

THE
FRUITS OF ONTARIO

1906

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To the Honourable WILLIAM MORTIMER CLARK, K.C.,
Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

I have the pleasure to present herewith for the consideration of your Honour the Report on the Fruits of Ontario for 1906.

Respectfully submitted,

NELSON MONTEITH,

Minister of Agriculture.

TORONTO, 1907.

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Fruit Experiment Stations.

BOARD OF CONTROL, 1907.

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Fruits of Ontario.

INTRODUCTION.

When the first fruit trees were planted in Ontario, probably about 150 years ago, the settlers had no reliable information to guide them in selecting varieties or in caring for the trees after they were planted. But the experience of these early settlers was taken advantage of by their descendants who, with the additional knowledge possessed, were able to make some progress, although scattered as they were in those early times without good means of intercourse. The dissemination of information from one to another and to the new settlers who were coming in was slow until the railways were built. Then fruit-growing became much more general, as trees could be easily transported from one part of the Province to another. In 1859 a few enthusiastic horticulturists organized the Ontario Fruit Growers' Association. Meetings were held in different parts of the Province, and the people were urged to plant more fruit. This organization has for the past 47 years by its meetings, annual reports, the Canadian Horticulturist, and in many other ways, done very much to bring about the present marvellous development in the fruit industry of Ontario. Realizing that more definite information was needed to guide fruit-growers in the planting of varieties and the culture of fruits, the Association in 1893 urged upon the Government the importance of establishing Fruit Experiment Stations throughout the Province. The idea received the approval of the Government, and in 1894 four stations were established, this number being increased to thirteen in the course of a few years. To these were sent many varieties of fruits, which were tested and reported upon each year by those in charge of the stations. As these experimenters were all practical fruit growers, and in most cases had made a specialty of some kind of fruit, much valuable information regarding varieties and their culture was accumulated by the Department of Agriculture. After the stations were established, it was felt that in due time a hand-book should be published that fruit growers generally might get the full benefit of the information so obtained, and the secretary of the Board of Control, Mr. Linus Woolverton, Grimsby, Ont., was entrusted with the preparation of descriptions and illustrations of the fruits which had been tested. Mr. Woolverton was for ten years engaged in this work, and the results of his labors will be found in the excellent illustrations and full descriptions which appear in this book.

Mr. Woolverton states that, "with a few exceptions, the descriptions have been prepared directly from the fruits themselves, from samples grown in the Province, and the notes of the tree, bush, and vine have been largely made from records taken by the writer during these past ten years of experimental work.

"These descriptions have been verified by comparison with those given in the works of the world's greatest pomologists, such as the 'Dictionnaire de Pomologie,' by Andre Leroy of France; 'The Fruit Manual,' by Thomas Hogg of England; 'The Fruits and Fruit Trees of America,' by Charles Downing, of Newburgh-on-the-Hudson; 'The American Fruit Culturist,' by J. J. Thomas, of New York State; 'Apples of New York,' by S. A. Beach, of Geneva, N. Y.; 'The American Horticultural Manual,' by Prof. J. L. Budd, late of the Iowa State College of Agriculture; 'Plum Culture,' by Prof. F. A. Waugh, of the Massachusetts Agricultural College; 'Apple Culture' and 'Plum Culture,' by W. T. Macoun, of the Central Experimental Farm, Ottawa; 'The Grape Manual,' by Bush, Son & Misener, of Missouri; the Reports of the Michigan Agricultural College, of the American Pomological Society, of the Ontario Fruit Growers' Association, etc., and many other works.

"These have again been modified by the reports of the experimenters in charge of the fruit stations, when it was proved that certain varieties, otherwise desirable, were not adapted to the districts in which they were tested.

"In the case of some of the newer varieties of small fruits, especially strawberries and some of the raspberries, also in the case of some of the larger fruits which are somewhat rare, the descriptions have been in part made from the reports of the experimenters, or from the reports of reliable pomologists. From Professor H. L. Hutt, of the Ontario Agricultural College, and others, photographs and descriptions of some varieties were obtained."

The nomenclature adopted in these descriptions is based on that of the American Pomological Society, but where names which have been commonly adopted in Ontario would not be easily recognized under this nomenclature the old names have been left unchanged.

These descriptions and illustrations were read and examined by the Board of Control, after which they were submitted to other fruit growers before being adopted, and for this work credit is due to Mr. W. H. Bunting, St. Catharines, Ont.; Mr. Murray Pettit, Winona, Ont.; Mr. W. H. Dempsey, Trenton, Ont.; Mr. C. W. Vanduzer, Grimsby, Ont., and to Mr. W. M. Orr, Fruitland, Ont.

In order that those varieties which are not recommended may not be given too prominent a place and thus perhaps be misleading, the illustrations have been confined to those which have been recommended on one or other of the lists of "Fruits Recommended for Planting in Ontario."

The fruits have been divided into four groups in this work, namely: (1) Tree fruits comprising the Apple, Cherry, Peach, Pear, Plum, and Quince; (2) Grape; (3) Bush fruits, comprising the Blackberry, Currant, Gooseberry, and Raspberry; (4) Strawberry. Within these groups the varieties have been arranged alphabetically, as far as possible, for ease in reference.

As it is the object of the Board of Control to make this work of the Fruit Experiment Stations as generally useful as possible to the fruit growers of Ontario, it was felt that the "Fruits of Ontario" would be incomplete if published without cultural directions, hence these are given. The information regarding apple culture is taken largely from the Ontario Agricultural College Bulletin 144, "Apple Culture," by Prof. H. L. Hutt. The lists of varieties recommended are taken from "Fruits Recommended for Planting in Ontario," Bulletin 147, as prepared by the Board of Control. The Spray Calendar at the end of the volume is largely taken from Bulletin 122, "Spray Calendar," by Prof. Wm. Lochhead. The other matter has been specially prepared for this work.

It is hoped that the objects for which "The Fruits of Ontario" was prepared will be accomplished. These are to assist the fruit grower:—

1. In the selection of those varieties most desirable for planting in his particular locality either for home or for market.
2. By affording a convenient reference in the identification of varieties now grown in the Province.
3. By furnishing a reliable description of the size, color, general appearance, and real value of the varieties often incorrectly described in magazines and catalogues.
4. By giving sufficient cultural directions to enable him to make fruit-growing a success.

1. Tree Fruits.

Among what are commonly classed as the tree fruits are the apple, cherry, peach, pear, plum, and quince.

So confident are the Ontario fruit growers of the future of the industry and the continued profits which will be obtained from the culture of these large fruits, that many acres of trees are being set out annually.

The great importance of the fruit interests may be fairly judged by the following figures for Ontario from the Dominion census of 1901:—

	Not bearing.	Bearing.	Total Trees.	Bushels.	Value.	Acres.	Capital Value.
Apple Trees.....	1,989,983	7,551,635	9,541,619	13,631,264	\$3,407,815	228,013	\$34,201,950
Peach Trees.....	470,772	811,725	1,282,497	539,482	539,482		
Pear Trees.....	280,175	564,798	844,973	487,759	365,819	38,002	11,400,600
Plum Trees.....	686,628	999,091	1,685,719	337,108	252,831		
Cherry Trees.....	237,792	416,556	684,348	132,177	297,398		
Total.....	3,665,350	10,373,806	14,039,156	15,127,790	4,863,345	266,015	45,602,550

There has been a marked increase in the number of acres planted since the 1901 census was taken, the total number of apple trees, according to the last report of the Ontario Bureau of Industries, being 10,201,766.

THE APPLE.

There is no part of the world where better apples are grown than in the Province of Ontario, and owing to the hardiness of this fruit it can be successfully cultivated over a very large part of the Province.

From the Ottawa River, which bounds the Province on the east, to the great lakes on the west, a distance of about 500 miles, and from the St. Lawrence River and great lakes on the south to latitude 45 degrees, and even 46 degrees, on the north, a distance of about 280 miles, there are many flourishing commercial apple orchards. These produce annually an average crop of about 35,000,000 bushels of fruit. But apple-growing is not confined even to this area, for scattered here and there over the newer parts of Ontario almost up to the Manitoba boundary are trees which are bearing good apples and supplying the settler with fruit for home consumption.

Owing to the material difference in climatic conditions between the extreme southern and the northern parts of the Province, some varieties of apples are more adapted to certain sections than others, not only on account of their varying degrees of hardiness, but because some kinds produce better fruit in certain sections than in others. Furthermore, as apples grown in the southern parts of the Province do not keep as well as those grown in the northern sections, the fruit matures earlier, and hence does not come into keen competition with, perhaps, the same varieties from other sources. Each part of the Province, therefore, where apples are grown can produce fruit which has a fair chance of commanding the highest price on the market. As these climatic conditions cannot be changed, it behoves fruit growers in the south-western peninsula to make a specialty of growing fruit for the early markets, for there is no other section which can compete so favorably in the production and sale of early apples, especially for the rapidly growing market in the North-west.

The fruit growers in the districts bordering on Lake Huron, Lake Ontario and the St. Lawrence River, where the longest keeping apples of best quality are grown, should make a specialty of winter fruit, and by doing so win for themselves a reputation for this class of apples.

In eastern Ontario, where the McIntosh, Fameuse, and other high class early winter dessert apples are grown so successfully, the fruit grower, though at present handicapped in the growing of late keeping varieties, can obtain for his dessert apples the best prices and thus make his orchard as profitable as those in any other part of Ontario.

For the north, there are a number of varieties, mostly of Russian origin, the hardy survivors through many trying winters in the colder parts of Russia, and these, with the hardy crab apples, are proving a nucleus from which it is believed will be developed, by cross breeding with the best Canadian apples, good dessert varieties which will be grown almost to the extreme northern limits of the Province of Ontario.

SELECTION OF VARIETIES.

One of the most important things to be considered in planting an orchard is the selection of varieties. Some of the most serious mistakes in the past have been made in this particular. In many cases worthless varieties have been planted, which is hardly to be wondered at when planters had little more to rely upon regarding varieties than the exaggerated descriptions given by travelling tree agents. But in these days when we have reliable information about all classes of fruits for all sections of the Province published annually and distributed free, as is done in the report of the Ontario Fruit Experiment Stations, there is no excuse for planting anything but the very best varieties suited to each section.

One mistake to be avoided is that of planting too many varieties, particularly in commercial orchards. A half dozen good winter sorts have been found to be sufficient. For home use, however, the list might be doubled, or at least lengthened, to suit the preferences of all members of the family. There should, in any case, be varieties enough to cover the season and give a bountiful supply from earliest to the latest. One or two summer varieties, three or four autumn, and half a dozen winter varieties would be about the right proportion of each to plant.

Another precaution which has to be taken in planning a commercial orchard, is that of planting too large a block of any one variety. For convenience in harvesting it is no doubt best to plant trees of the same variety near together, but on the other hand if these blocks of one variety are too large it may be the cause of poor crops, for there are many varieties which are self-sterile, that is, the pollen which they produce will not properly fertilize their own flowers, although it may be quite potent on the blossom of some other variety. This question has not been sufficiently studied to warrant us in saying definitely just which varieties are self-sterile and which are self-fertile, although from experiments which have been made, the following varieties appear to be more or less self-sterile: Yellow Bellflower, Chenango, Gravenstein, King, Northern Spy, Primate, Rambo, Red Astrachan, Roxbury Russet, Golden Russet, Spitzenburg, and Tolman Sweet. None of these should be planted in blocks of more than three or four rows, without some other variety intervening which blooms about the same time. In orchards where such a mistake has been made, it can be rectified most readily by grafting every third or fourth row with some variety which will insure cross-fertilization.

Both tree and fruit must be considered in the selection of varieties. The tree must have sufficient hardiness for the locality, and it is in this particular that the Fruit Experiment Stations give valuable information to intending planters.

Productiveness is also an important characteristic. Unfortunately some of the varieties of most excellent quality, such as the Blenheim and King, are lacking in this respect, and, while it may be desirable to plant these for home use, still such a defect is a serious one in a commercial orchard. The age of bearing is another characteristic which varies greatly in different varieties. The Northern Spy, for instance, often requires ten to fifteen years before it comes in bearing, while Ontario, Wealthy, and many of the Russian varieties sometimes bear even in the nursery rows, or at least in a year or two after they are transplanted into the orchard. This is a difference which may well be taken advantage of in the arrangement of varieties in the orchard, for, as a rule, those which are slow in coming into bearing make larger trees and are longer lived, while those which begin early and bear heavily are more or less dwarfed in their growth and the trees are shorter lived. For this reason trees of the precocious varieties are often planted as fillers between rows of the later bearing and larger growing kinds.

The most desirable qualities in the fruit itself depend largely upon whether it is for the market or for home use. For home use, good quality is the first consideration. Usually those having a spicy or characteristic flavor, such as the Spy, King, or McIntosh, are most desirable. Apples with an acid or subacid flavor are most in demand on the market; nevertheless a good sweet apple is often much appreciated for home use. For the market, good appearance is the first consideration. No doubt in time buyers will be more discriminating and demand good quality rather than fine appearance, but at present the most saleable apples are those that keep well, are of fair size and an attractive color. Well colored red apples are those in the greatest demand in the Old Country market, a point which should be remembered in selecting varieties intended for export. Good shipping qualities have also to be considered in the selection of commercial varieties, although no doubt the improvement in methods of packing and shipping may render this of less importance in the future than it has been in the past. The Ben Davis apple has long been recognized as one of the best shipping varieties, on account of its firmness and good keeping qualities. On the other hand, the McIntosh is not a long keeper, and is so easily bruised that it cannot be shipped satisfactorily in barrels. But with improved methods of packing and shipping, it may be shipped to any of the European markets and even placed on sale with the Ben Davis, and it is a question how long the Ben Davis, with its inferior quality, will be able in such competition to hold its place in the market. Those who champion the Ben Davis may take exception to the comparison just made because of the relative difference in season of the two varieties. Nevertheless, we believe that it will be safer in the future for growers to look more to the quality of the variety than has been done in the past, for in due time buyers will no doubt become more discriminating and demand apples of the very best quality.

ORDERING AND OBTAINING TREES.

A complete list of the nurserymen of this Province is published each year in the Report of the Inspector of Fumigation, and most of our leading nurserymen advertise in the agricultural and horticultural papers. Upon application, any of these men are glad to quote prices at which they can supply stock.

It is well, when ordering nursery stock, to order early. Too many leave such a matter till planting time, when they might as well have had their order in several months sooner. By ordering early they are more likely to obtain just what is wanted, and if the nurseryman has not the desired varieties on hand, he can obtain them elsewhere by the time they are needed.

When the trees arrive from the nursery, it is best to unpack them as soon as possible, and, if it is not convenient to plant them at once, the roots should be

spread out and buried in a deep trench till they can be permanently planted. The longer the trees are to remain in this position the more carefully they should be heeled in.

VARIETIES RECOMMENDED.

General Lists. After testing a large number of varieties of fruit at the various fruit stations, the Board of Control has decided upon the following as the most desirable for general planting.

District Lists. The District Lists given by the various experimenters show varieties especially adapted to the sections represented by their stations.

The term *Commercial* is intended to include the varieties most desirable for market purposes, and the term *Domestic* those most desirable for home uses, either cooking or dessert.

These lists are given, as far as possible, in the order of ripening.

It is realized that there are many varieties not included in these lists which may do well *under special conditions*, yet which are generally not considered as desirable as those mentioned.

GENERAL LIST OF THE MOST VALUABLE VARIETIES FOR MARKET APPROVED BY THE BOARD OF CONTROL.

Summer.

Astrachan: Adapted to all sections except the extreme north.

Duchess: Adapted to all sections.

Fall.

Gravenstein: Adapted to all sections except the St. Lawrence River and other northerly portions of the Province.

Wealthy: Particularly valuable for northern sections.

Alexander: Especially for northern districts.

McIntosh: Adapted especially to the St. Lawrence River district, but can be grown over a much wider area.

Fumeuse: Adapted especially to the St. Lawrence River district, but succeeds well over a much wider area.

Blenheim: Adapted to all sections except the St. Lawrence River district and northerly portions of the Province.

Winter.

King: Adapted only to the best apple sections, and succeeds best when top grafted on hardy stocks.

Hubbardston: Adapted to the best apple sections.

Greening: Adapted to the best apple sections.

Baldwin: Succeeds best on clay land, and is adapted to the best apple districts.

Spy: Adapted to the best apple districts, but can be grown with success farther north by top-grafting on hardy stocks. This is also a good method of bringing it into early bearing.

Ontario: An early and abundant bearer, but short lived. Recommended as a filler among long-lived trees. Adapted to same districts as Northern Spy, which it somewhat resembles.

Stark: Adapted to best apple districts.

VARIETIES ESPECIALLY ADAPTED TO HOME USE.

Summer.

Transparent: Adapted to all sections.

Primate: Adapted to best apple sections.

Sweet Bough: Adapted to best apple sections.

Duchess: Adapted to all sections.

Fall.

- Chenango*: Adapted to best apple sections.
Gravenstein: Adapted to best apple sections.
Wealthy: Especially adapted to northern sections.
McIntosh: Especially adapted to northern sections.
Fameuse: Especially adapted to northern sections.
Blenheim: Adapted to best apple sections.

Winter

- King*: Adapted to best apple sections. Should be top grafted.
Wagener: Adapted to best apple sections.
Swayzie: Adapted to all sections except most northerly.
Greening: Adapted to best apple districts.
Tolman: Adapted to best apple districts.
Spy: Adapted to best apple districts, but will succeed farther north if top grafted.
Mann: Adapted to best apple districts, but will succeed farther north if top grafted.

HARDY VARIETIES RECOMMENDED FOR SECTIONS NORTH OF LATITUDE 46 DEGREES.

Summer.

Yellow Transparent, Charlamoff.

Fall and Winter.

Duchess, Wealthy, Hibernial, Longfield, Patten, Whitney, Hyslop, Scott Winter.

CRABS SUITABLE FOR THE WHOLE OF THE PROVINCE.

- Whitney*: A large crab of high quality, suitable for planting in the extreme north where other apples will not succeed. May be used for dessert or cooking.
Martha: An early crab of fair quality.
Transcendent: Yellowish crab, season early autumn.
Hyslop: Dark, rich red crab, of late season, quality only fair.

DISTRICT LISTS RECOMMENDED BY THE EXPERIMENTERS.

Niagara District: By Linus Woolverton, Grimsby, Ont.

Commercial: Astrachan, Duchess, Gravenstein, Alexander, Blenheim, Cranberry Pippin, Hubbardston, King, Greening, Baldwin, Spy.

Domestic: Early Harvest, Sweet Bough, Duchess, Chenango, Gravenstein, Shiassee, Fall Pippin, Fameuse, Swayzie, Wagener, Yellow Bellflower, Spitzenburg, Tolman.

Bay of Quinte District: By W. H. Dempsey, Trenton, Ont.

Commercial: Duchess, Gravenstein, Trenton, Alexander, Wealthy, Fameuse, McIntosh, King, Greening, Baldwin, Ontario, Seek-no-Further, Spy, Tolman, Ben Davis, Stark.

Domestic: Benoni, Primate, Gravenstein, Fameuse, McIntosh, Grimes, Greening, Ontario, Spy, Tolman, Swayzie.

Burlington District: By A. W. Peart, Burlington, Ont.

Commercial: Astrachan, Duchess, Wealthy, Ribston, Blenheim, King, Greening, Baldwin, Spy.

Domestic: Astrachan, Sweet Bough, Gravenstein, Wagener, Seek-no-Further, Golden Russet.

Lake Simcoe District: By G. C. Caston, Craighurst, Ont.

Commercial: Duchess, Peerless, Alexander, Wolf River, Blenheim, Pewaukee, Stark, and the following if top-worked on hardy stocks: Greening, King, Ontario, Baldwin, Spy.

Domestic: Astrachan, Primate, St. Lawrence, Fameuse, McIntosh, King, Spy.

Lake Huron District: By A. E. Sherrington, Walkerton, Ont.

Commercial: Astrachan, Duchess, Wealthy, Fameuse, McIntosh, Blenheim, Greening, Baldwin, Spy, Golden Russet, Ben Davis.

Domestic: Transparent, Astrachan, Duchess, McIntosh, Grimes, Blenheim, King, Spy, Golden Russet.

St. Lawrence District: By Harold Jones, Maitland, Ont.

Commercial: Duchess, Alexander, Wolf River, Scarlet Pippin, Fameuse, McIntosh, Baxter, Milwaukee, Golden Russet.

Domestic: Transparent, Brockville Beauty, Scarlet Pippin, Fameuse, McIntosh, Blue Pearmain, Golden Russet, Yellow Bellflower.

Algoma District: By Charles Young, Richard's Landing, Ont.

Commercial and Domestic: Astrachan, Transparent, Duchess, Charlamoff, Gideon, Longfield, Wealthy, Scott Winter.

SITE OF THE ORCHARD.

The large inland lakes surrounding the southern portion of this Province have a wonderfully ameliorating effect upon the climate for some distance from their shores, and as a rule, our most extensive commercial orchards are in proximity to these large bodies of water. There are, however, in the interior many localities quite as favorable for fruit growing, but in such locations the question of site and exposure has to be more carefully considered. The site usually selected for the orchard is one near the buildings, which may be all right if these are on the highest ground, for such grounds are not only best drained but are least liable to untimely frosts. Good atmospheric drainage is often quite as important as good water drainage, and cold air, like cold water, runs down hill. Only a few feet of elevation above a wide adjoining area may be sufficient to enable trees in full bloom to escape a frost which destroys the crop on the lower level. On level lands there is practically no atmospheric drainage and the orchardist must take his chances and make the best of it.

EXPOSURE.

Where the land is rolling, and there is a choice of exposure, the situation should be carefully considered, for in many cases this may be the difference between success and failure. As to which is the best exposure, depends largely upon the surroundings. In proximity to large bodies of water the best exposure is toward the water. In localities subject to late spring frost the safest exposure is towards the north, as this helps to retard the period of bloom till danger of frost is past. On a northern exposure trees are less likely to suffer in times of severe drouth, and there is also not so much injury from sun scald, a most serious trouble in northern localities. For the reasons given a northern or eastern aspect is, as a rule, preferable to a southern or western one, and also because there is less exposure to our strongest prevailing winds, which come from the south-west.

WINDBREAKS.

Protection from the prevailing winds is another matter that requires due consideration. The shelter accorded by a high hill or natural belt of timber is perhaps the ideal one, but when these do not exist, the planting of a windbreak is necessary. The best trees for windbreaks are some of the evergreens, such as Norway and White Spruce, the Austrian and Native White Pines. The Norway Spruce is most used because it is a rapid grower, and the young trees may be

obtained very cheaply. The windbreak should be planted at the same time as the orchard; it will then be effective by the time the trees come into bearing. A single row may be sufficient, although in very exposed places, a double row, with the trees set alternately, is preferable. The trees should be at least six or eight feet apart, and even ten or twelve feet is better when the trees grow up. The trees should not be planted nearer than forty feet from the first row of apple trees, as if planted too near, drifts of snow may cause injury in winter, and insects are more troublesome in summer where there is not a good circulation of air. The trees in the windbreak should be well cultivated, the same as the trees in the orchard, until they become well established. Neglect of this is the main cause of failure in setting out windbreaks.

THE SOIL AND ITS PREPARATION.

The apple tree readily adapts itself to a great variety of soils, yet there are certain kinds upon which it does much better than others. Light sandy soils are usually deficient in plant food, and are not retentive of it when fertilizers are applied to them. The trees upon such soils may do fairly well for a time, but as a rule they are less productive and shorter lived than on heavier soils. On the other hand, heavy clay soils may contain plenty of plant food, but they are difficult to work, and unless very carefully managed bake so hard that the tree will not thrive upon them. The ideal soil is a happy mean between these extremes, a friable loam. It may be called a sandy or a clay loam, as either sand or clay predominates in its composition, and is all the better if of a limestone formation upon an open subsoil.

One of the first requisites in any orchard soil is good drainage. Fruit trees will not thrive upon undrained soil. If the land is not naturally well drained, it should be thoroughly underdrained.

Good preparation of the soil previous to planting is very essential. Trees set on unprepared soil are seriously handicapped at an important stage of their life and often they never overcome it. Land which has been exhausted by grain production is in poor condition for the growing of trees, although it may be greatly improved by growing and plowing down two or three crops, such as rye, clover, or vetches, as a green manure. Probably no other crop leaves the ground in better mechanical condition for the growth of trees than clover. Its roots penetrate the soil deeply and leave it well filled with vegetable matter or humus.

There has been much diversity of opinion regarding the value of subsoiling in preparing the land for trees. But there is little room for doubt that it is of much benefit on land where the subsoil is hard and impervious to water. The subsoiler should follow in the furrow of the ordinary plow, loosening the subsoil as deeply as possible. Where this is not done, clover roots are the next best thing as subsoilers.

The preparation of the ground for planting should begin by a good deep plowing in the fall, and it would be all the better if it could be ribbed up as is now frequently done in preparing ground in the fall for spring seeding. This insures good surface drainage and quick drying of the ground in the spring. All that would then be required in the spring would be to harrow down the ridges and loosen up the ground as deeply as possible with a spring tooth cultivator.

PLANTING.

Great care should be taken and good judgment shown in laying out the orchard and in planting the trees.

The proper distance apart for planting depends altogether upon the ultimate size which the trees may attain, which in turn depends upon the variety, the soil,

and the locality. The varieties grown in our most northern orchards seldom spread more than twenty or twenty-five feet, while the kinds grown in the more favored apple sections of Southern Ontario often have a spread of forty feet. The best guides to intending planters is to observe carefully the distances required for full grown apple trees in the neighborhood. In southern Ontario this will be found to be from thirty-five to forty feet, throughout central Ontario thirty to thirty-five feet, while in the northern sections where only the hardiest kinds are grown, twenty-five feet will be found quite sufficient. It is wise to allow plenty of space, so that there will be no crowding when the trees have reached their full size. Planting too close is a far more frequent and serious mistake than planting too far apart.

A plan quite frequently adopted, particularly in some of the large American orchards, is to use some of the small-growing early-bearing varieties, as fillers between the large-growing varieties. The Duchess, Ontario, and Ben Davis, for example, are planted alternately with large growing kinds, such as Baldwin, Greening, and Spy.

In such cases, the large-growing kinds are set at the maximum distance apart, and the smaller kinds between them. By the time the larger kinds begin crowding, the smaller ones will have paid for their keep and that of the others, and can be cut out to make room for the larger trees. The greatest objection to this plan is the danger that the fillers may be left so long before they are removed that the value of the whole orchard may be impaired.

There is a diversity of opinion as to the best time for planting, although it may be done successfully any time when the tree is dormant, either in the spring or autumn. In favorable localities and with hardy varieties it may be done quite as well one season as another, but for general planting the spring is the safest time in our rigorous climate.

The trees should be planted in rows as straight as it is possible to make them. Straight rows add not only to the appearance of the orchard, but to the convenience of cultivation. One of the best means of getting the rows straight is to stake out the position for each tree before beginning to plant.

Great care should be taken to prevent the roots of the trees drying while they are out of the ground. If it happens to be hot and windy at the time of transplanting, it is a good plan to puddle the roots in soft mud as soon as they are taken from the packing box or trench, and in carrying the trees about the orchard, it is well to keep the roots covered with a wet blanket or piece of old carpet.

The hole for the tree should be wide enough to hold the roots without cramping or crowding, and should be deep enough to admit of a few inches of fine mellow surface soil being filled in the bottom, and still have the roots an inch or two deeper than they were in the nursery row. The roots should be spread out in their natural position and should be covered with moist mellow surface soil. It is well, in digging the holes, to have the surface soil placed at one side and the subsoil on the other, so that in refilling, the surface earth may be placed next the roots and the subsoil left for the top. If the soil has been properly prepared it is seldom necessary to water the roots at the time of transplanting, but care must be taken to ensure the soil moisture from below coming up to the roots. This may be done by tramping the earth firmly as soon as the roots are well covered, and leaving only the top soil untramped to act as a mulch and retain the moisture below. The neglect of this firming of the soil around the roots is one of the most common causes of failure in the transplanting of trees. If watering is necessary, a small pailful poured in as soon as the roots are nearly covered, is of more use than a half dozen on the surface after the planting is finished.

All torn, bruised, or injured roots should be cut back, with smooth cuts, to sound wood. Smooth cuts callous over quickly and new roots are the more readily sent out. Trees obtained from the nursery, no matter how carefully they may have been taken up, have lost the greater part of their root system, and in order that they may make a satisfactory growth when transplanted the top must also be cut back to a similar extent to restore the balance. This cutting back, however, can be most satisfactorily done after the trees are planted, when they are held firmly by the soil, and more careful attention can be given to shaping the head of the young tree. Closely associated with the heading back of the top at the initial pruning of the tree, is the question of determining the height at which the head should be formed. On this, as in many other points of orchard management, there is a variety of opinions. Some prefer high heads, because of the greater convenience for cultivation and working underneath; while others prefer them low, because of the greater convenience in pruning, spraying, and harvesting. There are other reasons, however, why low headed trees are preferable; in exposed locations the trees and crop are less likely to suffer from violent winds, and in northern localities the trees with short trunks and low spreading branches are much less subject to injury from sun scald, the most serious tree trouble of the north. At the Algoma Fruit Experiment Station it has been found advisable to start the head not more than a couple of feet from the ground, while in the more favored sections the custom is to have at least four feet of trunk. This is the height at which the head is usually started on two or three year old trees as obtained from the nursery, and for this reason it is better for the northern planter to get two year old, rather than three or four year old trees, so that he can start the head at whatever height he wishes. In this connection it may be stated that tree trunks do not lengthen, except by pruning off the lower branches, so that at whatever distance from the ground the lower branches are left, that will be the permanent length of the trunk.

Three branches are enough to leave to form the main limbs or framework of the tree top. These should be evenly spaced around the trunk to give a well balanced and symmetrical top, and they should also be placed on the trunk so as to distribute evenly the weight of the top and avoid bad crotches which are liable to split down with weight of crop. It is particularly important at this stage that great care should be taken to train the young tree in the way it should go, and much can be done in training and directing growth by heading back to buds pointing in the direction we wish the new branch to take.

CARE OF THE ORCHARD AFTER PLANTING.

In a newly-planted orchard the trees occupy but a small portion of the land, and they cannot be expected to give any returns for at least five or six years. It is advisable, therefore, that some other crop be grown in the orchard which will pay for the labor spent upon it till the apple trees come into bearing and require all the space. It is by injudicious cropping, however, that young orchards are often most seriously injured. It should not be forgotten that the apple trees are the first consideration, and that whatever cropping is done in the orchard must not interfere with them in the least.

In some cases the spaces between the trees may be planted with small fruits, such as raspberries, currants, or gooseberries, but these should not be planted within nine or ten feet of the tree, nor should they occupy ground more than six or seven years.

Hoe crops, such as corn, roots, potatoes, etc., have generally been recommended as the best to grow in the orchard, because of the opportunity they afford for cultivation. This may be all right as far as it goes, but these crops

draw heavily upon the plant food in the soil and return very little in the way of roots or plant residue. If such crops are successively grown for several years, they are almost sure to seriously deplete the soil of fertility, unless extra care is taken to maintain it by the application of manure or fertilizers. Probably on the whole the least objectionable cropping is a well arranged rotation of crops, in which clover and hoed crops alternate frequently enough to keep the ground in good condition. Some of these crops harbor mice, and whenever such occur in the rotation precautions must be taken at the approach of winter to protect the trees from their ravages.

During all this intercropping a strip in which the trees are growing must be left for regular cultivation, and this strip should be widened each year as the trees increase in size. No cropping should be attempted under the head of the trees, and intercropping should be discontinued as soon as the trees require all the space.

CULTIVATION.

Cultivation improves the physical condition of the soil by breaking up the soil particles and presenting a greater feeding surface to the roots. By warming and deepening the soil, it permits of a greater depth of feeding area. Every soil particle is surrounded by a thin film of moisture, consequently the finer the soil particles the greater the surface area to hold moisture. A dry earth mulch or dust blanket on top checks the evaporation of moisture from below. Cultivation renders plant food more readily available by promoting nitrification and the decomposition of organic matter in the soil.

Knowing this to be the case, many growers have given thorough cultivation a fair trial, and have satisfied themselves that for most sections of Ontario clean cultivation with cover crops is more profitable than sod. There are indeed few cases where sod is more desirable than cultivation; these are where the soil is fertile and contains an abundant supply of moisture.

As soon as possible after the trees are set, a strip on each side should be cultivated to loosen up the soil which has been tramped down during planting. Each year this strip should be widened, so that no crop intended for harvesting is grown beneath the branches of the trees.

Cultivation should begin as early as the ground is dry enough in the spring. The first tool to be used in most cases is the plow. It is well to plow the land about five inches deep during the first few years after setting to encourage deep rooting. As the trees get older the depth of plowing should be gradually lessened, until by the time the orchard is in full bearing, three to four inches is sufficient.

It is a good practice to roll each evening what has been plowed during the day, particularly if the ground is inclined to be lumpy. The soil is much more easily pulverized when freshly plowed than if allowed to lie exposed to the weather for several days.

COVER CROPS.

The value of growing cover crops in the orchard is being more appreciated every year by fruit growers, who in times past viewed with alarm the injury which occurred from root killing where the soil was bare in winter. A cover crop is a covering of vegetation in the orchard during the latter part of summer and early winter, and is useful in many ways, of which the following are some of the most important: (1) A cover crop, by adding a large amount of fibre to the land, prevents hard soils from cementing or puddling. (2) On bare and rolling

land, where the rains quickly run off and snows blow off the high portions, a growing crop tends to hold these until they have time to soak into the soil. (3) Land covered by a growing crop dries out more quickly in the spring, owing to the transpiration of moisture through the leaves, and consequently may be plowed under earlier in the season than land which is bare. This is a very important point, as it enables the orchardist to gain several days in the busy season of spring. (4) Ground covered with vegetation will hold the snows in winter and thus prevent deep freezing, thereby avoiding the liability of root killing. (5) A cover crop affords the most economical means of furnishing a supply of humus in the soil. (6) The roots of a cover crop assist the tree roots in rendering available certain mineral plant food in the soil. (7) A large amount of plant food is liberated in the soil after the tree growth has ceased. This is taken up by the growing crop and held in a readily available form for the following season. (8) Leguminous crops, such as clover, vetch, alfalfa, peas, and beans, by virtue of certain bacteria which form nodules on the roots, are able to assimilate nitrogen from the air. As nitrogen is one of the most expensive fertilizing elements, the value of this class of plants cannot be too highly appreciated.

Cover crops should be sown about the middle of July so that they may make a good growth the same season, and in the colder parts of the Province, the seed may be sown during the first week of July, as the season is shorter than in the more favored sections. It is also wise to check the growth of the trees about this time, so that they may mature their wood before winter sets in. The thorough tillage which should have been practised up to this season, leaves the ground in the best possible condition to give the young plants a start. The crop should be plowed under as early in the spring as possible, and cultivation should begin at once. If the crop is large and the soil rather dry, this is imperative, as the large amount of vegetable matter turned under seriously interferes with capillary action and leaves the surface soil unduly dry.

That a cover crop may be of the greatest value, it should be capable of withstanding the winter and continuing its growth next spring. This, however, is not a necessity, as many of the ordinary crops which will not live through the winter are valuable for this purpose.

Different soils require different kinds of crops. This has led to a division of cover crops under several classes. The most important are the nitrogen gatherers, which through the agency of the nodules on the roots can make use of the nitrogen of the air. Such plants as clover, vetches, alfalfa, peas, and beans, belong to this class, and should be used where the soil is deficient in nitrogen. Another class is known as the potash liberators, such as turnips and rape, which, although they do not add anything to the soil, as do the leguminous plants, yet change the form of the mineral potash so that it may be more readily acted upon by the roots of succeeding crops. Then there is a third class, commonly grown, such as rye, oats, and buckwheat, which are valuable chiefly on account of the humus formed by their development.

Hairy Vetch, sown at the rate of thirty-five pounds per acre, forms a very close mat over the ground. This is a valuable crop owing to the fact that it collects nitrogen, lies close to the ground so that it does not inconvenience the pickers when gathering the fruit, and also withstands the cold winter and continues its growth early in the spring.

Red Clover and Mammoth Clover, sown at the rate of twenty pounds per acre, are about equal in value, make a fair growth, are low growing, and winter well on drained soil.

Crimson Clover has not made quite as good growth as the red or the mammoth, nor will it stand the winter in the colder sections, which is a serious disadvantage.

Alfalfa, or lucerne, is one of the best leguminous crops for dry land. It makes a good growth and winters well. There is a mistaken impression that alfalfa will not make sufficient top the first season. Thirty pounds of seed per acre, sown in July, will give a good stand the same season.

Rape has given good results in the colder sections. It makes a heavy growth of stiff stems, which, although nearly all killed in winter, stand up well enough to hold the snows. Rape can scarcely be recommended for fruiting apple orchards, as it remains wet the greater part of the day, making the work of harvesting very unpleasant. It may be used to good advantage in the rotation, especially if few fruits are to be harvested.

Rye, the favorite crop of many growers, gives a fair amount of top and winters well. One advantage of rye is that it may often be grown on lands not in a physical condition for the growth of clover. In this way humus may be added to the soil, and conditions made more favorable for the growth of clover.

MAINTAINING FERTILITY.

The maintainance of fertility is more frequently neglected in the orchard than on any other part of the farm. Trees, even on poor land, will produce fruit, but it is only on soils where fertility is maintained that paying crops are produced. Each year that fruit is harvested some plant food is removed. If profitable crops are to be expected the supply of plant food in the soil must be maintained.

The most essential elements for the production of fruit are nitrogen, potash, phosphoric acid, and lime. Nitrogen encourages leaf and wood growth, which are essential to the development of the tree and to the production of the best quality of fruit. Potash is an essential constituent in the growth of fruits. It constitutes a large proportion of the ash of the wood and more than 50 per cent. of the ash of the fruit, and is also associated with the development of flavor in the fruit. Phosphoric acid is essential to the development of the tree and the proper ripening of the fruit. Lime is not in itself an essential element, but assists in liberating plant food. On a soil deficient in lime, growth often continues so late that the wood does not mature nor the fruit ripen properly.

Barnyard manure supplies nitrogen, potash, and phosphoric acid, and improves the physical condition of the soil. Cover crops may take the place of barnyard manure to improve the physical condition of the soil, and the leguminous ones may add all the nitrogen required. Concentrated fertilizers or commercial plant foods may be used in conjunction with cover crops to supply all the plant food necessary for the growth of trees. In the use of commercial fertilizers it is well to proceed cautiously, and, by carefully conducted experiments, ascertain what elements of plant food the soil may be deficient in, and what amounts it may be necessary to apply to get the best results. Unleached wood ashes contain a small quantity of phosphoric acid, seldom exceeding $1\frac{1}{2}$ per cent., a larger amount of potash, varying from 5 to 7 per cent., and also a certain amount of lime. Where pure wood ashes can be procured at a price not exceeding ten cents per bushel, they afford an economical source of plant food. An application once in two or three years will usually give excellent results, especially on light soils which are most lacking in potash. Muriate of potash is another economical form in which to obtain potash. Phosphoric acid may be purchased in the form of superphosphate. Nitrogen may be procured in the form of sodium nitrate, but

leguminous cover crops furnish a much cheaper source of this essential but costly element.

PRUNING.

The object of pruning is to form a vigorous and evenly balanced tree, which will produce annually a paying crop of good-sized, well-colored fruit. Unpruned trees produce many small-sized unsalable apples. Pruning lessens the number of apples per tree, but at the same time increases the size and improves the quality of those produced. A heavy crop of good-sized fruit is not so serious a drain on the vitality of the tree, nor on the fertility of the soil, as the same weight of smaller apples would be, for it is the production of the seed which makes the greatest drain on the tree and soil.

Pruning should be practised every year without fail from the time the tree is planted. In this way the operation is never a severe one, and the removal of the large limbs becomes unnecessary. Limbs growing too strongly in any particular direction, which are liable to upset the balance of the tree, should be headed back. Where two limbs cross, one of them should be removed. Branches growing across, from one side to the other, should be cut out. Care should be taken to leave sufficient twigs in the centre to protect from sun scald. Much may be done in directing growth by heading back to a bud pointing in the desired direction. It is while the trees are young that the greatest care in training is required.

A properly pruned apple tree should be open enough to admit sunlight and permit of free circulation of air. Its lower branches should be trained high enough to admit of easy cultivation, yet the top should not be so high that spraying and harvesting are rendered difficult. Varieties differ more or less in their habit of growth, and, while it may be advisable to modify this to some extent, it is not well to attempt to change it unduly. Long bare branches should be avoided, and the formation of fruit spurs should be encouraged on all parts of the tree.

The best time for pruning is just before growth begins. Wounds made at that season soon heal over. It is not well to prune when there is frost on the wood. Pruning while the tree is dormant tends to increase the growth of wood. Summer pruning encourages the formation of fruit buds, but it is not advisable to do much of it, as the removal of any considerable amount of the leaf area tends to check the vigor of the tree. Pruning by the removal of buds may be practised at any season of the year.

The thumb and finger may be used for the removal of sprouts and buds during the summer. A pair of small pruning shears will remove all twigs less than half an inch in diameter. For larger limbs a sharp fine-tooth saw is needed. Make all cuts as smooth as possible and close to the main stem. When a large limb has to be removed, it may be advisable to cut twice, the first some inches out to avoid splitting, and the second to shorten the stub. A common mistake is the leaving of long stubs which cannot heal over before rot begins. Where it is necessary to remove large limbs, the wounds should be covered with grafting wax or thick lead paint to prevent the entrance of spores which cause decay.

GRAFTING.

Grafting is the operation of inserting a scion into a stock, usually for the object of changing the variety of fruit produced. Trees bearing undesirable fruit may be top-grafted with some valuable variety. Many choice half-hardy varieties may be successfully grown by top-working on some hardy stock. Especially desirable characteristics in any variety may be perpetuated by grafting. Individu-

ality is quite as marked in plants as in animals. A certain tree may possess some desirable quality, and this may be preserved and perhaps improved upon by selection. It is advisable when cutting scions to select from those trees which have the desirable characteristics most strongly marked. Nurserymen, as a rule, do not pay sufficient attention to the source from which they secure their scions. The individual orchardist may greatly improve his plantation by top-grafting with scions from a tree having the desired qualities most strongly marked.

*Grafting is usually performed in the spring. It is essential that the cambium layer of the scion and stock be in contact on at least one side. From this mucilaginous layer, lying between the wood and the bark, the new cells are formed which in time unite the parts and cover the wound. It is necessary to cover the wounds made in outdoor grafting to prevent the entrance of rot-producing spores. For this purpose wax is generally used.

A good grafting wax may be made by melting together four pounds resin, two pounds beeswax, and one pound tallow. Cool by pouring into a tub of water. Then work up into bars or balls which may be kept in any cool place until required. To economize wax, cloth is sometimes dipped into the hot wax, making wax-cloth. This is more difficult to use than pure wax. The wax may be melted and carried in a glue pot and applied with a brush, or, as is more commonly done, it may be kept in water warm enough to keep the wax pliable so it may be readily applied by hand. It is well to keep the hands greased to prevent the wax from adhering to the fingers.

There are two common methods of top-grafting: (1) Whip or tongue grafting, which is practised upon small branches and young trees; (2) Cleft grafting, which is usually performed on branches from one-half to two inches in diameter.

In whip grafting the stock is cut with a bevel about one inch long, and the scion cut to fit that bevel. Both bevels are cut into slightly and the tongue of one fitted into the notch of the other. The cambium layers must be in contact on at least one side. After the scion is set the wound should be covered with wax or similar substance to exclude the air.

Large trees should not be entirely changed over in one year. The first year select the main branches; the second year part of the remainder, and finish the third year. In this way much of the annoyance caused by the growth of water sprouts is avoided.

When cutting off large branches for cleft grafting it is wise to cut twice, making the first cut a few inches above the position chosen for the scion. Then cut off the stub at the desired point, and avoid the danger of tearing the bark. With a chisel or grafting iron split the branch just far enough to admit the scions. Too deep a split weakens the stock, and the scions will not be held sufficiently firm. It is well to avoid grafting two horizontal limbs, one directly above the other. The tendency of new growth is upward, and the growths from the lower one will interfere with the upper. In branches, other than those growing perfectly upright, the split should be made parallel to, rather than at right angles to the ground.

The scion should be made wedge-shaped, with bevel about one inch long, starting at each side just at the base of a bud. Make the scion three buds long, cutting off just above the third bud. It should be cut a little thicker on the side next to the bud, so that the stock may pinch tightly on that side to insure a close contact of the cambium layers.

Open the cleft with the wedge end of the grafting chisel and insert one or two scions, as may be thought necessary. Place the lower bud of the scion to the outside. Do not force the scion down, but open the cleft by enough leverage

* For more detailed information send for Bulletin 144, "Apple Culture."

on the chisel to admit the scion freely. Setting the scion with the top pointing slightly outward insures contact in at least one point. After setting the scions, cover all wounds with wax.

It is sometimes necessary to remove part of the water-sprouts, which usually start during the summer, to give the scions room for proper development. By the following spring the scions should have made sufficient growth to require all space in that part of the tree, and all other growth should be removed.

SUN SCALD.

Sun scald is an injury to trees which occurs most frequently in the northern districts. It is most serious on young trees, but may also affect the upper side of the large branches in older trees. It is caused by the action of the hot sun on the trunk and branches in the early spring. The first indication is an unhealthy appearance of the bark on the south and south-west sides of trunk and upper side of large branches, the affected parts soon turn brown, then black, and finally die.

In districts where sun scald is apt to occur, it is well to head the trees low and incline the stem slightly to the south-west. In this way the branches afford some shade to the trunk. Anything which will shade the trunk in early spring will prevent the injury. For this purpose the most convenient of the following materials may be used: cornstalks, birchbark, building paper, or a veneer of thin wood, such as is used in basket making. The large branches of old trees should receive natural protection from the small branches and twigs of the top. For this reason severe pruning of the top is not advisable in northern districts.

When trees are badly affected they usually die, but where the injury is slight, and is noticed soon after it occurs, treatment is practicable. Cut away the injured parts, and cover the wound with grafting wax or some material which will keep the wood from drying out. If the tree is healthy and vigorous, the annual growth spreading in from the sound parts soon repairs the injury.

PROTECTION FROM MICE.

During the past two or three years, mice have become a serious menace to young orchards. The rapid increase in numbers may be largely accounted for by the indiscriminate destruction of the farmer's best friends, the hawks, that feed largely on mice by day, and the owls, which take up the work by night. By carefully protecting the hawks and owls for a few years, their numbers will again increase, so that the equilibrium of nature may be restored. In the meantime something must be done to protect the trees against the rodents.

Mice seldom harbor in a green crop, and on clean fields they find no protection. They are found chiefly along the fence lines and in old meadows. As there is usually some shelter afforded the mice near orchards, it is advisable to guard against their depredations. In localities where the snow falls early and remains on the ground all winter, the simplest means of protecting the trees is to tramp the snow firmly about the base of each tree early in the winter. Where the ground is not continuously covered with snow during the winter, a mound of earth about the tree is sometimes all that is required to divert the runways of the mice. Building paper cut into strips which will reach about one foot high when tied about the trunk of the tree in autumn has been found to be both a cheap and an effective preventive.

Badly girdled trees usually die. When the part girdled is small and is covered before the wood dries out with grafting wax or other substance which will protect the inner tissues, the tree may be saved. If the girdled part extends entirely around the tree, it will be necessary to establish some connection between

the cambium above and below the injury. This may be done by bridge-grafting. For this purpose use long scions cut to a bevel on each end. Insert one end above and the other end below the girdle, making sure that the cut surfaces are in contact with the cambium layer. A sufficient number of these scions should be put in to convey the cambium from the top to the roots and all cut surfaces exposed should be covered with wax.

PICKING.

Apples should be carefully picked by hand, without breaking the skin or bruising the fruit in any way. Summer varieties for immediate home use or special local trade should be allowed to ripen on the tree; but if intended for distant markets or storage they should be picked when fully mature, but before they have commenced to mellow. Winter varieties should hang on the tree until they have reached full size and have taken on good color. Apples picked while still immature as a rule keep longer than if allowed to fully ripen on the tree, but they do not develop the full color nor the best quality. No sharp distinction can be made between green and mature, or between fully mature and over ripe fruit; one blends imperceptibly into the other. Experience teaches at what stage to harvest the crop, in order to secure the highest quality and best keeping properties in the fruit. Sometimes, with summer varieties, it is necessary to go over a tree twice, picking the most mature specimens first and leaving the remainder for a week or two in order that they may more perfectly develop. Round bottom baskets or pails should be used for picking, and it is better to have them lined with cloth to prevent bruising the fruit. Fruit should not be piled on the ground, but should be placed at once on the sorting table or be placed in boxes or barrels for removal to the packing house. The apple should be picked with the stem on but without breaking off the fruit spur, as is likely to occur if the fruit is picked too green. Spring waggons should be used to convey the fruit to and from the packing house.

When the trees have been properly pruned, the fruit may all be harvested from ladders. A short step ladder is convenient for the underside and low branches of the tree. For the upper branches light cedar ladders of suitable length will be found very convenient. Extension ladders have been praised very highly in the past, but as they are both awkward and cumbersome, practical growers are abandoning them. The practice of climbing through the tree to gather the fruit, and letting the baskets down to the ground by means of a rope, is out of date, and is not practised in commercial orchards. Inexperienced pickers often lose a great deal of time by not picking clean as they go, making it necessary to carry the ladder back and forth. Each time the ladder is moved all apples in reach should be picked.

DESCRIPTION OF VARIETIES

ALEXANDER. (*Emperor Alexander.*)



ORIGIN: introduced into England from Russia in 1817.

TREE: hardy, spreading, vigorous, productive; bears early.

FRUIT: very large size; form round, ovate, conical; skin greenish yellow, russet dots, streaked or splashed with red; stem $\frac{3}{4}$ inch long, set in a deep cavity; calyx large, nearly closed, set in a deep, even basin.

ALEXANDER.

FLESH: yellowish white; crisp, not very fine, moderately juicy; flavor subacid, pleasant.

QUALITY: dessert, fair; cooking, good.

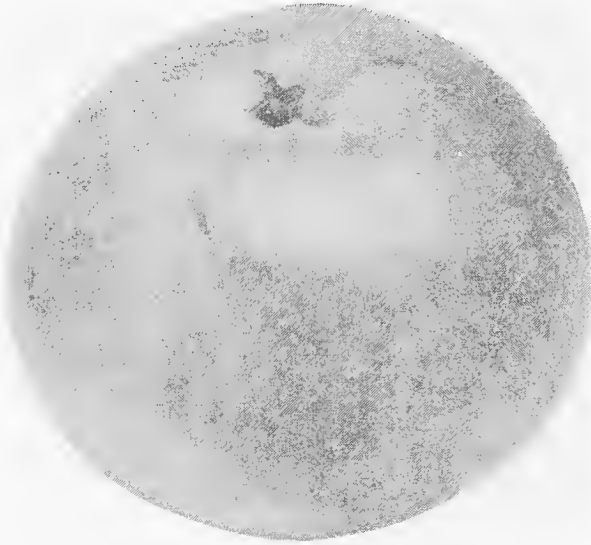
VALUE: home market, first class; can be successfully shipped to Great Britain in cold storage.

SEASON: September to November.

ADAPTATION: quite general, the tree being hardy.



SECTION OF ALEXANDER.

ASTRACHAN. (*Red Astrachan.*)

ASTRACHAN

ORIGIN: imported from Sweden to England in 1816, and widely planted in Southern Ontario for a summer market apple. Scarce another apple of its season equals it in beauty of appearance, for, in addition to its rich crimson color, it is often covered with pale white bloom. Selected fancy grades of this apple are usually in good demand in our home markets, but sometimes there is a surplus, and prices even for Astrachans are very low. Promising for export in cold storage.

TREE: upright; very vigorous; begins bearing early; very productive.

FRUIT: medium to large round, narrowing towards apex; skin, deep crimson when exposed to sun, yellowish green in shade, often covered with a thin, whitish bloom; stem, stout, three-quarter inch long, in a deep cavity; calyx closed in a shallow, somewhat irregular basin.

FLESH: white, crisp, juicy, tender, becoming mealy when over-ripe; acid, almost too tart to be counted very good for either dessert or cooking.

VALUE: first-class where an early summer apple is in demand.

SEASON: early to mid August.

ADAPTATION: In Niagara district perfectly hardy and productive. Not considered profitable in Lake Simcoe district by some growers.



SECTION OF ASTRACHAN.

BALDWIN.

ORIGIN: The Baldwin originated in the State of Massachusetts and has been for many years the most popular winter apple for either home or foreign markets. The average yield from full grown trees each alternate year is about eight barrels per tree, and in some instances much larger. Large orchards of this variety have been planted in the apple growing counties of middle and southern Ontario, where for lack of other varieties to fertilize the blossoms, and owing to the prevalence of apple scab, they have proved unproductive.



BALDWIN.

TREE: not hardy outside the best fruit districts; upright, spreading, vigorous grower, usually very productive.

FRUIT: large, roundish, ovate; skin yellow, shaded and splashed with crimson and red, spotted with some russet dots; stem heavy, three-quarters of an inch long, in a broad cavity; calyx closed, in a deep plaited basin.

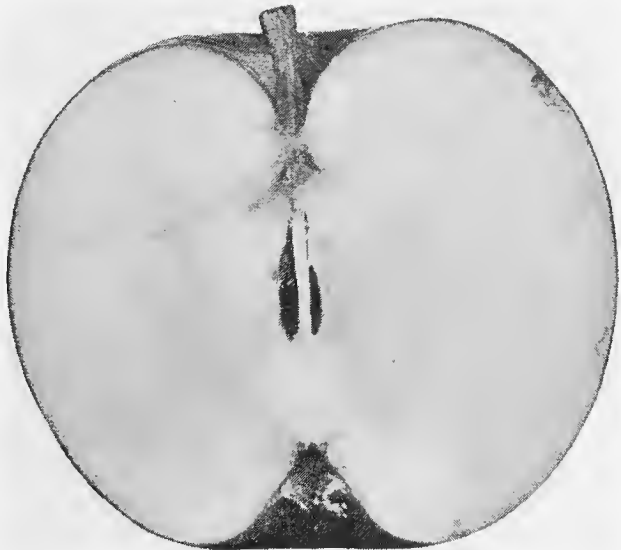
FLESH: yellowish white; tender, juicy; flavor subacid, sprightly, aromatic.

QUALITY: dessert fair; cooking good.

VALUE: market first class, especially for export.

SEASON: November to March.

ADAPTATION: adapted only to the best apple districts, where it is one of the most profitable varieties.



SECTION OF BALDWIN.

BAXTER (*Larue*.)

A fine large red apple, which brings a high price in the British market if grown free from fungous spots, to which, unfortunately, it is somewhat subject.

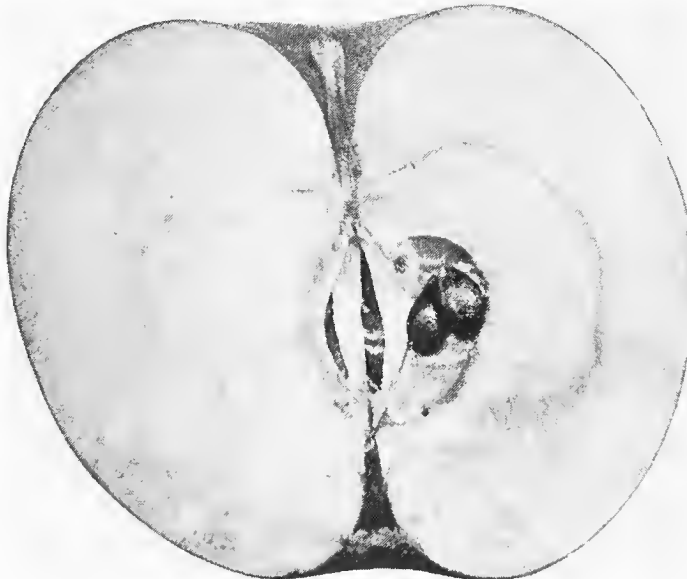
ORIGIN: with Mr. Larue, near Brockville, Leeds Co., Ontario, but introduced by Mr. Baxter.

TREE: healthy, vigorous, hardy, moderately productive.

FRUIT: size large, to very large; form roundish, slightly conical; color red with obscure stripings of dark red, and numerous prominent grey dots; stem half an inch long, in a narrow, funnel form cavity, calyx nearly closed, in a large regular basin.



BAXTER.



SECTION OF BAXTER.

FLESH: white, often streaked with red; texture moderately firm, not very juicy; flavor slightly acid.

QUALITY: dessert medium; cooking good.

VALUE: home and foreign market, first class.

SEASON: October to January.

ADAPTATION: has proved hardy and profitable in Eastern Ontario and the Lake Simcoe District.

BEN DAVIS.

One of the most popular market apples in the southwestern and western states because of its great productiveness, hardiness, good color and its keeping and shipping qualities. Highly valued by some growers in Canada, but condemned by others on account of its inferior quality.



BEN DAVIS.



SECTION OF BEN DAVIS.

ORIGIN : brought from North Carolina to Kentucky with a lot of other seedling apples by Mr. Ben Davis. Scions taken from Kentucky to Southern Illinois about 1820.

TREE : spreading, fairly vigorous and very productive.

FRUIT : medium to large roundish, truncated conical, unequal; color yellow, striped and splashed with red, having scattered aureole dots; stem slender, one to one and a half inches long in a deep cavity; calyx erect, partly closed in a deep, wide basin.

FLESH : dull, white, mild, subacid.

QUALITY : dessert, poor; cooking, fairly good.

VALUE : home market, second class; foreign market, first-class.

SEASON : January to May.

BLENHEIM.

(Blenheim Orange, Blenheim Pippin.)

An apple that is constantly gaining in favor with both grower and consumer, because of its size, its beauty, its evenness of form and general excellence for cooking and dessert purposes. It is grown in the counties of Prince Edward, Victoria, Lincoln and elsewhere, and is highly valued as a commercial apple. It certainly deserves to be more generally planted.

ORIGIN: a garden in Woodstock, England, near the residence of the Duke of Marlboro'; shown at a meeting of the London Horticultural

Society in 1819, and introduced into France into 1840.

TREE: very vigorous in habit and consequently a scant bearer while young, but a regular and abundant bearer as it grows older; dwarfed on the Paradise stock, the tree becomes an early bearer.

FRUIT: large to very large on favorable soil; form roundish oblate, slightly smaller at the apex than at the base, very regular; color yellowish, splashed with dull red on sunny side and streaked and with deep red dots small and distinct; stem short, three-quarters of an inch long, stout in a large russetted cavity; calyx large and very open, with short segments placed in a large green cavity.

FLESH: cream white fine, crisp, moderately juicy, flavor sweet, spicy, slightly acid.

QUALITY: dessert good; cooking very good.

VALUE: home and foreign markets, first class. BLENHEIM.

SEASON: November to February.

ADAPTATION: best apple districts only.



 BENONI.

A summer apple little grown in Ontario, and not highly esteemed for commercial purposes.

ORIGIN : Massachusetts.

TREE : spreading, fairly vigorous ; hardy ; fairly productive.

FRUIT : size scarcely medium ; form oblate conical ; skin rich yellow, blushed with red in the sun with a few scattered bright dots ; stem half an inch long in a deep cavity ; calyx erect, partly closed in a deep basin.

FLESH : color yellow ; texture tender and juicy ; flavor rich subacid.

QUALITY : dessert very good ; cooking good.

VALUE : market second class.

SEASON : August to September.

BIETIGHEIMER.

A fall apple of magnificent appearance, attaining a very large size.

ORIGIN : Germany.

TREE : habit vigorous, spreading ; an abundant biennial bearer ; hardy.

FRUIT : size very large, sometimes immense ; form round, oblate ; skin whitish yellow almost covered with pale red, and having a few obscure stripes and splashes, and numerous whitish dots ; stem very short, in a wide, regular shallow cavity ; calyx closed in a narrow slightly corrugated basin.

FLESH : white ; texture firm, juicy ; flavor brisk, subacid.

QUALITY : poor for dessert ; fair for cooking.

VALUE : home and foreign market second class.

SEASON : September.

BLUE PEARMAIN.

A variety found in many of the older orchards ; not productive enough to be profitable.

TREE : strong, vigorous, healthy ; a light bearer.

FRUIT : size, very large ; roundish, regular, slightly conical ; color, splashes and stripes of dark purplish red over a dull yellow ground, solid red in sun, with heavy white bloom and distinct white, russet dots ; stem three-quarters of an inch long, set in a wide, deep cavity ; calyx open in a smooth, shallow basin.

FLESH : color yellowish ; texture firm, moderately juicy ; flavor mild acid, rich, aromatic.

QUALITY : first rate.

VALUE : not profitable on account of unproductiveness.

SEASON : November to February.

BOGDANOFF.

A promising apple for the north ; not recommended where Spy and Baldwin succeed.

ORIGIN : Russia.

TREE : growth vigorous ; habit upright.

FRUIT : size medium ; form roundish, somewhat ribbed ; color green or yellowish green often with faint bronze blush and numerous small white dots ; stem short, set in a shallow cavity ; calyx set in a broad, deep plaited basin.

FLESH : color white ; texture tender and juicy ; flavor pleasant, subacid.

QUALITY : dessert fair ; cooking good.

VALUE : market second class.

SEASON : November to February.

BOIKEN.

Tested at our Simcoe station since 1896 and esteemed worthy as a commercial apple.

ORIGIN : tree imported from Russia by Prof. Budd ; named after Dike-Warden Boike of Germany.

TREE : a fair grower ; habit willowy, like Golden Russet ; an early and abundant bearer.

FRUIT : size medium : form oblate conical ; skin smooth, yellow with red cheek and many minute white dots ; stem long in a wide, deep cavity ; calyx in a wide, wrinkled basin of moderate depth.

FLESH : color white ; texture firm, juicy, fine grained ; flavor sprightly, refreshing, subacid.

QUALITY : dessert fair ; very good for cooking.

VALUE : thought well of at Lake Simcoe Station for market.

SEASON : November to February.

BOTTLE GREENING.

An apple grown in some parts of Ontario for home uses, for which its excellent quality makes it very desirable ; it is not recommended for the commercial orchard, because the fruit is rather tender for shipment to distant markets.

ORIGIN : according to Chas. Downing this variety was found near the border line between Vermont and New York State, and takes its name from a hollow in the original tree, where workmen were accustomed to keeping their bottle.

TREE : vigorous, productive.

FRUIT : medium to large ; form oblate, slightly conical ; color yellowish with bright red on one side, a thin bloom and a few light dots ; stem half an inch long in a deep, funnel-form cavity ; calyx nearly closed, in a moderately deep, slightly plaited basin.

FLESH : greenish white ; texture fine, tender, juicy, almost melting ; flavor subacid.

QUALITY : dessert, very good.

VALUE : home market, first class ; foreign market, second class.

SEASON : November to February.

BROCKVILLE (*Brockville Beauty*).

A seeding of Fameuse which is as yet grown only to a limited extent in the eastern part of the Province. This fruit is inclined to run small as the trees overload.

ORIGIN : near Brockville, Ontario.

TREE : hardy, moderately vigorous ; bears heavily every alternate year.

FRUIT : form conical ; size medium to small ; skin white, almost covered with bright red.

FLESH : color white ; texture crisp, tender, breaking : flavor brisk acid.

QUALITY : dessert and cooking good.

SEASON : late August to mid September.

CABASHEA. (*Twenty Ounce Pippin.*)

Not worth planting in Ontario. Through confusing its name with that of Cayuga Red Streak, often called Twenty Ounce, this apple has been widely planted in our Province. The tree is unproductive and the fruit, although large and fine in appearance, drops early and is poor in quality.

ORIGIN: unknown.

TREE: vigorous, spreading, unproductive.

FRUIT: large, roundish oblate, slightly conical; skin yellowish green, shaded dull red on the sunny side; stem five-eighth of an inch long, stout, in a wide cavity of moderate depth; calyx open in a wide shallow basin; core medium.

FLESH: white, firm, coarse, subacid, only fair for cooking, useless for dessert.

VALUE: tested twenty years at Maplehurst, Grimsby, and found unprofitable on account of unproductiveness.

SEASON: October to December.

CANADA RED. (*Red Canada of Beach.*)

ORIGIN: unknown; Beach says it was brought from the neighborhood of Toronto, into Western New York State.

TREE: a strong grower, productive in some places, while a shy bearer in others, and hence is not recommended.

FRUIT: medium to large, roundish conical; skin yellow, well splashed and washed with deep, rather dull red; dots fairly numerous, large, yellow, prominent; cavity deep, narrow; stem short, slender; basin narrow, shallow, slightly wrinkled; calyx small, partly open.

FLESH: yellowish, tender, moderately juicy, mildly subacid with a pleasant but not high flavor; core of medium size.

QUALITY: good.

SEASON: mid to late winter.

CAYUGA. (*Cayuga Red Streak, Twenty Ounce.*)

A large, fine looking cooking apple for late autumn: a good market sort; grown in limited quantities in Ontario.

ORIGIN: Connecticut.

TREE: vigorous; compact; productive; an annual bearer; on large trees, growth is straggling.

FRUIT: very large, roundish, uneven; skin greenish yellow to yellowish white, with marblings and stripes of red and crimson, and a few large grey dots; stem three quarters of an inch long, in a deep, slightly russeted cavity; calyx small, half open in a smooth shallow basin.

FLESH: yellowish white, texture coarse grained, tender, moderately juicy; flavor brisk, subacid, pleasant.

QUALITY: dessert poor, cooking good.

VALUE: market first-class.

SEASON: late autumn to early winter.

COLVERT.

A fairly good fall market apple, being large in size and rather attractive in appearance, but of fair quality only. It has been widely planted in Ontario for market. For kitchen use it is much inferior to the Gravenstein.

ORIGIN: uncertain.

TREE: very vigorous and very productive.

FRUIT: large, form oblate, slightly conical; skin greenish yellow, with cheek and faint stripes of dull red; stem stout, half an inch in length.

FLESH: color greenish white; texture tender, moderately juicy; flavor subacid, ordinary.

QUALITY: dessert, fair; cooking, good.

VALUE: second-class for market.

SEASON: October to November.

ADAPTATION: succeeds at Georgian Bay and Bay of Quinte stations, and is widely grown in the older apple sections of Ontario.

CHARLAMOFF.

(Pointed Pipka, Arabka).

CHARLAMOFF (after S. B. Green).

One of the best hardy varieties of its season which has been successfully grown at our Algoma station. It is classed by the Minnesota State Horticultural Society as one of four varieties having the first degree of hardiness.

ORIGIN: Russia; imported by Budd and Gibb.

TREE: very hardy; habit spreading; growth vigorous; very productive.

FRUIT: size above medium; form oblong, truncated, angular, ribbed;

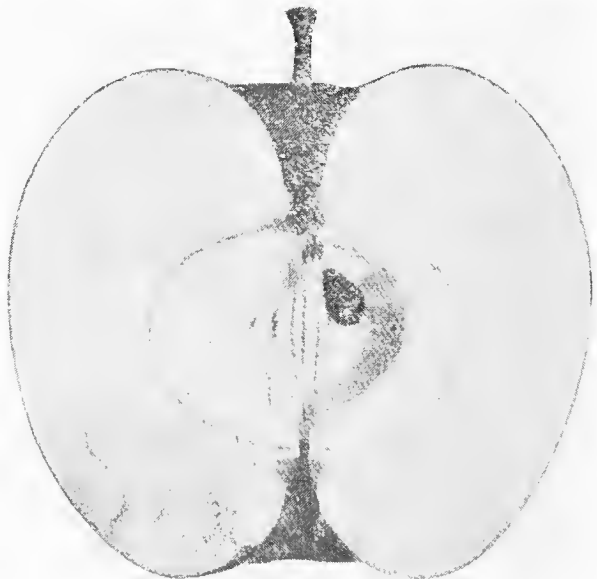
skin light yellow, covered with dark crimson stripes and splashes, with red cheek and white, minute dots; stem medium stout, in a deep, acute, russeted cavity; calyx open, sometimes closed, in a wide, shallow, wrinkled basin.

FLESH: color white, stained with red under the skin; texture somewhat coarse, juicy; flavor subacid, pleasant.

QUALITY: dessert good.

VALUE: market second class, being very perishable.

SEASON: August, just before Duchess.



SECTION OF CHARLAMOFF.

CRANBERRY PIPPIN.

An apple worthy of being planted in southern Ontario as a fancy variety for export; although the quality is ordinary and not suitable for dessert, its extreme beauty when opened in mid-winter, its large and even size, and the productiveness of the tree every alternate year, make it a desirable variety.

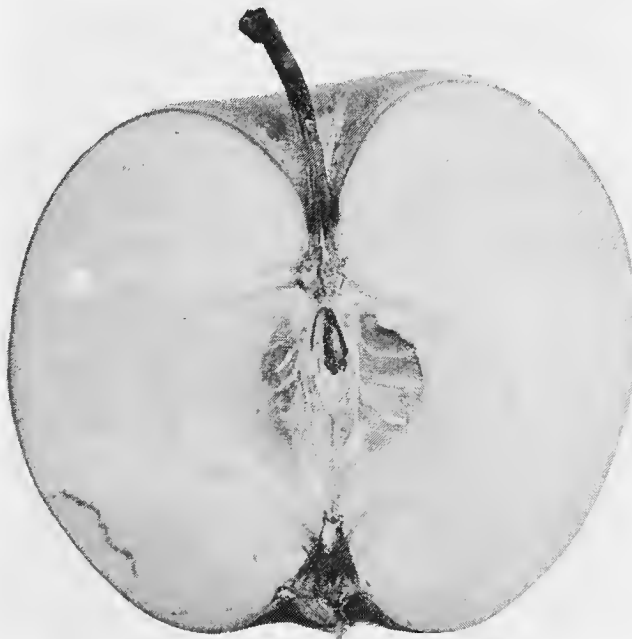
Sometimes, however, this variety is subject to warts and knots which mar its beauty.

ORIGIN: accidental, on a farm, near Hudson N. Y.

TREE: very vigorous, healthy, spreading, and productive.



CRANBERRY PIPPIN.



SECTION OF CRANBERRY PIPPIN.

FRUIT: medium to large, roundish, oblate; skin smooth, yellow shaded and striped with two shades of red; stem slender, one-eighth of an inch long in a deep cavity; calyx closed, in a wide, wrinkled basin.

FLESH: color white; texture firm, crisp, coarse, moderately juicy; flavor subacid.

QUALITY: dessert, poor, cooking fair.

VALUE: market second class.

SEASON: November to February.

ADAPTATION: southern portions of the Province, especially along the shores of the lakes.

DUCHESS.

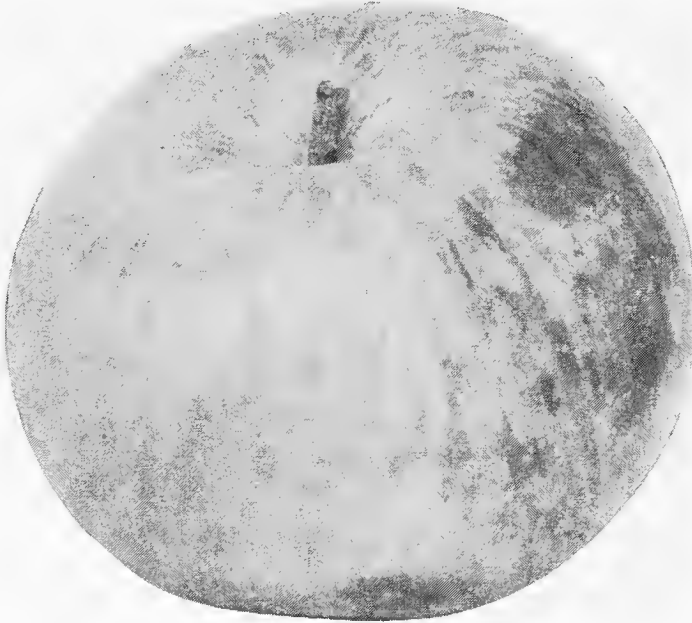
(*Oldenburg of Downing, Borovitsky of Royal Horticultural Society, 1824.*)

In cold storage, this apple may be profitably exported to Great Britain. It succeeds in every part of Ontario where the apple can be grown, and its beauty always brings for it the top price in the market.

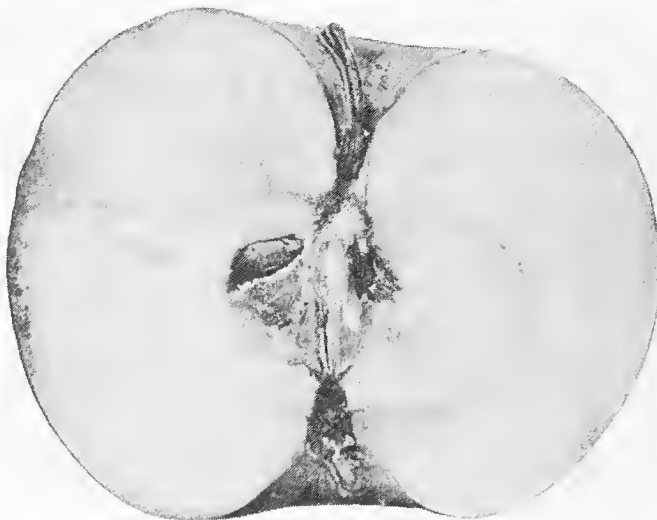
ORIGIN : Taurida Gardens, St. Petersburg, Russia, in 1824 ; introduced into England by the Royal Horticultural Society in 1824.

TREE : very hardy, very vigorous and an early and abundant bearer.

FRUIT : medium to large ; form regular, roundish oblate, one sided ; skin greenish yellow,



DUCHESS



SECTION OF DUCHESS

with bright red stripes, splashes and numerous russet dots ; stalk slender, three-quarters of an inch long, set in a deep funnel-shaped cavity ; calyx long, closed, in a deep broad plaited basin.

FLESH : greenish, turning yellowish white at maturity ; texture fine, firm and juicy ; flavor brisk, refreshing acid.

QUALITY : dessert fair, cooking good.

VALUE : first class of its season for home market.

SEASON : August and September.

ADAPTATION : general. Succeeds fairly well wherever apples are grown in the Province, and does exceptionally well on the borders of Lakes Ontario and Erie.

EARLY HARVEST.

The best apple of its season for dessert, but of late years rendered worthless in Ontario by scab, which not only spoils its appearance, but lessens its size and injures its flavor. The Early Harvest and Fall Pippin are the two apples which seem to be least able to resist this terrible fungus, and which most favor its spread. Unless, therefore, the fungus is checked by spraying with the Bordeaux mixture, this apple must be left out of the list of desirable varieties.

ORIGIN : United States, in cultivation since about 1700, A. D.

TREE : only medium in vigor, never attaining a large size, old trees averaging from one-half to two-thirds the size of Greening trees of the same age ; upright and spreading ; productive, considering the size of the tree and the fruit ; yield of full grown trees averages about four barrels every alternate year.

FRUIT : medium round, oblate ; skin smooth, bright straw color when ripe, with a few faint dots ; stem short, one-half to three-quarters of an inch, in a medium cavity, often russeted ; calyx closed in a shallow, sometimes slightly plaited basin.

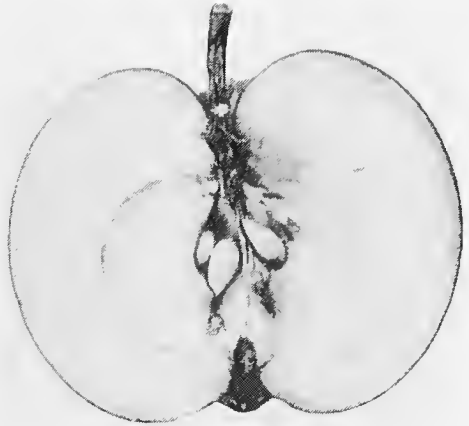
FLESH : white, fine grained, juicy, crisp, tender ; flavor rich, sprightly, pleasant subacid.

SEASON : late July to early August.

QUALITY : dessert best ; cooking good.

VALUE : home market first class ; foreign market second class.

ADAPTATION : succeeds in the best apple districts, but is much subject to scab.

FILLBASKET. (*Kentish Fillbasket*.)

An old English variety of great beauty of appearance and enormous size, often exceeding four inches in diameter. It is not, however, much grown in the commercial orchards of Ontario, being a fall apple, ill adapted to export, unless by cold storage, and of very ordinary quality.

ORIGIN : England.

TREE : vigorous, fairly productive, semi-hardy.

FRUIT : very large, globular, slightly ribbed ; color smooth, shiny, light green or pale yellow, sometimes almost white, and on sunny side splashed and striped with bright red ; stem stout, short, $\frac{1}{2}$ inch long, set in a large cavity ; calyx closed, set in a large plaited basin.

FLESH : fine grained, tender and juicy ; flavor mild, subacid.

QUALITY : poor for dessert, good for cooking.

VALUE : home market second class ; foreign market third class.

SEASON : October to December.

ADAPTATION : North shore Lakes Ontario and Erie, east shore Lake Huron.

FALLAWATER.



FALLAWATER

form round, regular, smooth; color pea green, shaded on sunny side with brownish red cheek, dots sparse, large light green; stem half an inch long, stout, set in a narrow, moderately deep cavity; calyx small, nearly closed, set in a shallow wrinkled basin.

FLESH : greenish white; texture fine-grained, firm, moderately juicy; flavor mild subacid, fair.

QUALITY : fair for cooking.

VALUE : home and foreign market first class.

SEASON : January to March.

ADAPTATION : successfully grown at our Bay of Quinte station and all parts of the Province farther south; also in the Lake Huron district, but in some localities it is said to be short-lived.

A large apple, of even size and fine appearance, which is grown for market quite extensively in Pennsylvania, Ohio, and in some of the Western States, and to some extent in Ontario. Were it more uniformly productive, we could recommend it as a profitable commercial variety.

ORIGIN : Pennsylvania.

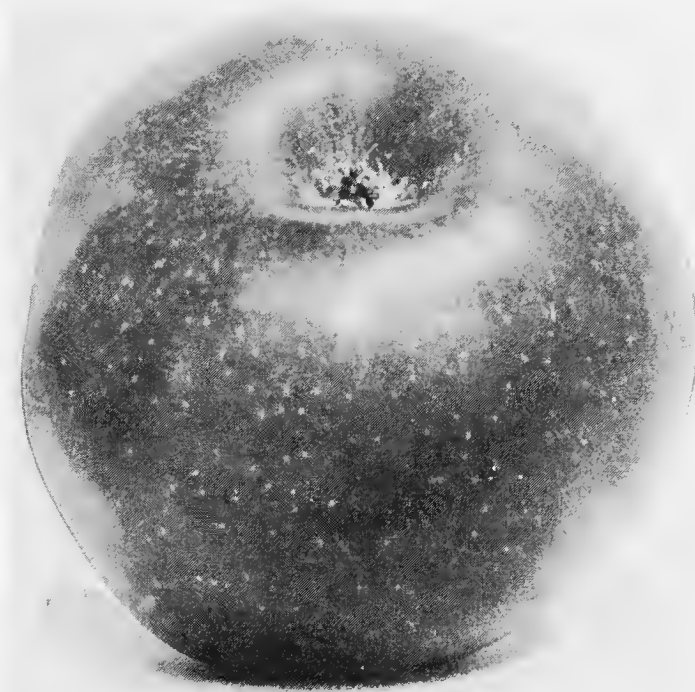
TREE : a vigorous grower; fairly productive.

FRUIT : size large to very large;



SECTION OF FALLAWATER

FALL PIPPIN.



A general favorite as a fall cooking apple, and possessing a fairly good flavor as a dessert apple. It was at one time planted very freely, but of late years it has been discarded because of its liability to the apple scab.

ORIGIN : America, probably from seed of Holland Pippin.

TREE : habit stout, vigorous, spreading ; head round ; long lived, some trees in Niagara district are now over 100 years of age ; fairly productive.

FRUIT : large ; form roundish, sometimes obscurely ribbed ; skin yellow, often with red cheek and a few small grey dots ; stalk half to three quarters of an inch long, set in a small, moderately deep

FALL PIPPIN.

cavity ; calyx small, open in a small, moderately deep basin.

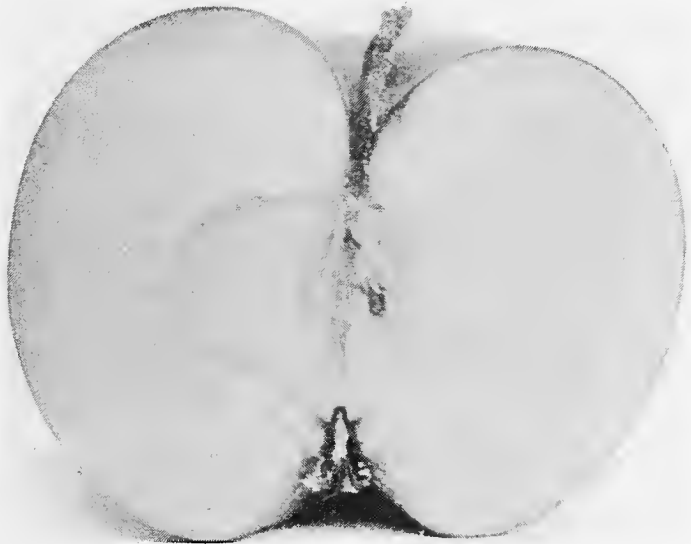
FLESH : greenish white ; texture tender, mellow, and fairly juicy ; flavor brisk, pleasant, aromatic.

QUALITY : dessert fair ; cooking best.

VALUE : home market first class, foreign market second class.

SEASON : November and December.

ADAPTATION : hardy in the best apple districts, but very subject to scab.

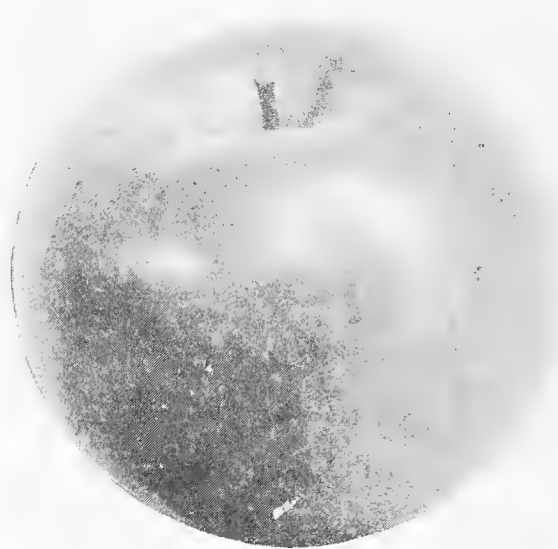


SECTION OF FALL PIPPIN.

FAMEUSE.

(Snow, Pomme de Neige).

The most highly valued of all table apples, and but for one fault the Fameuse would be the most profitable of all, especially in Eastern Ontario, where it attains its highest perfection. The fault is that it is quite subject to the apple scab, so that in some places the fruit is entirely worthless.



FAMEUSE.

ORIGIN : Province of Quebec, probably from seeds brought from France ; it is often called Snow, from the color of its flesh, and its proper name signifies a famous apple.

TREE : moderately vigorous ; moderately productive ; hardy.

FRUIT : medium size, roundish ; skin, light green, striped and shaded with two shades of red, often nearly covered with deep red ; stalk slender, half an inch long, in a small deep cavity, calyx small, segments often recurved, set in a shallow, slightly plaited basin.

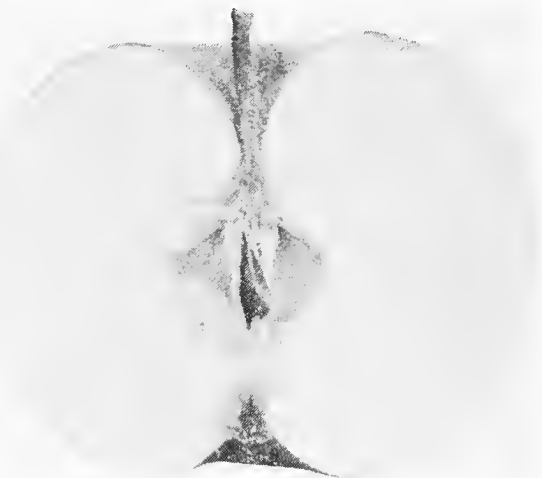
FLESH : snow white ; texture tender, very fine grained, breaking, juicy ; flavor, aromatic.

QUALITY : dessert first-class ; cooking fair.

VALUE : first class for all markets, when perfect in form and free from spots.

SEASON : October to December.

ADAPTATION : general, but specially adapted to eastern portion of the Province.



SECTION OF FAMEUSE.

GIDEON.

A very pretty apple, but inclined to rot at the core: it is less highly colored than Duchess. These faults will prevent its being popular as an export apple.



GIDEON.

ORIGIN: by Peter M. Gideon, Excelsior, Minn., U.S.; of same parentage as Wealthy.

TREE: vigorous, hardy, holds fruit well, productive.

FRUIT: large, round or slightly conical; skin white, with bright red cheek shaded with deeper red splashes; dots white, obscure; cavity broad, deep, regular or slightly corrugated; stem one inch long, slender; calyx half closed, in a small, corrugated basin.

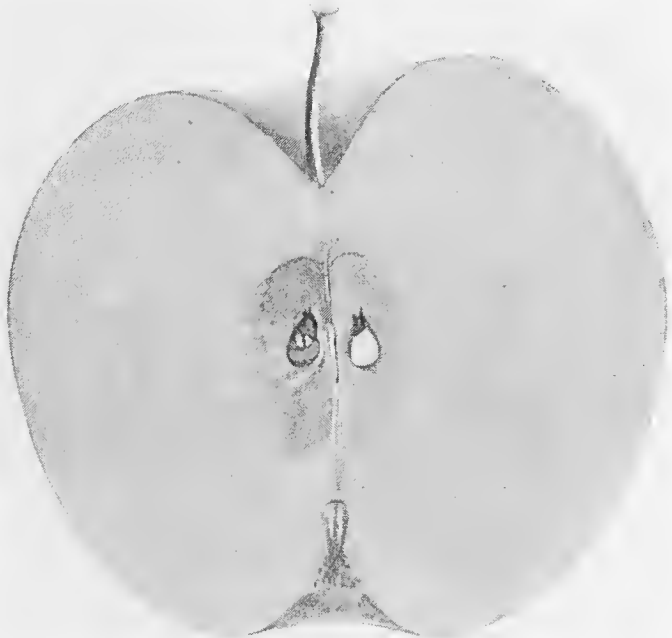
FLESH: white, flaky, tender, almost melting, yet crisp, fine, juicy, and of good flavor.

QUALITY: dessert, poor; cooking, fair.

VALUE: home market second class; foreign third class.

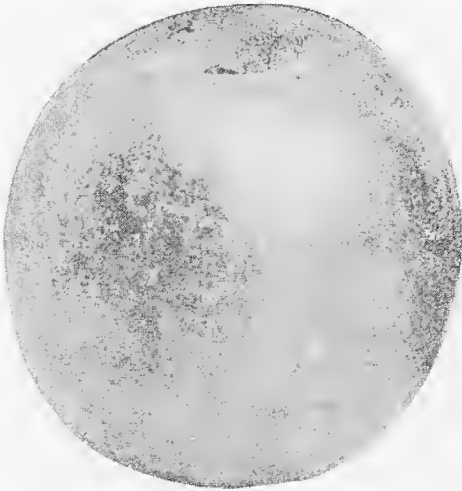
SEASON: September to November; October at Ottawa.

ADAPTATION: only valuable in the north.



SECTION OF GIDEON.

GOLDEN RUSSET.



GOLDEN RUSSET.

This is the Golden Russet of Western New York. (It is sometimes incorrectly called American Golden Russet, which is a tender fleshed apple only keeping until January). This apple is very valuable in the colder sections of the Ontario apple belt, the tree being comparatively hardy, and the fruit of high commercial value; in the warmer sections it is considerably grown in the older orchards, but not much planted of late years, because it is only of medium size, tedious to harvest, and inclined to drop early.

TREE : fairly vigorous, shoots slender, or willowy, speckled; habit irregular; only fairly productive.

FRUIT : size medium; form roundish, slightly oblong, slightly flattened; skin covered with thick russet, occasionally showing a patch of greenish yellow; stem slender, half an inch to one inch long; not subject to scab.

FLESH : color yellowish, texture fine grained, firm, crisp; flavor aromatic, subacid.

QUALITY : dessert fair; cooking good.

VALUE : export first class.

SEASON : keeps till May in cold cellar, but is inclined to shrivel if the air is dry and warm.



SECTION OF GOLDEN RUSSET.

GRAVENSTEIN.



SECTION OF GRAVENSTEIN.

A favorite commercial apple in Nova Scotia, but altogether too little cultivated in Ontario, considering its many excellent characteristics. It has no competitor in its season for either home use or market.

ORIGIN: according to Hogg, the original tree grew in the garden of the Duke of Augustenberg, at the Castle of Gravenstein in Schleswig-Holstein in Germany, and was still standing about the year 1850. Leroy inclines to accept a statement by Hirschfeld, a German pomologist, who in 1788 wrote the first description of the apple, and stated that it was brought to Germany from Italy. The earliest trace of this apple we can find, dates

back to about 1760. It is now widely grown in Western Europe, and is a favorite everywhere.

TREE: much more vigorous in growth than ordinary varieties, and when in bloom remarkably beautiful with its extraordinary sized pure white blossoms; hardy and productive.

FRUIT: large to very large; form oblate conical, somewhat one-sided and more or less pentagonal; skin greenish yellow to orange, beautifully striped and splashed with two shades of red; stem stout, about half an inch in length, set in a deep, narrow cavity; calyx partially closed, wide long segments set in a wide irregular, slightly russet basin.

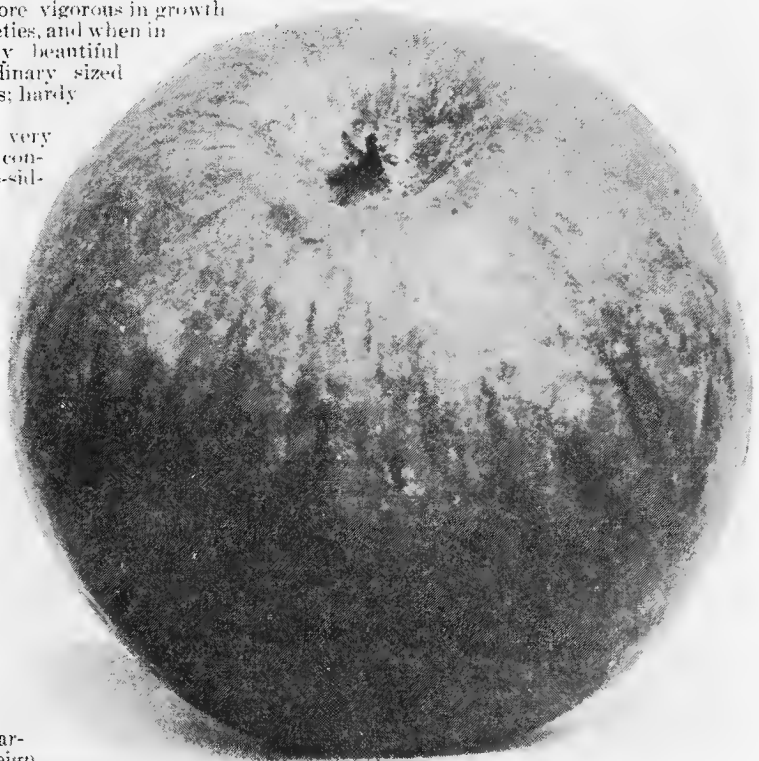
FLESH: white; texture crisp and very juicy; flavor rich, vinous and aromatic.

QUALITY: dessert, very good; cooking, good.

VALUE: home market, first class; foreign market, first class.

SEASON: September and October.

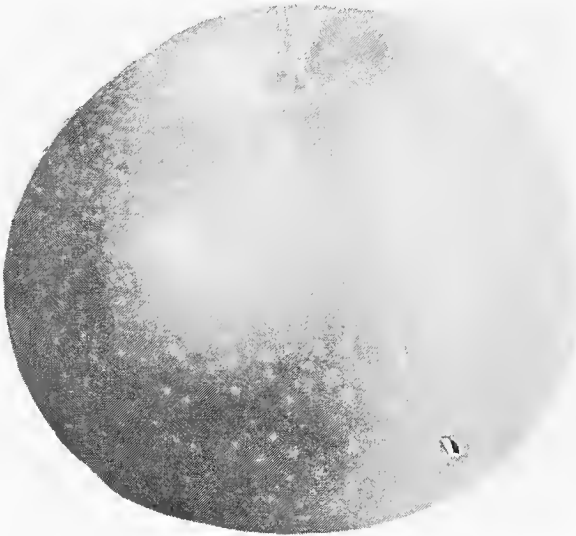
ADAPTATION: general in the best apple sections.



GRAVENSTEIN.

GREENING. (*Rhode Island Greening*).

One of the staple varieties for profit in Ontario orchards. No one variety, except the Baldwin, was more widely planted in our Province previous to 1875, but since that time it has been liable to scab some seasons, especially in cases where proper spraying is neglected. Its color is against it in foreign markets, and yet, as it becomes known, the demand for it increases. It has a tendency to drop early, especially south of Lake Ontario, and, therefore, needs to be gathered in good season, about the first of October, as a rule. Remarkable instances of productiveness have been reported. One large tree at Maplehurst, Grimsby, nearly one hundred years planted, yielded twenty barrels one season, and fifteen barrels another.



GREENING.

ORIGIN : Rhode Island.

TREE : very vigorous, spreading, a crooked grower ; fairly hardy ; very productive ; succeeds well on a great variety of soils.

FRUIT : large, roundish, sometimes a little flattened, regular, unless overgrown : color green, becoming lighter as it ripens, often showing a blush when well exposed to the sun ; dots light grey, aureole, numerous toward the apex ; stem seven-eighths of an inch long in a smooth, narrow cavity ; calyx partly closed in a nearly smooth shallow basin.

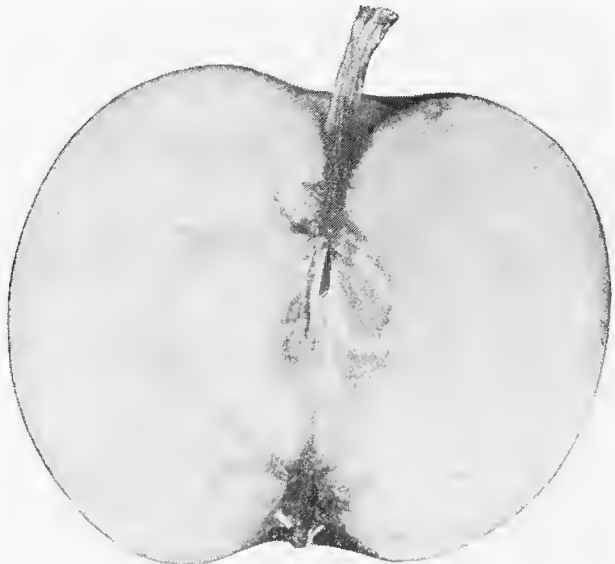
FLESH : white, with a greenish tint, yellowing as it matures ; texture fine grained, crisp, juicy ; flavor rich, slightly aromatic, pleasant, subacid.

QUALITY : dessert, medium ; cooking, best.

VALUE : home and foreign markets, first class.

SEASON : December to February.

ADAPTATION : succeeds in the best apple districts.



SECTION OF GREENING.

GRIMES. (*Grimes Golden Pippin.*)

GRIMES.

An apple that has a good reputation in some parts as a winter dessert apple, on account of its excellent quality and its rich golden color; not planted extensively in the commercial orchards of Ontario.

ORIGIN : Virginia ; on the farm of Thomas Grimes.

TREE : vigorous, branches with knobs at base ; not hardy very far beyond north shore of Lake Ontario ; a regular, annual bearer.

FRUIT : size medium ; form roundish oblong ; color rich golden yellow with russet dots ; stem slender in a deep cavity ; calyx partly closed in a deep, wrinkled, abrupt basin.

FLESH : yellow ; texture firm, crisp, juicy ; flavor rich, aromatic, spicy, subacid.

QUALITY : dessert best ; cooking poor.

VALUE : market, second class.

SEASON : December to January.



SECTION OF GRIMES.

GRINDSTONE. (*American Pippin.*)

Valuable chiefly for its long keeping, and for cider.

ORIGIN : United States.

TREE : hardy, vigorous, productive.

FRUIT : size medium ; form regular, roundish oblate ; skin dull green with patches and stripes of dull red and numerous dots ; stem short, stout in a deep, slightly russeted cavity ; calyx large, open, in a deep, medium sized, slightly wrinkled basin.

FLESH : color yellowish white ; texture firm, crisp, not very juicy, flavor brisk acid.

QUALITY : second rate for cooking ; third rate for dessert.

VALUE : second class for market purposes.

SEASON : March to June.

HAAS. (*Fall Queen.*)

An old variety which was at one time popular in the colder parts of the Ontario apple belt because of the hardness of the tree, but which has now given place to the Wealthy.

ORIGIN : St. Louis, Missouri.

TREE : vigorous ; habit upright ; an early and an annual bearer, hardy.

FRUIT : size medium ; form oblate conical ; skin thick ; color yellow, marbled, splashed and striped with crimson, with a few obscure white dots ; stem short set in a broad cavity of moderate depth, slightly russeted ; calyx half closed in an irregular, wrinkled basin.

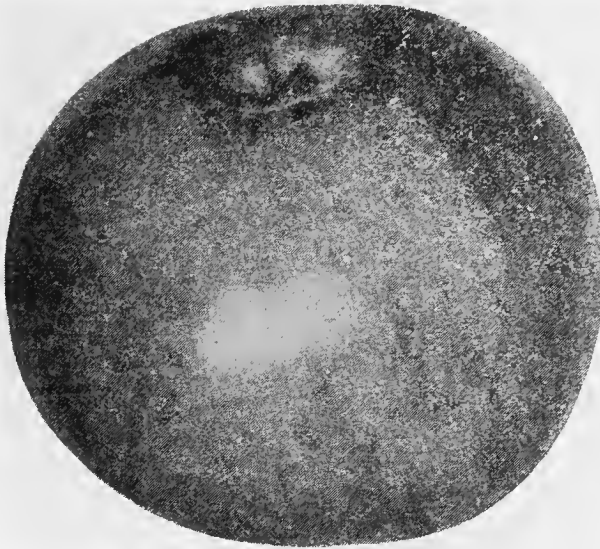
FLESH : white, often stained with red next the skin ; texture peculiar, quince like, juicy ; flavor subacid, slightly astringent.

QUALITY : dessert poor ; cooking fair.

VALUE : market second class.

SEASON : late autumn.

HIBERNAL.



HIBERNAL. (After S. B. Green).

An attractive looking cooking apple, valuable also for hardiness of tree; one of the best of the Russian apples for our colder districts.

ORIGIN: Russia.

TREE: vigorous, of strong spreading habit; healthy; productive.

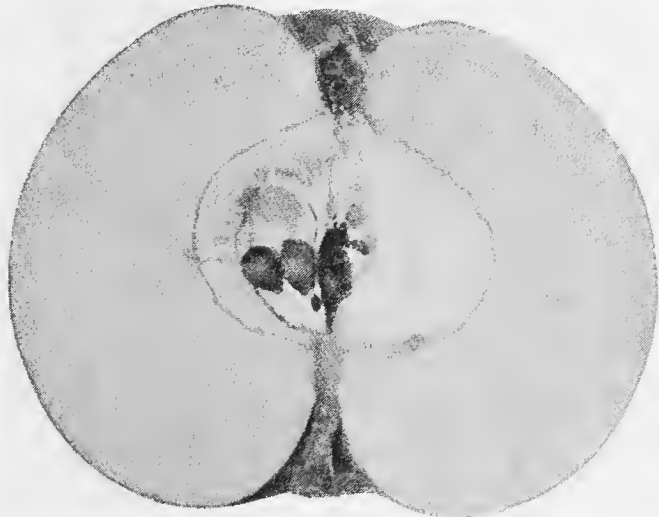
FRUIT: size large; form roundish oblate conical; skin yellowish, striped and splashed with red, with small white dots; stem medium length set in a moderately deep regular cavity with large patch of russet; calyx half open in a narrow shallow wrinkled cavity.

FLESH: color yellowish; texture, tender, crisp, juicy; flavor astringent acid.

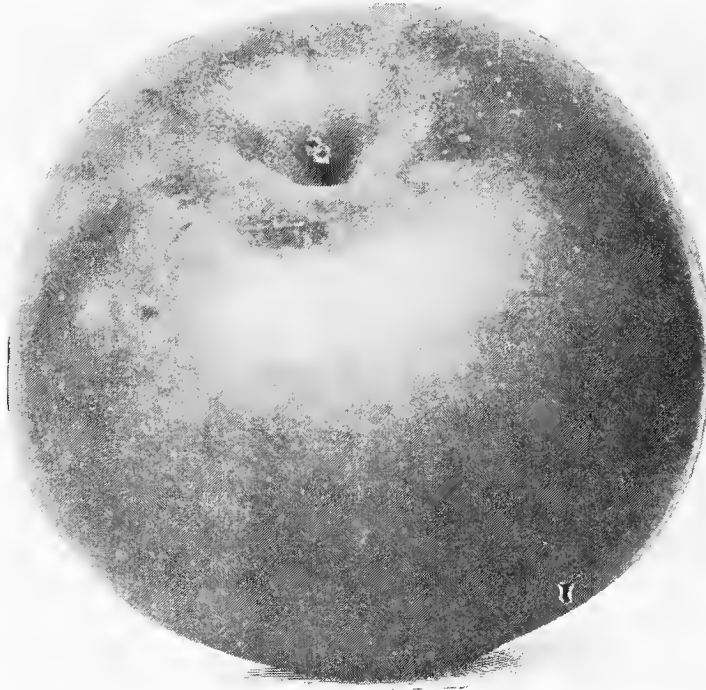
QUALITY: dessert poor; cooking good.

VALUE: home market in the north, first class.

SEASON: September to November.



SECTION OF HIBERNAL.

HUBBARDSTON. (*Hubbardston's Nonsuch.*)

HUBBARDSTON.

rich yellow ground nearly covered with stripes and splashes of light rich red; stem three-quarters of an inch long, set in a narrow deep russeted cavity; calyx open in ribbed basin.

FLESH : texture tender and juicy; flavor subacid, rich, sweet and excellent.

QUALITY : very good.

VALUE : market first class.

SEASON : October to February.

ADAPTATION : reported successful in the Counties of Simcoe, Prince Edward and Norfolk, but succeeds in all the best apple districts.

A first-class commercial apple for early winter. It succeeds well in the Province of Ontario, and deserves to be planted much more freely.

ORIGIN :
Hubbardston,
Mass.

TREE : hardy, vigorous, but somewhat subject to apple canker and therefore better top worked on some healthy grower; very productive; an early bearer.

FRUIT : size, medium to large; form round ovate, fairly regular; skin,



SECTION OF HUBBARDSTON.

HYSLOP.

A well known and widely cultivated variety of hybrid crab. Its dark, rich, red color and its late season make it a valuable variety.

TREE : vigorous, of spreading habit.

FRUIT : size medium; form roundish ovate, obscurely angular; color a dark rich red, covered with heavy blue bloom, and having many obscure yellowish dots; stem about one inch and an eighth in length, set in an obtuse, regular cavity.

FLESH : yellowish, acid.

VALUE : very good for culinary uses and for cider.

SEASON : September and October.



HYSLOP.

JONATHAN.

A first class winter dessert apple, of the Spitzenburg type, valuable for the home garden but too small to be planted for market; succeeds well in some locations.

ORIGIN : Woodstock, New York State.

TREE : of moderate vigor; shoots slender, drooping; should be top worked on a vigorous trunk; inclined to be self sterile, and needs to be planted with other varieties for proper pollination.

FRUIT : size medium, in some localities small; form longish, truncated conical, regular; skin colored dark brilliant red in sun, and striped, splashed with lighter red, with numerous small whitish dots; stem long slender set in a deep acute cavity; calyx small, closed, in a wide, deep, abrupt basin.

FLESH : color white; texture tender and juicy; flavor subacid, spicy, aromatic, excellent.

QUALITY : dessert best; cooking good.

VALUE : special markets first class; export second class.

SEASON : November to February.

4 F. O.

KING. (*King of Tompkins' County.*)

Said to have originated in New Jersey. On account of its excellent quality for cooking, its peculiarly rich aromatic flavor, its beautiful appearance and large size, this apple is taking the

highest place in the great apple markets of the world. Unfortunately the tree is a poor bearer, and consequently unprofitable as an orchard variety, unless under exceptional circumstances. Top-grafted on Tolman Sweet, it is said to be more productive. For home use it is excelled by no apple.



TREE: a vigorous grower, of spreading habit, but not long-lived.

FRUIT: large, roundish, uneven; skin yellowish, shading off from red to dark crimson; stem short and stout, inserted in a wide, deep, somewhat irregular cavity; calyx closed in a broad, shallow, slightly corrugated basin.

FLESH: yellowish white, crisp and juicy, moderately firm; flavor rich, agreeable, aromatic.

QUALITY: Dessert and cooking, very good.

KING.

VALUE: home market first class; export first class.

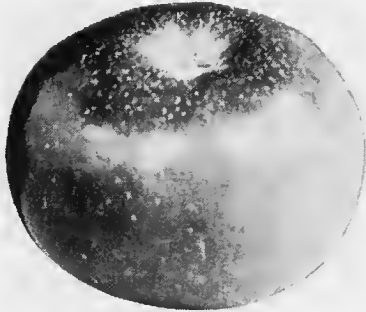
SEASON: October to February in Southern Ontario; reported at the Simcoe station October to March for Northern Ontario.

ADAPTATION: not hardy at Simcoe station unless top grafted on Tolman Sweet, or some



SECTION OF KING.

other hardy stock, and, therefore, it is not recommended for general planting in northern sections.



LADY.

LADY.

A beautiful little apple for the amateur's collection, and very highly valued where known for a dessert apple, having a pleasant flavor and great beauty. In Europe the apple is known as Api, but in America it has become known as the Lady apple. Some say it was so called because from its small size and beautiful color, it seemed just suited to a lady's mouth.

ORIGIN : France.

TREE : upright habit and bears fruit in clusters, vigorous only fairly hardy and productive.

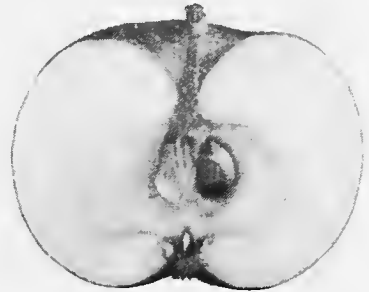
FRUIT : very small, flat oblate. Color green, turning to yellow, half covered with a rich red cheek, and many tiny dots which are more numerous towards the apex. Stem slender, half an inch long, set in a deep regular cavity. Calyx closed in a small wrinkled basin.

FLESH : greenish white ; texture fine grained, crisp and juicy ; flavor pleasant.

QUALITY : dessert, best ; cooking too small to be of any value.

SEASON : December to May.

ADAPTATION : successfully grown as far north as the Bay of Quinte station.



SECTION OF LADY.

LA VICTOIRE.

This variety has not, so far, proved very productive, but is a handsome apple, and on account of its season and hardiness will probably prove useful in the north.

ORIGIN : near Grenville, Que. Probably a seeding of Fameuse.

TREE : hardy and a strong moderately spreading grower.

FRUIT : above medium size, oblate, regular ; skin greenish yellow, almost covered with crimson ; dots fairly numerous, gray, distinct ; cavity of medium depth and width, slightly russeted ; stem short and stout ; basin of medium depth and width, almost smooth ; calyx open and medium in size.

FLESH : white, tinged with red, rather coarse, moderately juicy, mildly subacid, with a pleasant flavor ; core small.

QUALITY : good.

SEASON : Midwinter. (*Macoun*).

LIVLAND RASPBERRY (*Lowland Raspberry*).

A handsome hardy summer apple of very good dessert quality, one of the best summer apples for home use, but drops rather badly and ripens unevenly.

ORIGIN : Russia.

TREE : moderately upright, vigorous, moderately productive.

FRUIT : medium to large, roundish to oblate, conic, angular, color pale yellow, more or less marked, splashed and washed with bright red with a few pale yellow indistinct dots ; stem short to medium, moderately stout in a narrow cavity of medium depth ; basin shallow, narrow, slightly wrinkled.

FLESH : white tinged with red, crisp, tender, juicy, subacid with a good flavor.

QUALITY : dessert very good.

SEASON : middle to last of August.

ADAPTATION : quite hardy, having been fruited in Southern Manitoba. (*Macoun*).

LOUISE. (*Princess Louise, Woolverton*.)

An apple of great value for the home garden as a choice dessert variety, but probably not sufficiently productive to be profitable in the commercial orchard.

ORIGIN : at Maplehurst, near Grimsby ; a chance seedling of the Snow and first known as Woolverton. Samples were first exhibited by Mr. L. Woolverton at a meeting of the Ontario Fruit Growers' Association at Hamilton, where it was given the name Princess Louise, after Her Royal Highness, wife of the then Governor-General, His Excellency the Marquis of Lorne.

TREE : of slender habit ; fairly vigorous ; hardy ; moderately productive.

FRUIT : roundish, size medium ; skin greenish yellow, of bright waxy lustre, with cheek of clear bright carmine ; stem stout, three quarters of an inch long, in a narrow, moderately deep cavity ; calyx half open, in a broad, shallow, slightly plaited basin.

FLESH : pure white ; texture tender, fine, somewhat crisp, juicy with rich aromatic flavor.

QUALITY : dessert best ; cooking fair.

VALUE : home market, first class.

SEASON : November to February.

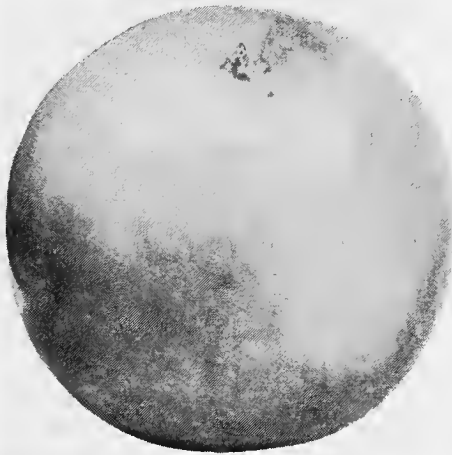
LONGFIELD.

A late fall variety, valued chiefly for its hardiness; too small to be profitable where better kinds will succeed.

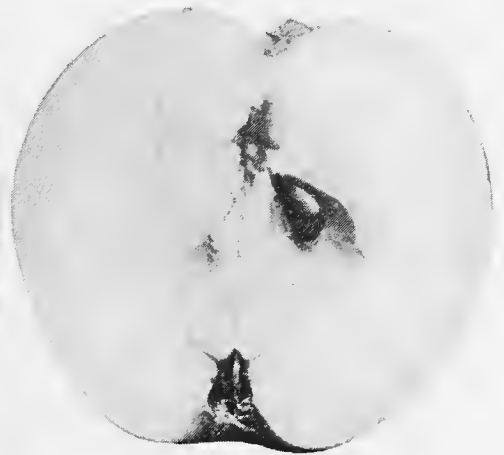
ORIGIN; RUSSIA.

TREE: a poor straggling grower; very hardy; very productive, inclined to overbear and requires thinning; an early bearer.

FRUIT: size small; form roundish conical; skin yellow, with bright red cheek, and a few large yellowish dots; smooth; tender, showing bruises quickly; stem short, set in a deep regular cavity; calyx half open in an abrupt, wrinkled basin.



LONGFIELD.



SECTION OF LONGFIELD.

FLESH: very white; texture very tender, juicy; flavor pleasant, subacid.

QUALITY: dessert fair; cooking good.

VALUE: market third class.

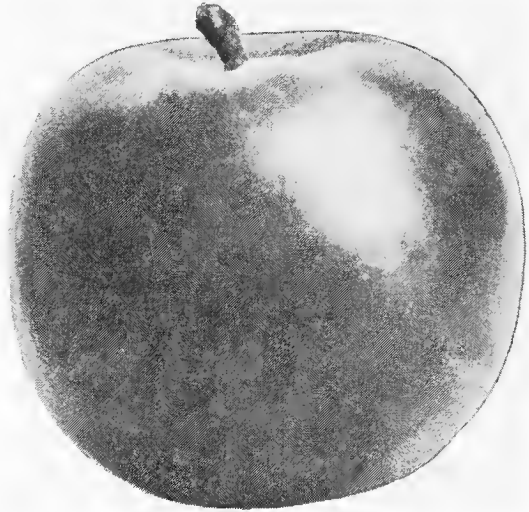
SEASON: October and November.

McINTOSH. (*McIntosh Red*).

A very fine dessert apple for early winter use. At Ottawa and along the St. Lawrence and other places where conditions are favorable, it is counted one of the best dessert apples of its season, adapted and profitable for export, but in the Niagara District it is not so much grown, owing to scab.

ORIGIN: with John McIntosh, Dundela, Ont., in whose orchard the original tree is still standing (1904).

TREE: hardy, vigorous; fairly upright; fairly productive; an annual bearer; of Fameuse type; inclined to drop its fruit last of September in Niagara District.



McINTOSH RED.

FRUIT: size medium to large; form roundish; color, deep crimson in sun, light crimson on shady side, inclined to show broken stripes and yellow dots, often with a heavy blue bloom; stem one inch in length, stout, set in a wide, and often somewhat irregular cavity, which is green at bottom; calyx closed in a smooth, regular, rather shallow basin. Cuts given on this page show fruit considerably reduced in size.



SECTION OF McINTOSH RED.

FLESH: snow white; texture crisp, tender, very juicy; flavor slightly subacid, aromatic, perfumed near the skin.

QUALITY: dessert first class.

VALUE: home market first class.

SEASON: November to January; quite ready for eating by November first.

ADAPTATION: Northern apple districts; succeeds at Trenton and St. Lawrence stations.

McMAHON. (*McMahon White*).

A good sized and rather attractive fall apple, valuable especially for the hardiness of the tree; succeeds well at the Central Experimental Farm, Ottawa; too tender in flesh to ship well.

ORIGIN: from seed of Alexander, planted about 1860 by A. L. Hatch, Ithaca, Wisconsin.

TREE: very hardy; very strong grower; productive.

FRUIT: size large, uniform; form roundish oblate, slightly conical, obscurely ribbed; skin light yellow, becoming white at full maturity, often with blush of red and large white dots; stem short, about half an inch long, stout, in an acute, deep, russeted cavity; calyx half open in a narrow, moderately deep, slightly wrinkled basin.

FLESH: color white; texture coarse grained, tender, juicy; flavor subacid.

QUALITY: dessert fair; cooking very good.

VALUE: home market first class; export third class.

SEASON: October to December.

MAIDEN BLUSH.

A valuable apple for the amateur because of its extreme beauty, but not considered a very profitable market variety by Ontario fruit growers.

ORIGIN: New Jersey.

TREE: moderately vigorous grower, and fairly productive.

FRUIT: size medium to large; form oblate, very regular, but slightly one-sided; color lemon yellow with beautiful crimson blush; stem three quarters of an inch long, set in a moderately deep, wide cavity; calyx closed, in a shallow, slightly wrinkled basin.

FLESH: color white; texture fine, tender; flavor pleasant; subacid.

QUALITY: dessert, fair; cooking, good.

SEASON: September and October.

MARTHA

A hybrid crab.

ORIGIN: by Peter M. Gideon, Excelsior, Minnesota.

FRUIT: large, oblate, very regular; surface smooth, yellow, almost entirely covered with a beautiful bright red, with a bluish bloom, no stripes or splashes; dots white, conspicuous; cavity wide, regular; stem long; basin very wide, nearly flat; segments often nearly obsolete core closed.



SECTION OF MARTHA.

MARTHA.

FLESH: yellowish white, acid; good for culinary use.

SEASON: early to mid September.

MANN

The Mann apple is not very highly recommended for extended orchard planting in Ontario, because of its rather unattractive green color in shipping season. The tree has the merit of being a productive variety and an early bearer, but the fruit is inclined to drop early, and to be small, when not thinned.



MANN.

ity, nearly covered with light green dots; stalk half an inch long in a large slightly russeted cavity; calyx closed in a large plaited basin.

ORIGIN: New York State, a chance seedling introduced by Dr. Mann, after whom it was named by the Western New York Horticultural Society.

TREE: hardy, moderately vigorous, spreading, with slender branches; an early and regular bearer, inclined to overload.

FRUIT: of large size when thinned and well cultivated, form roundish, oblate, regular; skin dull green, yellowing at matur-



SECTION OF MANN.

FLESH: yellowish, moderately firm, juicy, agreeable, subacid.

QUALITY: dessert poor; cooking good.

VALUE: first class for home or foreign market, but the best prices are not always obtained for the fruit, owing to its unattractive color.

SEASON: January to April.

MILWAUKEE.



MILWAUKEE.

One of the best hardy winter apples for the commercial orchards in the northern belt of apple culture in Ontario; tested several years at our St. Lawrence station, and reported as one of the most promising winter apples for profit yet tested for that district; a fairly good shipper.

ORIGIN: a seedling of Duchess, by Geo. Jeffrey, Milwaukee, Wisconsin.

TREE: growth moderately vigorous; habit spreading; very hardy; very productive; an early bearer; foliage dark green, abundant; shows characteristics of the Duchess.

FRUIT: large, form oblate, flattened, slightly angular; skin yellowish green blushed and streaked with bright red and crimson on the sunny side; stem slender, one-half inch long in a large deep, often russeted cavity; calyx half closed in a wide deep wrinkled basin.

FLESH: color yellowish white; texture tender, crisp, juicy; flavor acid.

QUALITY: dessert fair; cooking very good.

VALUE: for near markets first class.

SEASON: December to March.



SECTION OF MILWAUKEE.

NEWTOWN PIPPIN.

(*Green Newtown Pippin, Yellow Newton Pippin, Albermarle.*)

The highest priced apple that reaches the English market, but not much grown in Ontario because the fruit is subject to the apple scab.

ORIGIN : Newtown, Long Island.

TREE : a slow grower and only moderately hardy ; needs rich soil and good cultivation.

FRUIT : medium to large ; form, roundish oblique, with broad obscure ribs terminating in five crowns at the apex ; color, dull green, becoming yellowish during the winter, with reddish brown tinge on the sunny side, and dotted with small grey russety dots ; stalk, three-quarters of an inch long, inserted all its length in a deep, wide, funnel-shaped cavity ; calyx small closed in a small, moderately deep basin.

FLESH : greenish-white ; texture firm, crisp, juicy ; flavor, rich and highly aromatic.

VALUE : home markets, first class ; foreign market, first class.

QUALITY : cooking, first class ; dessert, first-class.

SEASON : January to May, at its best in March.

ADAPTATION : only to certain favored sections.

 NORTH STAR. (*Dudley Winter.*)

Originated in Maine. Fruit roundish ; size above medium to large ; cavity, open, deep, slightly russeted ; stem medium length, slender ; basin deep, medium width, slightly wrinkled ; calyx partly open ; color pale yellow ; streaked and splashed with, deep lively red ; dots few, small, pale yellow, indistinct ; skin moderately thick, tender ; flesh yellow, rather coarse, tender, moderately juicy ; core small ; subacid, pleasant flavor ; quality above medium, almost good ; season late September to early winter. Tree vigorous and productive. A handsome apple, about the same season as Wealthy. This variety is succeeding well in some of the colder parts of the country. (*Macoun.*)

 NORTHWESTERN GREENING.

One of the best winter commercial apples, especially for colder sections ; attractive in appearance.

ORIGIN : Wisconsin ; introduced in 1872 by E. W. Daniels.

TREE : productive, but long in coming into bearing ; hardy, in Minnesota reckoned to be of the second degree of hardiness, or in the same class as the Wealthy.

FRUIT : size large to very large ; form roundish, slightly conical ; color green, becoming yellowish, with small white dots ; stem about half an inch long in a regular funnel-shaped cavity of moderate depth ; calyx closed, in a regular, very slightly wrinkled basin.

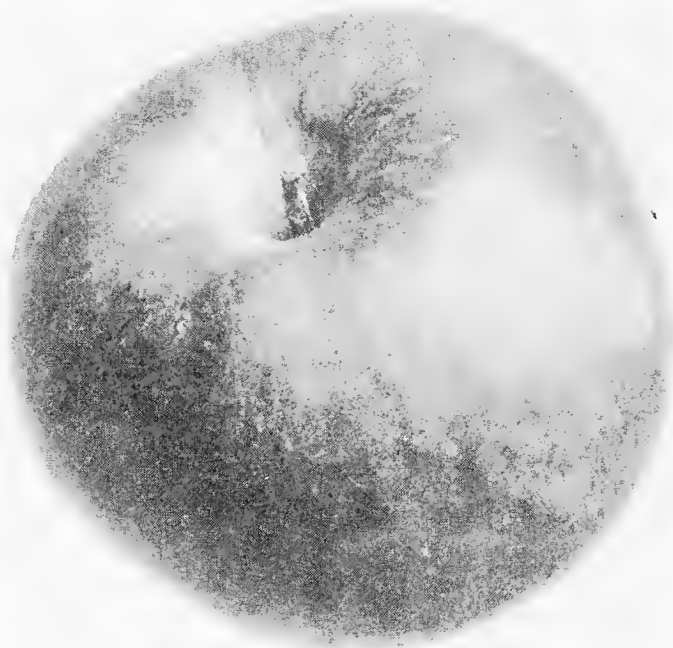
FLESH : color greenish white ; texture fine-grained, firm, juicy ; flavor sprightly, subacid, pleasant.

QUALITY : dessert, good ; cooking, good.

VALUE : home market first class.

SEASON : winter.

ONTARIO.



ONTARIO.

This is a native of Ontario, as its name indicates. It was originated by the late Charles Arnold of Paris, Ontario, by crossing Wagener and Spy. Its early and abundant bearing, the good quality and even size of the fruit, are points in its favor as an export variety. It has been tested in a commercial way for some years at our Bay of Quinte station, where it is counted profitable.

ORIGIN: Paris, Ontario.

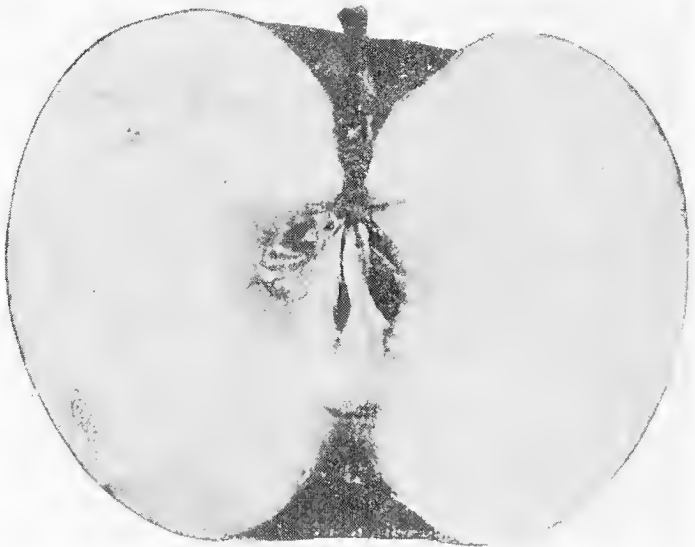
TREE: fairly hardy, moderately vigorous, somewhat spreading; very productive; an early bearer.

FRUIT: large, oblate, slightly ribbed. sides unequal; skin yellowish, nearly covered with bright red, with a few scattered small white dots with blush bloom; stem seven-eighths of an inch long, in a deep, russeted uneven cavity; calyx closed in a moderately deep, corrugated basin.

FLESH: white with green tint, yellowing slightly as it ripens; texture fine grained, tender, juicy; flavor mild, subacid, sprightly, aromatic.

QUALITY: very good for all purposes.

SEASON: November to April.



SECTION OF ONTARIO.

ADAPTATION: Southern Ontario to north shore of Lake Ontario and other good apple districts.

ORANGE.

A fairly good dessert variety of hybrid crab.

ORIGIN : United States.

TREE : a slow grower, productive.

FRUIT : size medium ; form round, slightly flattened at the ends ; color light orange, with minute white dots and russet veins ; stem slender, one and a quarter inches in length set in a deep open cavity ; calyx closed, in a furrowed basin.

FLESH : color yellowish, yellow veinings ; texture a little dry ; flavor mild, pleasant, acid

SEASON : September,

PATTEN. (*Patten Greening.*)

ORIGIN : Iowa.

TREE : hardy ; moderately vigorous ; very productive.

FRUIT : large oblate ; cavity deep, medium width, russeted ; stem short ; basin deep, medium width ; calyx open, large ; skin pale yellow with traces of pale green, with a pink blush ; dots moderately numerous, pale green, distinct ; bloom, slight ; skin, moderately thick.

FLESH : yellow, moderately juicy, tender, coarse : core, small ; subacid ; pleasant flavor

QUALITY : above medium.

SEASON : October to mid-November. Hardier than Wealthy and useful where that variety will not succeed. (*Macoun.*)

PHOENIX.

A fairly profitable commercial apple in some parts. It is grown in Northumberland county and in other apple sections in the Province, and by some growers is ranked equal to the Baldwin for profit.

ORIGIN : Illinois.

TREE : healthy and productive.

FRUIT : medium to large ; roundish, sometimes quite one-sided ; color greenish yellow ground well covered with deep red, obscurely striped with a darker shade, and having a few small grey dots ; russeted about the cavity and green about the basin ; stem one half an inch long in a funnel shaped cavity ; calyx half closed.

FLESH : creamy-white, coarse grained, somewhat juicy ; flavor mild, acid, pleasant.

QUALITY : dessert, poor, cooking, good.

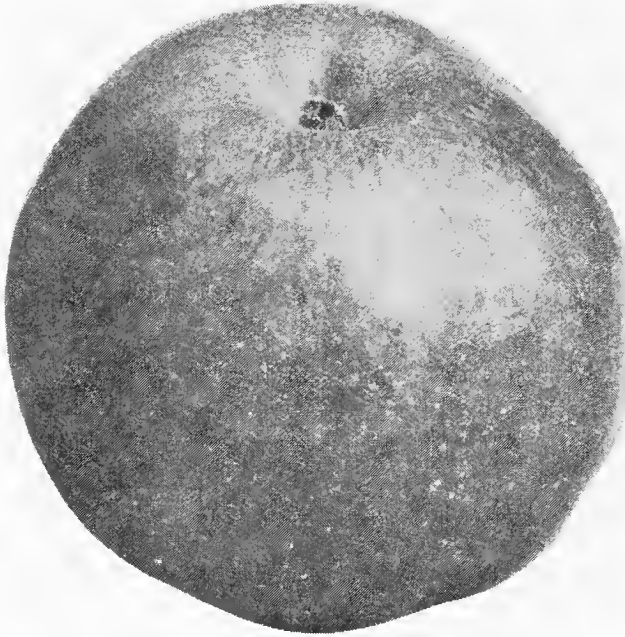
VALUE : first class for export, if shipped early.

SEASON : December to February.

PORTER.

"Fruit above medium, oblong ovate, conical, regular, often ribbed at apex ; bright yellow, sometimes a dull blush in the sun ; stalk one inch long, slender, cavity rather small ; basin narrow ; flesh tender, rich, rather acid, of fine flavor. Fair and productive. Early autumn. (*American Fruit Culturist.*)

PEWAUKEE.



PEWAUKEE.

A good commercial apple for the northern limits of the Ontario apple belt where Spy and Baldwin are tender; but not as hardy as was at first supposed. It is not gaining in popularity.

ORIGIN : seed of Oldenburg crossed with Northern Spy, raised by G. P. Peffer, Pewaukee, Wisconsin.

TREE : hardy, but not equal in this respect to Wealthy; vigorous; habit round topped with upright centre; an annual bearer.

FRUIT : size large; form roundish-oblate, irregular, unequal; color yellow striped and splashed with red; dots whitish; bloom grayish;

stem short, half an inch, sometimes fleshy at point of insertion, set in small shallow often flat cavity, sometimes lipped; calyx half open, large, in a small shallow, corrugated basin.

FLESH : color yellowish; white with yellow veinings; texture firm, rather coarse, juicy; flavor fair, subacid

QUALITY : dessert fair; cooking good.

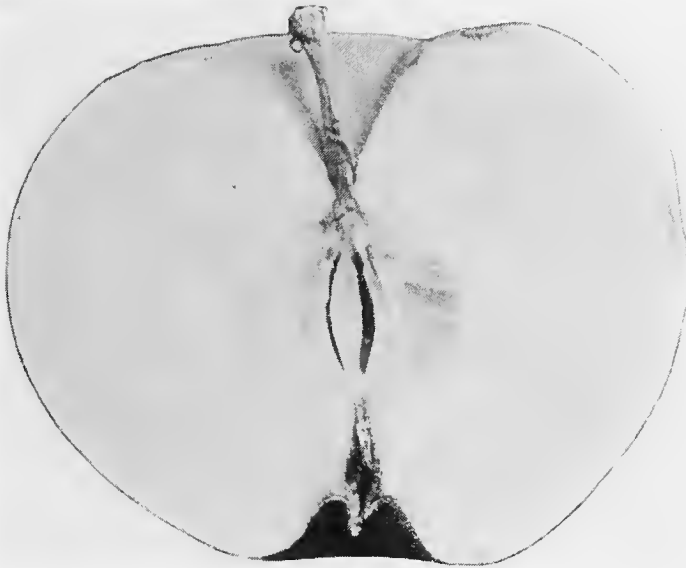
VALUE : home or foreign market first class.

SEASON : December to March.



SECTION OF PEWAUKEE.

PRIMATE.



SECTION OF PRIMATE.

A fine dessert apple for the home garden; too tender for distant shipment.

ORIGIN: uncertain probably Western New York.

TREE: hardy, very vigorous, symmetrical, very productive.

FRUIT: medium to above medium; form oblate conical; skin light yellow, with crimson blush on sunny side; stem about one inch long inserted in a large deep furrowed cavity; Calyx closed in an abrupt, moderately deep, somewhat corrugated basin.

FLESH: color white; texture tender, juicy, with a very pleasant, subacid flavor.

QUALITY: dessert very good; cooking good.

VALUE: home market first class; foreign market second class.

SEASON: August and September.

ADAPTATION: succeeds in best apple districts.



PRIMATE.

RIBSTON (*Ribston Pippin*).

A highly esteemed English apple, largely planted in Ontario previous to 1860, but of late not so popular in commercial orchards.

ORIGIN : Ribston Hall, near Knaresborough, England.

TREE : moderately vigorous ; fairly healthy ; not hardy at the north ; very productive ; an early bearer.

FRUIT : size above medium ; form roundish, slightly conical ; skin rough ; color russet yellow with stripes of red and often a red shade on sunny side ; stem short set in a wide often somewhat russeted cavity ; calyx small, closed in a narrow angular, ribbed basin.

FLESH : yellow ; texture crisp, firm, granular, juicy ; flavor rich, aromatic, subacid.

QUALITY : dessert good ; cooking very good.

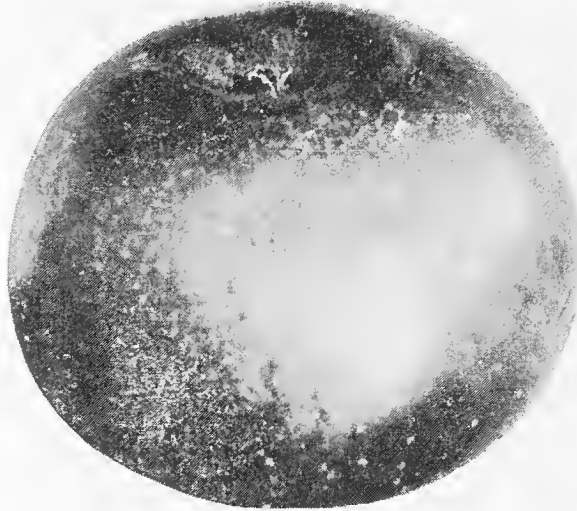
VALUE : home market first class.

SEASON : November and December ; keeps till January in a cool cellar.

ADAPTATION : succeeds in best apple districts, although it is somewhat hardier than Baldwin or Greening.

ROXBURY (*Boston Russet*, *Roxbury Russet*).

One of the staple export varieties in many parts of Southern Ontario, because of its long keeping qualities. It resists scab well, but is subject to the codling moth, unless well sprayed, and is inclined to drop early from the trees, resembling the Greening in this respect.



ROXBURY RUSSET.

ORIGIN : Massachusetts.

TREE : fairly vigorous, spreading like Greening, but flatter in form of top.

FRUIT : medium to above medium, roundish, oblate, sides not equal ; skin tough, green, nearly covered with russet, and having a brownish red cheek when fully exposed to the sun ; stem half to three-quarters of an inch long in a medium sized, regular cavity ; calyx closed in a round medium sized basin. Cuts show fruit less than normal size.

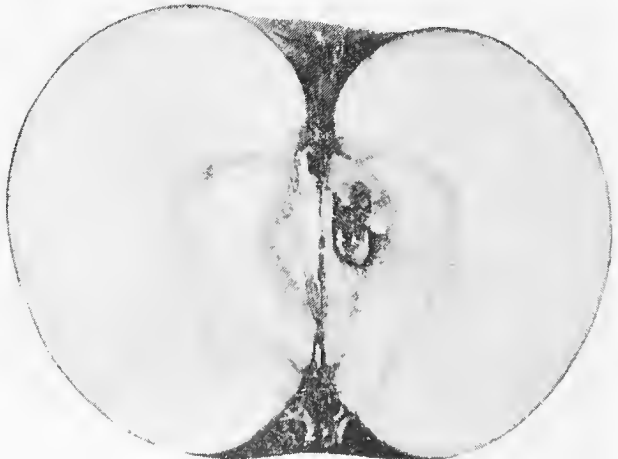
FLESH : yellowish white ; texture almost coarse grained, moderately juicy ; flavor mild, subacid pleasant.

QUALITY : dessert, fair ; cooking, good.

VALUE : home and foreign markets good.

SEASON : January to June.

ADAPTATION : long tested in the Niagara district and found to be well adapted to it. As hardy as the Greening, and succeeds in the best apple districts.



SECTION OF ROXBURY RUSSET.



ST. LAWRENCE.

roundish oblate; color of skin yellowish, with distinct stripes and splashes of carmine; dots obscure; stem five-eighths of an inch long, inserted in a large, deep, regular cavity; calyx closed in a small deep basin.

FLESH: color white, slightly stained; texture crisp, tender, juicy; flavor vinous, slightly acid.

QUALITY: dessert good; cooking good.

VALUE: home market, first class; foreign market, second class.

SEASON: September and October.

ADAPTATION: hardy generally over the province, except the extreme north.



ST. LAWRENCE.

ST. LAWRENCE.

The St. Lawrence apple is not now planted in the commercial orchards of Ontario, bordering on Lakes Ontario, Erie or Huron, being inferior to other autumn varieties of its season, but it is valued in orchards along the St. Lawrence river, and in parts of the province between latitudes 45 and 46. It is rather subject to scab and codling moth.

ORIGIN: Montreal, Canada.

TREE: hardy, vigorous and productive.

FRUIT: large; form,

SCARLET PIPPIN.

A fancy dessert apple which is esteemed profitable to grow for market along the River St. Lawrence.

ORIGIN: near Brockville in Leeds County. A chance seedling.

TREE: upright in habit; hardy; vigorous and very productive; inclined to over-bear.

FRUIT: roundish oblate; skin, waxy white, streaked; splashed or almost entirely covered with bright scarlet covering; stem stout, one-half to three-quarters of an inch long in a narrow, moderately deep cavity; calyx closed in a narrow, very shallow basin.



SCARLET PIPPIN.



SECTION OF SCARLET PIPPIN.

FLESH: pure white; texture tender, fine, crisp, breaking, juicy, with a subacid flavor.

QUALITY: dessert, best; cooking, good.

VALUE: special market, first class.

SEASON: October to February; at its best in October and November.

SALOME.

A new Western apple which promises to be of some value in the Province of Ontario. The hardness of the tree, the clean bright color of the fruit and its long keeping quality seem to combine in its favor as a commercial variety, especially in the colder sections.

ORIGIN: E. C. Hathaway, Ottawa, Illinois.

TREE: hardy, productive, a slow grower, an early and an annual bearer.

FRUIT: size medium; form roundish, conical, somewhat angular or lopsided; color bright red with stripes of darker red and numerous small grey dots on a yellowish ground; when

5a F. O.

harvested the skin is green, but during the winter it takes on the coloring above described, making it very attractive; stem stout, three-quarters of an inch long, set in a deep, uneven cavity; calyx half closed, segments erect, in a moderately deep, slightly plaited basin, having five distinct prominences; core large, open, sessile.

FLESH : color yellowish; texture tender, firm, becoming toward spring moderately juicy; flavor pleasant, subacid.

QUALITY : dessert or cooking, fair to good.

VALUE : promising for export.

SEASON : November to March,

ADAPTATION : succeeds remarkably well in the County of Simcoe and at other favored points in the north.

SCOTT WINTER.



SCOTT WINTER.

In the province of Quebec this is considered the best late winter cooking apple, the tree being very hardy and the fruit a long keeper; useful for the northerly limits of apple culture.

ORIGIN : On the Scott farm, Newport, Vermont. Introduced by Dr. Hoskins, of Newport.

TREE : vigorous; habit upright; productive, an early bearer.

FRUIT : size small to medium; form roundish oblate, slightly conical; skin yellow, washed, striped and splashed with red; stem short set in a regular, deep, russeted cavity; calyx closed in a narrow abrupt, wavy basin.

FLESH : color yellow; texture fine grained, crisp, juicy; flavor pleasant, sprightly acid.

QUALITY : dessert fair; cooking good.

VALUE : fruit rather small, for market except under high cultivation.

SEASON : late winter.



SECTION OF SCOTT WINTER.

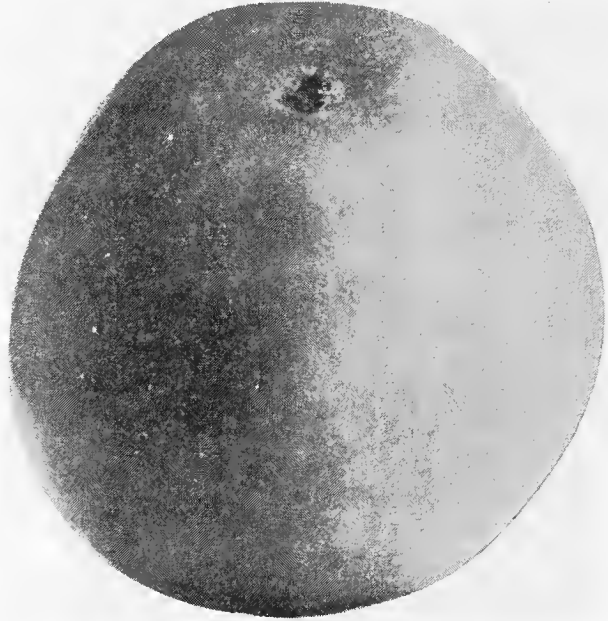
SEEK-NO-FURTHER (*Westfield.*)

An old commercial variety, at one time considerably planted in some parts of Ontario, and still highly valued by some apple growers. Not much planted in the newer orchards.

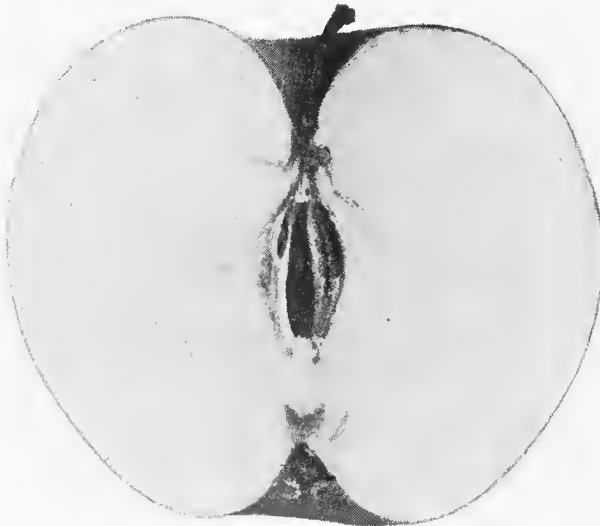
ORIGIN : near Westfield, Connecticut, U.S.A., about 1796.

TREE : vigorous ; habit spreading ; productive. Succeeds best on rich sandy loam.

FRUIT : size medium; form roundish conical ; skin greenish yellow shaded with dull red, striped with bright red, with russet veinings and a few large prominent yellow



SEEK-NO-FURTHER.



SECTION OF SEEK-NO-FURTHER.

dots ; stem short in a deep, slightly russeted cavity ; calyx usually open in a narrow, shallow leather cracked basin ; not subject to scab.

FLESH : yellowish white ; fine grained, tender : flavor spicy, pleasant, subacid.

QUALITY : dessert very good ; cooking fair.

VALUE : market first to second class.

SEASON : October to February.

SHIAWASSEE (*Shiawassee Beauty*.)

SHIAWASSEE BEAUTY.

dots; stem slender, three-quarters of an inch long, set in a broad deep cavity; calyx usually closed, in a large deep basin.

A fine variety of the Fameuse type; much less subject to scab than Fameuse itself. A fancy variety for dessert purposes.

ORIGIN: in Shiawassee County, Michigan, supposed to be a seedling of Fameuse.

TREE: hardy; vigorous; upright; productive alternate years.

FRUIT: size medium to large; form decidedly oblate; color yellowish ground, almost entirely covered with stripes, splashes and mottlings of dark crimson, and a few large prominent yellowish

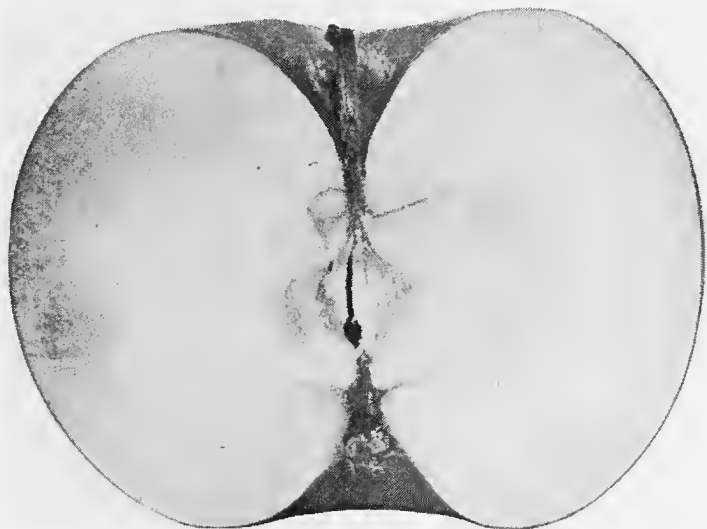
FLESH: color very white; texture firm, very crisp, juicy, fine grained; flavor excellent.

QUALITY: cooking, fair; dessert very good.

VALUE: home or foreign market promising.

SEASON: October to January.

ADAPTATION: Can be grown wherever Fameuse succeeds.



SECTION OF SHIAWASSEE BEAUTY.

SPITZENBURG (*Esopus Spitzenburg.*)

One of the finest dessert apples for late winter use, and widely planted by early settlers throughout Southern Ontario. It has proved to be unprofitable as a commercial apple, because the tree is a weak grower, and yields small crops.



SPITZENBURGH.

ORIGIN: Esopus, on the Hudson river, previous to 1798.

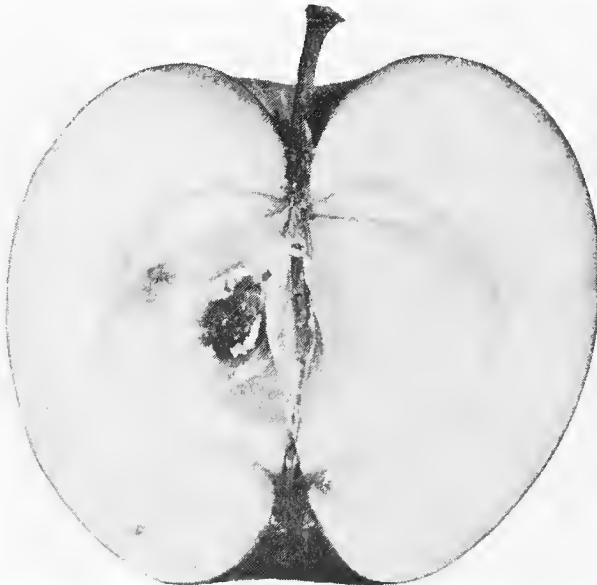
TREE: lacking in vigor, often showing dead or feeble wood; upright, spreading, with drooping limbs when in bearing; fairly hardy.

FRUIT: size medium to large, oblong, slightly conical; skin straw color in shade, but usually nearly covered with bright red, and dark red in sun, with a few stripes, and many obscure gray dots; stalk seven-eighths of an inch long in a narrow deep cavity; calyx nearly closed, set in a narrow basin of medium depth, slightly corrugated.

FLESH: yellowish white; texture crisp, juicy, breaking; flavor brisk, rich, delicious.

QUALITY: first class for all purposes.

SEASON: November to February.



SECTION OF SPITZENBURG.

ADAPTATION: succeeds well on sandy loam in Southern Ontario.

SPY (*Northern Spy*).

The Spy stands in the very first rank of Canadian apples, whether for home or foreign markets. Originating in New York State on the line with the southern portion of the Province of



SPY.

Ontario, it succeeds here to perfection. Its beauty of coloring, half shaded by its delicate bloom, and its great excellence of quality for all purposes, justly claim for it its wide popularity. In Chicago, Canadian Spys are more sought for than any other variety, but owing to tenderness of skin, which shows the slightest bruise, it is less popular for export to Great Britain than some other varieties. The tree is late in coming into bearing, often being fifteen years planted before yielding a crop, and this renders the variety somewhat unpopular with planters. Probably for fancy packages, selected Spys would be among the best.

ORIGIN: near Rochester, N.Y., introduced about 1850.

TREE: upright and spreading in habit; fruit spurs on interior boughs;

very vigorous, late in coming into bearing, but afterwards very productive in alternate years; blossoms late in spring and holds its fruit late in the autumn; requires high cultivation and good fertility.

FRUIT: large to very large; form roundish, slightly conical; skin thin, light green, or pale yellow, sprinkled with light pink, striped and shaded with pinkish red, and covered with thin whitish bloom; stalk slender, three-quarters of an inch long, in a wide, deep, sometimes russeted cavity; calyx small, closed, in a narrow, moderately deep, abrupt, irregular basin.

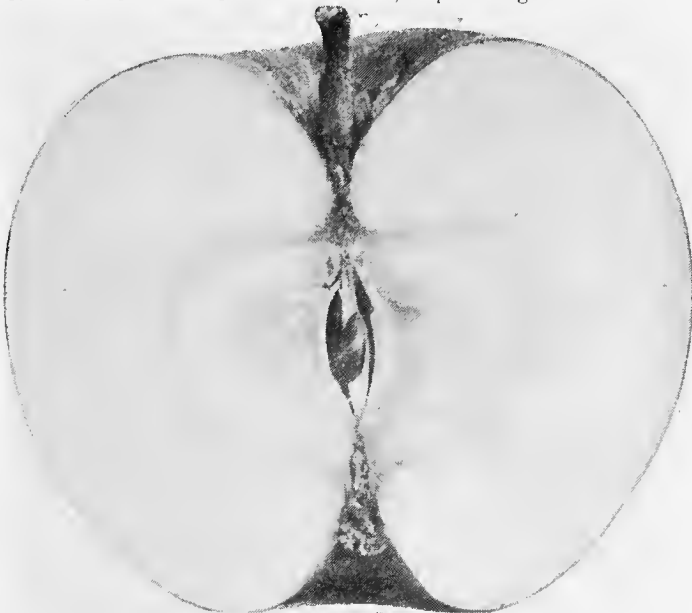
FLESH: white; texture fine grained, crisp, tender, juicy; flavor rich, sprightly, subacid, fragrant.

QUALITY: dessert and cooking, best.

VALUE: home market first class; skin a little tender for distant shipment unless handled with care and wrapped with paper.

SEASON: January to May.

ADAPTATION: sandy or clay loams in Southern and Middle Ontario; found tender at the St Lawrence Experiment Station, and also at the Lake Simcoe Station, except where top grafted to hardy stock.



SECTION OF SPY.

STARK.



STARK.

The Stark has been tested in a commercial way in Ontario by many growers in the Bay of Quinte District, and is considered a good winter apple for export, being about as profitable as Ben Davis, and somewhat better in quality. Its dull red color is a serious fault.

ORIGIN: Ohio.

TREE: a stout vigorous grower, very productive each alternate year; foliage large, dark green, somewhat subject to fungus.

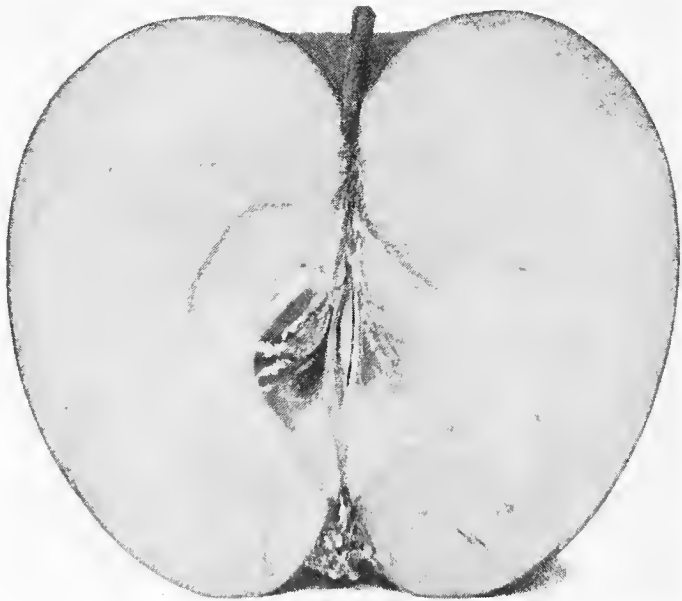
FRUIT: large form; roundish, slightly one-sided, somewhat oblong conical; skin covered with shades and splashes of light and dark red

on a greenish yellow ground, thickly sprinkled with brown dots; stalk one-half inch long, stout, in a small cavity of medium depth; calyx large, half-closed, in a large shallow, plaited basin; flesh yellowish white; texture a little coarse, firm and moderately juicy; flavor mild, sub-acid, good.

QUALITY: dessert poor; cooking good.

VALUE: home market second class; foreign market first class.

SEASON: January to May.



SECTION OF STARK.

STUMP.

An attractive looking fall apple, sometimes shown at our Provincial Fair; considered a fairly profitable variety.

ORIGIN : United States ; Thomas says in Monroe County, N. Y., while Downing supposes that it originated in the State of Delaware.

TREE : spreading, productive.

FRUIT : size medium ; form oblate conical ; color yellowish, splashed and blotched, with bright red ; stem stout, $\frac{3}{8}$ of an inch long, in a narrow, moderately deep, funnel-shaped cavity ; calyx half open, set in a deep wrinkled basin.

FLESH : color white ; texture crisp, juicy, firm ; flavor subacid.

QUALITY : fair for dessert ; good for cooking.

VALUE : home market first class ; foreign market second class.

SEASON : September and October.

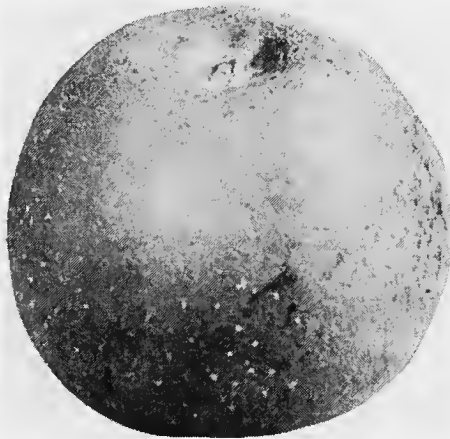
SWAYZIE. (*Swazie Pomme Grise, Pomme Grise d'Or.*)

There is no choicer winter dessert apple for the months of December and January than the Swazie Pomme Grise, especially when kept in a cool, dark cellar, so that its crisp texture and excellent flavor may be preserved. Unfortunately, it is not very productive, and, consequently, not profitable. One large tree at Maplehurst, seventy-five years planted, yielded only an average of four barrels each alternate year. It is well worthy of a place in the amateur collection.

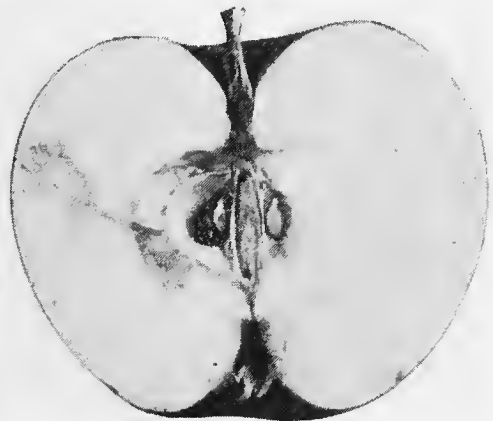
ORIGIN : probably with Col. Swayzie, near Niagara.

TREE : upright, fairly vigorous and not very productive.

FRUIT : small, round, oblate conical ; color deep yellow, well colored with cinnamon russet



SWAYZIE.



SECTION OF SWAYZIE.

and many whitish dots ; stem three-quarters of an inch long, set in a deep cavity ; calyx closed in a moderately deep, slightly corrugated basin.

FLESH : white, texture fine grained, tender, crisp, juicy ; flavor aromatic, mild sub-acid pleasant.

QUALITY : dessert first class ; cooking third class.

VALUE : for home market second class ; for foreign market second-class.

SEASON : December to March.

ADAPTATION : succeeds in best apple districts.

SWEET BOUGH.

(Large Yellow Bough of Downing.)

SWEET BOUGH.

An excellent dessert apple, ripening about the same season as the Early Harvest; not subject to scab, and a favorite with those who prefer a sweet to a sour apple. Not profitable to grow for market, but it deserves a place in every collection for home use. Baked whole it is delicious eaten with cream.

ORIGIN: United States.

TREE: of medium vigor, never attaining a large size, and, therefore, even with a full crop, not very productive. Bears full every alternate year; head compact.

FRUIT: large, ovate, con-

cal; skin smooth, greenish yellow; stem one inch long, in a narrow, deep, regular cavity; calyx open, in a shallow, irregular basin.

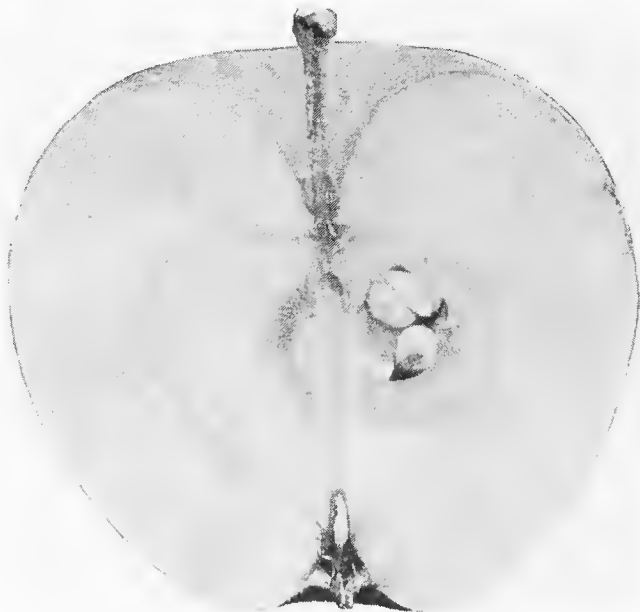
FLESH: white, fine grained, tender and juicy; flavor moderately sweet, rich and agreeable.

QUALITY: dessert very good; cooking poor, except for roasting.

VALUE: home market, second class; foreign market useless.

SEASON: late July to middle of August.

ADAPTATION: succeeds in best apple districts.



SECTION OF SWEET BOUGH.

TITOVKA (*Titus Apple.*)

A variety as yet little known or tested in Canada. In season it follows the Duchess. It is a favorite market apple in middle Russia and is found to endure the severest winters. At

Grimsby, grown as a top graft, it is inclined to drop its fruit about the middle of August, and almost before fully colored. Probably a fine variety for export in cold storage to succeed Duchess.

ORIGIN : Russia.

TREE . very hardy and productive.

FRUIT : large, oblong to roundish, often flattened at base and apex, somewhat irregular on sides ; color yellowish green, almost covered with stripes and shadings of bright red, and light green dots ; cavity narrow, deep and irregular ; stem about three quarters of an inch long, stout ; basin large, plaited at bottom ; calyx nearly closed, segments recurved.

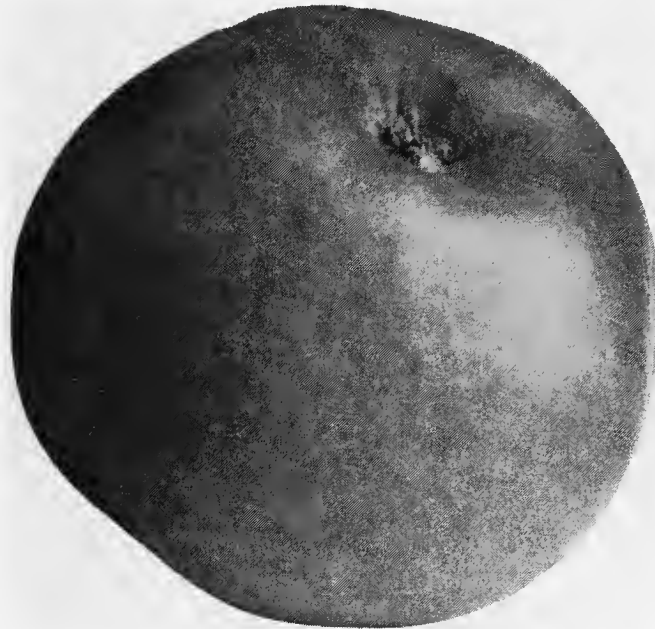
FLESH : white ; texture firm, moderately juicy ; flavor brisk, tart.

QUALITY : dessert poor ; cooking good.

VALUE : home market first-class.

SEASON : August and September.

ADAPTATION : worthy of trial where Wealthy or Duchess succeed.



TOLMAN.

which may be grown farther north, when top grafted upon the Tolman than when upon common stock.

FRUIT : size medium ; form roundish ; color light yellow, sometimes with reddish cheek, and a line from stem to calyx ; stem half an inch long, often inclined, inserted in a wide shallow cavity ; calyx closed in a small shallow basin.

FLESH : color white ; texture firm, fine grained ; flavor sweet, rich.

QUALITY : dessert good ; cooking fair.

VALUE : second class, except in special markets and in limited quantities.

SEASON : November ; to April.

TOLMAN.

(*Tollman Sweet.*)

The best winter sweet apple ; valuable for baking and by some people esteemed a good dessert apple ; useful also as stock feed, in place of roots ; not of much value for export.

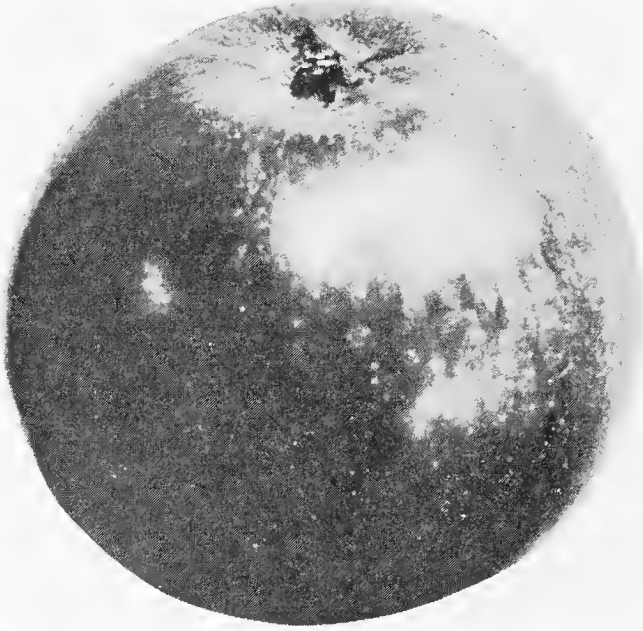
ORIGIN : a native of Rhode Island.

TREE : a vigorous grower, very productive and very hardy ; valuable as a stock upon which to top graft other and more tender varieties, as, for example, the King, which is more productive, and the Spy,



SECTION OF TOLMAN.

TRENTON.



TRENTON.

ORIGIN : seed of Golden Russet by Spy, raised by Mr. P. Dempsey, Albury, Prince Edward County.

TREE : vigorous ; spreading.

FRUIT : size medium ; color red on yellow ground, with numerous splashes and stripes of dark red and many white dots ; form round oblate ; stem five-eighths of an inch long in a deep cavity ; calyx partly open, in a deep basin.

FLESH : color yellow ; texture tender, crisp, juicy ; flavor pleasant, subacid.

QUALITY : dessert good.

VALUE : first class, though it has only been tested to a limited extent.

SEASON : September and October.



SECTION OF TRENTON.

TRANSCENDENT.

An excellent early autumn variety of the hybrid crabs.

ORIGIN : United States.

TREE : of moderate slender growth, hardy, somewhat subject to twig blight.

FRUIT : medium for its class; form roundish oblong, flattened at ends, ribbed; color of skin golden yellow, with crimson cheek and thin whitish bloom; stem one and a quarter inches long, set in an open deep cavity; calyx closed, segments large, set in a hollow slightly corrugated basin; somewhat subject to scab.

FLESH : color yellowish; texture crisp and moderately firm; flavor acid, slightly astringent, becoming pleasant when fully ripe.

SEASON : August and September.



TRANSCENDENT.

VANDEVERE.

An old variety, originated at Wilmington, Delaware.

FRUIT : medium, oblate; surface waxen yellow, striped with red; dots numerous, green; cavity deep; stem about one inch long; basin round, moderate; calyx small, closed.

FLESH : yellowish, compact, but tender, with a fine rich subacid flavor; good; valuable for culinary use. October to January. (*Budd.*)

WALBRIDGE. (*Edgar Redstreak.*)

A good winter variety for northern sections, on account of the hardness of the tree, but not commended for the apple orchards of the more favored districts.

ORIGIN : Edgar Co., Illinois, and first known as Edgar Redstreak.

TREE : vigorous; habit spreading; a tardy and often a shy bearer.

FRUIT : size medium; form round conic; skin pale yellow, shaded with pale red and having stripes and splashes of bright red on the sunny side, and a few obscure whitish dots; stem short in an acute regular cavity; calyx closed in a narrow flat basin.

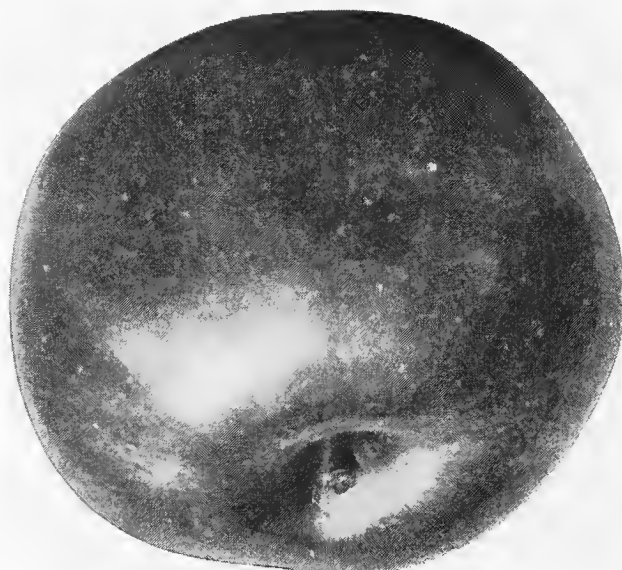
FLESH : color white; texture tender, juicy; flavor mild subacid.

QUALITY : dessert fair; cooking good, but rather small.

VALUE : market second class.

SEASON : December to March.

WAGENER.

WAGENER. 

A fine dessert apple when grown and highly colored, but samples grown in the shade are inferior both in appearance and in flavor. The texture of the fruit is too tender to be planted in the commercial orchard.

ORIGIN: Abram Wagener, Penn Yan, N. Y., in 1796.

TREE: a slow grower and an early bearer; not long lived.

FRUIT: medium to large, form oblate; color yellow, nearly covered with crimson, obscurely striped, with a few light dots; stem about seven-eighths of an inch long, inserted in a broad,

deep, irregular cavity; calyx closed, set in a funnel form, somewhat corrugated basin.

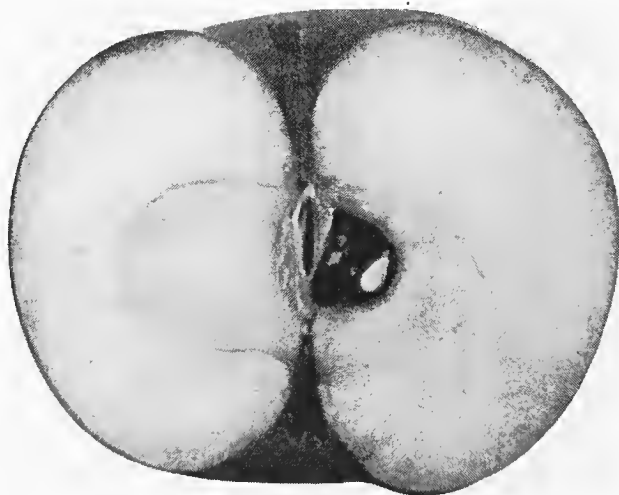
FLESH: yellowish, texture fine grained, very tender, juicy; flavor subacid, very agreeable.

QUALITY: dessert very good, cooking good.

VALUE: home market first class, foreign market second class.

SEASON: November to February.

ADAPTATION: succeeds in best apple sections.



SECTION OF WAGENER.

WEALTHY.

This beautiful apple was distributed among the members of the Ontario Fruit Growers' Association in 1882 for trial, and has won for itself a good reputation in every part of



WEALTHY.

Province as a dessert apple of excellent quality, while in the northern portions it is especially desirable on account of its hardness.

ORIGIN: St. Paul, Minnesota, by Peter Gideon.

TREE: vigorous, very hardy, over productive.

FRUIT: medium, roundish, oblate, regular; skin, smooth, greenish ground, changing to pale yellow, rich, red cheek, with stripes and splashes of red in the sun, sometimes nearly covered with crimson; stem one-half to three-quarters of an inch long in a deep, regular cavity; calyx nearly closed in a deep, abrupt basin.

FLESH: white, texture fine grained, tender, juicy, sprightly, pleasant subacid.

QUALITY: dessert very good; cooking good.

VALUE: for home market first class; for foreign market first class.

SEASON: September to November.

ADAPTATION: succeeds throughout the Province generally.



SECTION OF WEALTHY.

WOLF RIVER.

The Wolf River is an apple that might be included in a list for export. It is a little later in season than Alexander, and is supplanting that variety in some sections.

ORIGIN: a seedling of the Alexander, and originated in Wisconsin on the bank of Wolf River.

TREE: very hardy, vigorous and fairly productive; an early bearer.

FRUIT: very large, oblate, or roundish oblate, usually regular in size; skin light yellow, shaded with dark red or crimson in sun, with a few yellowish dots; stem three-quarters of an

inch long, set in a narrow deep basin, of a green or russet color; calyx open, in a narrow, deep, green wrinkled basin.

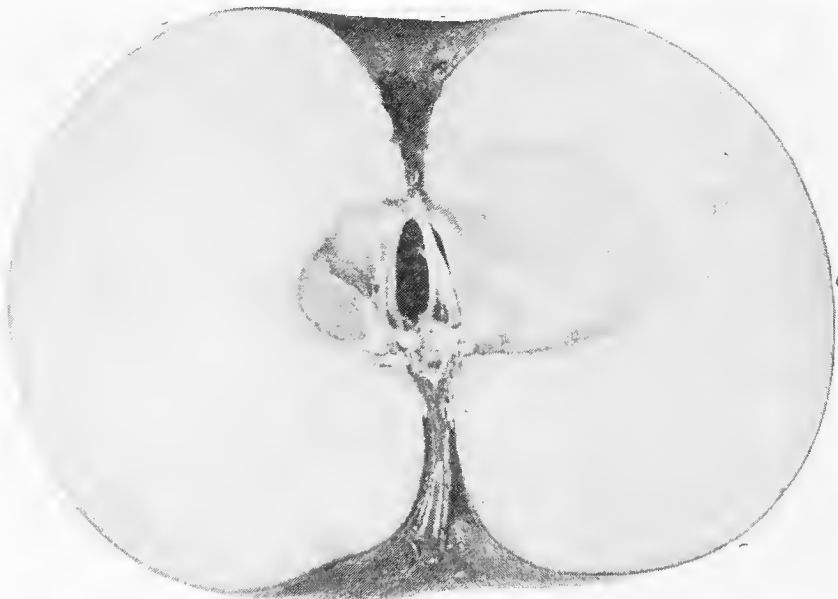
FLESH: yellowish white, moderately firm in texture, not fine-grained, juicy, with a pleasant subacid flavor.

SEASON: October and November.

ADAPTATION: general throughout the Province, but specially successful in the north.



WOLF RIVER.



SECTION OF WOLF RIVER.

WHITNEY.

(Whitney No. 20).

A hybrid crab, which originated in Illinois, and has proved itself valuable in Northern Illinois, in Minnesota, and in some parts of our Canadian North West. As long ago as 1834, this apple was in bearing at Prince Albert in Alberta, and the Board of Control of our Ontario Fruit Experiment stations is having it tested in several places in New Ontario.

The apple is large for its class ; it is a good cooking apple and a fair dessert apple.

TREE: productive ; very hardy.



Whitney.



Section of Whitney.

FRUIT: medium size ; form roundish conical, slightly angular ; color dark red, splashed with dark crimson on a yellow ground, with obscure small white dots ; stem one inch long set in a flat wrinkled basin ; calyx closed in a regular slightly russeted basin.

FLESH: color yellowish ; texture tender, juicy ; flavor subacid.

QUALITY: cooking very good ; dessert good.

VALUE: special market first class.

SEASON: August to September.

YELLOW BELLFLOWER. (*Bishop's Pippin of Nova Scotia.*)

YELLOW BELLFLOWER.

FRUIT: size large; form apparently oblong, because tapering towards calyx, somewhat angular and ribbed; color pale yellow, often with a beautiful blush on the sunny side and numerous obscure whitish dots; stem slender, one inch long, in a narrow deep cavity; calyx closed in a small corrugated basin.

FLESH: color yellow; texture tender, juicy and crisp; flavor sprightly subacid, agreeable when eaten in season.

QUALITY: dessert good; cooking good.

VALUE: home market first class.

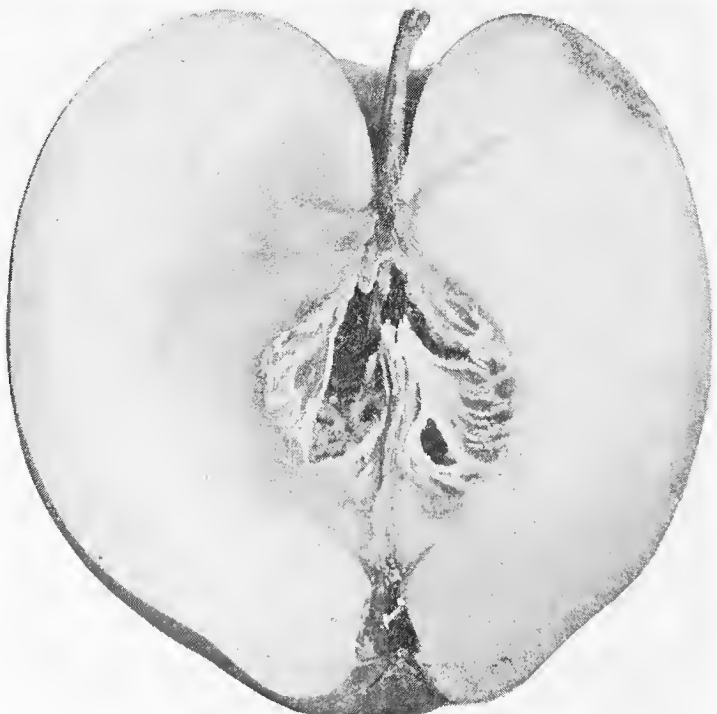
SEASON: December to February.

ADAPTATION: general, except in extreme northern sections.

At one time the Bellflower was planted to some extent in Ontario orchards, but the tree has proved itself irregular in its bearing habits, sometimes producing magnificent samples, and at other times small and poorly colored fruit, and the fruit is tender and shows very slight bruises, so that we cannot recommend it as worthy of a place among the most profitable varieties.

ORIGIN: Burlington, N. J.

TREE: vigorous, forming a roundish, spreading and somewhat drooping head; productive alternate years.



SECTION OF YELLOW BELLFLOWER.

YELLOW TRANSPARENT.



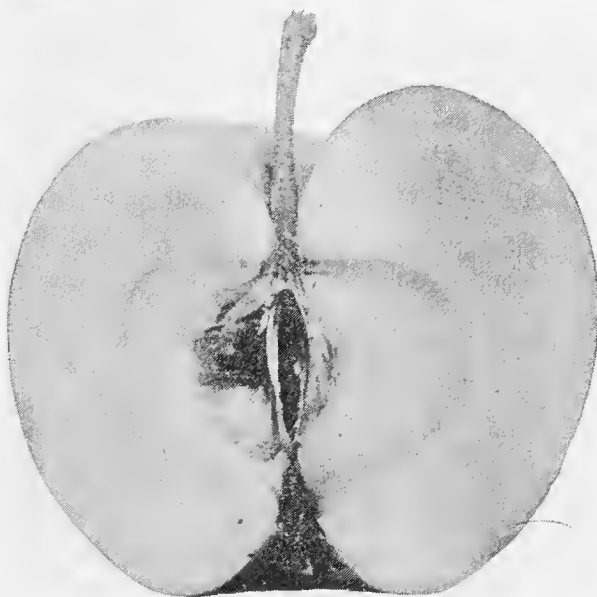
YELLOW TRANSPARENT.

FRUIT: above medium, roundish, oblate, inclined to be conical; skin clear white, yellowish white when very mature; dots light green, obscure; stalk medium, in large cavity; calyx closed in medium, slightly corrugated basin; fruit hangs well on the tree; cuts show fruit below normal size.

FLESH: white; texture firm till very ripe, then tender; quality second class.

SEASON: early August.

ADAPTATION: succeeds almost everywhere over the Province.



SECTION OF YELLOW TRANSPARENT.

YORK IMPERIAL.

A fine export market apple, highly valued in some of the American States, but not yet much grown in Ontario.

ORIGIN: York County, Pa.

TREE: a moderate grower, productive.

FRUIT: medium in size; angular, oblique; color of skin, bright red in shades, stripes and splashes on a yellowish ground; stem half an inch long in a deep funnel-shaped cavity; calyx nearly closed in an irregular deep, slightly plaited basin.

FLESH: yellowish; texture firm and juicy; flavor, subacid, good.

QUALITY: dessert fair; cooking good.

VALUE: first class for market.

SEASON: January to March.

THE CHERRY.

The cherry, which for a time was a comparatively neglected fruit in Ontario, is now being more largely planted and better culture is being given it. As a result, this delicious fruit is now being produced in fairly large quantities in certain sections, and as the crop is more uncertain than that of any of the other large fruits, the prices obtained for cherries are good.

There are three well recognized groups into which the cultivated cherries are divided, the Morello or Sour cherries, the Bigarreau, Heart, or Sweet cherries, and the Duke cherries, which are intermediate between the other two groups, the fruit being usually subacid. The hardiest varieties are found in the Morello group, and for this reason these Sour cherries have succeeded over a much larger part of Ontario than the others. The eastern limit of the commercial culture of the Sour cherries is about the city of Kingston, but north-east of that district along the St. Lawrence River, especially within twenty or thirty miles of the water, they succeed admirably. They are not grown to any extent north of latitude 45 degrees, as it has been found that the dry cold winters kill the fruit buds, and it is only rarely that a crop is produced. Near the northern limit of the successful culture of Sour cherries, it has been found that large bodies of water have a very beneficial influence in lessening the winter injury.

The Sweet and Duke cherries have a much narrower range than the Sour cherries. While they will succeed along Lake Ontario east of Toronto, where the influence of the water moderates the climate, the crops are too uncertain for their commercial culture, hence this is confined mainly to the south-western parts of the Province.

More care is required in choosing a site for cherries than for apples. A warm sandy loam or gravelly well-drained soil is to be preferred, and while the trees may succeed for a time on poorly drained cold soil, they will not reach a great age and are not likely to prove profitable. A site should if possible be chosen where there is the least danger from spring and summer frosts, as cherry blossoms are tender.

The preparation of the land for apple trees and directions for planting of the same may be followed for the cherry, but even more care should be taken in planting, as cherries are much harder to transplant than apples. For this reason one or two year old trees should be used, as the loss from planting older trees is liable to be great.

As the trees of the Morello cherries do not reach a great size, they may be planted closer than the others; from eighteen to twenty feet apart being sufficient; while for the Sweet cherries twenty-five feet is not too much. The Duke cherries, which do not grow quite so large as the Sweet, may be planted about twenty feet apart.

The pruning to shape the cherry tree is much the same as for the apple, but after the tree becomes well shaped the less pruning done the better. Often serious injury occurs when cherry trees are severely pruned. Gum oozing from the tree is an indication of such injury.

Thorough cultivation is as necessary for cherries as for apples, and cover crops are, if anything, more necessary.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Hardy: Orel 25, Orel 24, Richmond, Montmorency, Russian 207.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Niagara District: By Linus Woolverton, Grimsby, Ont.

Commercial: Wood, Knight, Napoleon, Tartarian, Dyehouse, Montmorency, Late Duke, Elkhorn, Windsor, Morello.

Domestic: May Duke, Cleveland, Knight, Elton, Tartarian, Hortense, Choisy, Eagle, Mezel, Royal Duke.

Lake Simcoe District: By G. C. Caston, Craighurst, Ont.

Commercial and Domestic: Orel 24, Ostheim, Litham, Russian 207, Bessarabian, Dyehouse, Morello.

Algoma District: By Charles Young, Richard's Landing, Ont.

Commercial and Domestic: Richmond, Montmorency, Morello.

Bay of Quinte District: By W. H. Dempsey, Trenton, Ont.

Commercial and Domestic: Richmond, Montmorency.

St. Lawrence District: By Harold Jones, Maitland, Ont.

Commercial and Domestic: Richmond, Montmorency, Orel 24, Morello.

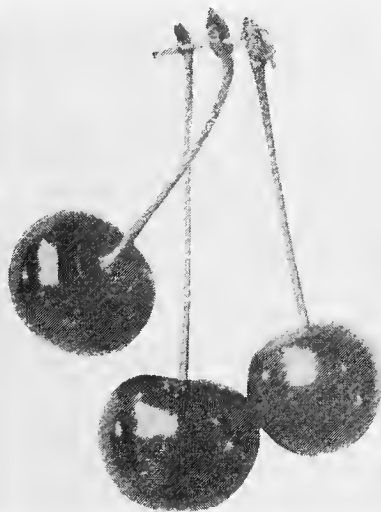
DESCRIPTION OF VARIETIES.

CALIFORNIA ADVANCE.

A fine Duke cherry, so similar in both season and in character to the Late Duke, that we are inclined to think the two identical. Introduced by the Stark Nurseries of Louisiana, U.S.

CHOISY. (*Belle de Choisy*, *Ambree grosse of LeRoy*.)

The most delicious of all dessert cherries, and one that should be planted in every amateur's garden; but of no value in the commercial cherry orchard, because not productive, and the tree is often short lived.



CHOISY.

ORIGIN: Choisy, near Paris, 1760.

TREE: upright; foliage dark; hardy; not very productive; group, Duke.

FRUIT: medium to large, $\frac{3}{4}$ x $\frac{3}{4}$, obtuse heart-shaped; skin transparent, showing the structure of the flesh and the cells of juice within; color bright cornelian red in sun, pale red to amber in shade; stem slender, two inches long; suture marked by a delicate line.

FLESH: very pale red; texture soft, juicy; flavor sweet, very delicious.

QUALITY: dessert very good.

VALUE: market second class.

SEASON: late June.

ADAPTATION: Southern Ontario.

CLEVELAND.

One of the finest Bigarreau cherries for dessert purposes, being of high quality and not too firm in texture. A good variety for commercial orchards, because of its high color and earliness of season, but not yet fully tested in this Province.

ORIGIN : by Prof. Kirtland, Cleveland, Ohio.

TREE : vigorous ; of stout spreading habit ; productive, fruited after three years planting at Maplehurst ; group, Heart.

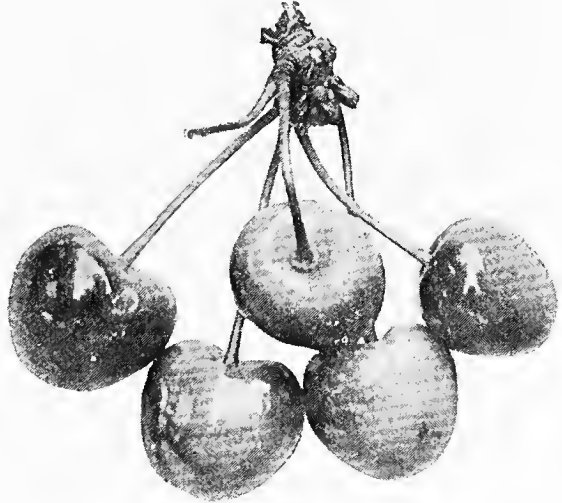
FRUIT : large, $\frac{7}{8}$ x $\frac{1}{8}$ of an inch ; form heart-shaped, sides unequal ; color bright red maroon, on yellowish ground, dark rich red in the sun ; stem stout, $1\frac{1}{2}$ inches long in a broad, uneven cavity ; suture broad, half way round.

FLESH : light cream in color ; texture almost tender, juicy ; flavor sweet, rich and delicious.

QUALITY : first-class for table.

VALUE : home market good ; distant market good.

SEASON : late June.



CLEVELAND.

COE. (*Coe's Transparent.*)

A good variety for the home garden, but altogether too tender to be popular for the commercial orchard.



COE.

ORIGIN ; in Connecticut, with Curtis Coe, of Middleton.

TREE : healthy, fairly vigorous, with round spreading head, third rate in productiveness : group, Heart.

FRUIT : medium to large ; round and regular in form ; skin thin, bright shiny amber, nearly covered with rich cornelian, marked with peculiar mottled blotches ; stalk one and a half to two inches long set in a medium wide cavity ; suture obscure.

FLESH : very pale yellowish tint ; texture very soft and tender, juicy ; flavor very good if not left hanging too long.

QUALITY : good for dessert.

VALUE : second class for home market ; fourth class for distant market.

SEASON : early July.

ADAPTATION : south of Lake Ontario.

DOWNER. (*Downer's Late*)

A delicious dessert cherry.

ORIGIN : Massachusetts.

TREE : a vigorous, upright grower ; fairly productive ; group, Heart.

FRUIT : size large $\frac{1}{2}$ x $\frac{3}{4}$; form heart-shaped ; stem $1\frac{1}{4}$ x $1\frac{1}{2}$ inches long ; apex a slight depression ; color bright shiny red, marbled.

FLESH : creamy white ; texture tender, melting ; flavor rich and sweet.

QUALITY : very good for dessert ; fair for cooking.

VALUE : market second-class.

SEASON : mid July.

DYEHOUSE.

An early Morello cherry, ripening just in advance of Early Richmond, to which it is quite similar.

ORIGIN : Central Kentucky ; an accidental seedling in the orchard of Mr. Dyehouse.

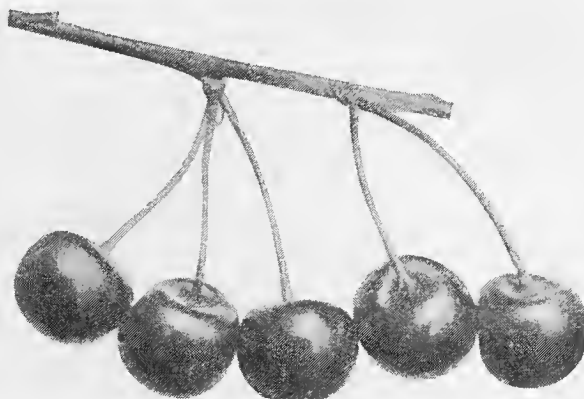
TREE : an early and abundant bearer ; habit round, spreading head, slender ; fairly vigorous ; not as hardy as Richmond ; class Kentish.

FRUIT : medium size, 9-16 x 11-16 of an inch ; roundish oblate ; apex depressed ; stem half inch long, rather stout, set in a large cavity ; color light red.

FLESH : pale yellow ; fairly firm ; juicy ; flavor acid.

QUALITY : dessert poor ; cooking first class.

SEASON : early July.



DYEHOUSE.

EARLY PURPLE. (*Early Purple Guigne.*)

The earliest cherry is the Early Purple, a foreign variety known in France as the Early Purple Guigne. The tree is a vigorous, upright grower, and becomes quite productive as it acquires age. Frequently the birds destroy the fruit before it matures, and if gathered as soon as colored red, it is little more than "skin and bones." The last few days of growth, the fruit fills out wonderfully, and then becomes almost a so-called "black cherry." Not usually profitable.

TREE : upright, vigorous, healthy ; productive when full grown.

FRUIT : medium size ; roundish heart-shaped ; skin dark red to purple ; stem two inches long in a shallow cavity ; suture obscure.

FLESH : red to purple ; texture tender, juicy ; flavor sweet and pleasant.

QUALITY : dessert good.

VALUE : market second class.

SEASON ; mid June.

ADAPTATION : grown at Maplehurst for thirty years and quite hardy ; recommended for trial north of Lake Ontario.

EAGLE. (*Black Eagle*.)

A very excellent dessert cherry, well deserving a place in the home garden, but not sufficiently productive to be recommended for the commercial orchard. The average annual yield of large trees at Maplehurst is from twenty-five to thirty quarts. The fruit is usually in scattered clusters, and often borne singly, making the gathering expensive. In England this variety is more productive than in Canada.

ORIGIN: England, 1810, by Miss F. Knight, of Downton Castle, from Bigareau and May Duke.

TREE: second rate in vigor, of a round spreading habit; third rate in productiveness; group, Bigareau.

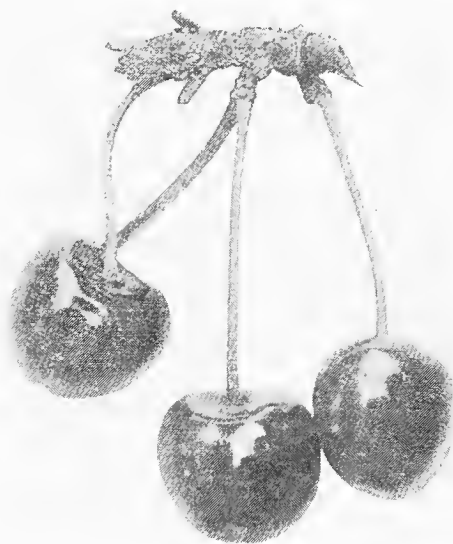
FRUIT: medium to large, averaging about $\frac{1\frac{3}{8}}$ long by $\frac{1\frac{1}{8}}$ of an inch wide; form obtuse heart-shaped, almost roundish oblate; skin dark red, becoming almost black; stalk slender, $1\frac{1}{2}$ to $1\frac{3}{4}$ inches long in a medium cavity; suture obsolete; stone small.

FLESH: dark purple; texture tender and juicy; flavor very sweet, rich and delicious.

QUALITY: very good for dessert.

VALUE: first class for near markets; second rate for distant markets because it soon decays.

SEASON: mid July.



BLACK EAGLE. (Reduced).

ELTON.

An excellent dessert cherry for the garden, but too soft and too much inclined to rot, to be worthy of a place in the commercial orchard.

ORIGIN: England.

TREE: a vigorous grower; upright in habit; quite productive.

FRUIT: medium to large; color pale yellow with red blush; stem two inches long set in a deep cavity.

FLESH: light yellow; texture delicate, tender, moderately juicy; flavor sweet, vinous, delicious.

QUALITY: dessert good; cooking fair.

VALUE: fair, but like most white cherries, not popular in the market, because inclined to show the slightest bruises.

SEASON: early July.



ELTON.

GRENNER GLAS.

TREE : upright ; fruit in clusters ; vigorous ; moderately productive.

FRUIT : large in size, $\frac{5}{8}$ x $\frac{7}{8}$; form oblate, one sided ; color bright red ; cavity broad, shallow ; stem $1\frac{1}{4}$ inches in length ; apex is a small depression ; suture traceable on one side.

FLESH : color yellowish with colorless juice ; texture tender ; very juicy ; flavor tart.

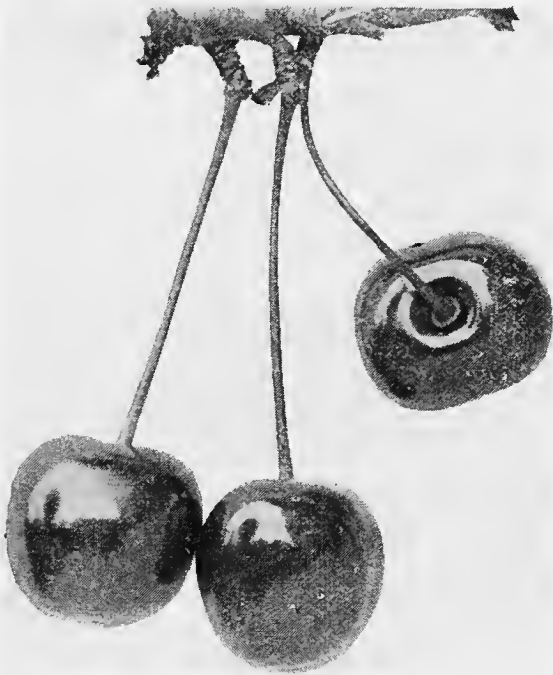
QUALITY : dessert poor ; cooking very good.

VALUE : market first class.

SEASON : mid July.

HORTENSE. (*Reine Hortense.*)

One of the finest flavored of cooking cherries, and one which deserves the first place in the home garden. It is not as productive as the May Duke, but from its habit of fruiting singly is less subject to rot than that excellent variety.



HORTENSE.

ORIGIN : France, in 1832, by M. Larose, Neuilly ; first fruited in 1838.

TREE : of somewhat spreading habit, a vigorous and handsome grower and fairly productive ; group, Duke.

FRUIT : very large ; roundish elongated ; side slightly compressed ; skin, thin, light shining red mottled with darker red, becoming richer in color the longer it hangs ; stalk slender, about two inches long.

FLESH : creamy yellow ; texture netted, very tender, juicy ; flavor slightly subacid, excellent.

QUALITY : very good for cooking ; very good for dessert.

VALUE : first to second class for market.

SEASON : mid July.

KNIGHT. (*Knight's Early Black.*)

A delicious early, black cherry, ripening about a week in advance of Black Tartarian. It is a regular and even bearer. The fruit is borne singly, or, occasionally, in pairs, and therefore is not gathered as rapidly as those varieties which grow in clusters. It is one of the most valuable dessert cherries, but not so productive as the Tartarian.

ORIGIN: England, by T. A. Knight, in 1810, from Bigarreau crossed with May Duke.

TREE: healthy, fairly vigorous, with spreading head; second rate in productiveness; group, Heart.

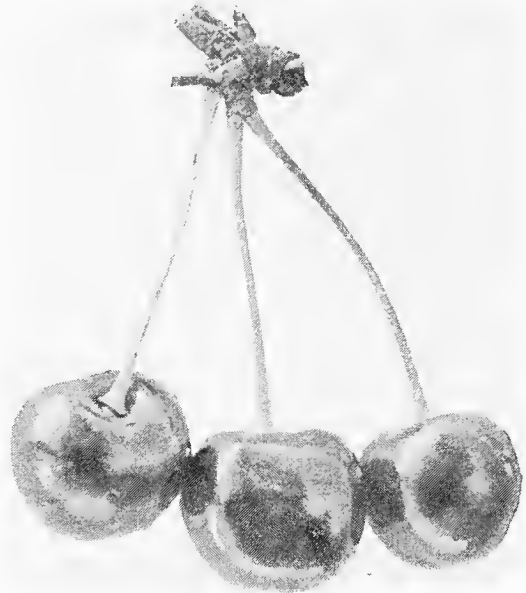
FRUIT: medium to large; form obtuse, heart-shaped, uneven; skin dark red or purple, becoming almost black if allowed to hang; stalk two inches long in a rather large cavity.

FLESH: dark red to purple; texture tender and juicy, but firmer than Tartarian; flavor sweet, rich and delicious; stone small.

QUALITY: very good for all purposes.

VALUE: for market first class.

SEASON: late June.



KNIGHT.

KOSLOV. (*Koslov Morello.*)

A valuable dwarf growing cherry of the Morello class, which is extremely hardy, and promises to be of the greatest value in the cold sections of Ontario.

ORIGIN: fifty trees of this variety were imported from Jaroslav Niemetz of Winnitza Podolie, Russia, in 1889 by Mr. Linus Woolverton, then Secretary of the Ontario Fruit Growers' Association, and by him distributed among the directors, and a few sent to Dr. Wm. Saunders of the Central Experimental Farm, Ottawa.

TREE: habit bush form, very slow of growth, might be planted six feet apart in a field and cultivated two ways; very hardy, Niemetz says it has endured a temperature of 46 degrees below zero in Russia; very productive.

FRUIT: fairly large; form roundish; color dark red, turning black at maturity; stalk one and a half inches long, set in a slight depression; suture traceable.

FLESH: red, turning dark red at maturity; texture tender, juicy; flavor mild acid.

QUALITY: cooking good.

VALUE: almost first class.

SEASON: early August.

LATE DUKE (*Anglaise Tardive.*)

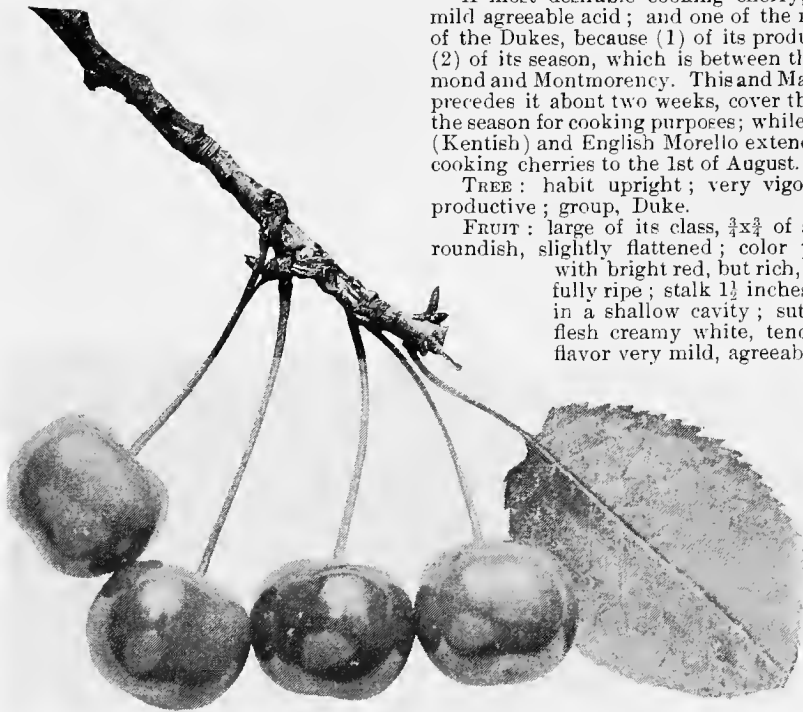
A most desirable cooking cherry, because of its mild agreeable acid; and one of the most profitable of the Dukes, because (1) of its productiveness, and (2) of its season, which is between the Early Richmond and Montmorency. This and May Duke, which precedes it about two weeks, cover the early part of the season for cooking purposes; while Montmorency (Kentish) and English Morello extend the season of cooking cherries to the 1st of August.

TREE: habit upright; very vigorous and very productive; group, Duke.

FRUIT: large of its class, $\frac{3}{4} \times \frac{3}{4}$ of an inch; form roundish, slightly flattened; color partly covered with bright red, but rich, dark red when fully ripe; stalk $1\frac{1}{2}$ inches long, inserted in a shallow cavity; suture traceable; flesh creamy white, tender and juicy; flavor very mild, agreeable acid.

QUALITY: good for dessert; best for cooking.

SEASON: mid July.



LATE DUKE.

MAGNIFIQUE. (*Belle Magnifique.*)

Chiefly valuable for its lateness of ripening.

ORIGIN: France.

TREE: upright round habit; vigor moderate; not very productive; Duke.

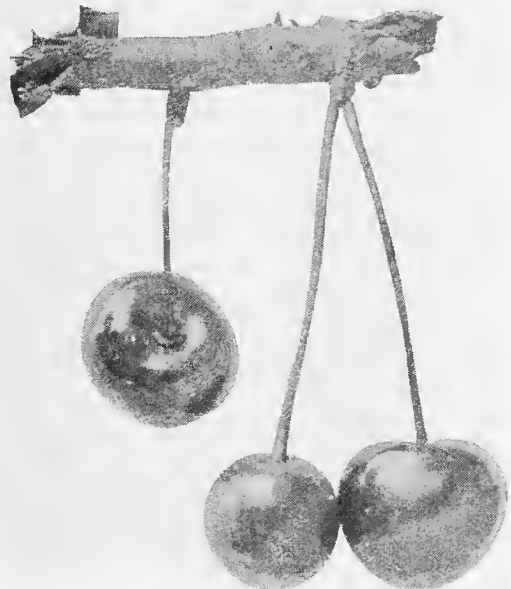
FRUIT: about $\frac{3}{4}$ of an inch long by $\frac{1}{2}$ broad; form heart shape, flattened, obtuse; color bright red; stem about two inches long, set in a large broad cavity; suture traceable.

FLESH: color light yellow; juice uncolored; texture tender, juicy; flavor sub-acid.

QUALITY: dessert poor; cooking good.

VALUE: market second class.

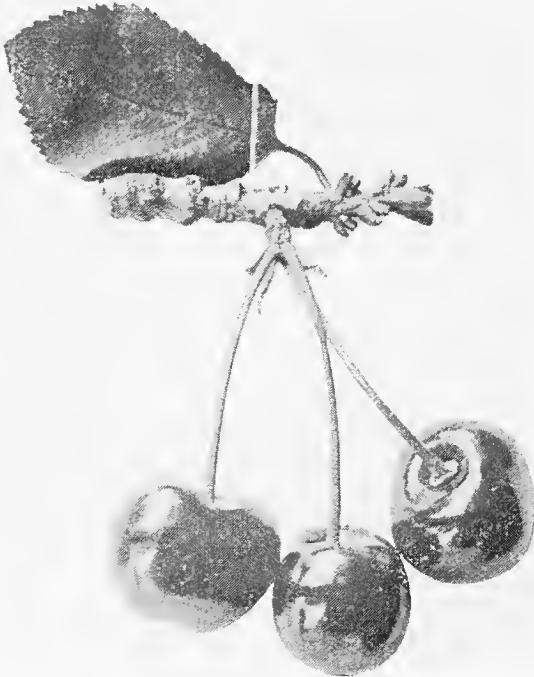
SEASON: late July.



MAGNIFIQUE.

MAY DUKE. (*Early Duke, Royal Hatice.*)

A fine cooking cherry. The great productiveness, health and vigor of the tree, the mild acid of the fruit ripening over a considerable season, all tend to make this a favorite variety. The fruit is rather tender for distant shipments, and inclined to rot in wet seasons. These Duke cherries have green and ripe fruit at the same time, which makes them undesirable for commercial orcharding, as it necessitates several pickings instead of one, increasing the cost of harvest beyond the margin of profit.



MAY DUKE.

ORIGIN: Medoc, a Province in France, from whence the name is said to be a corruption.

TREE: upright, a habit especially noticeable in young trees; vigorous, hardy and productive; group, Duke.

FRUIT: size small to medium; form roundish, obtuse, heart-shaped, with traceable suture and distinct indentation to apex; grows in clusters; skin bright red, turning darker at full maturity; stalk $1\frac{1}{2}$ to 2 inches long; stone small.

FLESH: red; texture tender, very juicy; flavor subacid, and very good.

QUALITY: good for dessert, first class for cooking.

SEASON: late June.

MEZEL.—(*Monstreuse de Mezel, Bigarreau of Mezel.*)

One of the finest of the late black cherries, of large size and great productiveness. Though a Bigarreau it has not the fault of its class of being especially subject to rot; it is not so black in color as the Elkhorn, but dark enough a red to be classed with the black cherries.

ORIGIN: Mezel, France; first introduced in 1846.

TREE: upright, spreading, a very vigorous grower; one tree at Maplehurst forty years planted was thirty feet in height in 1897, and covered an area about the same number of feet in diameter; first rate in hardiness and in productiveness; group, Bigarreau.

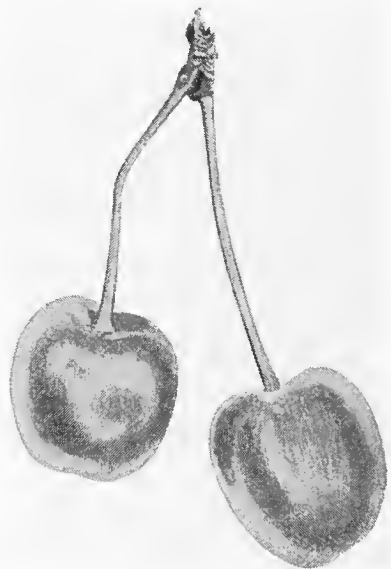
FRUIT: very large, fifteen-sixteenths of an inch long by one inch in width; form obtuse, heart shaped, slightly flattened, with a clearly-defined suture on one side, ending in a slight nipple; skin dark red at first, changing to dark purple at maturity; stalk two inches long, slender, set in good sized cavity.

FLESH: firm, juicy, breaking; flavor sweet, good.

QUALITY: for dessert very good.

VALUE: for market first class.

SEASON: mid July.



MEZEL.

MONTMORENCY.

Of all the Morello cherries this seems to us the most profitable. The tree is one of the most vigorous in its class, the fruit being large and abundant. This and the Early Richmond

cover the season very well, and are the two leading Kentish varieties for market. In France this cherry has many synonyms, as, for example, Montmorency, a longue queue, Petit-Gobet, etc.

ORIGIN: Montmorency valley in France in middle of 17th century.

TREE: hardy, healthy, fairly vigorous, very productive and an early bearer.

FRUIT: attached in ones and twos; size $\frac{3}{4}$ long by $\frac{3}{8}$ inch broad; form roundish, almost flattened at apex; skin bright shiny red, becoming darker at maturity, easily detached from the flesh; stem $1\frac{1}{2}$ inches long, in a rather large cavity.

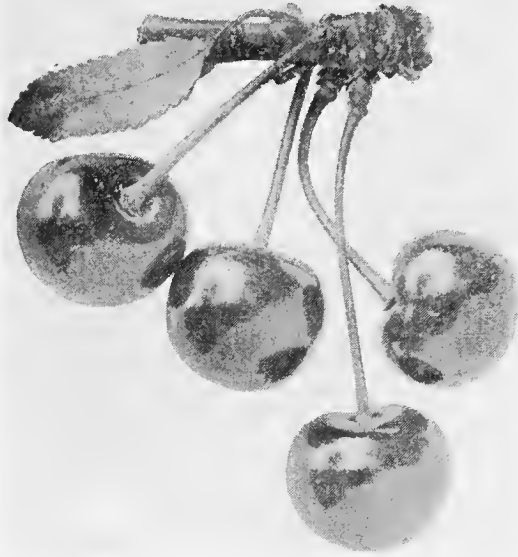
FLESH: pinkish yellow, tender, very juicy, sprightly acid.

QUALITY: very good for cooking.

VALUE: for market first class.

SEASON: mid July.

ADAPTATION: general over the Province.



MONTMORENCY.

MORELLO.—(*English Morello.*)

An old reliable variety for cooking purposes, known in England for nearly three hundred years, and deserving of wider cultivation in Ontario. Downing thinks the name Morello is from *Morus*, the Mulberry, from the dark purple color of its juice, which resembles that of the mulberry; a profitable market variety.

TREE: habit spreading, slender, hardy and very productive; vigor medium; group, Morello.

FRUIT: fairly large, roundish, nearly heart shaped, somewhat flattened on one side, with a slightly traceable suture.

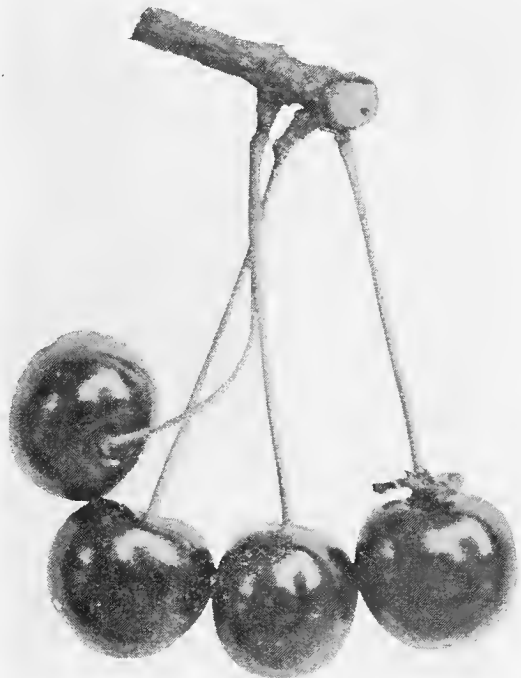
SKIN: red, turning dark red or purple towards maturity; stalk about $1\frac{3}{4}$ inches long, inserted in a shallow cavity; stone small, slightly cling.

FLESH: very dark red; texture tender, juicy; flavor acid, becoming more sub-acid and agreeable the more it matures.

QUALITY: dessert very poor, cooking first-class.

VALUE: home market second class.

SEASON: early August.



MORELLO.

NAPOLEON. (*Napoleon Bigarreau, Royal Anne of California.*)

A valuable variety of foreign origin. Perhaps the most productive variety known, yielding fruit of the very largest size which is in good demand and, therefore, one of the most desirable for the commercial orchard. It has one serious fault, namely, it is very subject to the rot, especially in wet seasons, and sometimes the whole crop of this variety is ruined by it.

TREE: upright, spreading, vigorous, hardy on the south shore of Lake Ontario; very productive.

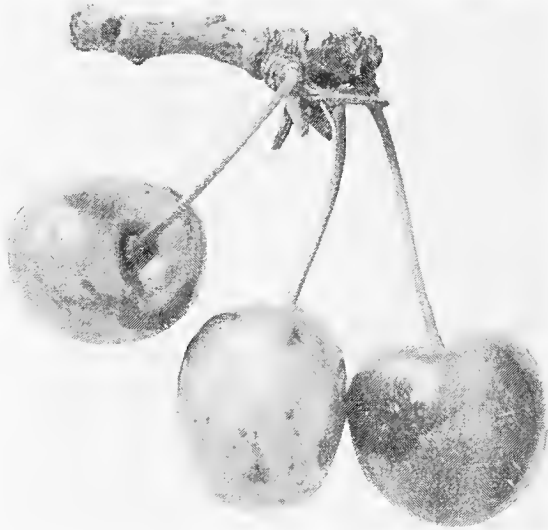
FRUIT: very large, oblong heart shaped; skin yellow ground, light in shade, rich red cheek in the sun, sometimes mottled; stem 1½ inches long; suture plainly traceable.

FLESH: yellowish white, very firm, meaty, fairly juicy; flavor good; texture much esteemed for canning because it looks well in the jars and bears cooking well.

QUALITY: dessert medium.

VALUE: market first class.

SEASON: early July.



NAPOLEON.

OREL 25.

One of the hardiest of the Morello cherries; reported upon favorably by our northern stations, and considered by Mr. Jones, of our St. Lawrence station, the best all round cherry yet tested for cold sections.

ORIGIN: Russia; imported by Prof. Budd in 1883.

TREE: rather a slow grower; an early and abundant bearer; habit round spreading head.



OREL.

FRUIT: medium size, $\frac{3}{4}$ x $\frac{3}{4}$ of an inch; form roundish; color carmine; stem one and a quarter to one and a half inches in a round cavity; apex a distinct depression; suture partly traceable.

FLESH: color yellowish; texture tender, juicy; juice uncolored; flavor mild subacid.

QUALITY: dessert poor; cooking good.

VALUE: market first class

SEASON: mid July.

ADAPTATION: one of the hardiest varieties.

OLIVET.

From tests in the experimental orchard, we judge the Olivet to be a valuable variety for the home garden. The tree is a fine grower, and the fruit large and attractive, with a mild acid flavor, while in season it immediately succeeds the Reine Hortense.

TREE: of French origin, usually classed with the Dukes, fairly vigorous; hardy; productiveness second rate

FRUIT: large, $\frac{3}{4}$ by $\frac{7}{8}$, obtuse, heart-shaped, almost round; color dark rich carmine; stem 1 to $1\frac{1}{4}$ inches long in a broad cavity, often in pairs.

FLESH: reddish; texture soft, melting, very juicy; juice stains red; flavor very mild, pleasant acid.

QUALITY: dessert fair, cooking very good to first-class.

VALUE: not yet determined in Ontario.

SEASON: early July.

OSTHEIM.—(*Griotte d'Ostheim.*)

This Morello cherry was distributed throughout the Province by the Ontario Fruit Growers' Association. The fruit is of fair size, productive enough to be profitable, and good for all purposes. Its hardiness should make it a special favorite in the colder sections to succeed the Montinorency.



OSTHEIM.

ORIGIN: South of Spain, brought to Germany early in the 18th Century, and cultivated near Ostheim, Saxe-Weimar, whence its name.

TREE: third rate in vigor, almost a dwarf; first in hardiness, and second rate in productiveness; group, Morello.

FRUIT: medium, about $\frac{9}{10}$ x $1\frac{3}{8}$ of an inch in length and breadth. The variety must vary, since Dr. Hogg describes it as large, and LeRo describes the stalk two inches long, set in a pronounced cavity; form round, slightly depressed at the side; color very dark purple, almost black when ripe; stalk one and three eighths inches; suture not traceable; pit small, cling.

FLESH: color very dark purple, texture tender, juicy, almost sweet when ripe, agreeable.

QUALITY: poor for dessert, fair for cooking.

VALUE: for market third class.

SEASON: late July.

ADAPTATION: quite general; found fruiting freely in St. Joseph's Island, Algoma.

OHIO (*Ohio Beauty*).

A sweet cherry, succeeding Wood; not subject to rot

ORIGIN: Ohio.

TREE: habit upright; vigorous producer; class Heart.

FRUIT: size large, $\frac{1\frac{1}{2}}{8}$ x $\frac{1\frac{3}{8}}{8}$; form heartshaped; stalk one and a half inches long, slender in a moderately deep, somewhat irregular cavity; color light yellow, nearly overspread with light and dark shades of bright red.

FLESH: color yellowish white; texture tender, meaty, somewhat juicy; flavor sweet, very pleasant.

QUALITY: dessert very good; cooking fair.

VALUE: market second class compared with black oxhearts.

SEASON: early to mid July.

PURITY.

A remarkably fine Morello cherry, ripening slightly in advance of the Early Richmond, and very productive. It closely resembles Dyehouse.

TREE: fairly vigorous, healthy and productive; an early bearer.

FRUIT: size fair, $\frac{5}{8}$ x $\frac{3}{4}$ of an inch; form roundish; color very dark red; stem long, $1\frac{1}{2}$ to 2 inches long, set in a deep cavity; apex much depressed; pit small.

FLESH: color yellowish; texture tender; very juicy; flavor subacid; pleasant.

QUALITY: dessert fair; cooking very good to best.

VALUE: market first class.

SEASON: late June to early July.

PLYMOUTH (*Plymouth Rock*).

A valuable white Bigarreau because not subject to rot, and a fine shipper.

ORIGIN: Connecticut.

TREE: vigorous; very productive; an early bearer.

FRUIT: medium, $\frac{3}{4}$ x $\frac{3}{4}$ of an inch; heart shaped; color bright red in sun on yellowish ground; stem $1\frac{1}{2}$ inches long in a one-sided cavity.

FLESH: yellow; texture tender, meaty, moderately juicy; flavor sweet, rich, excellent.

QUALITY: very good for dessert.

VALUE: market second class.

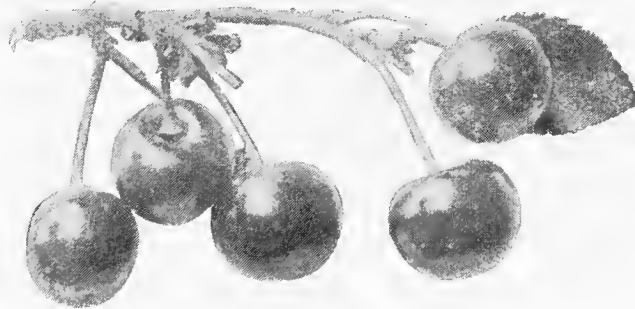
SEASON: mid July.

RICHMOND (*Early Richmond*).

(*Virginian May; Kentish Pie of Hogg; Native of LeRoy.*)

This Morello cherry appears to be of French origin, and George Lindley supposed that it had been brought into England from Flanders in the reign of Henry III.

TREE: slow grower, slender in branch; very hardy; very productive in proportion to its size



RICHMOND.

FRUIT: Below medium, free from rot and not very subject to curculio; form almost round, though slightly flattened; skin uniformly of a bright red becoming darker as it matures; stem slender, about one inch in length, often carrying the calyx, inserted in a good sized cavity; apex set in a small indentation.

FLESH: very tender in texture; yellowish with abundant uncolored juice; flavor quite acid; pit small.

QUALITY: poor for dessert, but first class for all culinary purposes.

VALUE: very good for market.

SEASON: early to mid July.

ADAPTATION: succeeds wherever cherries are grown in the Province.

ROCKPORT.

A Bigarreau originated by Prof. Kirkland, of Cleveland, Ohio. Its season of ripening is about the same as Governor Wood, but it is a heavier bearer of fruit, about the same size and less highly colored. It would be profitable were it not so subject to rot, but nearly every year we have lost a large portion of the crop of this variety at Maplehurst from this cause. Like the other Bigarreaus, it is too firm a cherry to be a favorite with the birds.

TREE : upright, spreading ; fairly vigorous ; very productive.

FRUIT : large, roundish, obtuse, heart-shaped ; skin amber nearly covered with bright red.

FLESH : pale yellow ; texture firm, juicy ; flavor sweet and good.

QUALITY : dessert or cooking good.

VALUE : market second class.

SEASON : late June.

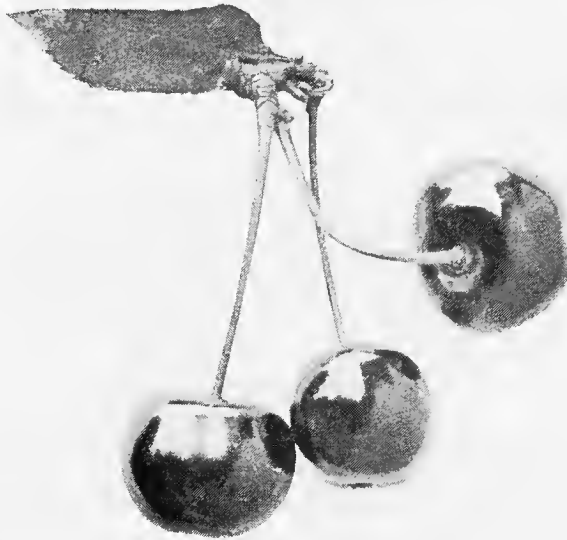
ROYAL DUKE.

A fine pie cherry, but it ripens unevenly, and is inferior to the Late Duke both in quality and productiveness.

ORIGIN : France.

TREE : very upright ; vigorous ; fairly productive ; Duke.

FRUIT : medium size, half by three-quarters of an inch in diameter ; form roundish, heart shape ; color light red, crimson on sunny side ; stem one and a half inches long set in a round regular cavity ; apex a dimple.



ROYAL DUKE.

FLESH : flesh color ; texture moderately firm, juicy ; flavor subacid.

QUALITY : cooking good.

VALUE : market first class.

SEASON : early July.

7 F. O.

RUSSIAN MORELLO. (*Russian 207*).

A good cooking cherry.

ORIGIN: Russia.

TREE: vigorous; productive.

FRUIT: small, $\frac{1}{2}$ inch long by $\frac{3}{8}$ wide; roundish in form; color dark red; stem two inches long in a shallow cavity.



RUSSIAN MORELLO.

FLESH: color red with colored juice; texture tender, moderately juicy, semi-cling; flavor ordinary.

QUALITY: dessert useless; cooking good.

VALUE: market second class.

SEASON: mid July.

SCHMIDTZ (*Schmidtz' Bigarreau*).

A magnificent cherry, but so far not sufficiently productive.

TREE: upright; very vigorous; not very productive; group, Bigarreau.

FRUIT: very large; form obtuse, heart-shaped; color dull red, mottled with rich red; stem $1\frac{1}{2}$ inch long in a large cavity; suture slight.

FLESH: color reddish; texture firm, moderately juicy, flavor sweet and rich.

QUALITY: first-class for dessert.

VALUE: market, first-class.

SEASON: late July.

SPANISH (*Yellow Spanish*).

Of the Bigarreau cherries this is one of the finest, both on account of its great size and its delicious flavor. The tree grows to a very large size, surpassing in this respect any other cultivated variety with which we are acquainted. It does not average very productive, because the fruit often blasts and drops, or is destroyed by Monilia. When, however, it does mature a good crop, the yield is enormous.

The variety is of European origin, and was introduced into the United States in 1800.

TREE: very vigorous, of large growth; habit, spreading, fairly productive.

FRUIT: very large and of a beautifully waxy lustre; form round, obtuse, heart-shaped; skin clear amber, nearly covered with red when exposed to the sun; stem stout, $1\frac{1}{2}$ inches long in a wide cavity; suture traceable.

FLESH: pale yellow; texture firm, juicy, breaking; flavor sweet, delicious when well ripened.

QUALITY: dessert very good; cooking or canning, very good.

SEASON: early July.

VALUE: market first class.

SUDA (*Suda Hardy*).

A fine Morello cherry, but of about the same season as the Montmorency and hardly as productive.

ORIGIN : Missouri.

TREE : habits round head, Kentish ; fairly vigorous, very hardy ; productive.

FRUIT : size $\frac{7}{8}$ of an inch in diameter ; form roundish, slightly flattened ; color red ; stem $1\frac{1}{2}$ to $1\frac{3}{4}$ inches long set in a regular cavity : apex very slight ; suture barely traceable.

FLESH : yellowish white ; texture soft, tender, juicy ; flavor tart.

QUALITY : dessert useless ; cooking very good.

VALUE : market almost first-class.

SEASON : mid July.

TARTARIAN. (*Black Tartarian*.)

Of black cherries this is one of the choicest, whether for market or for dessert on the home table. Of large size and delicious flavor, it is relished by all cherry lovers, and, being somewhat soft fleshed, it is very subject to the ravages of birds ; it is also subject to rot in wet seasons. On this account it is often necessary to harvest and ship it a little on the green side. It is not so productive as some others, but it makes up for this by bringing a higher price.

ORIGIN : Russia and Western Asia, introduced into England in 1796, and thence to America.



TREE : erect, vigorous, attaining large size ; fairly productive ; group, Heart.

FRUIT : very large, $\frac{7}{8}$ x 1 inch, heart-shaped, of somewhat irregular outline ; stem $1\frac{3}{4}$ inches long ; skin bright purplish black.

FLESH : dark purple, tender and juicy ; flavor rich and delicious.

QUALITY : dessert very good.

VALUE : market first class.

SEASON : early July.

ADAPTATION : south of Lake Ontario, and in sheltered places a little further north.

WINDSOR.

A valuable late cherry for either home use or market, its firm flesh making it a better shipper than most dark colored cherries. Indeed, from the middle to the end of July, when this cherry is at its best, there is no other to compete with it, the Elkhorn being just over. The tree is not an early bearer, and the fruit is very subject to the rot in some locations and needs thorough spraying with Bordeaux to prevent this fungus.

ORIGIN: by James Dougall, Windsor, Ontario.

TREE: a vigorous, upright, symmetrical grower, healthy, very hardy and productive.

FRUIT: large, $\frac{1\frac{1}{2}}{1\frac{1}{8}}$ inch long by 1 inch wide; form round, obtuse, heart-shaped; color dark red turning darker as it hangs; stem $1\frac{1}{2}$ inches long, set in a moderately deep cavity; in twos and threes; suture obscure.

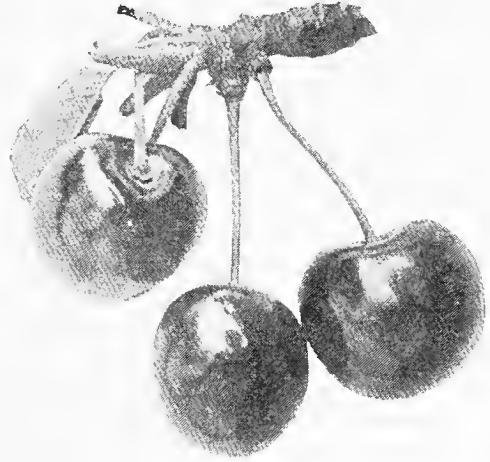
FLESH: yellowish, with reddish tint; texture firm, moderately juicy; flavor rich and sweet.

QUALITY: dessert very good; cooking poor.

VALUE: first class.

SEASON: late July.

ADAPTATION: farther north than most Bigarneau cherries.



WINDSOR.

WOOD. (*Governor Wood*.)

This variety has proved itself a most satisfactory cherry for both dessert and market purposes. It is a very productive variety, and, though somewhat tender in flesh, is not nearly so subject to ravages by birds as Early Purple or Tartarian. Originated by Prof. Kirtland, of Cleveland, Ohio, U.S.A.

TREE: upright, spreading, healthy, vigorous and hardy wherever the peach succeeds.

FRUIT: medium to large $\frac{3}{4}$ to $\frac{1}{2}$ of an inch in length and breadth respectively; form roundish-heartshaped; skin light yellow, shaded with light to deep red; stem $1\frac{1}{2}$ to $1\frac{3}{4}$ inches long in a broad deep cavity; suture distinct on one side.

FLESH: yellowish; texture tender, juicy; flavor sweet, aromatic and delicious.

QUALITY: dessert, very good.

VALUE: market, first and second class.

SEASON: late June.



WOOD.

THE PEACH.

The peach is the tenderest of the large fruits grown in Ontario, and the fact that it can be grown so successfully in some parts of the Province has done much to dissipate the idea which at one time prevailed in the United States and abroad that the climate of Ontario was too severe for anything but the hardiest fruits.

The district in Ontario where the peach succeeds best is the Niagara Peninsula, where Lake Ontario and Lake Erie do much to ameliorate the climate and prevent in a large measure the extremes in temperature which are fatal to peach culture. In the Essex Peninsula, or the extreme south-western part of the Province, the peach also succeeds well, but has in the past been more subject to root killing in winter. This may probably be guarded against in the future by the more general use of cover crops.

The peach also does fairly well where the soil is suitable all along the Lake Erie shore, the most favorable locations, however, being within four or five miles of the water. During recent years it has been found that the peach will thrive along the shore of Nottawasaga Bay, which is known as the Georgian Bay district, but up to the present time only a limited number of trees have been planted. It is still doubtful if peaches will ever be grown there to any extent commercially.

Peaches are raised for home use all over the western part of the Province with varying degrees of success, depending on the protection afforded and the soil, but where the temperature falls much more than 10 degrees Fahr. below zero success is very uncertain. Probably the extreme northern limit where peaches have been produced in the open is at Orillia, though the trees lived but a few years. They have been grown as far east as the city of Belleville, and perhaps further.

The market for the best peaches is good, and the peach where it can be grown successfully is one of the most profitable fruits.

As the peach is a tender fruit and the trees suffer when there are extremes of temperature, and at certain seasons when there are light frosts, great judgment should be shown in choosing a site for the orchard. Where possible, a site should be chosen with an exposure facing the water. If a northern exposure is available and the site is suitable in other ways it should be utilized, as often great injury is done by spring frosts when the buds are swelling, and buds will not expand as rapidly on a northern slope as on a southern. A site where local frosts are known to occur should be avoided.

While the situation for the peach orchard is important, a site will avail little if the soil is not suitable. The soil should be as near as possible a rich warm sandy loam with an open gravelly subsoil affording perfect drainage. Orchards are occasionally found thriving on heavier soils, but success is less certain on the heavier lands. The soil should be thoroughly prepared as recommended for the apple, and no fruit will respond better to thorough tillage than the peach.

Trees one year from the bud are the best kind to plant. They should be thrifty and free from insects and disease. The best time to plant is early in the spring, although fall planting is sometimes successful. Peach trees are planted from fourteen to twenty feet apart, depending upon the system of pruning which is followed. The former distance is adopted only when severe heading back is practised, otherwise the trees would soon become too crowded. For general culture the best distance is from eighteen to twenty feet apart each way. When planting, some of the best growers remove all of the side branches, leaving a mere whip, while others cut the side branches back to within one or two buds of the main stem. The advantage gained by the latter method is the tree is stronger at the crotches and not quite so liable to split down with weight of crop. Whatever plan is adopted, the tree should be pruned back severely when set. Peaches are

usually headed lower than other large fruits, from two to three feet from the ground being the usual distance at which the head is started. For the first two or three years pruning should be carefully done in order to get a well balanced top with four or five strong branches, avoiding bad crotches. In order to keep the tree within bounds, severe heading back is necessary until the trees come into full bearing, the usual practice being to head back from one-half to two-thirds of the previous year's growth every spring, at the same time removing altogether branches which will make the top too crowded. The object is to have a tree which will bear fruit all through the head instead of merely on the outside or at the top of the tree.

The low heading of peach trees is rapidly gaining in popularity with peach growers. By this system the tree has very little bare trunk, the lowest branches starting from near the ground, while the highest is not more than eighteen inches. The trees are kept severely headed back especially at the top, the result being that much stockier trees are formed. The advantages of this system are that the fruit is picked easier, that there is more bearing wood, that there is less injury from wind, and that the trees can be sprayed to greater advantage.

The cultivation of peach orchards should be very thorough to produce vigorous growth as the proportion of strong new growth which is made, regulates to a large extent the size of the crop, for peaches, unlike most other large fruits, are borne on the wood made the previous year.

Cover crops are very desirable in peach orchards, as the peach soils are usually deficient in humus which cover crops supply, and the latter protect the roots of the trees in winter, thus lessening the danger from root killing. As peach trees when in full bearing draw heavily on the potash in the soil, a good application of unleached ashes every two or three years is beneficial, and muriate of potash and bone meal applied at the rate of about 200 pounds per acre each, annually should do much good, especially when barnyard manure cannot be obtained.

Where it can be managed, it usually pays well to thin peaches on the tree. This is done when they are about the size of small hickory nuts, the peaches being left from four to six and even eight inches apart on the branches.

It requires judgment to know just when to pick a peach, as much will depend upon the distance it is to be shipped. When intended for immediate consumption, no one is likely to pick a peach until it is ready to eat, but for a distant market it must be still firm, though well colored. Fruit which is picked on the green side never attains its full flavor and unfortunately much fruit of this class reaches the market, and it undoubtedly lessens the consumption of this fine fruit. Bruising of peaches should be avoided, hence great care should be taken in handling them.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Commercial:

Sneed: Whitefleshed, clingstone, quality only fair, earliest of all.

Alexander: Whitefleshed, clingstone.

Hynes: Whitefleshed, semi-cling, quality good.

St. John: Yellowfleshed, freestone, quality good.

Mountain Rose: Whitefleshed, freestone, quality very good.

Early Crawford: Yellowfleshed, freestone, quality very good.

Champion: Whitefleshed, freestone, quality very good, for home use, or near markets.

Brigdon: Yellowfleshed, freestone, quality good.

Fitzgerald: Yellowfleshed, freestone, quality very good.

Reeves: Yellowfleshed, freestone, quality fair, large size.

Elberta: Yellowfleshed, freestone, quality fair, good for long distance shipments.

Oldmixon: Whitefleshed, freestone, quality good.

Stevens: Whitefleshed, freestone, quality good.

Smock: Yellowfleshed, freestone, quality fair, very late, good shipper.

Domestic:

Hynes, St. John, Early Crawford, Oldmixon, Longhurst, Stevens.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Niagara District: By Linus Woolverton, Grimsby, Ont.

Commercial: Sneed, Alexander, Greensboro, St. John, Early Crawford, New Prolific, Champion, Elberta, Willett, Smock.

Domestic: Rivers, Hynes, St. John, Early Michigan, Lewis, Crosby, Champion, Reeves, Wonderful, Jacques Rareripe, Wheatland, Longhurst.

Essex District: By W. W. Hilborn, Leamington, Ont.

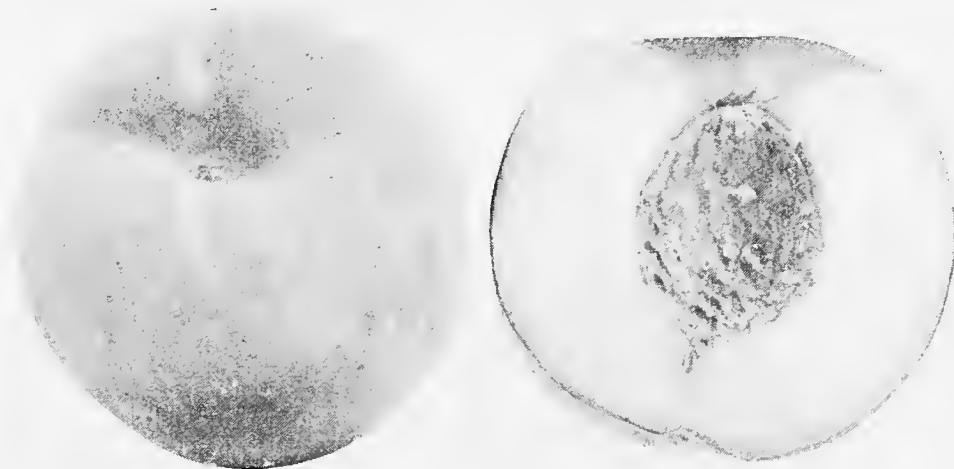
Commercial: Alexander, St. John, Brigdon, Early Crawford, Fitzgerald, New Prolific, Engol, Elberta, Golden Drop, Kalamazoo, Banner, Smock.

Domestic (Whiteflesh): Alexander, Mountain Rose, Oldmixon, Stevens.
(Yellowflesh): St. John, Early Crawford, Fitzgerald, New Prolific, Engol, Crosby, Golden Drop, Banner.

DESCRIPTION OF VARIETIES.

ALEXANDER.

An early variety considerably grown in the Niagara district and in Essex County. It is a clingstone of poor quality for dessert purposes and poor also for cooking, so that, in competition with better varieties coming in at the same time from southern orchards, it sells at a low price in our markets.



ALEXANDER.

□ ORIGIN : chance seedling, Mount Pulaski, Ill., on farm of A. O. Alexander.

TREE : vigorous ; hardy ; productive.

FRUIT : medium ; globular, sides unequal ; color greenish, suffused with dark and light red ; suture broad ; apex slightly sunken.

FLESH : color, greenish white ; texture, firm, juicy, half melting, clings to stone ; flavor, sweet and fairly good.

QUALITY : dessert poor ; cooking poor.

VALUE : market second class.

SEASON : early August.

VICAR (*Vicar of Winkfield of Hogg; Cure of Leroy.*)

A French pear considerably grown in Ontario as a winter pear, but it does not reach its best perfection in our climate and does not deserve a place in our orchards.

ORIGIN: found wild near Clion, France, by M. Leroy, curate of Villiers-en-Brenne, in the year 1760; distributed in France under sixteen different names; introduced into England by the Rev. W. L. Rham, vicar of Winkfield, in Berkshire, hence its English name.

TREE: vigorous, but somewhat susceptible to blight; very productive.

FRUIT: large; form long pyriform, one-sided; skin green, seldom tinged with brown on the sunny side, and marked with small brown dots; stem usually one and a half inches long, fleshy at base, and inserted obliquely without a cavity; calyx open, with large segments, set in a shallow basin.

FLESH: greenish white; texture firm, not very juicy as grown in Ontario; flavor fair, if well ripened.

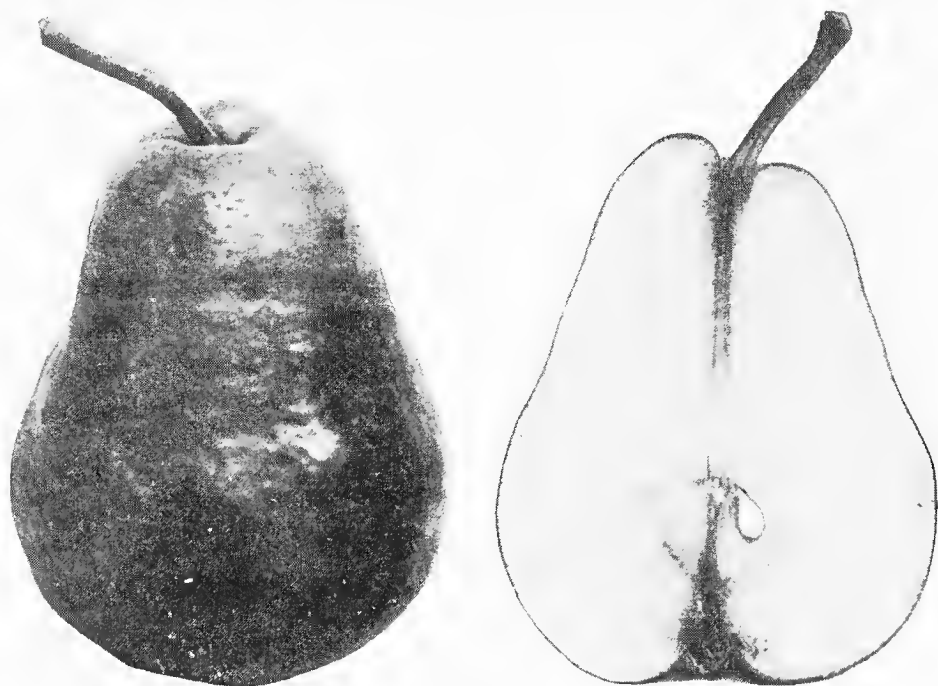
QUALITY: dessert very poor; cooking fair.

VALUE: home and foreign market second class.

SEASON: early winter.

WILDER.

A valuable early market pear, being beautiful in appearance, of fair size and very good flavor; probably the best of its season, but inclined to rot at the core if left hanging on the tree.



WILDER.

ORIGIN: chance seedling on south shore of Lake Erie.

TREE: vigorous; very productive, and an early bearer when grafted on the quince.

FRUIT: fair to large in size; form ovate, obtuse pyriform, sometimes shouldered at stem; color greenish yellow, with deep red cheek and numerous gray dots; stem stout, three quarters to one inch in length; calyx open.

FLESH: white; texture tender, fine grained; flavor sweet, aromatic and very pleasant.

QUALITY: dessert very good.

VALUE: home market first class.

SEASON: August.

WHITE DOYENNE (*Virgalieu of New York State.*)

An old variety with many French synonyms, of which the proper one according to LeRoy is La Doyenne. Downing speaks of it as "unquestionably one of the most perfect of autumn pears," and on account of its excellent quality and the productiveness of the tree, it was at one time widely planted in the commercial orchards of Ontario and the United States. Latterly, however, like the Flemish Beauty, it has become subject to black spot, for which reason it is losing favor.

Origin: France.

TREE: healthy, not subject to blight; a fairly vigorous grower, and an abundant bearer; usually grown as a standard.

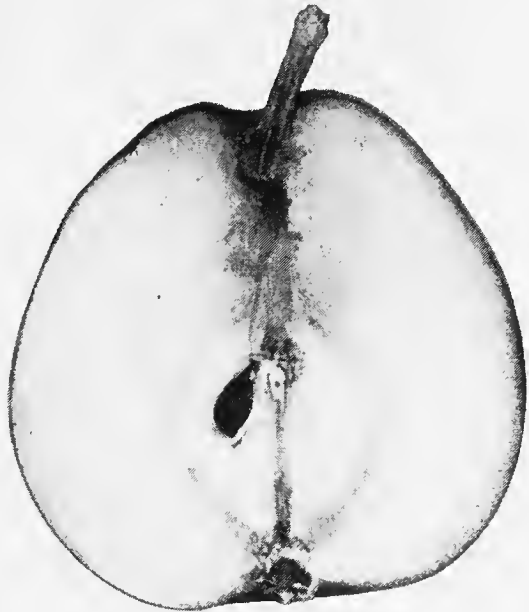
FRUIT: size medium to large, form obovate, variable in length; skin green at first, changing to yellow as it ripens, sometimes red in the sun, sprinkled with numerous russet dots; stem $\frac{3}{4}$ of an inch long, set in a shallow cavity; calyx half closed in a shallow slightly plaited basin.

FLESH: white; texture fine grained, buttery, fairly juicy; flavor sugary, aromatic, perfumed.

QUALITY: dessert very good; cooking very good.

VALUE: market second class.

SEASON: September and October.



CHILI (*Hill's Chili*).

Recommended for drying ; a good shipper.

ORIGIN : New York State.

TREE : fairly vigorous ; productive.

FRUIT : medium to large ; form roundish ovate : color pale yellow, with red cheek ; down thick, whitish ; cavity narrow, deep ; suture marked ; apex a point.

FLESH : light yellow tinted red at the pit ; texture tender, moderately juicy ; flavor sub-acid ; free.

QUALITY : dessert poor ; cooking good ; drying good.

VALUE : home market, second class.

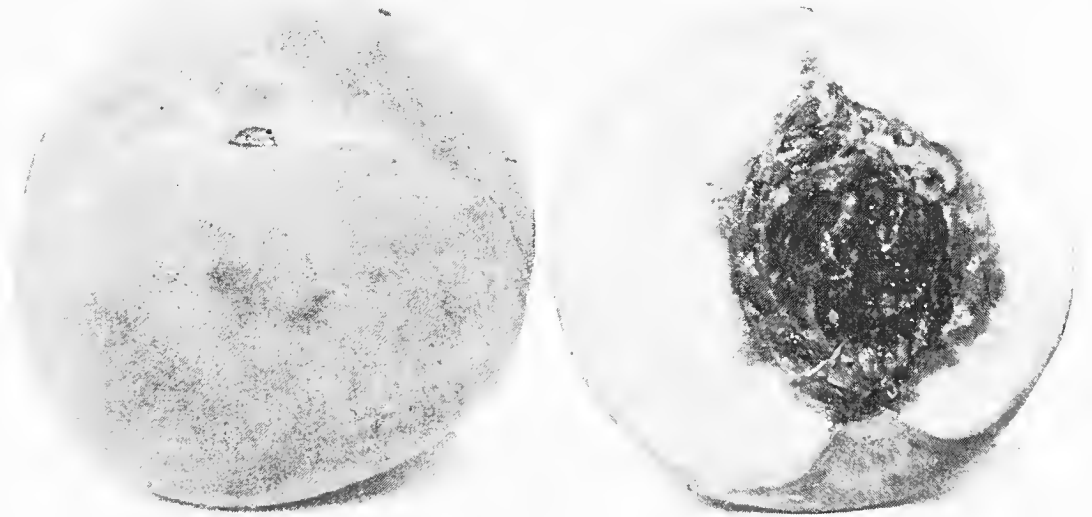
SEASON : mid September.

CROSBY (*Excelsior, Hale's Hardy*.)

A peach of good quality, but scarcely large enough for the commercial orchard.

ORIGIN : Massachusetts 1876, by Mr. Crosby, nurseryman ; named Excelsior by the Massachusetts Agricultural College ; Hale's Hardy, because Mr. J. H. Hale was the first grower to plant it extensively, and finally Crosby by the United States Division of Pomology.

TREE : vigorous ; healthy ; fairly hardy ; very productive.



CROSBY.

FRUIT : medium size ; form almost round, slightly one-sided ; color yellow, with bright red cheeks ; very pretty ; cavity, deep, abrupt ; apex small in a slight depression ; suture traceable.

FLESH : color, bright yellow, red at the stone ; texture, fine, moderately juicy, tender ; flavor, sweet and very agreeable.

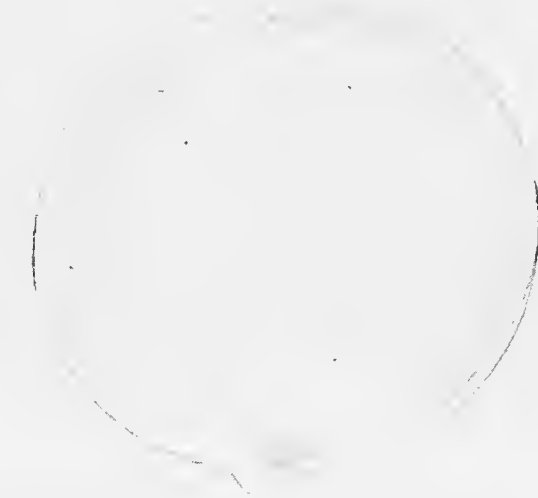
QUALITY : very good for dessert, and good for cooking.

VALUE : first class for home market.

SEASON : late September to early October.

EARLY CRAWFORD.

Early Crawford has long held its place at the head of the list of peaches both for home use and for market. Its beautiful golden color, its large size, its free stone and rich flavor all unite in giving it a just claim to this position. Its buds are a little more tender than those of some other varieties, and, consequently, many growers hesitate to plant it, but where high cultivation and plenty of fertilizer is given, fine crops of luscious fruit have resulted.



EARLY CRAWFORD.

ORIGIN: Middleton, N.J., by Wm. Crawford.

TREE: vigorous; productive under favorable conditions; bloom not conspicuous.

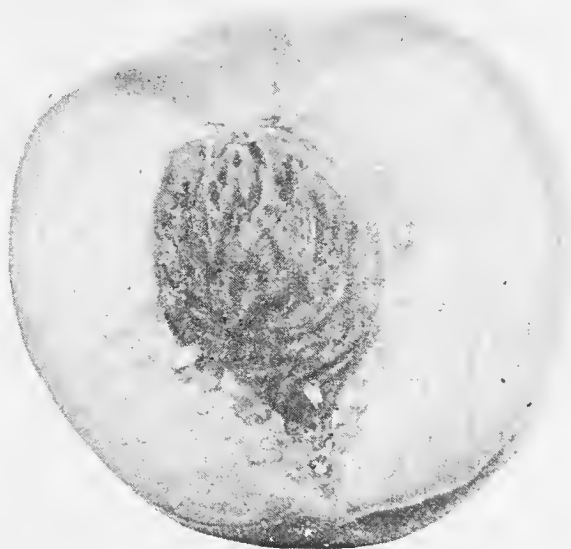
FRUIT: large to very large, oblong; suture shallow; apex prominent, swollen; color golden yellow, with rich red cheek.

FLESH: color, yellow; flavor, sweet, rich; free from stone, which often parts in middle when nearly ripe.

QUALITY: dessert and cooking, very good.

VALUE: first class for market.

SEASON: early September.



SECTION EARLY CRAWFORD.

EARLY MICHIGAN.



EARLY MICHIGAN

A very good dessert peach.

ORIGIN : Georgia.

TREE : healthy, vigorous and productive.

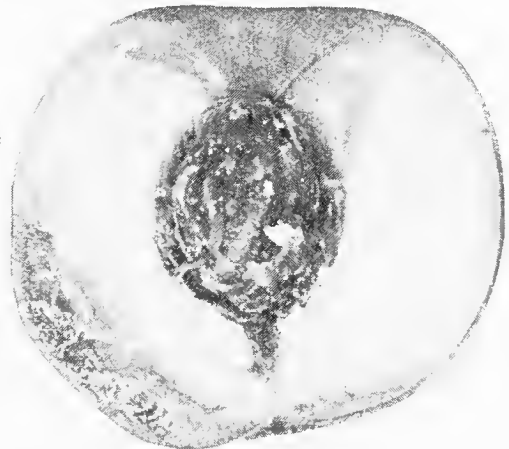
FRUIT : medium size, wide, form round ; color, cream or greenish white ground nearly covered with crimson ; cavity, large and deep ; suture very distinct from cavity to apex and beyond ; pit a clingstone.

FLESH : greenish white, red at pit ; texture tender and juicy ; flavor, subacid, very pleasant.

QUALITY : dessert very good.

VALUE : market second class.

SEASON : middle of August.



SECTION OF EARLY MICHIGAN.

EARLY PURPLE.

For home use, as a dessert peach, this is one of the best of its season. Between 1860 and 1870 this variety was grown as the earliest market peach in Southern Ontario, but its extreme tenderness of flesh and rapid softening after maturity led to its giving place to other varieties.

TREE : thrifty ; vigorous ; hardy ; fairly productive.

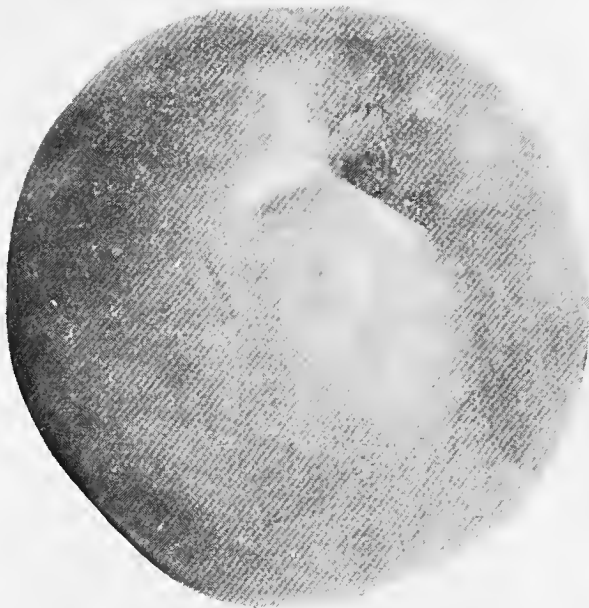
FRUIT : form, irregular, ovate, one-sided ; skin, bright red, downy ; basin deep ; stone almost free.

FLESH : greenish white in color ; texture, very tender, very juicy melting ; flavor, sweet, rich, agreeable.

QUALITY : dessert very good ; cooking poor.

VALUE : near market third class ; distant market poor.

SEASON : late August to early September.



ELBERTA

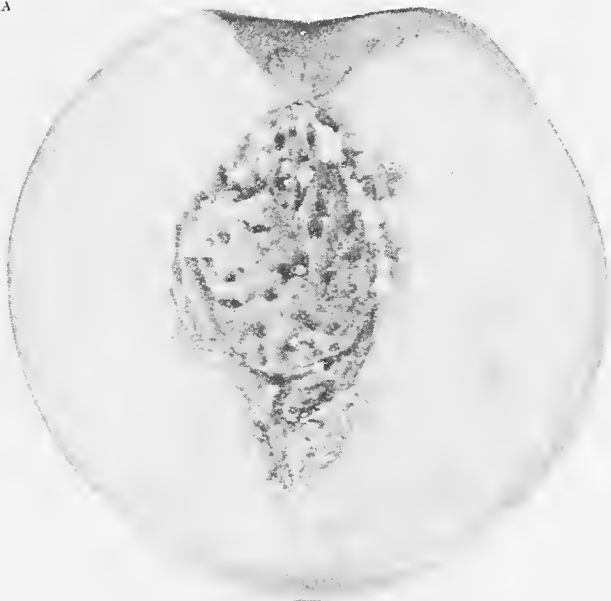
FRUIT: medium to large, roundish oval, one side somewhat larger than the other, suture distinct; skin lemon yellow, with a fine red cheek; stone free, deeply corrugated, pointed.

FLESH: yellow; texture, moderately juicy.

QUALITY: dessert fair; cooking, best.

VALUE: home market first class; foreign market first class.

SEASON: late September, about a week later than Early Crawford.



SECTION OF ELBERTA.

ENGOL (*Mammeth*).

A valuable variety for either home use or market.

TREE: strong upright grower; quite productive.

FRUIT: medium to large; form roundish; cavity medium; apex slight; suture a little over half around; color yellow, with reddish cheek.

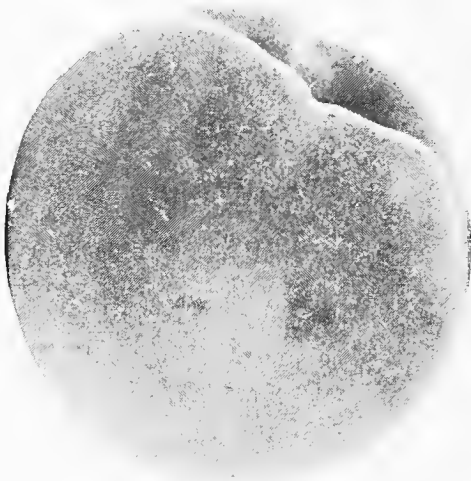
FLESH: color yellow, with tinge of red at pit; texture tender, juicy; flavor pleasant, nearly sweet; free.

QUALITY: dessert or cooking very good.

VALUE: market first class.

SEASON: first half of September.

FITZGERALD



FITZGERALD.

FRUIT: size medium to large; form roundish ovate; color bright yellow, covered with deep red; down moderate in quality; cavity broad and deep; apex a small point in a slightly depressed basin; suture distinct; stone free.

FLESH: yellow, with red at pit; texture tender and juicy; flavor excellent.

QUALITY: dessert good.

VALUE: home market first class.

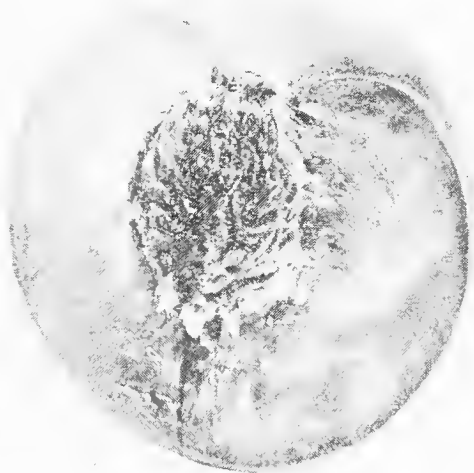
SEASON: early to mid September in Niagara District.

ADAPTATION: one of the hardiest varieties and successfully grown in Georgian Bay District.

Since the Early Crawford has been such a popular peach both for home use and market, every new introduction of a variety which is of the same class, has been welcomed by the public, especially where it may be used to extend the season. The Fitzgerald is not so large as the Early Crawford, but to many the flavor is finer for dessert, and its season is a trifle later. Like the latter, it is too tender for very long shipments.

ORIGIN: in the garden of Mr. Fitzgerald, Oakville, Ontario, about 1895.

TREE: hardy, healthy and productive.



SECTION OF FITZGERALD.

FOSTER.

A large yellow peach of the Early Crawford class, considered a little better in quality, but not so productive.

ORIGIN: J. T. Foster, Medford, Massachusetts.

TREE: vigorous; tender in fruit bud; not very productive.

FRUIT: size large; form roundish, slightly flattened; with a slight suture; color, bright yellow, shaded with orange red.

FLESH: free; color bright yellow, tinged with red at pit; texture tender, juicy; flavor rich, vinous, pleasant, subacid.

QUALITY: dessert good; cooking good.

VALUE: near market first class.

SEASON: early to mid September.

GOLDEN DROP.

"Medium, roundish ovate; color rich yellow, or, as it grows in the South, 'a sort of transparent golden yellow,' often with a blushed cheek; cavity broad, shallow; suture obscure except near apex. Flesh yellow, vinous, almost sweet, good; pit free. Season late September. Attractive in market."—*Budd.*

GREENSBORO



GREENSBORO.

The best dessert peach of its season, but too tender in flesh to be a good shipper; worthy of a place in the home garden.

ORIGIN: North Carolina.

TREE: vigorous; very productive; an early bearer.

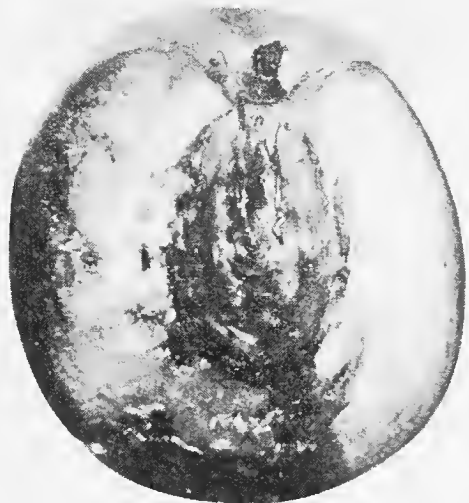
FRUIT: large; form flattened; color a deep cream with bright red cheek; cavity narrow, deep; suture slight; apex sunken; not subject to rot.

FLESH: color cream; texture tender, melting, very juicy; flavor sweet and agreeable; free stone.

QUALITY: dessert good.

VALUE: market second class.

SEASON: mid August.



SECTION OF GREENSBORO.

HALE (*Hale's Early.*)

An early peach of very beautiful appearance, but inclined to rot before it ripens. The flesh remains firm, even after the outside presents the appearance of being ripe, so that it is not a favorite variety. Its comparative earliness at one time made it a very popular market variety, but its season is now preceded by that of Sneed, Greensboro, Early Rivers, Alexander and Triumph.

ORIGIN : Ohio.

TREE : vigorous, healthy and productive.

FRUIT : medium to large, form roundish ; color of skin, dark red on sunny side, green with splash of red on shady side ; apex small, slightly pointed in dimpled depression ; cavity deep ; suture extends to apex ; pit half free.

FLESH : greenish yellow to white ; texture firm until very ripe, then melting and juicy ; flavor sweet and agreeable.

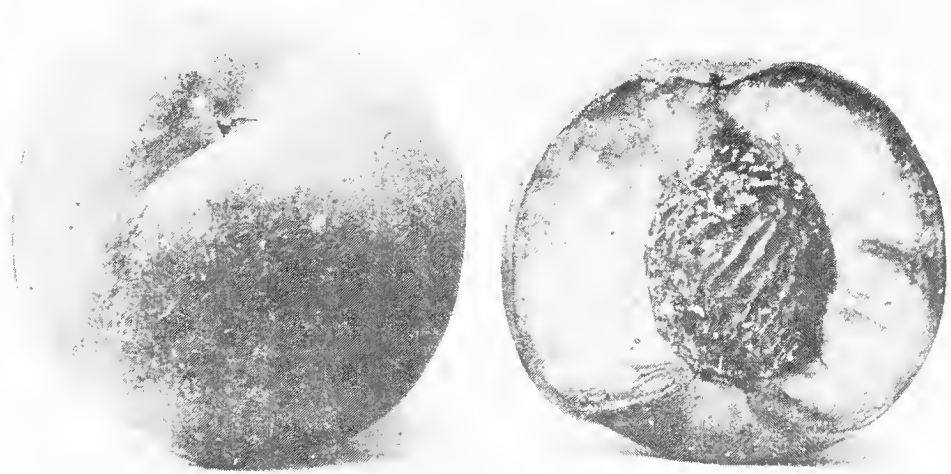
QUALITY : dessert and cooking fair.

VALUE : home market second class.

SEASON : late August.

HYNES (*Hynes's Surprise.*)

A very good early dessert peach, but the fruit is inclined to rot in wet seasons.



HYNES.

ORIGIN : introduced in 1895 by Mr. S. D. Willard of Geneva, N.Y.

TREE : vigorous ; productive.

FRUIT : form roundish, slightly one-sided ; size medium, color greenish white with bright red cheek, sometimes deep red in the sun ; cavity narrow and deep ; suture distinct ; dots numerous ; skin thin and tenacious ; stone, semi-cling.

FLESH : color yellowish white ; texture juicy ; flavor sweet and agreeable.

QUALITY : dessert, good to very good.

VALUE : home market first class ; distant market third class.

SEASON : mid to late August.

JACQUES RARERIPE.

A fine yellow peach, succeeding the Early Crawford, but too tender in flesh for distant shipment.

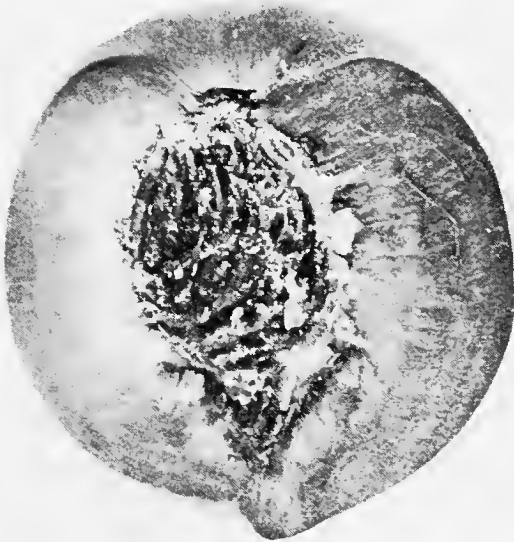
ORIGIN : Massachusetts.

TREE : vigorous, healthy and productive.

FRUIT : size large ; form roundish oblate ; color dark yellow, shaded with red, especially on the sunny side ; down heavy ; cavity large and deep ; apex in a depression ; suture distinct ; stone free.



JACQUES RARERIPE.



SECTION OF JACQUES RARERIPE.

S F. O.

FLESH : color deep yellow, red at the pit ; texture tender, juicy ; flavor good, not very sweet.

QUALITY : dessert good ; cooking very good.

VALUE : near market first class ; distant market, second class.

SEASON : mid September.

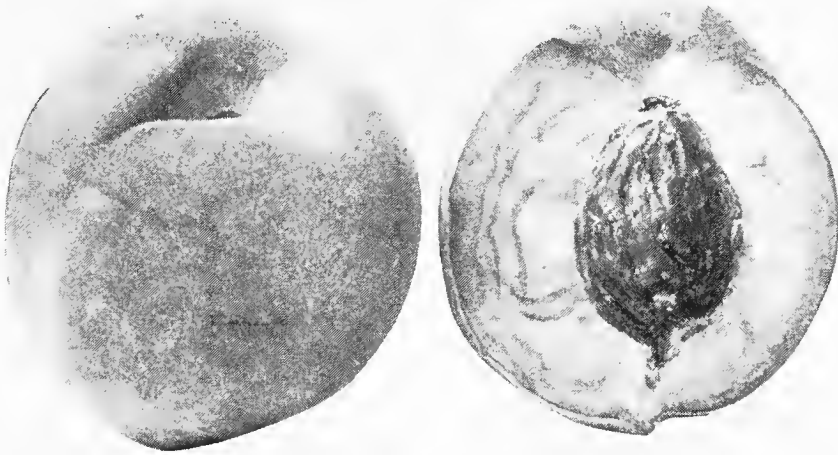
KALAMAZOO.

A popular market peach in Michigan ; inferior to Elberta.

ORIGIN : Michigan.

TREE : vigorous and very productive.

FRUIT : medium in size, form roundish oval, sides unequal ; color yellow, with red cheek ; cavity deep, narrow, irregular ; apex a small point in a slight depression ; suture traceable beyond the apex ; free stone.



KALAMAZOO.

FLESH : color yellow, red at pit ; texture moderately tender and juicy ; flavor fairly sweet.

QUALITY : dessert poor ; cooking good.

VALUE : near market good ; rather too small to sell with Elberta, or even to follow that large, showy variety.

SEASON : mid to late September.

LATE CRAWFORD.

A fine large yellow peach, not quite equal to Early Crawford in flavor. It has not been very profitable because the tree is not very productive and the fruit is inclined to drop before it reaches its best condition.

ORIGIN : New Jersey.

TREE : vigorous ; only fairly productive.

FRUIT : large to very large ; color dull yellow or olive green, with dark red cheek ; cavity large and deep ; suture traceable ; free stone.

FLESH : deep yellow, red at the stone ; texture juicy and melting ; flavor rich, vinous.

QUALITY : dessert good ; cooking very good.

VALUE : market, first class.

SEASON : late September.

8a F. O.

LONGHURST.

A very productive late variety, highly esteemed for canning. It is considered a profitable variety by many peach growers, but unless given the best culture, the fruit is small and unattractive in appearance.

TREE: hardy; fairly vigorous; very productive. Budd says the fruit buds of this variety have proven exceptionally hardy in Michigan.

FRUIT: medium in size; form oval, larger on side of suture, which is clearly traceable, ending in a pointed apex; color dull yellow, with dark red cheek in sun; down thick; cavity deep, abrupt, shouldered; pit small, free.



LONGHURST.

FLESH: color yellow, red at pit; texture tender, almost buttery, moderately juicy; flavor vinous, sweet, agreeable.

QUALITY: dessert, fair; cooking or preserving very good.

VALUE: market second class, unless unusually well grown.

SEASON: late September to early October.

LEMON CLING.

A large and showy peach, at one time planted freely in Ontario orchards, but of late discarded because of its cling stone.

ORIGIN: South Carolina.

TREE: vigorous, hardy and productive.

FRUIT: large, form roundish, narrowed towards apex, which is large and prominent, somewhat like that of the lemon; skin deep yellow, with a dark brownish-red cheek.

FLESH: color yellow, tinged with red at the pit; texture firm, not very juicy; flavor pleasant, sprightly, subacid.

QUALITY: dessert fair; cooking, fair.

VALUE: market second class.

SEASON: late September.

LEWIS.

A fine market peach to succeed St. John and to precede Early Crawford.

ORIGIN: Michigan.

TREE: healthy, vigorous, very productive.

FRUIT: medium to large; form round; color yellowish white, largely overspread with red; suture depressed.

FLESH: yellowish white, red next the pit; texture tender, juicy; flavor very pleasant.

QUALITY: dessert good; cooking good.

VALUE: home market first class; distant market second class.

SEASON: mid September.

McCONNELL

A very attractive looking, late, white flesh peach.

ORIGIN: a seedling raised by Mr. McConnell, Essex County.

TREE: a good thrifty grower; productive.

FRUIT: above medium; color white with beautiful crimson blush; form round.

FLESH: cling; color pure white; texture firm, juicy; flavor pleasant.

QUALITY: dessert poor; cooking poor; good pickler.

VALUE: not tested.

SEASON: mid October.

MATTHEW (*Matthen's Beauty*.)

A fine attractive appearing yellow peach, with beautiful cheek, resembling Elberta in exterior, but nearly a week later, and of much better quality. From its appearance it might be called "late Elberta."

FRUIT: form roundish ovate, slightly flattened; size about 2½ inches; color yellow with dark red cheek; suture half round; apex depressed; cavity narrow, deep.

FLESH: free; color yellow; texture moderately firm; flavor sweet, good.

QUALITY: dessert or cooking, very good.

VALUE: market first class.

SEASON: late September to early October.

MOUNTAIN ROSE.

Desirable in the home garden as a dessert peach.

ORIGIN: New Jersey.

TREE: vigorous; productive.

FRUIT: size medium to large; form roundish; suture traceable; apex a point; color of skin white, with bright red cheek.

FLESH: creamy white, with red tint at the pit; texture tender, melting, very juicy; flavor sweet, delicious; free.

QUALITY: first class for dessert.

VALUE: market second class.

SEASON: early to mid September.

NEW PROLIFIC.

A peach of the Crawford type, a few days later, which is highly esteemed by many peach growers. Like the Crawford it is too tender in flesh for distant shipment, unless picked from the tree before it reaches full maturity.

TREE : healthy ; vigorous ; productive.

FRUIT : size medium to large, form round ; color yellow, with bright red cheek ; cavity narrow and deep ; suture, distinct, extending beyond the apex.



NEW PROLIFIC.

FLESH : yellow ; slightly tinted with red at the pit ; texture tender, flavor sweet, delicate, very pleasant ; free from pit.

QUALITY : dessert first class ; cooking first class.

VALUE : home markets first class.

SEASON : mid to late September.

OLDMIXON FREE.

An old standard variety considerably planted in the older commercial peach orchards of the Niagara Peninsula to succeed the Early Crawford ; a white flesh peach with a red cheek presenting a good appearance in the basket ; its fault as a market variety is its dropping almost before it attained full color and its tender flesh ; valuable for dessert purposes.

ORIGIN : a seedling of Oldmixon Cling which was brought to America by Sir John Oldmixon.

TREE : vigorous ; spreading ; moderately productive.

FRUIT : medium to large ; form roundish oval, one-sided, suture distinct toward the apex which is not marked ; cavity narrow, color creamy white, marbled with red and with a deep red cheek ; bloom thin.

FLESH : free from pit ; color creamy white, red at pit ; texture tender ; flavor sweet, rich, vinous.

QUALITY : dessert very good ; cooking or canning whole, very good.

VALUE : market hardly first class compared with larger yellow varieties of the same season.

SEASON : early September.

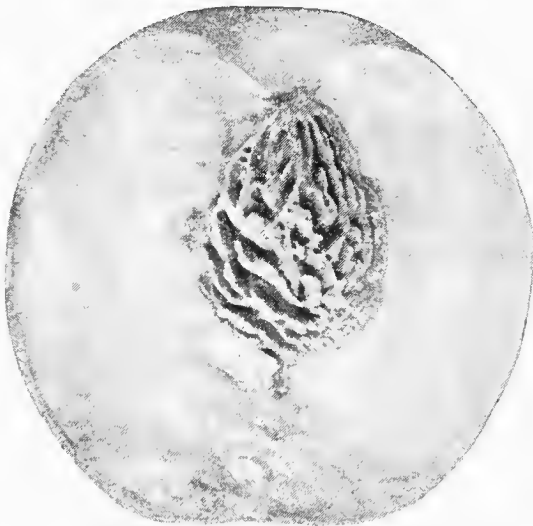
RIVERS (*Early Rivers*).

When first introduced, this peach was widely planted for market because of its fine size and early season, coming in between Alexander and Hale. Its great fault is its delicate



RIVERS.

skin and tender flesh which show the slightest bruise, so that the most careful handling is necessary. The fruit needs thinning for size and color, and then it can be sent only to the nearest markets.



SECTION OF RIVERS.

ORIGIN : by Thos. Rivers, of Sawbridgeworth, England.

TREE : very vigorous; fairly hardy; very productive.

FRUIT : medium to large, roundish, often somewhat oblong and flattened on the sides, and more or less one-sided; skin smooth, light green, almost white, delicately shaded with red; cavity small and deep; apex small in a narrow, deep depression; suture deep and distinct; stone half cling, inclined to split.

FLESH : color creamy white; texture melting, juicy.

QUALITY : fair for dessert; fair for cooking.

VALUE : second class for near market.

SEASON : mid August

REEVES FAVORITE.

A profitable peach because of its large size and excellent color, but lacking in productiveness.

ORIGIN: in New Jersey, by Samuel Reeves.

TREE: thrifty; upright; moderately productive.

FRUIT: large, form roundish; color yellow with red cheek; cavity deep and broad; suture traceable; apex pointed, distinct.



REEVES FAVORITE.

FLESH: color yellow, with red tint at the pit; texture tender, juicy; flavor sweet, vinous, very pleasant; free.

QUALITY: dessert good; canning or cooking good.

VALUE: market first class.

SEASON: mid September; a few days later than Early Crawford.

REID.

A round yellow flesh peach, closely succeeding Elberta.

TREE: healthy, vigorous, productive.

FRUIT: medium to large in size; form roundish ovate, color yellow nearly covered with red; suture distinct; apex depressed, prominent.

FLESH: free; color yellow marked with red at pit; texture tender, juicy; flavor moderately sweet.

QUALITY: cooking good; dessert fair.

VALUE: market second class.

SEASON: late September.

SALWAY.

A popular late market variety, which usually ripens in the peach sections of Ontario before frost. Hilborn says that in Essex it reaches maturity four years out of five.

ORIGIN: England.

TREE: vigorous; productive; fairly hardy.

FRUIT: large; roundish, somewhat one-sided; skin yellow with red cheeks on sunny side; suture broad.

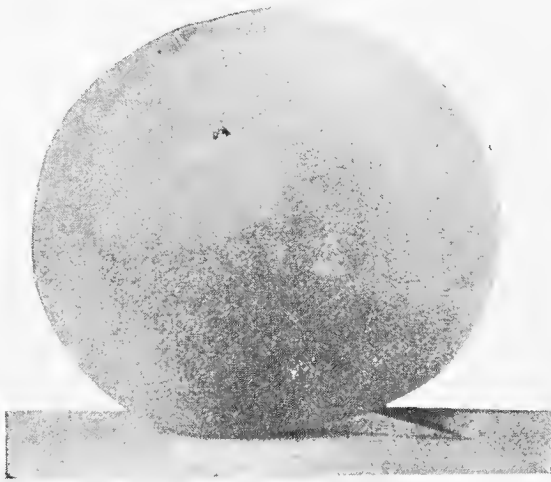
FLESH: free; color yellow, red at the pit; texture tender, juicy; flavor sweet, good.

QUALITY: good.

VALUE: market first class if well ripened.

SEASON: mid October.

ST. JOHN.

(Yellow St. John.)

St. JOHN.

The earliest really good peach for either home use or market. Its season is the end of August, just before the Early Crawford; and its fair size, its yellow flesh, attractive skin and good quality, make it one of the most satisfactory peaches for all purposes.

ORIGIN : North America.

TREE : vigorous and productive.

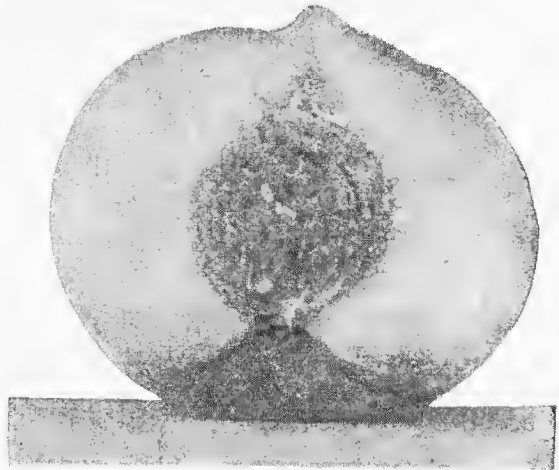
FRUIT : form round; size large; skin yellow, with dark red cheek; suture traceable on one side, sometimes by a red line; apex a tiny point in a rather deep depression; free-stone.

FLESH : color yellow, tinted red at the stone; texture tender and juicy; flavor sweet rich and agreeable.

QUALITY : dessert and cooking very good.

VALUE : market first-class, the best of its season.

SEASON : Late August.



SECTION OF ST. JOHN.

SMOCK.

A first class late market peach.

ORIGIN : New Jersey.

TREE : moderately vigorous; wood brittle; leaves not subject to curl; productive.

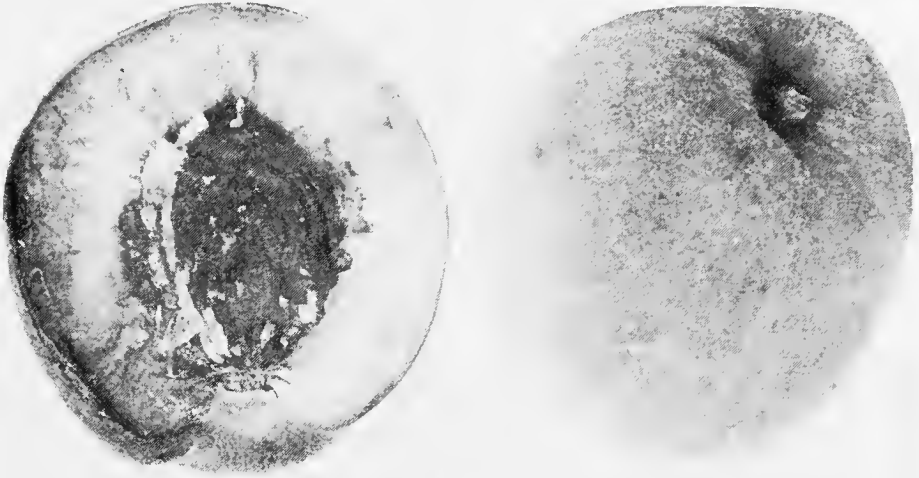
FRUIT : large; oval; color yellow with orange red cheek; bloom heavy; cavity narrow and deep; suture obscure; apex slightly extended.

FLESH : free; color yellow, with red at pit; texture dry, tender; flavor agreeable, not sweet, distinctive.

QUALITY : cooking or drying good.

VALUE : market first class for its season.

SEASON : early October.



SMOCK.

SNEED.

A promising early variety for home use and near markets.

ORIGIN : Tennessee, by Judge Sneed of Memphis, about 1880, from a pit of the Chinese Cling.

TREE : vigorous, but slender in young growth ; productive ; an early bearer.

FRUIT : medium ; form roundish oval, slightly one-sided ; skin light greenish white, with red cheek, and a short thick down ; cavity narrow and deep, with distinct suture, and a small pointed apex, in a slight depression.



SNEED.

FLESH : semi-cling ; color yellowish white at maturity ; texture tender, fine, very juicy ; flavor mild, vinous, pleasant.

QUALITY : dessert good.

VALUE : home market second class ; distant market useless.

SEASON : Late July to early August.

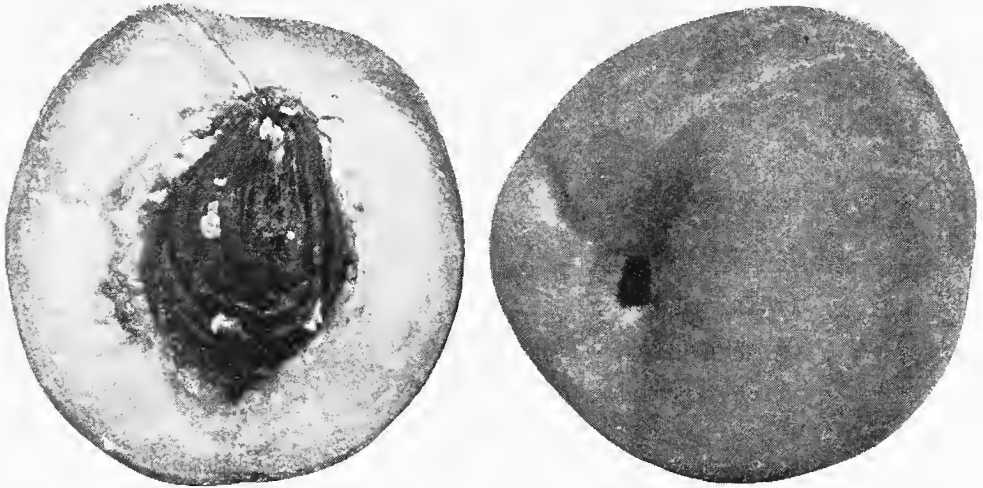
STEVENS. (*Stephens Rareripe*).

A popular late white flesh peach, and a good shipper.

ORIGIN: New Jersey.

TREE: vigorous and productive.

FRUIT: size above medium; form roundish ovate; color whitish ground with dark red cheek; cavity narrow and deep; suture traceable.



STEVENS.

FLESH: whitish with red at pit; free; texture tender, juicy; flavor sprightly and agreeable.

QUALITY: dessert good; cooking good.

VALUE: market first class.

SEASON: mid October.

THURBER.

A magnificent white flesh peach to fill in between Early Crawford and Elberta.

ORIGIN: seedling of Lee, raised by Dr. L. E. Berckmans of Augusta, Georgia.

TREE: very vigorous; productive.

FRUIT: size large; form roundish, enlarged at centre along suture; color creamy white, bright red cheek; cavity large, deep; suture marked; apex small, pointed; bloom white; skin thin.

FLESH: white, red at pit, free; texture tender, juicy; flavor sweet, vinous, excellent.

QUALITY: dessert very good to best; cooking or canning very good.

VALUE: home market first class.

SEASON: mid September.

TRIUMPH.

A valuable commercial variety, to follow the Alexander, but not very popular on account of its heavy coat of down, its dull color, and its susceptibility to rot.

ORIGIN: Georgia, seed of Alexander.

TREE: vigorous, hardy, very productive, subject to twig blight and leaf curl.

FRUIT: medium size; form roundish, somewhat shouldered and flattened; color yellow ground nearly covered with red and markings of very dark red; cavity deep; apex small, in a decided depression; suture distinct; pit semi-cling.

FLESH: yellow; texture fine, juicy; flavor sweet, rich and excellent.

QUALITY: good.

VALUE: home market second class except under special conditions.

SEASON: mid August

TYHURST.

A very attractive golden-yellow peach ; considered a profitable variety for the commercial orchard. After fruiting it several years at our Maplehurst station, we think its value has been somewhat over-estimated.

ORIGIN : a seedling raised by Mr. Tyhurst, of Leamington, Essex County. This gentleman was so pleased with the peach that he planted nearly his whole farm with trees grown from its pits, and made considerable money out of his venture.

TREE : moderately vigorous ; quite productive ; fruit is inclined to drop as soon as ripe.

FRUIT : size medium ; form ovate ; suture distinct on one side, terminating in a small black sharp point ; color deep yellow, with tinge of red in the sun ; skin separates easily from the flesh.

FLESH : free ; color pale yellow ; texture very tender, fine grained, melting, juicy ; flavor excellent.

QUALITY : dessert very good to best ; cooking very good.

VALUE : home market first class ; distant market second class because too tender.

SEASON : mid September.

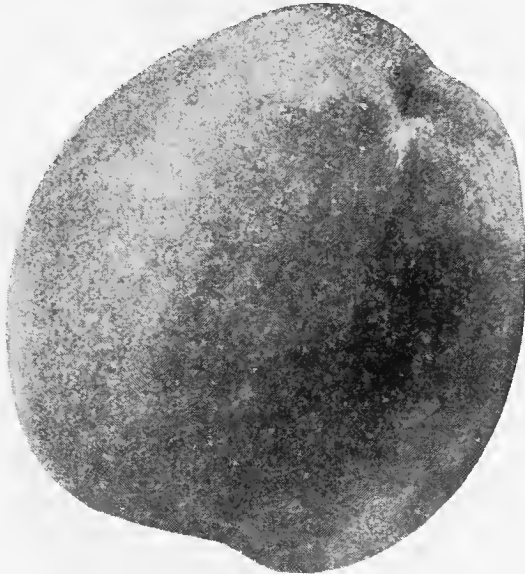
WHEATLAND.

A large and beautiful yellow flesh peach to follow Early Crawford ; a valuable variety for home use or market ; not a long keeper.

ORIGIN : New York State.

TREE : vigorous.

FRUIT : size large ; form roundish, slightly enlarged along the line of suture ; color yellow, well overspread with red, usually prettily dappled with red about the small pointed apex ; cavity broad and deep.



WHEATLAND.

FLESH : free ; color pale yellow tinted with red at the pit ; texture melting, tender, juicy ; flavor rich, sweet, delicious.

QUALITY : very good for dessert or cooking.

VALUE : market first class

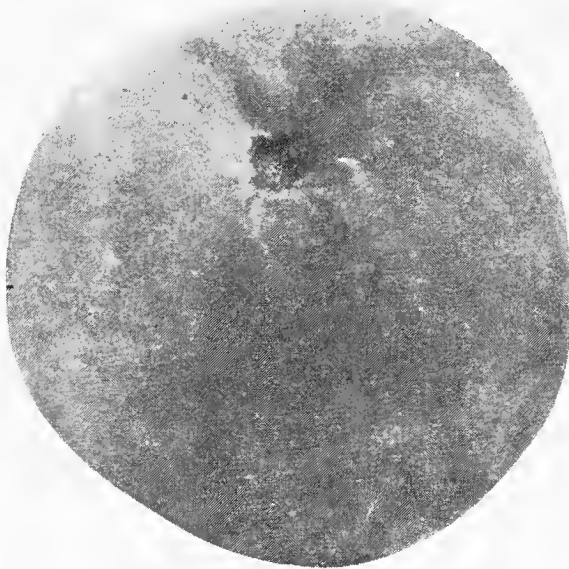
SEASON : mid to late September.

WILLETT.

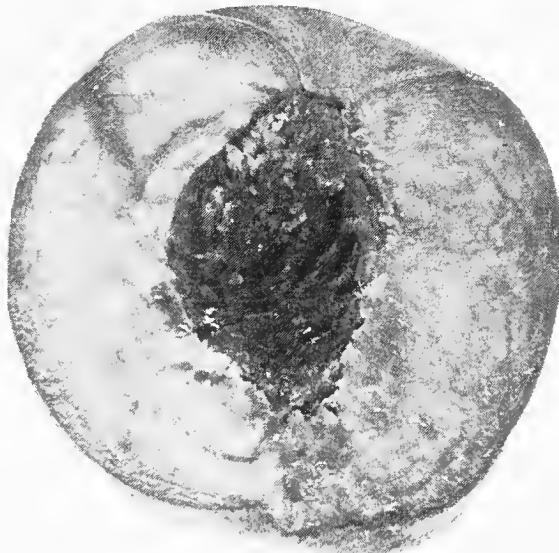
An attractive and profitable late market peach, to come in between Elberta and Smock; later than Matthews' Beauty.

TREE: vigorous; spreading; productive.

FRUIT: medium to large in size; form nearly round, and enlarged along one side of the suture; cavity abrupt, medium; apex distinct; color yellow with mottling of deep red in the sun.



WILLETT.



SECTION OF WILLETT.

FLESH: free; greenish yellow, with red tint at the pit; texture rather firm, moderately juicy; flavor moderately sweet, good.

QUALITY: dessert good; cooking very good.

VALUE: market first class

SEASON: early October.

WONDERFUL.

A new variety of great size and beauty.

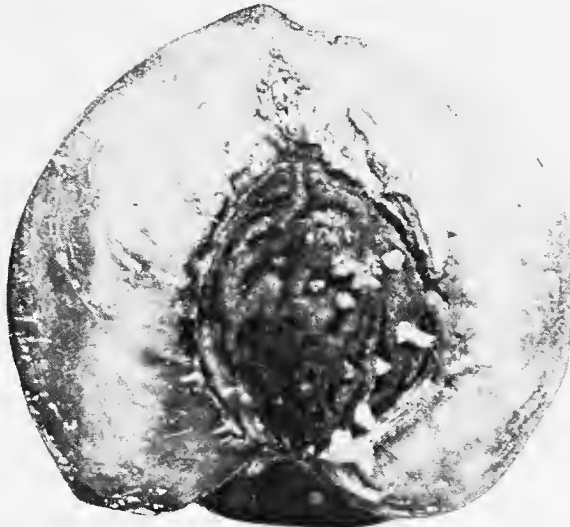
ORIGIN: United States.

TREE: a vigorous grower; but lacking in productiveness.

FRUIT: large; form roundish; cavity narrow and deep; suture traceable; apex a small point, sometimes depressed; color yellow with bright red on sunny side.



WONDERFUL.



SECTION OF WONDERFUL.

FLESH: light creamy yellow, red at pit; texture tender, melting, juicy; flavor sweet, vinous, pleasant; free.

QUALITY: dessert good; cooking good.

VALUE: market first class.

SEASON: mid September.

THE PEAR.

The pear succeeds all over the best apple districts of Ontario, but few good hardy varieties have yet been found, hence the commercial culture of the pear does not extend as far north as the apple. The principal pear orchards are found in southern Ontario. There are many good orchards, however, along Lake Ontario as far east as the Bay of Quinte and north to the Georgian Bay.

In eastern Ontario, only a few kinds succeed, and these are not planted on a commercial scale. These hardy varieties are grown to a limited extent for home use as far north as latitude 45 degrees and some of the Russian pears, though inferior in quality and very subject to blight, may be grown still further north.

The pear stands distant shipment well if picked at the right time, and properly packed and handled in transit, and hence larger quantities are being sent to distant markets every year, and as a rule good prices are obtained for the fruit.

The general directions for the preparation of the land, soil and planting as given for the apple apply to the pear, with but slight alterations. While pears succeed in the same kind of soils as the apple, clay loams, if well drained, suit them best. Pear trees two years old are better than those three years old, as they are easier to transplant, since pear trees have not so good a root system as the apple. Standard trees should be set at least twenty feet apart each way. Pear trees are shaped and pruned much like the apple, although trees with a central leader are easier obtained and are preferred. They may be headed nearer the ground than the apple, as they are of more upright habit. Many pears are now being grown on dwarf or quince stock. These have the advantage of being earlier than standard trees, and may be planted closer together, fourteen feet apart being a good distance. They do not live as long as standard trees. The dwarf trees are almost always grown without a central leader in Ontario, and branching near the ground. They require more careful pruning than standards. The fruit of some varieties is improved by growing on dwarf stocks, among those succeeding particularly well on this stock being Duchess, Louise, Diel, and Easter Beurre.

Pear trees are very much subject to blight which as yet cannot be controlled by any practical means. It has been observed, however, that trees usually blight most when making strong succulent growth, hence it is best to not encourage a strong growth. Some varieties are more subject to blight than others, and when planting this should be taken into consideration. In planting a pear orchard, it is also desirable to mix the varieties, avoiding large blocks of any one kind, as better crops will thus be obtained, some varieties being almost sterile when planted by themselves.

The picking of pears requires good judgment. If they are picked too early the fruit will not get its best flavor, but if picked too ripe, it will spoil before reaching the market. Pears, unlike most fruits, ripen well and develop a good flavor when picked while still green and hard, but to obtain this flavor the fruit should have reached its full size.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Commercial: Giffard, Clapp, Bartlett, Boussock, Flemish (hardy, subject to spot), Howell, Louise, Duchess, Bosc, Clairgeau, Anjou, Kieffer.

Domestic: Summer Doyenne, Giffard, Bartlett, Flemish (for the north), Sheldon, Seckel, Bosc, Anjou, Lawrence, Josephine, Winter Nelis.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Niagara District: By Linus Woolverton, Grimsby, Ont.

Commercial: Chambers, Wilder, Giffard, Clapp, Bartlett, Hardy, Bosc, Howell, Louise, Duchess, Pitmaston, Clairgeau, Anjou, Easter Beurre.

Domestic: Doyenne, Manning, Giffard, Boussock, Rostiezer, Marguerite, Sheldon, Seckel, Triumph, Ritson, Louise, Hardy, Diel, Anjou, Lawrence.

Burlington District: By A. W. Peart, Burlington, Ont.

Commercial: Wilder, Clapp, Bartlett, Boussock, Louise, Duchess (dwarf), Anjou, Kieffer, Winter Nelis, Easter Beurre.

Domestic: Wilder, Bartlett, Louise, Anjou, Winter Nelis.

Bay of Quinte District: By W. H. Dempsey, Trenton, Ont.

Commercial and Domestic: Giffard, Tyson, Clapp, Boussock, Hardy, White Doyenne, Dempsey, Bosc, Clairgeau, Goodale, Lawrence, Josephine.

St. Lawrence District: By Harold Jones, Maitland, Ont.

Domestic: Clapp, Flemish, Ritson.

 DESCRIPTION OF VARIETIES.

ANSAULT.

Claimed to be a good general purpose pear for home uses, but not as yet widely tested.

ORIGIN : France.

TREE : an early and abundant bearer.

FRUIT : size medium ; roundish oblate pyriform ; skin green, yellowing at maturity, mostly covered with russet ; stem $\frac{1}{2}$ inch to one inch long, in a small irregular, often oblique cavity ; calyx small, open in an abrupt, deep basin.

FLESH : color creamy white ; texture tender, fine grained, buttery, juicy ; flavor agreeable, aromatic, very pleasant.

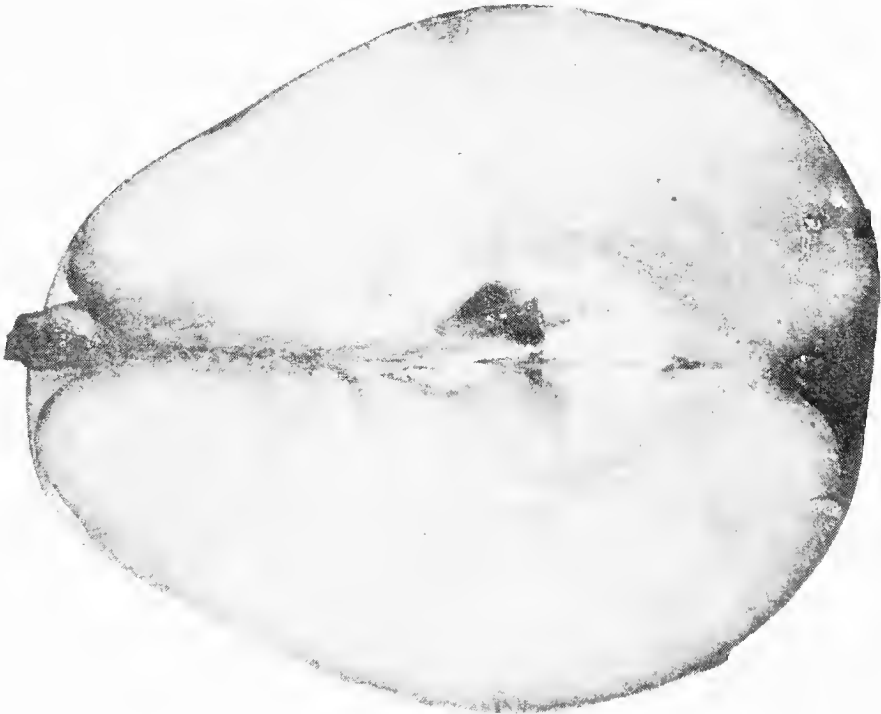
QUALITY : fair for all purposes.

VALUE : home market second class.

SEASON : September.



ANJOU.



SECTION OF ANJOU.

ANJOU.

(*Beurre d'Anjou, Ne Plus Meuris of Le Roy.*)

A fine market pear, succeeding admirably on quince roots, but on pear roots the tree is not so productive, nor the fruit so large. Its fine size, and melting, buttery texture, make it a favorite market pear for the month of December, and past experience proves it a desirable variety to export to Great Britain.

ORIGIN : Louvain, Belgium, about 1823 ; named Ne Plus Meuris, after Father Meuris.

TREE : a vigorous, strong grower ; productiveness scarcely first rate even on the quince, third rate on the pear.

FRUIT : large ; form obovate, blunt pyriform, sides often uneven, and samples not very uniform ; skin thick, yellow at maturity, with greenish patches and brown dots, brownish red on sunny side ; stem scarcely half an inch long, stout and fleshy ; calyx open, set in a shallow basin ; core small, seeds few if any.

FLESH : white ; texture fine grained, buttery, melting ; flavor pleasant, perfumed, not very sweet.

QUALITY : table or cooking good.

VALUE : home market first class ; foreign market first class.

SEASON : November.

ADAPTATION : succeeds best south of Toronto.

BAÚDRY.

A promising new winter pear, which has been fruiting at our Maplehurst station as a dwarf.

FRUIT : size large ; form oblong, pyriform ; color yellowish green, with russet patches.

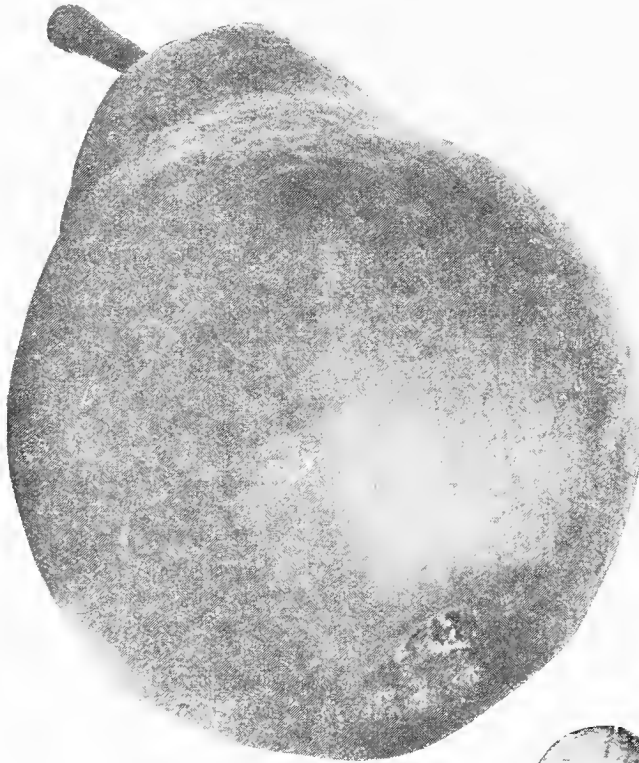
FLESH : color yellow ; texture tender, but gritty at the core ; flavor very good.

QUALITY : very good for dessert and cooking.

VALUE : apparently first class for market.

SEASON : late winter.

∪ F.O.



BARTLETT.

ORIGIN: Berkshire, England, 1770, propagated by Mr. Williams, near London. Introduced into America and disseminated by Enoch Bartlett of Boston.

TREE: healthy, vigorous, half-hardy, overcomes blight better than most varieties, very productive.

FRUIT: large, oblong, obtuse, pyriform; color yellow, with very numerous minute brown dots, often russeted at the apex; stem $1\frac{1}{2}$ inches long, in a small irregular cavity; calyx, open in an irregular basin.

FLESH: creamy white, fine grained, very buttery and juicy; flavor sweet, perfumed, vinous.

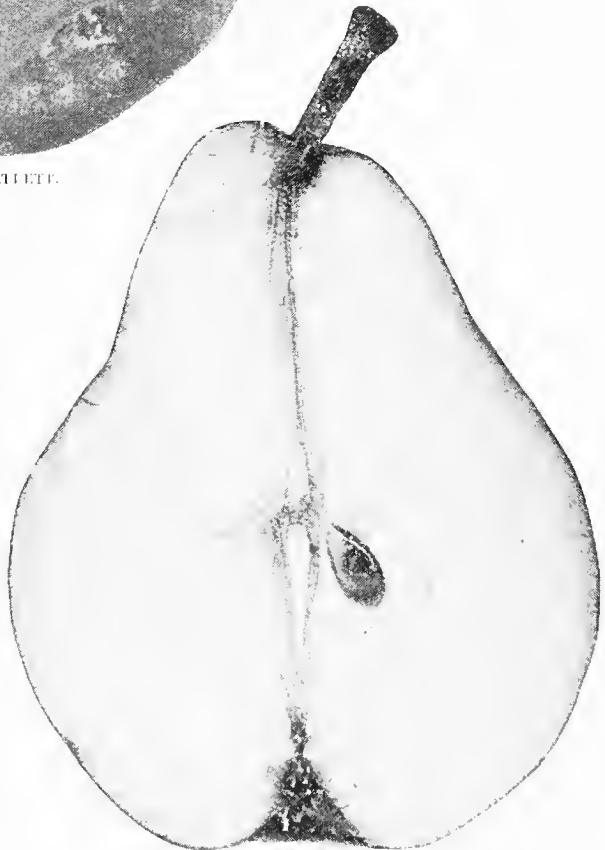
QUALITY: dessert, very good; market, best.

SEASON: early to mid September.

Adaptation: succeeds admirably in southern Ontario, and as far north as our Bay of Quinte station.

BARTLETT (*Williams'*
Boncretien).

No pear of the same season equals in popularity the Bartlett, for either dessert or canning. Indeed, while it is in the market, no other pear compares with it in price or brings as much profit to the grower. Of late large orchards of this one variety have been planted in Canada, and there is a growing demand for it in the Northwest Provinces. With trustworthy cold storage it may be exported to Great Britain with profit.



SECTION OF BARTLETT.

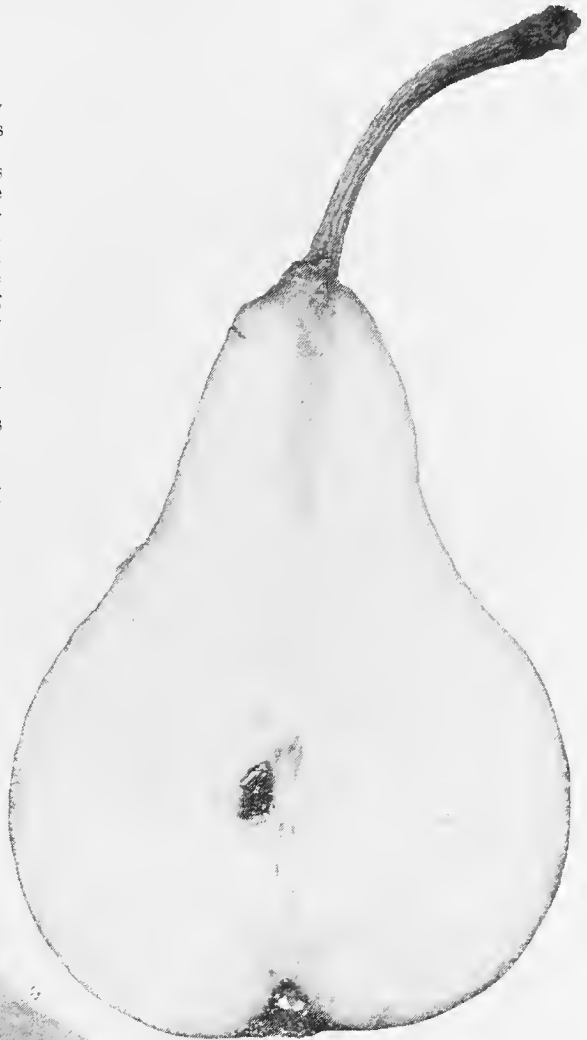
BOSC.

(Beurre Bosc, *Downing*.)

The Bosc pear is not as widely known among cultivators in Canada as its merits deserve. Though a russet, it yellows as it ripens; the pear is large in size, and uniform on the tree as if thinned purposely; and the texture is such that it can be exported in fine condition. In quality, a well grown Bosc is first-class. On the whole, we would place this pear among the valuable kinds for planting for export to the foreign markets.

ORIGIN: a chance seedling found in France, and dedicated to M. Bosc, the eminent director of the Jardin des Plantes at Paris, about the year 1835.

TREE: a vigorous grower, and a regular bearer, carrying its fruit singly



SECTION OF BOSC.

and not in clusters as is the habit of some varieties.

FRUIT: large, elongated acute pyriform, covered with slight indentations; color greenish, yellow ground nearly covered with cinnamon russet; stalk $1\frac{1}{2}$ to 2 inches long, stout and usually curved, inserted without a cavity; calyx open in a shallow basin.

FLESH: white; texture, fine, breaking, juicy; flavor, sweet, rich, delicious.

QUALITY: first-class for dessert.

VALUE: first-class for either home or foreign markets.

SEASON: October.

ADAPTATION: southern Ontario, and as far north as Bay of Quinte.

BOUSSOCK (*Doyenne Boussock*).

BOUSSOCK.

FRUIT : large ; form roundish, obovate ; skin yellow, with dull red cheek, and numerous rough dots ; stalk fleshy, stout, 1 to 1½ inches in length, in a round cavity ; calyx open, in a shallow russeted depression.

FLESH : white ; texture tender, juicy, if gathered at the right season ; flavor sweet and agreeable.

QUALITY : dessert very good.

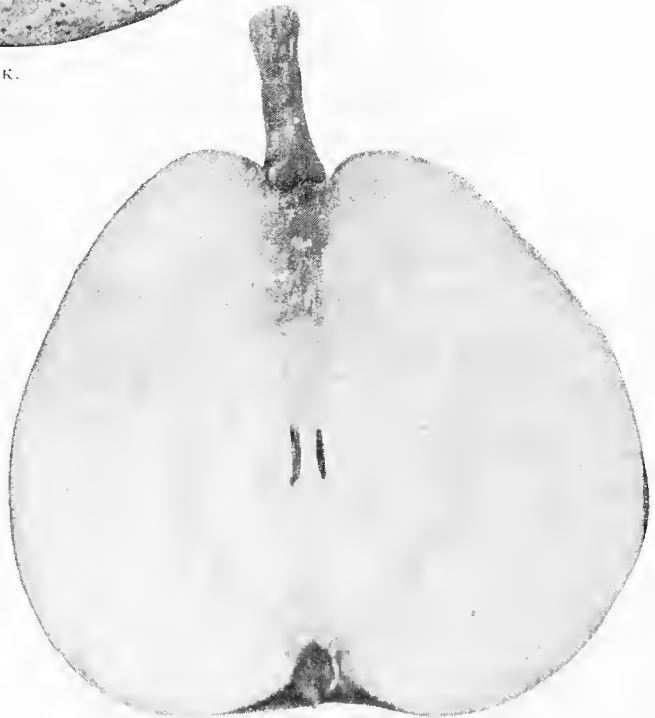
VALUE : near markets first class.

SEASON : September.

Described by Downing as a profitable market sort, but our experience in Canada would lead us to give it a second place when compared with the Bartlett or the Anjou. The tree is a good grower and productive, and the fruit is uniformly large, but it is second class in quality unless eaten just at the proper stage of ripeness, and the tree is inclined to drop its fruit too soon.

ORIGIN : Belgium.

TREE : succeeds best as a standard ; vigorous, hardy and very productive.



SECTION BOUSSOCK.

BRANDYWINE.

A good general dessert pear, but not much grown for market in Ontario, being so nearly of the same season as Bartlett.

ORIGIN : chance seedling found on the banks of the Brandywine river, Delaware County, Pennsylvania. The original tree fruited for the first time in 1820.

TREE : vigorous ; upright ; fairly productive ; succeeds best on the quince.

FRUIT : size medium ; form conic pyriform ; color of skin greenish-yellow, with blush on the sunny side and dotted and sprinkled with russet ; stem $\frac{3}{4}$ to $1\frac{1}{2}$ inches long, fleshy at insertion, which is surrounded by folds ; calyx open in a smooth, shallow basin.

FLESH : color white ; texture tender, melting, very juicy ; flavor sweet, vinous, aromatic.

QUALITY : dessert very good.

VALUE : market second class.

SEASON : early September.

BUFFUM.

Formerly this pear was much in favor as a profitable orchard variety, because of its productiveness and the wonderful hardiness and vitality of the tree, but of late years it is much less in favor with pear growers on account of its small size and ordinary quality. Some trees of this variety at Maplehurst, forty years planted, have never shown the slightest tendency to blight, and have attained a great height, more resembling Lombardy poplars than pear trees.

ORIGIN : Rhode Island. :

TREE : remarkable for its vigorous, symmetrical, erect habit of growth ; it is regularly and fairly productive, but, unless gathered early, the fruit drops badly ; not subject to blight.

FRUIT : medium size, obovate, slight oblong ; skin rough, yellow at maturity, with bright or dull red or russet on sunny side ; dots small, brown ; stalk $\frac{3}{4}$ inch long in a small cavity ; segments of calyx small, in a small plaited basin.

FLESH : color, yellowish white ; texture, crisp, not fine, not juicy ; flavor, sweet and pleasant.

QUALITY : dessert fair ; cooking fair.

VALUE : home and distant markets second class.

SEASON : September.

ADAPTATION : stated to be hardy in Bruce and Huron counties ; slightly tender in North Ontario county.

CHAMBERS.

The Chambers pear has been grown at Maplehurst for about ten years on dwarf stock and commends itself as a fine market variety the beginning of August, for it is of a good quality, fairly large, and the tree is productive.

ORIGIN : brought from Maryland to Kentucky by Judge Wm. Chambers.

TREE : moderately vigorous, very hardy, productive.

FRUIT : of medium size ; form obtuse, obovate, pyriform ; color pea green, turning yellow when fully mature, with numerous brown and green dots, and reddish brown cheek on sunny side ; stalk stout, 1 inch long, set on an angle in a flat cavity, often one shoulder prominent ; calyx small, half-open ; seeds few.

FLESH : white ; texture tender, fairly juicy ; flavor aromatic, sweet and pleasant.

QUALITY : good.

VALUE : for near market first class.

SEASON : early August.



CHAMBERS.

CLAIRGEAU.



As a commercial pear, especially for a distant market, we know of no variety of the same season that is superior to this variety. Its large size, and the beautiful cheek which it takes on during the month of October, its excellent shipping and keeping qualities, all these combine to make it a profitable variety, and one that is easily grown, either as dwarf or standard. The quality is variable according to the conditions of growth; in France it is counted very good; in England, poor; with us, when well ripened, it is only good.

ORIGIN: Nantes, in France with a gardener named Clairgeau, about 1838.

TREE: first-class in vigor, hardiness and productiveness; wood, stout, and upright in habit of growth; branches, numerous, grown as a dwarf can be trained to make a fine pyramid, but succeeds best as a standard; an early bearer.

FRUIT: large, one-sided, pyriform; skin, green, turning pale yellow at maturity, almost overspread with

splashings and dots of russet, which completely cover it about the stock and the calyx; orange red on sunny side; stalk, $\frac{3}{4}$ inch long, stout, fleshy at the base, usually set at an angle with the axis; calyx, small, open, in a shallow furrowed basin.

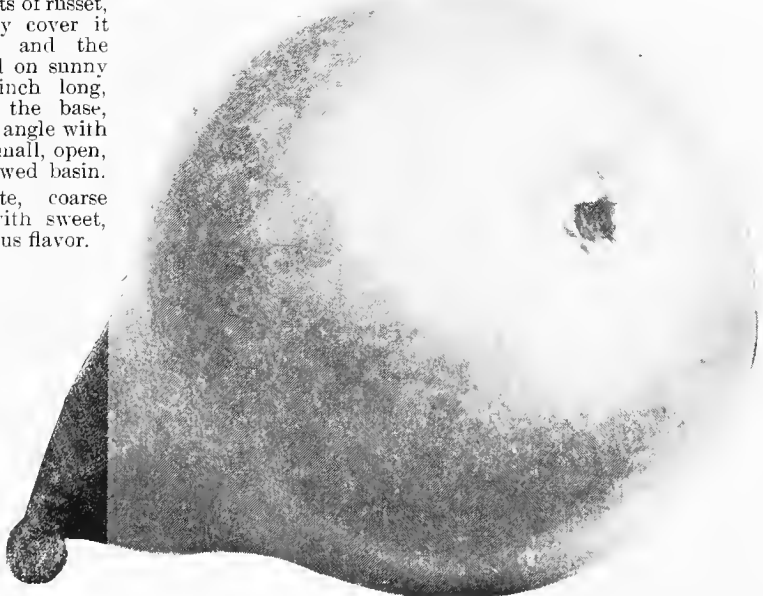
FLESH: white, coarse grained, juicy, with sweet, aromatic and vinous flavor.

VALUE: home or foreign market, first class.

QUALITY: cooking good; dessert good

SEASON: October to November.

ADAPTATION: succeeds admirably as far north as Thornbury; and east as far as Prescott.



CLAPP (*Clapp's Favorite*).

The Clapp is a beautiful pear where well grown and well colored. It is also of good quality, so that it is well fitted to be a profitable market pear; with one fault, that it soon passes out of prime condition, and, if allowed to ripen on the trees, it will rot at the core. On this account the fruit must be gathered as soon as full grown and well colored, and shipped while firm.

ORIGIN: raised by Thaddeus Clapp, of Dorchester, Mass., U.S.

TREE: upright, vigorous grower, somewhat spreading, forming a symmetrical top; bears fruit of uniformly large size, pretty evenly



CLAPP.

distributed; productive; succeeds well as a dwarf on rich soil; somewhat subject to blight.

FRUIT: very large, pyriform, obovate, usually symmetrical, sometimes with unequal sides; skin pale green, changing to yellowish green, with dull red on sunny side, which becomes bright crimson at maturity, somewhat resembling the coloring of the well-known Louise; stalk stout and fleshy obliquely inserted without cavity; calyx large, half open, in shallow basin.

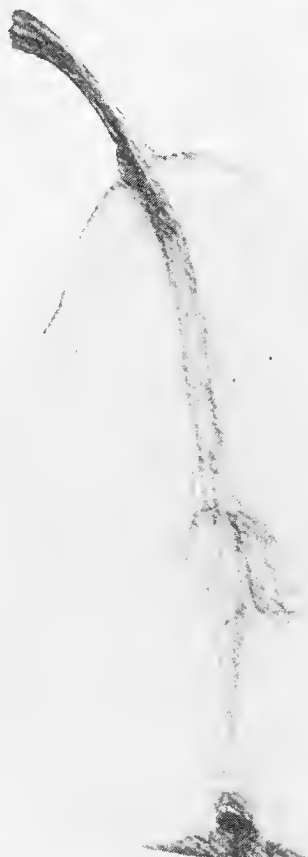
FLESH: creamy white; texture fine, tender, juicy with very agreeable flavor; good to very good.

QUALITY: good for dessert and cooking.

VALUE: first class for home market.

SEASON: August and September.

ADAPTATION: one of the hardiest pears.



SECTION OF CLAPP.

 COMICE (*Doyenne de Comice*).

“Tree large, upright. Fruit large, roundish pyriform, or broad obtuse pyriform; cavity shallow, often russeted; stalk short, stout, inclined; basin large, deep, uneven; calyx small, open; color greenish yellow, becoming clear yellow at maturity, often lightly shaded with crimson and fawn in the sun, and with light nettings and patches of russet and numerous russet dots; flesh white, juicy, melting, a little buttery with a fine texture, and sweet, rich, sprightly and aromatic flavor; quality good; season October to November; quite productive.” (*Report Mich. Exp. Sta.*)

 DEARBORN (*Dearborn's Seedling*).

Previous to the introduction of such choice early varieties as Chambers, Wilder, Giffard and Clapp, the Dearborn was highly commended. Downing calls it, “a very admirable early pear of first quality, succeeding Bloodgood, and preceding Bartlett;” but it is no longer to be commended for planting in the commercial orchard because of its small size. It is now considered only valuable in the garden of the amateur.

ORIGIN: at Boston, Mass., in 1818, by the Hon. H. G. S. Dearborn.

TREE: of moderate vigor; not subject to blight; very productive.

FRUIT: size small, roundish obovate; skin clear yellow with small grey dots, smooth; stem 1 to 1½ inches long, inserted with little or no cavity; calyx open in shallow basin.

FLESH: creamy white; texture tender, buttery, juicy; flavor agreeable.

QUALITY: dessert fair; cooking, good.

VALUE: market third-class.

SEASON: mid to end of August.

 DEMPSEY.

The Dempsey was originated near Trenton in Prince Edward County, by Mr. P. C. Dempsey, the late well-known Director of our Association for that district. It was produced from a seed of a Bartlett, fertilized with Duchess d'Angouleme. The fruit is firm and consequently would ship well.

TREE: vigorous and productive.

FRUIT: large, oblong, obovate, pyriform; skin smooth, yellowish-green, with brownish-red cheek in sun; stem about 1 inch long, set in a fleshy base, and with almost no cavity; calyx nearly closed in a moderately deep uneven basin, core small.

FLESH: white, fine grained, tender, almost melting, with sweet, delicious flavor.

SEASON: late October to November.

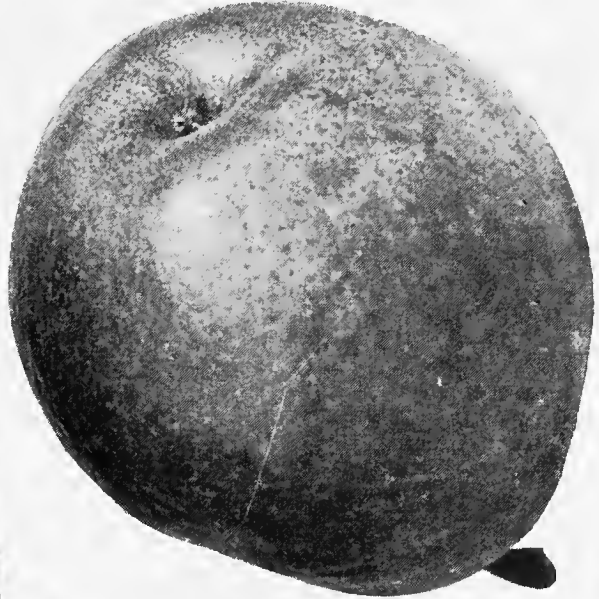
DIEL. (*Beurre Diel.*)

A pear of ordinary appearance as grown in Southern Ontario, but of such size and excellent quality that it deserves a place in every collection, whether for home use or market.

ORIGIN: a chance seedling near Brussels, Belgium, named in honor of Dr. Diel, a German pomologist.

TREE: very vigorous, hardy and productive.

FRUIT: large to very large; obovate; stem pale green, turning yellow at maturity, with numerous large brown dots and patches of russet; stem curved, stout, from 1 to 1½ inches long, set in an open uneven cavity; calyx open, in a basin of moderate depth and not very regular.



FLESH: cream color; texture moderately fine, except at the core, juicy, buttery; flavor aromatic, sweet and when well grown and well ripened, very delicious.

QUALITY: dessert very good.

VALUE: home market, second class, because lacking in color; foreign market, possibly first class, because it carries well and has fine flavor, but not yet tested in this respect.

SEASON: November just preceding the Lawrence.

DROUARD (*President Drouard.*)

“Large, roundish ovate, obtuse, rather irregular; color yellow, with nettings and washings of russet; stalk quite stout, inserted in a deep, narrow, irregular cavity; flesh creamy white, tender, buttery, sweet, perfumed; good. An autumn variety much liked in Michigan and east of the lakes. Europe.” (*American Horticultural Manual.*)

DUCHESS.

(*Duchess d'Angouleme of LeRoy and Downing; Angouleme of American Pomological Society; Duchesse, common name in France.*)

For many years this pear has been counted among the best and most profitable varieties in Ontario, especially when grown on quince stock, and, in consequence has been largely planted. Prime samples are excellent stock for export, carried in cold storage. The fruit is often knotty from curculio stings.

ORIGIN: Angers, France, in 1812, a chance seedling. In 1820 Andusson, the propagator, sent a basket of the fruit to the Duchess d'Angoulême, who authorized him to bestow her title upon the pear as its name.

TREE: a strong grower, succeeds best on the quince; variable in productiveness; not subject to blight.

FRUIT: exceedingly variable in size, sometimes weighing a pound and a quarter; form obovate, large at the base; surface uneven, sometimes knobby; skin light green, patched with russet, and numerous grey dots; stalk stout, curved, 1 inch long, often swollen at point of attachment, deep set in an irregular cavity; calyx small, closed, in an uneven, often russeted basin.

FLESH: white; texture fine when well grown, but often coarse grained, melting, juicy and, when properly matured, of a sweet and very good flavor.

QUALITY: dessert very good; cooking good.

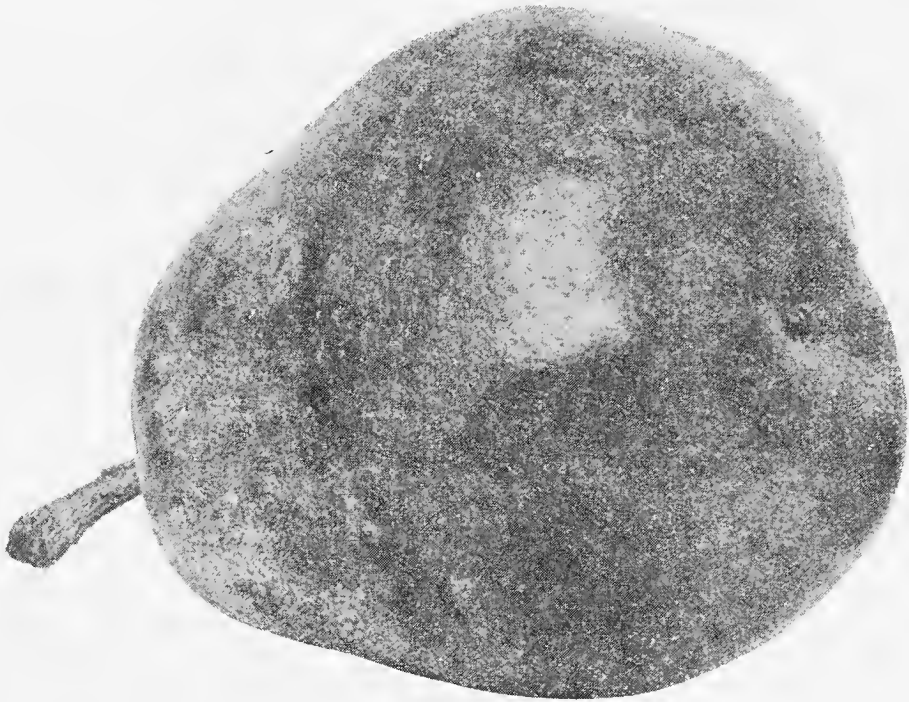
VALUE: first class for either home or foreign market.

SEASON: October and November.

ADAPTATION: hardy in southern Ontario, but only half hardy in Grey, Bruce and York.



SECTION OF DUCHESS



DUCHESS

EASTER BEURRE.

Among the desirable pears to grow for export we must not overlook the Easter Beurre, which, though green and unattractive in appearance at time of harvesting, keeps well through the winter, is an excellent shipper and is very good in quality. A warm climate and favorable soil seems to be necessary to its best development, and accordingly we find it planted for commercial purposes in the Californian pear orchards. On deep, rich sandy loam, in the southern parts of our Province, it succeeds well, either as a dwarf, or as a standard tree.

Although some writers have claimed that this pear originated in France, because some old trees were found near Laval, yet the majority agree that the variety originated in Belgium, at the old University town of Louvain. Van Mons, in his *Album de Pomologie* in 1847, says, "This variety was found in the ancient gardens of the Capucins, at Louvain, where the original tree still stood in the year 1825, under the name of *Pastorale de Louvain*."

In the old countries much confusion has existed regarding the names of pears, and subsequently much difficulty exists in the identification of varieties; this pear, for example, is given no less than twenty-four different names in LeRoy's *Dictionnaire de Pomologie*, as, for example, *Doyenne de Printemps*, *Canning*, *Beurre d'Hiver*, etc., the last being adopted by LeRoy; while Hogg, of England, and Downing, of America, both adopt the name so well known to us, *Easter Beurre*.

TREE: fairly vigorous, upright and productive, and may be grown either as a dwarf or as a standard tree; if as a standard, it needs good, rich soil and a warm climate for the best success. In Great Britain it does not seem to succeed so well as in Canada, for Hogg says it frequently happens that this delicious pear is of an indifferent and insipid flavor, which is caused by the unfavorable soil; and Blackmore, of Teddington, says, "It cracks in spots and is seldom very good." Our experience with it, as grown on a dwarf tree, is favorable.

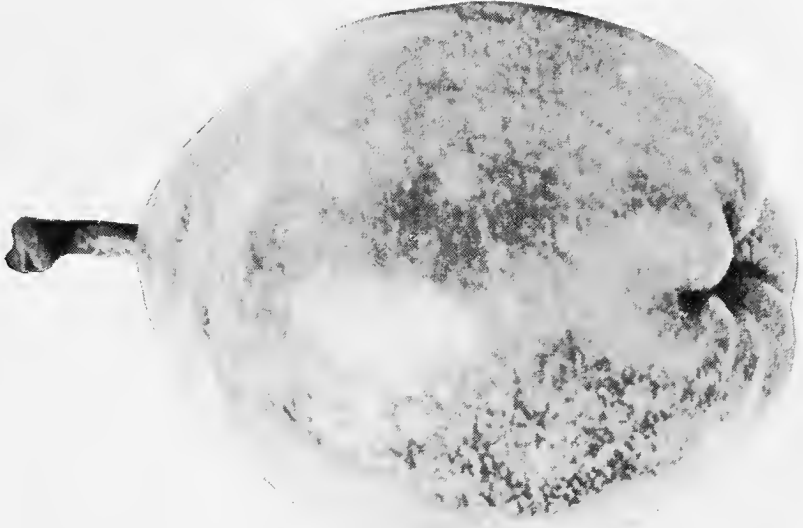
FRUIT: above the medium size, irregular obovate; skin pale green at harvesting time, yellowing somewhat toward maturity, with numerous russet dots, russet patches around the stem and calyx, and often a brownish cheek; stem about 1 inch long, stout, swollen at the base, set in a narrow, deep cavity; calyx small, closed, set in a much plaited basin of moderate depth.

FLESH: white, fine in texture, melting and juicy; flavor sweet, rich and agreeable.

QUALITY: dessert good.

VALUE: export first class.

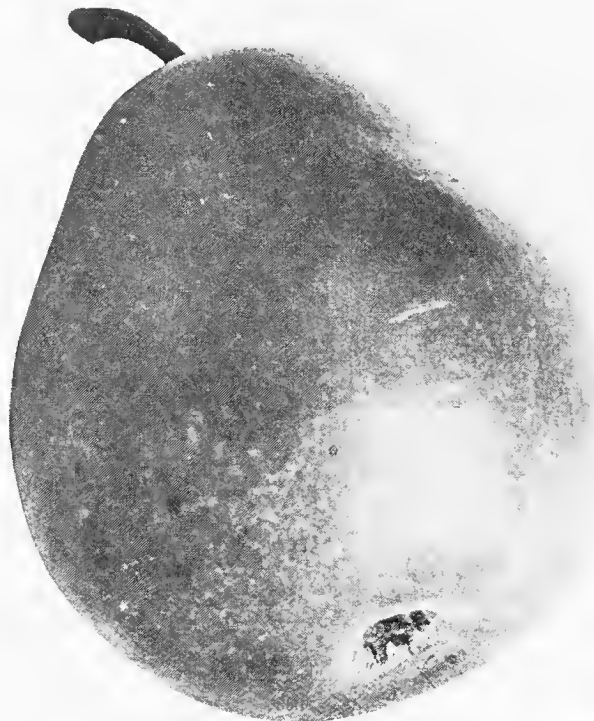
SEASON: mid to late winter.



EASTER BEURRE.



SECTION OF EASTER BEURRE.

FLEMISH BEAUTY (*Feodant des Bois. of LeRoy.*)

FLEMISH BEAUTY.

almost first in productiveness; an early bearer.

FRUIT: large, form obovate, obtuse, pyriform; skin light yellow when ripe, with frequent patches of brownish red on sunny side, with scattered minute dots; stalk 1 to 1½ inches long, set in a narrow, deep cavity; calyx open, segments short, in a small round basin.

FLESH: creamy white, melting, buttery, juicy; flavor rich, sugary, delicious.

QUALITY: first class.

VALUE: first class where well grown, but counted second class on account of its being subject to scab.

SEASON: mid to late September; should be gathered before quite ripe or it will drop and waste.

ADAPTATION: quite general; probably the hardest good pear.

A variety that has been a great favorite in Europe ever since the beginning of the eighteenth century, as is evidenced by the thirty-five synonyms which have been given it as shown in "Dictionnaire de Pomologie" by Andre LeRoy. This and the Bartlett were among the first imported varieties of pears planted in Ontario, and it has been widely tested. In the northern sections where it succeeds, it is a most popular variety, but in southern Ontario it has been of late so subject to scab and cracking of the fruit, that it has lost favor with growers, notwithstanding its excellent quality.

ORIGIN: discovered by Van Mons about the year 1810 in Eastern Flanders, and distributed among his friends.

TREE: first class in hardiness;



SECTION OF FLEMISH BEAUTY.

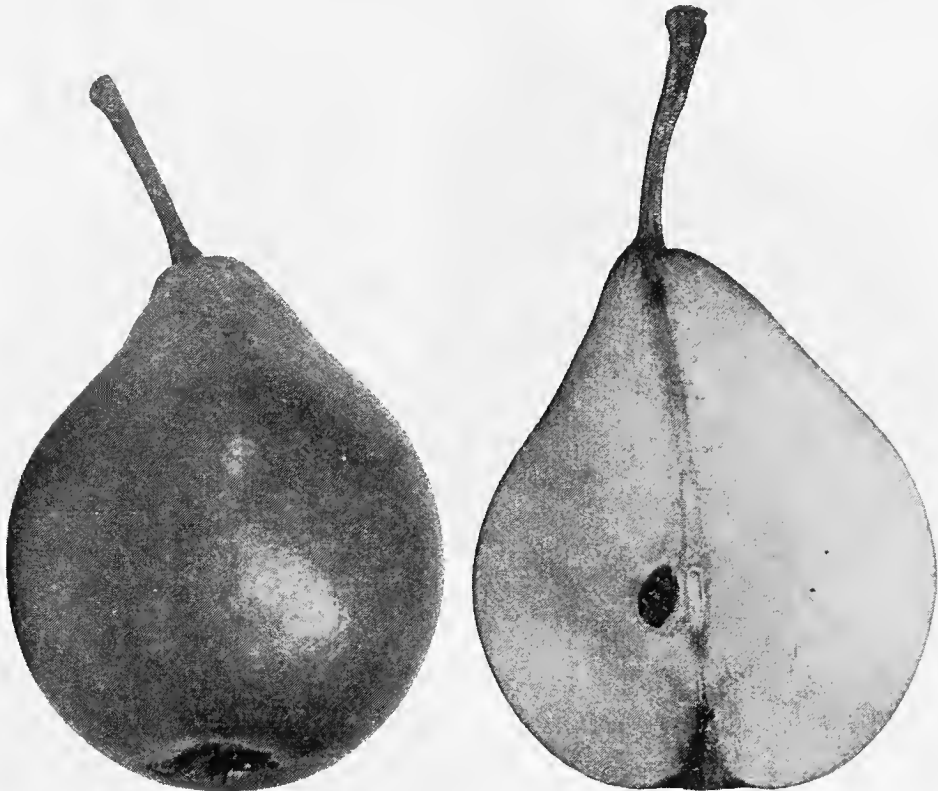
GIFFARD (*Beurre Giffard*).

A very desirable commercial pear for the home market.

Origin : a chance seedling about 1840, in the garden of M. Giffard, Angers, France.

TREE : fairly vigorous ; a straggling grower ; healthy ; fairly productive.

FRUIT : size, medium to large ; form pyriform conical ; color light green, with red dots and



GIFFARD.

SECTION OF GIFFARD.

marbling of red on the sunny side ; stem 1 inch long, stout, swollen at the base, set obliquely ; calyx half closed, in small, shallow basin.

FLESH : color white ; texture melting, juicy ; flavor vinous, perfumed.,

QUALITY : Dessert very good ; cooking best.

VALUE : first-class for home market.

SEASON : early to mid August.

GOODALE.

A very good late fall pear; promising as a market variety.

ORIGIN: seedling raised by F. Goodale, Saco, Maine.

TREE: very vigorous and hardy and uniformly productive.

FRUIT: large, obovate obtuse pyriform; color green, yellowing at maturity, with crimson cheek, some russet patches, and some small brown dots; stem about 5-8 of an inch long, set in an inclined cavity; calyx small, closed, in a small, rather deep basin.



GOODALE.

FLESH: color white; texture fine, juicy, granular at core; flavor sweet, pleasant, perfumed.

QUALITY: dessert fair.

VALUE: market first class.

SEASON: October.

ADAPTATION: succeeds as far east as Bay of Quinte District.



SECTION OF GOODALE.

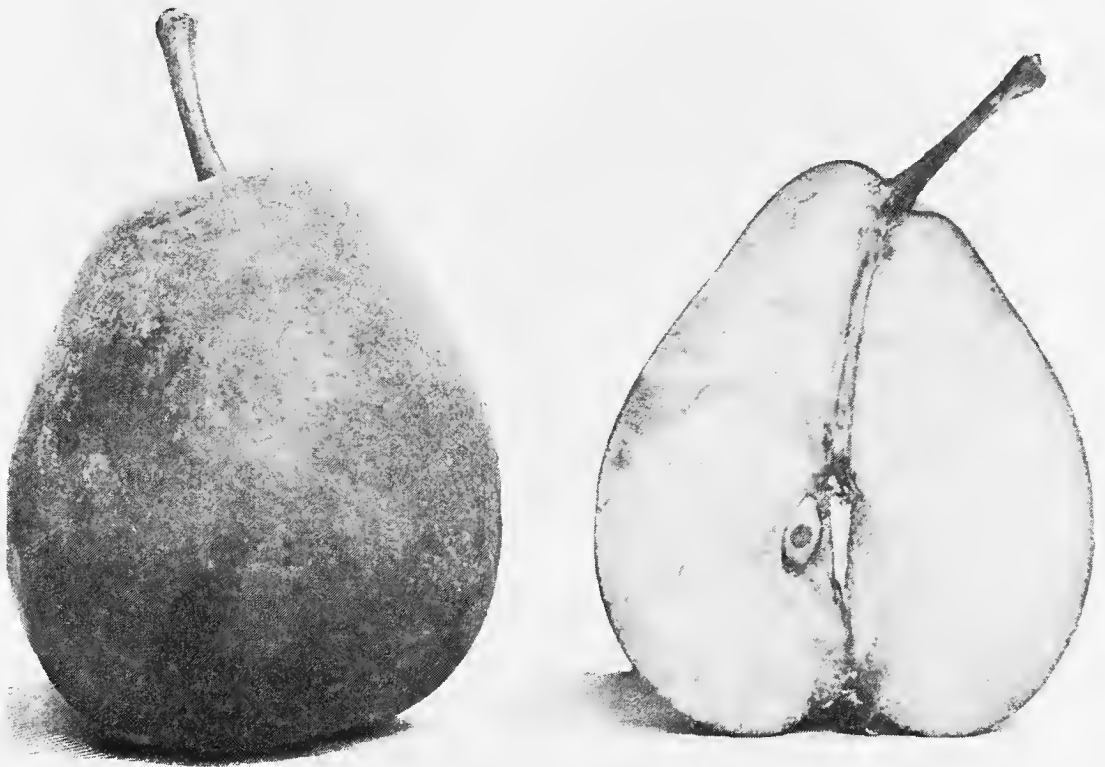
HARDY (*Beurre Hardy.*)

A good variety for the month of October, for both home use and market.

ORIGIN : Boulogne, France, dedicated to M. Hardy, director of the gardens at Luxembourg.

TREE : fairly vigorous and productive, and forms a fine symmetrical tree, especially when grown on the quince. The fruit is uniform in size and the skin is a bright clear russet.

FRUIT : medium size, form obovate, obtuse pyriform, of smooth regular outline ; skin yellowish green, with numerous russet dots and covered with light brown russet, especially at



HARDY.

the ends ; stem about 1 inch in length, stout, with fold at the base, and inserted obliquely in a small depression ; calyx large, open, in a shallow basin ; flesh white, fine grained, buttery, juicy, with rich aromatic flavor.

QUALITY : dessert very good ; cooking good.

VALUE : home market first class.

SEASON : October.

10 F. O.

HOWELL.

A good export pear for southern Ontario. Its vigor of tree, regularity of bearing, clear skin, and good size and quality make it a desirable variety for the commercial orchard.



HOWELL.

ORIGIN: New Haven, Conn. Named after the originator, Thomas Howell.

TREE: upright, healthy and vigorous, an early bearer, productive.

FRUIT: large, obovate pyriform; skin yellowish green, waxy reddish dots on sunny side, russet dots in shade; stem $1\frac{3}{4}$ inches long, set on an acute base, without cavity, sometimes lipped; calyx partly open in a deep russeted basin; core small; seeds few, small.

FLESH: creamy white, juicy, melting, granular near the core; flavor agreeable, vinous; a little tart.

VALUE: first class for all markets.

SEASON: mid September to mid October.



SECTION OF HOWELL.

HOOSIC.

This promises to be an excellent commercial variety, with one fault, viz., its short season.

ORIGIN : seedling from Hacon's Incomparable, by Asabel Foote, of Williamstown, Mass.

TREE : on quince stock, healthy, vigorous and productive.

FRUIT : size large to very large ; form obtuse pyriform, somewhat one-sided ; skin yellow, with light red in sun, and with russet dots ; stem $1\frac{1}{4}$ inches long, stout, curved, set in a small irregular cavity ; calyx small, open, set in a broad, uneven basin.

FLESH : white ; texture tender, fine and moderately juicy ; flavor rich, perfumed.

QUALITY : good for all purposes.

VALUE : first class for near market.

Grown at Maplehurst, as a dwarf, this pear has given the greatest satisfaction ; and, only that its season is rather short, it would be commended as an export variety.

SEASON : late September.

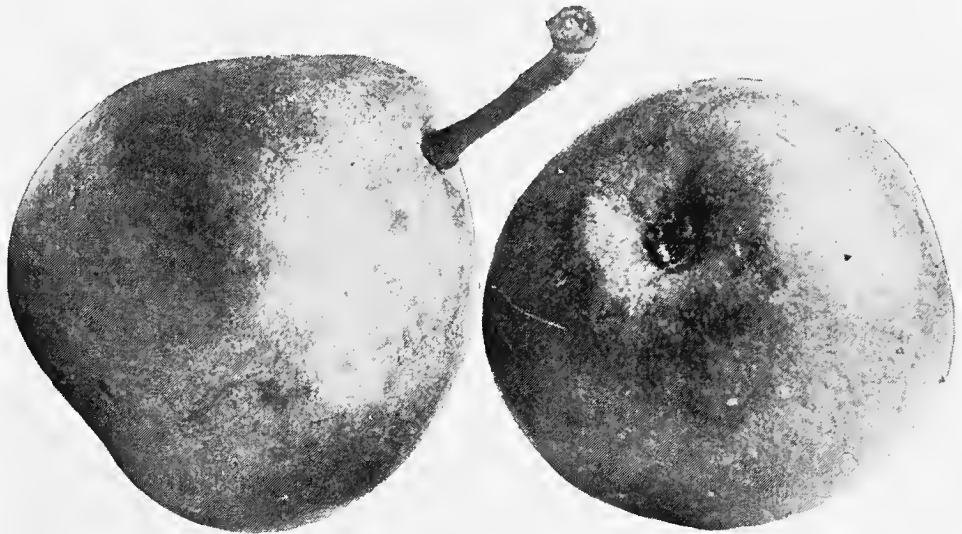
JOSEPHINE. (*Josephine de Malines*).

An excellent winter pear.

ORIGIN : Belgium.

TREE : succeeds well on the quince stock ; productive.

FRUIT : size medium, oblate conical ; color yellowish with small dots ; stem often two inches long in a slight cavity ; basin large.



JOSEPHINE.

FLESH : color yellowish white ; texture buttery ; flavor rich and peculiar.

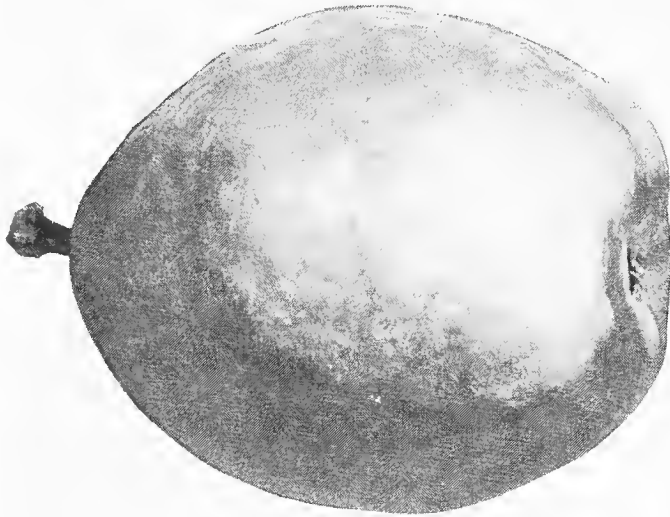
QUALITY : dessert very good.

VALUE : market second class.

SEASON : midwinter.

KIEFFER.

There is perhaps no pear about which a greater diversity of opinion exists ; some fruit men condemning it because of its lack of quality, and others insisting that its beauty of



KIEFFER.

appearance, its enormous productiveness, and its wonderful health and vigor of tree make it a profitable market variety, and that when properly grown and ripened it is quite a desirable kind, especially for cooking. Certainly the tree surpasses every variety in our collection for productiveness and vigor of growth ; while the fruit is always uniformly perfect in form, free from blemishes, and, when the tree is cultivated and manured, large in size.

ORIGIN : by Peter Kieffer, Roxbury, Pa., a seedling of Chinese Sand pear.

TREE : wonderfully vigorous and healthy ; an early and extraordinary bearer, often being laden with fruit after two years planting.

FRUIT : medium to large ; form ovate, tapering at both ends, widest at middle, and narrowest towards stem ; skin light golden yellow, with bright cheek, and very numerous brown russet dots ; stalk one inch long, fairly stout, in a one-sided cavity ; calyx half open, in a medium sized irregular basin.

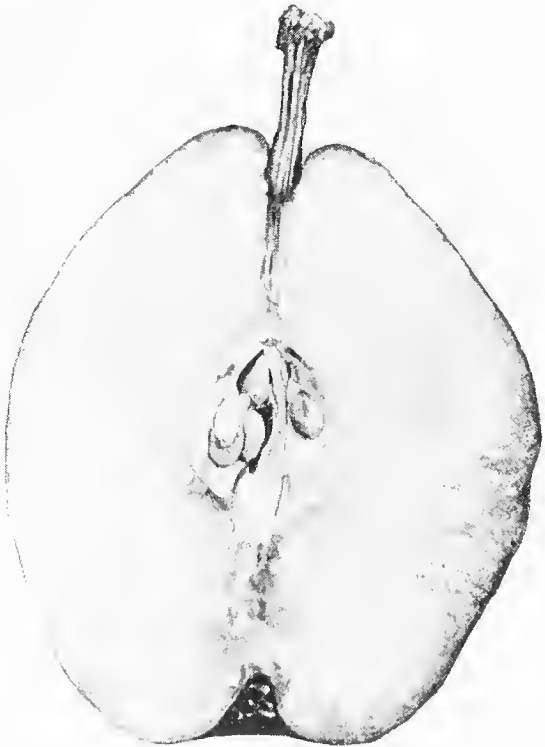
FLESH : yellowish white ; texture half tender, half melting, not very fine, juicy ; flavor moderately sweet, poor.

QUALITY : dessert very poor ; for cooking good ; valuable for canning.

VALUE : second class for all markets.

SEASON : October to January.

ADAPTATION : very general.



SECTION OF KIEFFER.

 KOONCE

Ordinary in its appearance, and only medium in size, but on account of the productiveness of the tree it is considerably planted in Illinois for kitchen and market.

ORIGIN : Illinois.

TREE : hardy, healthy and productive.

FRUIT : medium in size ; form obovate pyriform ; color of skin greenish yellow with small russet dots ; stem stout, 1 inch long inserted in a medium sized, shallow cavity.

FLESH : white ; texture granular ; flavor poor.

QUALITY : dessert poor ; cooking fair.

VALUE : for market second class.

SEASON : early October.

 LAWSON (*Comet*.)

The most beautiful pear of its season, which is about the middle of August, but inclined to rot at core and become mealy if left hanging too long. Its flavor is disappointing, so that in spite of its beauty it is useless as a dessert pear. It has been widely advertised and too highly praised. In some parts it is grown as a cooking pear for home markets. For distant markets it is useless because too tender in flesh.

ORIGIN : on the farm of Mr. Lawson, in New York State, about the year 1800, judging from the appearance of the original tree, which was still standing in the year 1900. Quite recently, it was introduced to the public by Mr. Collins, under the name Comet, by reason of its bright red color.

TREE : tender, vigorous ; fairly productive ; succeeds on the quince.

FRUIT : medium to large ; obovate, almost pyriform ; color yellow, shaded and obscurely streaked with bright red on the sunny sides, with a few small brown dots ; stem $1\frac{1}{2}$ inches long, with fleshy protuberance at point of insertion, inclined ; calyx half open in a large irregular basin.

FLESH : color, creamy white, coarse-grained, mealy when ripe, inclined to rot at the core ; flavor sweet, fairly good.

QUALITY : dessert good ; cooking good.

VALUE : market second class.

SEASON : early to mid August.

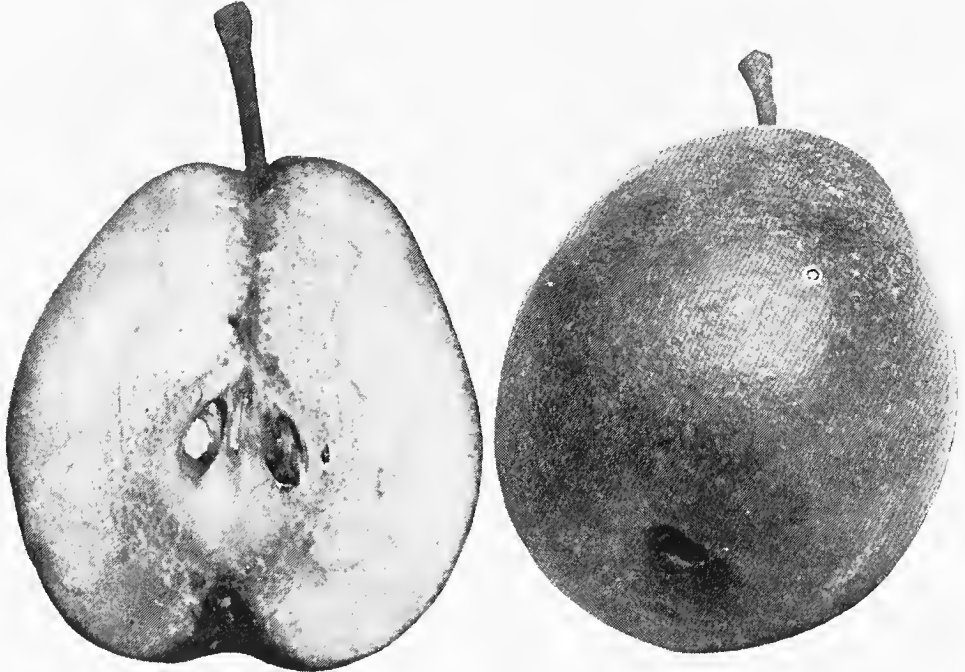
LAWRENCE.

Probably the best dessert pear for use in early winter.

ORIGIN: Flushing, Long Island, according to Downing; New York State, according to Catalogue American Pom. Soc.

TREE: a moderate grower; an early bearer; moderately productive.

FRUIT: size medium to large; form obovate, obtuse pyriform; color lemon yellow, with numerous small dots; stem one inch long in a shallow cavity; calyx open in a small, five humped basin.



LAWRENCE.

FLESH: color yellowish white; texture buttery and juicy; flavor sweet, rich, aromatic, very excellent.

QUALITY: dessert best; cooking good.

VALUE: market second rate.

SEASON: December.

ADAPTATION: one of the hardy pears.

LE CONTE.

An American pear grown for market in the Southern States. It is not considered profitable in Ontario.

ORIGIN: a Chinese seeding.

TREE: vigorous; productive; apparently not subject to blight.

FRUIT: large; form oblong, pyriform, turbinate; color yellow, often with slight touch of red on sunny side; skin free from blemishes, and not subject to scab.

FLESH: white; texture tender; flavor sweet, perfumed, ordinary.

QUALITY: dessert poor; cooking fair.

VALUE: second class for market.

LOUISE (*Louise Bonne de Jersey*).

LOUISE.

FRUIT : large ; form pyriform, sides usually unequal ; skin smooth, yellowish green with brownish red cheek, with numerous red and brown dots ; stem one to one and a half inches long, usually fleshy at insertion on one side, somewhat swollen at each extremity, set in a very slight, if any, depression ; calyx half closed, set in a wide, shallow, slightly plaited basin.

FLESH : white ; texture fine grained, juicy, buttery, melting ; flavor pleasant, aromatic.

QUALITY : very good for dessert purposes.

VALUE : home market, fair ; foreign market, first class.

SEASON : September to October.

An excellent export pear if well grown. This and the Duchess have long held the first place as market varieties with growers of dwarf pears in Ontario.

ORIGIN : at Avranches, France, about 1780, by Mr. Longueval, and named after Madam Louise de Longueval. About 1827, grafts were secured by Andre Leroy of Angers. The original tree is said to be still standing.

TREE : hardy in southern Ontario, succeeds better on quince than on pear stock ; a vigorous, upright grower ; very productive, if well cultivated and set in deep, rich sandy loam.



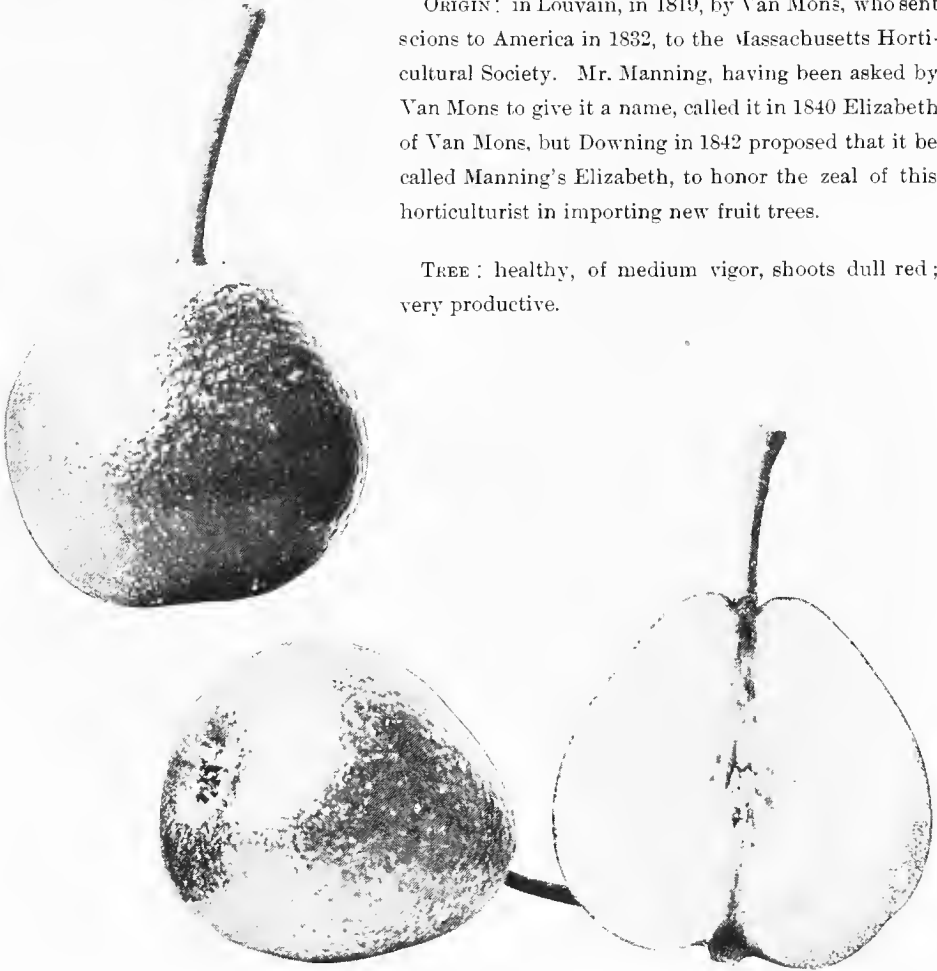
SECTION OF LOUISE.

MANNING (*Manning's Elizabeth.*).

A pretty little pear, desirable in the amateur's garden, but too small for the commercial orchard.

ORIGIN: in Louvain, in 1819, by Van Mons, who sent scions to America in 1832, to the Massachusetts Horticultural Society. Mr. Manning, having been asked by Van Mons to give it a name, called it in 1840 Elizabeth of Van Mons, but Downing in 1842 proposed that it be called Manning's Elizabeth, to honor the zeal of this horticulturist in importing new fruit trees.

TREE: healthy, of medium vigor, shoots dull red; very productive.



MANNING.

FRUIT: Size small; form regular, obovate, swollen towards the base; color bright yellow, covered on the basal half with a deep brownish red, which often spreads over the sunny side; stem one inch in length, swollen at the top, often set in an oblique depression; calyx open, set in a shallow basin.

FLESH: color creamy white; texture fine, buttery, moderately juicy; flavor sweet, rich, aromatic.

QUALITY: very good for dessert or pickling.

VALUE: second class for market purposes.

SEASON: August.

 MARGUERITE (*Petite Marguerite.*)

Among the desirable varieties of dessert pears for the home garden we would certainly include the *Petite Marguerite*, a pear of the highest quality for table use. At Maplehurst the tree has proved itself an abundant bearer and a good grower. The fruit is not large, but as size is not an object in a dessert pear, this is not a fault. Its season is immediately after the Giffard and just before the Clapp and the Tyson. As a market pear it is hardly to be commended, because of its small size and color; and it will be a long time before we can convince the average dealer that size and color are not the chief considerations in a fruit.

ORIGIN: Angers, France, in nurseries of Andre LeRoy.

TREE: second rate in vigor, and first rate in productiveness: succeeds as either standard or dwarf, but more vigorous as a standard.

FRUIT: small size to medium; form oblate, obtuse pyriform; skin light green, often tinged and mottled with bright red on sunny side, yellowing somewhat at maturity; stalk $1\frac{1}{2}$ inches in length, set in a narrow cavity, of which one side is often much higher than the other; calyx partly open, in a shallow corrugated basin.

FLESH: white, yellowish at core; texture fine, melting, juicy; flavor sweet, vinous, agreeable.

QUALITY: very good for dessert, good for cooking.

VALUE: home market, second class.

SEASON: August.

 OSBAND (*Osband's Summer.*)

Widely grown in [North America. A good dessert pear for home garden, but the fruit is small and the tree is too scant a bearer to be profitable.

ORIGIN: Wayne County, New York State.

TREE: a moderately upright grower, healthy, fairly productive, an early bearer.

FRUIT: size small; form obovate, slightly pyriform, regular; color yellowish green, turning quite yellow at maturity, with a brownish red cheek and numerous small green and brown dots; stem $\frac{7}{8}$ of an inch long, set in a small, abrupt cavity; calyx half open, in a broad, slightly depressed basin; core small; seeds small.

FLESH: color white; texture fine-grained, juicy; flavor perfumed, sweet, rich and pleasant.

QUALITY: dessert very good; cooking fair.

VALUE: home market second class; distant market fourth class.

SEASON: August.

PITMASTON (*Pitmaston Duchess d'Angouleme.*)

A very promising variety, succeeding well as a dwarf ; its large size, good shipping character, fine quality, and regular form, seem to make it very valuable for export. The fruit is too large to be grown as a standard.

ORIGIN : raised by John William, of Pitmaston, England ; a cross between Duchess and Glout Morceau.

TREE : a very vigorous grower, and quite productive.

FRUIT : very large, oblong, obovate, obtuse, pyriform, ; skin pale yellow, with light russet in cavity ; stem stout, $1\frac{1}{2}$ to $1\frac{3}{8}$ inches long, set in a small cavity ; calyx prominent, half open, set in a very shallow, shouldered basin.

FLESH : color creamy white ; texture very fine, melting and juicy ; flavor very pleasant, aromatic, sometimes slightly astringent.

QUALITY : Good, not quite equal to that of Duchess.

VALUE : first class for market.

SEASON : September and October.

PRESIDENT MAS.

A large, handsome winter pear.

ORIGIN : France.

TREE : a moderate grower ; does best on quince stock.

FRUIT : size large ; form obovate pyriform, irregular ; skin yellow at maturity.

FLESH : white ; texture melting, juicy ; flavor vinous, very good.

QUALITY : dessert first rate.

VALUE : market apparently first class.

SEASON : December to January.

PITMASTON.



RITSON.



RITSON.

A delicious dessert pear, which is worthy of a place in every fruit garden ; it is not surpassed for canning or for pickling, having an aroma and peculiarly agreeable flavor.

Origin : Oshawa, Ontario, with Mr. Wellington. In response to our inquiry, Mr. W. E. Wellington writes :—“ It was my grandmother Mrs. John Ritson, who planted the seeds from a pear which had been sent her from Boston. The tree has always stood on my grandfather's homestead as long as I can remember.”

Tree : strong, healthy, upright grower. The original tree is now of immense size, probably over 30 feet high, and about one hundred years old. An annual bearer of nice, evenly formed fruit.

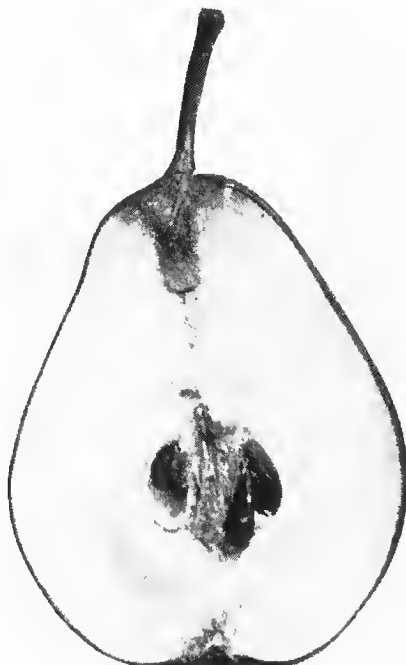
Fruit : size medium, form obovate pyriform, usually one-sided ; color of skin yellow, heavily shaded with golden russet, and numerous minute dots of a darker russet ; stem one-inch long, often inserted in a fleshy protuberance, and at a slight inclination ; calyx open wide in a very shallow, regular basin.

Flesh : creamy white ; texture fine, tender, buttery, juicy ; flavor, sweet, delicately perfumed.

Quality : dessert very good to best ; cooking very good.

Value : market promising for a special trade.

Season : October.



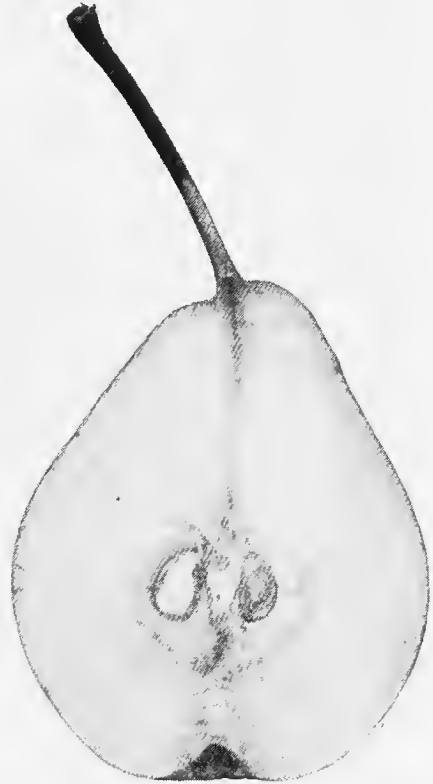
SECTION OF RITSON.

ROSTIEZER.

A small unattractive looking pear, of very high quality. It is the best of its season in quality for dessert purposes, and should have a place in the home garden. What the Seckel is in October, this pear is in August. The pear sells far below its value on account of its ordinary appearance.



ROSTIEZER.



SECTION OF ROSTIEZER.

TREE : healthy, vigorous, of sprawling habit ; shoots few, and need shortening in.

FRUIT : small to medium, obovate, oblong pyriform ; skin green, sometimes turning yellowish, with reddish-brown cheek ; stem slender and nearly two inches in length ; calyx open ; basin small.

FLESH : juicy, melting, sweet, very delicious, of very finest quality.

VALUE : market, third class.

SEASON : mid to late August.

SECKEL.

The finest dessert pear in cultivation, and one that should never be omitted from the garden, when planting pears for home use. Downing calls it "The richest and most exquisitely flavored variety known." At Maplehurst it has been grown both as a dwarf and as a standard; in the former case with the most satisfactory results, but in the latter, smaller, less highly flavored and less attractive in appearance.

Its small size rules it out of the commercial orchard, unless one can cultivate a very special demand among a certain class of consumers who will appreciate its high quality.

ORIGIN: on the farm of Mr. Seckel, of Philadelphia, near the Delaware river, where in 1884, the original tree was still standing, aged one hundred years and having reached the height of thirty feet. The Seckel was first introduced into England, into the garden of the Royal Horticultural Society in 1819.

TREE: healthy, hardy, and productive; forms a compact symmetrical head; wood olive brown in color, stout and short jointed; succeeds best as a dwarf.

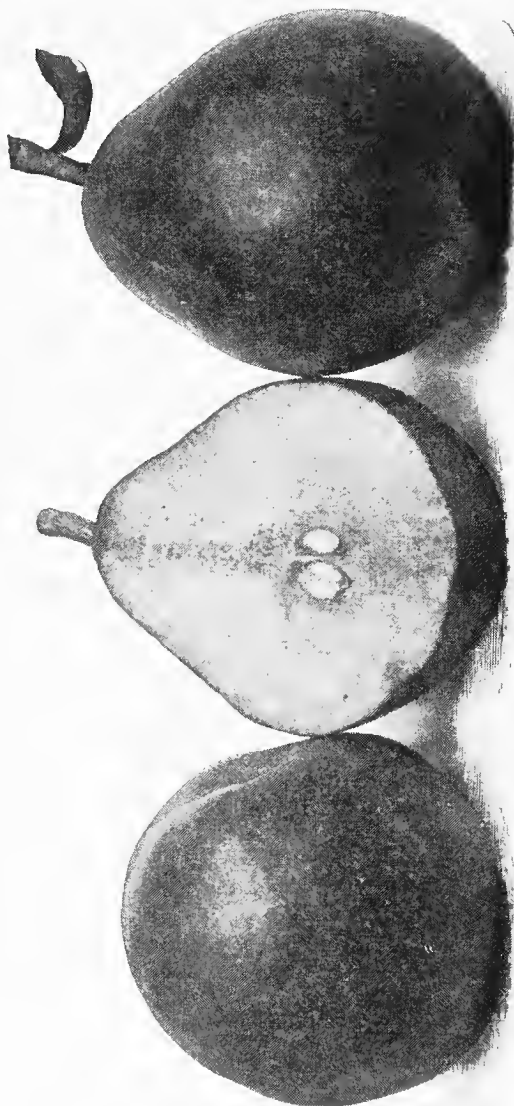
FRUIT: size small, form obovate, regular and even; color dull brownish green, yellowing as it ripens with a deep brownish red cheek; stem half an inch in length, in a very small cavity; calyx small, open, in a shallow basin.

FLESH: white; texture very fine grained, melting and juicy; flavor honey-sweet; rich spicy, with delicate aroma.

QUALITY: dessert best; cooking good.

VALUE: first class for a special market; but second class where not known, on account of its small size.

SEASON: September to October.



SHELDON.



One of the most delicious of dessert pears, if eaten just at the proper time. Worthy of a place in every home garden, but not productive enough to be planted for market.

ORIGIN : accidental on farm of Norman Sheldon of Huron, Wayne Co., N.J.

TREE : vigorous, erect, not very productive, late coming into bearing.

FRUIT : above medium in size, roundish, obtuse obovate ; skin yellowish-green, covered with

thin light russet, brownish crimson in sun, russet dots ; stalk short, stout, in a narrow cavity ; calyx nearly open, in a broad basin.

FLESH : color creamy ; texture buttery, juicy ; flavor sweet, aromatic.

SEASON : October.



SAPIEGANKA.

A Russian pear of fine appearance, scions of which were sent out to Mr. L. Woolverton in 1892, by M. Jaroslav Niemetz, of Winnitza, Podolie, Russia. Its fine appearance is in its favor, but its quality is inferior to other varieties of its season, and, unless it should prove desirable on account of its hardiness, would not be worthy of general cultivation. Mr. Niemetz says, "In its home in Lithuania, old and large trees are met with which have endured many and severe winters in the Tamboff Government. It is the most hardy of all pears there grown, and, therefore, is certainly a hardy variety. The flavor of the flesh depends upon local conditions, for, though it is tasteful enough in the warmer districts, it is sometimes harsh; when grown in the north is juicy and buttery."

TREE : hardy, productive, but subject to blight.

FRUIT : size medium, oblate, often somewhat flattened; color brownish yellow, with brownish red in sun, with numerous small dots; stem long in small cavity; calyx segments large, partly open in a broad, wrinkled basin.

FLESH : white; texture coarse, somewhat firm and juicy.

QUALITY : dessert poor; cooking poor.

VALUE : market third class.

SEASON : August.

ADAPTATION : succeeds well at Grimsby. Tested by the Dominion Experimental Farms and found tender in Manitoba and the Northwest, but perfectly hardy at Ottawa and in Muskoka.

SOUVENIR (*Souvenir du Congrès.*)

A very large, showy pear, but coarse in flesh and of ordinary quality. Single trees are found in many Ontario fruit gardens, but so far we know of no orchards of this variety planted for profit. Hogg, the British pomologist, however, speaks of it more highly, as follows:—"A very handsome and excellent pear; ripe in the end of August and the beginning of September. It has a great resemblance to the Williams (Bartlett), but is quite a distinct fruit."

ORIGIN : France, by M. Morel, of Lyon-Vaise, and dedicated to the Pomological Congress at France.

TREE : vigorous and productive, pyramidal.

FRUIT : very large, form oblong obovate, undulating in outline; color clear yellow when ripe, with a red cheek and many brown dots; stem $\frac{3}{8}$ of an inch long, stout, much inclined, inserted without a cavity; calyx large, open, set in a deep basin.

FLESH : color white; texture tender, but coarse, juicy, melting; flavor rich, vinous, aromatic, somewhat resembling that of Bartlett.

QUALITY : dessert fair; cooking not tested.

VALUE : home market first class.

SEASON : late September and early October.

ADAPTATION : not widely tested in Ontario.

SUMMER DOYENNE (*Doyenne d'Ete of Hogg*; *Doyenne de Juillet of Le Roy.*)

For the home garden this pear is most desirable, not only for its good quality for dessert purposes, but because it has no competitor in the last half of July. It should be gathered before it is mellow to preserve its juiciness, for, if ripened on the tree, it becomes mealy and insipid. Its very small size makes it undesirable in the commercial orchard, especially now that we must compete with larger varieties from California, which ripen earlier in that climate than they do with us.



ORIGIN : Dr. Van Mons, Professor at Louvain, Belgium, about 1823, at which time he had on his grounds about 2,000 seedlings of merit.

TREE : vigorous young shoots, light yellowish brown, of upright slender habit ; an early and abundant bearer ; succeeds as dwarf or standard.

FRUIT : small, form roundish, obovate ; color green to lemon yellow with brownish red cheek on the sunny side, and numerous grey dots ; stalk about an inch long, sometimes longer, stout, attached in a very slight depression ; calyx small, half open, in a shallow plaited basin.

FLESH : white ; texture fine, tender, juicy ; flavor sweet and pleasant with slight aroma.

QUALITY : dessert very good ; too small for cooking.

VALUE : too small for a market pear, except in limited quantities.

SEASON : July.

ADAPTATION : hardy in Southern Ontario ; fairly hardy in Bruce and Huron.

A very fine, large, showy pear, a trifle later than Bartlett, larger in size, but not equal to it in quality; promising as a commercial variety.

ORIGIN: France.

TREE: a thrifty, upright grower; productive.

FRUIT: large; form obovate, pyriform, somewhat uneven and irregular; skin greenish yellow, with patches of russet; stem one and a quarter inches long, set in a shallow, uneven, often one-sided cavity; calyx open, in a broad, irregular, russeted basin.



TRIUMPH.

11a F.O.

TRIUMPH.

(*Triomphe de Vienne*).



SECTION OF TRIUMPH.

FLESH: creamy white, very juicy; flavor rich, sweet and excellent.

QUALITY: dessert very good; cooking very good.

VALUE: market, home or foreign, first class.

SEASON: September.

TYSON.

A fine pear yielding enormous crops of medium sized fruit, very good for dessert or cooking ; but too near the season of the Bartlett to be profitable for market.

ORIGIN : a seedling found in a hedge on the farm of Jonathan Tyson, near Philadelphia.

TREE : vigorous ; upright ; very productive.

FRUIT : size medium ; form acute pyriform ; color green, turning yellow when fully ripe, russet about basin, cheek crimson, dots brown, numerous ; stem $1\frac{1}{2}$ inches long more or less, fleshy at base ; calyx open.



TYSON.

FLESH : color white ; texture tender, buttery, fine grained, juicy ; flavor sweet, aromatic, excellent.

QUALITY : dessert very good ; cooking very good.

VALUE : home market second class.

SEASON : August.

VICAR (*Vicar of Winkfield of Hogg; Cure of Leroy.*)

A French pear considerably grown in Ontario as a winter pear, but it does not reach its best perfection in our climate and does not deserve a place in our orchards.

ORIGIN: found wild near Clion, France, by M. Leroy, curate of Villiers-en-Brenne, in the year 1760; distributed in France under sixteen different names; introduced into England by the Rev. W. L. Rham, vicar of Winkfield, in Berkshire, hence its English name.

TREE: vigorous, but somewhat susceptible to blight; very productive.

FRUIT: large; form long pyriform, one-sided; skin green, seldom tinged with brown on the sunny side, and marked with small brown dots; stem usually one and a half inches long, fleshy at base, and inserted obliquely without a cavity; calyx open, with large segments, set in a shallow basin.

FLESH: greenish white; texture firm, not very juicy as grown in Ontario; flavor fair, if well ripened.

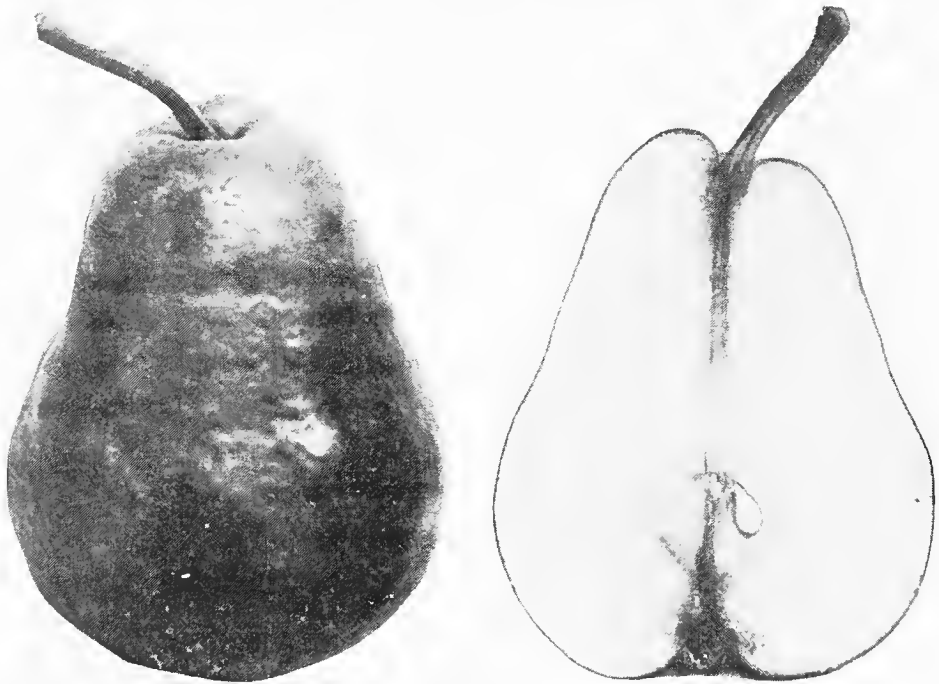
QUALITY: dessert very poor; cooking fair.

VALUE: home and foreign market second class.

SEASON: early winter.

WILDER.

A valuable early market pear, being beautiful in appearance, of fair size and very good flavor; probably the best of its season, but inclined to rot at the core if left hanging on the tree.



WILDER.

ORIGIN: chance seedling on south shore of Lake Erie.

TREE: vigorous, very productive, and an early bearer when grafted on the quince.

FRUIT: fair to large in size; form ovate, obtuse pyriform, sometimes shouldered at stem; color greenish yellow, with deep red cheek and numerous gray dots; stem stout, three quarters to one inch in length; calyx open.

FLESH: white; texture tender, fine grained; flavor sweet, aromatic and very pleasant.

QUALITY: dessert very good.

VALUE: home market first class.

SEASON: August.

WHITE DOYENNE (*Virgalieu of New York State.*)



An old variety with many French synonyms, of which the proper one according to LeRoy is La Doyenne. Downing speaks of it as "unquestionably one of the most perfect of autumn pears," and on account of its excellent quality and the productiveness of the tree, it was at one time widely planted in the commercial orchards of Ontario and the United States. Latterly, however, like the Flemish Beauty, it has become subject to black spot, for which reason it is losing favor.

Origin : France.

TREE : healthy, not subject to blight ; a fairly vigorous grower, and an abundant bearer ; usually grown as a standard.

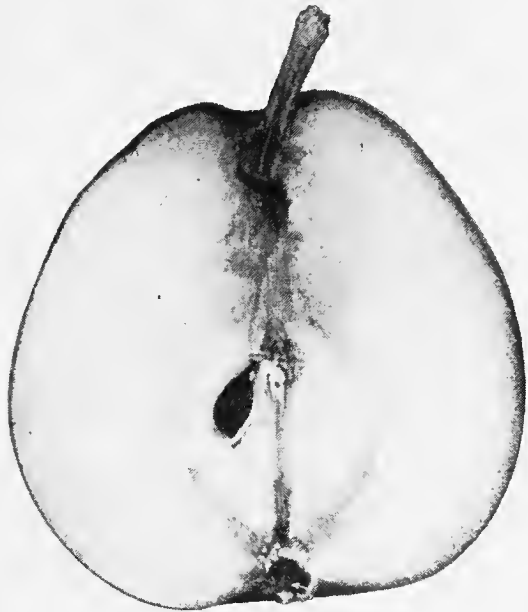
FRUIT : size medium to large, form obovate, variable in length ; skin green at first, changing to yellow as it ripens, sometimes red in the sun, sprinkled with numerous russet dots ; stem $\frac{3}{4}$ of an inch long, set in a shallow cavity ; calyx half closed in a shallow slightly plaited basin.

FLESH : white ; texture fine grained, buttery, fairly juicy ; flavor sugary, aromatic, perfumed.

QUALITY : dessert very good ; cooking very good.

VALUE : market second class.

SEASON : September and October.

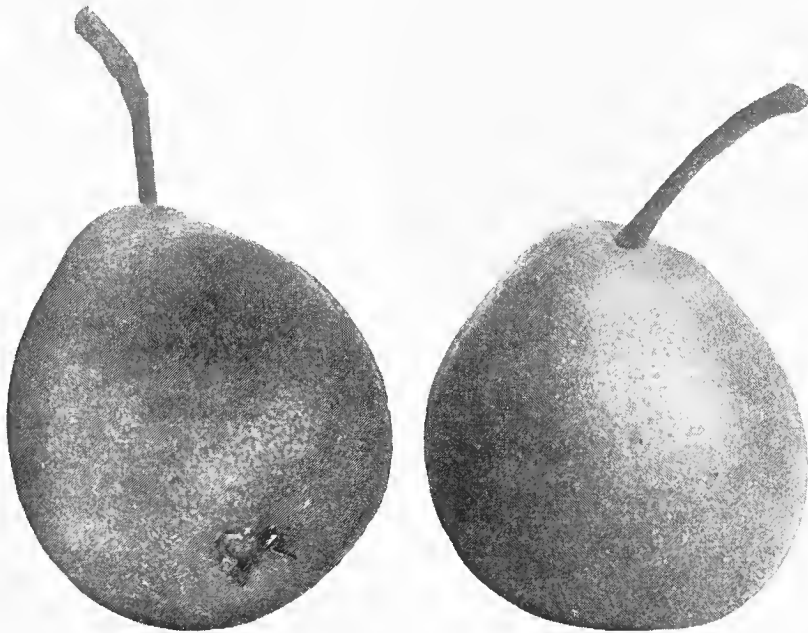


WINTER NELIS.

An old variety of excellent quality, which has long occupied a high place as a winter dessert pear to succeed the Lawrence; scarcely large enough nor attractive enough to be highly recommended for the commercial orchard.

ORIGIN: raised by Jean Charles Nelis, of Malines, in Belgium; introduced into England in 1818.

TREE: a spreading, straggling, stocky grower; should be topworked; hardy; an early bearer; very productive.



WINTER NELIS.

FRUIT: size small to medium; form roundish obovate, short pyriform; color of skin dull green, becoming yellowish green with dots and patches of brown russet; stalk about one and a quarter inches long, curved, set in a narrow cavity; calyx open, with erect segments, in a shallow, somewhat plaited basin.

FLESH: color yellowish white; texture fine grained, buttery, juicy; flavor rich, sugary, vinous, aromatic.

QUALITY: dessert very good to best; cooking good.

VALUE: market second class.

SEASON: early to mid winter.

THE PLUM.

The plum has a wider range over the Province of Ontario than the pear or peach, this fruit being a native of the Province and found as far north as Manitoba.

There are three large groups into which the plums may be divided here, namely, the European, Japanese, and American. In the European or domestica group are included most of the varieties which are grown in Ontario commercially. These plums are not as hardy as the natives, hence their profitable culture is limited to almost exactly the same districts as the pear, the commercial orchards being mostly found in southern Ontario, the Georgian Bay District, and along Lake Ontario west of the Bay of Quinte. A few of the hardiest produce crops occasionally in eastern Ontario and up to about latitude 45 degrees in central Ontario, but they are too uncertain to be grown for profit.

The Japanese plums are grown over practically the same area as the European, but the fruit buds average a little more tender.

In the American group are included the Americana and Nigra plums, the former being derived from a hardy United States species and the latter from the native Canadian plum. The varieties of this group are quite hardy and can be grown commercially where the European and Japanese plums will not succeed, and while not so good in quality as the others, good prices are at present obtained for what are produced.

Plums are not being so extensively planted at present as other large fruits, since during recent years the markets have several times been glutted, resulting in low prices. The demand for plums is, however, always large, and the excellent market which is opening up in the North-west will probably in the future prevent, in a great measure, this over-supply.

The cultural directions for the apple will apply in most particulars to the plum, which will succeed on almost all kinds of well drained soils, although it does best on the heavier clay loams. Trees one or two years of age should be planted about eighteen feet apart each way, the soil having been thoroughly prepared beforehand. The trees should be severely headed back when planted, and future pruning will consist in forming a well shaped open head. As some varieties make exceptionally strong growth it is a good practice when the trees are young to prune the young growth back about one-half each spring to avoid splitting. When the trees begin to bear little pruning is necessary, as they usually bear so heavily that the trees do not make much growth annually.

Orchards should be kept thoroughly cultivated, and cover crops are recommended as for the apple, cherry, peach and pear. The fruit should be picked when it is well colored but still firm.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Commercial and Domestic:

American: These are extremely hardy and are desirable where the European and Japanese varieties cannot be grown: Aitkin, Cheney, Bixby, Mankato, Wolf, Hawkeye, Stoddard.

European: Bradshaw, Imperial Gage, Gueii, Shipper Pride, Lombard (liable to over bear, requires thinning), Quackenboss, Yellow Egg, Grand Duke, Coe, Reine Claude (one of the best for canning).

Japanese: These are apparently quite as hardy as the European varieties: Red June, Abundance, Burbank, Chabot, Satsuma (red fleshed, desirable for canning).

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Lake Huron District: By A. E. Sherrington, Walkerton, Ont.

Commercial and Domestic: Red June, Ogon, Burbank, Bradshaw, Imperial Gage, Gueii, Shipper Pride, Victoria, Quackenboss, Yellow Egg, Monarch, Grand Duke, Satsuma.

Georgian Bay District: By John Mitchell, Clarksburg.

Commercial and Domestic: Red June, Burbank, Washington, Bradshaw, Imperial Gage, Quackenboss, Arch Duke, Diamond, Monarch, Yellow Egg, Coe, Satsuma, Reine Claude.

Burlington District: By A. W. Peart, Burlington, Ont.

Commercial:

European: Bradshaw, Imperial Gage, Lombard, Yellow Egg, Glass, Reine Claude.

Japanese: Red June, Abundance, Burbank, Chabot, Satsuma.

Domestic: Abundance, Saunders, Bradshaw, Imperial Gage, Smith Orleans, Lombard, Yellow Egg, Satsuma, Reine Claude.

Niagara District: By Linus Woolverton, Grimsby, Ont.

Commercial: Red June, Burbank, Bradshaw, Chahot, Gueii, Coe, Quackenboss, Satsuma, Reine Claude.

Domestic: Abundance, Washington, Yellow Egg, Shropshire, Quackenboss, Satsuma, Reine Claude.

St. Lawrence District: By Harold Jones, Maitland, Ont.

Domestic:

NOTE.—*The European and Japanese varieties are only recommended for the home garden in the St. Lawrence District, as they have not proved entirely hardy nor very productive.*

American: Milton, Whitaker, Hammer.

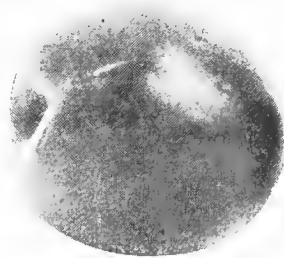
European: Gueii, Lombard, Shipper Pride, Glass.

Japanese: Red June, Burbank.

DESCRIPTION OF VARIETIES.

AITKEN.

“Fruit large, oval; cavity narrow, medium depth; suture obscure; apex pointed; color uniformly deep red all over; dots none; bloom none; skin thin; flesh deep yellow, juicy, moderately sweet, not rich or high flavored; stone large, flat, oval, semi-cling,



AITKEN.

no astringency; quality medium to above; season last week of August. Tree only fairly productive. Nigra group. The earliness of this plum is the principal point for recommendation.” (Macoun).

ABUNDANCE.

One of the best of the Japan plums for the home garden. It is early in season, being ripe about the middle of August, but matures unevenly. To get its best flavor it should be picked while still firm, and ripened indoors like a Bartlett pear; it will color beautifully, become very juicy, and the flavor will be sweet and rich.

ORIGIN : one of Luther Burbank's importations from Japan in 1884.

TREE : vigorous; productive, a six year old tree, at our Lake Huron fruit station, bearing six 12-quart baskets of fruit in 1901; habit upright.



ABUNDANCE.

FRUIT : size medium to large; form roundish, narrowing toward the apex; color bright red on a yellowish ground with numerous red dots; stalk strong, three-quarters of an inch long, inserted in a narrow, deep cavity; suture shallow, distinct; apex pointed; pit oval; a partial cling.

FLESH : color yellow; texture tender, very juicy; flavor sweet and delicious.

QUALITY : dessert fair; cooking poor.

VALUE : market, second class.

SEASON : mid August.

ARCH DUKE.

A good market variety.

ORIGIN : imported from England, by S. D. Willard, Seneca, N. Y.

TREE : Domestica.

FRUIT : size large; form oval, necked; stem medium, stout; cavity deep, medium; color dark blue with many russet dots; bloom bluish, heavy; suture more than half round.

FLESH : yellowish; cling; texture meaty, juicy; flavor subacid, pleasant.

QUALITY : cooking very good.

VALUE : first class in some localities.

SEASON : late.

ARCTIC.

The tree is hardy and the fruit is of some value where the better varieties do not succeed. It is very productive, but too small to bring the best prices in the market, especially in view of its ordinary quality.

ORIGIN : Maine.

TREE : hardy; fairly vigorous; productive; trees at our Lake Huron station, eight years planted, yielded from six to eight baskets each.

FRUIT : size small, form oval; color very dark purple, with thin blue bloom; suture traceable; stem slender, three quarters of an inch long, set in a small cavity.

FLESH : color yellowish green; texture firm, moderately juicy; flavor moderately sweet; free stone.

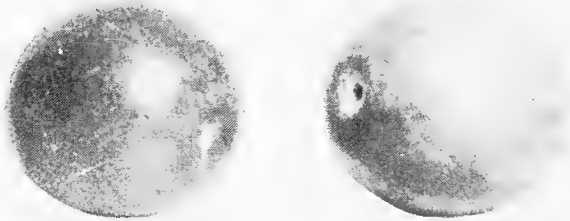
QUALITY : dessert useless; cooking good.

VALUE : market second to third class.

SEASON : mid August to early September in southern parts of the Province, and early September in more northerly plum districts.

BIXBY.

"Fruit above medium to large, roundish; cavity narrow, medium depth; suture rather indistinct, slightly depressed; apex rounded; color yellow, more or less covered with bright red; dots numerous, small, yellow; bloom fairly heavy; skin moderately thick, rather tender; flesh deep yellow, juicy; stone medium size, oval in outline, considerably flattened, cling; sweet but not rich in flavor, no astringency; quality good; season late, August to early September. A very handsome early plum. Chief fault is unevenness of ripening. Makes good preserves." (*Macoun*).



BIXBY.

BRADSHAW (*Niagara, Blue Imperial.*)

Considered by many one of our most valuable European varieties whether for home use or market, because of its fine quality, its large size and beautiful appearance.

TREE: erect, vigorous, moderately productive with occasional heavy crops; late coming into bearing; class, *Domestica*.



BRADSHAW.

FRUIT: size large; stalk one inch long, slightly curved; color reddish-purple, with blue bloom; apex round, slightly depressed; suture on one side, broad and shallow.

FLESH: color yellowish; texture juicy, tender; flavor rich and sweet; pit long, thin oval, partial cling.

QUALITY: dessert very good; cooking very good.

VALUE: home market first class.

SEASON: mid to late August.

BURBANK.

The Burbank is one of the best of the Japanese plums for the commercial orchard, on account of its beauty, its great productiveness, and its excellent shipping quality.

ORIGIN : It was in 1885 that Mr. Luther Burbank of Santa Rosa, California, imported some plum trees from Japan and, when they fruited, he selected this as one of the best and most worthy of propagation. In 1891 he sent samples to the Department of Agriculture at Washington and the Pomologist of the Department named it Burbank, after the introducer.

This plum has been before us for ten years and notwithstanding the great number of Japanese varieties now sold by nurserymen, still holds the highest place.

Compared with the Domestica class, the Japanese are inferior in quality, but, when fully ripened, are fairly good eating. Like the Kieffer pear, the Burbank plum is making its reputation rather on quantity than on quality.

TREE : hardy ; a very vigorous, wayward grower, making a very badly shaped tree, unless severely headed back and kept within bounds ; an early and most abundant bearer ; the fruit needs thinning to secure good size.



BURBANK.

FRUIT : medium to large ; form when properly thinned, nearly round, but slightly conical ; color orange yellow ground, shaded with red, and almost purple on the side exposed to the sun ; skin very smooth, with a slight bloom, peels easily when ripe ; suture traceable ; apex a small point ; stem half to five-eighths of an inch long, stout ; cavity deep abrupt, with leather-crack marks.

FLESH : color amber ; texture juicy and tender when fully ripe ; flavor sweet, fairly agreeable ; stone medium, pointed, cling.

QUALITY : good for cooking ; fair for dessert.

VALUE : first class for market.

SEASON : late August.

ADAPTATION : general ; succeeds fairly well on St. Joseph Island.

CLIMAX.

A very large, fine looking Japan plum ; a fine market variety.

ORIGIN : Hybrid of P. Simoni and Botan, raised by Luther Burbank of Santa Rosa, California.

TREE : vigorous ; productive.

FRUIT : size very large ; form heart shaped, one sided ; color vermilion, with numerous white specks.

FLESH : cling ; color yellow ; texture firm, juicy ; flavor rich, aromatic.

QUALITY : dessert good ; cooking not tested.

VALUE : market first class.

SEASON : mid August.

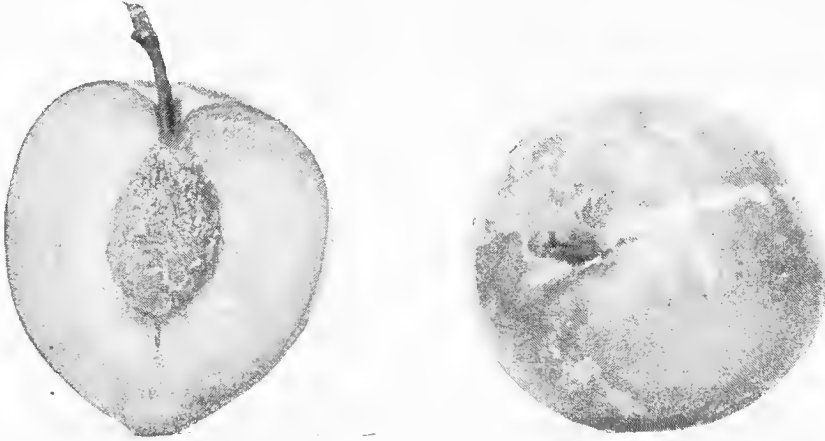
CHABOT (*Yellow Japan, Bailey.*)

This is the best Japan plum of its season, which is about two weeks later than Burbank.

ORIGIN: imported from Japan by Mr. Chabot, of Berkeley, Cal., and introduced to the trade by Mr. Luther Burbank in the year 1896.

TREE: very vigorous, head fine, large, symmetrical; productive; an early bearer.

FRUIT: medium to large for a Japan plum; form oblong-conical, almost heart shaped; color red, with pinkish bloom and numerous minute yellowish specks; stem three-quarters of an inch long, stout; apex a point in a narrow, deep depression; suture traceable.



CHABOT.

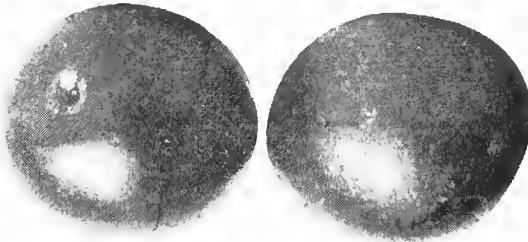
FLESH: color yellowish; texture moderately firm and juicy; flavor sweet, perfumed, very pleasant; clings to stone.

QUALITY: dessert good; cooking and drying very good.

SEASON: early to mid September.

CHENEY.

"Fruit large, round to somewhat oval, uneven; cavity narrow, medium depth; suture merely an indistinct line; apex rounded; color uniformly deep red all over, sometimes paler on one side; dots none; bloom none; skin moderately thick, tough, not astringent; flesh deep yellow, juicy; stone medium size, flat, oval, cling; sweet, moderately rich flavor; quality good. Season late August to early September. One of the best. It soon gets soft, however, after ripening. Tree a strong grower, moderately productive. Nigra group." (*Macoun*).



CHENEY.

COE. (*Coe's Golden Drop*).

A popular canning plum for the home garden; scarcely productive enough to be recommended for the commercial orchard.

ORIGIN: England.

TREE: vigorous; fairly productive; class *Domestica*.

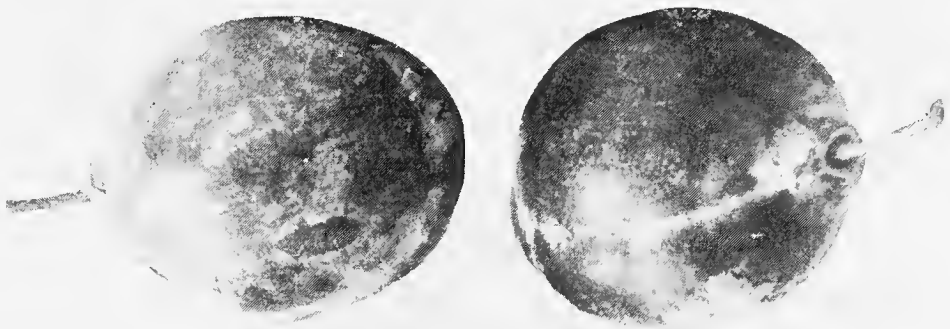
FRUIT: large; form oval; suture distinct; neck short; sides unequal; color golden yellow with dots of red next the sun; bloom yellow; stalk three-quarters of an inch long, stout, in a shallow cavity.

FLESH: cling; color yellowish; texture firm, not fine grained; flavor sweet and pleasant.

QUALITY: cooking very good; dessert fair.

VALUE: market first class.

SEASON: mid September.



COE.

DIAMOND (*Black Diamond*).

Considerably grown for cooking purposes.

ORIGIN: Kent, England.

TREE: vigorous; productive; class *Domestica*.

FRUIT: size large; form oval; suture distinct, shallow; stem three quarters of an inch long in a narrow, deep cavity; dots small; color dark purple with pale blue bloom.

FLESH: cling; color deep yellow; texture coarse grained, dry; flavor brisk acid.

QUALITY: dessert poor; cooking good.

VALUE: market first class.

SEASON: September.

DUANE (*Duane's Purple*).

A good commercial plum, a profitable variety in the Western States.

ORIGIN: Duaneburgh, N. Y.

TREE: vigorous, productive.

FRUIT: very large; form oblong, oval longer on side; color reddish purple with lilac bloom, turning dark blue; stalk slender, three quarters of an inch long set in a narrow cavity.

FLESH: color yellow; texture tender, juicy; flavor moderately sweet and good; partial clingstone.

SEASON: late August to early September.

QUALITY: cooking good.

VALUE: market first class.

GERMAN PRUNE.

Highly valued for shipping to distant markets because it keeps and carries well ; valued also for drying and preserving.

ORIGIN : Germany ; widely grown over Europe.

TREE : fairly vigorous ; productive ; may be propagated from seed without much variation.

FRUIT : size medium, sometimes below ; form long oval, sides unequal, elongated ; suture distinct ; stem three-quarters of an inch long, curved, inserted without cavity ; color purple, with blue bloom.

FLESH : free from pit ; color yellowish green ; texture firm ; flavor sweet, pleasant, not rich.

QUALITY : dessert poor ; drying good.

VALUE : near market second class ; distant market second class.

SEASON : September and October.

GLASS. (*Glass' Seedling*).

A commercial variety resembling Quackenboss.

ORIGIN : with Alexander Glass, at Guelph, Ontario.

TREE : hardy ; vigorous ; habit upright ; foliage peculiar dark green ; productive ; class *Domestica*.

FRUIT : size large ; form round oval, irregular at apex ; suture distinct ; apex depressed ; stem three-quarters to one inch long ; color dark purple with thin blue bloom and white dots ; skin thick, firm.



GLASS.

FLESH : free from pit ; color greenish yellow ; texture juicy ; flavor sweet and agreeable.

QUALITY : dessert fair ; cooking good.

VALUE : market good.

SEASON : September.

GOLD.

A very attractive plum, because of its golden yellow color, but not recommended for the commercial orchard.

ORIGIN: a hybrid of Chickasaw and Japan, originated by H. A. Terry, of Crescent, Iowa.

TREE: a poor grower, but an early and abundant bearer.

FRUIT: large roundish; color golden yellow, with a blush of light red about the stem; stem three-quarters of an inch in length; skin tough.

FLESH: yellow; texture tender and juicy; flavor sweet, aromatic, and pleasant; clingstone.

QUALITY: dessert, fair.

VALUE: market second class.

SEASON: late August.

GRAND DUKE.

A valuable market plum, on account of its large size and handsome appearance.

ORIGIN: Europe.

TREE: healthy; moderately vigorous; quite productive.

FRUIT: size large; form obovate; color dark blue or black, with dark blue bloom; stem about one inch long, in a small cavity; suture deep.



GRAND DUKE.

FLESH: color yellow; texture firm, flavor agreeable; cling.

VALUE: one of the best late market plums.

SEASON: late September.

GUEII. (*Blue Magnum Bonum*).

A valuable plum for the commercial orchard; the fruit is very subject to rot; in the southern parts of the Province.

ORIGIN: with Mr. Hagaman, Lansingburgh, N. Y., about 1850. It was named after John Goeway (pronounced Gueii), who was the first to cultivate the plum extensively, and it has of late been spelled after the pronunciation.

TREE: an upright, vigorous grower, becoming more spreading with age; hardy; an early and abundant bearer.



GUEII.

FRUIT: size, medium to large; form, roundish ovate, narrowing slightly toward apex; color very dark purple, with blue bloom; stem one and a half inches long, slender, set in a large, deep cavity; suture very slight; apex a small point.

FLESH: color pale yellow; texture firm, juicy; flavor, moderately sweet, pleasant; almost free of stone.

QUALITY: dessert, poor; cooking, very good.

VALUE: home market first class.

SEASON: late August to early September.

HALE.

A yellow Japan plum, coming in between Abundance and Burbank.

ORIGIN: Japan; imported by Luther Burbank in 1885; named after the introducer, Mr. J. H. Hale.

TREE: very vigorous; habit spreading; very productive in 1905.

FRUIT: size rather above medium, form globular; suture traceable on one side; color of skin orange, with thin whitish bloom; stem slender, three-quarters of an inch in length; drops easily.

FLESH: color golden yellow; texture tender, juicy; flavor rich, pleasant; cling.

QUALITY: dessert good; cooking very good.

VALUE: market second class.

SEASON: mid to late August.

HAND. (*General Hand*).

A very fine, large plum of the Gage group, which is worthy of a place in the amateur's garden as a dessert or preserving plum, but not profitable as a market variety.

ORIGIN: on farm of General Hand, Lancaster, Pennsylvania.

TREE: a very vigorous grower, but a shy bearer; class *Domestica*.

FRUIT: round; size medium to large; skin deep golden yellow, marbled with greenish yellow; stem slender, about an inch long, inserted in a shallow cavity; suture shallow.

FLESH: color pale yellow; texture coarse, moderately juicy; flavor sweet and very good; free from stone.

QUALITY: very good for either dessert or cooking.

VALUE: market first class.

SEASON: September.

HAMMER.

"Fruit round oval; size medium to large; cavity very shallow; suture a line; color crimson; dots many, minute, and a few larger yellow; bloom blue; skin thick; flesh yellow; stone small, round, slightly flattened, nearly free; quality very good; season after Wolf and Weaver. Originated with H. A. Terry, Iowa, who says it is a seedling of Miner, but thinks it has an admixture of Americana blood. A fine variety." (*Waugh*).

HAWKEYE.

FRUIT: large, roundish; cavity shallow, narrow; suture merely a distinct line; apex rounded; color yellow, more or less covered with purplish red; dots small, indistinct; bloom medium; skin thick, moderately tough.

FLESH: deep yellow, juicy; stone large, broad, much flattened, cling; sweet, good flavor.

QUALITY: good.

SEASON: mid to late September. One of the best. (*Macoun*).



HAWKEYE.

ITALIAN PRUNE. (*Fellenburg*).

An old variety from Europe; a fine late shipping plum, and widely grown for market.

ORIGIN: Europe.

TREE: of spreading habit; productive; class *Domestica*.

FRUIT: size medium; form oval, narrowing at the ends, one sided; stem one inch long in small cavity; suture shallow; skin thin; color dark purple with blue bloom.

FLESH: free stone; color greenish yellow; texture fairly juicy; flavor sweet, good.

QUALITY: dessert fair; cooking very good.

VALUE: market first class.

SEASON: September.

12 F.O.

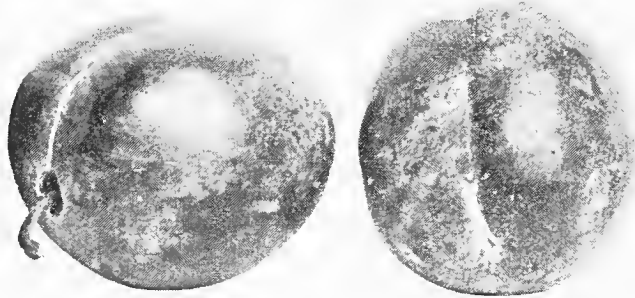
 IMPERIAL GAGE.

An excellent preserving or canning plum, but not very popular for the commercial orchards.

ORIGIN: Flushing, Long Island.

TREE: vigorous; productive; hardy; class Domestica.

FRUIT: size medium or below; form oval; color green tinged with yellow; dots greenish; bloom whitish; stem three-quarters of an inch long; suture shallow; skin tough.



IMPERIAL GAGE.

FLESH: mostly free; color greenish yellow; texture juicy, melting; flavor rich, excellent.

QUALITY: dessert good; cooking best.

VALUE: market first class.

SEASON: early September.

KINGSTON.

A valuable market variety.

ORIGIN: Province of Ontario.

TREE: vigorous and productive.

FRUIT: size medium to large, form oval; color dark purple, with thin blue bloom; stem slender, about five-eighths of an inch long, inserted in a small, deep cavity; suture shallow; apex a small point.

FLESH: color yellowish green; flavor tart.

QUALITY: cooking, very good.

SEASON: early September.

LOMBARD.

One of the most prolific of the old varieties, and, until recently, considered the most profitable. Of late, however, the price of Lombard plums has so far declined that other varieties are being planted in its place.

ORIGIN: raised from seed by Judge Platt, Whitesboro, N. Y.; introduced to public by M. Lombard, of Springfield, Mass., after whom it was named. Previously it was called Bleeker's Scarlet.

TREE: very productive; very vigorous; very hardy; inclined to overload, and the fruit needs thinning.

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LOMBARD.

FRUIT: medium size; form roundish, oval, slightly flattened at the ends; color purplish red, paler in shade; bloom heavy; suture traceable; stalk slender, about three-quarters of an inch, set in a broad, funnel-shaped cavity; subject to rot when overloaded.

FLESH: deep yellow; texture firm, juicy; flavor pleasant; cling stone.

QUALITY: dessert, good; cooking, very good.

VALUE: second class for market.

SEASON: late August to early September.

McLAUGHLIN.

A fine plum for home uses; a little tender for distant shipment.

ORIGIN: with James McLaughlin, Bangor, Maine.

TREE: vigorous; fairly productive; an early and an annual bearer; class *Domestica*.

FRUIT: size medium to large; form roundish oval, flattened at the ends; stem five-eighths of an inch long, in a small shallow cavity; apex small point in a slight depression; suture traceable; skin thin; color greenish yellow, mottled with red; bloom delicate whitish.

FLESH: semi-cling; pit small; color clear yellow; texture tender, very juicy; flavor rich, sweet and excellent.

QUALITY: dessert very good to best; cooking good.

VALUE: market first class; rather tender for distant shipments.

SEASON: September.

MANKATO.

"Fruit above medium to large, roundish; cavity narrow, medium depth; suture a distinct line; apex rounded; color deep, dull red with a moderately heavy bloom; dots numerous, small, yellow; bloom rather heavy; skin thick, tough; flesh deep yellow, juicy, sweet, good flavor not astringent; stone large, flat, semi-cling; quality good. Season late August to early September. Better in quality than Bixby, but not as handsome. A good early plum. Promising." (*Macoun*).



MANKATO.

 MARU.

Productive and early, but too small and poor in quality to be recommended.

ORIGIN: imported by L. Burbank in 1885.

TREE: habit spreading; fairly vigorous; very productive.

FRUIT: size small; form roundish; cavity narrow, abrupt; stem short and stout; suture scarcely traceable; bright red, turning dark red; bloom thin.

FLESH: cling; color yellow; texture tender, juicy; flavor pleasant.

QUALITY: dessert fair; cooking fair.

VALUE: market second class.

SEASON: mid-August.

MILTON.

A seedling of Wild Goose; valuable for its hardiness.

ORIGIN: Iowa.

FRUIT: size medium; roundish oval, or oblong; color dark red, with numerous dots.

FLESH: texture melting, firm.

QUALITY: fair.

VALUE: market second class.

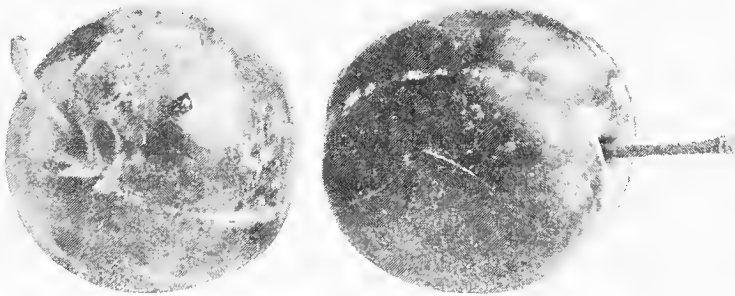
SEASON: a week earlier than Wild Goose.

MONARCH.

A profitable commercial variety; a good shipper.

ORIGIN: England.

TREE: a vigorous grower; habit upright; an early, regular and abundant bearer; class Domestica.



MONARCH.

FRUIT: large; roundish ovate; color dark purple with heavy bluish bloom; stalk about seven-eighths of an inch long, stout, in a moderately deep cavity; suture broad, shallow.

FLESH: color yellow; texture firm; flavor sweet, slightly acid.

QUALITY: very good for all purposes.

VALUE: market first class.

SEASON: late September.

OGON.

Somewhat irregular in size, but its earliness, just following Red June and Willard, make it of value to the plum grower.

ORIGIN: imported from Japan by H. H. Berger & Co., of California.

TREE: class Japan; habit spreading; fairly vigorous; fairly productive.



OGON.

FRUIT: form roundish, irregular; size medium; color yellow; bloom slight, whitish; stem half an inch long in a deep narrow cavity; suture deep or shallow, half round; apex blunt.

FLESH: free; color yellow; texture firm, with a little juice; flavor flat.

QUALITY: poor for dessert; fair for cooking.

VALUE: market first class.

SEASON: mid August.

POND. (*Pond's Seedling*).

A beautiful and showy plum, but not much planted in the commercial orchard; somewhat subject to rot.

ORIGIN: England.

TREE: vigorous; moderately productive.

FRUIT: size very large; form obovate, tapering toward the base; skin thick, purple, with purplish bloom and numerous brown dots.

FLESH: color yellow; texture juicy; flavor pleasant.

QUALITY: very good.

VALUE: market first class only for its susceptibility to rot.

SEASON: mid September.

PRUNE D'AGEN.

"Medium in size, obovate, somewhat necked; color reddish purple with heavy blue bloom and numerous small dots; stalk one inch long, curved, in small cavity. Flesh greenish yellow, rich, very good to best; nearly free from pit. Grown largely on the west coast for drying, but in States to the east and south to a less extent. Domestic." (*Budd*).

PURPLE EGG. (*Hudson River Purple Egg*).

A good commercial variety, especially for preserving.

ORIGIN: on the banks of the Hudson River, New York State, exact locality not known.

TREE: upright, vigorous grower, hardy and very productive.

FRUIT: size large; form ovate, often necked; color of skin, dark, rich red to purple; stem long in a deep cavity; suture shallow; bloom thin; clings to stone.

FLESH: color, greenish yellow; texture firm; flavor brisk acid.

QUALITY: dessert poor; cooking, very good.

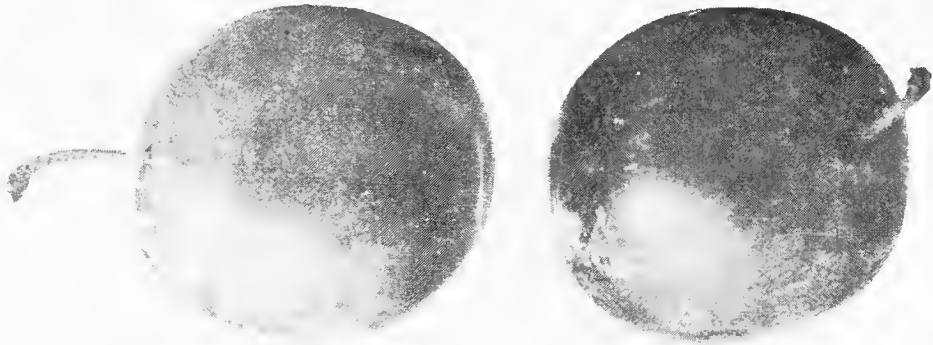
SEASON: late September.

QUACKENBOSS.

A good market plum; one of the best for distant shipment.

ORIGIN: at Albany, N. Y.; introduced by Mr. Quackenboss, of Greenbush, N. Y.

TREE: very vigorous; habit upright; hardy; fairly productive.



QUACKENBOSS.

FRUIT: large; form roundish oval; color dark purple, with blue bloom; stem of medium length set in a very slight cavity; suture traceable.

FLESH: semi-cling; color greenish; texture rather firm; flavor sprightly.

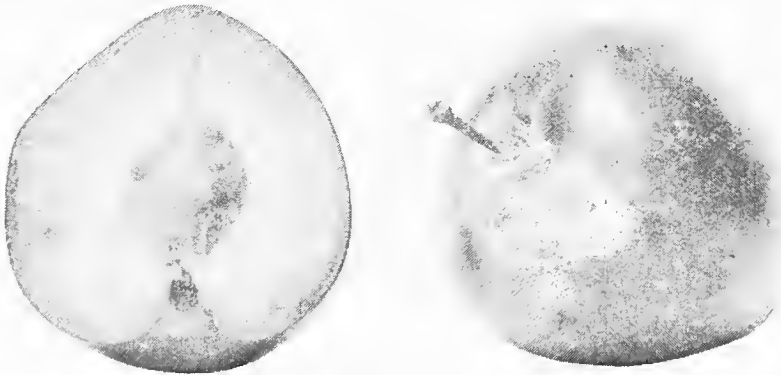
QUALITY: dessert fair; cooking good.

VALUE: market first class.

SEASON: late September.

RED JUNE. (*Red Nagate of Thomas*).

The earliest good plum grown, and one of the most profitable of the Japanese varieties.



RED JUNE.

ORIGIN: Japan; introduced to the public in 1893, by Stark Bros., Louisiana, Mo., who gave it the name of Red June. The Japanese name was "Shiro Smomo."

TREE: hardy and vigorous, forming a symmetrical top; an early and fairly abundant bearer; should be planted with such varieties as Burbank, Abundance or Chabot, to secure cross fertilization.

FRUIT: form, roundish conical; apex pointed; size, medium; suture distinct; skin thick, tenacious; color bright red, deepening to dark red when fully ripe, with light bluish bloom; stem one-half an inch long; cling.

FLESH: color yellow; texture somewhat juicy, moderately firm; flavor agreeable.

QUALITY: dessert good; cooking, very good; an excellent substitute for the Damson.

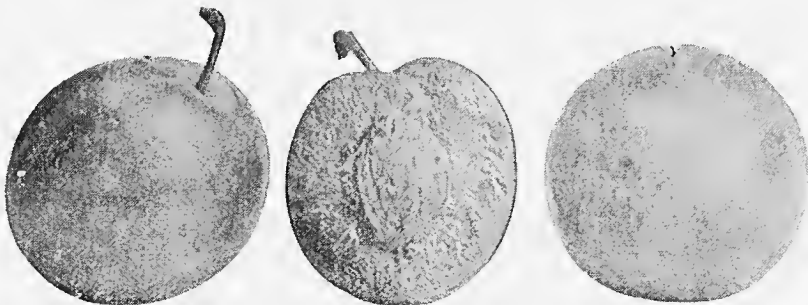
VALUE: market first class.

SEASON: late July to early August.

REINE CLAUDE. (*Reine Claude de Bavay. Green Gage*).

The Reine Claude and several varieties of the Green Gage type are of especial value for culinary purposes. For pies, sauce or canning purposes, they seem to be growing in demand year after year, and no collection of plums for the home garden is, therefore, complete without a tree or more of this or some other variety of this family. With Ontario fruit growers, the most popular Gage is the Reine Claude de Bavay, commonly known among them as Reine Claude, which name is also an old synonym of the Green Gage. In the catalogue of the American Pomological Society it is called Bavay. The fruit of this later variety is in good demand among canners, and brings a fair price in our markets.

ORIGIN: this type of plum was brought from Italy to France about the year 1500 by Queen Claudia, wife of Francis I., after whom it was named Reine Claudia. Later, some trees were brought to England by a family named Gage, but the label on these trees being lost, the gardener called them Green Gage. Hogg, the English pomologist, however, tried to prove that this plum had been introduced into England before this time under the name of Reine Claude, and hence arose considerable confusion of names.



REINE CLAUDE.

TREE: productive; hardy, a slow grower.

FRUIT: roundish; size medium; skin greenish, yellowing towards maturity, with a thin whitish bloom and a few red dots; stem three-quarters of an inch long, set in a small, abrupt cavity; suture traceable.

FLESH: color pale green; texture melting and juicy; flavor rich, sweet and excellent; pit mostly free.

QUALITY: cooking or canning, best; dessert very good.

VALUE: home market first class.

SEASON: mid to late August.

SATSUMA. (*Blood*).

One of the most satisfactory of the Japan plums; commercially valuable in the Niagara district. Highly esteemed for canning, and for jelly.

ORIGIN: imported by Luther Burbank from Japan to America in 1886; called "Blood" from the blood red color of the flesh.

TREE: habit spreading; fairly vigorous; ordinarily very productive; self sterile, and should be planted with other varieties.



SATSUMA.

FRUIT: oblate, slightly conical; size large; stem about three-quarters of an inch in length, stout, set in a deep cavity; suture traceable; skin thick; color dark red, with whitish bloom and many dots.

FLESH: cling; color dark red; texture firm; flavor pleasant when well ripened; a little acid.

QUALITY: cooking very good.

VALUE: market first class.

SEASON: late September.

SHIPPERS PRIDE. (*Pride*).

An excellent market plum; a good shipper and fine for canning.

ORIGIN: New York State.

TREE: very vigorous; very hardy; very productive.

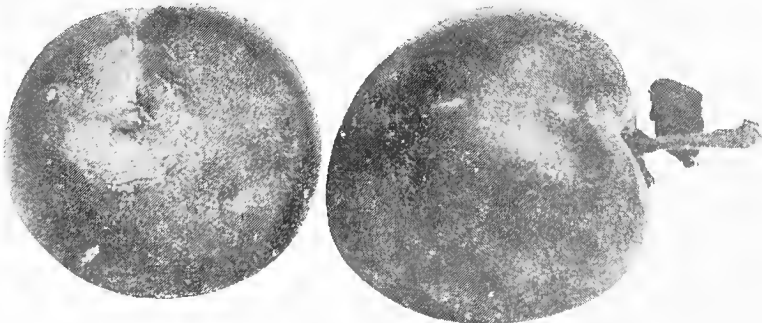
FRUIT: size large; form roundish oval; color dark purple.

FLESH: firm, juicy; flavor sweet.

QUALITY: dessert fair; cooking good; excellent for canning.

VALUE: market first class, being a fine shipper.

SEASON: early to mid September.



SHIPPERS PRIDE.

SHROPSHIRE DAMSON.

A small plum, very highly valued for jam and for preserves; much sought after by those who know its value.

ORIGIN: Shropshire, England.

TREE: upright, fairly vigorous, quite productive.

FRUIT: small, oval; color dark purple, with blue bloom; stalk half an inch long, no cavity; suture none.

FLESH: nearly free from stone; texture melting, juicy; flavor rich, acid.

QUALITY: dessert fair; cooking very good to best.

VALUE: market first class

SEASON: late.

SIMON. (*Prunus Simoni*, *Simonsi* of Thomas, *Simon's Plum*).

A distinct species of stone fruit, having characteristics of both the peach and the plum. It has been tested in Ontario since 1888, and has not realized the expectations of planters who were led to expect in this fruit a substitute for the peach where the latter fruit was uncertain. It has proven itself worthless in the commercial orchard, and valuable only as a curiosity.

ORIGIN: northeastern China, introduced to France by Eugene Simon and disseminated by Simon Bros. of Metz, Alsace. Fruited at Cornell University in 1886, and at St. Catharines, Ont., in 1887. It was placed in the plant distribution list by the Fruit Growers' Association in 1890.

TREE: upright, slender, lacking in vigor, not productive.

FRUIT: large; form round transversely and flattened longitudinally; color dark maroon, with a perceptible bloom; stalk half an inch long, stout, set in a deep cavity; suture distinct; stone smooth, clings tightly to the flesh.

FLESH: orange color; texture, tough and juicy; flavor often bitter, sometimes fairly agreeable.

QUALITY AND VALUE: very poor.

SEASON: early August.

ADAPTATION: to the peach sections.

SMITH ORLEANS.

"Fruit large to very large, oval, rather widest toward the stalk, a little irregular, with a strongly marked suture on the side; stalk quite small and slender, a little more than half an inch long, inserted in a deep narrow cavity; skin reddish purple; covered with a deep blue bloom; flesh deep yellow, a little firm, very juicy, with a brisk rich vinous flavor, and adheres to the stone; good to very good; late August, growth very vigorous." (*Downing*).

STODDARD.

"Fruit large to very large; roundish; cavity narrow, shallow; suture a distinct line; apex rounded; color deep yellow, almost entirely covered with deep purplish red; dots fairly numerous, small yellow; bloom light, skin thick, tough, slightly astringent; flesh deep yellow, juicy; stone medium size, broad, flat, cling; sweet, good rich flavor; quality very good. Season late September. One of the largest and best flavored Americana plums." (*Macoun*).



STODDARD.

VICTORIA. (*Sharp; Sharp's Emperor*).

A fine dessert plum for the amateur's garden. It has been long known as Victoria, and indeed by no other name in Ontario.

ORIGIN: Sussex, England.

TREE: vigorous and productive.

FRUIT: size large, form oval; suture distinct; color of skin light reddish-purple; stem nearly one inch long in a moderately deep abrupt cavity; dots whitish and pinkish; clingstone.

FLESH: yellow; flavor pleasant.

SEASON: early in September.

QUALITY: very good.

ADAPTATION: considered a success at our Lake Huron station, in Bruce County.



VICTORIA.

WASHINGTON.

Not productive enough, nor good enough a shipper to be popular in the commercial plum orchard; but, on account of its large size, beauty and excellence of quality, a universal favorite for the dessert table.

ORIGIN: New York City, as a sucker from a grafted tree, which was purchased from a market woman by a Mr. Balmer. He first fruited it in 1818, and the plum was at first called Balmer after him.

TREE: a strong, vigorous grower; fairly productive; foliage remarkably large, broad and glossy.

FRUIT: size large; form round oval; suture traceable, very distinct near the stem; color dull yellow, changing to deep yellow, marked with crimson dots and covered with pale bluish, grey bloom; stem three-quarters of an inch long, set in a wide, shallow cavity.



WASHINGTON.

FLESH: yellow; texture firm; flavor rich, sweet and luscious.

QUALITY: dessert, very good; cooking, very good.

VALUE: home market, first class.

SEASON: late August.

WHITAKER.

The best of its class fruited at our St. Lawrence station.

ORIGIN: a seedling of Wild Goose; raised by J. T. Whitaker, Texas; closely resembling its parent.

TREE: vigorous; rapid grower; spreading habit; healthy; foliage bright green, free from shot hole fungus; late bloomer; class Chickasaw.

FRUIT: oval; size medium; cavity shallow; suture traceable; color bright red, with many white dots and thin bluish bloom; skin thin.

FLESH: color yellow; texture moderately firm, juicy; flavor sweet and good.

QUALITY: good.

VALUE: market second class.

SEASON: September.

WICKSON.

Among the largest and finest of the Japan plums, but not productive enough to be profitable as a market variety. Introduced with a great flourish and largely planted, but in most cases it has proven a disappointment.

ORIGIN: grown from seed of Kelsey by Luther Burbank, of Santa Rosa, Cal.; from its habit the tree appears to have some relation to *Prunus Simoni*.

TREE: habit very upright, bearing fruit mostly on fruit spurs; hardy; blooms early and abundantly, but sets very little fruit; should be planted with such productive sorts as Burbank for cross pollination; class Japanese.

FRUIT: form oblong conical, apex a point; size large to very large; skin thick; color yellow, mostly covered with rich brownish red; bloom thin; stem stout; cavity large, deep, abrupt; suture very decided from base to apex.

FLESH: semi-cling; color yellowish, translucent with yellow veins; texture firm for shipment, but tender and juicy when fully ripe; flavor sweet, rich, aromatic.

QUALITY: very good for all purposes.

VALUE: market first class.

SEASON: mid September.

 WILD GOOSE.

"Fruit oval; size medium to large; cavity shallow; stem medium long; suture a line; color bright, clear red; dots many, white, conspicuous; bloom thin, bright bluish; skin thin, but rather tough; stone small to medium, oval, pointed, cling; flavor sweet; quality fair to good; season early; origin Columbia, Tennessee." (*Waugh*).

 WILLARD.

A profitable market plum on account of the early season of ripening its fruit, but too poor in quality to receive much commendation, and not very productive. ,

ORIGIN: Japan.

TREE: vigorous; rather spreading in habit; fairly productive.

FRUIT: size medium, sometimes above; form roundish oblong; color greenish, partly overspread with dull red; suture clearly traceable; apex elevated not pointed; bloom thin, whitish.

FLESH: yellowish; moderately firm; not very juicy; semi-cling; flavor poor.

QUALITY: dessert poor; cooking fair.

VALUE: first class in its season for market.

SEASON: early August.

 WOLF.

"Fruit large, roundish; cavity narrow, shallow; suture shallow, fairly distinct, not depressed; apex rounded; color deep red; dots fairly numerous, small, yellow, distinct;



WOLF.

bloom moderate; skin thick, tough; flesh deep yellow, juicy, sweet, rich, good flavor; stone above medium size, outline oval, considerably flattened, cling; quality good; season early to mid September. One of the best." (*Macoun*).

WYANT.

"Fruit large, oblong, flattened; cavity narrow, deep; suture a distinct line; apex almost pointed; color deep red; dots numerous, small, purple; bloom medium; skin rather thick, somewhat tough, astringent; flesh deep yellow, moderately juicy, fairly sweet; stone large, much flattened, oval, semi-cling, almost free; quality medium. Season mid September. Quality not good enough. This plum is highly recommended in the Western States, but has not proven so good as some others here. (Ottawa)." (*Macoun*).

YELLOW EGG. (*White Magnum Bonum*).

A profitable commercial variety, on account of its large size and fine appearance, but susceptible to the plum rot and inclined to drop before maturity. Good for canning purposes.

ORIGIN: Europe.

TREE: vigorous, spreading, and very productive.



YELLOW EGG

FRUIT: size large to very large; form egg shaped with distinct suture on one side; skin thick, adherent to flesh; color yellow with whitish bloom; stalk nearly an inch long, inserted in a small cavity, with a fold about its base; pit long, pointed, cling.

FLESH: yellow; texture firm, juicy, coarse; flavor subacid, becoming sweet when very ripe, but ordinary.

QUALITY: dessert poor; cooking good.

VALUE: home market first class.

SEASON: late August.

THE QUINCE.

As there is only a limited demand for quinces in Canada, this fruit is not largely grown. It is somewhat tender, but can be grown commercially wherever the peach succeeds. Some quinces are, however, produced for home consumption as far east as the Bay of Quinte.

The culture of the quince is somewhat similar to that of dwarf pears. The soil most suitable is a friable clay loam, well drained. Three year old trees are planted from fourteen to fifteen feet apart each way. The trees are pruned with a somewhat open top as the dwarf pear, the head starting from near the ground. If the trees make rapid growth severe heading in should be practised to get stockier trees and to have the fruit better distributed. Good cultivation is necessary in the production of the quince as with other fruits.

The quince makes a handsome ornamental tree where it can be grown, the abundant white bloom in the spring and the golden fruit in the autumn rendering it a striking object wherever planted.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Fuller, Orange (the leading market variety in Ontario), Champion (for Southern Ontario only as it ripens too late for other sections).

DESCRIPTION OF VARIETIES.

BENTLEY.

A variety grown largely for market in Maryland, and in Ontario it is gaining in favor.

TREE: thrifty; productive.

FRUIT: large; form roundish; skin yellow with heavy down.

QUALITY: excellent.

VALUE: market first class.

SEASON: early October.

CHAMPION.

An American quince of recent origin.

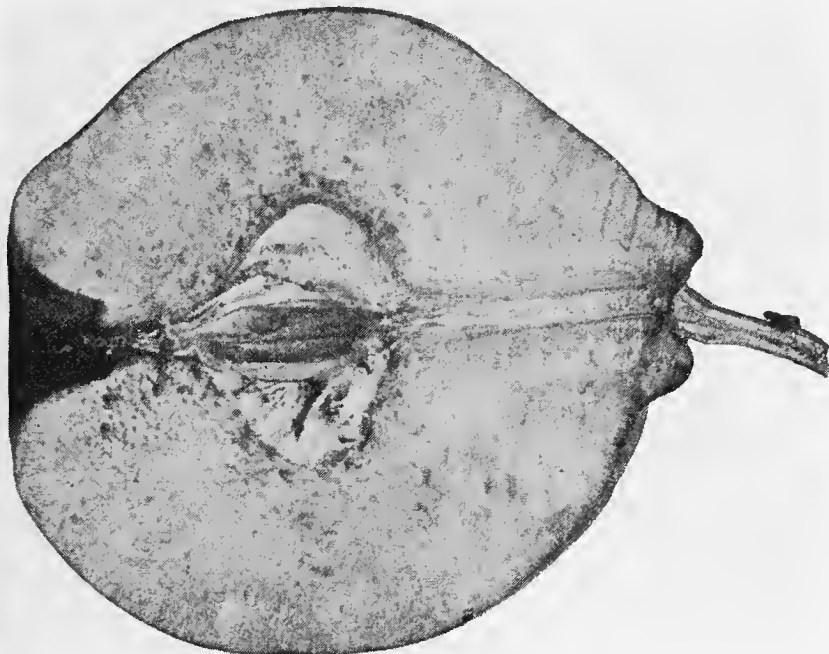
TREE: an upright grower, taller than the Orange.

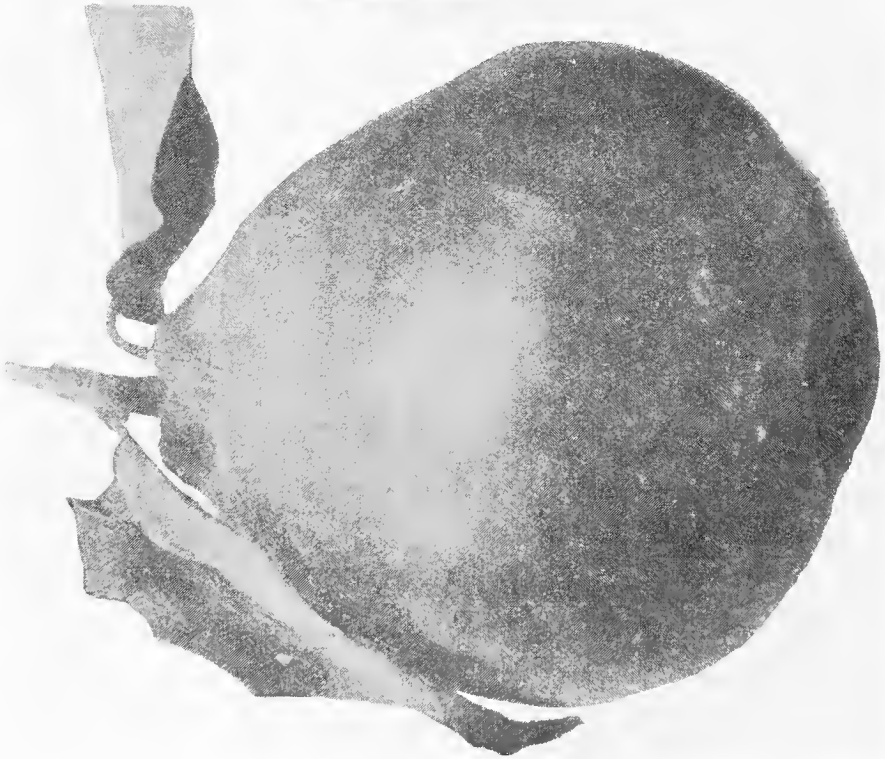
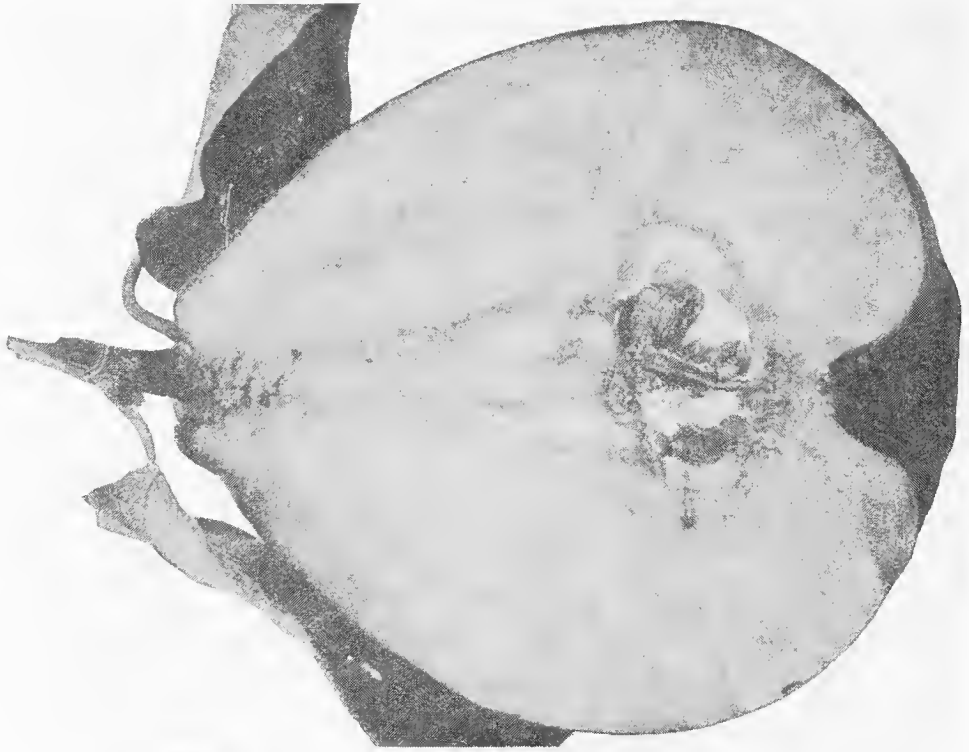


FRUIT: large, distinctly pear-form, furrowed about the top, generally remaining greenish yellow upon the tree; conspicuously covered with a floccose wool or fuzz.

SEASON: mid winter.

ADAPTATION: ripens well in Southern Ontario, but would be too late farther north.





FULLER

FULLER.

ORIGIN: named after Mr. A. S. Fuller, of Ridgewood, N. J., who noticed it fruiting on a neighbor's grounds in about the year 1870, took some cuttings and introduced it to public notice.

TREE: a good grower and showy both in fruit and flower.

FRUIT: large; distinctly pyriform in shape, sometimes with an elongated neck, somewhat ribbed; color rich yellow; calyx set in a deep wide basin.

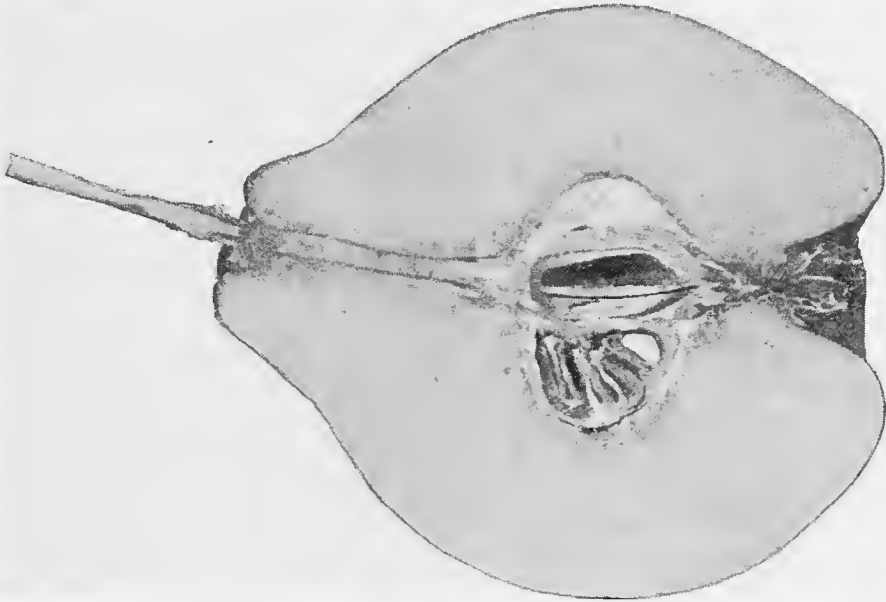
FLESH: tender in texture; flavor good.

VALUE: market first class.

SEASON: late September.

ORANGE. (*Apple*).

The leading market variety of quince in Canada. Previous to 1870, this and the Angers were the only varieties of quinces known in Ontario, the former as a stock for budding dwarf pears, and the latter as a standard market variety. The Orange quince succeeds admirably in the Niagara peninsula, ripening well, taking on a beautiful rich golden color, and reaching a fine large size, either on clay or sandy loam. In old days this variety brought \$6 or \$7 per barrel in Toronto market, but the prices are now much lower.



ORIGIN: Southern Europe.

TREE: a slow grower, bushy, seldom attaining a height of more than twelve or fifteen feet; hardy, will endure neglect but responds well to good cultivation and manure; delights in moist land, without standing water; fairly productive.

FRUIT: large and weighing from eight ounces to a pound; form somewhat like an apple, but with protuberance about the stem instead of a depression; skin golden yellow at maturity, with often a little greenish or russet color about the stem, which is set in a narrow cavity; calyx large segment, which are leaf like, in a large deep, corrugated basin.

FLESH: tender in texture and good in flavor.

VALUE: limited demand in Canadian markets.

SEASON: late September to early October.

THE GRAPE.

There is no more popular fruit than the grape, and, owing to the rapid increase in population during recent years, the demand for grapes is constantly growing. For this reason the planting of grapes, which was in a large measure suspended for a few years, is steadily increasing, many vineyards now being established annually.

The grape requires a comparatively dry hot season for the development of good flavor and the perfect ripening of the fruit, and as most of the cultivated varieties will not stand very low temperatures unless protected, the grape succeeds best in the most southern parts of the Province, the commercial vineyards being confined almost entirely to the Niagara Peninsula, and to the district bordering Lake Erie. The grape can, however, be grown successfully over a much wider area than this, and where the summer temperature is fairly high and spring and early autumn frosts are rare, large quantities of grapes are grown for home consumption. Hence the early varieties of this fruit may be ripened pretty generally over the Province as far north as latitude 45 degrees and probably further.

A southern or south-eastern slope, if it can be procured, is preferable for the grape, as this fruit will ripen quicker with this exposure, but the site is not so important in the best grape districts as it is further north. A site should, however, be chosen which will not be subject to local frosts. In the north a sandy loam is much to be preferred, as if well drained it will be the warmest, and all the heat that can be obtained is needed. In the warmer portions of the Province grapes succeed admirably on the clay loams, and if well drained these are considered the best. The soil should be thoroughly prepared as for other fruits. The best vines for planting are two years old, but some strong growing varieties make good plants in one year. Strong growing varieties require more space in a vineyard than those less vigorous, but an average distance of ten feet apart each way is perhaps the most satisfactory. The plants should be set a little deeper than they were in the nursery. With grapes it is better to err on the side of deep than shallow planting. The young vine should be cut back to within one or two buds when set. To encourage strong growth, cultivation should be thorough in the vineyard until the vine begins to bear well. At the close of the first season and before the growth begins the following spring, the vine should be again pruned back to one or two strong buds. During the second season, only two canes are permitted to grow in order that these may become as strong as possible. Before growth begins in the third year it will be necessary to put down the trellis. If the Kniffen system is adopted two wires will be sufficient, but if other methods are followed, three are usually necessary. The Kniffen system of training is more general in the grape districts than any other, mainly for the reason that by this method the least labor is involved. If two canes were left during the second season's growth, the weaker is removed, the other is tied upright to the two wires, the lower one being about 3 feet 6 inches from the ground, and the upper about 2 feet higher. Shoots will be thrown out along this main trunk, all of which are allowed to grow throughout the season.

Before growth begins in the spring of the fourth season all the canes are cut away except four. Two of these are extended one on each side of the main trunk along the upper wire and tied to it, and two on each side of the main trunk along the lower wire, at the same time heading back the upper canes to eight or nine buds and the lower to six or seven. No summer pruning is usually practised

with this system, the growing shoots falling over the wires and attaching themselves there, often making very rampant growth, so much so that the tips are sometimes lopped off with a pruning hook.

The vine should bear a full crop this season, which is the fourth from planting. Before growth starts in the fifth season all canes are again removed except four, and as these could not very well be obtained in line with the wires if taken from the main trunk, the canes are utilized which spring from the base of the canes which were left the year before. This same system is adopted year after year. In time such a large stub develops at the point where the new canes are taken each year that it becomes necessary to remove these and take new canes from the main trunk. A good supply of new wood is required each year in grape growing, as fruit is produced only near the base of the previous season's growth. About forty strong buds or even less are sufficient to give a profitable crop of most varieties.

For the north quite a different system is necessary, as the vines have to be covered with soil in the winter to protect them. On this account the arms have to be trained low so that they may be covered easily. The best system which has been found where such conditions prevail in Ontario, is a modification of the "High Renewal." By the "High Renewal" system new wood is obtained from near the ground every year and several canes trained in a somewhat fan shape. This system is adopted in some parts of New York State, where vines do not have to be covered. By a modification of this system two arms are left for two or three years. Three wires are required, the lowest being about eighteen inches from the ground, and the others about two feet apart. The two canes which have been made during the second season's growth, as previously described, are both saved. They should start from the main stem as near the ground as possible, and are tied to the wire in opposite directions. The shoots which are made the third season are tied upright to the wires and spread as evenly as possible. Lateral shoots should be removed. Before winter all the canes made that season should be headed back to within one or two buds of the two main arms, and just before winter sets in they should be bent down and covered with a few inches of soil. In fact, the vine should be covered each winter from the time it is set. Vines should be kept covered in the north as long as possible to prevent injury from spring frosts. At Ottawa, the vines are not uncovered until the end of the first week or beginning of the second week of May.

In the fourth season after planting the shoots are again trained upright and tied to the wires. Laterals are removed and any other shoots which make the vine so crowded that the fruit will not obtain plenty of light and sunshine. The mistake is often made of leaving too many shoots to grow, thus preventing the perfect ripening of the fruit. Forty strong shoots are quite sufficient to produce a good crop of fruit, although some varieties will stand a few more.

As arms get older they become more difficult to lay down, hence it is found advisable to remove the arms every two or three years and replace them with new ones. The arms may be renewed in alternate years, and this is often desirable, as the buds on one arm are sometimes destroyed by winter or by spring frosts. The only important difference between this system and the horizontal arm is that in this the arms are not permanent. It resembles the "High Renewal" from the fact that new wood is obtained frequently from the main stem near the ground.

Grapes require considerable potash, hence fertilizers containing a high percentage of this should be used rather than nitrogenous manures. Cover crops will usually supply all the nitrogen that is required.

Grapes should not be picked until they are quite ripe, as they do not ripen after they leave the vine. It is believed that the consumption of grapes would

be much greater in the cities and towns if fruit growers would not pick and ship the fruit when it is green.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Commercial and Domestic:

Black: Moore, Campbell, Worden, Concord, Wilder.

Red: Delaware, Lindley, Agawam, Vergennes.

White: Niagara, Diamond.

For Northern Sections:

Black: Champion, Moore, Campbell, Worden, Wilder.

Red: Moyer, Brighton, Delaware, Lindley.

White: Winchell, Diamond.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Wentworth District: By M. Pettit, Winona, Ont.

Commercial:

Black: Champion, Campbell, Worden, Concord.

Red: Delaware, Lindley, Agawam, Vergennes, Catawba.

White: Niagara, Diamond.

Niagara District: By Linus Woolverton, Grimsby, Ont.

Domestic: Moyer, Campbell, Worden, Delaware, Lindley, Brighton, Wilder, Agawam, Requa.

DESCRIPTION OF VARIETIES.

ALICE.

A good grape but a little late to be very popular for market purposes.

ORIGIN: New York State.

VINE: very vigorous; productive.

BUNCH: roundish; shouldered; compact.

BERRY: size small to medium; round; color dark wine with light bloom.

FLESH: tender pulp, juicy; color light green; flavor vinous, aromatic, pleasant.

QUALITY: dessert good.

VALUE: second class for market.

SEASON: early October.

BACCHUS.

A good wine grape.

ORIGIN: seedling of Clinton, raised by J. H. Ricketts, Newburgh, N. Y.

VINE: vigorous; free from mildew; productive.

BUNCH: size medium; compact; shouldered.

BERRY: size small; round; black with blue bloom.

FLESH: texture juicy; flavor sprightly, superior to Clinton.

QUALITY: dessert fair.

VALUE: second rate for market.

SEASON: late; cannot be depended upon to ripen north of lake Ontario.

AGAWAM. (*Rogers' 15*).

One of the leading varieties for profit, but in some sections subject to mildew and rot.

ORIGIN: by E. S. Rogers, Salem, Mass.

VINE: a strong grower; very productive; self fertile; wood long jointed, stout, should have long pruning.

BUNCH: large, compact, shouldered.

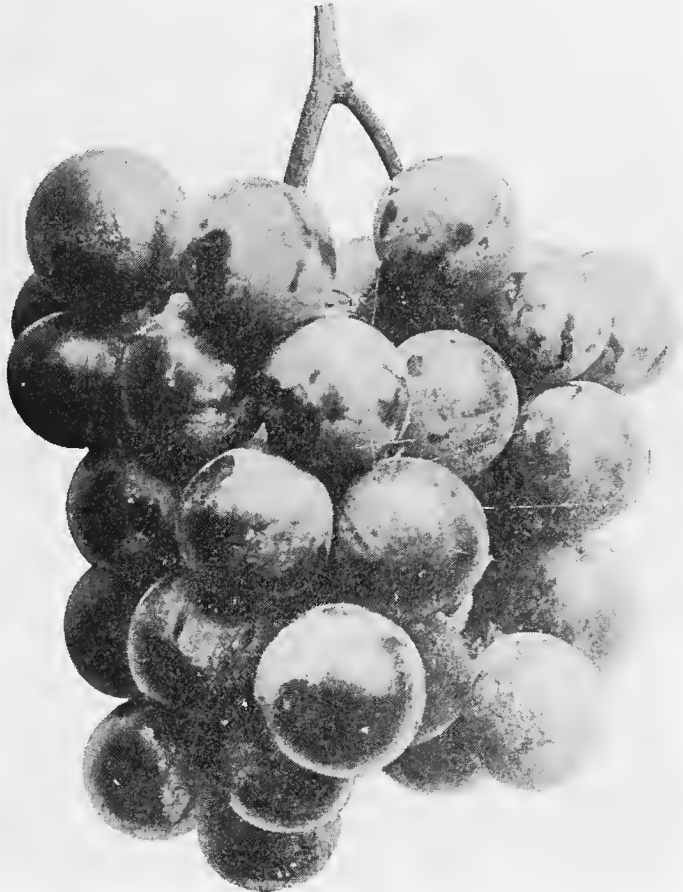
BERRY: large; skin thick; color brownish red.

FLESH: tender; flavor sweet, sprightly, very good.

QUALITY: dessert very good.

VALUE: Market, first class.

SEASON: soon after that of Concord.



AGAWAM.

BARRY. (*Rogers' 43*).

An excellent exhibition grape; one of the most attractive of Rogers' hybrids; but not equal to Wilder for the commercial vineyard.

ORIGIN: a hybrid from Black Hamburgh and Mammoth Sage, raised by E. S. Rogers, of Salem, Massachusetts.

VINE: vigorous; healthy; productive, self sterile and needs mixed planting; sometimes drops its leaves before maturity of the fruit.

BUNCH: medium; form short, compact, rather broad.

BERRY: large; roundish; color black with blue bloom.

FLESH: tender; flavor sweet, pleasant.

QUALITY: dessert good

VALUE: market first class; a good shipper.

SEASON: mid September to October.

BRIGHTON.

The fine size of its bunches and the excellence of its flavor as a dessert grape gave promise, in its first introduction, that the Brighton would be a popular commercial grape in Ontario; but in this we have been disappointed, because of its susceptibility to mildew, and its poor shipping quality. The latter point is of importance to our Ontario fruit growers, who look forward to the great Northwest as one of the best

markets for the product of their vineyards. As a dessert grape the Brighton is worthy of a place in every fruit garden which is planted for home uses.

ORIGIN: raised by Jacob Moore, Brighton, N.Y.; a cross between Concord (Labr) and Diana Hamburg (Vinifera).

VINE: vigorous; semi-hardy; productive; somewhat subject to mildew; leaves large, thick, dark green; pollen sometimes defective, and the vine should have other varieties which are good pollenizers planted near it.

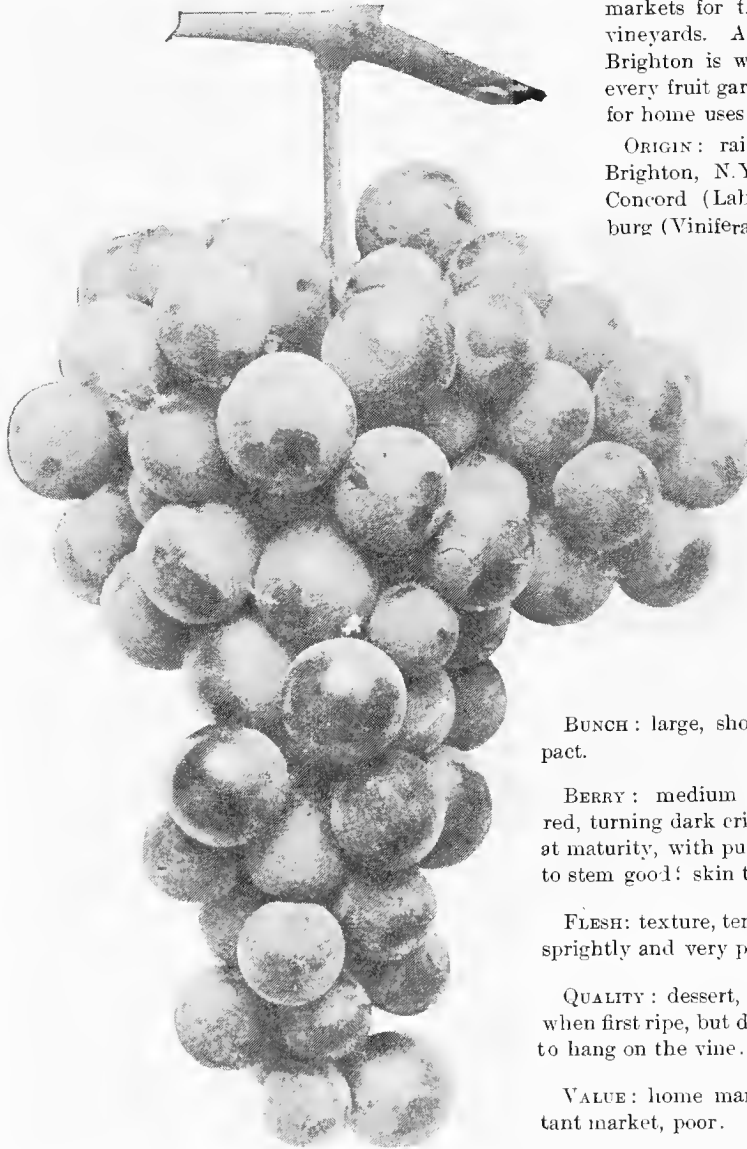
BUNCH: large, shouldered, fairly compact.

BERRY: medium in size; color light red, turning dark crimson or almost black at maturity, with purple bloom; tenacity to stem good; skin tender.

FLESH: texture, tender and juicy; flavor sprightly and very pleasant.

QUALITY: dessert, very good, at its best when first ripe, but deteriorates if allowed to hang on the vine.

VALUE: home market, very good; distant market, poor.



BRIGHTON.

SEASON: medium; not a long keeper.

CATAWBA.

One of the best of wine grapes, and highly esteemed for dessert.

ORIGIN: a native of North Carolina, and takes its name from the Catawba river.

VINE: vigorous; productive; succeeds well in sandy loam; canes long, with few laterals.

BUNCH: medium sized; moderately compact; shouldered.



CATAWBA.

BERRY: large; round; deep red with lilac bloom; skin moderately thick.

FLESH: texture pulpy, juicy; flavor sweet, aromatic, musky.

QUALITY: dessert very good; wine best.

VALUE: market first class when well ripened.

SEASON: late; does not always attain full maturity even in the southern parts of the Province.

CAMPBELL.

(*Campbell's Early.*)

This grape is claimed to be an improved Concord, and is very promising as an early market variety.

ORIGIN: Ohio, by G. H. Campbell; the product of different crosses from Hartford, Concord, and Moore's Early, through Muscat Hamburg. Introduced in 1896.

VINE: vigorous, healthy and productive.

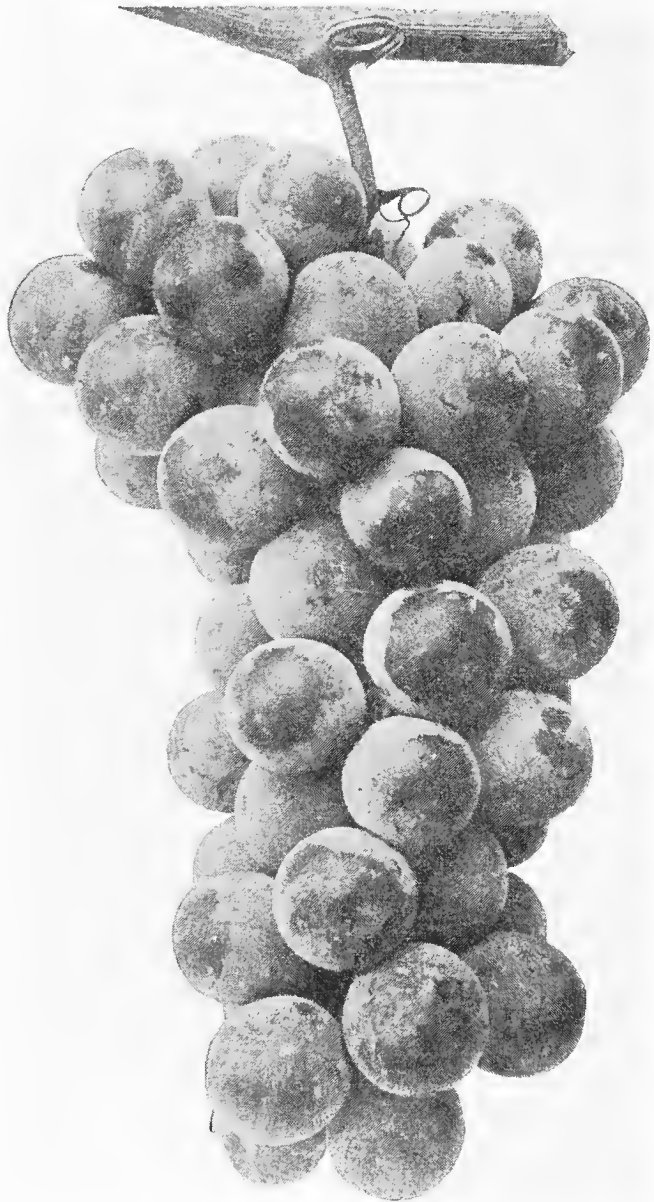
BUNCH: large shouldered.

BERRY: large; skin black, with thin blue bloom, tough; flavor rich and sweet without foxiness; flesh meaty, sweet, tender; seeds small, separate easily from the pulp; hangs well to vine.

QUALITY: fine for dessert.

VALUE: first-class for market.

SEASON: about the same as that of Moore Early.



CAMPBELL.

CHAMPION.

Widely planted for market because of its early coloring and apparent early ripening, but so sour and so poor in quality, as usually sold on the market, that it has seriously lessened the demand for Concord grapes, which follow it in season.

ORIGIN: New York State, about 1873; first sold as Talman's Seedling.

VINE: vigorous; healthy, not subject to mildew; very productive.

BUNCH: size medium; shouldered.



CHAMPION.

BERRY: size medium; form round; color bluish black; pulpy; acid until very ripe; skin thick.

QUALITY: dessert very poor.

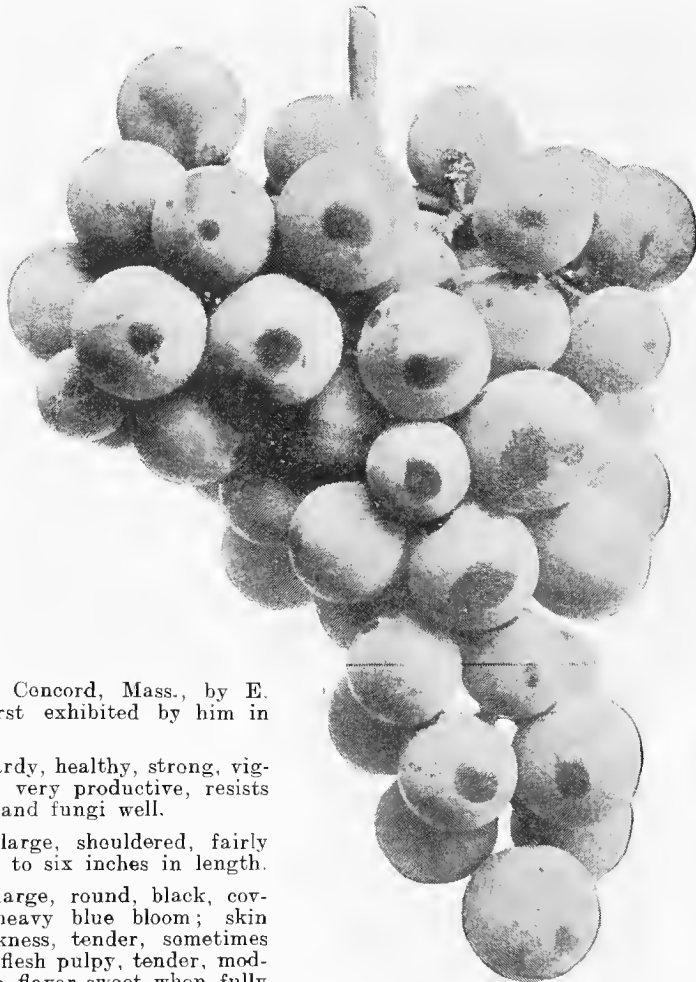
VALUE: Market fair, sells well on its outside appearance before better flavored kinds are on the market.

SEASON: a week or ten days earlier than the Concord, but often well colored two weeks earlier.

CONCORD.

The principal out-door grape grown for market in the Province of Ontario. Probably more than half the vines in the large commercial vineyards of the Niagara district, as well as in Essex and other parts of southern Ontario are of this variety.

The reason of this is (1) its comparative freedom from mildew, (2) its vigor of vine, (3) its productiveness. Four tons to the acre is not an uncommon yield, so that, even when it sells as low as $1\frac{1}{2}$ cents per pound, there is yet a fair return for the investment.



CONCORD.

ORIGIN: Concord, Mass., by E. W. Bull; first exhibited by him in 1853.

VINE: hardy, healthy, strong, vigorous grower, very productive, resists both insects and fungi well.

BUNCH: large, shouldered, fairly compact, five to six inches in length.

BERRY: large, round, black, covered with heavy blue bloom; skin medium thickness, tender, sometimes cracks open; flesh pulpy, tender, moderately juicy; flavor sweet when fully mature, appetizing.

QUALITY: dessert fair.

VALUE: near market, first class; distant market, second class.

SEASON: mid September to October; not a good keeper.

ADAPTATION: general in grape districts.

DELAWARE.

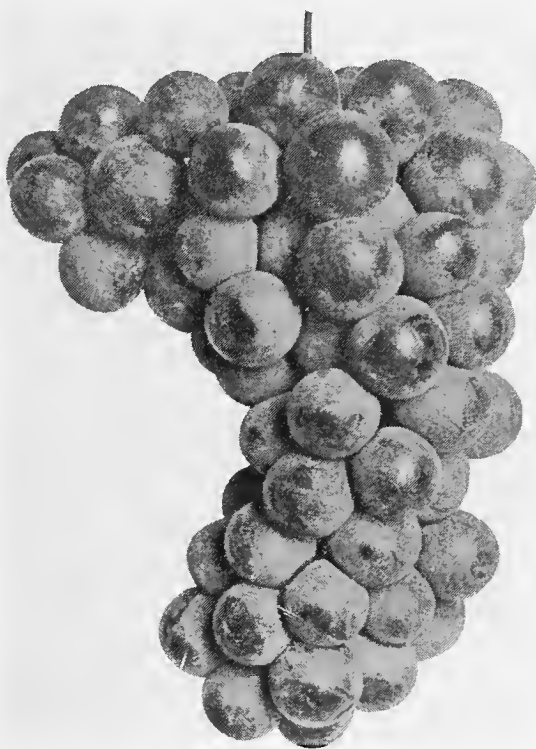
Universally acknowledged to stand at the head of all American grapes in point of quality. For the home garden a few vines of this variety are indispensable, for it is the most excellent of dessert varieties. It is also one of the highest priced grapes in our markets, often bringing more than double the price of the Concord. It is however, not very much grown in our commercial vineyards, because the foliage is badly subject to thrip and the yield is only moderate. On rich deep soils, well drained, however, with high cultivation, thinning and close pruning, it is productive and profitable. It should be planted much closer than the Concord. Vines of the latter variety are usually planted ten feet apart, while the Delaware may be set five or six feet apart.

ORIGIN: unknown. Name from Delaware, Ohio, where in 1855 it was first brought into notice, though not disseminated until ten years later. It was first found in a garden in Frenchtown, N. J. The Bushberg Catalogue thinks it a natural cross between Labrusca and Vinifera, a native American and a European variety.

VINE: moderate grower; foliage delicate, subject to thrip; wood slender, hardy; a regular, sometimes an abundant bearer.

BUNCH: small, compact, usually shouldered.

BERRY: small; round; skin thin; color a beautiful light red, with whitish bloom, translucent; pulp, sweet, sprightly, aromatic; juice abundant, sweet, vinous.



DELAWARE.

QUALITY: dessert good.

VALUE: market first class.

SEASON: September

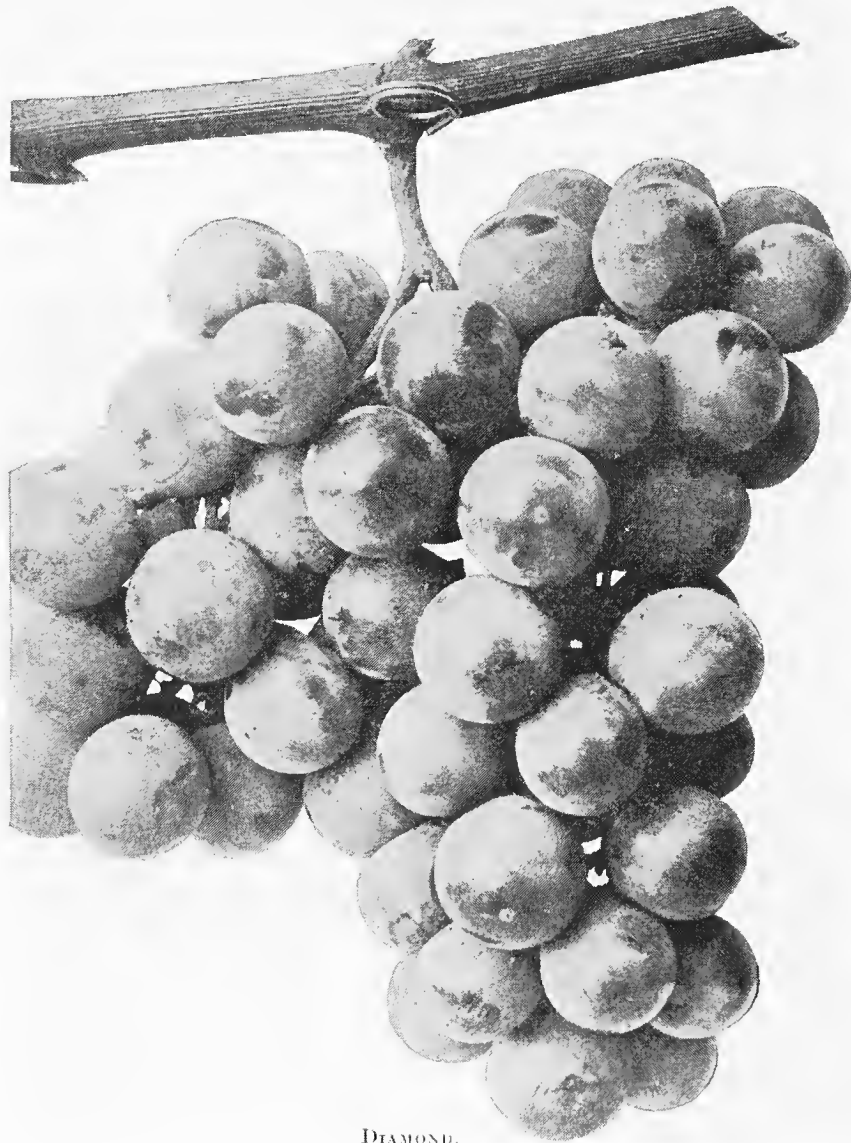
ADAPTATION: general throughout the grape sections.

DIAMOND. (*Moore's Diamond*).

A grape that is growing in popularity, and which succeeds in sections farther north than the Niagara.

ORIGIN: Brighton, N. Y., in 1873, by Mr. Jacob Moore, from seed of Concord, fertilized with Iona; just one year after the Niagara was originated at Lockport.

VINE: vigorous and productive, though not equalling the Niagara; foliage much like that of one of its parents, the Concord.



DIAMOND.

BUNCH: large, compact and shouldered.

BERRY: adheres firmly to the stem; color greenish white, yellowing slightly at maturity; pulp tender; flavor juicy, sweet and good.

QUALITY: dessert very good.

SEASON: about one week in advance of the Concord.

ADAPTATION: worthy of trial generally.

EARLY OHIO.

An early market grape.

ORIGIN: a chance seedling raised by R. A. Hunt, Euclid, Ohio.

VINE: healthy; vigorous; productive.

BUNCH: large, compact, often shouldered.

BERRY: medium size; color black, with heavy bloom; tenacious of stem; flavor spicy, pleasant.

SEASON: a few days in advance of Moore Early.

ADAPTATION: not proven.

EARLY VICTOR.

The Early Victor grape colors very early, fully two weeks ahead of Concord, and is fit to gather about ten days before, along with Hartford and Moore Early.

ORIGIN: by John Burr, of Leavenworth, Kansas, in 1870. A seedling of the Delaware.

VINE: very vigorous, very productive and healthy.

BUNCH: shouldered and very compact.

BERRY: medium, round, black, with thick blue bloom, adheres well; pulp tender, juicy, sweet and agreeable; seeds two.

QUALITY: very good for dessert, also very good for making claret wine.

VALUE: first class for home market.

SEASON: early.

EMPIRE. (*Empire State*).

A beautiful white grape, with well formed bunches, which was introduced with great eclat, but has not become very popular in the commercial vineyards of Ontario.

ORIGIN: from seed of Hartford fertilized with Clinton, raised by James H. Ricketts.

VINE: vigorous, healthy, and moderately productive.

BUNCH: size large; shouldered; compact.

BERRY: medium; color white, with thick bloom; pulp tender, juicy, sweet, and agreeable.

QUALITY: dessert, very good.

VALUE: market first class.

GAERTNER. (*Rogers' 14*).

An excellent grape which is gaining in favor.

ORIGIN: hybrid between White Chasselas and a wild Labrusca.

VINE: healthy; fairly vigorous and productive.

BUNCH: medium in size; shouldered.

BERRY: size large; round; color light reddish brown; skin thin.

FLESH: texture moderately tender; flavor sweet, rich, aromatic.

QUALITY: dessert very good.

SEASON: about with Concord.

 HARTFORD. (*Hartford Prolific*).

An old variety ripening in advance of Concord, but not popular as a market grape, because it drops its fruit so soon after maturity.

ORIGIN: Raised at Hartford, Connecticut, from seed of Isabella, about 1850.

VINE: hardy; vigorous; very productive.

BUNCH: large; shouldered; rather compact.

BERRY: size medium; round; color black with thin blue bloom; skin thick.

FLESH: whitish; texture pulpy, juicy; flavor foxy.

QUALITY: dessert poor.

VALUE: market second class, because of the fruit dropping from the stems; soon shrivels.

SEASON: a week before Concord.

JANESVILLE.

Valuable only in the colder sections.

ORIGIN: Hartford x Clinton.

VINE: hardy; vigorous; productive.

BUNCH: medium; short; compact; shouldered.

BERRY: size medium; black; skin thick; slight blue bloom.

FLESH: pulpy; color greenish; flavor vinous.

QUALITY: dessert poor.

VALUE: market second class.

SEASON: early.

JESSICA.

An excellent dessert grape for the amateur's garden.

ORIGIN: Canada; a seedling raised by W. H. Read of Port Dalhousie, introduced by Mr. D. W. Beadle of St. Catharines, and first described in the *Canadian Horticulturist* for February, 1884.

VINE: fairly vigorous, hardy and healthy.

BUNCH: shouldered, compact.

BERRY: medium; color yellowish green to white; skin thin; pulp tender, juicy; flavor sprightly, aromatic, sweet and very agreeable, free from foxiness.

QUALITY: very good for dessert.

VALUE: market too small; home uses very good.

SEASON: early.

ADAPTATION: general.

LADY.

A fine early sweet grape for the home garden; not desirable for the commercial vineyard.

ORIGIN: a pure Concord seedling, introduced by G. W. Campbell, of Ohio, in 1874.

VINE: fairly vigorous, slender; healthy; fairly productive.

BUNCH: medium in size; oblong; slightly shouldered.

BERRY: medium to large; round; greenish yellow with white thin bloom

FLESH: pulp tender, juicy; flavor vinous, sweet, slightly aromatic.

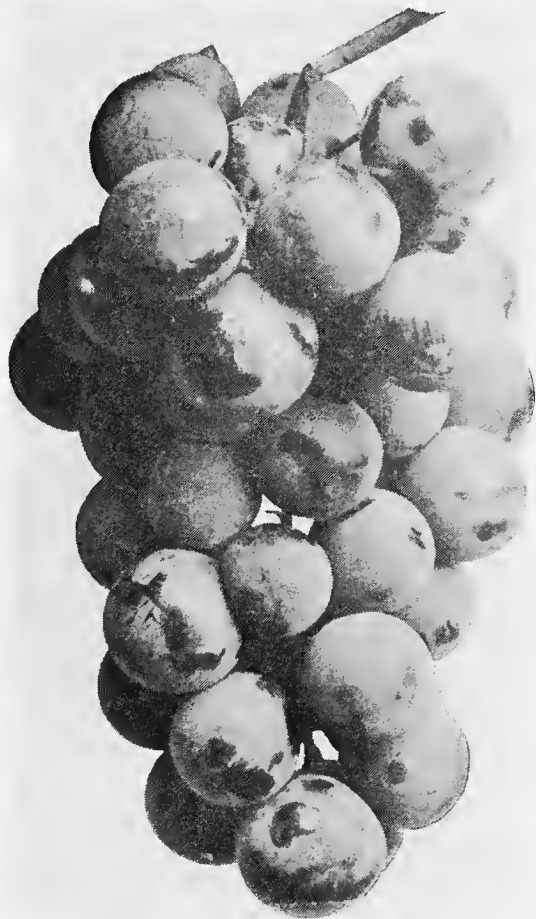
QUALITY: dessert good.

VALUE: market second class.

SEASON: early to medium

LINDLEY. (*Rogers' 9*).

A favorite red grape for both domestic and commercial purposes. Of late, however, the vine has been somewhat disappointing in productiveness.



LINDLEY.

ORIGIN: Massachusetts, by E. S. Rogers; hybrid between Wild Mammoth grape of United States and Golden Chasselas.

VINE: vigorous; healthy, fairly productive.

BUNCH: medium in size; rather long; shouldered; loose.

BERRY: medium to large; color almost brick red.

FLESH: tender, separating freely from seeds; flavor sweet, rich, aromatic.

QUALITY: very good for domestic or commercial purposes.

VALUE: market first class.

SEASON: a few days in advance of Concord. Keeps easily until January.

MASSASOIT. (*Rogers' 3*).

Commended for the home garden as a fine red table grape. Needs careful spraying with Bordeaux to prevent black rot.

ORIGIN: seedling raised by E. S. Rogers, Salem, Mass.

VINE: vigorous; susceptible to attacks of black rot; self sterile.

BUNCH: medium size; shouldered; loose, fruit does not always set.

BERRY: size medium; form round; color brownish red.

FLESH: texture tender, juicy; flavor sweet, vinous.

QUALITY: dessert very good.

VALUE: not profitable for market.

SEASON: just in advance of Concord.

MERRIMAC. (*Rogers' 19*).

Considered by some the finest and most reliable black Rogers grape; in Ontario the Wilder is considered more profitable, having larger bunches.

ORIGIN: Mammoth Sage x Black Hamburg; raised by Mr. E. S. Rogers, of Salem, Massachusetts.

VINE: vigorous; healthy; self sterile and needs mixed planting.

BUNCH: medium in size; fairly compact; roundish.

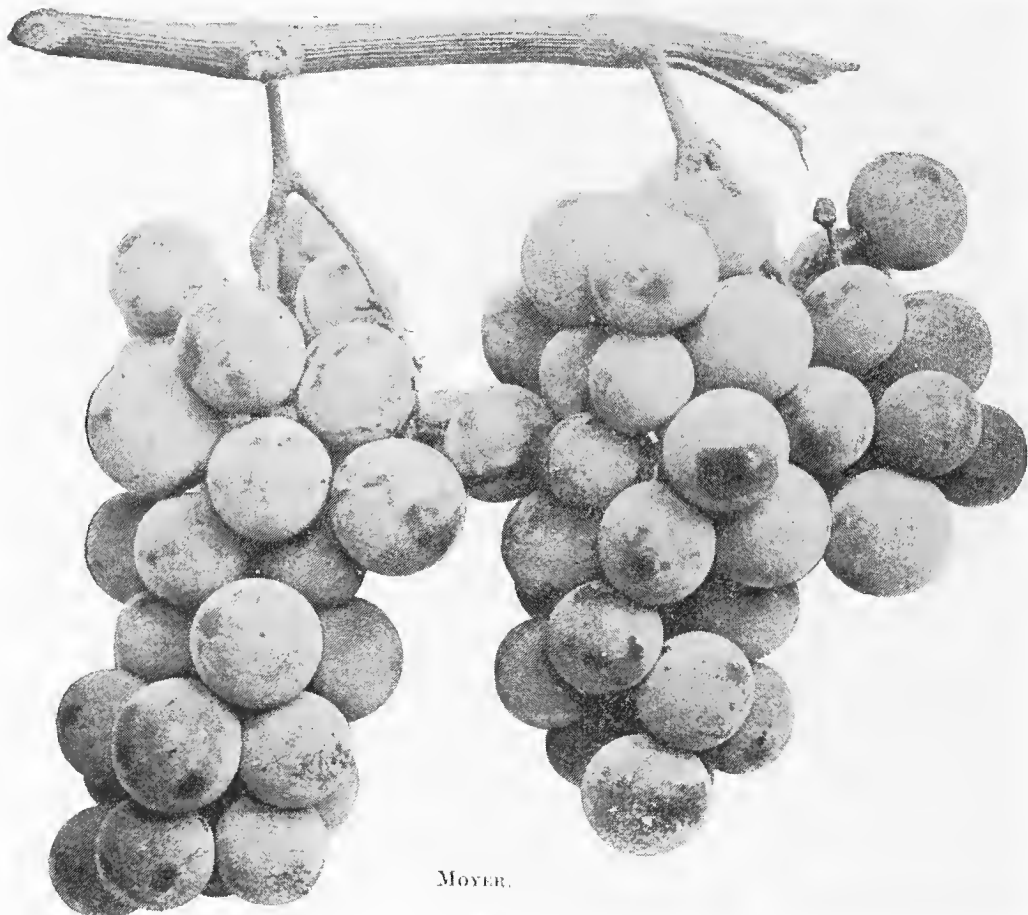
BERRY: size large; color black with blue bloom.

FLESH: color greenish; texture half tender, juicy; flavor sweet, vinous.

QUALITY: dessert very good.

VALUE: market first class.

SEASON: early to medium.



MOYER.

MOYER.

For the amateur's garden this is a grape that should not be overlooked, for as a dessert grape it has now been fairly well tested, and seems to be growing in favor.

ORIGIN: Port Dalhousie, Ontario, by W. N. Read, from Delaware fertilized with Miller's Burgundy, about 1880.

VINE: fairly vigorous, healthy and not subject to mildew, hardy; not very productive.

BUNCH: small, cylindrical in form, shouldered, not very compact, not uniform in size.

BERRY: small, round; color amber with grayish bloom; skin thin, tough; pulp tender, juicy; flavor rich, sweet and excellent.

QUALITY: dessert very good, but inferior to Delaware.

VALUE: second class for market.

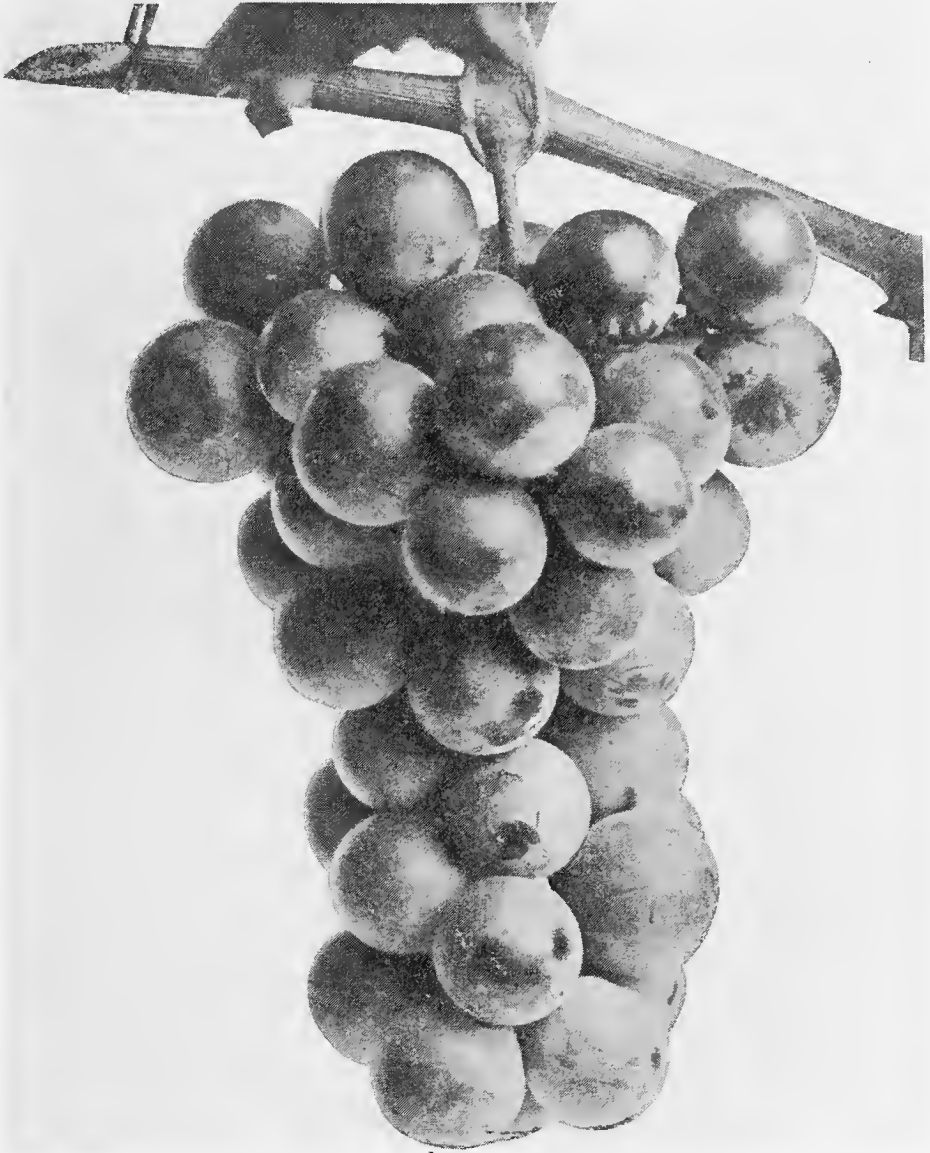
SEASON: very early.

MOORE. (*Moore's Early*).

A favorite with vineyardists in Ontario, because of its earliness and its good quality. As early as Champion and of very much better quality, it is superseding that variety which has done so much to prejudice buyers against our black grapes.

ORIGIN: by John B. Moore, at Concord, Mass., from Concord seed, in the year 1872.

VINE: hardy, healthy, fairly vigorous, but only moderately productive, if compared with the Concord; needs good cultivation.



MOORE.

BUNCH: smaller than Concord, and rarely shouldered.

BERRY: averaging a little larger than the Concord; round; black; thin bloom.

FLESH: vinous, juicy, with slight foxiness.

QUALITY: good.

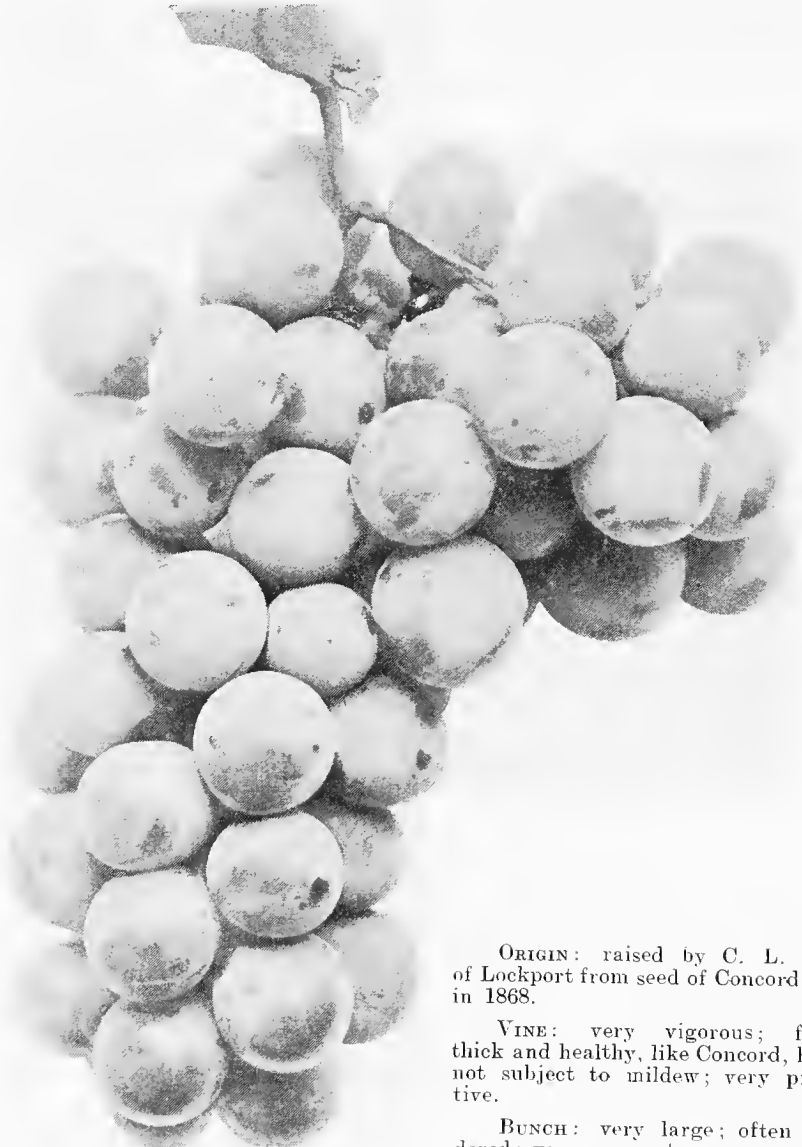
VALUE: first class of its season.

SEASON: early.

14 F.O.

NIAGARA.

The Niagara is the leading white grape in Ontario, for commercial purposes. In health, vigor of vine and in productiveness it has no superior, and it has been planted more widely than any other variety except the Concord. For dessert purposes it is good in quality when well ripened. We do not recommend it for sections north of Toronto, unless in favored locations.



ORIGIN: raised by C. L. Hoag, of Lockport from seed of Concord, sown in 1868.

VINE: very vigorous; foliage thick and healthy, like Concord, hardy, not subject to mildew; very productive.

BUNCH: very large; often shouldered; very compact.

BERRY: round, about the size of Concord; pale green turning to pale yellow at maturity, and covered with a thin whitish bloom; skin tough and not inclined to crack; pulp soft, juicy and sweet, of good flavor when fully ripe, with a touch of muskiness.

QUALITY: dessert good; canning very good.

VALUE: home markets first class.

14a F. O.

NORTHERN LIGHT.

A white grape ripening late in September; not recommended for profit.

ORIGIN: Introduced by P. E. Bucke, Ottawa, Ontario.

VINE: vigorous; healthy; moderately productive.

BUNCH: compact; shouldered.

BERRY: size medium; color white; bloom thin; flavor subacid.

QUALITY: dessert fair.

VALUE: market, hardly first class.

SEASON: late.

PERKINS.

An early market grape, healthy in vine and fruit, and a sure cropper.

ORIGIN: Massachusetts.

VINE: vigorous; hardy; productive and free from disease.

BUNCH: size medium; shouldered; compact.

BERRY: size medium; form roundish oblong; color amber with whitish bloom.

FLESH: texture pulpy, juicy, not melting; flavor sweet.

QUALITY: dessert poor; wine good.

VALUE: market second class; a poor keeper.

SEASON: early.

POCKLINGTON. (*Golden Pocklington*).

This grape was first shown at the New York State Fair, Rochester, in 1877, and was at that time considered the largest and finest white grape of purely native origin, and was largely planted for commercial purposes. However, since the introduction of the famous Niagara, the Pocklington has been almost lost sight of, and is very little planted.

ORIGIN: a seedling of Concord, raised by John Pocklington, Sandy Hill, N. Y.

VINE: of medium vigor; moderately productive; healthy, resisting mildew and rot; of *Labrusca* (Concord) parentage.

BUNCH: fairly compact, with small shoulder.

BERRY: round; color pale green, turning golden yellow; flesh pulpy, but tender and fairly juicy; flavor sweet, somewhat foxy; drops from stem after gathering.

QUALITY: dessert fair.

VALUE: home market second class; distant market third class.

SEASON: about a week later than Concord.

REQUA. (*Rogers' 28*).

A fine table grape, supposed to be too late for Canada, but ripening well in the Niagara district, a sample of the kind of grape which should be grown for export, but the vine is scarcely productive enough to be profitable.



REQUA.

ORIGIN: E. S. Rogers, Salem, Mass.; a hybrid between the Wild Labrusca, or Mammoth Fox grape, of Massachusetts, and a European variety. Mr. Rogers produced his seedlings in 1856, and at first introduced them by their numbers only.

VINE: fairly vigorous and moderately productive.

BUNCH: large, shouldered, moderately compact, but somewhat poor.

BERRY: large, round; skin thin, wine color with thick bluish bloom; pulp tender, juicy; flavor sweet, sprightly; seeds two or three, of medium size.

QUALITY: dessert very good.

VALUE: first class for home or foreign market.

SEASON: very late.

SALEM.

One of the finest flavored of Rogers' hybrids; worthy of a place in the home garden

ORIGIN: a hybrid between a native, the Wild Mammoth, fertilized by the Black Hamburg; raised by E. S. Rogers, Salem, Mass.

VINE: vigorous; productive; subject to black rot; foliage large, strong.

BUNCH: medium size; compact; shouldered.

BERRY: size large; form round; color chestnut red, with blue bloom; skin thick; seeds two, large.

FLESH: texture fairly tender, free from hard pulp, juicy; flavor sweet, vinous, sprightly, aromatic.

QUALITY: dessert good.

VALUE: not profitable for Ontario fruit growers

SEASON: about with the Delaware.

TRANSPARENT.

Valuable in Ontario only as a wine grape.

ORIGIN: seedling of Taylor, by Jacob Rommell, of Missouri.

VINE: vigorous, productive, free from mildew and rot.

BUNCH: compact, shouldered.

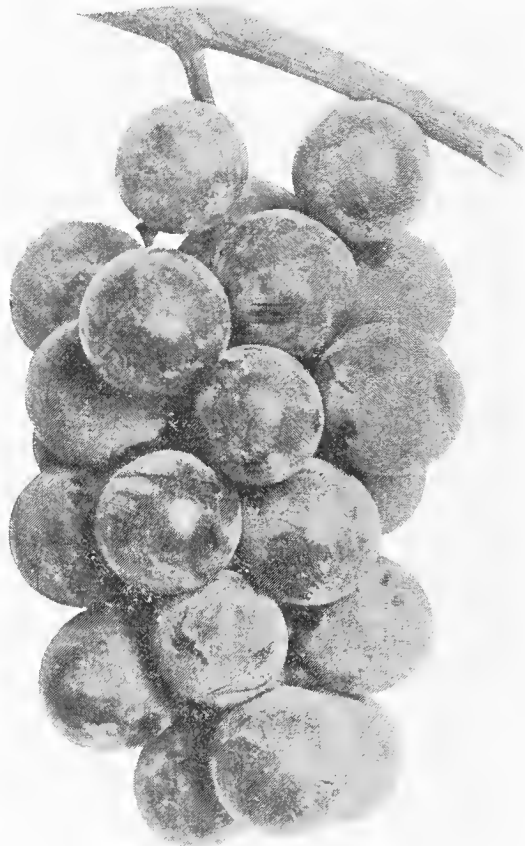
BERRY: firm, round; color, pale greenish yellow, transparent, with thin grey bloom; skin thin; pulp tender, juicy; flavor fine and sweet.

SEASON: medium.

ADAPTATION: southern sections of the Province.

VERGENNES.

The leading grape for winter use; may be kept in a cool cellar until spring.



VERGENNES.

ORIGIN: Vergennes, Vermont; introduced about 1880.

VINE: vigorous; healthy; productive.

BUNCH: medium; slightly shouldered; rather compact.

BERRY: large; oval, persistent; color light amber to red with greyish bloom.

FLESH: color greenish; pulp tender; fairly juicy; flavor rich, pleasant, vinous.

QUALITY: dessert fair; wine good.

VALUE: market, second class in autumn, but more valuable in winter and spring.

SEASON: late, keeping all winter.

WOODRUFF. (*Woodruff's Red*).

An attractive red grape, which promises to be valuable.
ORIGIN: C. H. Woodruff, Ann Arbor, Mich., in 1874; a chance seedling thought to a cross between Catawba and Concord.

VINE: vigorous, hardy, productive; somewhat subject to black rot.

BUNCH: good size; shouldered; compact.

BERRY: large; round; red with thin bloom; does not crack.

QUALITY: dessert good.

VALUE: market first class.

SEASON: about the same as Concord.

WYOMING. (*Wyoming Red*).

An attractive early market grape; ripens before Delaware.

ORIGIN: Wyoming Valley in Pennsylvania.

VINE: healthy; vigorous; hardy and fairly productive.

BUNCH: small; compact; attractive.

BERRY: size medium; color very bright red.

FLESH: texture tender, juicy; flavor sweet.

QUALITY: dessert fair.

VALUE: market first class.

SEASON: medium.

WILDER. (*Rogers' 1*).

Considered in many parts of Ontario the best black grape; but it is not so productive as Concord, nor as resistant of mildew.

ORIGIN: a seedling raised by E. S. Rogers, of Salem, Massachusetts, and named in honor of Marshall P. Wilder, the late president of the Massachusetts Horticultural Society.

VINE: vigorous; somewhat inclined to mildew in unfavorable seasons; but otherwise healthy; canes heavy and long, should have long pruning.



WILDER.

BUNCH: self sterile; medium size; compact, with a small shoulder.

BERRY: large; round; dark purple with slight bloom.

FLESH: texture fairly tender, juicy, somewhat pulpy; flavor rich, sweet, pleasant.

QUALITY: dessert very good.

VALUE: market first class.

SEASON: medium.

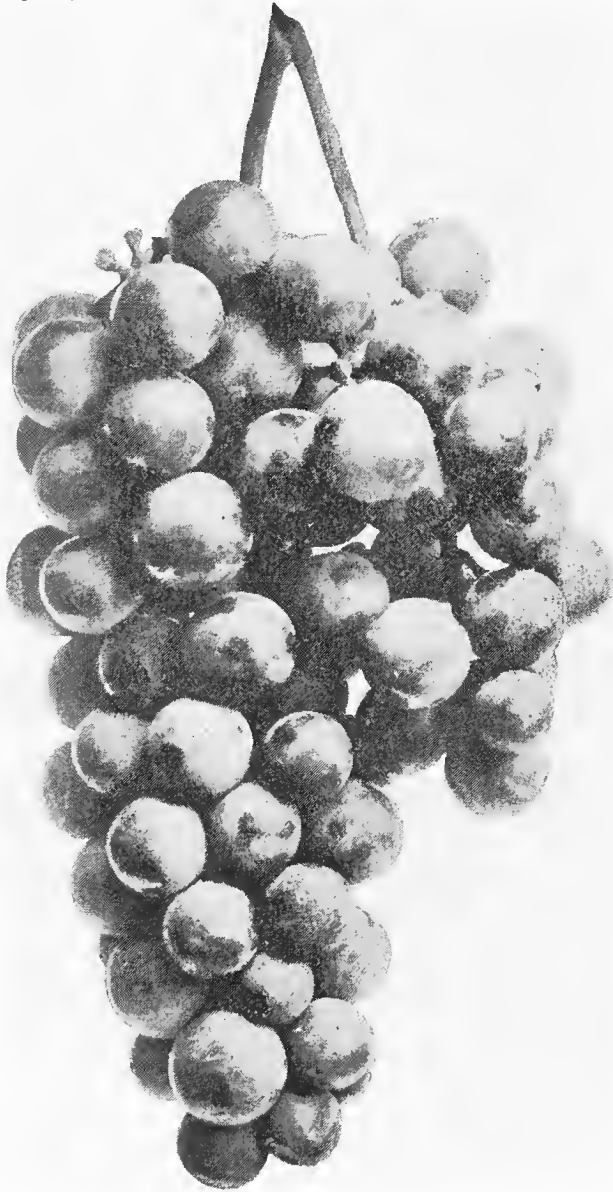
WINCHELL. (*Green Mountain*).

The best white grape of its season for the dessert table. Not much planted for market.

ORIGIN: Green Mountains of Vermont, by a Mr. Winchell, after whom it has been very properly named; but among fruit growers the name Green Mountain has the preference.

VINE: hardy, healthy, only fairly vigorous and fairly productive.

BUNCH: compact; well shouldered.



WINCHELL.

BERRY: color greenish white; size medium; skin thin; pulp tender; flavor sweet and excellent; seeds few and small.

QUALITY: dessert, good.

VALUE: market second class.

SEASON: early.

WORDEN.

The vines of the Worden are almost identical in character and appearance with its parent, the Concord.

When first introduced it was thought to be superior to that variety for the main crop, but it has proved to be so only in its earliness, ripening a few days in advance.

ORIGIN: S. Worden, Minnettoo, N. Y., from Concord seed.

VINE: strong, vigorous grower, with coarse stout foliage, dark green above, rusty underneath; very hardy, healthy and very productive



WORDEN.

BUNCH: large, compact, shouldered.

BERRY: large, black; skin tender, thin, with heavy bloom, cracks easily; flesh sweet when well ripened; pulp tender, and loses flavor soon after ripening; a poor keeper.

QUALITY: fair for dessert purposes.

VALUE: near market first class; berries too loose on stem for long shipments.

SEASON: early.

ADAPTATION: well suited to the northern sections because of its early ripening.

3. Bush Fruits.

In Bush Fruits are included the Blackberry, Currant, Gooseberry, and Raspberry. These fruits, while not being of quite so much importance from a commercial standpoint as the tree fruits, are grown and consumed in very large quantities in Ontario, and as they are used in many ways by housekeepers there will always be a demand for them. They can be grown between the tree fruits to advantage while the latter are young and hence often augment the revenue of the fruit grower materially before the tree fruits come into full bearing.

Some idea of the large quantities of bush fruits which are grown will be obtained from the Dominion census statistics for 1901, where it is stated that there were at that time 8,116 acres devoted to small fruits in Ontario, on which were produced about 16,000,000 quarts valued at \$811,000.00. The strawberry is included in the above estimate. The present area devoted to small fruits is estimated at 10,000 acres.

THE BLACKBERRY.

The blackberry is not grown so largely in Ontario as it might be. It is one of the most profitable fruits to grow where it succeeds well, but as the crop is rather uncertain except in southern Ontario and in localities farther north where it is protected by a deep snow fall, its range of successful culture is somewhat limited. Where there is not danger of winter killing, a well drained clay loam is probably the best for the blackberry, as it is cooler and more retentive of moisture than lighter soils. The blackberry must have plenty of soil moisture when the fruit is ripening, otherwise but little of the crop will develop. Further north, where hardiness is of greater consideration than conservation of moisture, the poorer and warmer soils are preferred, as the blackberry on these soils does not make as rampant a growth and hence ripens its wood better.

The blackberry may be planted in late fall or early in the spring. If planted too early in the fall young growth may start which is likely to be winter killed. The soil should be well prepared and the plants set a little deeper than they were in the nursery, in rows about eight feet apart and three feet apart in the rows. Some growers prefer planting them in hills seven or eight feet apart each way, thus finding them easier to control. Larger fruit is so produced as they can be kept cultivated both ways. Summer pruning is important with the blackberry, as the lower the canes can be kept the better they are likely to come through the winter, and the easier they are to handle. Summer pruning consists in merely pinching back the young growth to within about eighteen inches of the ground, after which side shoots will be thrown out. It is better to err on the side of low pinching than to let the canes get too tall. This summer pruning may, if delayed, cause late growth which will not ripen; hence it should be done in time or not at all. In the spring the laterals should be headed back to within eighteen inches or two feet of the main canes. Old canes and the weakest of the new ones should be cut out in the fall or early in the spring each year. There will be a light crop of fruit the second year and a full crop the third year. Four or five full crops are about as much as should be taken from one plantation.

Blackberries should not be picked until they are ripe. This fruit will never increase in popularity if fruit growers persist in marketing green blackberries, as they are quite unpalatable, whereas the ripe fruit has a fine flavor.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Agawam, Snyder, Eldorado, and for southern sections, Kittatinny.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Burlington District: By A. W. Peart, Burlington, Ont.

Commercial and Domestic: Snyder, Briton, Triumph, Agawam, Taylor.

Lake Simcoe District: By G. C. Caston, Craighurst, Ont.

Commercial and Domestic: Agawam, Eldorado.

DESCRIPTION OF VARIETIES.

AGAWAM.

A profitable variety, and a favorite for the table.

ORIGIN: found growing wild by John Perkins, Ipswich, Mass., about 1870.

PLANT: hardy, vigorous and productive, resistive of drouth.

BERRY: oblong, medium size, black, sweet, tender and of good flavor.

SEASON: early.

ADAPTATION: succeeds in nearly all fruit sections; one of the hardiest varieties. and therefore planted in Northern sections in preference to Kittatinny.



AGAWAM.

BRITON. (*Ancient Briton*).

Counted one of the best varieties where it succeeds; it is a special favorite with fruit growers in Wisconsin, in which State it originated.

ORIGIN: a Wisconsin seedling found by A. H. Briton; first mentioned in the Report of the Wisconsin Horticultural Society, 1869.

PLANT: hardy, vigorous and fairly productive. Budd in his "Systematic Pomology," speaks of it as one of the hardiest varieties yet tested.



BRITON.

BERRY: medium to large; form oblong, conical; texture, melting; flavor very pleasant.

SEASON: medium.

ELDORADO.

A hardy and productive variety.

ORIGIN: accidental seedling near Preble, Ohio, about 1882.

BUSH: a strong, vigorous grower; healthy; hardy; moderately productive.



ELDORADO.

BERRY: medium to large; oblong, conical, irregular; drupes large; seeds and core small; flavor sprightly, pleasant.

QUALITY: table very good.

VALUE: market first class.

SEASON: early.

ERIE.

A variety much like the old Lawton; has not become popular in the commercial plantations of Ontario.

ORIGIN: Ohio, on the farm of L. B. Pierce, who thinks it is a cross between Lawton and Kittatinny; introduced by J. T. Lovett in 1886.

BUSH: fairly vigorous; fairly hardy; productive.

BERRY: form roundish, oblong; size, medium; color black; flavor fairly good.

QUALITY: cooking good.

VALUE: market second class.

SEASON: medium.

KITTATINNY.

This has been the favorite blackberry in Ontario for both home use and market. Unfortunately, it is subject to Orange Rust, for which as yet there is no certain remedy, and in some places fruit growers have given up this variety on account of it.

ORIGIN: Kittatinny Mountains, N. J.; found growing wild by a Mr. Woolverton in 1874, but not much disseminated until many years later.

PLANT: very vigorous, but tender outside of the peach belt; productive; propagated by suckers and by root cuttings.



BERRY: large, oblong, slightly conical; shiny black when ripe, becoming gradually duller after gathering; flesh moderately firm, sweet, rich and excellent.

QUALITY: good for dessert; very good for cooking.

VALUE: first class for home market.

SEASON: medium to late.

LAWTON.

A variety that has done much to popularize the blackberry as a market fruit, but now supplanted by other and better kinds. In some markets all varieties of blackberries go under the name of Lawton.

ORIGIN: introduced by Wm. Lawton, of New Rochelle, N. Y., in 1848.

BUSH: vigorous; hardy; productive; canes very spiny.

BERRY: large; oblong; color jet black when fully ripe, but if gathered sooner it is reddish; texture soft and juicy at full maturity, otherwise it has a hard core, and is sour and insipid; flavor sweet and excellent when quite ripe, but in this condition rather soft for shipment.

QUALITY: cooking good.

VALUE: market second class.

SEASON: medium.

MINNEWASKI.

Introduced with great flourish, but it has proved disappointing, except in the place of origin, because tender and unproductive.

ORIGIN: by A. J. Caywood, of Marlboro, N. Y.

PLANT: a stout, vigorous, upright grower, but unproductive and tender.

BERRY: large, oblong, dull in color, and of fair quality.

SEASON: medium.

OHMER.

An excellent late blackberry, for home use and for market.

ORIGIN: a chance seedling found by N. Ohmer, of Ohio.

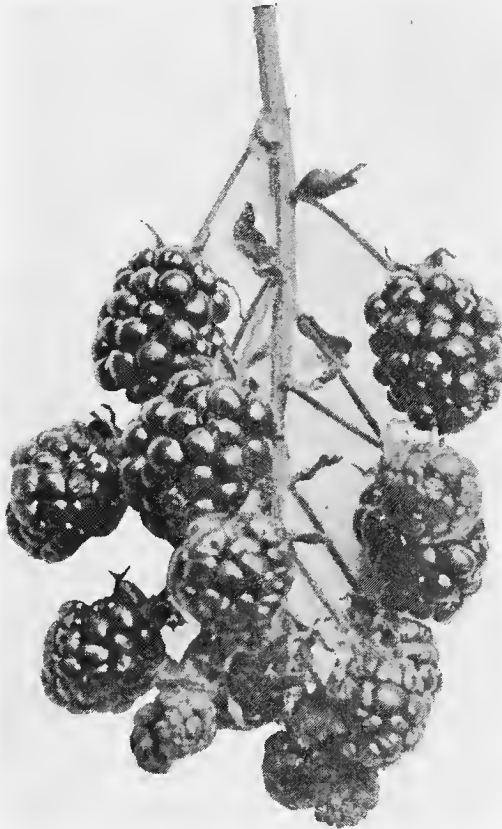
BUSH: vigorous; spreading; very productive.

FRUIT: roundish; black; large; firm without core; juicy; flavor mild, pleasant.

QUALITY: second rate.

VALUE: market first class.

SEASON: medium.



SNYDER.

SNYDER.

A popular variety in the commercial fruit garden, because of its productiveness; very reliable in the colder sections, but not desirable for the table because of its inferior quality.

ORIGIN: on farm of Henry Snyder, near Laporte, Indiana, about the year 1851.

PLANT: a vigorous, stout, upright grower, hardy and very productive.

BERRY: medium size, roundish, firm and carries well.

SEASON: medium.

TAYLOR. (*Taylor's Prolific*).

A valuable commercial berry for colder sections, its season being later than Snyder. ORIGIN: introduced by Mr. Taylor, of Spiceland, Indiana, about the year 1867. BUSH: hardy, vigorous and productive.



TAYLOR.

BERRY: large; roundish oblong; texture soft, juicy; flavor rich, moderately sweet. SEASON: medium to late.

TRIUMPH. (*Western Triumph*).

A good market berry, if grown on favorable soil.

ORIGIN: a chance seedling, found in Illinois, on the prairie, in 1858.

BUSH: moderately vigorous; very productive, inclined to overbear; requires moist bottom and close pruning for best results; semi-hardy.

BERRY: size medium; form roundish oblong; drupelets coarse; flavor sprightly, rich and sweet, without core.

QUALITY: fair.

VALUE: market first class

SEASON: medium to late.

WACHUSETT.

This blackberry was first introduced as Wachusett's Thornless, on account of its comparative freedom from spines. This, however, is the chief point in its favor, as the plant is not productive enough to be of value to the Ontario fruit grower.

ORIGIN: a wild plant on Monadnock Mountain, Massachusetts.

BUSH: a slow grower, at first upright, afterward drooping; healthy, not very productive; spines few; fruit clusters few.

BERRY: size medium; form roundish, moderately firm, of good quality. of good quality.

VALUE: market second class.

SEASON: early to medium.

THE CURRANT.

The currant is a very hardy fruit and for this reason can be grown with success all over the Province of Ontario, and as fair results are obtained without high culture, almost everyone who has a garden grows currants. Like all other fruits, however, the currant becomes most profitable when it is given good care.

The currant is a moisture loving fruit, hence for profit it should be planted in a cool, moist, but well drained soil. It also requires rich soil, hence as a rule the best is a good clay loam which is retentive of moisture and cooler than sandy loam. The soil should be thoroughly prepared for currants before planting. One year old plants from cuttings if strong will give good satisfaction, although two year old plants are not too old. They should be planted in rows about six feet apart, and from four to five feet apart in the rows, the wide distance being more satisfactory for the strong growing varieties and especially black currants. Fall planting is best for currants, as the buds start very early in the spring and should these develop before they can be planted, their future growth will be checked. Then can, however, be planted in the spring with success. The plants should be set a little deeper than they were in the nursery, and the soil well pressed against the roots. Thorough cultivation should follow to promote as much growth as possible, but it should be shallow, as the currant roots are near the surface. The following spring the currants will need some pruning to give them a shapely open head, the bush when well shaped having from five to seven main branches well distributed to avoid crowding. The fruit of red currants is formed from spurs on wood two years old, while the fruit of black currants is borne on wood of the previous year. Currants should be pruned annually to get the best results.

After the bushes are in full bearing, the pruning should be done with the object of removing some of the young and some of the older wood from the ground each year. There should be no wood more than three years old left on black currant bushes, as the object is to keep up a strong growth of young wood. It is also not well to let the wood of red currants get very old, as the finest fruit is produced on the two and three year old wood.

The currant plantation will begin to give some fruit the third season, but a full crop will not be obtained until the fourth.

As the currant is a great feeder, drawing heavily on the fertility of the soil, the plantation should receive an annual dressing of barnyard manure or some other fertilizer. Rotten manure applied in the autumn and cultivated in the next spring gives very good results. Applications of wood ashes or muriate of potash and ground bones are also beneficial.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Black: Black Victoria, Champion, Lee, Naples, Saunders.

Red: Cherry, Fay, Pomona, Red Cross, Victoria, Wilder.

White: White Grape.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Burlington District: By A. W. Peart, Burlington, Ont.

Commercial: *Black:* Lee, Naples, Saunders.

Red: Cherry, Fay, North Star, Prince Albert, Victoria, Wilder.

White: White Grape.

Lake Huron District: By A. E. Sherrington, Walkerton, Ont.

Black: Champion, Naples, Saunders.

Red: Pomona, Red Cross.

DESCRIPTION OF VARIETIES.

BLACK VICTORIA.



BLACK VICTORIA.

BUSH: upright, of medium vigor, healthy, hardy and productive.

BERRY: large, black, firm, sweet.

QUALITY: fine.

SEASON: medium.

BRAYLEY.

BUSH: upright, spreading, vigorous, healthy, hardy; not very productive.

BUNCH: long, straggling, loose.

BERRY: dark red in color; size medium; flavor acid, sprightly.

SEASON: medium.

CHERRY. (*Red Imperial, Fertile d'Angers of LeRoy*).

The principal red currant grown in Southern Ontario for commercial purposes. Its large size, fine color and earliness, combine to make it the most satisfactory of all varieties for market, and many acres have been set out for this purpose. When well cultivated and well pruned back, a plantation of Cherry currants will continue very productive for at least twelve or fifteen years.

ORIGIN: Italy; introduced into the United States in 1846.

PLANT: vigorous, a stout stocky grower; very productive; begins bearing the second year after planting; foliage thick, dark green.

BUNCH: usually short, but sometimes long and tapering, compact.

BERRY: very large, globular; bright red in color; flavor subacid; texture firm.

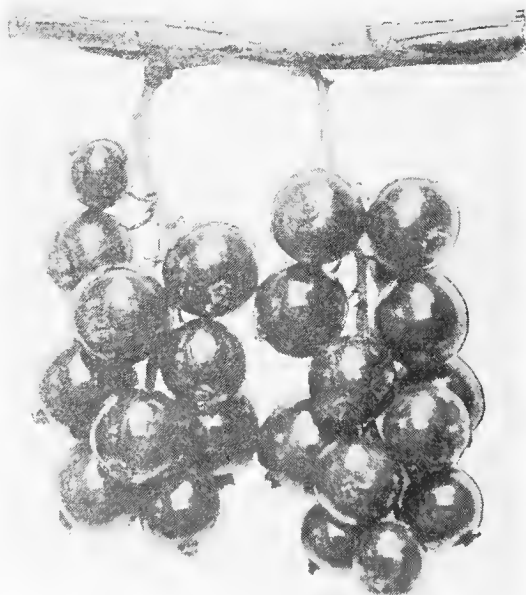
QUALITY: fair

VALUE: first class for market and for jellies.

SEASON: medium to late.

ADAPTATION: general, but succeeds better on clay loam than upon light sand.

15a F.O.



CHERRY.

CHATAUQUA.

ORIGIN: New York State.

PLANT: vigorous; very productive.

BUNCH: long; compact.

FRUIT: deep, bright red; about size of the Cherry currant; flavor acid.

QUALITY: good.

VALUE: market first class.

SEASON: medium.

CRANDALL.

This interesting currant is of very doubtful value for the currant plantation, for canning. It is of the *Ribes aureum* type, or flowering currant, and was produced from seed of that variety by Mr. Crandall.

ORIGIN: Kansas.

BUSH: upright, spreading, hardy, healthy, vigorous, rampant and moderately productive.

BUNCH: short, compact.

BERRY: variable in size; bluish black; skin thick; flavor sprightly, sub-acid.

SEASON: medium to late; ripens unevenly, some of the later berries hanging until frost.



FAY.

FAY. (*Fay's Prolific*).

A variety that has been much advertised as superior to the Cherry, but, as a matter of fact, is very similar in fruit and in productiveness.

ORIGIN: New York State.

BUSH: vigorous, but sprawling, and somewhat subject to the borer where the shoots are not frequently renewed; productive.

BUNCH: moderately close, loose toward the base.

BERRY: very large, globular; bright red; firm; flavor subacid.

QUALITY: good.

VALUE: first class for market.

SEASON: medium to late.

HOLLAND. (*White Holland, Long Bunched Holland*).

The best bunched and the most showy of the white currants.

BUSH: vigorous, healthy and quite productive.

BUNCH: loose at base of racemes, close toward apex.

BERRY: globular; skin thick, white; flavor mild acid.

SEASON: medium.

LEE.



LEE.

A good commercial variety.

ORIGIN: England.

BUSH: moderately vigorous, healthy, hardy and moderately productive.

BERRY: black, very large; flavor sub-acid; quality, very good.

SEASON: medium.

LONDON. (*London Market*).

One of the most promising of the new varieties for all purposes.

ORIGIN: England.

BUSH: very vigorous, healthy, very productive.

BUNCH: comparatively compact.

BERRY: color red; quality fair.

VALUE: very good for both kitchen and market.

SEASON: medium.

MIDDLESEX. (*Saunders' 12*).

ORIGIN: with Dr. Saunders, Ottawa, Canada.

BUSH: very vigorous, healthy, very productive.

BUNCH: compact.

BERRY: round; skin jet black, thick; flavor good.

VALUE: first class for cooking and market.

SEASON: medium.

NAPLES.

One of the best market varieties of black currants.

ORIGIN: Europe.

BUSH: upright, strong, vigorous, hardy, healthy and very productive.

BERRY: large, black, sub-acid.

QUALITY: good.

SEASON: medium to late.



NAPLES.

NORTH STAR.



NORTH STAR.

ORIGIN: Minnesota.

BUSH: vigorous, healthy, moderately productive.

BUNCH: compact.

BERRY: round; skin thin, bright red; sub-acid.

QUALITY: cooking very good.

VALUE: second class on account of size, but, season and productiveness considered, it might be rated first class.

SEASON: medium to late.

PRINCE ALBERT.

One of the most profitable red currants; excellent for canning.



PRINCE ALBERT.

RED CROSS.

Very much resembles Cherry, but somewhat poorer in bunch.

ORIGIN: New York State, probably a cross between the Cherry and the White Grape.

BUSH: upright; vigorous; hardy; fairly productive.

BUNCH: compact.

BERRY: round; color bright red; flavor fairly good, agreeably acid.

SEASON: medium.

BUSH: a poor grower while young, but as it grows older quite vigorous and productive. Beach, of Geneva, N. Y., in a three years' test found this the most productive currant in his collection, yielding, during that period, an average of about nine pounds per bush; leaves large and deeply cut.

BUNCH: short to medium length.

BERRY: size medium; color light red; flavor very acid.

QUALITY: first class for cooking or jelly.

VALUE: market first class.

SEASON: late.



RED CROSS.

RED DUTCH.

Too small for the commercial plantation; fine flavor for dessert.

ORIGIN: Europe.

BUSH: dwarfish, slender; hardy; very productive.

BUNCH: medium; loose.

BERRY: small, oblate, sprightly, sub-acid, pleasant.

VALUE: second class for market.

SEASON: medium.

ST. GILES. (*Belle de St. Giles*).

This is a large berry of fine quality, but not productive enough for the commercial plantation.

ORIGIN: Europe.

BUSH: upright, spreading; vigor medium; hardy, not very productive.

BUNCH: large and compact.

BERRY: red, large, subacid.

QUALITY: excellent.

SEASON: medium.

SAUNDERS.

A very promising black currant.

ORIGIN: London, Ontario, by Dr. Wm. Saunders.

BUSH: vigorous; hardy; healthy; productive.



SAUNDERS.

BERRY: large; black; flavor sweetish or subacid.

QUALITY: very good.

VALUE: market first class

SEASON: medium.

VICTORIA.

A good commercial variety.

ORIGIN: England.

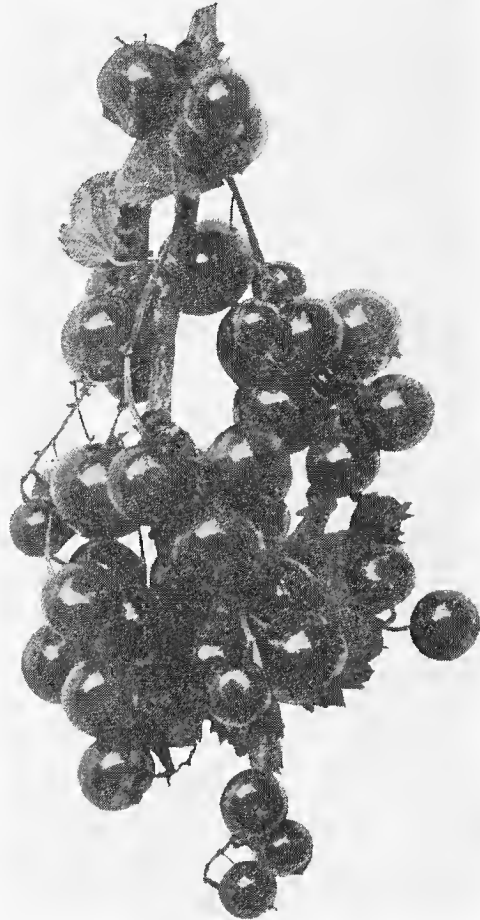
BUSH: very vigorous; hardy; very productive.

BUNCH: long, loose.

BERRY: medium; color red; firm; flavor acid.

VALUE: market first class.

SEASON: medium.



VICTORIA.



VERSAILLAISE.

VERSAILLAISE.

This variety closely resembles Cherry.

ORIGIN: France.

BUSH: healthy, hardy, fairly vigorous and fairly productive.

BUNCH: medium and moderately compact.

BERRY: round; bright red; flavor milder than that of the Cherry.

VALUE: market first class.

SEASON: medium to late.

WHITE GRAPE. (*White Antwerp; White Transparent*).

This is esteemed the finest of all the white currants, when its many good points are taken into consideration, viz., quality, beauty and productiveness. For market, its white color is against it, but for the home garden it is one of the best.

ORIGIN: Europe.

BUSH: moderately vigorous; hardy; very productive.



WHITE GRAPE.

BUNCH: somewhat straggling.

BERRY: skin white, transparent; flavor mild acid, sprightly, agreeable.

QUALITY: best for dessert.

VALUE: first class for market.

SEASON: medium.

WHITE IMPERIAL.

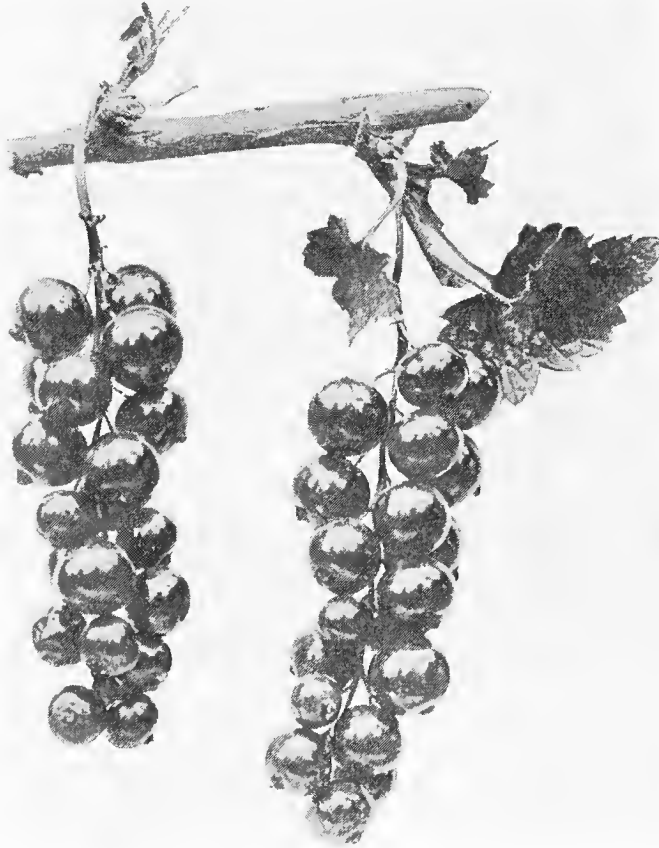
BUSH: vigorous, hardy, healthy and fairly productive.

BUNCH: loose, with half an inch of stem.

BERRY: white; flavor mild; quality fine.

QUALITY: dessert very good.

SEASON: medium.



WILDER

WILDER.

This is one of the best of the red currants and has given an excellent record at our Burlington station. It is highly recommended in a recent report of the American Pomological Society.

ORIGIN: New York State, named in honor of the late Marshall P. Wilder.

BUSH: healthy, hardy and very productive.

BUNCH: compact.

BERRY: dull red; form uneven; mild in flavor; of good quality.

VALUE: first class for market.

SEASON: medium.

THE GOOSEBERRY.

The gooseberry and the currant are the two hardiest bush fruits which are cultivated, and the gooseberry, like the currant, succeeds in all parts of the Province, although the hardy gooseberries are confined to the varieties derived from the native species and to crosses between the native and the European. The European varieties are only grown successfully in favored locations as in most places they are very subject to mildew.

The gooseberry, like the currant, requires a cool, moist, though well drained soil to give the best results, and suffers more than almost any other fruit in a dry time. These cool, moist conditions are best obtained as a rule by planting in a well drained friable clay loam. The soil should be thoroughly prepared, as although the gooseberry will give a fine crop of fruit, even if not well cared for, the size will be small. Gooseberries may be planted with success either in spring or fall, but fall planting is preferable, as growth begins early and plants usually receive a severe check if planted in the spring.

A good distance for planting is six by four or five feet. As gooseberries and currants are usually planted together, it is best to give them both the same distance so that cultivation will be easier. The soil should be well cultivated every year to retain moisture. As the gooseberry makes much more wood each year than is needed, annual pruning is necessary.

The pruning should be begun before growth starts the second year, and with the object of obtaining an open bush having four or five main fruiting branches well distributed. The annual pruning should consist of removing most of the young branches, leaving a few of the best to take the place of some of the older ones later on and removing enough of the laterals to open up the head.

The gooseberry produces its fruit on spurs on wood two or more years old, hence there should always be a fair amount of this wood. Wood more than three years old should be removed to give place to that which is younger and which will bear better fruit.

The soil should be well fertilized and treated in this respect much like the currant.

The bushes will bear some fruit in the third season and should have a full crop in the fourth.

Although in England and Europe ripe gooseberries are highly esteemed, few of them are eaten raw in Ontario, hence this fruit is usually picked green and used for sauce, canning and pies. Being firm, it ships well and is usually a profitable crop.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Pearl, Downing, Red Jacket. Whitesmith is one of the best English varieties, but is almost valueless on some soils and in some localities owing to mildew.

DESCRIPTION OF VARIETIES.

CHAMPION.

A valuable variety for market in green condition.

ORIGIN: at Salem, Oregon.

PLANT: very vigorous; of easy cultivation; fairly productive.

BERRY: size about equal to that of Downing; form round oval; skin greenish yellow, thin, tender; flavor fair.

QUALITY: fair.

VALUE: market second class.

SEASON: early.

CROWN BOB.

A profitable gooseberry.

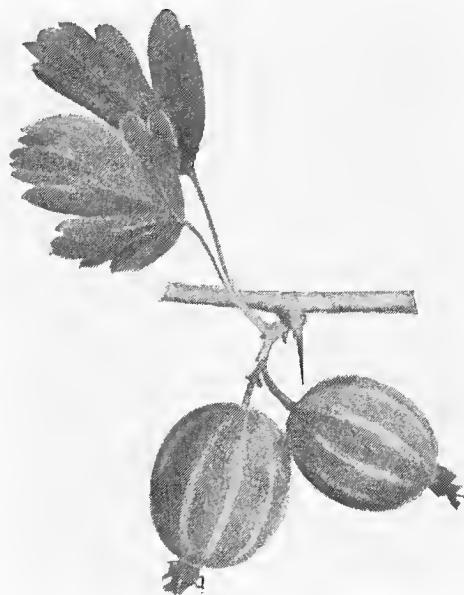
BUSH: inclined to overbear, and thus exhaust its vitality; drooping in habit.

BERRY: oblong, very large, especially if thinned before it is full grown; skin thin, hairy; color red; of very good flavor, but being an English variety is subject to mildew.

SEASON: early.

DOWNING.

This has been the most popular gooseberry of American origin for some years, unless we except the Pearl, a variety of Canadian origin, very similar in size and appearance. It is very widely known and planted all over the continent of North America. It is not subject to mildew, and succeeds splendidly everywhere.



DOWNING. (slightly reduced).

ORIGIN: by Chas. Downing, Newburgh, N. Y.; a seedling of Houghton.

PLANT: first rate in health and vigor and productiveness; an upright grower.

FRUIT: size medium; form round, often somewhat narrowed toward apex; skin smooth, transparent green with distinct light green ribs, and a thin whitish bloom.

FLESH: light green; tender; sweet and good.

VALUE: for market first class.

SEASON: medium.

KEEPSAKE.

A very good commercial gooseberry, which succeeds in many parts of Ontario.

ORIGIN: England.

BUSH: vigorous; productive; very little subject to mildew.

BERRY: medium to large; form nearly round; color greenish white; skin smooth; flavor sweetish.

QUALITY: very good.

VALUE: market first class.

PEARL.

The Pearl gooseberry has been widely planted in the commercial gardens of Canada and the United States. It is certainly a magnificent cropper, but it is very difficult indeed to distinguish the berry from the Downing, except that it averages a trifle larger.

ORIGIN: London, Ontario, by Mr. Saunders; a cross between Houghton and Red Warrington.

PLANT: healthy, not subject to mildew; upright, spreading; first rate in vigor and in productiveness.

FRUIT: medium, round, often narrowing toward apex; skin smooth, transparent green, with thin whitish bloom and light green ribs.

FLESH: light green, tender, sweet and good.

VALUE: market very much the same as Downing.

SEASON: medium.



PEARL.

RED JACKET. (*Josselyn*).

One of the best gooseberries for the Ontario fruit grower, either for home use or for market.



RED JACKET.

ORIGIN: at London, Ont., by Dr. Wm. Saunders.

PLANT: an excellent grower; free from mildew; almost equal to Pearl in productiveness.

BERRY: form round oval; color reddish green, shading into red; skin smooth and transparent, rather tender; texture juicy; flavor rich.

QUALITY: cooking very good.

VALUE: market first class.

SEASON: medium.

WHITESMITH.

One of the best of the English varieties for cultivation in Ontario; succeeds on clay land, with northern aspect. On the sandy soil of the Niagara district it is much affected by mildew.

ORIGIN: England.

PLANT: upright, fairly productive, fairly vigorous.

FRUIT: large, oval, downy, with distinct regular veins; green, and when ripe sweet and agreeable.

QUALITY: very good for home uses.

VALUE: first class for market.

SEASON: early.

THE RASPBERRY.

Next to the strawberry, the raspberry is the most popular bush fruit grown in Ontario, and as it follows the former in season the consumer is well supplied with these two fruits most of the summer. The raspberry being a native of Ontario, is hardy in almost all parts of the Province, hence it is cultivated over a very wide area.

Like the other bush fruits, the raspberry does best when grown in a cool, moist, but well drained soil. While this soil should be of good quality, if it is very rich in nitrogen the growth may be too rank and in some localities the canes on this account are more liable to winter injury. The best success is usually obtained with a good clay loam, although the raspberry will do fairly well in most kinds of soil. The preparation of the land should be the same as for other bush fruits. The plants may be set either in fall or spring, although if young growing suckers are used they may be planted successfully any time in the early part of the summer where the soil is moist. Red raspberries are usually planted in rows six feet apart with the plants three feet apart in the rows, although they may be cultivated longer and better if grown in hills about five feet each way, and for the amateur this is the best way to grow them. The cultivation of the raspberry should be thorough to retain moisture, as in the fruiting season a good supply of moisture is very important. Some growers prefer pinching back the canes in summer when they are from eighteen inches to two feet in height, believing that they get a better crop by so doing, but this system is not recommended as it has been found by experiments that red raspberries succeed better when the growth is not headed back in summer. Sometimes, also, the pinching is delayed and the laterals which are made do not ripen thoroughly and the canes are injured by winter. It is best to let the canes make full growth in summer and if they are very tall they may be headed back to three or four feet in height before growth begins in the spring. Black raspberries are planted most successfully in the spring. They should be set rather shallow, as if planted deep they will not grow. Stockier plants will be obtained if the plants are set in a furrow and lightly covered with soil, applying more soil as the plants grow until the field is level. Pinching back in summer is a good practice with black raspberries, as it makes the plants stockier and better able to withstand storms. The thinning out of the canes may be done in fall or spring. Seven or eight of the strong canes of red raspberries to a hill and three or four of black raspberries are sufficient to leave. If the raspberries are grown in a hedge row the weakest canes should be removed, leaving those which are to fruit about six inches apart. The raspberry plantation should be kept well supplied with plant food, but a too liberal use of nitrogenous fertilizers, as previously stated, should be avoided.

In the colder parts of the country it is a very good practice to bend the canes down in the fall for better protection in winter, the canes being held in place by covering the tips with soil. By adopting this plan serious winter injury rarely occurs.

VARIETIES RECOMMENDED.

GENERAL LIST, APPROVED BY THE BOARD OF CONTROL.

Black: Hilborn, Older, Gregg, Smith Giant.

Purple: Columbian, Shaffer.

Red: Marlboro, Herbert, Cuthbert.

White: Golden Queen.

DISTRICT LISTS, RECOMMENDED BY THE EXPERIMENTERS.

Lake Huron District: By A. E. Sherrington, Walkerton, Ont.

Commercial and Domestic:

Black: Hilborn, Conrath, Older.

Purple: Columbian, Shaffer.

Red: Marlboro, Herbert, Cuthbert.

DESCRIPTION OF VARIETIES.

CAROLINE.

A very productive variety, but of little use for market because too soft for shipping, and not in favor for home use because of its ordinary quality.

ORIGIN: at New Rochelle, N. Y., by S. P. Carpenter; supposed seedling of Brinckle's Orange.

FRUIT: medium size; form round; color pinkish yellow; seeds small, close, easily parted from each other and from stalk; flesh juicy, sweet, lacking in flavor.

QUALITY: only fair for all purposes.

VALUE: second class for market.

SEASON: early.

CONRATH.

One of the best blackcaps for profit.



CONRATH (slightly reduced).

ORIGIN: Michigan, in 1886; a chance seedling near Ann Arbor; introduced by Conrath Bros.

BUSH: vigorous, healthy, productive, resistant to drouth.

BERRY: large; firm; black.

QUALITY: good for either cooking or dessert.

VALUE: for market very good.

SEASON: early.

ADAPTATION: succeeds well at our Lake Huron station. Highly recommended in Catalogue of American Pomological Society for Ontario, Michigan and New York.

COLUMBIAN.

Valuable for cooking, canning and table use; but not popular in color as a market berry.

ORIGIN: a supposed seedling of Cuthbert, crossed with Gregg, at Oneida, N. Y.

PLANT: a strong, vigorous grower; very productive.

BERRY: size large; color purple; texture fairly firm, moderately juicy; flavor nearly sweet.

QUALITY: very good for cooking; fair for dessert.

VALUE: market second class.

SEASON: medium.

CUTHBERT. (*Queen of the Market*).

Previous to the introduction of the Cuthbert, many varieties of raspberries were grown for profit, such as Turner, Philadelphia, Highland Hardy, etc., but these have given place entirely and are heard of no longer. So prolific has this variety proved itself that acres have been planted by fruit growers throughout Ontario, and immense quantities of its fine fruit sent into our best markets. A favorite for canning factories.



CUTHBERT.

ORIGIN: chance seedling in the garden of Thomas Cuthbert, Riverdale, N. Y.

PLANT: vigorous, canes strong, often six feet high or more on rich sandy loam not too dry; sometimes branching; very productive; spines short, stout, numerous; suckers almost too freely and young growth needs to be kept within bounds.

FRUIT: large; color bright crimson; form conical, obtuse at apex; seeds small, compact, part easily from stalk when very ripe; flesh firm, fairly juicy, sweet, agreeable.

SEASON: medium.

QUALITY: very good for cooking; good for dessert.

VALUE: first class for market.

CUMBERLAND.

A promising black cap.

ORIGIN: by David Miller, Camp Hill, Pennsylvania, in 1896.

PLANT: vigorous; productive.

BERRY: size very large; form oval; color black; texture firm; flavor very pleasant.

QUALITY: dessert or cooking very good.

VALUE: market first class.

SEASON: early.

GOLDEN QUEEN.

A good yellow variety; not grown for market, the red colored varieties being more in demand.



GOLDEN QUEEN.

ORIGIN: New Jersey; a sport of the Cuthbert; 1883.

BUSH: vigorous; very productive; hardy.

BERRY: medium to large; roundish conical; color rich golden yellow; similar to Cuthbert except in color.

FLESH: tender; juicy; sweet.

QUALITY: dessert good; cooking good.

VALUE: market second class.

SEASON: medium.

GREGG.

One of the best late blackcaps for market purposes; an excellent shipper and also much valued for evaporating.



GREGG.

ORIGIN: on the Gregg farm, Ohio County, Indiana, in 1866.

PLANT: vigorous; fairly hardy; canes upright, clean and smooth, rather difficult of propagation; very productive.

BERRY: size large; color black with grey bloom; texture firm, moderately juicy; flavor sweet.

SEASON: late.

HERBERT.

A valuable red raspberry for the commercial plantation; combining the good qualities, hardiness, productiveness and earliness.

ORIGIN: a chance seedling in the garden of Mr. R. B. Whyte, Ottawa, about the year 1890; introduced by the Renfrew Nursery Company.

BUSH: hardy, enduring the cold winters at Ottawa with a temperature of 30 below zero; vigorous; about equal to Cuthbert; productive.

BERRY: large; color bright red; form, somewhat oblong; texture a little tender, juicy; flavor sweet and excellent.

QUALITY: very good for all purposes.

VALUE: market, first class.

SEASON: earlier than Cuthbert.



HERBERT.

HILBORN.

A favorite blackcap for market in some localities.



HILBORN.

ORIGIN: a chance seedling, introduced by W. W. Hilborn, of Leamington, Ontario, in 1886.

BUSH: hardy; vigorous; productive.

FRUIT: medium to large, about the size of Gregg; color black; texture firm, juicy; flavor rich and good.

QUALITY: first class for dessert or cooking.

VALUE: market first class.

SEASON: early.

KANSAS.

One of the newer blackcaps.

ORIGIN: chance seedling in Kansas, U. S., about 1884.

BUSH: vigorous; very thorny; propagation easy; tender in Lake Huron District.

BERRY: large; roundish; color shining black.

FLESH: firm; moderately juicy; flavor mild, pleasant.

QUALITY: very good for canning, pies, etc.

VALUE: market first class.

SEASON: medium.

 LOUDON.

A good market variety, the berries being a little larger than Cuthbert, but not quite equal to it in quality.

ORIGIN: raised by F. W. Loudon, of Wisconsin, from seed of Turner crossed with Cuthbert.

PLANT: hardy; very productive; but not very vigorous; canes very slightly branched, and have strong buds which produce the fruiting branches; pinching back the tips is therefore not wise.

BERRY: size large; form conical; color red, attractive; grains large, inclined to crumble; texture firm; flavor fair.

QUALITY: dessert or cooking fair.

VALUE: first class for market.

SEASON: medium.

 MARLBORO.

This raspberry has been coming gradually to the front ever since its introduction about the year 1880. The old Highland Hardy for a while disputed its place as an early market berry, but the superior size and beauty of the former soon caused the latter to give place entirely, until Marlboro and Cuthbert have been for many years the two leading varieties of red raspberries to cover the season.



MARLBORO.

PLANT: fairly vigorous; canes short, stout, upright, without branches; propagated by suckers; fairly productive.

BERRY: round; color light red; seeds close and firm; flavor mild, pleasant; texture rather seedy.

QUALITY: fairly good.

VALUE: market first class.

SEASON: early.

 MILLER.

A promising berry for near markets.

ORIGIN: found near Wilmington, Delaware.

PLANT: strong; vigorous; hardy; productive.

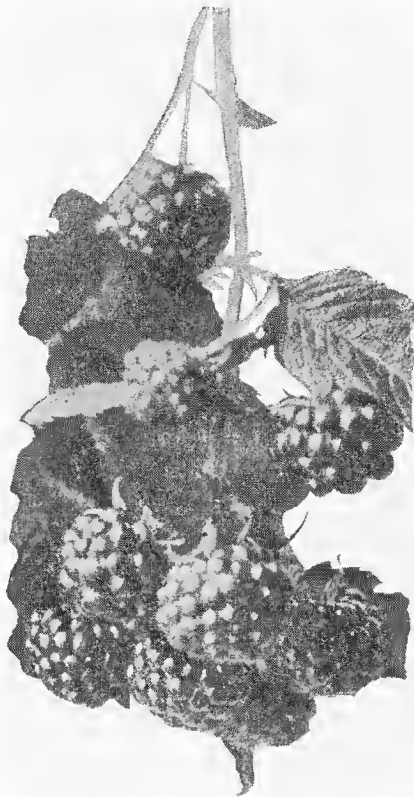
BERRY: medium; color bright red; texture tender; flavor sweet, pleasant.

QUALITY: very good.

SEASON: early.

OLDER.

A popular blackcap in Iowa; counted a failure in Michigan; reported upon favorably at our Lake Huron station.



OLDER.

ORIGIN: a chance seedling in the garden of Mr. Older, of Independence, Iowa, in 1872.

PLANT: vigorous; hardy at Ottawa, Guelph and Walkerton; canes of a trailing nature and need cutting back; endures drouth well; very productive.

BERRY: large; color jet black without bloom; texture juicy and moderately firm; flavor pleasant.

QUALITY: good.

SEASON: early to medium.

PHENIX.

Considered a profitable market variety for some growers, but by others reported as only moderately productive.

ORIGIN: United States.

BUSH: fairly vigorous; hardy; not very productive.

BERRY: large; red.

QUALITY: very good.

SEASON: medium.

RELIANCE.

A fairly good early table berry; rather soft for shipment; resembles Turner.

ORIGIN: New Jersey; a seedling of the Philadelphia raspberry.

BUSH: healthy; canes strong and vigorous; very productive.

BERRY: size medium; color dark red; texture inclined to be soft and juicy; flavor sweetish, ordinary.

QUALITY: dessert and cooking fair.

VALUE: first class for near market; second class for shipping

SEASON: early.

SHAFFER.

On its first introduction the Shaffer created much enthusiasm by reason of its thrift, productiveness and good quality. It is still considerably grown for canning purposes, but its color is not a favorite one in the market.



SHAFFER.

ORIGIN: on farm of Mr. Shaffer, Wheatland, N. Y., in 1869; introduced by Chas. Green, Rochester, in 1881.

PLANT: very vigorous; canes grow six or seven feet high, if not pinched back; very productive; propagates from tips.

FRUIT: large; color purple; form roundish; grains large, loose, easily separated from stalk; flesh very juicy and tender; flavor sweet, rich and very agreeable.

QUALITY: very good for cooking; good for dessert.

VALUE: second class for market.

SEASON: medium.

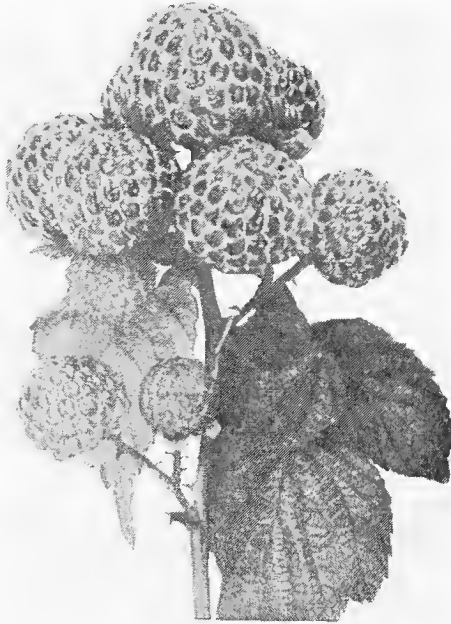
SMITH GIANT.

A very promising black raspberry for the commercial plantation.

ORIGIN: with A. M. Smith, St. Catharines, Ont.

PLANT: vigorous, fairly hardy and quite productive.

FRUIT: very large; black, with heavy bloom.



SMITH GIANT.

QUALITY: dessert or cooking very good.

VALUE: market one of the best.

SEASON: late.

TURNER.

A fine table berry, and valuable for the home garden; a good market berry, but rather soft for distant shipment.

ORIGIN: by J. B. Turner, Jacksonville, Illinois.

PLANT: very hardy; fairly vigorous, making a good strong cane; productive.

BERRY: form roundish conical; size medium; color dark red; texture soft; flavor sweet, excellent.

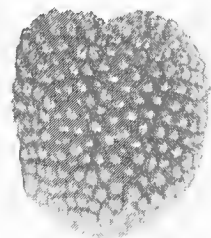
QUALITY: dessert or cooking very good.

VALUE: home market first class; distant market second class.

SEASON: medium.

STRAWBERRY-RASPBERRY.

Considered somewhat valuable for canning, presenting an attractive appearance in the jar; interesting as a curiosity, but of no commercial value; may become a troublesome weed.



STRAWBERRY-RASPBERRY.

PLANT: easily propagated by suckers and rootstocks; scantily productive; stalks grow eighteen inches high and die down in the fall; fruits on growth of the current season.

BERRY: large; color a beautiful bright red; quality poor, but somewhat improved by cooking.

VALUE: market third class.

SEASON: July to September.

4. The Strawberry.

The strawberry is the most popular fruit cultivated in Ontario. This is doubtless due in part to the intrinsic value of the strawberry itself, which is one of the most delicious of fruits, but it is believed that the popularity of the strawberry comes largely from the fact that it can be grown by almost every one, as, unlike most fruits, very little land is required to produce sufficient for home consumption.

Strawberries can be grown in all parts of Ontario where the soil is suitable, hence large quantities are produced and consumed annually, and owing to the difference in the time of ripening between the southern and northern parts of the Province, the season is lengthened very much, and furthermore, the strawberries of one district do not come in such close competition with those from another as they would do if all ripened at the same time.

Strawberries will succeed on almost any rich well drained soil, but the largest crops are, it is believed, produced on a friable clay loam which is retentive of moisture. It is important, however, to avoid planting strawberries where water is likely to lie at any time, as surface water is very injurious to strawberries, and if water freezes over strawberries in winter they are almost sure to be killed.

In preparing soil for this fruit, it should be made very rich. There are no records known where land was made too rich for strawberries. There is nothing so good as well rotted manure for this purpose. Fresh manure is not so good, as it usually contains many weed seeds which will germinate after the manure is applied. The manure should be thoroughly worked into the surface soil early in the spring, for if this is not well done the soil will dry out, the conservation of moisture being important in growing strawberries. Strawberries also do well after clover, which in part takes the place of manure. The best time to set out the plants is early in the spring. Fall planting is not recommended, as although there is fair success in wet seasons, in a dry year the plants usually suffer.

When the ground has been marked off into rows about $3\frac{1}{2}$ feet apart with cross rows about 18 to 20 inches apart, the plants are set at the intersections of the rows. The usual practice with large growers is for one person to open a hole with a spade, and another, preferably a boy, to place the plant, the soil being then pressed against the plant with the foot. In smaller plantations, planting with a trowel will be found very satisfactory. The chief essentials in planting are first to have the crown of the plant a little below the surface of the soil when it is pressed down. If the crown comes above the surface of the soil the plant is almost sure to die from drying out, and if set too deep the plant is liable to rot. The second important point is to make the soil firm about the plant, thus causing the moisture to rise to the roots. Strawberry plants are almost sure to die, especially in a dry time, if this precaution is not taken. A third essential, is to spread the roots in the cleft made by the spade, as although the plants will live even if this is not done, they will start quicker and thrive better if the roots are properly spread. After the plants are set cultivation should be thorough to conserve moisture and encourage the production of young plants early in the season, as the earlier these young plants are produced and become rooted, the larger crop they are likely to bear the next season.

All flowers should be pinched off the first season, as they exhaust the strength of the plant and delay the production of runners. The most common method of growing strawberries is in the matted row. Grown in this way there should be a row of plants about two feet in width by autumn. During the summer, as

runners are made, they should be placed about six inches apart and held with a little soil so as to give the plants the best chance to develop. After a row of the required width has been formed, later plants should, if possible, be cut out by hand and with the cultivator, so that the rows will not become too crowded nor too wide. A full crop should be obtained the second season. Hill culture and narrow rows are recommended in some quarters, but while finer fruit is obtained than by the matted row system, more labor is involved.

It is advisable to cover the strawberries lightly with straw after the ground freezes, to prevent the alternate thawing and freezing of the ground in winter and early spring. This covering should be removed in the spring before growth begins.

To get the best results only one crop should be taken from a strawberry plantation. If the land is very clean and the varieties used do not run much, two crops can be removed with profit. As a rule, however, the labor involved in destroying weeds, and the deterioration in size of fruit, makes it more profitable to plough up the plantation after the first crop.

It should be thoroughly understood by those intending to plant strawberries that some varieties have imperfect flowers and will not produce fruit unless a perfect flowering sort is planted near to pollinize the imperfect flowers. One row of the perfect variety to three of an imperfect is usually sufficient. There are many new varieties of strawberries introduced every year, but few of these are better or even as good as those already on the market. However, the old kinds are constantly giving place to the new, and it is wise for the fruit grower to learn which new varieties are giving the best results. Many varieties are described in this report, but it will be found that but few are recommended.

VARIETIES RECOMMENDED.

Commercial: Splendid (Perfect), Bederwood (P.), Warfield (Imperfect), not suited to light, sandy soil, Greenville (Imp.), Williams (P.), Saunders (P.), Sample (Imp.), Irene (Imp.), Buster (Imp.).

Domestic: Van Deman (P.), Splendid (P.), Excelsior (P.), Dunlap (P.), Ruby (P.), Bubach (Imp.), Irene (Imp.), Belt (P.), Lovett (P.).

NOTE.—In selecting varieties for planting, perfect-flowered varieties should be included to fertilize those having imperfect flowers.

DESCRIPTION OF VARIETIES

ANNIE LAURIE.

This is a very late variety, also one of the best quality. It may be taken as a standard for quality and flavor.

ORIGIN: a seedling grown by John F. Beaver, of Ohio, in 1889.

PLANT: very healthy and a good grower, making plenty of runners for a fruiting row. No rust; perfect blossom; moderately productive.

FRUIT: berries are large and round, like the Jersey Queen, with gold seeds prominent. A very bright glossy scarlet, making a fine appearance.

FLESH: pinkish white, of the very finest quality; a fine table variety.

SEASON: late.

 BEDERWOOD.

One of the most productive of the early varieties.

ORIGIN: with Bederwood, of Illinois.

PLANT: vigorous; inclined to rust; very productive. Stevenson ranks it "as the standard of productiveness for early varieties," blossom perfect, an excellent pollinizer.

BERRY: size small; form roundish; color light vermilion.

FLESH: texture soft; flavor sweet, ordinary.

QUALITY: dessert poor; canning fair.

VALUE: near market first class; distant second class.

SEASON: early.

 BELT.

ORIGIN: this berry comes from Ohio, having been originated by Wm. Belt, of that State. It is being grown largely as a fancy berry.

PLANT: large and strong, but rusts sometimes very badly; perfect blossom; quite productive.



BELT.

FRUIT: large to very large, conical; bright scarlet in color; firm.

FLESH: pink slashed with white; nice mild flavor; best quality.

SEASON: medium to late.

 BRANDYWINE.

Highly valued in some sections.

ORIGIN: seedling of Glendale x Cumberland, raised by E. Ingram of Pennsylvania; introduced in 1894.

PLANT: very vigorous; propagates almost too freely; perfect flowered; productive.

BERRY: large; form oblate conical; color crimson.

FLESH: texture firm; flavor agreeable acid.

QUALITY: dessert very good.

VALUE: market first class.

SEASON: medium to late.

BISMARCK.

A good mid-season market berry; in some respects an improvement on its parent.

ORIGIN: grown from seed of Bubach fertilized by Bubach, by I. C. Bauer, of Arkansas.

PLANT: vigorous; healthy; easily propagated; perfect flower; very productive.

BERRY: large; roundish conical; color crimson; seeds yellow.

FLESH: color pinkish; texture firm; flavor sweet.

QUALITY: dessert very good.

VALUE: market first class.

SEASON: mid-season to late.

BOYNTON.

This variety so closely resembles the old Crescent in its best days that it has been affirmed by some that it is the Crescent under a new name.

ORIGIN: said to be a cross between the Crescent and Sharpless; from Albany, N. Y.

PLANT: strong, vigorous, and healthy grower, making a wild, matted row; imperfect blossom; very productive.

FRUIT: medium in size; light scarlet in color; medium in firmness.

FLESH: pink; acid, but fair quality.

SEASON: early, medium.

BUSTER.

A valuable late variety, which seems to adapt itself well to varied conditions. In the extensive variety tests both at the Central Experimental Farm, Ottawa, and at the Ontario Agricultural College, Guelph, it has for years ranked among the most productive sorts.

ORIGIN: supposed to be seedling of Bubach, raised by Mr. Stone, of Illinois.

PLANT: extra large, with very long stout leaf stalks and healthy foliage, remarkably free of rust; propagates readily and usually makes a good wide row of plants. Blooms late and flowers are imperfect, requiring a late blooming perfect flowered variety, such as Williams, to insure fertilization. Very productive.

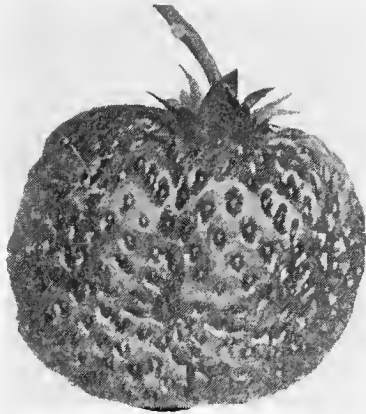


BUSTER.

FRUIT: very large and well formed, quite regular in shape. Like Clyde, it is rather pale in color for a first-class berry. This is its most objectionable feature. Seeds deeply pitted. Moderately firm for so large a berry; fair quality, somewhat acid.

SEASON: among the latest.

ADAPTATION: seems to adapt itself well to varied conditions and is favorably reported upon from many sources. (*Hutt*).



BUBACH.

BUBACH.

A standard market berry, of the largest size.

ORIGIN: a seedling raised by J. G. Bubach of Illinois.

PLANT: healthy; vigorous; does not make many runners; imperfect blossom; only fairly productive.

BERRY: very large; conical; irregular; color scarlet; showy.

FLESH: red; agreeable and acid.

QUALITY: dessert good.

VALUE: near market first class; one of the best.

SEASON: medium.

CARRIE.

The Carrie would appear to have a bright future before it. It is one of the late sorts bidding for public favor.



CARRIE.

ORIGIN: seedling of Haverland, by Mr. Thompson, of Virginia.

PLANT: large, vigorous and healthy, making long and strong runners and plenty of them; it somewhat resembles Haverland; not so productive; imperfect blossom.

FRUIT: the fruit is not so long as Haverland; very firm; color bright scarlet, with gold seeds.

FLESH: white and solid; good flavor.

SEASON: medium.

CLYDE.

At one time a universal favorite as a commercial berry, but has not held up its early records.

ORIGIN: seedling of Cyclone about 1890, by Dr. Stayman of Kansas; the Cyclone itself being a seedling of Crescent.

PLANT: very healthy, but wilts down under a hot sun; easy of propagation; perfect flowered.

BERRY: very large; form roundish conical; color light scarlet.

FLESH: moderately firm; color pinkish white; flavor very pleasant.

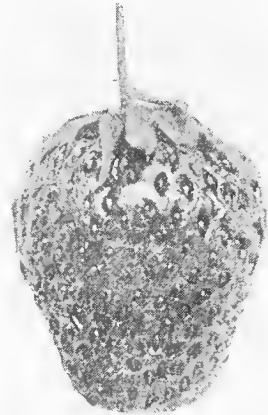
QUALITY: dessert very good; canning poor.

VALUE: second class for near market.

SEASON: early to medium.

DUNLAP. (*Senator Dunlap*).

A fine mid-season market berry, said to be better in quality and a better shipper than its parent.



DUNLAP.

ORIGIN: Ohio; a seedling of Warfield.

PLANT: small; vigorous, resistant of drouth; very productive; blossoms perfect.

BERRY: size medium to large; form long conical with short neck; color dark crimson.

FLESH: color red; texture firm.

QUALITY: very good.

VALUE: market first class.

ELEANOR.

The Eleanor is one of the extra early kind; a good healthy vigorous grower; fruit good size, fine shape; in wet seasons it has a kind of mildew like on the Michel's.

ORIGIN: New Jersey, a chance seedling found by Mr. Coombe.

PLANT: very healthy, vigorous grower, small and slender, dark in color, making many runners; perfect blossom; quite productive.

FRUIT: color dark scarlet or crimson; medium in firmness.

FLESH: red, white centre; acid, but good flavor.

SEASON: one of the earliest.

EMPEROR

ORIGIN: by John Little, Granton, Ont.

PLANT: large, vigorous, healthy; quite productive; perfect flowered.

BERRY: very large; conical, sometimes ribbed; color dark red.

FLESH: reddish pink almost to the centre; texture firm.

QUALITY: good.

SEASON: medium to late.

EMPRESS.

Very like the Emperor and from the same source, originated by the late John Little; both resemble the Woolverton in fruit. The plant is very healthy, strong, productive and a vigorous grower. The fruit is dark red and attractive, and of good quality; season, medium to late; blossom perfect.

EXCELSIOR.

Popular in some sections because very early.

ORIGIN: Arkansas.

PLANT: vigorous; propagates easily; sometimes inclined to leaf rust; fairly productive; blossom perfect.

BERRY: medium; form roundish, somewhat conical; color bright red.

FLESH: texture firm; flavor very pleasant.

QUALITY: very good.

VALUE: market second class.

SEASON: very early.

GEISLER.

ORIGIN: a chance seedling found in Michigan, somewhat resembling the Seaford in shape and size.

PLANT: a very strong plant, making plenty of runners; very healthy, no sign of rust and quite productive; perfect blossom; a very early bloomer, one of the first.

FRUIT: large, bright dark scarlet, round to oblong in shape; solid.

FLESH: light pink in color, medium in firmness and of good quality.

SEASON: early to medium.

GANDY.

One of the best very late varieties.

ORIGIN: New Jersey; seedling of Jersey Queen x Glendale

PLANT: healthy; blossoms perfect; a shy bearer.

BERRY: large; form conical, regular; color glossy crimson.

FLESH: color pink; texture firm.

QUALITY: dessert very good; canning excellent.

VALUE: market near or distant first class; an excellent shipping berry.

SEASON: very late.

GLEN MARY.

Considerably planted for market purposes on account of its size and productiveness.

ORIGIN: a chance seedling found by J. A. Ingram, of Pennsylvania.

PLANT: vigorous; healthy; foliage dark green; propagates readily; blossoms perfect; fruit stem stout; productive.

BERRY: large to very large; form round conical, ribbed, with green tip; color dark crimson.

FLESH: pink and white; texture firm; flavor slightly acid.

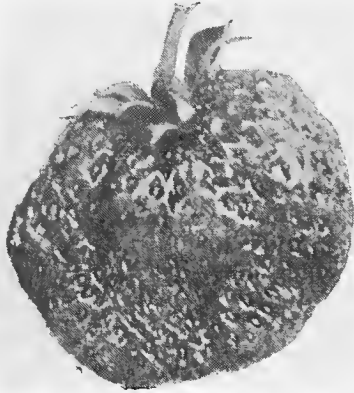
QUALITY: dessert fair; canning good.

VALUE: market first class; a good shipper.

SEASON: medium to late.

GREENVILLE.

A good commercial berry, which seems to succeed everywhere.



GREENVILLE.

ORIGIN: a chance seedling of Bubach found in Ohio.

PLANT: vigorous; healthy; propagation easy; blossoms imperfect; very productive.

BERRY: large but not quite as large as Bubach; form obtuse conical, approaching heart shape; color scarlet.

FLESH: pink to white; somewhat hollow; texture moderately firm; flavor pleasant.

QUALITY: very good.

VALUE: first class, especially for near market.

SEASON: medium.

HALES 11.59 P. M. (*Midnight*).

ORIGIN: seed from Haverland crossed with Parker-Earle; introduced by J. H. Hale, of Connecticut.

PLANT: strong and healthy, does not resemble either parent; makes plants only sparingly, but makes a good fruiting row; the runners are strong, fairly productive, and very late; blossom, perfect.

FRUIT: the berry is medium in size, flat and conical; color, light, almost white on under side; texture firm; flavor fine.

FLESH: pinkish, meaty, good eating.

HAVERLAND.

A good market variety, which succeeds everywhere; widely grown; the berries are a little soft for shipment.

ORIGIN: with a Mr. Haverland, of Ohio.

PLANT: very vigorous; very healthy; foliage light in color; fruit stalk long and not always able to support the load of fruit; blossoms imperfect; very productive.

BERRY: size large; form long, conical; color bright scarlet.

FLESH: pinkish; texture soft; flavor sweet.

QUALITY: dessert fair; canning fair.

VALUE: near market first class; distant market second class.

SEASON: early.

HOWARD'S No. 4.

A seedling originated by Mr. A. B. Howard, of Massachusetts.

PLANT: a strong, healthy good grower, very productive.

BERRY: large, conical, very regular; bright dark scarlet; large, and of great beauty.

QUALITY: very good.

SEASON: medium to late.

IRENE.

A good late variety, well worthy of a place in any collection for home use or market. Has been under test at the Ontario Agricultural College, Guelph, for eight years, and ranks among the first half dozen for productiveness, and general market value. An excellent canning variety because of its rich, dark color.

PLANT: not large but very vigorous and healthy; makes plenty of runners; blooms late, and is imperfect flowered, requiring a late blooming pollinizer to insure good fertilization; very productive.

FRUIT: medium size; good shape; very smooth and regular; rich, dark crimson in color, with bright yellow seeds and varnished appearance; very attractive; firm, and good shipper; brisk acid; fairly good quality.

SEASON: medium to late, has a long season of fruiting.

ADAPTATION: adapts itself well to varied soils, and has been reported upon favorably by experimenters all over the Province to whom it has been sent for co-operative testing. Has not done so well at Ottawa as at Guelph. (Hutt).



IRENE.

KLONDIKE.

A good late variety.

ORIGIN: Massachusetts.

PLANT: vigorous; somewhat subject to rust; easily propagated; quite productive.

BERRY: size large; form roundish conical, somewhat irregular; color scarlet; large yellow seeds.

FLESH: pink; moderately firm.

QUALITY: fair.

LOVETT.

A popular main crop strawberry; by some growers preferred to either Williams or Saunders.

ORIGIN: Crescent x Wilson, by J. H. Norris of Kentucky.

PLANT: vigorous; foliage somewhat subject to rust; fruit stalks short and drooping; perfect flowered; productive.



LOVETT.

BERRY: large; form round, conical; color dark red.

FLESH: color reddish; texture firm; flavor pleasant subacid.

QUALITY: dessert good; canning very good.

VALUE: near or distant market first class.

SEASON: medium.

LUTHER. (*August Luther*).

One of the extra early varieties; endures drouth well; succeeds generally.

PLANT: small; good grower; healthy; perfect in flower; fairly productive.

BERRY: medium; roundish conical, sometimes necked; color scarlet, with yellow seeds; texture moderately firm.

QUALITY: good.

VALUE: first class for early market.

SEASON: early; ripens with Michel.

MARGARET.

ORIGIN: Ohio, from the seed of the Crawford, by Mr. Beaver.

PLANT: large and strong, sending out the largest runners of any sort; very healthy; perfect blossom; quite productive.

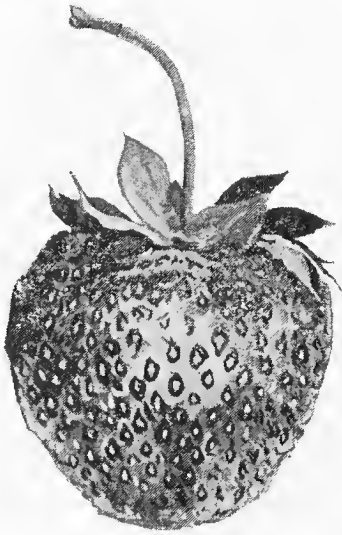
FRUIT: large, very regular, crimson in color; seeds golden, solid and firm.

FLESH: red; inclined to tartness, but of good quality.

SEASON: medium.

MARSHALL.

This variety has perhaps received more favorable notice than most others of recent introduction. It is vigorous in growth, leaves very large and produces very large, beautiful, dark crimson berries of fine quality.



MARSHALL.

ORIGIN : a chance seedling found growing on a stone heap by Mr. Ewell, of Massachusetts.

PLANT : a vigorous grower, large leaves, somewhat tender both in foliage and blossom and subject to rust ; medium in color, first growth being yellow ; perfect blossom ; fruit stem strong and able to bear up the immense berries ; medium in productiveness.

FRUIT : of the largest size ; dark crimson, firm and fine looking, quite regular in shape, *i. e.*, each berry is of same shape, but ribbed and tough ; seed imbedded.

FLESH : red, with a dash of white in centre, solid, fine quality ; one of the best for dessert.

SEASON : early to medium.

ADAPTATION : does its best only on good soils and under highest cultivation ; a fine one for amateurs.

MASTODON.

This is very like Bubach both in plant and in fruit, and quite as good.

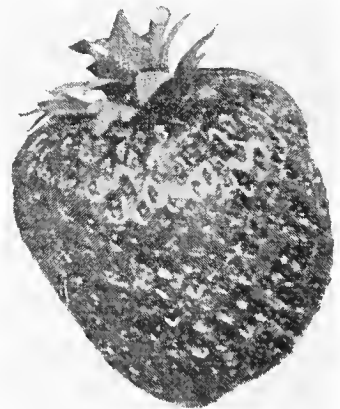
ORIGIN : introduced by James Lippincott, Jr., Mount Holly, N.J.

PLANT : strong, large dark foliage ; very healthy ; makes plants freely enough for a good fruiting row ; imperfect blossom ; fruit stalk is short, thick and strong.

FRUIT : very large ; bright crimson and very showy.

FLESH : pink ; medium as to firmness and good quality.

SEASON : medium.



MASTODON.

MICHEL.

A favorite very early berry with some growers; a comparative failure with others; widely planted in Ontario.

ORIGIN: chance seedling of Crescent found by J. S. Michel, Judsonia, Arkansas.

PLANT: vigorous; propagation rapid; fairly productive on some soils, on others not productive; foliage light colored; perfect flowered.

BERRY: size small to medium; form round conical; color dull red, withered appearance.

FLESH: pinkish; texture tough; carries well.

QUALITY: good.

SEASON: extra early.

MONITOR.

The Monitor originated from a chance seed in the orchard of L. T. Russell, Missouri, on ground where formerly Crescent and Capt. Jack grew. It has some of the qualities of both parents, the productiveness of the Crescent and the vigorous foliage of Capt. Jack.

PLANT: vigorous and healthy; foliage very dark green, glossy. The plant is small and makes almost too many runners; stands dry weather well and is very productive; blossom perfect.

FRUIT: the berry is large, roundish in form, and bright scarlet. The vigor of the plant seems to be such that it is able to mature and ripen its immense crop, there being no small berries

FLESH: firm and good flavor; pinkish inside.

SEASON: early to late.

NETTIE.

ORIGIN: one of Black's pedigree seedlings; it is a strong competitor of Hunn for extreme lateness.

PLANT: of medium size; quite healthy and a good runner, making plants freely; fairly productive; blossom imperfect.

FRUIT: large, ribbed, rough, of quite light color; seeds dark; flavor sour, but good; texture fairly firm.

FLESH: light colored, almost white.

NICK OHMER.

A good medium to late variety of excellent quality.

ORIGIN: seedling raised by John F. Beaver, of Ohio.

PLANT: vigorous, stocky; propagation easy; healthy; foliage dark; perfect flowered.

BERRY: large, with some small ones; form roundish conical, smooth and regular; color glossy red with yellow seeds.

FLESH: pinkish toward outside and white at centre; texture very firm; flavor very pleasant.

QUALITY: very good.

VALUE: first to second class.

SEASON: medium to late.

ROBBIE.

ORIGIN: One of J. H. Black's pedigree seedlings, from New Jersey.

PLANT: good grower, perhaps not as large as the Nettie or Joe, but healthy and free from disease; fairly productive; blossom perfect.

FRUIT: good size; conical in shape; light red; good flavor: quite pleasant, though peculiar to the taste.

FLESH: salmon colored.

SEASON: late.

 RIDGEWAY.

The Ridgeway is a good medium to late berry. It somewhat resembles the old Cumberland, but is darker.

ORIGIN: a seedling of Jersey Queen and Parker Earle, by Mr. Ridgeway, of Indiana.

PLANT: strong and healthy, stools out, would be a good one for hills or narrow rows; foliage free from rust; blossom perfect and large; quite productive.

BERRY: medium to large; highest scarlet color; prominent golden seeds, fine looking; medium in firmness.

FLESH: red, solid and very good quality; fine flavored.

SEASON: medium to late.

 RUBY.

A good standard variety, which adapts itself well to various soils and localities. Has been under test at the Ontario Agricultural College, Guelph, for nine years and ranks first among nearly three hundred varieties tested for that number of years.

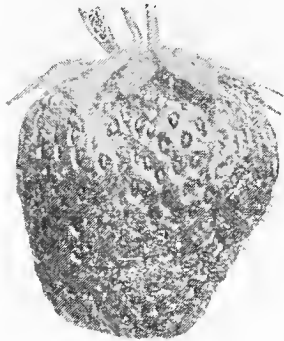
ORIGIN: a chance seedling with Mr. Riehl, of Illinois.

PLANT: a strong, vigorous grower, makes plenty of runners; blooms about midseason; is perfect flowered and a good pollinizer; very productive.

BERRY: large, regular in shape; a good dark crimson color; firm, and of good quality.

SEASON: midseason.

ADAPTATION: does well at Guelph, and is favorably reported upon from other sections. (*Hutt*).



RUBY.

 SAMPLE.

A profitable late market berry.

ORIGIN: Massachusetts.

PLANT: vigorous; healthy; productive; flowers imperfect.

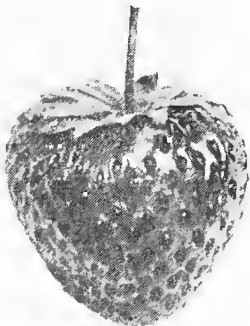
BERRY: size large; form roundish conical; color crimson.

FLESH: tinted; texture fairly firm, juicy.

QUALITY: fair.

VALUE: market first class.

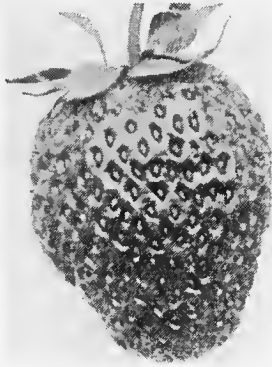
SEASON: very late.



SAMPLE.

SAUNDERS.

A first class sort for medium to late market.



SAUNDERS.

ORIGIN: a seedling raised by John Little, Granton, Ont., and named by him in honor of Dr. Wm. Saunders, of Ottawa.

PLANT: healthy, very little rust; very vigorous; very productive; blossom perfect; blooms late and so escapes the spring frosts; propagates easily.

BERRY: size large; form roundish conical; color glossy crimson.

FLESH: red; texture firm; flavor very pleasant.

QUALITY: dessert or cooking very good.

VALUE: near or distant market first class.

SEASON: medium to late.

SEAFORD.

The Seaford is a good, medium season berry.

ORIGIN: a chance seedling, introduced by Slaymaker & Son, of Dover, Del.

PLANT: a strong, vigorous grower and healthy, producing large clusters of fine fruit; makes many plants; perfect blossom; very productive.

BERRY: large and fine looking; bright crimson with gold seeds imbedded; very solid and firm.

FLESH: scarlet in color; very firm and of very good quality.

SEASON: early to medium.

SHARPLESS.

The Sharpless has been before the public for a long time. In some parts it is still said to be one of the best, but in other places it is not productive enough to make it profitable for market.

ORIGIN: Pennsylvania.

PLANT: a strong, vigorous grower, large and healthy; no rust; perfect blossom; quite productive on some soils.

FRUIT: very large; light scarlet in color; glossy, gold seeds prominent, does not color well.

FLESH: white to pink; firm and very best quality; fine for the table.

SEASON: medium.

SMITH.

Very popular for canning, having the agreeable acid and firm flesh of its parent. ORIGIN: a seedling of that old favorite, the Wilson's Albany, raised by L. Smith, of Wisconsin.

PLANT: healthy; most vigorous; blossom perfect; very productive.

BERRY: medium to large; roundish conical; irregular; color scarlet.

FLESH: texture firm; quite acid; agreeable.

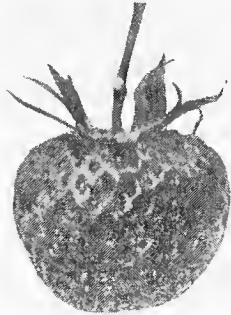
QUALITY: canning or preserving, best.

VALUE: market first class.

SEASON: early.

SPLendid.

A first-class early to mid-season market berry.



SPLendid.

ORIGIN : by C. H. Sumner, Illinois.

PLANT : very healthy ; a good strong grower ; productive ; blossom perfect ; a good pollenizer.

BERRY : medium to large ; form roundish ; color dark crimson.

FLESH : firm ; flavor good.

QUALITY : dessert very good.

VALUE : market first class.

SEASON : early to medium.

STAPLES.

ORIGIN : from seed of the Warfield by the late Mr. Staples of Ohio.

PLANT : quite healthy, making plenty of runners for a wide row, if needed ; quite vigorous in growth ; perfect blossom ; a good early bloomer to fertilize early pistillates with.

BERRY : dark crimson in color, firm and good flavor : color very like Warfield ; size medium to large for so early a berry.

FLESH : pink and solid ; good flavor, somewhat acid, yet spicy.

SEASON : extra early.

TENNESSEE. (*Tennessee Prolific*).

A very fine market berry, which has become popular wherever grown.

ORIGIN : Crescent x Sharpless, raised by Captain Hodges, of East Tennessee.

PLANT : healthy ; vigorous ; very productive ; easily propagated ; blossom perfect : blooms early.

BERRY : large ; form round conical, sometimes double at the point ; color bright crimson.

FLESH : color red ; texture firm ; flavor agreeable.

QUALITY : good.

VALUE : first class for near or distant market.

SEASON : medium.

TIMBRELL.

A fairly good late variety.

ORIGIN : chance seedling found by H. S. Timbrell of New York State.

PLANT : healthy ; vigorous ; blossoms perfect ; not very productive.

BERRY : size medium to large ; form roundish conical ; color crimson, but does not color well.

FLESH : texture very firm ; flavor agreeable.

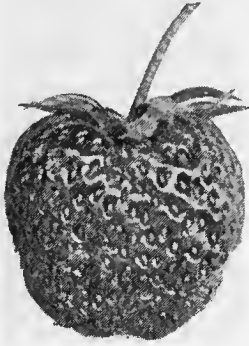
QUALITY : dessert best.

VALUE : market second class.

SEASON : late.

VAN DEMAN.

One of the earliest ; a favorite with some growers, but not a success everywhere.



VAN DEMAN.

ORIGIN : Crescent x Captain Jack ; raised by J. C. Bauer, of Judsonia, Arkansas.

PLANT : vigorous ; productive ; rusting slightly on some soils ; foliage dark ; fruit stalk strong enough to support the fruit ; blossoms perfect.

BERRY : medium ; form round conical ; color dark crimson ; seeds yellow, with a varnished appearance ; ripens and colors all over at the same time.

FLESH : color pink ; texture firm, a good shipper ; flavor good.

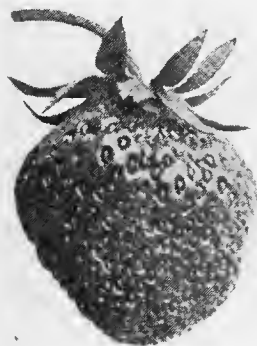
QUALITY : dessert very good.

VALUE : first class for market because of its season.

SEASON : very early.

WARFIELD

This variety holds first place for productiveness among 350 varieties which have been under test at the Ontario Agriculture College for the past ten years. With the housekeeper it is a favorite canning variety because of its dark rich color. It is one of the most desirable varieties for general cultivation, where the soil is not too light and dry for its growth.



WARFIELD.

ORIGIN : a chance seedling, supposed to be a cross between Crescent and Wilson, found by B. C. Warfield of Southern Illinois.

PLANT : small, but a rampant grower and often makes too many runners, filling the rows too thickly. Succeeds best on moist soils, and in showery seasons ; often proves a failure on very dry soils, or in times of drouth. Blossoms early and requires an early blooming bisexual variety, such as Splendid or VAN DEMAN, to fertilize its blossoms ; very productive.

BERRY : medium size, very regular in shape, dark rich crimson color ; firm, good shipper, and excellent for canning ; somewhat acid, but good quality.

SEASON : early to midseason, holds out well if season is favorable.

ADAPTATION : does well wherever the soil is not too light and dry. (Hutt).

WILLIAMS.

Widely grown in Ontario in place of the old favorite Wilson; preferred by some growers to all others.



WILLIAMS.

ORIGIN: a seedling of Sharpless, raised by Mr. Williams of Burford, Ontario.

PLANT: vigorous; somewhat inclined to rust, runners abundant, short; blossom perfect; very productive.

BERRY: large, form roundish conical; seeds sunken; color crimson, usually with a white tip.

FLESH: red; often hollow; texture firm.

QUALITY: fair.

VALUE: market first class.

SEASON: medium to late.

WOOLVERTON.

ORIGIN: a seedling raised by John Little, of Granton, near London, Ontario, and named by him in honor of Linus Woolverton, Grimsby.

PLANT: a strong, healthy grower; withstands drouth well; deep rooted; foliage dark colored; runners numerous; blossoms perfect; moderately productive.

BERRY: very large; form broad conical, often wedge shaped; color crimson with crimson seeds; showy.

FLESH: red; texture firm; flavor mild acid.

QUALITY: good.

VALUE: first class for home use or market.

SEASON: late.

Appendix.

SPRAYING.

Spraying is absolutely necessary nowadays to ensure good fruit every year. There are so many injurious insects and fungous diseases which attack the trees and fruit that it is very rarely a tree, if unsprayed, will escape being affected by something which will lessen the crop of No. 1 fruit.

Spraying is not sprinkling, and in order to get good results it is necessary to apply the mixtures and solutions in as fine a spray as possible. A mist-like spray that will float through the air and envelop the tree and fruit is what is required. A coarse spray will run off the foliage and often will accumulate at the tips of the leaves and cause injury rather than benefit the tree. Thoroughness is just as essential in spraying as in anything else. In spraying for most fungous diseases the object is, to cover all of the surface of the leaf and fruit with the mixture so that when a spore comes in contact with it, it will be destroyed. The more of the surface that is left uncovered the more spores will germinate, and as they are usually present in millions the necessity of thorough spraying should be apparent. In spraying to control biting insects, thoroughness is just as essential, for unless the poison is well distributed many of the insects will not be destroyed and much injury will be done. In fighting insects, such as the San José Scale, the Aphis, and the Oyster Shell Bark Louse, which are killed by contact poisons, thoroughness is even more necessary, as these multiply so rapidly that a few insects which escape may soon reinfest the whole tree.

Spraying should be timely. Very often through ignorance of the habits of the insect or disease, spraying is delayed until after the season is passed when it could be controlled; hence time and money are often thrown away and the lack of success in spraying is blamed on the ineffectiveness of the mixture rather than the lack of knowledge of the man who sprayed. It is true that every man cannot learn the life history of all injurious insects and diseases, nor is this really necessary, but the average orchardist should know more about them than he does.

Every fruit grower should have a spray pump of some kind. The amateur may be content with a small hand pump which will suit his purposes quite well, but the commercial grower should have a barrel pump or one of the power sprayers which are now on the market, and which permit of obtaining that mistlike spray already referred to. Labor is expensive and hard to get on the average farm, hence a sprayer should be purchased which will economize time and labor as much as possible.

The following spray calendar will, it is believed, give nearly all the information which the average fruit grower requires. Descriptions of insects and fungous diseases are not given in this work, as they are dealt with at length in special publications.

DIRECTIONS FOR TREATMENT OF INSECT PESTS AND PLANT
DISEASES.

FORMULÆ.

1. BORDEAUX MIXTURE (For Fungous Diseases).

Copper Sulphate (Bluestone).....	4 pounds.
Quick lime (fresh).....	4-6 “
Water.....	40 gallons.

In making this mixture, observe the following precautions and directions :

1. *Use nothing but fresh quick-lime.* Owing to variability in the qualities of lime as found in different parts of the Province, it is safer for the average fruit grower to use the larger quantity named above, viz., 6 pounds. The lime should be slowly slaked by the gradual addition of water.

For convenience, stock solutions of milk of lime and bluestone should be prepared and kept in different barrels in readiness for spraying operations. In barrel No. 1, 25 pounds of fresh lime are gradually slaked, and barrel made up to 25 gallons of water ; in barrel No. 2, 25 pounds of copper sulphate, or bluestone, are dissolved in 25 gallons of water. For rapid dissolving use warm water. These are stock solutions. Each gallon of milk of lime contains one pound of lime, and each gallon of bluestone solution contains one pound of bluestone. When we wish to make up a barrel of Bordeaux mixture, we take out 4 gallons of milk of lime, if using the 4-pound formula, or 6 pounds if using the 6-pound formula, and 4 gallons of bluestone solution, and either dilute each in separate barrels in about 20 gallons of water before mixing in the barrel attached to the spray-pump, or else pour each separately into the barrel in which are already 30 to 32 gallons of water, according to formula used. The first method is the preferable one.

2. *Never mix the concentrated stock solutions together.* If the milk of lime and bluestone are mixed in the concentrated form, just as they are taken from the stock solution, a precipitate of a flakey nature will soon settle out, and either fall to the bottom or clog the nozzle.

3. *Test the Bordeaux to find out whether sufficient milk of lime has been added.* This is most easily done by means of the ferrocyanide test. A saturated solution of this substance can be purchased at any druggist's for a few cents. In testing, place some of the Bordeaux, which has been thoroughly stirred, into a saucer, and add a few drops of the ferrycyanide. If sufficient lime has been used, no discoloration will appear, but if insufficient, a deep dark brown color will be produced.

4. *Always strain the milk of lime* to prevent gritty particles from clogging the nozzles.

5. *Use a fine nozzle* ; do not soak or drench the tree.

6. *The stock solutions will keep*, but the Bordeaux mixtures becomes useless after standing for a day or two.

2. THE COMBINATION BORDEAUX AND PARIS GREEN MIXTURE.
(For Fungous Diseases and Leaf-eating Insects.)

This mixture is prepared like the Bordeaux, but 4 to 6 ounces of Paris green are added and thoroughly stirred before spraying.

Copper sulphate (Bluestone).....	4 pounds.
Quick lime (fresh).....	4-6 “
Paris green :	4-6 ounces.
Water (1 barrel).....	40 gallons.

In small quantities it may be made as follows :

Bluestone 4 level tablespoonfuls
 Quick lime 4-6 “
 Paris green 1 “
 Water 1 pail (2 gallons).

3. AMMONIACAL COPPER CARBONATE SOLUTION.

Copper carbonate 1 ounce.
 Strong ammonia sufficient to dissolve the copper car-
 bonate, usually more than ½ pint.
 Water 10 gallons.

This solution is not much used, and is recommended only in cases where the fruit is so far advanced that it would be disfigured by using the Bordeaux mixture.

4. POTASSIUM SULPHIDE (Liver of Sulphur).

(Used to control Gooseberry Mildew).

Dissolve 4 ounces in 8 gallons of water.

5. PARIS GREEN MIXTURE. (Liquid). For Leaf-eating Insects.)

Paris green 1 pound.
 Water 150 gallons.
 Quick lime 2 pounds freshly slaked.

Or,

Paris green 1 teaspoonful (level).
 Water 1 pail (2 gallons).
 Quick lime 1 teaspoonful (level).

Paris Green Mixture. (Dry.)

Paris green 1 pound.
 Flour or dust 100 pounds.

7. HELLEBORE.

White hellebore (fresh) 1 ounce.
 Water 2 gallons.

8. PYRETHRUM, or Insect Powder.

Pyrethrum powder (fresh) 1 ounce.
 Water 3 gallons.

Or,

Pyrethrum powder 1 ounce.
 Flour (cheap) 5 ounces.

Mix thoroughly, allow to stand over night in a closed box, then dust on plants through cheese-cloth.

9. KEROSENE EMULSION (for Bark-lice and Plant Lice).

Hard soap	$\frac{1}{2}$ pound, or soft soap	1 quart.
Boiling water (soft)		1 gallon.
Coal oil		2 gallons.

After dissolving the soap in water, add the coal oil and stir well for 5 or 10 minutes. When properly mixed, it will adhere to glass without oiliness. A syringe or pump will aid much in this work. In using, dilute with from 9 to 15 parts of water. Kerosene emulsion may be prepared with sour milk (1 gallon) and coal oil (2 gallons), no soap being required. This will not keep long.

10. TOBACCO DECOCTION.

Refuse tobacco		2 pounds.
Water		5 gallons.

Boil the mixture for 30 minutes or more, until a dark brown tea-colored solution is obtained. Keep it covered until cool. It may then be used undiluted for spraying infested plants.

11. WHALE OIL SOAP.

For Plant Lice. 1 pound in 7 gallons hot water.

For San José Scale in winter. 2 pounds in 1 gallon hot water applied as the buds are swelling.

12. LIME SULPHUR MIXTURE.

Quick lime		20 pounds.
Flowers of sulphur		15-20 "
Water		1 barrel.

To prepare, have 12-14 gallons of boiling water in the barrel or kettle, throw in the lime and add the sulphur, which should preferably have been mixed previously into a paste with hot water. The whole mixture should then be boiled until the characteristic green color is obtained. The time required varies with the kind of lime used and may take from $\frac{3}{4}$ to $1\frac{1}{2}$ or 2 hours. Dilute with hot water to fill up the barrel and spray while warm.

13. WASH FOR BORERS.

First, add soft soap to a saturated solution of washing soda to make a thick paint, then add 1 pint crude carbolic acid, and $\frac{1}{2}$ pound Paris green to 10 gallons of wash.

To be applied to the trunks of apple trees in early June.

14. LIME WASH.

(For Oyster-shell Bark Lice, etc.)

Slake $1\frac{1}{2}$ pounds fresh lime in 1 gallon of water. Strain the wash before spraying. To be applied during winter to trees infested with oyster-shell bark lice.

TREATMENT.

APPLE AND PEAR.

A. Against Leaf-eating Insects and Fungous Diseases.

Treatment.	When to spray.	Insect pests and diseases controlled.
1. Paris Green in water. (Formula 5.) (Important.)	Just as leaf-buds are expanding.	Bud-moth, case-bearers.
2. Bordeaux mixture and Paris green. (Formula 2.)	About a week later.....	Bud-moth, case-bearers, canker-worms, tent-caterpillars. Scab, leaf-spot and mildew.
3. Bordeaux and Paris green. (Formula 2.) (Important.)	Just before blossoms open...	Canker-worms, tent-caterpillars, etc. Scab and leaf-spot, etc.
4. Bordeaux and Paris green. (Formula 2.) (Important.)	Just after blossoms fall	Codling-moth, canker-worms, tent-caterpillars, pear-slug. Scab and leaf-spot.
5. Bordeaux and Paris green. (Formula 2.)	Ten days or two weeks later	Codling-moth, Palmer worm, apple Bucculatrix. Scab and leaf-spot, etc.

Codling-moths cannot always be controlled by spraying, especially in the south-western section of Ontario, where a second brood appears later in the season.

In addition to spraying, in this district, use bandages around the trees. Make them from four to six inches wide, three or four inches thick, of any kind of cloth. Old bags, sacks, carpets, coarse material of any kind will do. Bands of straw and tow have been used with some success. During the first week in June bind one around each tree three or four feet from the ground; secure it either with cord or small nails; *take it off every twelve days*, and carefully examine for codling cocoons. These may be readily destroyed by crushing. Replace the bands as before.

Tent-caterpillars are controlled by burning the webs or nests in May; by collecting and destroying the clusters of eggs in fall and winter; by banding the trees; and by spraying the young caterpillars with Paris green.

Canker-worms may be largely controlled by banding the trees in autumn and early spring; and by spraying with Paris green when the worms appear.

B. Against Sucking Insects, such as Plant-lice and Scale Insects, and against Pear Leaf Blister-mites.

Treatment.	When to Spray.	Insects controlled.
1. Kerosene emulsion (Formula 9), (1 part in 10 parts water).	Before buds start in spring.	Pear-leaf blister-mite.
2. Kerosene emulsion solution (1 part emulsion to 10 parts water). Or whale-oil soap solution (Formula 11), (1 lb. to 7 gals. water).	As leaves are unfolding	Pear psylla and aphids.
3. Kerosene emulsion (Formula 9), whale-oil soap as before.	Ten days later.	Psylla and aphids.
4. Kerosene emulsion (Formula 9), or whale-oil soap as before. Or lime wash (No. 14).	About end of May or first of June. During winter.	Oyster-shell bark-lice.

C. Treatment for destroying *Borers* :

- (a) Dig out the borers whenever possible.
(b) Apply the soap-soda wash (Formula 13) in early June.

PLUM AND CHERRY.

A. Against Curculio, Brown Rot, Shot-hole Fungus, and Leaf-eating Insects.

Treatment.	When to spray.	Insects and diseases controlled.
1. Bordeaux and paris green. (Formula 2.)	When leaf-buds are opening.	Brown rot, shot-hole fungus.
2. Bordeaux and paris green. (Formula 2.)	When fruit is formed.	Curculio, green fruit worms, brown rot, etc.
3. Bordeaux and paris green. (Formula 2.)	Two weeks later.	Brown rot, curculio, etc.
4. Ammonia-copper-carbonate solution. (Formula 3.)	When fruit is large.	Brown rot, etc.

The *Curculios* are most readily controlled by jarring the trees in early morning, and collecting them on a sheet spread under the tree. The jarring should be begun when the fruit has set, and continued for three weeks. Thrice a week is often enough to jar.

B. Against Plant-lice and Scale Insects.

Treatment.	When to spray.	Insects controlled.
1. (Kerosene emulsion Formula 9), (1 part to 4 parts water.) Or whale-oil soap, (2 lbs. to 1 gal. hot water.)	In winter or early spring.	Plum scale, San José Scale, etc.
2. Kerosene emulsion (Formula 9), (1 part to 10 parts Water.) Or whale-oil soap solution (Formula 11), 1 lb. to 7 gals. water.) Or tobacco solution (Formula 10.)	As soon as lice appear on young leaves.	Plant-lice.

PEACH.

A. Against Peach-leaf Curl, Brown Rot, Curculio, Bud-moth.

Treatment.	When to spray.	Insects and diseases controlled.
1. Bordeaux and Paris green. (Formula 2.)	Before flower buds open	Bud-moth and peach leaf curl, brown rot.
2. Bordeaux and Paris green. (Formula 2.)	After blossoms fall.	Peach-leaf curl, brown rot, bud-moth and curculio.
3. Bordeaux and Paris green. (Formula 2.)	Two weeks later.	Brown rot, etc.
4. Ammonia-copper carbonate (Formula 3.)	When fruit is well-formed.	Brown rot, etc.

B. Against Aphids, and Scale Insects.

1. Kerosene emulsion (Formula 9), (1 part in 10 parts.) Or whale-oil soap (Formula 11), (1 lb. in 7 gals, water.)	Whenever young lice appear.	Aphids.
2. Whale-oil soap, (2 lbs. in 1 gal. hot water.)	In early spring before buds open.	San José scale.

C. Against Peach Tree Borer.

1. Prof. Slingerland recommends *gas tar* as a trunk wash. A trial experiment should be made first on a few trees to find out if it injures the trees, for gas tar varies in composition.

2. Dig out or probe the borers every fall and spring; and mound up a new base with earth for six inches; remove and examine in September.
3. Apply Formula in early June.

GRAPE.

A. Against Black Rot, Mildews and Leaf-eating Insects.

Treatment.	When to spray.	Insects and diseases controlled.
1. Bordeaux and Paris green. Formula 2.) (Important.)	As buds begin to swell.	Flea-beetle, black rot, mildews.
2. Bordeaux and Paris green. (Formula 2.)	Ten days or two weeks later, before blossoms open.	Black rot, mildews and flea-beetles.
3. Bordeaux and Paris green. (Formula 2.)	Just after blossoming.	Black rot and mildews.
4. Bordeaux and Paris green. (Formula 2.)	Two weeks later.....	Flea-beetle and black rot.
5. Ammonia-copper carbonate. (Formula 3.)	When fruit is well formed.	Black rot and mildews.

B. Against Grape Thrip.

1. Kerosene emulsion, 1 part in 9 parts water.	Soon after leaves are formed.	Thrip or leaf-hopper.
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NOTE—Names printed in *Italics* are synonyms of varieties otherwise named.