenty of wood ashes and keep the ground around the trees well loosened and there will not be much trouble in renewing an old orchard. Care should also be taken that the little trees should not be set in the shade too much, as sunshine has more to do with the growing of a good tree than anything else, except good soil. Anyhow I would not favor the resetting of an old orchard. I'd much rather set the trees by themselves, for the chances would then be better that they would get the food they need. Setting young trees among old ones is too much like putting little pigs with the big ones and expecting them to do well, which they never will do, for they can't stand the racket.—R. N. Y.

"I HAVE just been talking to a man who annually uses 3,000 pounds of fertilizer to the acre on potatoes," said the writer to J. H. Hale. "And I'll guarantee he would rather use 1,000 more than 500 less," he replied. Right you are, and every fertilizer farmer says the same.

✦ The Kitchen Garden. ✦

EARLY AND LATE CAULIFLOWERS.



FOR early cauliflowers to cut at the end of April, May and part of June. About the first week of January I take a box 18 inches long to 12 wide and three inches deep, I fill it with half loam and half sand well mixed, and press it down with a brick, I then sow the seed very clear, cover it up a quarter of an inch with same soil and press it down again, water it well and put the box near the glass in the greenhouse. When the plants are one inch long water no more on top, only to the roots. About the end of January, the plants having two or three leaves, I make a mixture of two parts of loam and one sand, and pot them in three inch pots, one in a pot, water well and place them near the glass again. Once in pots, keep them growing to avoid failure and, if too pot-bound before the frames are ready, re-pot in five inch pots.

By the second week of March the hot beds are made. Six inches of earth on the manure is needed. When the heat has passed through the earth, plant as soon as possible. Be careful not to break the ball of roots. I put 36 plants in a frame of three sashes, or 12 per sash. Press well round the roots and cover with the sashes. Of course frost must be kept out. They will not require water for a couple of weeks, the frames being kept closed at that period, the dampness of the frame is enough. Give light every day and a little air when fine during these two weeks; by that time they are generally well rooted, then begin to water, moderately at first, and soak them as soon as they bud until cutting.

The frames come in use in time for melons; after lifting them up the manure is taken from each side to fill up between the cauliflowers up to the first leaves.

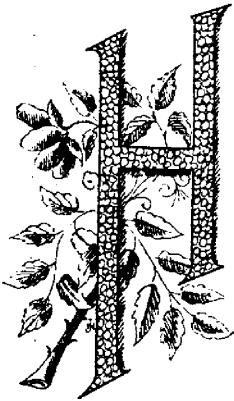
For late ones I sow the seed out doors in the middle of June; keep the black fly away with tobacco water or stems spread over the bed. When big enough, transplant where required to bear, one foot apart; by being thick the leaves grow straight up and give the head protection against the first frosts.

About the middle of October they are rooted up and put in frames head up, the roots to spread on the ground but not covered. Keep the frost out and give air at every opportunity.—JULES BETRIX, Montreal Horticultural Society, 1892.

JOSEPH HARRIS, of Moreton Farm, near Rochester, died the 18th November last. His famous "Walks and Talks," in the American Agriculturist, have interested thousands, and make him celebrated. So much was his ability appreciated that he was engaged by that journal as a constant contributor, at a salary of \$5,000 a year.

* The Apiary *

HINTS TO AMATEUR BEE-KEEPERS.—I.



HAVING been a constant reader of the *HORTICULTURIST* since its initial number was sent out, I have noted with pleasure its steady improvement, until now it is a credit to the editor, the publisher, and the Society whose organ it is. I am satisfied of the wisdom of devoting a portion of its columns to bee-keeping, because of the intimate relationship that exists between bees and fruit, if for no other reason; and I trust this "new departure" will be favorably received and worthily maintained. It should be borne in mind, however, that it is a different thing to write on bee-keeping for a journal specially devoted to apiculture from treating the same subject in a horticultural paper. In the one case the writer addresses himself to an audience fully conversant with the practice and principles of the science, whilst in the other he speaks to people, a majority of whom are novices in the business. To be interesting and instructive, his treatment of the subject in hand must be regulated by the capacity of those for whom he writes to comprehend and appreciate what he says. Under existing circumstances, I think your correspondents should mainly confine themselves to discussing the initial steps in bee-keeping, and the primary principles of apiculture. Debatable points may profitably be kept in the background until first principles are exhausted and a desire for further knowledge manifests itself.

If there be any avocation to which bee-keeping may be profitably added, it is fruit growing. Farmers should keep bees, but not become bee-keepers in the ordinary sense of the term. They should keep bees to supply their families with an abundance of honey throughout the year. Beyond this, as a general rule, it will not pay them to go. The reasons for this are obvious enough; but those reasons do not apply to the professional orchardist. He can prosecute the business with as little inconvenience and as little tax upon his time as any one. The nature of his business confines him to the vicinity where his bees will be kept. In the season he will be on hand to capture and hive swarms as they issue, and then resume his work. He can harvest his honey without interfering much with his other duties. This is usually done after small fruit is marketed and before the harvesting of larger fruit begins. Then he has a good deal of spare time in winter, a part of which may be devoted to hive-making and other appliances used in the business of bee-keeping. As a rule, he will make a better bee-keeper than the farmer, because he is more accustomed to attend to details in small things, which counts not a little in the successful management of bees.

Apart from the beneficial results accruing from the work of bees on fruit bloom, most fruit growers may considerably augment their income by adding bee-keeping to their business.

All this by way of introduction as to the best way to begin the business. It is not at all necessary—nor is it desirable—to incur a heavy outlay in starting; on the contrary, it would be unwise to do so. Bees multiply so fast that their increase will keep pace with the growing knowledge of their keeper on managing them. In time the problem with most people is, how to prevent becoming over well stocked. Two stocks are quite enough to begin with. These should be bought in the spring, and, if possible, purchased from a reliable neighbor. There is no extravagance in paying a good price for them, provided they are strong in bees and well provided with food against the time of need. A strong working force is the secret of getting honey. It is absurd to expect large results from a small working party. One strong hive is worth half a dozen weak ones. To collect and store honey in a short time—and the honey season is short—there must be a large working force in the field. A hive of bees is valuable or otherwise, just in proportion to its numerical strength, coupled with the presence of a young and vigorous queen. The novice will not be in a position to make a wise selection—hence, the wisdom in purchasing from one in whose honesty he has confidence. The price should be a secondary consideration; low priced things are seldom cheap. When approaching a man with the view of making a first purchase, don't do so with the question, "What do you want for a hive of bees?" As well ask him, "What price do you ask for a cow?" There is just as much difference in the value of one hive of bees as compared with another, as there is between one cow as compared with another. Some of both are dear at any price.

The beginner should start with not more than two or three stocks. He should commence in the spring. He will consult his own interest by buying from a man whose reputation for honesty is unquestioned. He should bargain for the best, and be prepared to pay a good price. This being done he may reasonably expect two swarms from each stock by the middle of August. For these he should provide hives similar to those in which the parent stocks are, and which may be purchased from almost any supply dealer. He should subscribe for the *Canadian Bee Journal* and provide himself with one or other of the standard books on bee-keeping advertised in its columns. The rest may be left for his zeal in the work, or his inquisitive disposition to find out.

Owen Sound, Ont.

R. McNAUGHT.

RE-POTTING.—Amateurs, as a rule, repot too often, and keep their plants in too large pots. It is of no use to give a plant fresh soil before its roots have pretty well occupied the old. There is a proper time to repot, and that is when the ball of earth is well surrounded by roots, a state that can be determined by tipping the plant out of the pot.—E. A. LONG, in *American Gardening*.



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

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

NOTES AND COMMENTS.

MR. E. WILLIAMS, of New Jersey, suggests an improvement in the naming of strawberries. He would give female names to the pistillate varieties, and male names to the staminate. Such names would designate at once the character of the flowers to the cultivator, who would know at a glance to which class they belonged. Of course there are some varieties whose flowers are perfect, and perhaps neuter names might be applied to these. Certainly some such plan would be a convenience.

NEW METHOD OF APPLYING KEROSENE FOR INSECTS.—The Wisconsin Station Report for 1891, E. H. Goff, Horticulturist, gives a new method of applying kerosene for insects, which would appear to be of value to us. It consists in having a pump so constructed that lower valve seat allows the entrance of water through one opening and kerosene through another. The two liquids become mixed in passing through the valves and cylinder of the pump, and are finally broken up into an exceedingly fine spray by being forced through a good spraying nozzle. The mixture is, of course, mechanical and not absolutely permanent; but still it has been found sufficiently slow of separation for safe use upon plants. When the spray is collected in a glass vessel, the liquid appears milky white, and retains its milky proportion for hours. This mixture has been tested upon the foliage of the evergreen, rose, strawberry, grape, raspberry, blackberry, plum, etc.; and in no case did it prove injurious, unless the amount of kerosene exceeded ten per cent. This mixture was found to be equally efficient in destroying insects as the soap emulsion, and no more injurious to the foliage. It is more satisfactory as it passes through the pump more readily. As the kerosene acts rapidly upon the rubber piston of the pump, it is necessary to use a leather piston in the place of the rubber.

CLOTH AND PAPER FOR HOT-BED SASHES.—We have been experimenting during the last two years in using substitutes for glass for hot-bed frames, but have not been very successful. We have tried cloth saturated with pure linseed oil and heavy oiled paper prepared by a firm in Hamilton for this purpose, but neither of these were sufficiently durable to give perfect satisfaction. If we could succeed in using some such substitute, it would be much more economical than glass, and, at the same time much lighter to handle.

Prof. Bailey in his "Rule Book," gives a recipe for preparing oil-cloth or paper for this purpose, which, perhaps, would answer the purpose better than those we have tried. It is as follows:—Use a sash without bars, and stretch wires or strings across it to secure it as a rest for the paper. Procure stout manilla wrapping paper and paste it firmly on the sash with fresh flour paste. Dry it in a warm place, and then wipe the paper with a damp sponge to cause it to stretch evenly. Dry again and then apply boiled linseed oil to both sides of the paper, and dry again in a warm place.

✧ Question Drawer. ✧

PRUNING TREES IN COLD CLIMATES.

SIR.—When is the most favorable season for pruning trees at the north? Is fall or winter pruning commendable?

W.

Reply by T. H. Hoskins, Newport, Vt.

In localities where the thermometer does not go far below zero, I do not know of any serious objection to the rule, "prune when the knife is sharp" with the hardier Russians. The same rule is not objectionable in Canada. I might say it is generally applicable where the cold weather does not discolor the wood. Nevertheless a more thoroughly safe rule is to prune in the spring before the frost it out of the ground, choosing the time when there is still a little snow, or the surface is frozen. It is not pleasant to go out pruning in the wind. The reason why it is best, in the cold north, at least, not to prune late in autumn, is that the recently cut edges of bark are sometimes killed by freezing; while, if the work is done in the early spring, healing begins as soon as the sap starts; and when the limbs removed are not large, the wounds will be nearly healed over before fall. Wounds too large for that ought to be coated with thick paint soon after the cutting is done. A fine saw is better than a knife for all but small limbs, as the slight roughness left by the saw enables a thicker coating of paint, and prevents its scaling off. With these simple common-sense rules well tested by long practice, there ought to be no mystifications in the matter.

A LIVE HEDGE.

SIR,—In this section the woods are being cleared off and the wind has full sweep. If trees were used in connection with wire as fences, I think they might serve a double purpose of preventing stock from rushing on the wire and acting as a windbreak.

A. DAWSON, *Mohawk*.

A short time ago the Orange Judd Farmer gave an illustration of a living fence, cedar trees for posts. We re-produce this illustration, which we think will show our subscriber a good plan for carrying out his idea. Various trees have been used in this way. In the vicinity of Hamilton we have noticed fences supported by long rows of Lombardy pop'lars. These trees grow so upright and mark the divisions so definitely, that they not only answer the purpose of a

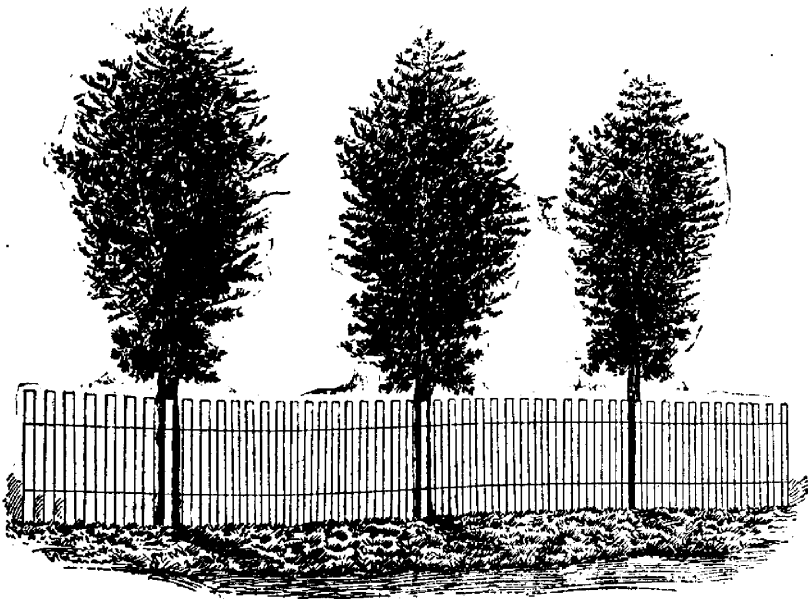


Fig. 500.—A LIVING FENCE. CEDAR TREES AS POSTS

fence, but, in spite of their stiffness, add to the beauty of the landscape. Red Cedar, White Cedar (*Arbor Vitæ*) and Balsam Fir are varieties which are suitable, because they are more dwarfish in habit, or can be made so by pruning. In earlier years cultivation will help the growth, until they have reached a height suitable for the support of the fencing. Then the tops may be cut off seven or ten feet from the ground and the limbs annually shortened. A writer in the Orange Judd Farmer says that he has set 150 rods of cedar trees for the express purpose of supporting wire fences, so satisfied is he of the success of the plan.

One great difficulty about our fences is the early decay of the posts. Here is a fence with living posts, such as would make them last for generations.

LIME FOR HEAVY LAND.

SIR,—I am much in need of information with regard to fertilizing my land. It is a yellow loam with clay bottom and hard clay surface in spots. It is mostly in fruit of all kinds, but more especially grapes. Will lime be beneficial? If so, how many bushels to the acre?
H. GOODWILLIE, *Welland, Ont.*

It is quite possible that on soils such as that described by our correspondent, lime might prove beneficial, but it should not be continued unless the land is at the same time heavily dressed with barnyard manure. Lime has the effect of rendering the other fertilizing elements in the soil available about the roots of the plants, unlocking them, as it were, from its grip. In consequence of this comes the old couplet,

“The use of lime without manure,
Will surely make the farmer poor.”

The action of lime upon the heavy clay is to make it warmer, mellow, and of better tilth, and this good effect is often observable for years. With regard to the quantity that may be applied to the acre, it may be observed that lime is less freely applied than in former years. In the Old Country it was at one time customary to apply six to eight tons to the acre on heavy soils, but now-a-days the opinion prevails that one or two tons to the acre, applied once in six or eight years, is an abundance. There is a probability that loam, such as our correspondent describes, is not rich enough to be benefited by lime alone, and that barnyard manure would be the best fertilizer.

TREATMENT OF THE SEEDS OF THE WHITE ASH.

SIR,—How should I treat White Ash seeds previous to planting, and when should they be planted?
O. F. BIRCHARD, *Kingscourt, Ont.*

In order to have the best success, the seeds of the ash tree should be planted in the fall, as, if left until spring and then planted dry, they will be almost sure to fail. The seeds, too, ought to be collected fresh from the trees by some one who is acquainted with them, because if purchased from seedsmen they may have been kept too long and thus have lost their vitality.

The White Ash is not very productive of seeds, and one who is not well acquainted with their distinguishing characteristics might mistake the seeds of the Green Ash for them. The seed of the White Ash is round, without margin, the wing attached to the apex, while in the Green Ash the wing is continued as a margin nearly to the base of the seed, which is acute. The seed of the former ripens about the first of October, and, if kept from becoming dry and planted in the autumn, they will vegetate with certainty. They should be covered very thinly with earth, and, to prevent washing by heavy rains, should have a mulch of leaves or straw, which should be taken off in the spring. If kept until spring, the seeds should be mixed with damp sand to prevent them from drying.

PROPAGATION OF BERRIES.

SIR,—An agent tells me that the best nurserymen sell stock grown from seed only, and not from tips, root cuttings or suckers. He said that to grow from the seed was the only way to keep the stock from running out. Will you please give me some light on the subject?

MORRIS MALLORY, *Guild, Ont.*

This is entirely a mistaken notion. When berries are propagated from seeds there can be no dependence upon the variety that will result. Indeed, it is by sowing seeds that new varieties are procured, but, as a rule, hundreds of seedlings are worthless, to one that possesses any superiority to existing varieties. For instance, in order to propagate the cap raspberries, such as Gregg and Soughegan, it must be done by tips, and red raspberries, such as Malboro and Turner, it must be done from suckers; and of blackberries, such as the Kittatinny, by root-cuttings or suckers. The best nurserymen practice these methods, and it is a mistake to say that they must be propagated from the seed.

COOPER'S MARKET.

SIR,—Fruit-tree agents are selling here an apple tree called Cooper's Market, and recommending fruit growers to plant it as the coming apple. Will you please tell me its merits, history, etc.

HENRY LAWLESS, *Grafton, Ont.*

Cooper's Market is a good apple, in season from December to May. It has long been known in the State of New Jersey, where it has been considered a valuable market apple. It is medium in size, deeply shaded with red and striped with crimson. The flesh is white and tender, with a crisp, sub-acid flavor. We have had some trees of this variety in bearing for about twenty years past, and the samples are always bright and clean, scarcely any needing to be culled out in packing. The tree, however, is slender in habit of growth and does not appear to attain such a size as the Baldwin or Greening. On this account it would, perhaps, not yield so many apples to the tree as these other varieties.

THE QUANTITY OF ASHES.

SIR,—How many bushels of unleached ashes to the acre is advisable?

H. GOODWILLIE, *Welland.*

Ashes are chiefly valuable in furnishing potash to the soil, an element which has an excellent effect upon the orchard and vineyard. It is more useful, however, upon light soils than upon heavy clay, because the potash has a tendency to make the clay still more tenacious. Fifty bushels per acre is usually considered a very fair dressing.

THE WOLF RIVER APPLE.

SIR,—Please give me some information concerning the Wolf River apple. Is it a good keeping apple and which is the best for market, it or the Wealthy? How does it compare with the latter in hardness? Will the Wolf River keep as well as the King, and what is the quality?

D. L. BAGGESS, *Rondeau.*

The Wolf River originated in Wisconsin and is supposed to be a seedling of the Alexander, which apple it resembles. Barry describes it as large to very large, roundish, oblate; pale, greenish-yellow, shaded with light and dark red on the sunny side; flesh white, rather coarse, juicy, pleasant, mild sub-acid and of a peculiar spicy flavor. Early winter. Tree vigorous and very hardy.

So far as we know this variety has not been tested to any extent in Ontario, but if any readers of this journal have grown the apple we shall be glad to hear from them in reply to our correspondent.

Since writing the above we have received the following lines from Dr. Hôskins, from Newport, Vt., concerning this apple:

In reply to your enquiry about the Wolf River, I have grown it, and find it much like its parent, Alexander, but not nearly so hardy, as one of our test winters killed every tree of mine to the snow line. But the same winter, at Montpelier, nearly as far north, but not so high up, they were not seriously injured. Let me say, if one wants an apple of this Russian family, the "Aports," Grand Duke Constantine is decidedly the best I know. It resembles Alexander very closely, but is much better in quality, and keeps perfectly up to this time. Mr. John Craig has seen my tree of it, and gave me the name, as I doubted its being Alexander before he saw it. As to the keeping of Wolf River, I cannot say certainly, as my trees were just coming into bearing when killed.

Question Budget

13. Which is the cheapest fertilizer, manure at \$1.00 per ton; ashes at 10 cts. a bushel; or slaked lime at 7 cts. a bushel, all delivered?
14. Which pays best, small fruits or the apple orchard?
15. Will it pay to dig out young apple orchard, just in bearing, and of the best varieties, in order to plant grapes or small fruits?
16. What is the proper temperature for the cellar in which bees are to be wintered?
17. When should bees be removed from the cellar?
18. May bees not be left out doors in winter, with some protection?
19. What is full brood among bees?

* Our Book Table. *

THE FIFTEENTH ANNUAL REPORT OF THE MONTREAL HORTICULTURAL SOCIETY has come to hand. We always find much matter that is interesting to us in this report, because the experience of fruit growers in that northerly province is useful to our growers in northern Ontario.

Among other papers is one on "The Farmer's Orchard," by R. W. Shepherd, of Montreal, and in it he gives the following list of apple trees recommended for the farmer to plant: 5 Yellow Transparent for August. 5 Duchess for September. 5 Brockville Beauty for September and October. 5 St. Lawrence for October. 5 Alexander for October and November. 5 Winter St. Lawrence for November and December. 20 Wealthy for December. 20 Fameuse for December and January. 10 Canada Baldwin or Pewaukee for February and March. 15 Scott's Winter for April and May. He says that these varieties can all be grown successfully about Montreal, and the list does not include many fall apples, because at that season farmers are too busy to market their fruit. The Yellow Transparent ripens its fruit there about the first week in August, and keeps a week or two after it is harvested. He considers it good for both cooking and the table. Duchess he counts the most satisfactory of all, and his advice to those who have leisure at that season to handle their fruit to advantage, to plant a much larger proportion than that given in the list. Brockville Beauty is a Canadian variety originating near Brockville. The tree is hardy and bears abundantly; the fruit is of a fair size and beautiful. The tree is hardy and bears abundantly; the fruit is of a fair size and beautiful, ripening just after the Duchess in September. St. Lawrence is a tardy bearer, and a slow grower, but when once established, it is a grand tree, growing to a great size and bearing enormous crops of high priced fruit. This is also a Canadian variety, originating in the garden of Mr. Molson, in Montreal. Winter St. Lawrence is a large, beautiful apple, and Mr. Shepherd says it is a very satisfactory one with him. This apple has the quality of remaining on the trees in spite of high winds, and is a profitable apple on account of its attractive appearance and its value for cooking and dessert purposes. Canada Baldwin, according to Mr. Shepherd, is hardy at Como. The tree grows to a large size, and bears heavily every other year. The fruit is about as large as the Fameuse and very handsome, but only of fair quality. It keeps well into winter. Scott's Winter has been fruited by Mr. Shepherd for over ten years. It is a hardy tree of medium sized red apples, rather tart, but becoming mellow and pleasant eating towards spring. He recommends it because there is no better, that is as hardy a tree.

Rev. J. F. Paradis writes an article investigating the question whether any satisfactory winter apples have yet been found for the Province of Quebec. He says that of the Russian varieties, none, excepting the Borsdorf, have proved good winter varieties, and this is not a profitable fruit because it lacks in both size and shape. Of the American apples of long keeping he has tried Bethel. This tree has given him the best satisfaction of any, although it is a lazy grower. It is hardy and the apples are large and of excellent qualities, keeping well throughout the winter. Should there be no good-keeping apples found among the Russian varieties, he thinks we must rely upon the Bethel and Canada Baldwin for winter apples suitable to be grown in the northern sections. There are many other papers of value, and from some of them we will make selection for this journal.

A DICTIONARY OF BOTANICAL TERMS, by A. A. Crozier, Ann Arbor, Mich., published by Henry Holt & Co., New York, 1892. Cloth, 202 pages.

This will be found an exceedingly useful book to botanists and scientific students of horticulture. It is a great inconvenience to find out the botanical meaning of a word among so many others, in Webster, and besides, there are a great number of terms, which are strictly scientific, and cannot be found in Webster at all. The price is not given.

ANNUAL CATALOGUE OF BULBS AND PLANTS, Autumn, 1892. Webster Bros., Hamilton, Ont.

THE LINDSAY HORTICULTURAL SOCIETY (affiliated) does a fine thing for its subscribers—giving each member who pays \$1 into membership, the CANADIAN HORTICULTURIST, with plant and report, and also an additional distribution of bulbs of their own. This they are enabled to do through the provisions of the Agriculture and Arts Act, which bestows a grant of money to any horticultural society complying with its provisions, for the purpose of distributing horticultural literature, or for exhibits.



WINTER ROSES

I.
When you wear your sable tippet,
And I watch you trip it, trip it,
Down the road.

II.
When you shake your little
bonnet
Till the snowy flakes upon it
Shower down,
I could love the cruel weather
That has spoiled your pretty
feather

No more do I remember
That the winds of bleak December
Are abroad
Though the flower-season closes,
And the ways with snow are
strewn,
Yet the winter hath its roses
As well as sunny June

Till you frown.
Though the flower-season closes
And the ways with snow are strewn,
Yet the winter hath its roses
As well as sunny June.

III.
With your muff you look so cosy
And the colour is so rosy
In your cheek,
That I vow there's no rose growing
Like the rose when winds are blowing
Cold and bleak

Though the flower-season closes
And the ways with snow are strewn,
Yet the winter hath its roses
As well as sunny June.

Our Markets.

THE ENGLISH APPLE MARKET.

The amount of winter apples that has gone forward this season to Great Britain has been less than that of many other seasons, and yet, owing to the inferior quality of the shipments, the prices have not advanced in the proportion which might have been expected.

James Adams, Son & Co., of Liverpool, say that the total number of barrels of apples received there up to the 3rd of December was 431,000, while up to the same date last year the number was 478,000.

The prices as quoted in the middle of December ranged from 10/ to 17/ for ordinary varieties, while Kings have reached as high as 25/. Unfortunately a large proportion has been sold at from 10/ to 15/, which leaves but a small margin for the shipper. One carload was sent forward to Liverpool by the writer, which consisted of stock inferior to that of most years; the returns netted about \$1.50 per barrel all around. Considering the quality, this was satisfactory and better than could have been realized in our own markets.

Henry Theakstone, of Liverpool, says, "It is fortunate that the supply of apples has been smaller during the month of November than it was during the same month of last year, for the demand has been as poor, owing to the fact that the apples received from Canada have been less satisfactory."

James Adams, Son & Co., of Liverpool, wrote on the 7th of December, "The demand continues very good for apples, but the prices do not advance as we should like to see them. This is no doubt attributable to the depressed condition of trade generally, and also that the bulk of fruit now arriving is anything but choice. The losses sustained on fall stock must have been very heavy this season, but, as Mr. A. McD. Allan explained in his article in the November No. of the CANADIAN HORTICULTURIST, the poor quality, in most instances, was the cause of the very unfavorable results. Then again the shipments of this class were far too heavy, as the fruit being of the soft nature, the buyers were compelled to realize speedily if they were to get their money back again.

The following are some of the latest quotations from circulars of actual sales of Canadian apples, by some of the prominent commission houses in the British market:

J. C. Houghton, Liverpool, writes under date of December 10, "Baldwins 12/ to 16/; Greenings 13/ to 16/; Spys 12/ to 16/; Russets 11/ to 13/; Kings 17/ to 25/; Ben Davis and Canada Red 12/ to 15/; Russets difficult to sell." Under date of December 15th they write, "Since our last report the arrivals have been heavy, and, though the demand continues good, especially for good quality, prices slightly receded, the decline being chiefly on inferior parcels. Yesterday Canadian Baldwins sold at 11/ to 15/9; Greenings 13/ to 16/; Spys 12/ to 15/9; Golden Russets 11/ to 13/9; Kings 16/ to 23/6."

Woodall & Co., of Liverpool, write under date of December 10th, that of the arrivals from Canada some are doubtful, but there is a general improvement in quality. Still it was difficult to maintain to earlier prices, and there was occasionally a slight decline. Newtown Pippins still head the list at 33/ to 42/ a bbl.; coming next are the Kings, bringing in some cases as high as 25/6, with Greenings 10/ to 17/; Ribston Pippins 13/ to 17/ and Baldwins 15/ to 18/.

L. Connolly & Co., of Liverpool, wrote under the same date, that the market is active for all Canadian varieties, except Golden Russets, and this description is difficult to sell. Newtown Pippins are in demand for Christmas consumption.

McGeorge & Jardine, of Liverpool, Edgecombe, Rogers & Co., of Liverpool and James Adams, Son & Co., of Liverpool, all send us numerous catalogues of sales made at very much the same run of prices as those above quoted.

There is one curious thing about the English market, and that is the little difference made between the first and second grades of apples, by the wholesale trade. Sales show No. 2, and windfalls, of staple varieties, selling for within a shilling or two of the prices got for the extra selected stock. The range was from 10/ to 15/, many of the No. 2 grade bringing 12/. In view of the fact that English people do appreciate extra selected fruit, paying us as high as \$4 00 per barrel for it, free on board at Grimsby, there is surely something wrong when the wholesale markets do not observe a greater difference in prices between the grades of our fruit. Possibly this may be rectified when we have a Dominion inspector whose brand will be recognized in the British markets.

CABLES.

LIVERPOOL, Dec. 30.—Market dull, owing to being overstocked. Ship lightly at present.

Test Plants for Distribution, Spring of 1893

Through the Ontario Fruit Growers' Association, from Horticultural Department, Central Experimental Farm, Ottawa.

ORNAMENTALS.

- I. 100 *Rosa rubrifolia*. A handsome red leaved Rose from Europe. Flowers pink, single, appearing in August. Hardy at Ottawa.
- II. 75 *Spiraea media rotundifolia*. Round leaved Spirea. A handsome garden variety from Japan.
- III. 500 *Picea pungens*. Colorado Blue Spruce. Grown from seed specially selected in the Rocky Mountains with a view to hardiness.
- IV. 500 *Pinus ponderosa*. Yellow Pine from the Rockies, selected as above.
- V. 500 *Pseudotsuga Douglasii*. Douglas' Fir. Grown from Rocky Mountain seed.

FRUITS.

- VI. 150 New seedling black currants, which are as yet under number, but will be sent out as named varieties.
- VII. 100 Red Queen A hardy Winter Apple, of fair quality. For trial.
- VIII. 60 Golden Reinette. Origin, Russia or Germany. Season, Winter. Probably valuable. As hardy as Wealthy.
- IX. 100 Crimean. A Winter Apple, from the Bogdanoff estate in Russia. For trial. Hardy.

BOOKS FOR DISTRIBUTION FROM OFFICE OF SECRETARY.

- X. A year's numbers of the "Canadian Horticulturist," either Volume I, II, III or IV.
- XI. Bound Volume I, II, III or IV given for sending in two new subscribers in place of commission or for two years subscription.

PLANTS ARE ALL SMALL, SUITABLE FOR MAILING.

All selections must be made when subscribing. Choose simply between the Fruit and the Ornamentals, and we will send out according as stock holds out.

Address: **L. WOOLVERTON,**

Sec. of the Ont. Fruit Growers' Association,

GRIMSBY, ONT., CANADA.

Beautiful Binding of the "Canadian Horticulturist."

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