

FILE

FTH REPORT
— OF THE —
MONTREAL
HORTICULTURAL SOCIETY

— AND —
FRUIT GROWERS' ASSOCIATION OF THE
PROVINCE OF QUEBEC,

— FOR THE —
YEAR 1879.

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MONTREAL HORTICULTURAL SOCIETY AND FRUIT-GROWERS' ASSOCIATION.

ANNUAL REPORT.

The year 1879 being now rapidly drawing to a close, it becomes my duty to lay before the members of this Society a statement of its operations during the past year, being the second year since its re-organization. The principal work of the Society has been the holding of its usual Annual Exhibition in September last; the collecting and publishing of the matter contained in the fourth report; the sending of a collection of apples to the Provincial Exhibition at Ottawa, and the procuring of additional books for the library for the use of the members. The financial part of the work of the Society has been well looked after, and it will be a matter of congratulation to all well-wishers of the Association that, in spite of great depression in business (which has affected everything where money was in question) and other unexpected difficulties, the income from the membership has been only \$42 less than last year.

The Annual Exhibition was held in the Victoria Rink on the 16th, 17th, and 18th September last, and was a creditable show in most respects, though there was a deficiency of large plants on exhibition. Three or four former large exhibitors in these sections did not show this year at all, viz., Messrs. Andrew Allan, Wm. Lunn, and W. F. Kay. It is very desirable that a good collection of large and showy plants should be on exhibition, and, as some exhibitors have stated that the whole of their prize money was absorbed in handling and carting large specimen plants to and from the exhibition, the deficiency may be partly accounted for in this way. There are undoubtedly some good grounds for this

complaint, and it is the duty of the Society to see if the difficulty cannot be overcome, as doubtless, owing to this cause, some are deterred from exhibiting and the show suffers in consequence. I would suggest that in certain designated sections the amount of the prize be somewhat lowered if necessary, and that the Society pay the cost of conveyance to and from the Exhibition, but only on condition that the plants be placed in their proper sections in the building not later than the day before the Exhibition opens. Such a scheme would, I think, be of great advantage to the Society, as large exhibitors find it almost impossible to get their things in order in time—in fact, the Judges are almost always two hours later in commencing their duties than the time specified. The entries for the show this year were 1,061, being the largest number ever made, and requiring about 4,000 square feet of table room to accommodate them. Unfortunately, owing to a concert taking place in the building on the previous Saturday night, the Society did not obtain possession till the day before the show opened, and it required the greatest efforts to get things into order in one day, and then only by working from one in the morning till one the next. The Society requires to be in possession of the building at least two days previous to the exhibition, for it may not always be possible to obtain men so able and willing to second your Secretary as those employed the past year.

The Society has procured three hundred trestles at a cost of \$96—a thing that has been much wanted for several years past. As they are some six inches lower than those formerly in use, the large plants looked much better this year than formerly, and it would probably be an improvement if the trestles were made still lower.

The display of cut bloom this year was good, and a very noticeable improvement was apparent in the way in which it was shown. The estimates for the size of boxes, published with the prize list, were a little astray, but measurements were taken during the Exhibition, and it is hoped that proper trays and phials may be procured by the Society at a very moderate cost for the use of the exhibitors another year.

The display of fruit was large and good, take it as a whole, but the display of in-door grapes was not as large as last year, and the season for out-door grapes up to that time having been very unfavorable hardly any were shown. The show of apples was particularly good, and some districts exhibited this year that had never shown in Montreal previously. Interest is now being excited throughout the country in these matters, and fruit-growers in this Province are beginning to find out how much they have to learn. One of the great difficulties exhibitors have to contend with is the proper naming of the fruit. The same variety of apple has been sold and is known by different names in different parts of the country, and as exhibitors are liable to be disqualified from receiving prizes if their fruit is wrongly named, it is a matter of deep importance to the Society that this difficulty should be overcome. I do not know if the idea is practicable, but it has occurred to me that models should be made of our leading apples, which should be afterward colored true to nature, and kept by the Society as standard references. Of course, apples of a similar appearance often differ very much in flavor, but in some parts some varieties are known by certain names when they bear little or no resemblance to the apple by whose name they are called.

The floral designs on exhibition were very much admired, and showed great taste on the part of the exhibitors. The only thing to be regretted is that they were not more numerous.

The Fourth of the present series of Reports has been published recently, and reflects the highest credit on the Report Committee. It is a matter of regret that the labor of getting up such a work falls altogether on a few, but it is of the utmost importance that the Reports should be continued. They have contributed not a little to awaken an interest in horticultural matters, and the result is that a new Horticultural Society has been formed in Missisquoi the past year, and steps are being taken to form Societies in Huntingdon, Brome and Sherbrooke. It is probable that the two last Reports will be published in the French language by the Government, as M. Montpetit, chief French translator at Quebec, obtained copies for the purpose of translating them some

time since. The Report of this year contains a valuable map tracing the most northern limit at which certain varieties of wood are found from the Atlantic to the Pacific. This is a valuable contribution, as I am not aware of any other map of a similar kind. In spite of all the reading matter of the Report being obtained free, for which the Society is greatly indebted to the contributors, the expense of publishing the Report the past year has been about one hundred dollars over the amount promised the Society by the Government. It is hoped the Provincial Government may soon see their way to pay all the expenses connected with the publication of the Report as provided in the Constitution, and as is done in Ontario. If not, however, it would be better to curtail the Society's expenditure in some other direction and continue the Report. Many letters have been received, speaking in very complimentary terms of the work, among others one from Chas. Downing, of Newburg, New York, the eminent Pomologist, who says, in referring to the last Report, "It ought to be in the hands of all cultivators of the soil." A gold medal having been offered at the Ottawa Exhibition for the best collection of fifty varieties of apples, a collection was sent up in charge of the Secretary, but it only received an award of "Highly Commended." If the Society had known the basis on which the award would be made, a different result might have been obtained. The award was made on the value of the varieties shown as commercial apples, which was not stated in the schedule, while the selection was made more on their merit as fine specimens of the varieties. Some varieties, considered of merit and profitable near this market, were not thought so highly of by the Judges as by growers here. Five or six varieties were thrown out for being wrongly named, and as some of the collection shown were locally known for the most part, they were not esteemed as highly by the Judges as well-known standard varieties would have been. The judging was done in a very thorough and painstaking manner, each variety being examined, many of them cut into, and a certain number of points given to each that were added up at the end. It is unfortunate that no member of the Society interested in fruit-growing

was present as either judge or visitor, but it was very evident that we had much to learn in these matters from our Ontario brethren. The Society is specially indebted to President Burnett, Vice-President Roy and other gentlemen of the Ontario Association for the courtesy shown them, in allowing the Society to compete with only five specimens of each variety when six was the number called for by the schedule. With the experience gained, I think another year the Society may be more fortunate.

During the past year the Society have rented a room from the Natural History Society for the purpose of holding meetings and also as a place in which to keep the Society's library, which is now steadily growing by exchange and the purchase of books. There are about 332 volumes in the library now, and arrangements are almost perfected to have it opened to the members two evenings in the week; also, to provide some of the best Agricultural and Horticultural papers for the use of the members. New book-case room has to be provided, and as many of our members probably have books in their libraries on Horticultural and Agricultural subjects that are seldom or never used, they would be very acceptable if presented to the Society's library.

The Society is greatly indebted to Messrs. Andrew Allan, C. J. Brydges and Joseph Mackay; also, to the late Donald Ross, for opening their conservatories on several occasions last winter to the members of this Association. It is very desirable that the same privilege may be placed within the reach of the members the present winter.

It was hoped that the membership of the Society, owing to having an Assistant-Secretary, would have been even larger than last year, but owing to unexpected circumstances the Assistant-Secretary found it impossible to collect the members' subscriptions. An attempt was made to do the work by means of a collector, but with a not very good result. The subscriptions have, therefore, been mainly collected by myself, assisted by Messrs. N. S. Whitney, J. Whitney, J. Doyle, and A. Duff. The city membership the past year has only fallen eighteen short of the previous year, and the Society is indebted to the assistance given by these

gentlemen to the Secretary in obtaining new subscribers for this result. About 175 persons who were not members last year became members this. Unless the members are willing to give the Secretary some assistance each year, the membership, from removal, failure in business and other causes, will grow smaller. Unfortunately the country membership is not what it ought to be, there having been only nine subscribers the past year at \$1 each. About the only way in which this membership could be increased would be through the different County Agricultural Societies. If a circular was issued by the Society, setting forth its aim, and endorsed by some well-known men in the community, and, if necessary, a premium paid for obtaining members, something might be done. The total membership the past year has been 697, and the income from this source, \$1,385. I believe this is a larger amount than has been raised in the same way by any other Society of a similar kind either in Canada or the United States. The membership fees of the Ontario Fruit Growers' Association were, I understand, about \$1,065 the past year. The average membership of this Society for the past four years has been 748, and the amount derived from members' fees, \$1,490. With such an evidence of what determined effort can do, this Association should never be allowed to sink to the insignificant position it has occupied at times in its past history. I regret to say that, though I believe the Agricultural Societies have received their annual grant, this Society has not received its. Owing to this fact the Society has been greatly hampered, and there was more or less delay in paying the prizes. They have all been provided for now, however, and when the grants are received there will be a balance of cash on hand of \$396.03, after paying all liabilities, being an increase of \$25.24 over last year. In addition to this, \$155 worth has been added to the property of the Society in the shape of trestles, books for library, &c.

The receipts at the door for admission to the exhibition were very disappointing, only \$291.15 having been derived from this source. Everything was done to make the show attractive, and the splendid musical concerts given by the "A" Battery band

every day should alone have drawn a very much larger number of people. The Society has been hoping for the last two or three years that a Provincial Exhibition would be held here, as it adds greatly to its income. The receipts at the door during the last Provincial Exhibition were \$1,435.15—nearly five times as much as the past year. The diminution in the Society's revenue is, therefore, not owing to any lack of pains on the part of the officers.

It will be necessary for the new Board to pass a rule strictly defining what constitutes an amateur, as this point has given rise to some little trouble the past year. There are, of course, other matters constantly arising which will have to be decided upon by the Board, but it might be well for the present meeting to give some expression as to their views on this somewhat important point.

The members of this Society receive now probably more for their subscriptions than any other of a similar kind in the country. The value of the tickets given each member is almost equivalent to the money paid, and in addition to this he receives a copy of the Report and also a copy of the *Agricultural Journal*, published every month and sent to him either in the English or French language. With such privileges and a little earnest effort the Society should soon have 1,000 members.

The Association are much indebted to Mr. Barnard, the editor of the *Agricultural Journal*, for the very friendly interest manifested in the Society and for other favors.

The gentlemen named by the Society to audit the accounts having been unable to do so, Messrs. H. A. Nelson and Albert D. Nelson have kindly performed that duty, and they have been found correct. The financial statement of the affairs of the Society also accompanies this Report.

HENRY S. EVANS,

Secretary and Treasurer.

THE TREASURER'S STATEMENT.

THE MONTREAL HORTICULTURAL SOCIETY AND FRUIT GROWERS' ASSOCIATION OF THE PROVINCE
OF QUEBEC, IN ACCOUNT WITH HENRY S. EVANS, SECRETARY AND TREASURER.

DR.

CR.

To Balance cash on hand, December, 1878.....	\$416.04	By paid Prizes due from last year.....	\$ 45.25
" Amount received from Government in aid of publishing third Report.....	200.00	" Rent of Land and Kink.....	164.80
" Amount received for admission to Exhibition.....	291.15	" for Advertising, Printing, Stationery, &c.....	295.23
" from Messrs. Cheney, Morgan & Evans, to pay special prizes.....	45.00	" expense of Fruit Reports, Printing Map, &c.....	278.00
" for permission to sell in building dividend on Bank Stock.....	8.50	" Labor, including Carpenter's Bill, Clerks and Assistant Secretary.....	159.00
" for Interest on Deposits.....	60.00	" for Band and expenses.....	175.00
" for Fruit Reports sold.....	21.30	" Judges' expenses.....	37.17
" for Members' subscriptions.....	2.10	" Sundry accounts.....	65.75
68 at \$2.00 each, \$1,376.00		" Insurance.....	101.06
9 at \$1.00 each, 9.00		" for 300 Trestles.....	10.60
" Cash due Secretary.....	1,385.00	" Books for Library and expenses.....	96.00
	100.00	" Prizes at late Exhibition.....	46.10
		" Balance Cash on hand.....	1,040.50
			14.03
			\$2,529.09
		<i>Statement of the Society's affairs after receiving amounts due by Provincial Government, and paying all Liabilities.</i>	
		By Balance down.....	14.03
		" Annual Grant due Society for 1879.....	1,000.00
		" Grant in aid of publishing report.....	200.00
			\$1,214.03
		To amount due " Witness " Printing and Publishing Co.....	\$206.50
		" " Secretary, cash.....	100.00
		" " salary.....	500.00
		" " for premiums unpaid.....	11.50
		Balance.....	818.00
			\$396.03

\$2,520.03

EXPORTABLE APPLES.

BY T. H. HOSKINS, M.D., NEWPORT, VT.

All extensive growers of fruit know by sad experience that a home market may be glutted. This is bad enough with strawberries and other small fruits, into and out of the production of which we may go at will, according as they are profitable or not. But when there is a glut of apples from over-production it is a serious misfortune to those who have labored and waited for years while their orchards have grown into fruitfulness, hoping, perhaps, that they would be a resource of support in old age. To see our trees loaded with the finest fruit, and yet to know that the only thing to be done with it is to work it into cider, is painful in the highest degree to the laborious and careful orchardist who has given twenty or more of the best years of his life to perfecting their growth; yet this has frequently occurred in America. Thousands of barrels of the choicest Baldwins, Greenings and Russets, to say nothing of fine fall and summer fruit, went to the cider mill or rotted under the trees in New England in the autumn of 1878. Similar occurrences, not only in New England, but in New York, Pennsylvania and the west, have many times led to the cutting down of orchards—actually clearing the land of costly fruit trees in perfect health and full bearing, as though they were forest trees, useful only for fuel and timber.

In Lower Canada and Northern Vermont the efforts of fruit-growers, striving against the severity of almost Arctic winters, have not yet been able to produce so great a superabundance of apples as this. Yet the introduction yearly of new and superior sorts adapted to the climate and productive of large crops of marketable fruit, the awakened interest of the people in orcharding, and their increasing knowledge of what can be grown and how to grow it, make this a quite possible danger of the not very distant future.

The only opportunity of relief that the American market has found from a surplus of apples has been the exportation of that surplus across the Atlantic, or southward to those tropical countries where the apple does not grow. Experience has shown that out of the more than 2,000 varieties of apples known to American pomologists, only a very few are adapted to this export trade. The Newtown Pippin was for years the only American apple accepted in England. More lately the Northern Spy, the Baldwin and the Roxbury Russet have found a place in European markets and yield a fair profit to exporters. Massachusetts sends her Baldwins and Russets; Rhode Island and Maine their Greenings and a few other long-keeping apples to the West Indies; and by the use of ice or refrigerating machinery, they may be safely transported to Brazil and other tropical regions. It has long been noticed by those engaged in this trade that the Maine apples were carried into the tropics by ships with the least loss of any, and it will doubtless prove true that Canada-grown apples will share this characteristic. Observing students of vegetable physiology declare that the long and bright days of our northern summer give a development of color, high flavor and solidity to our fruit, which add a value to Canadian apples that is entirely unique. I know from much personal observation, that as one travels southward on the American Continent, the apples do really lose in brilliancy of coloring, in piquancy of flavor and in keeping qualities. They have a few native long-keeping apples in the upland and mountain sections of the Southern States, but they are almost uniformly of dull color, and insipid or harsh in taste. But what is the use of saying anything upon this subject of exportation so long as Northern New England and the Province of Quebec have not yet found a single variety of exportable winter fruit adapted to their climate? It is true that a few Fameuses are sent to England, but it is also true that the Fameuse is only by a stretch of courtesy entitled to rank as a winter apple, and that its perishable character makes it a matter of considerable risk to attempt to send it abroad. In all the Northern States, except in the sections where the summer is the shortest and the winter the coldest, the

Fameuse ranks only as a fall apple ; and though in Vermont and Canada we may sometimes preserve it in fair condition through more or less of the winter, yet the occurrence of a warm autumn extending into November, as sometimes happens, proves to us that radically and normally the Fameuse is an apple whose season of usefulness finds its limit at the holidaytime with which the year ends.

Besides its perishability, the Fameuse lacks the size necessary for a commercial apple. High quality atones for this lack where a variety is well known ; yet the Fameuse, which for fifty years at least has been the favorite apple of Northern Vermont and Canada, meets with no correspondent approval in the markets of the large cities of New England. It is a singular fact that what Fameuse apples are exported from Vermont usually go northward to Montreal. The fruit-growers of the Champlain Valley generally refuse to plant the Fameuse on any extensive scale because of the lack of demand for it in the Boston market. Wherever the Fameuse is grown in New England, in fact, it is regarded mainly as an apple for home use or a near market.

An apple for profitable export must be of a good size, attractive appearance, and at least "very good," if not "best" in quality as a dessert fruit. I do not believe that culinary apples will ever be much exported, except as canned or evaporated fruit. Besides the above named qualities, an exportable apple must have keeping quality that will take it nearly or quite through the winter in perfect condition. What apples have we that are likely to be suitable and adapted to this purpose ? I say "likely," because, as yet, there is not one which is generally known or planted in the Province that can be regarded as a suitable apple for exportation. I have named the qualities required by the purchaser. On the part of the grower the requirements in addition will be that the tree shall be reasonably productive and entirely hardy, while not being of such a local character as to be grown successfully over only a small territory. Besides these characters, it must also be an apple that will bear transportation without serious injury. Let us briefly run over our list of winter apples, and see how near they come to or how far they depart from these exacting requirements.

GOLDEN RUSSET, OF WESTERN NEW YORK.—All right in productiveness, in keeping, in general adaptiveness and in quality; wanting in size; not very attractive in appearance; not entirely hardy.

WHITE WINTER CALVILLE, OF ABBOTTSFORD.—Productive; fair size; tolerably attractive; a good keeper, and of very good quality; not generally tested as to hardness or adaptability; tree not very long lived; fruit suffers in transportation.

WHITE WINTER CALVILLE, OF ST. HILAIRE.—A very beautiful and delicate apple, but debarred by its delicacy from long journeys.

NORTHFIELD BEAUTY, OF VERMONT.—Exactly in the same category with the Calville of St. Hilaire—adapted only for home use, or a near market.

CANADA BALDWIN.—Productive; fruit of very good quality, and well adapted for transportation, a good keeper and attractive. Faults—want of size, and lack of adaptation in the tree to any but heavy soils.

BLUE PEARMAIN.—Condemned for unproductiveness.

BEN DAVIS.—Has every merit except quality and hardness of tree in severe localities. Far too poor an apple for successful exportation.

JONATHAN.—Has two faults, like Ben Davis, but not the same. In size it is too small, and the tree is not thoroughly hardy in Canada or Northern Vermont. If it were not for this last fatal fault, the productiveness, beauty and high quality of the Jonathan could be made to atone for its lack of size. In Huntingdon county, and in other equally favorable localities, it ought to have a thorough trial.

WINTER ST. LAWRENCE (*Mank's* or *Manx* Codlin?).—This seems to me a very promising apple, worthy of extensive and

thorough trial in all parts of Canada. From what I have seen of it, it appears to have all, or nearly all, the qualities desired in an apple for export.

BOURASSA.—Is not the Bourassa worthy of some effort to rescue it from the discredit into which it seems to have fallen? Should it not be tried "double worked" in the nursery, or top-grafted in the orchard, until a suitable stock is found to develop its admirable qualities? To me it seems one of the best of Russets, as it is certainly the most beautiful. The Baldwin was in utter discredit in Maine, until it was tried top-grafted on hardy, strong-growing, native stocks. Now it is the most profitable apple in the southern counties. I believe there is a living chance to make the Bourassa useful as a first-class apple to send to Europe.

WEALTHY.—Here is, I hope, a variety that will come nearer than any apple yet introduced, to being a fruit that can be grown in any part of the Province, and prove a good shipping article. My expectations of it were very moderate at first; but as my experience with it grows I find it larger, handsomer, better, more productive, and a longer keeper than it was recommended to be, even by its originator. The tree is perfectly hardy, as much so as the Duchess of Oldenburg. It bears as young and as abundantly as that variety. In size it equals the Baldwin, and far excels it in beauty and in average quality. I think the Wealthy grown in Northern Vermont and Canada will equal the New York Baldwins as a keeper. Laid upon shelves (which is not the best way to keep apples) in my cellar, the Wealthy is fresh, firm and crisp at this time (March 1). Unless some fault develops itself further on (as with the Canada Baldwin on light soils), it seems to me that the Wealthy is the coming apple for the cold North.

McINTOSH RED.—Here is a larger and apparently longer keeping apple, that is hardier than Fameuse. I am rather astonished that this variety, originating as it did in Canada (Matilda, Dundas Co., Ont.), should never yet have appeared upon the tables of the

Society's Exhibitions. The trees seem perfectly hardy on Lake Memphremagog. They have not yet fruited (at 6 years from the bud on small stocks) with me, but had some blossoms in 1879, which were blighted by the 8th of June frost. With Mr. Aaron Webster, of East Roxbury, Vt., buds set in old trees have borne fruit, which he thinks highly of. He calls it a "Glorified Fameuse," with the color and quality of that variety, a doubled size, a hardier tree, and the same defect of "spotting" in unfavorable seasons. The report from its place of origin is that it is productive and a good keeper. Perhaps here is a rival to the Wealthy.

I might go on adding to this list a large number of "promising" winter apples; but I do not wish to confuse the reader by bringing before him a long roll of untried sorts. Experience shows us that the number of these is few which ever repay the labor bestowed in testing them. I will, therefore, name but one additional variety, and this only because my attention was called to it by Charles Downing, and because I have found the fruit to be of large size, handsome, and of excellent quality. This is the

STONE APPLE, OF ST. LAWRENCE CO., N. Y.,

of which Mr. A. F. Clark, of Raymondville, in that County, writes that it is believed to be a native there; it is perfectly hardy, and a profuse bearer. By some this variety has been confused with the Bethel, of Vermont, which it somewhat resembles; but if it is as free a bearer as Mr. Clark says, it cannot be the same. It much resembles the Baldwin.

Since writing the above, additional evidence has been procured which proves the Bethel, of Vermont, and the Stone Apple, of St. Lawrence Co., New York, to be the same. In the latter locality it is reported to be a profuse bearer, but in Vermont it is so only in rich valleys. On the hills, especially in their soils, it is a shy bearer. It would probably prove valuable near the St. Lawrence river.

THE APPLE—EXPERIENCE IN ITS CULTURE, AND REMARKS THEREON, &c.

R. T. RAYNES, FORDEN, CÔTE ST. ANTOINE.

In the list of apples grown by me, I have omitted many I have tried and am trying. Of the former, I have forgotten the names of several varieties; of the latter, I have as yet had no opportunity of giving an opinion.

My remarks are the result of twenty years' "experimenting." I have made many mistakes and would try and point them out, that others may guard against them. In the report of the Montreal Horticultural Society for 1877, page 12, is an article, "Apple Culture in the Cold North," by Dr. Hoskins, Newport, Vermont. I think it the ablest of the many I have read on the subject, and would strongly recommend its study by all interested in the culture of this valuable fruit.

And now for my mistakes.

My first and greatest was in planting so many varieties (over one hundred); my next in planting any but those suited to this climate and market. Possibly, I might not have been able to guard entirely against this latter mistake, as I relied on books and nurserymen's catalogues, and in them many varieties pronounced "Hardy" for cold regions, I found quite the reverse.

I did not fall into the mistake of purchasing *cheap* trees, as I always paid the highest price and dealt with only, as I considered, the most reliable nurserymen, but I regret to say, that even from the most reliable I have got very bad, almost worthless trees—carelessly grown, carelessly taken up and too often untrue to name. The public are often more to blame for this than the nurseryman. They must have cheap trees and, as long as they can get them, they are not particular whom they deal with. They are preyed upon by the "tree pedlar," a most objectionable individual. Purporting to

be agents of reliable nurserymen, the stuff they sell is generally the cull or refuse of second class nurseries purchased for a mere nothing.

After the trees, good or bad, are purchased, as a general rule, what treatment do they receive? They are thrust into a small hole, in badly prepared ground, and left to take care of themselves. They won't and can't do so, and whoever they are bought from is blamed. There are not so many things to be guarded against in "apple culture," and these will try and point out briefly.

Never plant a tree unless the ground is in proper condition by previous preparation. Almost any soil except pure sand or *very* stiff clay will grow apple trees, provided it does not *hold* water. Make large holes, not too deep.

Only plant varieties suitable to your locality, and not too many varieties. Keep those of the *same season together*.

Do not plant too closely; 25 feet apart each way is the least I would recommend. Buy only from reliable parties, and do not object to give a good price for a good article.

There is only one subject more I will touch upon—the most important, in my opinion.

PRUNING.

If the trees are properly attended to in the nursery and for a few years after being planted, much less is required than is generally thought.

My experience tells me, that for *general* pruning in cold regions, from 15th March to 15th April is the best time. In July, a great deal can be done by *rubbing* off shoots which appear where they ought not, and if this were done, general pruning would be less requisite. Dr. Hoskins' remarks on pruning I fully endorse.

The system of pruning, as practised, is barbarous in the extreme. All are pruned alike, at all seasons! How? With a saw, generally very blunt; the pruning knife, which is the only instrument required, except occasionally, is kept in the pocket. It is so easy to snip off a branch with a saw; a stub an inch or two long will soon heal over! When?

Ignorant people imagine that pruning produces fruitfulness. So it does, if done skilfully, but pruning as generally performed only tends to increase the production of more wood and eventually more pruning. Some trees would be better with very light pruning; in fact, as I said before, if the trees get a proper start, branches which crop each other, or are dead, should be the only ones necessary to remove.

And now for my list of varieties, in the making out of which I have received the most valuable assistance from Mr. Chas. Gibb, of Abbottsford.

*List of Apples in alphabetical order. Marked * two Trees of each variety imported from Scotland.*

SUMMER VARIETIES.

1. *DEVONSHIRE QUARRENDEN is a handsome dark red apple below medium size, of very good quality; but the trees did not prove hardy with me and died early. I do not recommend it.
2. DUCHESS OF OLDENBURG has been a decided success with me. It bears very heavily and begins to bear when very young; in fact, overbears, which may account for its tendency to fall from the tree. The tree needs little pruning. The fruit is above medium and there is very little waste. It is highly colored and sells for nearly as much as Red Astrachan per basket.
3. EARLY HARVEST yielded pretty well for some years, but the trees gradually died. Occasionally the fruit spotted badly; otherwise it was sound and fine. It is really good in quality, and so early in season that I consider it worthy of cultivation in sheltered localities in limited numbers for home use.
4. EARLY JOE I can hardly praise too highly. The tree is quite hardy with me; bears young and is a good, reliable, annual bearer. In quality it is one of the "best."
5. INDIAN RARERIPE may be seen now and then on our Exhibition tables. I have only grown it as a top graft; it is hardy.

The fruit is a pale, waxen yellow, very beautiful; in form and appearance it much resembles Montreal Peach. Ripens with Red Astrachan or very soon after. Is less acid than that variety, and is a nice fruit for family use.

6. *IRISH PEACH (*Summer Crofton, Early White Crofton*).—Of this variety I have one tree (sixteen years planted), a few top grafts and two young trees. The tree is rather slow in growth but quite hardy, and bears moderately every year. The fruit is hardly medium in size, oblate, pale yellowish-green dotted with brown, and cheeked with dull red on the sunny side. In quality it is first-rate, but very soon loses its flavor and becomes mealy and insipid. Yet, as an early fruit of fine quality and ripening just before Early Joe, I prize it highly.

7. RED ASTRACHAN is of special value as a market fruit. The tree is not long-lived (compared to others), but is fairly hardy, bears young, and, when eight or ten years planted, gives large biennial crops. It ripens unevenly, which I think an advantage, as it is more or less perishable. It brings the highest price in the Montreal market.

8. SOPS OF WINE has proved fairly productive. Is full medium in size and a striking dark crimson in color; flesh white, often stained with red; moderately juicy, but soon becomes mealy. In flavor it is a mild sub-acid, with a peculiar vinous flavor; ripens with Duchess, and is a really nice apple for family use.

9. STRAWBERRY (*of Montreal*) is a valuable market apple; tree very erect in growth, and, like the Northern Spy, needs severe thinning. The fruit is medium in size, fair quality, fair appearance, and ripens just after Duchess; sells well, and with many has proved a valuable market sort.

10. TETOSKY.—There is no doubt about the hardiness, early bearing or productiveness of this tree, but the fruit, which is of fair size and very pretty, is undoubtedly acid and perishable; it might be valuable for a near market on account of its earliness. I do not recommend it.

11. WHITE ASTRACHAN is a heavy biennial bearer ; quite early ; but the fruit is only of medium quality, and perishable. It might be profitable for a near market, but I do not recommend it, as we have so many summer apples of much better quality.

AUTUMN VARIETIES.

12. ALEXANDER is a valuable market fruit. The tree does not attain as large a size as some others, and may be planted the closer—say twenty feet apart each way. It is fairly productive every second year. The fruit is large in size and there is really no waste. It is ready for market just before the general glut, and sells at 75c. to \$1.00 per bushel. Last year I received for the fruit of one tree \$13.00, and have even sold that from one of but medium growth for \$22.00. For an early fall fruit the Alexander not only ships well but keeps well and is even improved by being kept, all of which increases its value as a market apple.

13. BLINKBONNY is a hardy tree and a heavy bearer. It is of medium size and in color a pale yellow, often blushed on the sunny side. It is not the color for market, but might prove profitable on account of its productiveness, as it sells pretty well. In quality it is better than it looks. It is fine in texture, and its sweet and acid are nicely mingled. It ripens with Alexander and is a nice apple to have one tree of for home use.

14. *CELLINI.—The tree is quite hardy and is upright and of close habit of growth. It bears early and is a heavy biennial bearer. Top grafts of it have borne profusely. Fruit large. I have had specimens that measured 12 inches in circumference. It is pretty even in size and has but little waste. In form it is roundish—conic, slightly flattened at the base. The basin is broad and deep ; the calyx, very large and wide open, and such as to cause it to be readily distinguished from most other apples. It is, however, not only in this, but in general form, and also in color, strikingly like both the King of the Pippins and Lord Suffield. The color is greenish yellow, almost entirely overspread with red and orange in

indistinct splashings and marblings. Flesh whitish, firm, juicy and pleasantly acid, and rather fine flavored. Season, September and October. For cooking it has no superior, and as a market fruit commands good prices.

15. CHENANGO STRAWBERRY (*Sherwood's Favorite*). I had of this delicious apple but two trees, which stood well for a number of years, and then for some unknown cause died. The tree does not seem tender, and I must not consider this as proving its lack of hardiness. The fruit has only to be seen and tasted to be highly prized. It is a medium sized oblong apple of really fine quality, valuable for home use. I am planting more of it, and I hope others also will test its merits.

16. FALL PIPPIN. Of this variety I had at least half a dozen trees. They bore young and heavily. The fruit was fine and even in size and of good quality, but the trees died soon after bearing their first crops.

17. GOLDEN BALL (*so-called*) is another heavy bearer; it bears, too, when young, and the fruit is fair and even in size. In color it is a pale yellow, becoming when fully ripe a golden yellow. It is fragrant and really fine flavored, but soon becomes mealy and loses its flavor. It is a valuable fruit for near market. This is evidently not the Golden Ball described by Downing. What it is I know not. It has been evidently propagated by some of the nurseries of the past generation. I have trees two feet in diameter and at least fifty years old, but whence obtained it is now impossible to find out.

18. GRAVENSTEIN.—Of this I have had magnificent specimens, handsome and of the highest quality, but the tree is tender and has not been a success.

19. HAWTHORNDEN prevents its growth by premature and heavy bearing. The fruit is invariably fair and of full medium size; if thinned, it would be quite large. In color, it is a lovely delicate white, usually with an exquisite carmine cheek. Its use is for

cooking, for which purpose it and Cellini are the first on my list. Season, September and October.

20. JOHN RICHARDSON (*so-called*) is an English or Scotch apple whose name was lost and which became known by the name of its importer. It is a good tree in nursery and in orchard; is somewhat upright in growth. It is not to say an early bearer, but it bears more than a moderate crop and bears it regularly every year. The fruit is large, at times very large, but mostly even in size. In form it is roundish oblong. In color, greenish yellow, mostly covered with red in splashes and stripes. Flesh, yellowish, tender, not very juicy, sub-acid, with a delicate aroma and when in condition is fit for dessert. Its dessert quality, however, quickly deteriorates, and it then becomes useful either for kitchen or market, and is in season from September 15th to October 15th.

21. KENTISH FILLBASKET (*so called*).—This apple has been grown here for a very long time, but to a very limited extent, and whence obtained I know not. Last fall Mr. Chas. Gibb sent a specimen to Mr. Downing, who seems to think that it is not true to name.

The tree is hardy and vigorous, with an open spreading head. It bears every second year heavily. Sometimes it is apt to fall from the tree, and when it falls it falls heavily and gets injured. The fruit is large, sometimes very large; color, yellowish green, usually blushed on one side with dull red. Form, somewhat oblate and conic, and slightly irregularly ribbed. It is a valuable market kitchen fruit; in season from last of Sept. to end of Oct.

Downing's description agrees with mine, except as to season.

22. KERRY PIPPIN.—This is an Irish dessert apple, of which I have but one tree on Doncin Stock. It is quite hardy, and bears profusely every second year, and is fine flavored, but we have other sorts more worthy of culture.

23. KESWICK CODLIN is an old English culinary apple. I have trees of it 30 years planted, which bear well, but the tree does not

attain large size. The fruit, too, is fair and fine, and can be used long before it is ripe, so that it is of value for its earliness as well as for its good cooking qualities.

24. KIRK'S LORD NELSON.—Of this I have but one tree, and that top-grafted. It is a somewhat large, showy fruit of fair quality, but not equal to many others.

25. MAIDEN'S BLUSH is a pretty apple, and somewhat like the Hawthornden. In flavor it is mild and rather insipid. In New Jersey it is a favorite market fruit, but somehow with me it has not shown any points of merit.

26. NONSUCH is an old English fruit of medium size and a dark dull brick red in color, and distinctly specked. It is not of value.

27. PEACH(*of Montreal*), is a large, hardy and beautiful tree, which bears heavy crops every other year. The fruit, when in heavy bearing, is medium, oblong-conic. In color, a pale yellow, prettily blushed on the sunny side. It is a good dessert apple, and, though not the proper color for a market fruit, is readily salable. It bruises easily and shows its bruises, and will not for long bear its own weight in a bushel basket. Yet when taken with proper care to a near market where they find quick sale, they are among the most profitable of apples.

28. ROSEAU has been grown here from a very early date, and was once grown largely. The fruit is of medium size, and in color a handsome dark red, usually deeply ribbed and often stained to the very core. It is not productive, and is now but little grown.

29. ST. LAWRENCE.—Of this I have several very large and very fine trees. The fruit, too, is large and fine, but so small in quantity that I cannot speak in its favor. On the Island of Montreal this variety is noted alike for its quality and bearing, and its non-productiveness in my orchard I am at a loss to account for.

30. WILLIAM'S FAVORITE.—I have but one tree of this kind. It

is hardy, and a fair bearer. In color it is a beautiful dark red ; in flavor mild and, to my taste, very insipid. Not worth cultivating.

31. UNKNOWN is a valuable and handsome apple, strikingly like that known as the Winter St. Lawrence. It is, however, much firmer in flesh and rougher in skin. Of this I have three or four trees. They are quite hardy, and, though not a young bearer, it is eventually a very heavy bearer. The fruit is large and very even in size, and with little or no waste. In form it is roundish and but very slightly oblate ; skin, greenish-yellow, almost entirely overspread with bright red and dark red in splashings and marblings, with a number of indistinct small gray dots ; flesh, nearly white, firm, crisp, rather juicy and sub-acid. It is a fair eating apple, a fair cooking apple, and its size, color and firmness of flesh would make it a first-class market fruit. Soon grows mealy.

EARLY WINTER.

32. *BRADDICK'S NONPAREIL is an English dessert apple of Ribston texture and flavor. Its propagation I cannot recommend.

33. *COURT OF WICK is another noted English dessert fruit. With me it is quite inferior to many other kinds.

34. FALLAWATER is a popular market fruit in Pennsylvania. I planted two trees of it twenty years ago which made good growth and bore one heavy crop, after which they died. I regret this, as the fruit was very large and beautiful.

35. FAMEUSE.—For dessert, for market, for kitchen this apple cannot be too highly praised.

36. GOLDEN REINETTE was once grown largely about Montreal. I have but one tree, which is forty or fifty years old, and which is overshadowed by buildings and other trees. It still bears fairly and formerly bore heavily. The fruit combines beauty with good quality, and is useful for the dessert or for cooking—October 15 to December 15.

37. HUBBARDSON'S NONSUCH is a fine fruit. I had but a tree of it, which died from some unknown cause. I would like to see it further tried.

38. IRISH CROFTON is an Irish dessert fruit. It is a very nice apple. In texture it is much like others of its class, and, in flavor, has a fine mingling of sweet and acid, with slight aromatic flavor. Yet its propagation I can hardly recommend.

39. LADY APPLE is a lovely little fruit, almost worthy of the name it bears. It is a pale lemon-yellow with a brilliant red cheek, and, in the States, sells at the highest price of any apple. It is used there for decorating baskets of fruit. The tree does not seem to be tender, and its beauty should entice amateurs to try it.

40. MINISTER.—I have but one tree of this (about twenty years planted) which seems pretty hardy, and which has borne good biennial crops. The fruit is large, oblong, red, striped and splash-ed, with greenish-yellow ground. In flavor it is a nice acid. It is of use for the kitchen, and, as it is very showy, it would doubtless sell well ; keeps till mid-winter.

41. MONSTROUS CODLIN.—I have waited fifteen or sixteen years for this to bear, and now and then it bears a monster. The tree is very close and upright, the fruit (what there was of it) of the largest size and valuable for the kitchen.

42. *SCARLET CROFTON.—An Irish dessert apple, fully equal to others of its class, but hardly to be recommended for cultivation here.

LATE WINTER.

43. BALDWIN proved a total failure. It would not live to grow or bear.

44. BLUE PEARMAIN is one of the handsomest apples grown. It is a dark purplish-red, covered with a lovely light bloom. It is

very large, and, when in good condition, is really first class in quality. It is, however, a very shy bearer.

45. BOURASSA.—This old favorite seems to be gradually dying out. I have a number of trees in a good situation, but they bear very lightly and are not making proper growth. The fruit, too, is imperfect. In quality it is "best," but I regret that its weak points prevent my recommending it for propagation.

46. DANVER'S WINTER SWEET.—Of this I have but one tree (forty years of age). It is a very vigorous and hardy tree, and bears heavily. It is valuable to those who like a genuine sweet apple.

47. ESOPUS SPITZENBERG did not live. It lingered but a few years, and all were cleared out of the way before I got any apples from them; undoubtedly too tender.

48. FLUSHING SPITZENBERG.—Of this I have but one tree (forty years planted). It is a large tree, hardy, and a vigorous grower and has borne heavily, and is the most perfect of my old trees. The fruit is medium in size; in color a dark, dull red, with very distinct gray dots; flavor, sweetish, dryish, but agreeable.

49. GOLDEN RUSSET (*of Western New York*) needs careful and skilful pruning. I have several trees. It is a heavy bearer and the fruit very valuable. Of all the late winter apples I have tried, it and Jonathan are the only ones I would recommend for market.

50. JONATHAN.—Of this I have only two trees twenty years planted, and which have borne remarkably well. The fruit is barely medium on old, but on young trees almost large. In color, a dark rich red, quality "best."

51. KING OF TOMPKINS' COUNTY.—I have tried several trees of this variety, both as Standards and Dwarfs; but though they made wonderful growth, were always killed back in winter and eventually died. The tree is unmistakably tender.

52. NORTHERN SPY.—I have had several trees of this variety; all are dead but two, which are not looking well. They have been planted twenty years, but have not yielded a barrel in that time. I intend grafting it high on Fameuse, and am sanguine that I shall succeed in growing this noble fruit in that way.

53. POMME GRISE will not bear. I have old and young trees in grass and in cultivation with the same result. The past year I had ten barrels from 30 trees; have not averaged two barrels a year from them for the previous six years. Twelve or fifteen years ago I had over 100 barrels from these trees and sold them for exportation for \$8.00 per barrel (the old two bushel barrel).

54. RHODE ISLAND GREENING.—I have given this variety a fair trial, and can come to no other conclusion than that it is too tender, at all events, for my locality.

55. RIBSTON PIPPIN does not in any way keep up its English reputation. I have had several trees; have now two or three good specimens, but they do not bear well. The fruit is small and its flavor very indifferent. I have seen this apple in Nova Scotia as fine, if not finer, than in England.

56. TALMAN'S SWEET is much like Danvers, both in quality and bearing.

57. VANDEVERE seemed to lack hardiness. I had but one tree, which died soon after bearing its first specimen.

58. YELLOW BELLEFLEUR.—Of this I have several trees 20 years planted. They have grown well, but are very shy bearers, and the fruit is very apt to be imperfect. It is a delicious fruit, and one that is doing well elsewhere. I, therefore, do not wish to condemn it, as my want of success may be from some local cause.

After weighing the merits and demerits of so many varieties the question naturally arises, which of all these do I consider the most valuable, and before answering this question let it be remembered that my orchard has the two great *desiderata*—elevation

and protection. Elevation, by which I escape untimely frosts, and protection from our Northern and Western winds. On this account some varieties doing well with me might prove less hardy in more exposed positions.

To the market man who chooses his kinds to obtain the largest returns on capital invested, I would recommend for every hundred trees :—

RED ASTRACHAN	15
DUCHESS OF OLDENBURG	5
STRAWBERRY (<i>of Montreal</i>)	5
PEACH (<i>of Montreal</i>)	10
ALEXANDER	15
FAMEUSE	50
	<hr/>
	100

In this list I have included no winter varieties. It is intended for the Island of Montreal, and as this market is glutted with winter fruit from the States and Ontario, and which is sold at a very low price, I do not think it profitable to grow them, except for family use.

To the gentleman of means who looks upon his orchard merely as a luxury to himself and his friends, without any thought of moneyed returns, I would recommend for an orchard of say twenty-six trees—a friend *would* add “Irish Peach,” which would be hard to get :—

EARLY HARVEST	1
KESWICK CODLIN	1
RED ASTRACHAN	1
DUCHESS OF OLDENBURG	1
IRISH PEACH	1
EARLY JOE	2
CHENANGO STRAWBERRY	2
PEACH (<i>of Montreal</i>)	1
ST. LAWRENCE	1
HAWTHORNDEN	2
ALEXANDER	1
	<hr/>
	14

<i>Brought forward</i>	14
CELLINI.....	2
FAMEUSE.....	4
JONATHAN.....	2
POMME GRISE.....	1
GOLDEN RUSSET.....	3
	—
	26

To the amateur whose space is limited to, say, ten trees, I would recommend

RED ASTRACHAN.....	1
EARLY JOE.....	1
ST. LAWRENCE.....	1
ALEXANDER.....	1
CELLINI.....	1
FAMEUSE.....	2
JONATHAN.....	1
GOLDEN RUSSET.....	2
	—
	10

NOTES ON SOME VARIETIES OF WINTER APPLES, UNDER TRIAL, IN EXPERIMENTAL ORCHARD, COMO, QUE.

BY R. W. SHEPHERD, JUNIOR.

Those persons who intend to set out commercial orchards in this Province for the purpose of growing such varieties as may be suitable for shipping to Europe, may possibly be benefited by these notes. The export trade of apples has assumed large proportions and is likely to increase and become more profitable as the facilities for quick transport increase, and the attention of steamship owners is directed to the necessity of giving careful handling to the fruit and providing for it more thorough ventilation in

transit. If perishable meat be exported successfully, why cannot our delicate varieties of apples, such as Fameuse, reach the European markets for the holiday season in proper condition? The reason that Fameuse, which is "par excellence" the most popular apple here, is so little appreciated in England, as compared with Newton Pippin, Northern Spy, Baldwin, &c., is that it never reaches the consumer there in anything like good condition. It is not too much to expect if this delicate fruit could be put on the London market in December in the same condition as when it leaves our shores, it would command a higher price than any other variety. To obtain this there must be much improvement in the packing as well as in the carrying of the fruit.

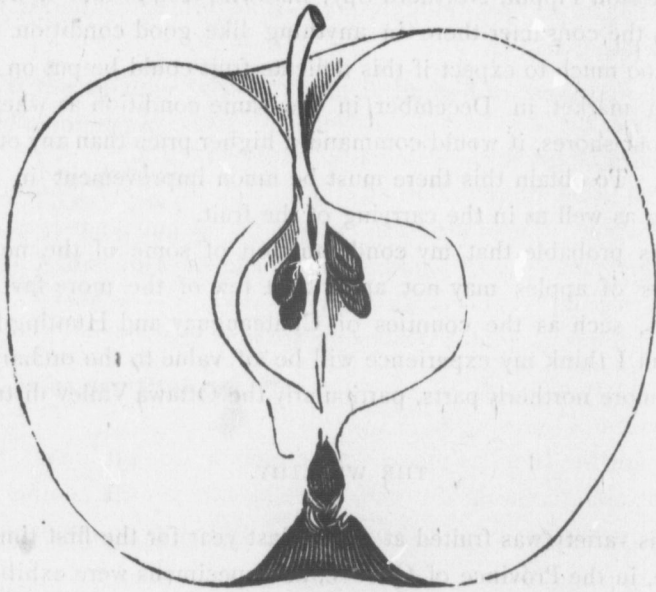
It is probable that my condemnation of some of the newer varieties of apples may not apply to a few of the more favored districts, such as the counties of Chateauguy and Huntingdon, etc., but I think my experience will be of value to the orchardist of the more northerly parts, particularly the Ottawa Valley district.

THE WEALTHY.

This variety was fruited at Como last year for the first time, I believe, in the Province of Quebec, and specimens were exhibited at the Montreal Exhibition. The fruit was much admired by all *connoisseurs*, and samples were sent by the Society to the Dominion Exhibition at Ottawa as well as to the Abbotsford Exhibition. The tree is an early bearer. It is undoubtedly very hardy. Both in nursery and orchard it has proved as hardy as Duchess, than which, in respect of hardiness, no fruit-grower can desire better. I have never yet known the Wealthy to blight or "kill back," but regularly, in spring, shoots start from its terminal buds, and this I consider the best evidence of hardiness. In nursery and orchard it is quite as thrifty as Fameuse.

The fruit is described in the catalogues of Wisconsin and Minnesota nurseries as only medium in size. I know not if the fruit is larger here than there, but it deserves to be ranked as "above medium" and *often* "large." All the specimens grown on my

trees last year were above medium, roundish, oblate and smooth of skin; very symmetrical; the color whitish-yellow, shaded in the sun with a deep rich red, sometimes almost altogether covered with light and deep colored streaks of crimson; dotted by many minute spots; a most beautiful fruit in appearance.



THE WEALTHY.

There is no prettier sight than a young tree literally bowed to the earth with the beautiful rich looking Wealthy apples. The flesh is generally white, but often yellowish, and frequently stained with red, very juicy, vinous, of a lively, *peculiar*, sub-acid flavor; quite fine enough for a dessert fruit and rightly classed as "very good."

The season of the Wealthy is said to be from December to February. Specimens that I tasted on 25th March, at Como, were quite fresh, juicy and perfectly sound. I have no hesitation in saying that the season of the Wealthy, when grown here, may be placed from December to April. That the tree is hardy and an early bearer there is no doubt, and it promises to be very productive.

Being a later keeper than Fameuse, it will probably be a good variety to cultivate for export. It must succeed as a good market variety, its color, size and quality are all in its favor. It is not too much to expect that the Wealthy will become, for this Province, one of the most valuable varieties yet known.

WALBRIDGE AND PEWAWKEE.—Both these varieties have proved rather tender.

The reports of the Wisconsin and the Minnesota Societies place them for hardiness in the same category as Fameuse, but my experience is not so favorable after five years' trial.

It is to be regretted if, after fair trial in other portions of our Province, these varieties cannot be recommended, as they would be valuable additions to the too small list of winter apples for this region.

Both Pewawkee and Walbridge are late keepers.

UTTER'S RED (*N. W. Variety*).—A large red apple of good quality, and a late keeper.

So far, the tree has proved satisfactory as to hardiness, but I shall be able to speak of it with more exactness after another year or two; it has not been sufficiently well tested to pronounce upon yet.

WINTER ST. LAWRENCE.—Nurserymen should be particular when grafting or budding, that their scions are true to name; mistakes often occur, I know, in the best conducted nurseries. In the spring of 1875 I ordered twenty Alexander trees from a nurseryman, whose reputation for conscientiously filling all orders entrusted to him faithfully and carefully is unimpeachable, and with whom I dealt satisfactorily for several years; in 1876 I ordered ten more, and the same number the spring following. At this time I flattered myself that my Alexander orchard of forty trees was something to be proud of, but the following year (1878) I received a letter from the nurseryman stating that the trees *were not Alexander at all*. He could not say what the name of the variety was, but that the apple was a *very good one*. He had procured the scions from Montreal under the name of Alexander,

and did not know his trees were not true to name until they fruited. Last year some of my trees bore, and specimens of the fruit were exhibited at Montreal Exhibition under the name of Mank's Codlin. The variety has been long cultivated and known in Montreal under this name, but it is not the Mank's Codlin described in Downing, the fruit not being at all similar in form, color, size or season. I have since learned that the variety has been cultivated and grown south of Montreal for some years under the name of Winter St. Lawrence. It is well known by this name at Hemmingford, and the opinions of those there, who have cultivated the variety for some ten years, are that it is not considered as profitable as many others, Fameuse especially; that the tree is considered quite hardy; it is a moderate bearer. The fruit keeps as long, perhaps longer than Fameuse, and is considered good enough for dessert purposes.

As the fruit is firm, and does not readily show its bruises, of a good size, fair quality, I think here we have a variety that would pay us to export.

Taking all things into consideration, I am now just as well pleased that Winter St. Lawrence trees were sold to me instead of Alexander, as I believe the former fills a greater gap than the latter in the list of commercial fruits to cultivate for this Province.

CANADA BALDWIN is a variety that all commercial orchardists should plant. It does well on heavy soils, the fruit is handsome, of Fameuse type, fair size, and one of the best of keepers. My trees, six years planted, have proved quite hardy and productive.

THE WHITE WINTER CALVILLE (*of Abbotsford*) is a valuable winter apple, and keeps till March. The quality of fruit "very good," but it could not be recommended to the orchardist for planting on a large scale. The fruit, though good in quality, is not a profitable market apple, for owing to its yellowish color it too readily shows its bruises. The tree is not quite hardy enough, and, with me, has proved only an indifferent bearer.

APPLES IN TWO MOUNTAINS COUNTY.

BY HUGH M'COLL, HILLSIDE, ST. JOSEPH DU LAC, TWO MOUNTAINS.

The greater part of the County of Two Mountains is very well adapted for fruit culture, especially the Parish of St. Joseph du Lac, noted for its abundant production of fruit, especially apples, which grow spontaneous. It is situated on the north east slope of one of two mountains from which this County derives its name. A considerable ridge, extending along the base of the mountain, is composed of limestone gravel to a depth of from 6 to 10 feet and is perfectly free of water without artificial drainage.

From personal experience and observation I am confident that choice fruit can be cultivated with success. My observation extends over a period of 23 years. From that time, 3 years following, I bought trees from pedlars, which proved a total failure. Nevertheless, having a great desire to possess an orchard of choice fruit, in 1866 I bought of Mr. Wm. Brown, of Côte des Neiges, 100 trees, one-half Fameuse and the balance of different varieties. Being successful, in 1868 (Mr. Brown having sold out his nursery) I bought 200 trees from Mr. Siméon Lacombe, Côte des Neiges, and in 1869 I bought from the same nursery 100 trees and 2000 grafts. With all I succeeded very well. The grafts I nursed on the same soil in which I planted my orchard. Although it is 7 years since the trees were moved from the nursery to the orchard, the rows numbered 40 trees per row during that time. Some rows have stood without a miss on removal and are now bearing very well. Since then I graft for my own use and a few for sale. My orchard consists of 2000 trees, 1,600 of which are grafted, and the balance seedlings. I have planted 200 seedlings close to my boundary fence, taking up little or no space, and they seem to do well. So that my whole orchard extends from 14 years till 2 years' planting.

As to varieties most profitable; I would place them as follows: Fameuse, Peach, Strawberry, Alexander, St. Lawrence, Nonsuch, Northern Spy; other varieties such as Roxbury Russet, Golden Russet, Red Astrachan, White Astrachan, are apt to blight. My Northern Spy, of 10 years' planting, bear heavily every alternate year. Golden Russet, Roxbury Russet and Red Astrachan, very much the same. As to marketing, my Strawberry, Peach and St. Lawrence I consigned to a commission house in Montreal. The former I sent in market baskets, and the latter in barrels. The former were sold at \$1.00 per basket; the latter, at \$2.25 per barrel, including commission at 10 per cent.

I put the field under heavy manure and green crops; before planting, as soon as the frost is gone, I take off the whole field 18x24 feet French measure, and plant the depth the trees stood in the nursery. When done planting, I ridge toward the row, *i.e.*, turning the furrows on each side toward the trees, giving a greater depth of loamy soil, protecting the roots from summer drought, and causing excessive wet in autumn. Each month of October I put on a good coat of well decomposed barn-yard manure with 4 to 5 gallons of leached ashes near the stock, which has the double effect of keeping off the mice, and the bark clean and soft. During each month of May I give each stock a thorough scrubbing with brush or horse-hair whisk and the following wash: To 25 gallons water add 1 gallon farmers' soft soap, 8 lbs. potash (dissolved previously) and $\frac{1}{4}$ pint of crude carbolic acid. This mixture has the effect of cleansing and softening the bark, helping the flow of sap, and the acid, of destroying any insect which may be deposited in the bark. I have found it much easier done during a drizzling rain. Then I get all hands at scrubbing, leaving the trunks as fresh as when in the nursery.

As to pruning: If trees after planting are properly attended to at different times during summer, and thumb-pruned, *i.e.*, rub off such buds as should not be allowed to grow to branches, it leaves little for the knife to do, and the less the better. However, when necessary to remove a limb, an application to the wound of gum shellac dissolved in spirits of wine, 98, or grafting wax, should be attended to.

Mr. John Morrin, of Petit Brulé, has a very promising young orchard of 200 very choice apple trees of five years' planting and beginning to bear. Mr. Alex. McColl, of St. Joseph, has a very fine young orchard of seven hundred choice apple trees, a good number bearing. He intends planting a few hundred more in May next.

In conclusion, in view of the great facilities of fruit growing, the cultivation of which is so remunerative, should not the Council of Agriculture of Quebec, who have the power of *dictating, approving or rejecting* the programmes of County Agricultural Societies, prompt said Societies to set a reasonable share out of the large amount distributed in various prizes, instead of the small sum of \$500 divided in prizes for fruits of all kinds grown in the County of Two Mountains?

GRAPE CULTURE AT OTTAWA.

BY P. E. BUCKE.

Having been requested to give my experience in the cultivation of grapes and the kinds grown in this northern locality, I do so with much pleasure. I do not consider any variety too tender if well protected during winter by a good covering of earth or other material. As the summer season is short, any kinds ripening later than the Concord are worthless. It is found that grapes do not sell in accordance with their names or quality, but that size and color are principally sought after by the public. The buyer, therefore, usually offers so much for white, so much for red and so much for black. Of the varieties he knows little and cares less. Good croppers, early ripeners and fancy colors are therefore the three great desideratums.

Of the red grapes I have grown the following: Salem, Agawam, Lindley and Delaware.

I consider the Salem as one of the best. The berry is large and bunch attractive. It yields well and adheres firmly to the bunch. Unfortunately, for the first time after seven years' trial, this grape mildewed with me last summer (1879) and I lost the entire crop.

AGAWAM has fruited eight years and is a desirable grape, but sets sparsely on the bunch, there being an apparent want of pollen in the blossom.

LINDLEY has a nice compact bunch of no great size. The berry is slightly smaller than the preceding, but the vine bears very abundantly and is a good, strong and vigorous grower. I have fruited this variety also for eight years without a failure.

DELAWARE is well known, and has every quality of excellence except size, a desideratum greatly craved after in the fruit line by the multitude. The Delaware will not produce as much weight on the vine as any of the foregoing, as both bunch and berry are small, and, unless an enhanced price is received for it, this grape will not pay so well for market cultivation; nevertheless it is a constant bearer, and the vine, though slender, quickly fills the trellis. To ripen its fruit even and early, some of the bunches should be removed at the time of blossoming.

BLACK GRAPES.

CREVELING, though perhaps not so generally cultivated as Concord, is one of the best black varieties grown; it fruits well, though at times does not set very closely on the bunch. I find this difficulty somewhat obviated by planting near it the Hartford or Concord, as these are very profuse of their pollen. The Creveling is of fine flavor, hangs remarkably well on the bunch, is not pulpy and has a thin skin. For home consumption it is quite superior to Concord and ripens earlier.

CONCORD is probably the best black market grape in cultivation; it gives fine, large, full and well shaped bunches, of uniform

size, covered with a rich bloom ; it usually matures its fruit before frost ; it is a foxy, pulpy grape, and has a thick skin ; it is a regular and abundant bearer.

HARTFORD PROLIFIC crops well and ripens early, but in quality it is inferior ; its habit of dropping from the bunch when thoroughly ripe is much against it ; for this cause, I would not recommend the planting of many vines of this grape for market.

CHAMPION, known in some sections near Montreal as the Beaconsfield, ripens early, but is poor in quality. When sold as a black grape it catches the early market. The vine is vigorous and healthy, and in this respect it will compare favorably with the Concord. In large vineyards I would recommend a few vines of this grape.

MILLER'S BURGUNDY is sometimes called Black Cluster, as it so closely resembles that grape in many respects that they are often taken for each other. The young shoots of the former and underside of the leaves are covered with a white down ; the latter are downless and green. They are both early ripeners, maturing before the Hartford or Creveling. The points of resemblance of these two grapes are that the canes are both very short jointed ; the fruit sets so closely on the bunches that the grapes squeeze and burst ; the sun is excluded from the individual berries, and consequently they ripen irregularly. This close growing habit of bunch is a good deal occasioned by the shortness of the little fruit stem. These varieties are both of foreign origin, and are grown against the walks in English gardens, where they generally ripen in late autumn. The flavor is not so good there as here, and they are not so sweet. Both varieties are devoid of pulp and both have a thin skin. The berries, when the bunches are thinned, are about midway in size between Delaware and Concord. These grapes would be a decided acquisition to our fruit list, were it not for the unfortunate habit of close setting as above referred to. The fruit should be thinned at the time the berries are about the size of small peas with a pair of scissors, leaving on only from one-half to

one-third. After this treatment no grape can be finer as a dessert fruit. A few vines for the home circle should be in the garden of every lover of grapes. From the characteristics of early ripening, thin skin, sprightly flavor, thick setting on the bunch, and short jointed cane, I have come to the conclusion that these grapes are destined to be the parent of the coming grape of Canada, and probably of this Continent, if crossed by some of the thin setting varieties of larger size. Unfortunately, although the fruit of this variety ripens earlier than almost any other, it blossoms later, so that the pollen is not available for hybridizing other varieties, and as it is generally conceded that the female of a hybrid gives character to the plant, and the male transmits its characteristics to the fruit of the next generation, it is a pity that its pollen or male agent cannot be had early enough for hybridizing other varieties. If, however, the matter was systematically gone into, and this grape retarded in the spring by a good covering of straw when the ground was firmly frozen, or other varieties forced by the aid of glass, the difficulties alluded to above might be overcome. Last year I carefully hybridized the Miller's Burgundy with pollen from Creveling, and this spring (1880) I propose to cross it with Rogers' 15, Agawam, Salem and Lindley. I make these remarks on this grape because I saw a few bunches on the table at the Horticultural Show last autumn, in your city. I have forgotten the name of the exhibitor, and probably he may not be aware of the value of his vine.

ADIRONDAC—introduced by Mr. Bailey, of Plattsburg, Vt.—is a grape of very fine quality and ripens with Creveling. The vine is an exceedingly slow grower, and I have not found it very hardy. I had two at various times, but lost them both, though covered with earth during winter, similarly to other varieties still in existence.

OPORTO is a small black grape, a little larger than Clinton, which colors early (about 10th September), but is useless for a table grape until after frost, except for decoration. It may prove good for wine.

OTHELLO.—This is a hybrid of Charles Arnold, of Paris, Ont., and is perhaps one of his best. It is also a frost grape—that is, it does not ripen thoroughly until after it has been slightly frozen. It is an exceedingly heavy cropper with handsome large bunches. I would recommend its trial about Montreal as a late grape.

EAMELAN.—A sweet rich grape; ripens with Concord or a little later; it sets badly on the bunch; could not recommend it as profitable for market.

BARNET.—Not yet thoroughly tested, but if the fruit ripens early enough, will predict for it great popularity, as its quality is excellent and the vine is a strong grower. This variety was originated by P. C. Dempsey, of Albury, Ont., who has some other hybrids of great promise.

CLINTON is of small berry and bunch, probably suitable for wine; is sweet after first frost. An insect penetrates this grape when young and finds a lodgment in the stone or seed, hence some berries do not ripen, and this mars the appearance of the bunch. The vine is a hardy one. It evidently is not far removed from the wild parent. Would not recommend it for general cultivation, as it is too small for market.

I will conclude these grape notes with a word on our native wild grape—*Cordifolia*—which, if grown in situations where it is not infested by insects, makes one of the most beautiful Canadian grapes for screens or covering unsightly places. It may be trained to a post and clipped to a pyramid, or spread out fan-shaped on two horizontal arms with uprights, and clipped with shears at any convenient height. The arms may be layered at every fifteen or twenty feet and continued for miles if required. It is an exceedingly rapid grower. If grown in this way as a border or division in the fruit or ornamental garden, the layering could be done where it crosses the paths. Its only drawback is that its leaves come out late in spring, but when in blossom it gives forth an odor of the sweetest fragrance which scents the air for a con-

siderable distance around. Its tiny bundles with small fruit turn black about the middle of August, but the fruit is not sweet until after frost. In its natural state the wild vine grows along the margins of streams, or where they overflow their banks in spring and autumn, festooning the mighty elms to their very tips, or running at will over the more lowly under-brush.

GRAPE CULTURE.

BY WM. GRAHAM, NEW EDINBURGH, OTTAWA.

“Let us get up early to the vineyards;
Let us see if the vine flourish.”

It is pleasing to note the increasing interest taken in vine culture in the Province of Quebec and the eastern portion of Ontario; but why the work of vine-planting goes on so slowly among our farmers is a mystery. There are few farmers—at any rate there should be few—so deeply absorbed in the ordinary work of their farms but could profitably and enjoyably devote thirty minutes or an hour daily to vine-culture. A live man can easily attend to 200 vines in full bearing by devoting an average of one hour a day to the work during the growing season. Nothing tends so much to make a home attractive as a thrifty vineyard. The young folks should all be instructed in the art and induced to take a warm interest in the management of the vines, and, in return, should not be prevented from using abundantly of the fruits of their labors. Every housekeeper should make fifty or sixty gallons of pure wine for home use. Mr. De Courtenay says, “Wine is the antidote of dyspepsia and *delirium tremens*; has even at the same time banished the use of spirituous liquors and made the heart of man glad.”

Our climate is essentially that of the “region of the vine.” This is demonstrated at our autumn exhibitions, where any casual

observer cannot but be struck at the excellence of the displays of hardy grapes. It has been estimated that the total amount of heat in the Rhine region during the season of vegetation never surpasses 2,700 degrees centigrade, whilst that of Quebec amounts to over 4,000 degrees. With the view, therefore, of inducing some to plant vines, and serve the double purpose of bringing profit and enjoyment to themselves, as well as beautifying the country, and, in the absence of trees, help to regulate the rainfall, I will endeavor to give a few practical hints from my own experience, which, although short, has been very satisfactory.

THE VARIETIES TO PLANT.

It is idle growing a great number of varieties, and folly rushing heavily into every new introduction; it will be found better for general culture to confine the number to, say, six or eight of the standards. The following, then, may be considered reliable, and, when well grown, quite good enough for the most fastidious:

BLACK.—Concord, Merrimack (Rogers' 19), Creveling, Herbert (Rogers' 44) and, for wine, the Improved Clinton.

RED.—Delaware, Agawam (Rogers' 15) and Lindley (Rogers' No. 9).

WHITE.—Sweet Water, Allen's Hybrid and the Martha.

These varieties are now well known, and their qualities need not be commented on by me; all that is necessary to make them good is careful culture. The Merrimack, Delaware and Allen's Hybrid perhaps suffer more from the attacks of the thrip than the others. The newer varieties have not been sufficiently tested in this region to warrant their recommendation for general cultivation.

THE PLANTS.

In my opinion, the best and most perfect vines are those propagated from single eyes. This will appear obvious to many from

the fact that a plant of this nature is entirely new, the germ alone being from the parent vine. A thrifty, well grown, six months' old vine from a single eye will be found to establish itself faster, be easier brought under control, and be, on the whole, more satisfactory than a two years old vine that has been propagated from a scion with two or three eyes—providing, always, that the roots have been left on either. The majority of nurserymen apparently consider good roots unnecessary, and for some reason best known to themselves denude the plants they send out of all their fibrous roots.

PLANTING AND CULTURE.

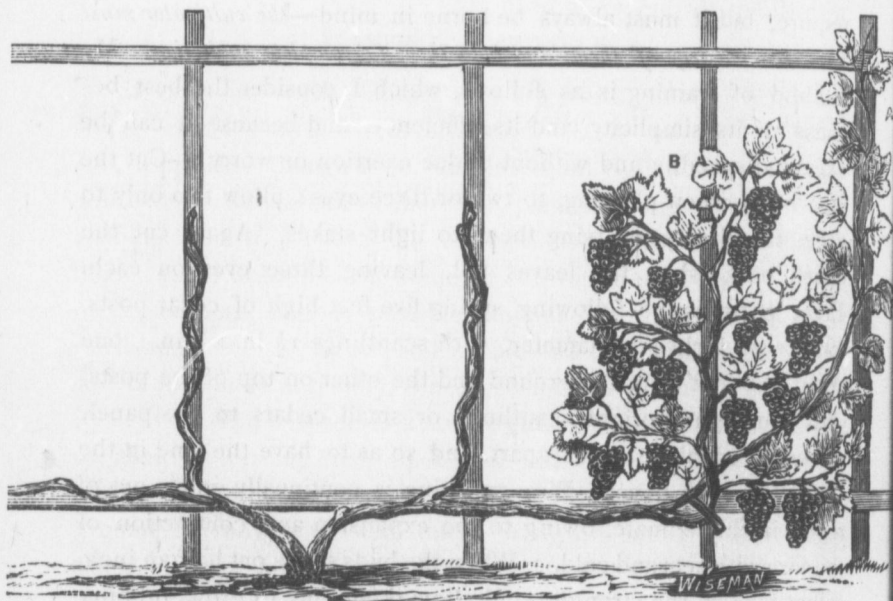
If vines are worth planting they are worth planting well and being carefully attended to afterward. It is only by constant toil, a pleasure though it be, and incessant vigilance that success will be ultimately secured; therefore, plant the vines in long rows, running from N. W. to S. E., ten feet apart each way, so that a horse can be utilized in the frequent cultivation of the soil. Plant on a southern slope if possible, and shelter the vines from the north and east. If the sub-soil is cold and damp, thorough drainage is absolutely necessary, otherwise mildew will in all probability set in. The best soil is a strong gravel, but the vine will thrive on shale or on any free, open soil with a dry bottom. Before planting, it will pay to thoroughly cultivate and manure the ground liberally with well rotted barnyard manure and wood ashes. Dig a hole large enough to lay out the roots in their natural position and sprinkle some crushed bones around them, and, whatever else is done, be careful not to plant deeper than five or six inches. The subsequent management, so far as the soil is concerned, is to keep it loose and clean and trust in Providence. If the vines are allowed to struggle with weeds and grass on ground that has been found unsuitable for every other crop, as many are expected to do, the results will be anything but gratifying. No sane person would expect a crop of potatoes to flourish under these circumstances. Grapes, then, are as deserving of care in cultivation as any crop, and if this is attended to

and the vines are thrifty, a light mulching of barnyard manure or dressing of wood ashes every third or fourth year will be sufficient to keep the vines healthy and vigorous.

PRUNING AND STYLE OF TRAINING.

Pruning is an art that cannot well be taught by theory. Nearly every vigneron has a way of his own, and which he esteems the best. Experience alone will enable one to judge of the capabilities of the vines, and what amount of treatment they require, but it must always be borne in mind—*the cultivator must have the mastery of them, and hold them in complete subjection.* My method of training is as follows, which I consider the best because of its simplicity and its efficiency, and because it can be executed speedily and without undue exertion or worry:—Cut the vine back, when planting, to two or three eyes; allow two only to grow the first year, tying them to light stakes. Again cut the canes back when the leaves fall, leaving three eyes on each. Erect a trellis the following spring five feet high of cedar posts, four or six inches in diameter, with scantlings $1\frac{1}{2}$ in. x 3 in.; one about one foot from the ground and the other on top of the posts, with four light upright scantlings or small cedars to the panel, placed at equal distances apart, and so as to have the vine in the centre of each panel. Wire trellising is continually going out of repair in this climate, owing to the expansion and contraction of the wire with heat and cold. When the buds shove out half an inch, select four of the strongest and allow them only to grow, rubbing off all the others, Never leave more than one strong bud at each joint; *rub off all the others.* Train two of the lower canes horizontally to the lower bar of the trellis for permanent canes, and the other two, each to one of the centre poles. Cut off any fruit that may appear the second year, and stop all laterals at the first joint, and the second laterals at the first or second joint. Never break off the laterals entirely, as the manner of many is. The second laterals should be allowed to grow on the varieties that suffer most from the thrip, so that a supply of fresh leaves will

take the place of the damaged ones and thus sustain the vine. When the leaves fall, cut back the two upright canes to two eyes each and the horizontal canes at the outside upright poles in the panel. The third year, trim a cane to each of the upright poles; pinch back the fruit branches, leaving one leaf over the second bunch of fruit, treating the laterals and tendrils as before directed. In the fall, again cut back the upright canes to half the height of the trellis, and cut off all other branches, leaving the vine as per diagram.



a, Next year's bearing cane.
b, When bearing.

Regarding cutting, here note the necessity of making clean cuts about a quarter of an inch over a bud, so that the wound will heal easily. Butchering the vine will soon result in the decay of the wood. Remove all loose bark from the old wood: it harbors the flea, beetle, spiders and other insects.

Renew the upright canes annually by training a bud from as low down as possible for bearing in the succeeding year (as per diagram), and cut away the old wood immediately above the horizontal cane in the fall, as shown. This is called the "renewal system," and the object to be attained is to have new wood for fruiting—new wood, in my opinion, always produces larger and more perfect bunches—besides keeping the vine dwarfed and manageable, and bearing equally near the ground, a very desirable feature for this region, where the vines are the better of being laid down in the fall and covered slightly for winter protection with the earth they are growing in.

For many obvious reasons, it is apparent that all the vines in the vineyard, of certain varieties, should be trained on some system, so that the work of pruning can be proceeded with easily, and that each vine receive the same treatment.

The Rogers' hybrids do not appear to stand being dwarfed so well as the other varieties. The vigor of their vegetation, if allowed to run wild, will expend itself in branches and leaves; if dwarfed, the same effect will be produced. Their propensity appears to be to rise before bearing abundantly, and you can only hope to obtain abundant fructification on their horizontal branches. I am, therefore, inclined to believe that the proper system on which to train them, is to allow one or two canes to grow to the height of six or eight feet and then train horizontally, or on the "bower system." The highest bunches will be the best.

If any industry in Canada deserves encouragement, "grape culture" does. Not that it requires to be bolstered with any protective policy, for we can grow as good grapes here as anywhere else; but if the Government would undertake some practicable scheme of encouragement for every two or three hundred vines (trees too, for that matter) planted and established, it would be a move in the right direction, and would do the country more permanent good than the "great N. P." Let us, therefore, have a grape vine "hum." "Let us see if the vine flourish."

GRAPE CULTURE AT OTTAWA.

BY R. LEES.

I commenced planting grape vines in my garden, close to the city of Ottawa, about fifteen years ago. My ground is sandy loam with a clay sub-soil, which in summer retains the moisture, but makes it a little cold in spring. I had no experience, and no one near me who had, and the books and publications on the subject which came in my way were all calculated for more southern localities; anything I know, therefore, is purely the result of experiment.

I have now some two hundred vines, consisting of seventeen or eighteen varieties. I plant my vines in rows twenty feet apart, so that I can cultivate apple and plum trees, small fruits and vegetables between them, and so keep the soil enriched and free from weeds. In the row, I place them ten feet apart, and train them on the trellis in fan shape. The trellises I use are constructed of cedar pickets four or five inches in diameter, one planted mid-way between every two vines in the row, and left about six feet high. On these I nail firmly three tiers of cedar poles, like hop poles, which make a very durable and serviceable trellis, strong enough to support the vines against our heaviest winds.

Few, if any, of our vines are hardy enough to stand the severe cold of our winters unprotected. I therefore prune and lay them down in the fall before the hard frost sets in. Little covering is required—a few potato or tomato tops, or spadeful of earth, or anything that will keep them close to the ground so that the snow will protect them; long manure is perhaps the best, as its leachings enrich the soil, and it can be worked in in the spring. I uncover about the first of May—a little earlier or later, according to the season—and disentangle the vines and spread them on the

ground till I can get them tied up to the trellises, which should be done before the buds begin to burst, as they are then so easily rubbed off in handling.

But what is most important in grape culture is a knowledge of the varieties best suited to our climate. For want of this, many get discouraged and give it up, and those who persevere lose a great deal of time and labor on kinds which ultimately prove quite unsuitable. From the shortness of our summers in this latitude, we are of necessity confined to the earliest ripeners, whatever may be their qualities in other respects. I shall mention a few which I have found from experience do well here.

THE CHAMPION I have found the earliest, ripening about the first of September. It bears well, but is not a fine grape.

MASSASOIT (*Rogers' No. 3*) is my next earliest. Comes in about the second week in September. A good bearer. Bunches a little straggling. Fruit large and finely flavored. My favorite.

DELAWARE does very well here. Is a fine table grape. Ripens from middle to end of September.

WILDER (*Rogers' No. 4*) does well, but is not a heavy bearer.

HARTFORD PROLIFIC.—A good grape. Ripens well here.

The CONCORD, CREVELING, and ADIRONDAC ripen in ordinary seasons, a little later than the Delaware.

The SALEM (*Rogers' No. 22*) is a fine grape. Large bunches and berries. Juicy, and well flavored. Ripens about the same time as the Delaware. But this year, for the first time with me, was considerably affected with mildew.

The CLINTON is our hardiest grape, but is good only for wine, and from its rampant habit of growth is very troublesome. This winter I have left my vines upon the trellises, caring little if they perish or not, as I can easily replace them with better varieties. It seems to be the greatest favorite of thrip; and for this reason it would probably be well to exclude it from the garden.

I have also tried the Isabella and Catawba, and some others, but find them too late for our latitude.

I am still experimenting with some of the newer varieties, but have not had them long enough to speak of their merits.

GRAPE CULTURE IN MONTREAL.

BY RICHARD HOLLAND.

In offering a few observations upon this subject, which I am pleased to see is attracting increased attention, I must inform my readers that I am neither a gardener nor trader, and that anything useful in this article is the result of an amateur's experience. Should it lead to a more general culture of the vine among us, my aim in writing will be accomplished.

In all ages the vine has been regarded as a synonym of joy and abundance. When we consider the beauty of its foliage, the shade it affords, and the luscious, health-giving fruit it yields, we can better understand why it occupied so prominent a place among the blessings promised to Israel in the land of Canaan, and why the enthusiastic Aber Midjan sang :—

“When the angel of Death shall close my eye,
Let my grave be 'midst the vines on the hill ;
For though deep in the earth my bones may lie,
The juice of the grape shall nourish them still.

“Oh, bury me not in unfruitful land,
Or death to me will be terror and gloom ;
Whilst fearless and bold I shall wait his hand,
If cheered by the hope of the vine's perfume.”

On the principle that the best gifts of Nature, such as water, air, light, &c., are the most abundant and easily procured, we feel safe in placing the grape vine among the largest bounties of a beneficent Providence. It is not restricted to any zone. Wherever the palm flourishes or wheat ripens, the grape vine adapts itself. So freely does it grow and so easy of culture is it that any one with a sunny corner in his back yard may raise as many grapes as his family can consume.

No fruit that we know of can be so freely indulged in. The child, the invalid, the infirm and the robust may eat of it without

stint. It is said that in the wine countries of Europe, during the grape harvest, almost every one you meet on the highway carries a cluster to eat as he goes along, and my own observation has convinced me that grapes may be eaten without restraint, and with beneficial effect.

The failure of vine culture in Montreal is due, not to the soil or climate, as many suppose, but to prevalent mistakes. In the choice of varieties, our people have been guided mainly by interested parties, and have failed in most instances to secure any of the few that are adapted to our short season. Let me say here that any variety that is not fully ripe before the 10th September is unsuitable, no matter how valuable it may be elsewhere.

About twenty years ago the writer obtained from a nursery in Central New York about a dozen of what were then considered the best varieties. The qualities of each were set forth in glowing terms by writers on fruit culture and by nursery agents, but after patient care bestowed equally upon all, I found but two (the Delaware and the Concord) that could be relied on for a crop. The Delaware is so well known and deservedly prized that any remarks of mine regarding it would be superfluous. The only objection I have to it is that, in dry seasons, it is liable to suffer from the thrip. The Concord, which I regard as an early variety of the Isabella, I have found, above all others that I have tried, to be the vine best adapted to the climate of Montreal. It is hardy, a vigorous grower, ripens early and gives a larger yield of fruit than any variety I am acquainted with. I have never known it to fail in any of these qualities.

A very common cause of failure results from an impression that the proper place to plant a vine is against a wall or a high fence. No greater mistake can be made. The grape vine is a free grower, and must have abundance of air, as well as sunshine. For this reason crowding must also be avoided. There should be a space of at least twelve feet between each vine, and not more than two stems allowed from each root. Thus I would trim off all shoots and branches up to about four feet, and train high. I have always found the finest clusters at the top of an eight-foot trellis.

In this way you secure a ventilation which no vine pest can stand, and secure an abundance of air food, of which your vine is robbed when otherwise trained.

Many people kill their vines with kindness. It is no uncommon thing to cover them in winter with either straw or coarse manure, subjecting them to the attack of vermin, to heating and decay; or, if they survive these, to a tenderness which unfits them for exposure during the early spring, and thus shortens the season for growth. I have found the following plan to answer every purpose:—After pruning (which must always be in autumn) to bend the vine carefully, so as to bring the fruit branches on the ground, and to scatter enough garden refuse over it to keep off the rays of the sun. This, with the white mantle of winter, will be found an adequate protection against the coldest seasons.

A free use of the pruning knife is an indispensable condition of success. When it is understood that the new wood only develops fruit buds, and that each eye left will give three clusters, common sense will dictate how to proportion the fruit branches to the strength of the vine. My custom has been to thin out all the weak branches, and to cut back the vigorous ones to three or four eyes, and the result has been satisfactory. A well developed Concord vine will, under this mode of treatment, give from sixty to eighty pounds of choice fruit every year.

NOTES ON OUT DOOR GRAPES.

CHARLES GIBB.

There is a general scepticism in regard to the ripening of the out-door grape in this Province. Facts alone can remove this. I therefore append notes from growers on different soils, and in different parts of the Province, so that whoever will carefully wade through all this tedious amount of data, must admit that in this

Province there is a large area upon which grapes of high quality can be grown with ease and certainty of ripening.

MR. JAMES MORGAN, JR., HOCHELAGA, grows his grapes upon a heavy blue clay soil, deeply trenched and enriched to a depth of three feet. The vineyard is pretty well sheltered, and lies open to the south. It is within six acres of the river, and is about twenty-five feet above low water level. The vines are planted from eight to twelve feet apart, and are on trellises six feet in height. The trellises are twelve feet apart. If again planting, Mr. Morgan would give even more trellis room to each vine; to slow growing varieties like the Delaware fifteen feet, and to free growers eighteen feet; believing that with increased room he would have increased productiveness.

On May 15th there was a severe frost which cut off all the early growth, and with it the bearing spurs. In spite of this, the vines soon put forth other fruit bearing canes, bore well, and ripened thoroughly. The following are named in order of ripening:

CHAMPION has fruited but two years, and shows signs of being a good bearer. It is poor in quality, but useful on account of its earliness.

HARTFORD PROLIFIC has fruited for the last ten years, and has failed to ripen but once. This was about seven years ago, when a severe frost about September 12th or 14th destroyed so many flowers intended for the Horticultural Exhibition. This was followed by other frosts soon after, so that all the grapes would have been destroyed, but for the shelter of some canvas which was stretched along the trellises. Of Hartford Mr. Morgan has sixteen vines, which have averaged fifty lbs. per vine for the last five years. This Mr. Morgan considers a low estimate, as eighty lbs. have frequently been taken from his vines. This grape drops a good deal from the bunch, and it drops very badly should there be a slight frost.

ADIRONDAC has fruited for the last seven years, and has failed

to ripen only once, the year above mentioned. It is a delicious grape, but only a medium bearer, having averaged not more than thirty lbs. per vine for the last five years. With Mr. Morgan, it has shown a fault not elsewhere mentioned, viz.: that some of the berries on certain bunches remain green and never ripen.

DELAWARE.—This delicious grape has fruited for the last ten years, and has failed to ripen but the once. Sixteen vines of it have yielded on an average fully fifty lbs. per vine, for the last six years, it and Hartford being the heaviest bearers. Its only trouble has been a bursting of the berry, which last year destroyed nearly half the crop, and which has more or less injured the crop in former years.

SWEETWATER has been a good bearer, and has not failed to ripen for the last seven years, except the year above mentioned. Thrip has been troublesome and, last year, during Mr. Morgan's absence, destroyed the fruit. It has averaged thirty lbs. per vine for the last six years, the past season excepted.

AGAWAM and WILDER are very handsome and delicious table grapes. They are both heavy and constant bearers, and have averaged about forty lbs. per vine. But in spite of all precaution they have mildewed each year, so as to injure the crop in whole or in part.

CREVELING has borne heavily for the last five years. It should not be allowed to bear more than forty lbs. per vine, or it will become very loose and straggling in bunch. It is a heavy bearer, and will readily bear eighty lbs. if allowed; but when bearing thus heavily, the bunch is often so loose and straggling as to be quite unsalable, in spite of its rich aromatic flavor.

REBECCA is a favorite table grape, but it is a very light bearer. It does not bear more than ten lbs. per vine.

CLINTON has been rooted out. It had averaged eighty lbs. per vine, and had never failed to ripen; but it is worthless except as a wine or jelly grape.

CHASSELAS.—Of this magnificent hot house grape, Mr. Morgan has two vines received from Ellwanger and Barry, of Rochester, as the Chasselas de Fontainbleau.

The bunch is nearly double the size of Concord; long, compact and heavily shouldered upon one side. The berry is medium to large, being somewhat variable on the same bunch. In color it is green, until within ten days of ripening, when it assumes a purplish hue. The skin is thin and transparent. The flesh is juicy, sweet and luscious, much more so than Sweetwater, yet without any muscat flavor. Thrip has done much injury to this variety. It and Sweetwater are the only kinds that have suffered. These two Chasselas vines are in a shaded place, and thus have not had a fair chance; yet they have yielded about thirty large bunches, or twenty-five lbs. per vine, and, if in a good position, they would in all probability ripen well and prove valuable.

CONCORD has fruited heavily for the last six years. It has averaged forty lbs. per vine, and has often borne sixty lbs. It colors early, but ripens late, and only ripened perfectly in 1878 and 1879.

MR. ROBERT WOOD, SHERBROOKE ST., MONTREAL, has a light, sandy soil, enriched; but much less enriched, and less sheltered than in Bleury street, where he formerly resided.

ADIRONDAC has fruited and ripened well, but is not so great a favorite with Mr. Wood, as it is eclipsed by the following:

CHASSELAS DE FONTAINBLEAU?—This is larger in bunch than Sweetwater, and, in berry, much larger and deeper, and more yellow in color. The skin, too, is thinner and, in Mr. Wood's opinion, the most delicious grape grown. In his old garden in Bleury street, Mr. Wood fruited this grape for fifteen years in succession without one single year of failure, and has produced as much as ten bushels of this delicious grape in a single season. The vines never needed to be covered with sheets to keep off frost, but they have shown a constant tendency to mildew. This has

always been overcome by dusting with dry sulphur. This is done for the first time when first the bunch begins to form, and is repeated twice afterward during the season. In Sherbrooke street the Chasselas has ripened each year for the last three or four years, but they have not fruited well, as the old vines from the Bleury street garden did not transplant well.

BLACK CLUSTER OF BURGUNDY is a small bunch with berries thickly set like the grains on a corn cob. The vine is hardy and healthy and bears well, but, in flavor, it cannot compare with the above.

UNKNOWN.—A grape of Black Hamburg type and so like it that Mr. Wood often thinks it must be that variety. It has fruited well for the last twenty years, and has ripened well at least two years out of every three, but has shown the same tendency to mildew, which has been so easily overcome in the case of that delicious grape, the Chasselas.

MR. H. S. LOMAS, POINT ST. CHARLES.—Soil, a spongy, peaty loam, deeply trenched and filled in with bones, oyster shells and stable manure; sub-soil, porous; position, sheltered, but vines shaded from the sun as early as 2 p.m.; situation, not elevated, though within half a mile of the river.

HARTFORD PROLIFIC has a good crop which ripened thoroughly. It tended to drop somewhat from the bunch; but, for an early grape, was a success.

CONCORD.—Set a medium crop which did not ripen well. It is, however, in so unfavorable a place that it has had no fair chance.

SALEM (Rogers' No. 22) is a vigorous grower and bore a good crop. The berry is large and amber colored. It has a fine rich flavor and is not pulpy, and, though late, ripens well.

CROTON is Mr. Lomas's favorite. It is a vigorous grower and bears, in fact, too well, for it overbears, and needs much trimming

and pruning. The branch is long and heavily shouldered; the berry small, and, in color, a pale green. It has showed some little tendency to mildew, which he had checked with sulphur; and thrip, too, troubles it more than others. Of this delicious grape Mr. Lomas has six vines, which a year or two ago produced about seventy-five bunches per vine, but last year less, as he believes, from previous overloading.

MR. G. H. RYLAND, IN DORCHESTER ST. EAST, has a situation well sheltered, but not elevated. His soil contains a large amount of vegetable mould, and has been well enriched. There was a slight frost in the latter part of May which did but little damage, but no frost was felt in June nor in the early part of September.

CHAMPION (also known as Beaconsfield) has been pulled up, as it lacked quality.

ADIRONDAC.—Of this Mr. Ryland has six vines, which grow well, ripen well and bear well, considering that they are young.

HARTFORD PROLIFIC bears well and early, but it is not equal in quality to some others.

CREVELING has also borne a good crop of its straggling bunches. It has ripened well, and the quality was really good.

DELAWARE.—Set a medium crop, which ripened thoroughly. Its thin skin and delicious flavor, however, attracted the sparrows, which last year destroyed the crop.

AGAWAM (*Rogers' No. 15*).—Of this fine grape, Mr. Ryland has at least twenty-five vines, which shows his appreciation of it. It is large both in bunch and berry, and the berry is somewhat of a mahogany color. It ripened the latter part of September, and, though later than some others, it has not failed to ripen once for the last eleven years. It is also a pretty good keeper. Packed in boxes in dry cork dust and placed in a very cool place it has been kept till January 15.

MRS. FERGUSON, ST. CATHERINE ST., MONTREAL, has a garden that is pretty well sheltered. It is elevated, but distantly so. The soil is a hard and tough, though not to say a very plastic clay, which has been partially replaced by a light rich surface soil. The following are in their order of ripening:—

ADIRONDAC has borne good crops, which have ripened thoroughly each year for the last 10 years. In quality, it is decidedly first rate, and it is a pretty good keeper. It has usually been kept till January, and sometimes until March.

HARTFORD PROLIFIC has dropped a good deal from the bunch. It is pulpy and not equal in quality to many others, and, on the whole, has not been a success.

DELAWARE is of feeble growth, and has borne lightly or fairly, and has ripened pretty well each year for the last 10 years.

SWEETWATER has yielded well. It is large in bunch, and in berry large and well flavored, and it has given good satisfaction. Thrip was not troublesome the past season, though it did much damage the year before, and was more or less troublesome in other previous years, sometimes destroying the fruit.

IMPROVED SWEETWATER (*so-called*) is fully as large in bunch and berry as the above, but is more bronzed in color, and has a delicate muscat flavor. Thrip did not hurt it much, and it has borne well and ripened well.

CREVELING bears well. It has a loose, straggling bunch, but it is pulpless, and has a strong, rich aromatic flavor, which makes it a favorite.

REBECCA yielded a light crop of fine fruit, which ripened thoroughly the past and former years.

ALLEN'S HYBRID is a light bearer, and a vine of delicate constitution. The bunch is long, but not well filled out. The berry is small, but thin-skinned, sweet and luscious. It has never

mildewed, and has ripened its tiny crop thoroughly each year. In quality it can hardly be excelled by any other out-door grape.

CHASSELAS (?).—This is a grape, large and irregular in size and form of berry, and large and straggling in bunch, which has yielded good crops. In color, it is an opaque, white-veined like Malaga. It ripens later than Sweetwater, but would in all probability have thoroughly matured its fruit every year, except for the shaded place in which it grows.

The past season our September sun lacked ripening power, yet Adirondac, Sweetwater, Improved Sweetwater, Creveling and Allen's Hybrid were fully up to their par flavor, even though grown upon a clayey soil.

MR. HARVEY PARKER, OF AYLMER, upon a gravelly loam, slightly elevated and sloping slightly to the south, and within half a mile of the Lake, has been very successful with the CHASSELAS. This Chasselas does not appear to be that imported by the College de Montreal as the Chasselas de Fontainebleau, nor that grown by Mr. Robert Wood, and is widely different from that grown by Mr. Morgan, or that grown by Mrs. Ferguson. It was imported from Belgium or France by the late Denis Benjamin Papineau, some think, as early as 1840, and first grown at Papineauville on the Ottawa. The vine is moderately vigorous at first, and more so as it gets older. It is not much more subject to thrip than other varieties, and has shown a tendency to mildew only upon some vines 15 years planted. The bunch is long and large, and rather compact. In berry, it is as large as Isabella, round, and in color a greenish-white. It is thin-skinned, sweet and delicious.

Mr. Parker, who has about 20 vines of it, has had 15 crops without a single failure! And, as his supply far exceeds home demand, he is now growing it for the Ottawa market, where its color and quality make it salable at fair prices.

The following I will name in what I suppose to be the order of ripening:—

CHAMPION has been fruited for 5 seasons. It is the earliest to

ripen, and in this lies its point of merit. The skin is thick and the flavor inferior, and, though early, cannot readily be sold upon the Ottawa market.

HARTFORD PROLIFIC does not answer as a market grape, as it drops badly from the bunch, and sells at too small a price to pay.

MASSASOIT bears better than Agawam, ripens a little earlier, and is not quite equal in flavor. It might prove profitable.

DELAWARE is a great favorite. It has borne as heavily as any other for the last 8 or 9 years, and has ripened thoroughly every year, usually about Sept. 5, but last year it did not ripen until Sept. 20th.

AGAWAM (*Rogers' No. 15*) is rather long and loose in bunch, and very large in berry, larger than Concord. It bears fairly, and has fruited and ripened thoroughly for 4 or 5 years. Its large size, its handsome reddish color, its luscious muscat flavor, have made it most desirable for home use, and very profitable for market.

CONCORD, as usual, proved a good heavy bearer, and has ripened well for the last 8 or 9 years.

ISABELLA ripened well last year and the year previous. Young vines with care might be made to ripen regularly, but it would be safe to say that it ripens two years out of every three.

MR. LOUIS M. COUTLEE, SHERIFF, AYLMER, is upon a gravelly soil, but partially sheltered, but no doubt favorably influenced by the river.

CHAMPION ripens from 24th to 28th August. It is a medium cropper, and sells fairly.

DELAWARE has ripened a medium crop each year for the last 15 years.

REBECCA is rather a shy bearer, but sweet and nice, and ripens just after Delaware.

WILDER (*Rogers' No. 4*).—A handsome, large, dark grape, has ripened well soon after Delaware.

MEUNIER.—Under this name is grown what most probably is the

BLACK CLUSTER OF BURGUNDY, though Meunier is a synonym of Miller's Burgundy.—It was imported by the late D. B. Papineau, but it was probably imported by others as well, as it has long been grown in different parts of the Province. The bunch is small and so compact that the berries are out of shape from compression. It has proved a good bearer; has not been affected by thrip or mildew, and has ripened thoroughly for the last twelve or fourteen years.

CHASSELAS (the same as that grown by Mr. Parker) succeeded well for the first few years. The large size of bunch and berry, its rich, sweet flavor, with a suspicion of muscat, and its early ripening (about 10th September) made it a favorite, but it began to mildew and had to be thrown aside.

SWEETWATER is smaller than the above both in bunch and berry. It has not been affected with mildew, and has borne good fair crops, which have ripened each year for the last nine or ten years.

CONCORD.—Always sets a good crop, which has ripened more or less each year: that is, some years it has not ripened thoroughly.

ISABELLA has ripened scarcely two years out of every three.

CLINTON bears well, and ripens just after Concord. It seems to be a good wine grape.

MR. ALFRED DRISCOL, AYLMER, is upon a shaly soil, well sheltered from the north and open to the south, and subject to that lake influence which makes Aylmer so favorable for the culture of the grape.

CHAMPION has borne a medium crop for the last four years, which ripened about August 27.

HARTFORD PROLIFIC bears well, but drops badly.

DELAWARE has borne heavily of its delicious fruit for the last five or six years.

CHASSELAS is, in bunch, larger than Concord; in berry, not so large. It has borne good crops for the last seven or eight years without any mildew, but if the vine were not cut back, as in Mr. Driscol's mode of training, he believes it would become mildewed.

REBECCA is a good grower when it gets started, bears medium crops, in flavor equal to Chasselas.

MEUNIER (so-called) OF **BLACK CLUSTER** has been a bearer of medium crops, which have ripened thoroughly.

CONCORD bears heavily and ripens thoroughly.

OPORTO.—Erroneously under this name is grown a grape which is the largest in berry of any that has been grown here. The bunch is loose and straggling. It is a dark blue in color and very good in flavor, and has borne lightly for the last six years and ripened at the same time as Concord.

CLINTON is very subject to thrip, yet is a good juicy grape for wine or jelly.

IONA (?) is much in color like Delaware, though slightly larger both in bunch and berry. It has ripened each year for the last six years about ten days after Delaware, or just before the Concord.

ISABELLA has ripened each year for the last ten years!!!

Mr. Driscol trains his vines according to the renewal system, but upon a very simple plan. The stump of the vine is allowed to

grow about five inches above the surface of the ground; then, from the top of this stump, two canes are allowed to grow each year; that is, the two canes which grow one year are tied to a stake and fruit the second.

MR. J. J. GIBB, owner, on the estate, grows the grape upon a dry, gritty, sandstone gravel. Trenches were made at time of planting, and bones and slaughter-house refuse used. The position is but slightly sheltered: sheltered only by such trees and shades as may be scattered here and there about the garden.

JANESVILLE is a native of Wisconsin. The bunch is small, the berry full medium, blue in color, and of fair quality, but is not hardy enough to stand our winters uncovered in exposed situations as was expected. Its earliness is its only merit.

ADIRONDAC has fruited and ripened thoroughly for five or six years. It is of first quality, early, productive and thoroughly satisfactory, perhaps the most so of those tried by Mr. Gibb.

DELAWARE is also a success. It bears its delicious little grapes in good quantity, and has ripened well every year for about eight years.

CREVIERING is really good in flavor. It bears well, and has

has borne good crops of deliciously flavored grapes, and is, in spite of the preventable failure of last year, thought very highly of by the grower.

AGAWAM (*Rogers' No. 15*) is large in berry, and large and loose in bunch. The looseness of bunch seems to have been caused by previous overloading. In color, it is a dark amber. It is sweet and of a fine muscat flavor, and with very little pulp. It yielded well, but the bunches were small compared with previous years. Though late, it has ripened each year.

LINDLEY (*Rogers' No. 9*) has not ripened well on account of the shaded place in which it grows.

CONCORD always bears a good crop of good large bunches

which ripened well last year, and which, on an average, have ripened two years out of every three.

MR. ROBERT JACK, CHATEAUGUAY BASIN, grows his grapes upon a gravelly loam, enriched with stable manure and swamp muck. His position is somewhat sheltered from the west, and, though not elevated, is not subject to unseasonable frosts. He has not been troubled by thrip nor mildew.

CONCORD is the first for yield, not only for the past year, but in previous years. It has been a heavy and regular bearer, so much so that Mr. Jack thinks it might be grown for market purposes. Quality, good.

EUMELAN when young was a shy bearer, but for the last three years has borne heavy crops, and the fruit is "best." Mr. Jack intends to plant more of them.

Under the wrong name of Hartford Prolific, Mr. Jack received from Ontario a vine which, last September, on the day of our Abbotsford Exhibition, he found to be the same as that received by me from another Ontario nursery under the same name. It is a pity such mistakes should occur, as it is a grape we do not intend to recommend.

Mr. Jack has also planted the Champion and Beaconsfield to see wherein they differ. He has also quite a large number of the newer varieties, including several of Arnold's Hybrids, but he feels that it is too soon to weigh their respective merits.

MR. JOHN STUART, ROCKBURN, COUNTY OF HUNTINGDON, has grown his vines, most of them, in an exposed and elevated situation, upon dry, deep, coarse, gravelly soil, enriched with manure from the piggery and hennery, and afterward watered with soap suds. Thrip has been very troublesome on vines where sheltered, but where exposed not so. Mr. Stuart reports that the Adirondac, Allen's Hybrid, Delaware, Creveling, Agawam and Croton are all doing well and, in bearing, growth and quality, are giving good

satisfaction. Looking at the "profit" side of the question, Mr. Stuart would place Delaware first, and next to it Adirondac or Allen's Hybrid. The two former have borne about the same amount of fruit for the last 8 or 10 years. The Adirondac above mentioned is root-grafted. Mr. Stuart believes that the surface roots of this vine become winter-killed, which weakens the growth of the vine during the early part of the season. He has, therefore, grafted it upon a vine that will live without winter covering. This grafting of the grape is not easily done, yet it needs but a careful hand and a little knowledge and experience. I have heard of commercial vineyards in the United States which have been thus replaced by more profitable varieties. But the grafting of the grape has another use. Some kinds, like the Concord and the Isabella, are very vigorous root-producers. This (says an American journal) was observed by an intelligent French grape grower, who was sent to the States to see their vineyards. The result was, that thousands of cuttings of these kinds were ordered from France, so that they are now growing the finer grapes of France upon the hardy and more vigorous root-growers, which are natives of this continent.

OF COMMERCIAL VINEYARDS,

the largest is that owned by Messrs. GALLAGHER & Co. (late Menzies & Gallagher), at Beaconsfield, near Pointe Claire, Island of Montreal. Mr. Gallagher informs me that they now have seventeen acres in vineyard. The vines have usually been planted about 5 feet by 10 feet, or at the rate of 870 vines per acre; the total number planted in vineyard to date being 12,100 vines. A number of new varieties are being tested in a limited way, otherwise, the whole vineyard is of but one kind, viz: that which the proprietors have themselves named the Beaconsfield. The vines are planted in part by the river side, in part nearly a quarter of a mile distant; partly on light sandy soil, and partly on clay. They are pretty well exposed to prevailing winds, but the Lake influence will tend to avert untimely frost.

Mr. Gallagher is of the opinion that this vine is a good wine grape, and he has been planting it with a view to wine making, as well as to sale of the fruit.

Near Longueuil is another large vineyard. Messrs. LUIGI CALVI, GIOVANNI CERINI and H. RENAUD commenced work in the spring of 1877, and up to this time have planted out about twelve acres, or a total of 6,600. This is at the rate of 550 vines per acre, showing that they are planted less closely than in the vineyard at Beaconsfield. These vines were received from Piedmont, in Italy. They have also on hand, ready for planting in the spring of 1880, 6,000 cuttings received from Italy and 5,000 from France. The varieties planted are four in number, viz.: Baberu, Grignolino, Brucetta and Moscato.

MONS. HANNON, AT MOUNT ST. HILAIRE, has set out a commercial vineyard, which must become a matter of singular interest to our lovers of really good grapes. In the spring of 1878, he planted out a large number of vines, but what is so strange is the kinds he should have chosen. These are seventeen in number, and are as follows: Griggly Frontignan, Black Hamburg, Victoria, Bowood Muscat, Buckland's Sweetwater, Joslin's St. Albans, White Sweetwater, Wilmot's Hamburg, White Frontignan, Lady Downs, Muscat Muscadine, Muscat Hamburg, Decon's Superb, Muscat of Alexandria, Golden Hamburg and Muscat Royal.

Mr. Hannon's method of training is peculiar, but is the result of study and experience. He was for some years in charge of the vineries of Sir Hugh Allan, at Ravenscraig, high up above the city of Montreal, where he grew many of the above-named kinds, under glass and some in open air.

The position of this vineyard is a most favorable one: it is well sheltered by woods from the north-east and west winds, and is open only to the south or south-east, toward which it slopes. It is about 500 feet above the plain which surrounds St. Hilaire mountain; but the grapes chosen are not merely the earliest of our cold vinery grapes; some of them are medium, some late in season, while some are said to do well only in the hot vinery.

Yet, if any situation will bring them to maturity in this climate, it may be done here.

Mr. Hannon explains his method of culture in the following letter, which has been kindly translated and forwarded to me by Capt. Campbell :—

“These vines are also planted in rows, three (3) feet apart (*i. e.*, the rows three feet from each other, and the vines three feet from each other also). This allows the plough to be readily passed between the rows in autumn ; the autumn being chosen for this work for two reasons, first, stirring up the earth, and, secondly, covering the vines for the winter, an indispensable precaution, which ought never to be omitted if the vines are to be preserved, and, besides, this manner of protection is so easy that it should not be neglected. After cutting the vines to about two (2) feet (to protect them from being trampled upon by the horse in ploughing), I pass the plough once on each side of the rows, which throws up the earth, thus covering the vine and shielding it from the winter frosts ; in this manner they are also protected from the late spring frosts, provided they are not uncovered too soon. Last winter none of mine suffered in the least. These vines I intend propping up with pole-sticks between three and four feet high, as is generally done in the middle and north of France. This method is in very general use, principally in cold countries, for this reason : The vine stock must be kept as near the ground as possible, for the higher it is the slower will it be in coming to maturity ; this is done by plucking up all the suckers growing from the root when the stump is vigorous and not too high, otherwise these must be preserved by dressing them as a new plant or growth, and the following year sacrifice the old stump.

“*First Prunings.*—The great fault of those starting such plantations, is the wishing to ‘run before they can crawl,’ or, in other words, going too fast. In the face of rapid productions like those of the vine, and of the long vine branches which shoot out, one is tempted to set the kinds one has chosen at once, and if only in the second year we may see grapes on the vine stock, we

decide not to cut down a plant which already presents such a good show. This is, I repeat, a great fault in the formation of the vine as well as of all fruit trees. Before all, hardy subjects must be set, and, as the sap always prefers the highest parts of plants, therefore the lowest portions must be strongly set in order to prevent their languishing at a later period."

THE COLLEGE DE MONTREAL, also known as the Priest's Farm, have taken the lead as experimentalists in this grape question. Signor Luigi Garcello, the head gardener, tells me that in the spring of 1877 he planted 70 different varieties which he had received from Italy. Several American varieties were also planted at the same time. Of these, Delaware and Salem fruited well for their age, and ripened thoroughly.

CHASSELAS DE FONTAINEBLEAU fruited nicely for the last two years, became a golden yellow in color, and ripened thoroughly. Of other kinds it is, as Mr. Garcello says, as yet too soon to speak.

THE SEMINARY OF ST. Sulpice long ago imported several varieties from France. Their garden is enclosed on all sides by very high buildings, and is the most sheltered garden in the city. The soil is warm and sandy, and the situation not elevated.

CHASSELAS.--Of this type, several have been grown; one, large in berry, oblong in form and yellowish in color, is their favorite grape, and of it they have 150 vines. Some of the vines, too, are very old, showing that it is not only a great favorite, but a very old favorite, one that has become such after long and intimate acquaintance. M. Luigi Archetto, the present head gardener, has been at the Seminary but two years, during which time it has borne well and ripened thoroughly, but from his predecessors he hears the same report of good bearing and thorough ripening for many years before.

A grape of BLACK CLUSTER type is also doing well. There are about 25 or 30 vines of it, but they do not bear as heavily as the Chasselas, nor are they equal in quality.

Another blue from France is too late to ripen properly. Another white, medium in berry, and long and straggling in bunch, is also late and only ripens thoroughly in specially good seasons.

There has been no mildew upon these vines, neither has thrip been troublesome, though some wild vines in one part of the garden suffered much from this little pest.

To sum up, then, on every variety of soil, from sand or black muck, to plastic blue clay, on upland, and also upon low land, when near large bodies of water, we find a long average of general success. Uniform general success, except upon those low lying lands, which are specially subject to late spring and early fall frosts. What then can be done in such places? They must grow early kinds, such as will ripen before the average September frosts; also, the vines may be uncovered a little later in spring. They may, too, escape a slight frost in spring by covering with sheets, or by watering before sunrise; and should a spring frost cut off all the growing shoots, these may be replaced by new fruit-bearing canes, which *may* ripen thoroughly and bear fifty lbs. per vine as with Mr. Morgan the past year.

To a rationalistic mind, meditating upon thrip and mildew, and weighing the probabilities of untimely frosts, grape crops seem evidences to sanguine growers likely to be seldom realized; yet facts show that there is something "nine-lived" about them after all.

The number of European varieties successfully grown must be a matter of general surprise. As to the Chasselas de Fontainebleau, there are evidently several kinds grown under this name. That imported from Italy by the College de Montreal seems unlike those grown by the Seminary of St. Sulpice, and quite unlike that above described. These are different from Mr. Morgan's vines which were bought of Ellwanger & Barry, of Rochester. That grown at Aylmer is not the same as is grown at the college or the seminary, and it differs from Mr. Morgan's.

These are all grapes of very high character. They need, however, careful culture, and *most* favorable localities, and should be planted indeed sparingly, if at all, in low damp places subject to mildew.

We have found in all about thirty varieties which have been pretty well tested. Of these, at least twenty, if not twenty-five, are valuable; some for general cultivation, some for particular localities only. These kinds vary greatly in hardiness, in season and in quality, and are suited to wide extremes of care or carelessness of culture.

We have the soil, and it seems we have the summer heat, and if the multitude lack good grapes in abundance, it is merely because we lack the willing hands to plant and tend them.

FLOWER CULTURE.

BY MRS. SYMMES, AYLMER.

Flower culture embraces so much that I thought it best to confine myself to some branches of the subject.

THE VERBENA is the most difficult house-plant I have ever grown, because it is essentially an out-of-door plant. It is difficult under the best conditions—impossible with any other. Verbenas must be placed close to the glass, monopolizing, in a small green-house, all the best places. In the houses of the *habitant* they often make the best growth, as they are kept upon the window, where the fresh air filters through the sash and they have the whole light of the winter-day. It is quite useless to put anything but a basket plant or a bulb in a north window. This question of light is one of the troubles of growing Verbenas; they are never dormant; the loss of all their leaves is certain death to them. The full sunshine of summer days brings them to perfection; winter days are so much shorter, they are so much of the time in absolute darkness, the only wonder is that any survive. Verbenas prefer a dry atmosphere; in summer, when well started, they bloom persistently through some weeks of drought. Owing to the dampness of the climate, they are not successful as

bedding-plants in England; they mildew, and present a very different appearance from the gorgeous masses of bloom we are so proud of here. I am generally able to keep from twenty to thirty plants through the winter, but I start in the fall an unlimited number, and spend some rather solemn hours in removing the empty pots from the shelves, one, two, three, sometimes a dozen at each watering. This dreary work is nearly finished at New Year's, and unless plants are actually dying before the days begin to lengthen, the sun brings them forward at once. Someone may ask why I take this trouble, when Verbenas are raised readily from seed. Seedling Verbenas come in dull colors; sometimes there are thirty pale purples or magentas in one lot. In a collection of one hundred seedlings I have sometimes propagated only three for winter.

I am constantly searching for information about Verbenas and one or two kindred plants (*Fantana*, *Petunia*, etc.), but will give as briefly as possible the little information I have collected from books and through experience in their management.

Peter Henderson states that his Verbenas are smoked every week to destroy the green fly. No one who has grown Verbenas will fail to understand what the green fly is. Polite language will hardly describe him. I find this smoking absolutely necessary, and once a week is not too often for any plant—Rose, Carnation, Bridal Rose or Lily. Our method of smoking is this: Four old tin or iron pans are placed on the green-house floor upon pot-saucers, to prevent fire; these are filled with good live coals, and the tobacco (about one pound of refuse or the strongest and cheapest), cut and dried a little in an oven, is thrown upon the coals. Every ventilator and door is carefully closed, and we leave the "smudge" until the smoke escapes through the roof. This happens so soon, that it is useless to smoke in windy weather. After smoking, syringe everything; the water seems to wash whatever life remains out of the insects. House-plants may be smoked in like manner in a closet, cupboard or very large puncheon; but smoking in a tub, as sometimes recommended in books, has always resulted with me in the burning of the foliage.

Many plants get almost smoke enough from cigars and pipes. I would do twice as much work cheerfully to kill the red spider, but a hand-to-hand fight the whole year round will not destroy him. Perhaps everyone has not observed red spiders: they are no larger than a small grain of sand; the small ones are like fine dust; they live on the under side of the leaves and on the stems, and may, if watched, be seen to run briskly about; the young ones are whitish, but usually they are of a dull red color when grown: they are innumerable. Syringing the back of the leaves and stems and preserving a damp atmosphere at all times keeps down the red spider; but so much damp is in itself bad for Verbenas. I have sometimes taken my pots of Verbenas (house-plants) every day and dipped the foliage in a pail or tub of water; this wets the back of the leaves where red spiders live without drenching the soil. A damp house makes Verbenas mildew—mildew is readily removed by dusting the foliage with flowers of sulphur; an old flour dredge, salt box or a muslin rag are as good for this purpose as an elegant bellows costing a dollar or more.

Angle-worms are injurious to plants, Verbenas and Roses in particular; these are easily destroyed by lime-water; but this is strong, and inexperienced persons must use it carefully; the proportion mentioned by Henderson is, I think, one peck of lime (unslacked) to forty gallons of water. I take a quart of lime in a half barrel of water, leave it several days and use one-third of this to two-thirds clear water; this destroys many thread-like worms, but I think it agrees with ear-wigs. I gave the ear-wigs trouble one year by syringing every part of the empty green-house in the fall with boiling water containing an ounce of carbolic acid to every gallon. This thinned out all the vermin a great deal. The hot water makes it necessary to handle the syringe with towels. I have tried most of the advertised washes for plants and they are good, but they are no better for each purpose than any one article I have mentioned. None that I have used or seen used in larger houses will exterminate red spiders.

Mealy-bug or Scale.—These must be removed by washing, picking, or brushing with an old tooth or nail brush where the

foliage is stiff enough to bear handling, as in the case of Ivies, Oleanders and Lilies. These things sometimes give one a kind of despair; I have seen a beautiful Ivy, ten years old and thirty feet long, thrown away because it was hopelessly possessed by scale and would spoil all the plants in the same house with it if retained. Washing plants with a solution of carbonate of ammonia (about two teaspoonfuls to a pail of water) is good. Carbolic soap is useful but strong, and must be used weak. I *never* water a plant with soap-suds from washing, as I killed a good many weaklings in that way when I was young and ignorant. I water Verbenas, when growing, with carbonate of ammonia (one teaspoonful to a pail of water) about once in two weeks; it is good to use it often and weak, thus keeping up a constant feeding. When Verbenas are declining, they may sometimes recover if left close to the glass in a south window and kept rather dry; generally, however, nursing a sick Verbena is throwing away time, as the chivalric Southerner said of his children, "If they dies, they dies, and I always calculate to have some to spare."

Verbenas are as likely to do well in the window as in a greenhouse; but those ladies who place their Verbenas, Heliotropes and other soft-wooded plants behind a curtain in the "dim religious light" of a conventionally darkened room, can have little idea of the natural conditions of plant life, or, indeed, of human life. The disposition must be hopeful which would expect health and bloom without light. People who cannot endure the sunlight, and raise their curtains at least two-thirds the height of the windows, should give up window gardening. I have seen quite a number of plants behind a green shutter, white blind and a muslin curtain; they were not pretty plants, and their owner complained sadly that they did not blossom. The Oleander, Calla, Fuchsia, common Geraniums and bulbous plants will exist in semi-darkness, probably because they are scantily watered and have stored up some vitality out of doors in summer; but mere existence is hardly an object to those who take the trouble to start and pot plants for the house. Verbenas grow best of all hanging up either in some of the numerous hanging devices, or suspended by

wires in pots (strings decay). Anything hanging up loses its moisture more rapidly and must be carefully watched and watered.

One invariable rule I wish to give: Plants growing *well* and evidently requiring nourishment should be well watered; those dormant, sickly and making no demand upon their roots should be left comparatively dry. We all know that the sick stomach will not assimilate food, and it must be equally plain that a root which is appropriating very little moisture needs no soaking. If it seems desirable, I can take up another plant or series of plants hereafter.

ON THE CODLING MOTH—*CARFOCAPSA POMON-
ELLA* (Linn.)

(LEPIDOPTERA—TORTRICIDÆ.)

BY G. J. BOWLES.

This insect is widely distributed over North America, and in our Province of Quebec is undoubtedly the worst enemy the apple grower has to contend with. And yet I doubt if one out of ten of our fruit growers has ever seen the perfect insect; its habits not being generally known, and its small size rendering it so inconspicuous. The ravages which it occasions, however, prove that it must exist in large numbers, and a few descriptive notes will perhaps enable those interested to identify the moth and guard to some extent against the losses which it causes.

The moth, which was brought to America from the old world about the beginning of the present century, is a very beautiful little insect. It measures about three-quarters of an inch across its extended wings, and its body is not quite half an inch long. The fore wings are crossed by wavy streaks alternately ashy grey and brown, and have on the inner hind angles a large tawny

brown spot, streaked with bright bronze or gold color. In the West, the insect has two broods in the year, but in this Province it is probably only single brooded, the worm hibernating and producing the moth in spring or early summer.

The female lays her tiny yellow eggs in the apple blossoms, or in the blossom end of the young fruit. Each egg in due time produces a very small worm of a whitish color, with usually a black head and a black shield on top of the first segment of the body. Piercing the apple, the worm feeds on the interior, growing with the growth of the fruit, and at last making a passage to the rind for its escape when full grown. It takes about five weeks to reach this stage, and is then about three-quarters of an inch long, of a pinkish tint, especially on the back and the head, and top of first segment is more brown than black. It now leaves the apple and spins a silken cocoon in a crevice of the bark, or in some other sheltered place, in which it remains as a larva or worm until the following spring, when it changes to a chrysalis, and then emerges as a moth. Where the insect is double brooded, the moth emerges in spring; and a second brood in July lays eggs for a second generation, which hibernates and produces the moth the following spring.

Many remedies have been proposed for the injury done by this insect, but only partial success has followed their application, owing to the habits of the moth and the insidious way in which the harm is done. Some varieties of the apple remain on the tree after the worm has left the fruit, but the greater part fall prematurely, with the worm still inside. Hence much good may be done by destroying the fallen fruit as quickly as possible. It is also found useful to turn hogs into the orchard, when circumstances render it practicable. The hogs eat the apples and so destroy the worms.

The favorite remedy with fruit growers in the United States—a remedy which is highly recommended by Riley and other authorities, and is always easily applied—is to entrap the worms by twisting hay-bands two or three times around the trunk of each tree. These hay-bands are examined every few days, and the worms and cocoons found underneath are destroyed.

Mr. Riley lays down the following rules, the carrying out of which, he says, will make the remedy effectual :

1st. The hayband should be placed around the tree by the first of June, and kept on till every apple is off the tree.

2nd. It should be pushed up or down, and the worms or chrysalides crushed that were under it, every week, or, at the very latest, every two weeks.

3rd. The trunk of the tree should be kept free from old rough bark, so as to give the worms no other place of shelter.

4th. The grounds should be kept free from weeds and rubbish.

He further says, "I have thoroughly tested this remedy the past summer, and have found it far more effectual than I had anticipated, wherever the above rules were recognized."

If our fruit growers have not yet adopted this mode of preventing the ravages of the codling moth, I would strongly recommend them to do so during next season. The testimony of Mr. Riley in its favor is a guarantee that it is the best remedy that can be applied. He is a thoroughly practical as well as scientific entomologist, and, as State Entomologist of Missouri, has, by his researches, saved millions of dollars to its farmers and fruit-growers.

REPORT OF THE FRUIT-GROWERS' ASSOCIATION OF MISSISQUOI, 1879.

HON. THOS. WOOD, *President.*

J. S. BAKER, *Vice-President.*

DAVID WESTOVER, *Sec.-Treas.*

The first Exhibition of this Society was held at Dunham on the 26th September, when the splendid collections of all classes of fruit, flowers and vegetables brought together were such as to surprise the most sanguine. Though the Committee of Arrange-

ments had provided ample table room (as they thought), yet before ten o'clock (the hour for closing entries) very considerable additions had to be made, not even then giving the space necessary for a careful classifying of many of the collections brought.

Of apples there were placed upon the tables 426 plates, also, 36 of crabs. Messrs. Gibb and Fisk brought a very choice collection from Abbotsford, containing many new varieties of their own, and some from other places to the number of 33 plates, making a total of 495 plates. Five collections of pears, 10 of plums, and 12 of grapes made up the exhibit of fruit. A by-no-means light task was that of the judges, Messrs. Gibb and Fisk, Abbotsford, and Capt. Jamison, of Clarenceville, to whom the thanks of the Society are due for the careful and thorough manner in which they made their awards to the satisfaction of all. In looking over the largest collections we found them made up principally of the following varieties:—Alexander, Duchess, Red Astrachan, Peach, Fameuse, St. Lawrence, Strawberry, Blue Pearmain, Lalman's Sweet, Pound Sweet, Bourassa, Pomme Grise, Golden Russet, Northern Spy, Baldwin, &c. Seedlings in considerable numbers were shown, some of them quite large and said to be excellent keepers—good qualities for either shipping or home purposes.

The floral department contained a varied collection of choice and rare plants, floral designs, bouquets and cut flowers, much admired by all.

A very large amount of vegetables was displayed in another room, where potatoes, tomatoes, melons, cabbages, beans, &c., were in large numbers and of many varieties.

FRUIT-GROWERS' ASSOCIATION — COUNTY L'ISLET.
ORGANIZED APRIL 10TH, 1880.

President, J. B. Dupuis, M.P.P.; Vice-President, Rev. J. Lagueux; Sec.-Treasurer, P. G. Verreault, N.P. Directors: E. Casgrain, P.S.; F. H. Proulx, Rev. F. X. Paradis, N. Dion, M.D.; P. H. Dupont, N.P.

AUGUSTE DUPUIS,

Corresponding Secretary,

St. Roch des Aulnais, Co. L'Islet."

The Fruit-Growers' Association of L'Islet has complied with the rules of the Council of Agriculture, the members having signed and sent, March 30th, to said Council the application in the form Schedule A as prescribed.

A. D.

ST. FRANCIS HORTICULTURAL SOCIETY.

"SHERBROOKE, 20th April, 1880.

"R. W. SHEPHERD, JR., ESQ., Montreal,

"DEAR SIR,—In reply to yours of 16th inst., addressed to Mr. Heneker, I beg to say that the St. François Horticultural Society is quite recently established and we have nothing *in print* yet.

"The following is a list of our Directors:—

"R. W. Heneker, President; Hon. M. H. Cochrane, Vice-President; R. D. Morkill, L. B. Lawford, J. Addie, J. Milford, S. F. Morey, Sec.-Treasurer.

"Yours truly,

"LINDSAY B. LAWFORD"

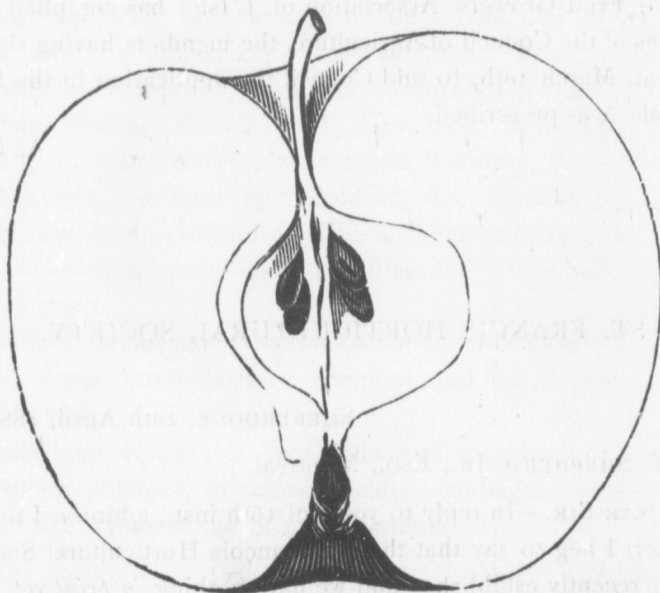
REPORT

OF THE
FRUIT-GROWERS' ASSOCIATION OF ABBOTTSFORD.

N. COTTON FISK, *President.*
CHARLES GIBB, *Sec.-Treasurer.*

This Association held its Fourth Annual Exhibition of fruits, vegetables and flowers on the 24th of September.

Of apples there were upon the tables 402 plates, which, together with twenty-seven of crab apples, made a total of 429 plates. These included about twelve varieties kindly given by friends in Huntingdon County, others being from Montreal, Stanstead, St.



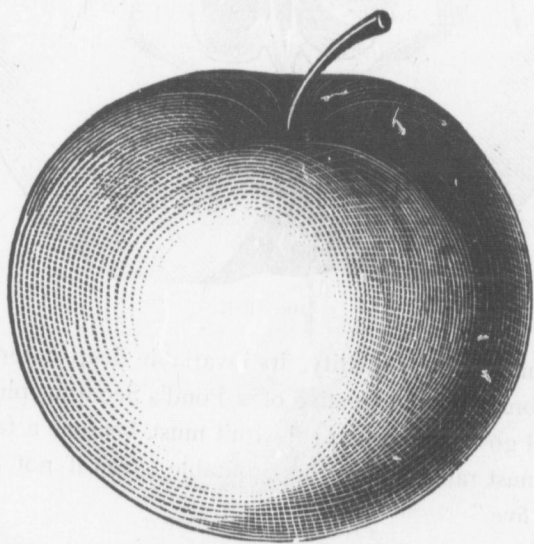
WEALTHY.

Hilaire, Rougemont, Plattsburg, N.Y., and elsewhere, making, in all, specimens of over ONE HUNDRED VARIETIES of grafted apples and crab apples—a rare opportunity for the student in apple culture—an opportunity, too, not neglected; for, at a meeting held not long after, the promising among the newer varieties were

examined, their strong and weak points weighed, and their propagation discussed.

OF THE NEWER APPLES.

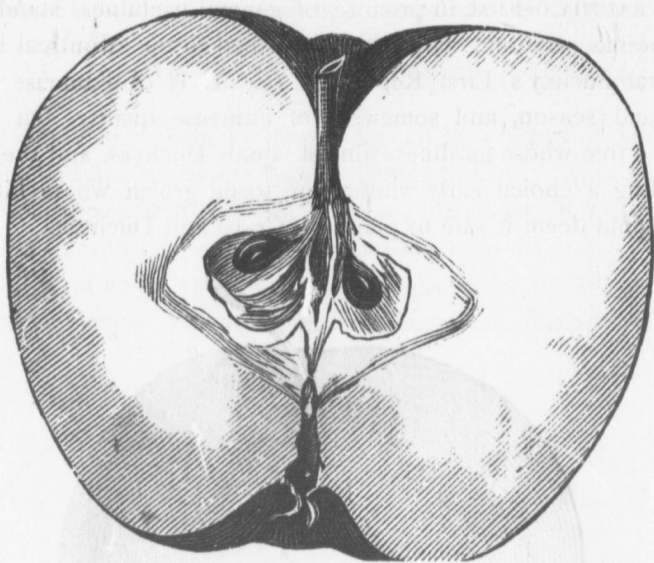
WEALTHY.—First in promise of general usefulness stands this Minnesota seedling, which was described in the Montreal Horticultural Society's First Report, p. 19. It is of Fameuse form, size and season, and somewhat of Fameuse quality, but borne upon a tree whose hardiness almost equals Duchess, and therefore enabling a choice early winter fruit to be grown where hitherto we should deem it safe to plant but Crabs and Duchess.



FAMEUSE SUCREE.

FAMEUSE SUCREE.—New we may say, even to Montreal, is this delicious little dessert apple, though its probable place of birth was on the Coteau St. Pierre. It is quite hardy in nursery; its bearing in orchard has been watched for the last three years at Hon. E. Prudhomme's, and it has shown itself to be a good, though not a profuse bearer. Its quality has been highly praised by Dr. Hoskins, of Newport, in the American agricultural press.

DECARIE (described in M. H. S. Report, p. 22) is probably a native of the same Coteau, and combines many points of merit. It is a fall fruit, of which we have so many ; yet its heavy bearing,

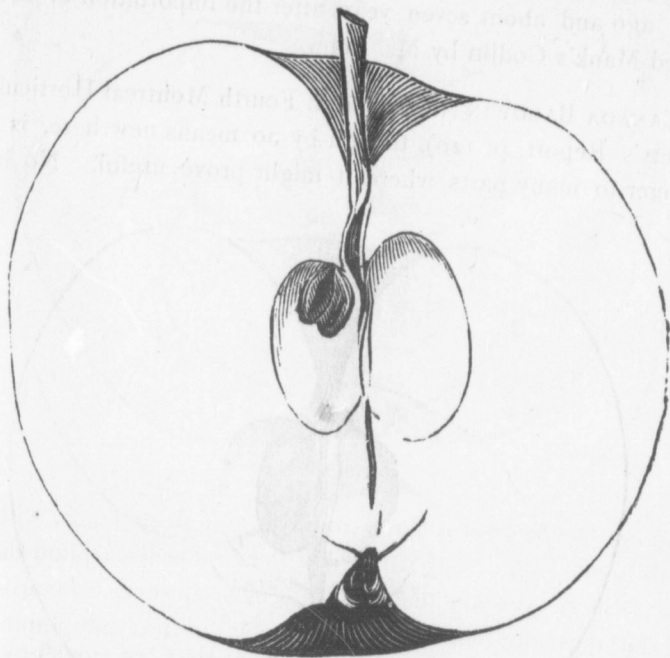


DECARIE.

its by no means poor quality, its invariable deep color, with that bluish bloom, more suggestive of a Pond's Seedling plum than an apple, will go to show that this fruit must become a favorite and one that must rank among the profitable, even if not among the favored "five."

WINTER ST. LAWRENCE (*Mank's Codlin, erroneously so-called*).—This fine fruit seems to have become known under several different names. It was imported by Mr. Wm. Lunn from Manchester, England, in June, 1833, along with twenty-eight other kinds of apples, which were immediately budded. It was again budded in 1837 and 1838, after which it was frequently budded, as no doubt its hardiness and vigor of growth attracted early attention. It was sent to Mr. Lunn as the Mank's Codlin, under which name it was propagated and disseminated by him, though it differs *in toto* from the Mank's Codlin described by Downing and by Hogg,

This apple has appeared at different times upon the tables of the Montreal Horticultural Society under the name of Winter St. Lawrence, and, as the name seems somewhat appropriate, it seems best to recognize the name, that hereafter it may be known and propagated as such. Scions of it were sent to Abbotsford from Montreal about twelve years ago in mistake for Alexander, and as



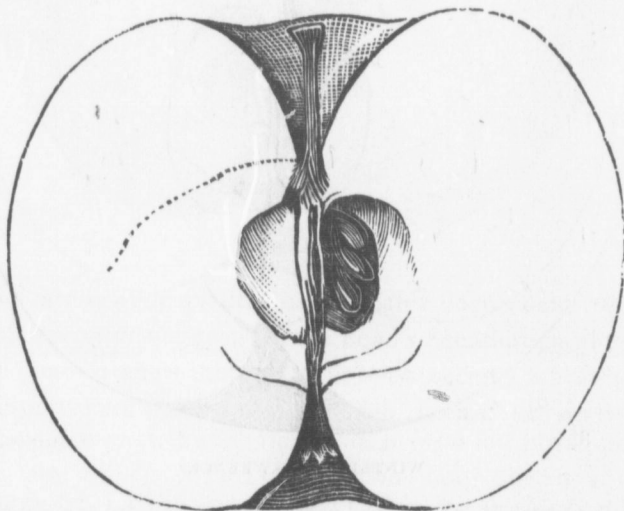
WINTER ST. LAWRENCE.

such it was propagated and scattered throughout the country and planted into our own orchards. The mistake is not now regretted by those whose trees have attained bearing age.

The tree is hardy and vigorous, and rather upright in growth. It comes into bearing very soon after Fameuse and is a moderate annual bearer. The fruit is medium to large, roundish in form, and in color greenish, yet striped just like the St. Lawrence. The flesh is white, pretty firm, moderately juicy and mildly acid. It is a pretty good dessert fruit; it is salable as a market fruit and keeps till February.

Identical with this is the apple sent by Capt. Campbell from St. Hilaire as the RAMBOUR BARRE. Of this variety there are a good many trees about Mount St. Hilaire, the oldest about forty years of age and in the garden of Mons. C. E. Testu, who got it among a number of others from a man named Moore, who was gardener to the late Mons. de Rouville. This was about forty years ago and about seven years after the importation of the so-named Mank's Codlin by Mr. Lunn.

CANADA BALDWIN (described in Fourth Montreal Horticultural Society's Report, p. 120), though by no means new here, is yet a stranger to many parts where it might prove useful. No bright

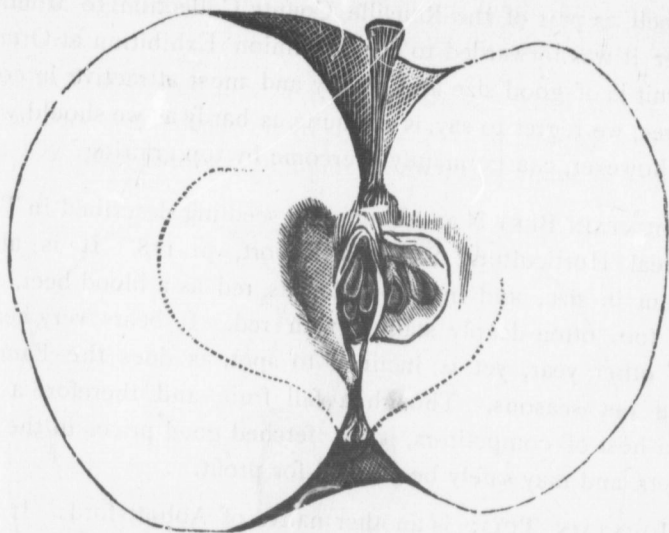


CANADA BALDWIN.

red, fine qualified, good sized, long keeper can anything like approach it in general satisfactoriness on the heavyish soils of North Shefford. On the warm, quick soil of Abbotsford, the early rising of the sap tends to sunscald and to premature decay, yet we must still plant it, as we have no other to take its place, while on heavier soils we expect it to become widely popular.

LATE STRAWBERRY (*erroneously so-called*) is described and its

history given in the Fourth Report Montreal Horticultural Society, p. 120. The true Late Strawberry we saw last September at Plattsburg, and the tree is very different in habit of growth from that which we describe. We had also sent specimens to Mr. Downing, who gave his final decision that it was not Late Strawberry. It is, however, clearly of Strawberry type, not quite



LATE STRAWBERRY.

equal in flavor, but ever so much larger and more handsome. In quality it is quite good enough for a fruit for family use. Its size and color place it upon our exhibition tables in competition for the "best five varieties," and its early productiveness places it among the five most profitable as recommended by the Society.

WHITE WINTER CALVILLE (*of Abbotsford*) was described in Second Report Montreal Horticultural Society, p. 26. It is a mid-winter fruit of medium size and fine quality. The tree is very productive, and, we think, is specially suited to lightish soils; it has, however, the sad fault of being a pale yellow in color. It does not bruise easily, but shows its bruises readily. In spite of

this it is placed among the Society's "five best kinds for profit;" and, as a home use apple, its quality and season specially commend it.

VICTORIA.—This seedling of St. Hilaire is described in Third Report Montreal Horticultural Society, p. 117. It was not upon the Society's Exhibition tables, though it was sent by Capt. Campbell as part of the Rouville County Collection to Montreal, whither it was forwarded to the Dominion Exhibition at Ottawa. The fruit is of good size and quality and most attractive in color. The tree, we regret to say, is not quite as hardy as we should wish. This, however, can be mainly overcome by top grafting.

MOUNTAIN BEET is an Abbotsford seedling described in Third Montreal Horticultural Society's Report, p. 118. It is above medium in size, and in color often as red as a blood beet, with flesh, too, often deeply stained with red. It bears very heavily every other year, yet is inclined to spot, as does the Fameuse during wet seasons. Though a fall fruit, and therefore a fruit with a host of competitors, it has fetched good prices in the best markets, and may safely be planted for profit.

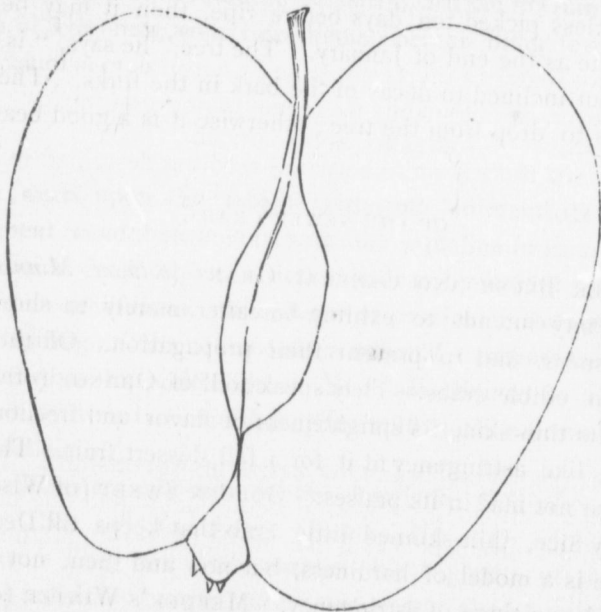
MOUNTAIN TULIP is another native of Abbotsford. It is an oblong-conic, striped, fall apple, of good quality and one of those heavy biennial croppers which has made us feel that there was money in it.

HAAS OF THE WEST, OR GROS POMMIER, as it is also called, is a "Gros Pommier" indeed, being the strongest grower of any in the Abbotsford nurseries. The fruit is of medium size and quality only and fairly attractive in color. Whether it will prove as profitable as in the West we have not yet had time to judge, but as a fall fruit for "unfavorable localities" it must prove of positive use.

BEAUTY OF THE WEST (*so-called*) was brought by Mr. Jos. Field from Stanstead. It is a fall fruit of medium size and attractiveness, but of really fine quality and should therefore not be lost sight of.

MILDING was received a few years ago from Southern New Hampshire, where it is a success. With us the fruit does not color as it should, and the tree in nursery is by no means hardy. In fact we plainly see that we are too far north for it.

LADY'S FINGER, OR GILLIFLOWER (*so-called*).—At the close of the Montreal Horticultural Exhibition, Mr. Boardman, Secretary of No. 2 Agricultural Society of Huntingdon County, kindly



LADY'S FINGER, OR GILLIFLOWER.

offered us anything in their collection that we might wish for. We took twelve plates of apples new to us, and of these this was one. The fruit is largish, often very oblong-conic, in fact of Chenango Strawberry form; in color it is a pale waxen yellow, largely overspread with red in minute marblings. It is, in fact, a striking show apple. But it is more. It has not the enormous core of the true Gilliflower, neither is its quality at all disappointing. A specimen of this we sent to Mr. Downing, who says: "This, in form, is much like Cornish Gilliflower, but the color is

too dull, and it is too early. It also resembles Lady's Fancy, or called by some King-apple, grown by these names in Northern Vermont, New York and Canada, but it is too early and has not color enough ; but these specimens seemed premature and much decayed." Mr. Downing, no doubt, finds it difficult to determine an apple which has been picked prematurely and twice placed on exhibition before reaching him. Mr. John Stewart, of Rockburn, who grew this apple, says, " It is a good table fruit, but not a good keeper unless picked ten days before ripe, then it may be kept even as late as the end of January. The tree," he says, " is hardy in twig, but inclined to decay of the bark in the forks. The fruit, too, tends to drop from the tree ; otherwise it is a good bearer of fair fruit."

OF THE NEWER CRABS.

HESPER BLUSH AND GENERAL GRANT (*both of Minnesota*)—The Society intends to exhibit hereafter merely to show their worthlessness, and to prevent their propagation. Of the non-astringent edible crabs.—They speak well of ORANGE (of Minnesota). Its thin skin, its sprightliness of flavor and freedom from anything like astringency fit it for a fall dessert fruit. They like it, but are not mad in its praises. GOLDEN SWEET (of Wisconsin) is a very nice, thin-skinned little crab that keeps till December. The tree is a model of hardiness, but now and then, not always, the fruit has a tinge of astringency. MEEDER'S WINTER (of Minnesota) is a really fine flavored little crab that keeps till Christmas. It has been grown by Dr. Hoskins, who esteems its dessert qualities very highly. AIKEN'S STRIPED WINTER is a nice long-keeping little crab, but we hardly see its use.

GENEVA, OR LADY ELGIN, is said to be the finest flavored of the Merango crabs. It has been spoken of by J. J. Thomas as "immeasurably better than any other crab he ever tasted." The tree is of very slow and slender growth for a crab, and not of extra hardiness. The fruit is pretty, and it is nice and free from astringency, but in our praises we must be moderate.

BAILEY'S CRIMSON is of medium size for a crab, but it combines the lovely deep rich color of a Hyslop with really fine quality. The tree, too, we have seen at Plattsburg, N.Y., and have found it hardy, vigorous in growth, and productive. We think very highly of this variety.

SOULARD is the most villainously astringent, acrid compound ever named crab. In the west it was highly praised. It was said to cook like a quince, to be in fact the "Quince of the North." Oh, how widely do human beings differ, even on the qualities of a crab!

OF OUT-DOOR GRAPES,

There were upon the tables thirty-four different varieties, an assortment never before anything like equalled in this Province. Of these at least twelve varieties had never before appeared at any of our exhibitions, either local or provincial, though in some cases bearing marks of special promise of usefulness. Most of these were in the collection of Mr. J. W. Bailey, of Plattsburg, N.Y., who carried off the first prize with a collection of twenty-six varieties.

Of those entirely new to the Province of Quebec, Herbert (Rogers' No. 44) and Essex (Rogers' No. 41) attracted most attention. They are both purplish black grapes of the largest size for out-door growth, meaty, sweet and almost pulpless, and seemingly not any later in ripening than the Delaware, and worthy of general trial. BARRY (Rogers' No. 43) and MERRIMAC (Rogers' No. 19) also bear much general resemblance; they are large blackish grapes of fine quality, but being a little later than the two first named, are of less value in this cold climate. The latter, however, we must say, is usually stated to be somewhat earlier, and, therefore, of the two, the most worthy of trial. ROGERS' No. 7 is a largish, purplish, black grape of much the same character as Essex, though perhaps a little later, yet worthy of trial. ROGERS' No. 2 is a fine grape of the same type, but late.

BAILEY (has been so-called at our suggestion).—It was exhibited by Mr. Bailey along with two others (seedlings of his) and was then known as his No. 1. It is a cross between Delaware and Adirondac. The bunch is long, the berry medium. It is without pulp, juicy, sweet, rich flavored, and as early (if we may judge from the trial of a single season) as Adirondac. EUMELAN, though small in berry, is a first-class grape, yet we feel that its merits have been over-rated. SHERMAN is of bluish black color. The bunch is full medium, the berry medium, or slightly below, with a good mixture of sweet and acid, and becoming sweetish after frost. At Plattsburg it is never taken from the trellis for winter covering. Query.—Will it stand unprotected the winters here? If so, it would be very valuable for covering verandas and summer-houses. But Mr. John Stewart, of Rockburn, we find, has tried it and finds that it needs winter covering. It might prove valuable as a wine grape.

Of those before exhibited in this Province, MASSASOIT (Rogers' No. 3) and LINDLEY (Rogers' No. 9), even this unfavorable season, have ripened well at Abbottsford. They are large reddish grapes, juicy, sweet, aromatic and high-flavored and worthy of more extended cultivation. SALEM (Rogers' No. 22) and AGAWAM (Rogers' No. 15) are much of the same class as the above, though not as thoroughly tested in the Province of Quebec, and perhaps a few days later in ripening. The same might be said of WILDER (Rogers' No. 4). Iona is a fine grape, but too late. REBECCA and ALLEN'S HYBRID were exhibited both from Montreal and from Plattsburg. They are both white grapes, rich and luscious in flavor, especially the latter, which is perhaps the highest-flavored out-door grape we grow. They are both fairly early in ripening, but delicate in constitution and said to need extra care.

JAMESVILLE (*of Wisconsin*) has a small bunch and medium-sized blue berry. In flavor it is pretty good, and, in season, among the earliest. The vine is healthy and productive, but, unless with further trial it shows some special point of hardiness, we will not recommend it. SWEETWATER, when taken care of, has

been a success at Abbotsford, though during the last two years the thrip has been very troublesome, and, in some cases, has caused this variety to be a total failure. Several different varieties, however, have appeared under this name. From Montreal comes a variety larger in berry, and, perhaps, a little larger in bunch. It is but very little later in ripening, and has a slight Muscat flavor. It is of Chasselas type, and far finer flavored than the ordinary Sweetwater.

CHAMPION.—This variety was also upon the tables at Abbotsford, and, on account of its special earliness, attracted special attention. It was also exhibited in 1877 by Mr. L. W. Decker, of Montreal, who had bought it in 1871 from Messrs, Shanly & Gallagher. Since then it has been largely imported by them and by Messrs. Menzies and Gallagher as the Champion, and sold as such, and more recently imported as Champion and sold as the Beaconsfield. It combines the main characteristics of a market fruit. It is essentially a pioneer grape. It was in flavor the poorest, with one exception, of the thirty-three varieties exhibited. It is, however, quite good enough to sell. The market does not demand quality in a grape any more than it does in a pear or an apple. The Bell pear, the poorest ever brought to this market, is one of the most profitable, and is, no doubt, often mistaken for the Bartlett. The Alexander and the Duchess, on account of their fine size and appearance, are assumed by the masses to be first-rate apples. The Champion has the earliness, size and color necessary for a commercial grape, and as such, and as a forerunner of finer fruits, it must prove of great service to our northern country. As a commercial grape, however, it has a weak point in its shortness of season. Grapes vary much in their keeping qualities. The Adirondac we have known to be kept till March; but this is as exceptional as to have Fameuse in June: but, if the plan adopted in Paris of hanging each bunch in a separate paper bag were adopted here, we might have grapes till mid-winter. The Champion drops from the bunch somewhat; less so, we think, than the Hartford, but our knowledge on this point is limited. It

is short in its season, though nothing like as short as a Peach apple; but, in a general way, it is like the Peach and Astrachan apples—early and perishable, yet profitable. The moneyed aspect of this Champion grape the proprietors of the vineyard at Beaconsfield must surely have carefully weighed, and their firm belief in it they have proved by the fact that they have planted out seventeen acres or 12,100 vines.

CONCORD produced at Abbotsford the heaviest crop and the heaviest bunches. It withstood the late spring frost well. It and Delaware suffered the least in this respect. It was the greatest success, except in point of ripeness. It is a little late. In some cases the berry contained a nice sweet juice between the skin and pulp, in other cases even this juice did not sweeten. In a season of average heat we should expect it to ripen better. At any rate it made good grape jelly.

DELAWARE, too, as we said, withstood the late spring frost well, and set a full crop of nice little bunches, which ripened, we may say, well.

CREVELLING also stood the late frost pretty well, and set a pretty good crop. The bunch is very straggling, but the flavor of the berry makes full amends for this. It is pretty early in ripening, and both here and in Montreal has proved a success.

HARTFORD PROLIFIC.—That which we received from Ontario has proved not true to name. Strange enough, too, Mr. Robert Jack, of Chateauguay Basin, recognized it as that which he had received from another part of Ontario for Hartford. The berry is medium, the bunch small, the season medium, and the grape below medium in general merit. The true Hartford Prolific was exhibited from Plattsburg. It is largish, both in bunch and berry, and, on account of its earliness and yield, is worthy of culture.

The past season, with its late spring frosts and cold September, was by no means favorable to out-door grape culture; still our success was such as was worthy of wide imitation.

Soon after the Exhibition, Committee meetings were held. The strong and weak points of each new grape were duly weighed and noted for future reference, and their propagation discussed. It may be said that the grapes grown by Mr. Bailey at Plattsburg are no fair guide to us who live fifty miles nearer the North Pole, but a careful comparing of five varieties grown by ourselves with the same varieties grown by him, showed that this last season his grapes were no earlier in maturity than those grown upon the exposed slopes of Mount Yamaska. This was of course exceptional, and was partly owing to season, and, in part, to culture; for proper care and culture greatly hasten the ripening of a grape.

On the other hand, we must say that, though Massasoit and Lindley were sweet and perfumed with their fine Muscat flavor, yet there was more pulp and acid at the core than would have been had September been warmer. So, too, with Crevelling; it was sweet and good, but its aromatic flavor was somewhat diluted.

DELAWARE was sweet and nice, but less *prononcé* in that delicate flavor, which, to many, is suggestive of the fragrance of the sweet pea, and which makes all lovers of good grapes so mad in its praises.

Some years ago, Adirondac and Black Hamburg, both in good condition, were placed for opinion, with names withheld, before several of our residents at Abbottsford. The thinness of skin, and luscious, pulpless fleshiness of the hot-house grape were duly noted; the thicker skin and juciness, rather than meatiness, of the out-door were also noted; so, too, on the other hand, its freedom from pulp, and that fine combination of rich mingled flavor in the Adirondac which gave it the preference in the minds of many.

The Adirondac of the past season, though good and highly thought of, did not reach this standard of excellence. Yet, so it is with other fruits. The strawberry and the raspberry lose flavor after a shower of rain. Some varieties of the apple and the pear, unless they have a certain amount of heat at the time of ripening, are colorless and insipid. The grape above all other fruits needs heat. On the exposed slopes of Yamaska Mountain, our Septem-

ber lacked ripening power, but such was not the case in the sheltered city gardens of Montreal, where, even on clay soil, the quality was first rate.

Our own experience in this matter is limited to a very few years, but from what we have personally seen of older vines, and from what we have heard from older grape growers, we feel that, in those parts of the country which are not subject to June and early September frosts, and, even where thus subject, if care in covering for a few nights be taken, the grape does ripen its fruit with a degree of certainty that should cause it to be generally planted.



