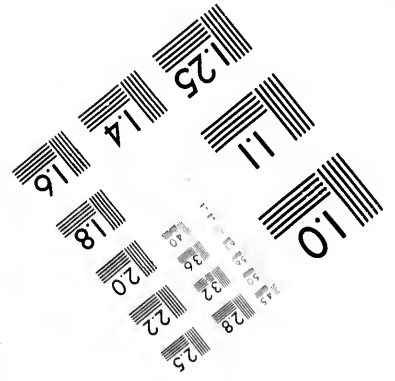
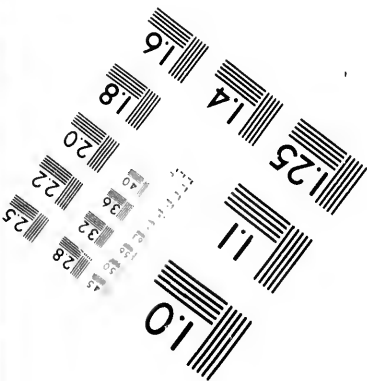
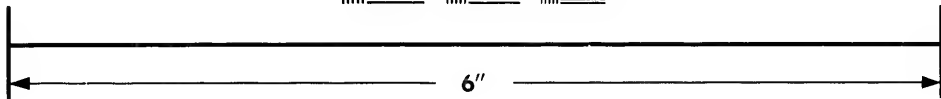
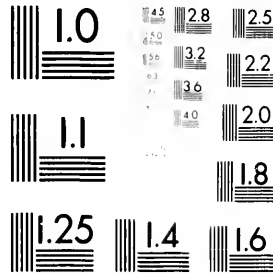


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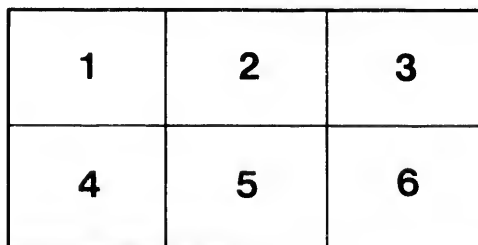
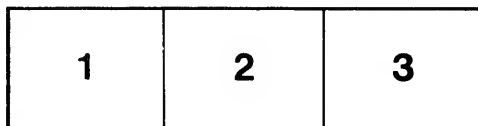
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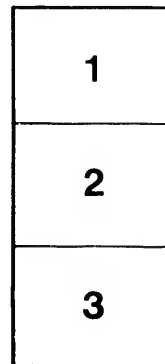
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THE CANADIAN
FRUIT-CULTURIST;

OR,

LETTERS TO AN INTENDING FRUIT-GROWER,

ON THE

PROPER LOCATION, SOIL, PREPARATION, PLANTING, AND AFTER-CULTIVATION

OF

Orchards, Vineyards, and Gardens;

WITH DIRECTIONS FOR THE

BEST MODE OF CULTURE OF EACH VARIETY OF FRUIT;

AND SELECT DESCRIPTIVE LISTS OF THE BEST VARIETIES

OF THE

APPLE, PEAR, PLUM, CHERRY, GRAPE, PEACH, NECTARINE, APRICOT, QUINCE
GOOSEBERRY, CURRANT, BLACKBERRY, AND STRAWBERRY,

SUITABLE FOR

UPPER AND LOWER CANADA.

BY JAMES DOUGALL,

WINDSOR NURSERIES, C.W.

(Third Edition)

Montreal:

JOHN DOUGALL & SON, PUBLISHERS.

1867.

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"THE CANADIAN FRUIT-CULTURIST."

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*Carl
Pant. Dougall, Prince*

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# LETTERS

TO AN

## INTENDING FRUIT-GROWER.

### INTRODUCTORY LETTER.

DEAR SIR,—As you wish to plant fruit-trees, but are unacquainted with their culture, I will try to make the results of my experience as plain to you as I can.

From an extensive correspondence with all sections of the country on this subject, it has greatly surprised me to find how very few, even of intelligent and educated persons, are acquainted with the first principles of the planting and culture of fruit-trees; but it really should not cause surprise, for what appears so plain and simple to one trained to it from childhood, is a very serious matter to those who have had no opportunity of becoming acquainted with it; and all the works on the subject are so voluminous that to those whose time is fully occupied in other pursuits, it is almost a task to read them, while their cost generally is so high as to debar the great mass of the people from procuring them.

It will, therefore, be my endeavor in the following letters to give in as short a space as possible, all the directions that are absolutely necessary to enable you, or those who have never planted trees before, to do it successfully, as also, lists of the best varieties of fruit suitable for the different sections of this country, which my long experience, both of Eastern and Western Canada, will enable me to give, at least as well as any one else.

My letters will be in the following order, viz.:—On the Sites, Soils, and Aspects most suitable for Fruit-Culture; Planting, and After Care of Fruit-Trees, &c.; Apples; Pears; Plums and Cherries; Peaches, Nectarines, Apricots, and Quinces; Grapes; The Smaller Fruits; Packing and Marketing Fruit; and lastly, On the Importance and Profitableness of Fruit-Culture generally.

JAMES DOUGALL,

WINDSOR, C. W.

## LETTER FIRST.

## ON SITES, SOILS, ETC., FOR ORCHARDS AND GARDENS.

DEAR SIR,—Owing to the great difference in climate between the Eastern and Western parts of Canada it is very difficult, nay, almost impossible, to give rules that will be exactly suited to all localities, and therefore careful attention and long experience can only fully teach what is proper in each section of the country; still the following observations will greatly aid all who desire to engage in fruit culture.

In the southern and western part of Canada the more elevated portions of the farm or grounds will, if the soil is suitable, be found the best for planting fruit-trees, more especially of the more tender varieties, while further to the north and east these will be found too bleak unless naturally or artificially protected by screens or belts of trees,—evergreens being the best—from the prevailing coldest wind in winter. It is a well-known fact that the same degree of cold, if unaccompanied with wind or protected from it, will do very little injury to a tree, which, if in an exposed situation, open to the wintry blasts, would destroy or seriously injure it; and as the forests get cleared off this will be felt more and more, and greater care will be required for the protection during winter of even the more hardy varieties of fruits, than has heretofore been considered necessary.

Experience has shown how difficult it is to raise new healthy orchards in some places where old ones have formerly flourished; and much of this difficulty may be attributed to the want of shelter from the cutting down of the forest trees. No doubt when the old orchards were planted, they were well sheltered; and it is for the first six or eight years after trees are planted, when they are growing fast, that they are most susceptible of cold, and require the greatest care and protection. When they have fairly commenced bearing, and their growth is consequently more slow, they will seldom be injured by cold, until they grow old and feeble.

In the cold and more exposed situations in Scotland, it is customary to plant on the exposed sides of the garden a belt of evergreen, and other trees for its shelter; and Mr. Tudor, the originator of the ice-business in the United States, had a most flourishing garden on the most exposed portion of Nahant, where the stormy winds from the Atlantic made it previously impossible for a tree

or shrub to grow. The simple mode adopted by him was the erection of screens, or open paling fences, about 16 feet high, round the garden, forming a double or treble row on the most exposed side, such fences being placed about four feet apart. Where they will grow, a belt of evergreens will be preferable to the fence, but with him no tree would grow till these fences were erected.

Throughout the whole of Canada, but more especially in Lower Canada, protection of this kind would be found very beneficial, and in many places absolutely essential to the successful culture of fruit, and these belts should be planted at the same time, or, if possible, previous to the planting of the garden or orchard.

Fruit-trees will not succeed in a low, damp situation, or where the subsoil is cold and wet. When it is necessary to plant in such situations the ground must be thoroughly under-drained and trenched, or subsoil ploughed the year before you intend planting; and it should be plentifully supplied with ashes or lime to neutralize what is called the acidity of the soil, caused by water remaining long stagnant on it. It may be taken as an invariable rule that wherever the natural growth of the forest is stunted or scrubby, it is lost labor to plant fruit-trees, unless the soil can be so amended by the above or other methods as entirely to change its nature, and make it suitable for the healthy growth of trees.

Even in the rich western prairies it is found, in general, impossible to cultivate fruit-trees, partly owing to the lack of the necessary constituents in the soil for their healthy growth, and partly from the total want of protection from the cold blasts of winter, which sweep over the unsheltered and boundless prairies with irresistible force; and the level lands of Lower Canada (or the French country) are in much the same predicament.

The best localities for orchards and gardens are those where the soil is naturally deep and rich, with a warm subsoil, or one that can be easily made so by under-draining. Where the soil is peaty, or the rocks come too near the surface, or where the subsoil is a tenacious clay, the trees will rarely succeed well. It should also be borne in mind that, though sandy soils

are warmer in summer, they are much colder in winter than loamy or even clayey soils, and that trees are more liable to be winter-killed when planted in sandy soils than in others; while springy or wet sandy soils are the worst of all.

In the colder portions of Canada an exposure sloping to the south, south-east, or south-west, will be found the best; and if sheltered by trees or hills on the north, north-east and north-west, it will be all the better.

A small orchard might in many cases be planted so as to be sheltered by the farm buildings on one side, and a hill or wood on two other sides. The southern exposure might be open without injury. This explanation will indicate two of the advantages of planting trees on the sides of hills, namely the natural drainage and shelter afforded by such a site.

## LETTER SECOND.

### ON PLANTING AND CULTURE OF FRUIT-TREES.

DEAR SIR,—Before planting fruit-trees the land should, as a general rule, be thoroughly underdrained to an average depth of 30 inches, except where the subsoil is of a gravelly or open texture, or is otherwise drained naturally. I would, however, be far from advising that fruit-trees should not be planted till the land is underdrained, as it would preclude many who cannot afford that expense from planting at all, and many fine orchards and gardens are to be found on land that has not been underdrained; but in almost every soil, except as above mentioned, underdraining will be found of great benefit. In fact without it you cannot give the ground the thorough deep culture necessary for the healthy growth of the tree, and the full perfection and early maturity of the fruit. After the land is underdrained it should be well manured, and if for a garden trenched with the spade two spits deep. If sufficiently large for an orchard a subsoil plough should, if possible, be run as deep as practicable in the furrow, after the common plough, the season before planting. A common Scotch iron plough, with the mould-board taken off, makes a good subsoil plough for this purpose.

The directions for planting in all the horticultural works I have read are in some essential points erroneous, and apt to mislead new beginners. For instance, they direct that the holes for planting the trees should be dug some four feet wide and eighteen inches to two feet deep, throwing away the subsoil and filling up with a rich compost, than which no directions could be worse in some soils or lead to more disastrous results. Where the ground has been underdrained and thoroughly trenched or subsoil-ploughed, and the manure well mixed

in, it is quite unnecessary to dig holes larger than required for the reception of the roots, and where the ground is not underdrained, unless it has an open subsoil, it is absolutely injurious to dig holes deeper than the subsoil. For example, if the surface soil is eight inches deep, and the subsoil a retentive clay, to dig a hole eighteen inches deep, filling up with rich compost, just encourages the roots to grow downward into this hole, which, in autumn, winter, and spring, is filled with water to the total destruction of the young spongy roots; and if the tree is not killed the first winter, it has the same struggle to go through each following year. In all cases where it is not convenient to underdrain such soils, the hole—though the wider the better—should not be dug deeper than to the subsoil, which may be loosened a spit deep, but not taken out; and if the surface soil is not deep enough to cover the roots, good soil or compost should be got from elsewhere to cover the roots to the necessary depth; but, such soils cannot be profitably used for fruit-culture without underdraining.

The spring is undoubtedly the most natural and suitable time for planting; but, in the warmer parts of Western Canada, where the ground is properly prepared or dry, the fall will be found equally good for the apple, pear, and plum; but the more tender, such as the cherry, peach, quince, &c., should be only planted in the spring. Care, however, should be taken not to plant too late in the fall, as the earth should be fully settled about roots, and the trees well established some time before the winter sets in. From the middle of October to the middle of November, according to the season or locality, will be found the proper time for planting.—

Spring planting should be done from the early part of April to the middle of May; in the latter case the trees should have been lifted before vegetation is too far advanced. But in no case in heavy soils should the planting be done when the ground is wet. It should be deferred till the earth is dry enough to crumble round the roots while planting, the trees being laid in by the heels in the interim, and taken up and planted as required.

Great care should be taken that the roots from the time the tree is taken up till planted, should not be allowed to dry. It is the want of attention to this that causes such a large proportion of the trees supplied by tree agents and pedlars, or sold at auctions, to fail. If the small fibres of the roots get dried and dead at any time before planting, the tree must send out new ones before it can grow. In moist seasons the apple may do so to some extent, but the pear, cherry, &c., never can. I have seen thousands of bundles of fruit-trees arriving by rail and boat, for distribution throughout the country, with the roots so dried up, that it would not pay to plant them, though got for nothing. Even where properly packed with wet moss round the roots, and seemingly in good condition when received, the trees may have been seriously injured, if not destroyed, before being so packed; it is, therefore, of great importance to purchase trees from reliable nurserymen on whom dependence can be placed.

Before planting, broken and bruised roots and branches should be cut smoothly off; and where the tree is young, requiring none but young wood to be cut off, it can be pruned back as far as you choose; but where the tree is large, say commencing to bear, nothing—except a part of the last season's young wood—should be taken off, till the tree has had one year's growth, after which it may be pruned back as much as required, as the wound will then heal over quickly, which it would not do when large limbs are cut off at the time of planting. The early spring, or about midsummer, is the best time for pruning.

While the tree is being planted, one man should hold it, and shake it gently, while the other is filling in the earth or compost, which should be quite fine, so as to fill up all interstices

amongst the roots. When the hole is about three-fourths filled, a pail of water may be put in to settle the earth better about the roots, but this is only required in late spring planting; fall or early spring planting, when the ground is sufficiently moist, does not require it. No manure should be put in the hole with the roots, unless it be some old and well rotted, which might be put in when the roots are fully covered; but a good mulching, two or three inches deep, of fresh manure, put loosely on the surface around the tree as far as the roots extend, will be found beneficial, after planting, at any season of the year, while it is absolutely essential in late spring planting.

In general, watering the trees after planting, and during the summer, is injurious. If the tree will not grow without being watered, it will never be got to grow with it. Watering over the leaves and branches slightly, is very refreshing in dry weather; and during droughts, when the tree is suffering, the earth should be removed for a few inches from above the roots, and a thorough watering be given, replacing the dry earth and mulch again. This is most beneficially done after a rain, which, though it may have wet the surface of the ground, has not been sufficient to reach the roots.

If the soil is light, or the orchard in an exposed situation, it will be well to stake and tie the trees securely as soon as planted to keep them from blowing over; but, as far as my experience goes with rather heavy soils, even in exposed situations, I have never found it necessary to stake the trees.

For the first few years after planting the orchard should be well cultivated with root crops, cabbages, or other low-growing crops that require manuring; but in no case should the orchard be sowed to grain of any kind, except Indian corn, which may be planted with advantage. But whatever the crop a space of at least six feet in diameter round each tree should be left unplanted, to be regularly hoed during the season to keep down the weeds.

I will give additional particulars respecting planting, culture, and pruning, and the distance the trees should be set apart, in my other letters on each kind of fruit.

## LETTER THIRD.

## ON THE APPLE.

The apple being the most valuable and useful fruit of temperate climes, it is very important that good varieties should be cultivated, instead of a great number of inferior kinds as at present. Good fruit always brings a good price, and gives satisfaction to the consumer, while inferior can only be disposed of to those who are ignorant,—a class often imposed upon. This state of things is, in a great measure, caused by Horticultural writers giving long lists of several hundred kinds, which are all described as being very good; and nurserymen thinking it necessary to propagate and cultivate for sale all these varieties. The public have also been to blame in this, for had any conscientious nurseryman, ten years ago, published a catalogue comprising only some thirty varieties each of the best apples and pears, and ten each of plums, cherries, and peaches, his establishment would have been considered a small affair, and those with the 200 or 300 varieties would have drawn the custom. Horticultural societies and agricultural fairs have also been greatly to blame. The chief prizes are always given to the largest and best collection of fruit of each kind. The exhibitor showing say twenty-five of the best varieties of apples or pears, well-grown and fine, would be passed over without notice; while one exhibiting only twenty of the best kinds of inferior growth, and some hundreds of inferior and generally worthless varieties, would take the prize. This is also partly attributable to the judges at these exhibitions, it being almost impossible to get those who are thoroughly competent, for the really competent judge would have merely counted the best varieties, throwing the inferior aside. Now, as receiving the first prize for the best collection is an excellent advertisement for a nurseryman, each has been obliged to keep large numbers of worthless sorts in their stock, and as those acquainted with good fruit will not buy them they accumulate on hand, and have to be sold low to tree peddlers and agents, who retail them throughout the country as the best standard varieties. It will thus be seen that it is really the interest and profit of nurserymen to keep in stock only the best varieties, but an ignorant public opinion has obliged him to do otherwise. It will be the object of these letters to endeavor to remedy

this evil, by enabling every one to know what are the best varieties of each kind of fruit, which if sent for to reliable nurserymen, and not procured from tree peddlers, will give entire satisfaction.

With the exception of the common morello cherry, and some varieties of plum, the apple is the hardiest of our fruit-trees, and will stand a greater degree of cold than any other, though there are great differences in the relative degrees of hardihood of the different varieties. Many suppose that propagating at the North will acclimatize varieties for a cold climate, but this is a mistake; it is quite impossible to inure a tender variety to a rigorous climate, and trees grown in a milder locality are equally hardy with those of the same sort grown in a colder.—The chief cause of want of success is, that young trees that have been forced on by high culture to make rapid growth are not able to stand as great a degree of cold as those grown more slowly.

The apple would probably succeed in many parts of Lower Canada where it has failed hitherto, were the ground thoroughly under-drained, by tile drains, from 16 to 24 feet apart, according to the nature of the soil, and deep enough not to be injured by frost, thirty inches being sufficiently deep in Western Canada. Thorough draining renders the soil warmer in summer and prevents root-killing by frost in winter, which is sure to occur in a wet soil. Closer planting, so that the trees might in a measure protect one another, will also be found beneficial in the colder or more exposed situations; and a belt of evergreens planted for protection around the orchard or garden, as mentioned in a previous letter, would be a great benefit. The more unsuitable the soil and climate, the more necessary it will be found to take extra care of the trees to counteract such drawbacks, and it is hardly worth while to be at the trouble and expense of planting, if you are not willing to use the means necessary for success.

The directions for preparing the ground, planting, &c., in my letter on that subject, are especially adapted for the apple, and need not be here repeated. Standard apple trees should be planted in rich land suitable for their culture, at from 30 to 35 feet apart,—while in poorer soil and colder climate 25 feet will be found suffi-

cient. It is better to plant at the greater distance, and put an early bearing kind of fruit between each two trees, which will in a great measure pay for the planting and cultivation of the orchard before the others come into bearing. The only varieties, as far as my experience goes, suitable for this purpose, are the Keswick Codlin, Hawthornden, and Wagener,—the first a late summer, and early fall, apple; the second a fall apple, and the third a winter fruit. Standards of these, more especially the two first, will come into bearing the second and third year after planting, and will bear enormous crops every year of large fair fruit of a good quality. The two first are good cooking apples, and the last is an excellent red winter apple.

Mr. Barry in the "Fruit Culturist" and other writers recommend that two dwarf apples on the Doucin stock be planted between each standard tree, and give diagrams of orchards so to be planted, but they ignore the fact that it is necessary to have the trees far enough apart to enable a horse and cart to go between the rows with manure, and also to carry off the fruit. At any rate every second or third row would need to be left unplanted for this purpose, and planting dwarfs will only be successful in rich soils or with high manuring, as their roots do not extend so far as standards and need the necessary food brought nearer to them. These dwarfs as well as the early bearing standard varieties would require to be removed as soon as the ground began to be occupied with the permanent orchard trees, say in ten or twelve years. Many of the best varieties are nearly as long of coming into bearing on the Doucin stock as the Standard, while the Paradise stock, which causes early fruiting, is comparatively worthless. One benefit of dwarf trees is, that when it is necessary to remove them, it can be done with great success, even though the tree has been for years in bearing. They could thus be planted in Dwarf orchards by themselves, from 10 to 12 feet apart, or put in to fill up the intermediate spaces in newly planted standard orchards. Where the peach tree succeeds it is often planted between standard apples, being comparatively a short-lived tree. Dwarf pears are also as suitable as the dwarf apple to fill up an apple or a standard pear orchard; and as some hardy varieties bear early and profusely they are perhaps the most suitable fruit for this purpose.

In too many cases the young tree is allowed to grow as it pleases till it begins to come into bearing, when a vigorous pruning is given to

open up the tree in order to let the sun and air to the fruit. This is a great mistake. The tree should be annually pruned during midsummer, in which case it is only necessary to remove young wood and the wounds heal over at once. Where large limbs are cut out the frost gets in and the sap exudes, causing often a dead strip of bark for a foot or two down the main limbs or trunk of the tree. This is generally attributed to the great cold of winter, when, in point of fact, it is in most cases due to careless pruning. Whenever it is necessary to remove a branch of an inch in diameter and upwards, it should be cut off smoothly from the other branch without leaving any projecting stub, and the wound painted over with a solution of gum-shellac dissolved in alcohol (which should be kept in a well-corked bottle, for use as required, as it hardens at once on exposure to the air); this pruning should always be done in early spring, immediately after the cold weather is gone, and before vegetation has commenced to any extent.

It is a very difficult matter to select the 25 or 30 best varieties of apples for general culture, so as to be suitable for every locality, and to please every one, as almost every person has some apple that is a particular favorite, or suitable to his locality, though not generally known, or so suitable elsewhere. In such cases, each grower must add that variety to the following list, which will make it more complete for him:—

*Twenty-five of the Best Varieties of Apples for Cultivation in Canada, arranged in the order that they ripen.*

- \*1. Early Harvest.
- \*2. Red Astrachan.
3. Large Yellow Bough.
- \*4. American Summer Pearmain.
- \*5. Garden Royal.
- \*6. Keswick Codlin.

AUTUMN APPLES.

- \*7. Autumn Strawberry.
- \*8. Alexander (on account of its size and beauty.)
9. Hawley.
- \*10. Fall Pippin.
11. Gravenstien.
- \*12. Hawthornden.
- \*13. St. Lawrence.

WINTER APPLES

- \*14. Fameuse.
- \*15. Bellefleur Yellow.
16. Baldwin.
17. Hubbardston Nonsuch.
- \*18. Pomme Grise.
19. Jonathan.

- \*20. Red Canada. } Weak growers but  
 \*21. Melon. } very fine  
 \*22. Esopus Spitzenburg.  
 \*23. Rhode Island Greening.  
 \*24. Wagener.  
 25. Northern Spy.

The following list are also excellent varieties, and are much prized in some localities, but they have not been so generally proven:—

- |                          |         |
|--------------------------|---------|
| *26. Benoni,             | Summer. |
| *27. Early Joe           | "       |
| *28. Maiden's Blush,     | Autumn. |
| *29. Goyeau              | "       |
| *30. Domine,             | Winter. |
| *31. Dutch Mignonne,     | "       |
| 32. King of Tompkins Co. | "       |
| 33. Pecks Pleasant,      | "       |
| *34. Canada Reinette,    | "       |
| 35. Golden Russet,       | "       |
| 36. Swaar,               | "       |
| *37. Roxbury Russet,     | "       |

For those who like sweet apples, or wish to plant them largely for feeding stock, making sweet cider, or drying, the following list will be found useful:—

- |                            |         |
|----------------------------|---------|
| 38. Golden Sweet,          | Summer. |
| 39. Summer Sweet Paradise, | "       |
| 40. Jersey Sweet,          | Autumn. |
| 41. Spice Sweet,           | "       |
| 42. Bailey Sweet,          | Winter. |
| 43. Danvers Winter Sweet,  | "       |
| *44. Ladies' Sweet,        | "       |
| 45. Tallman Sweeting,      | "       |
| 46. Well's Sweeting,       | "       |

**CRABS.**—47. The Montreal Beauty Crab is decidedly the best and handsomest of all the Crabs. 48. The Red Siberian, and 49, the Yellow Siberian, are also very beautiful when in fruit, and 50, "Elliott's fine crab," is a new variety that is the most beautiful of all besides, being a fine straight-growing tree.

Those marked with an asterisk have been proved to succeed in Lower Canada. As all the crabs grow well, even where apples do not thrive, it is unnecessary to mark them.

If any others of the above apples have been proved in Lower Canada, I would be glad to learn the fact.

The different varieties of the Crab Apple are very useful for preserves or jelly, and are also exceedingly ornamental, both while in fruit and flower; besides, they are the hardiest of all the varieties of the apple, and are uninjured by the greatest degree of cold. The "Early Joe," in the above list of summer apples, though an excellent fruit and great bearer, would hardly be worthy of its place, were it not that it is more nearly allied to the Crab, from its mode of

growth, than any other apple, and nearly equally hardy.

The following is a descriptive list of twenty-five of the best apples for general culture, arranged in the order of ripening.

#### SUMMER APPLES.

1. *Early Harvest*.—Medium size, pale-yellow, rich sub-acid; tree handsome, upright grower and good bearer; ripens latter part of July and August.

2. *Astrachan Red*.—Large, deep vermilion red, covered with bloom like a plum; tender and juicy, but rather acid; tree handsome, and free grower, but not very productive when young. Its great beauty will always make it a popular fruit; ripens latter part of July and August.

3. *Bough, large yellow, or Sweet Bough*.—Very large, pale yellow, very tender, sweet and excellent; ripens in August.

4. *American Summer Pearmain*.—Medium size, oblong, red and yellow streaked, dotted over with whitish spots, very tender, so much so, that when ripe, it bursts open in falling from the tree, and sometimes cracks open in very wet weather on the tree itself; a delicious apple, one of the very best for gardens, but rather a weak and slow grower for orchards; ripens gradually during August and September.

5. *Garden Royal*.—Round; somewhat flattened; red and yellow; very excellent quality; a very handsome and regular, though not a strong or fast, grower; more suited to garden culture than orchard; it is the handsomest grower as a Dwarf on the Doucin stock of any; bears early and well; its great merits should be better known. August and September.

6. *Kenwick Codlin*.—Large, oblong, pale yellow, acid, but excellent for cooking; tree erect and vigorous; a very early and great bearer; fruit always large and fair. In planting an orchard the trees might be placed fifteen feet apart, having every alternate one of this variety or of the Hawthornden, the fruit from which would pay for the whole cost long before the finer varieties occupied the ground, or were fairly in bearing; after which they could be taken out. Ripens during September and October, but fit for cooking early in August.

#### AUTUMN APPLES.

7. *Autumn Strawberry*.—Medium to large size, streaked with light and dark red; tender, juicy, and fine; one of the best, ripening during September and October.



8. *Alexander*.—The largest and handsomest apple, nearly covered with bright red; tree early bearer and highly ornamental; fruit rather coarse, but is always in great demand on account of its size and beauty. Ripens during October and November.

9. *Fall Pippin*.—Very large, roundish oblong; yellow, tender, rich, and delicious; vigorous grower and great bearer; succeeds generally everywhere. October to December.

10. *Gravenstein*.—Large, pale rich yellow, beautifully striped and splashed with bright red; flesh yellowish, crisp, tender, sub-acid, with a rich aromatic flavor; one of the best. September to October.

11. *Hawthornden*.—Large, clear pale whitish yellow, with a beautiful blush cheek; a most beautiful Scotch apple; the earliest and greatest bearer of any, owing to which the tree never grows very large; fruit very fair quality; and good for cooking. Ripens September to December. See remarks on Keswick Codlin.

12. *Hawley*.—Very large, yellow; very tender; rich, fine; excellent. September to October.

13. *St. Lawrence*.—Very large, streaked with red on a greenish yellow ground; flesh white and very tender, juicy, with a very rich aromatic flavor; a most beautiful and popular market apple, and probably the best fall apple for Canada. October.

#### WINTER APPLES.

14. *Fameuse*.—Known at the west as "Snow Apple;" medium size; nearly covered with bright crimson; flesh pure white, tender, and most delicious; a well-known Canadian apple; one of the greatest bearers and best everywhere; tree a fast grower, and very hardy. Ripens in October, and keeps till February. The most valuable apple for Lower Canada.

15. *Baldwin*.—Large, bright red, crisp, juicy, fine, fair fruit; a vigorous handsome grower; bears enormously every alternate year; the most popular apple for orchard planting and market. This variety may prove too tender for Lower Canada. November to March.

16. *Bellefleur Yellow*.—Large, oblong, yellow, tender, and juicy, but rather acid; tree an early and great bearer, and grows spreading and rather pendulous. November to March.

17. *Esopus Spitzenburg*.—Large, oblong, deep red on a yellow ground; flesh yellow, crisp, and excellent; esteemed one of the very best; tree of an irregular spreading habit. Nov. to April.

18. *Hubbardston Nonsuch*.—Large striped;

yellow and red, with a good deal of russet; tender, juicy, and fine; good grower and great bearer; not so generally known as it should be. November to January.

19. *Pomme Grise*.—Small bright russet; very rich and high flavored; very shy bearer, but a strong, stocky grower, becoming one of the largest trees in the orchard; succeeds admirably from Windsor to Quebec; one of the best dessert fruits grown; will always command double the price of any other apple in the Montreal market. November to April.

20. *Jonathan*.—Medium; rather oblong; yellow ground; nearly covered with a brilliant dark crimson; a most beautiful apple; tender, juicy, and rich; very productive; a slender and irregular grower, but eventually becomes a large tree. November to April.

21. *Melon*.—Large, pale whitish yellow ground; much covered with broken stripes of reddish purple, becoming a brilliant red in the sun; a beautiful and delicious fruit; flesh very tender; probably the best winter apple; tree rather slow and weak grower; for orchards it should be worked standard height on some strong free-growing variety. Nov. to March.

22. *Red Canada or Old Nonsuch (Steel's Red Winter of Michigan)*.—Medium size; yellow, covered with bright red on sunny side with whitish dots; flesh yellow, crisp, tender, sweet, and delicious; tree a slow and slender grower, and should be worked for orchard planting as recommended for the Melon; the most popular apple in Michigan, where it is best known and largely grown. Both it and the Melon are difficult to be procured, as they are unprofitable to nurserymen on account of slow growth, and this will be the case as long as all varieties command the same price for same sized trees. Nov. to May.

23. *Rhode Island Greening*.—Large, greenish yellow when ripe, sometimes with a dull blush on the sunny side; flesh yellowish, fine-grained, and tender, rather acid, but excellent for dessert or cooking, considered one of the most profitable and standard orchard apples; tree a strong, but at first not a straight grower. December to March.

24. *Wagener*.—Medium to large, yellow, mostly covered with deep bright red; flesh firm, subacid, and excellent; tree a very early and most productive bearer, owing to which, and its beauty, it is exceedingly suitable for a Dwarf, or for planting in the same way as Keswick Codlin and Hawthornden. December to May.



25. *Northern Spy*.—Large, greenish, striped with red, and when ripe quite covered on the sunny side with dark crimson, with a fine bloom; flesh yellowish, juicy, rich, and highly aromatic, retaining its freshness and flavor till July. Tree, a remarkably rapid and erect grower, and eventually a great bearer, though slow to come a bearing; commences vegetation very late in spring, and thus escapes spring frosts when in bloom; one of the best and most beautiful long-keeping apples known. January to July. This kind has not yet answered expectations in Lower Canada.

#### SWEET APPLES.

For those who like sweet apples, or who wish to cultivate them largely for feeding stock, for drying, or other purposes, for which they are very profitable, the following list will be found suitable:—

*Bough*.—Described already. August.

*Golden Sweeting*.—Large, roundish, pale yellow; a fair, fine, sweet apple; a strong grower and good bearer. August.

*Summer Sweet Paradise*.—A large, fine, sweet apple; round, greenish yellow, juicy, sweet, and rich. August and September.

*Jersey Sweet*.—Medium, striped yellow and red, very handsome, tender, juicy, and sweet; excellent for cooking and feeding stock. August to October.

*Lyman's Pumpkin Sweet*.—Large, pale-yellow with a blush on sunny side; waxen and beautiful, tender, sweet, and fine; a great bearer. September.

*Superb Sweet*.—Large, roundish, yellow and red; tender, juicy, and rich flavored; tree a good bearer and grower, and succeeds well in Maine. September and October.

*Bailey Sweet*.—A magnificent sweet apple of the largest size, deep reddish crimson; flesh yellow, tender, sweet, juicy, and rich; tree strong erect grower, and productive. October to January.

*Danvers Winter Sweet*.—Medium, with brownish orange blush, sweet and good; valuable winter fruit for baking or stock. December to April.

*Ladies' Sweet*.—Large, green and red (nearly quite red), sweet, sprightly, and perfumed; one of the best winter sweet apples. November to May.

*Tallman Sweeting*.—Medium, pale yellow tinged with red; flesh firm, rich, and very sweet;

excellent for baking; tree vigorous and productive. November to April.

*Well's Sweeting*.—Medium, green; flesh tender, sprightly, and rich; an excellent early sweet apple; tree a very stout, upright grower, and good bearer. November to January.

#### ADDITIONAL LIST.

The following list are all very excellent apples. Many persons would put some of them in the select list of twenty-five in place of some I have placed there. A few of them are not well known or have not been yet generally proved:—

*Benoni*.—Medium, round, red; flesh tender, juicy, and rich; good bearer, and strong, upright grower. August.

*Early Joe*.—Below medium to small; yellow, nearly covered with bright and dark red stripes; very tender, and one of the most delicious apples; tree slow but vigorous grower and very hardy. For Lower Canada this should be put in the select list in place of American Summer Pearmain, or Garden Royal. August.

*Primate*.—Medium, greenish white, with a crimson blush on the exposed side; flesh white, very tender, sprightly, mild subacid; an excellent dessert apple; tree a strong and stocky grower, forming a beautiful head. Last of August, continuing in use till October. This variety does well in Lower Canada.

*William's Favorite*.—Large, oblong, bright red; rich and excellent; one of the best and most beautiful of apples; a good bearer, but tree a poor, irregular grower. August.

*Maiden's Blush*.—A beautiful, medium-sized apple; clear, pale yellowish white, with a beautiful blush on the sunny side; tender and pleasant; tree erect, good grower and good bearer. This is much cultivated in Western Michigan for the Chicago market, where it is a great favorite and commands the highest price. September and October.

*Goyeau*.—Very large, yellow, extremely tender, rather acid and the very best summer and early autumn cooking apple, and to those who like a very tender acid apple, an excellent table fruit, but it is too soft for orchard or market, as the slightest pressure bruises it, and it bursts open in falling from the tree; no garden should be without one or two trees; a strong straggling grower, and bears annually a large crop of fine, large, fair fruit; a native of Windsor, C.W., and not generally known. August and September.

*The Peach Apple*.—A beautiful medium-sized,

light yellow fruit, with pink cheek, but rather poor quality. Tree grows with slender, straggling branches, like the crab-apple, which it resembles also in hardness; growing in exposed situations, or clayey soils, where other apples will not thrive. A good bearer. September and October.

*Hawkin's Pippin*.—Very large; pale whitish green; extremely tender and good; tree a very strong, stocky, upright grower, and early bearer; is one of the very best as a Dwarf on the Doucin stock, as it is a perfect picture of beauty, covered with its enormously large fine fruit; not generally known. October and November.

*Canada Reinette*.—Large, greenish yellow, crisp, tender, rich and juicy; very vigorous grower. January to April.

*Domine*.—Medium to large, flat, greenish yellow, with bright red stripes; very juicy, tender, not very high flavored, but will keep fresh and fine till May. Tree a very vigorous grower when young, but as it is one of the earliest and most enormous bearers, it is apt to get stunted when old; the branches have very few twigs, and bear the fruit more like strings of onions than anything else; to have large fine fruit, fully half the crop should be thinned out when small. This variety would do to plant in intermediate spaces, like Hawthornden and Keswick Codlin. December to May, or even June.

*Dutch Mignonne*.—Large, orange, marked with russet, and faint, dull, red stripes; fine-flavored, tender, subacid, and aromatic; tree upright and very strong grower, making one of the largest trees of the orchard. November to March. Does not ripen completely in Lower Canada.

*Golden Russet*.—Medium, dull russet, with a tinge of red on exposed side; flesh greenish, crisp, high flavored; tree fine grower, with light-colored speckled shoots, by which it is easily known; bears well, and is extensively grown. November to April.

*King* (of Tompkins county).—A large handsome fruit, yellow striped, and splashed with crimson; flesh yellowish, coarse, juicy, and tender, with a rich vinous, aromatic flavor; tree an exceedingly fast and vigorous grower; no apple

has been in such demand for planting orchards as this has been of late years; but whether on further proof it will sustain its present high character is yet to be seen. Nursery-men will be apt to praise it, as it grows as much in two years as any other almost will grow in three. December to March.

*Peck's Pleasant*.—Large, pale yellow, with a brown cheek; very smooth, and flesh firm and rich, approaching the flavor of the celebrated Newton Pippin, and succeeds well where that apple will not thrive, as in the greater part of Canada; tree strong grower and fine bearer. November to April.

*Roxbury, or Boston Russet*.—Medium to large; surface rough, greenish, covered with russet; flavor inferior. Its popularity is caused by its productiveness and long-keeping; tree hardy, but not a straight, handsome grower when young. December to June.

*Swaar*.—Large, pale lemon-yellow, with dark dots; flesh tender, rich, and spicy; tree a moderate grower, with dark shoots and large gray buds. With good culture, it is one of the best of apples. November to May.

*Westfield Seek-no-further*.—Medium to large, striped with dark red; flesh tender, rich, and excellent; tree good bearer and fruit always fair. November to February.

#### DWARF APPLES.

List of Apples most suitable for culture as Dwarfs on the Doucin Stock, the Paradise stock being unsuitable to this climate:—

American Summer Pearmain, Astrachan Red, Bough, Early Harvest, Early Joe, Garden Royal, Keswick Codlin, Alexander, Gravenstein, Hawkins Pippin, Hawthornden, Hawley, St. Lawrence, Bellefleur Yellow, Hubbardston Nonsuch, Jonathan, Melon, Red Canada, and Wagener.

NOTE.—The dates of ripening given above refer to Windsor, C.W. As you go farther north the date will become a little later. The latest varieties only ripen in the house in Canada, and it is doubtful if some of them would attain sufficient maturity in Canada East to do so.

## LETTER FOURTH.

## ON THE PEAR.

Horticultural writers trace the origin of our present fine fruits to some worthless variety of the same species found growing wild in some part of the world. The Pear has, according to their views, been derived from the *Pyrus communis*, an austere, worthless fruit, which, they think, by the skill of man and culture, has been developed into its present luscious state. This theory of progressive development has been shown in the case of animals and man to be absurd, but no one hardly doubts but it is the case with fruit and vegetables. My space will not allow me to combat this view at length, suffice it to say that there is no evidence whatever to support this theory. The earliest records mention fine varieties of these fruits, the origin of which was even then unknown, and there is little doubt but they did exist of as good a quality as our best at all times, from the beginning of the world. When we are told that the Garden of Eden was planted "with every tree that was pleasant to the sight, or good for food," are we to suppose that its best varieties of Apple, Pear, Plum, &c., were only Crab-apples, Wild-choke Pears, Sloes, &c.? We may as well believe that Adam and Eve were Gorillas, or even a lower type, and that man has been raised by comparatively modern civilization to his present state, as believe that only inferior fruits were at first created. On the contrary, we have more grounds to believe, that when first created, they were superior to the best now in cultivation, and that by care and culture we are only gradually bringing them up to their original type of perfection with still great room for improvement. We may, therefore, attribute the inferior fruits now growing wild, either to distinct varieties or to degeneration, caused by unsuitable climate, soil, or want of culture.

We know indeed, that natural and artificial hybridization has produced wonders in the beautiful double-flowers that have been originated by modern skill and care; that all varieties of the same species will cross by natural or artificial hybridization, so as to make infinite new forms and colors; and that once the change in structure has taken place there is almost no limit to alteration or improvement—and, no doubt, this has given rise in a great measure, to the theory of progressive development; but, that

by sowing the seeds of the inferior wild varieties, a superior fruit can be raised, without being crossed with a superior, is contrary to all knowledge.

The pear is more easily affected by the seasons than any other fruit,—one year it will be small, insipid, and comparatively worthless, while the next it will be large, juicy, and fine; the time of maturity also varies greatly,—the same variety will be often from three weeks to a month earlier in ripening one season than another, so that sometimes what is generally a winter pear, will ripen thoroughly late in autumn.

As the pear grows more upright than the apple it does not require to be planted so far apart; for standards 25 feet distance will be sufficient, and a Dwarf Pear, or even two, might be planted between each standard, leaving sufficient space at short distances to get in with carts to manure the ground and take off the produce. When the roots of the standards begin to occupy the ground the dwarfs can be taken up and planted elsewhere. I have thus removed dwarfs that had been planted ten to twelve years with perfect success.

But though I recommend the planting of dwarfs between the rows of standards, I, by no means, consider it the best mode of culture, I am convinced that to obtain the finest fruit and the most profit, either in garden or orchard culture, the Dwarf Pear should be planted by itself, the ground kept thoroughly cultivated, and no crop of any kind grown with it. In this case the trees should be planted ten feet apart each way; and, if wished, an early-fruiting, slow-growing variety, such as Bartlett, Beurré Clairgeau, Doyenné d'Été, Dearborne's Seedling, Belle Lucrative, Seckel, &c., might be planted in the spaces, to be removed afterwards. They would thus be at first five feet apart each way. In dwarf orchard culture, if this plan is adopted, the intermediate tree must only be planted one way of the rows, leaving each row ten feet apart, to allow for cultivation with the plough, &c. A space of 12 or 14 feet should be left between every third row, to enable you to thoroughly manure the ground, which should be done every year if possible; for the roots of the Quince being nearer the surface, and extend-

ing a shorter distance from the tree than those of the pear, it requires its food to be brought closely to it. Newly-planted trees should be well mulched with fresh barn or stable yard manure the first season they are planted; and in all light soils where the tree is apt to suffer from lack of moisture during droughts, annual mulching will be found very beneficial, if not indispensable.

The pear requires a better soil and higher cultivation than the apple, as it will not thrive in a cold or wet soil, or where the subsoil is a wet, heavy clay. A good loam or clay loam with a porous subsoil is the best; it also thrives well in a rich gravelly soil, or a sandy loam with a good mixture of lime in the soil, such as will support a good growth of forest trees. Where suitable soils are not to be found, they must be made as near as possible what is required by under-draining, manuring, &c.

No fruit requires high culture more than the pear; but the thrifty growth and productiveness of the tree and the extra size and lusciousness of the fruit will amply repay all the care and expense laid out on it. No one but a good judge of fruit would believe a fine, large, delicious pear grown on good soil, properly cultivated, to be the same variety as the small, astringent fruit grown on poor soil with little or no care. The first may be said to be attaining its original perfection, while the latter is degenerating; and the fruit raised from the seeds of two such specimens would probably be as different in quality as the fruits they were obtained from.

The principal benefits to be derived from planting dwarf pears rather than standard, are that the fruit is, in general, much larger and finer on the dwarf. It is also more easily gathered without bruising or injury; and the larger pears are not so liable to be blown off before maturity by storms, as when grown on tall standards. Besides it is believed that where suitable varieties are planted, a larger crop of much finer fruit could be gathered from the same space of ground.

The only variety of Quince on which the pear can be dwarfed, at all suitable to this climate, is the Angers Quince, which is a freer grower than any of the others; while all varieties of pears succeed better on it. Great disappointment has occurred to fruit-growers by some nurserymen using the Fontenay, or Paris Quince Stock (much used in France), and even inferior varieties for working the pear upon, none of which are at all suitable here. It is needless to

remark that the Thorn and all other stocks are far inferior for this purpose.

But it must be borne in mind that there are only some varieties of the pear that will succeed perfectly on the quince. Many grow slowly and in a few years get stunted, while a few absolutely refuse to grow at all. I have worked upwards of three hundred varieties on the quince, a large portion have grown finely, and most of the rest moderately, and only some ten varieties have not grown at all. As nearly all these have fruited for several years with me, I feel that I can speak with some confidence on this subject, as far as regards my soil and climate, as also to the relative hardiness of the different varieties; with regard to which I am also much indebted to Mr. Springle, of Montreal, one of the most intelligent and practical cultivators of the pear in Canada, and who has proved a number of varieties. I may here mention that he also approves of very close planting at Montreal, the trees thus forming a mutual protection to one another.

About eleven years ago we had three very severe winters, in succession, the thermometer falling to 25 and 30 degrees below zero, which killed or badly injured the very old apple orchards along the Detroit river, also the Peaches, Cherries, and Pears. The first of these severe winters, while the thermometer fell so low during the night, we had a bright sun during the day. I had about ten thousand Standard and five thousand Dwarf Pears, of all the varieties, all well-grown trees from 4 to 10 feet high, killed that winter, the injury being done at the snow line, apparently caused by the thawing of the snow next the stem during the day and its freezing again at night. Some varieties, however, came through this ordeal without injury. It was interesting and instructive to see a row of 500 of one variety perfectly uninjured, while the next row, only four feet distant, of a tender variety, would be killed from end to end, and probably the next row more or less injured, according to the comparative hardiness of the variety. Since then I have discontinued cultivating the more tender varieties in any quantity.

Very high manuring in a cold climate, where the soil is naturally rich, tends to make too strong a growth of young wood, which grows till late in the season, and is not sufficiently matured to stand the winter; this should be guarded against, more especially when the trees

are young. When they fairly begin to bear, the danger is in a great measure past. If about a third of the length of the strong young shoots were cut off about the 1st of September, the rest would ripen more perfectly. All strong shoots that arise from the stem or main limbs of the tree, and which are not absolutely required to renew the tree, should be closely cut out early in August so as to allow the wound to heal over before the winter; and in all cases where it may be necessary, large limbs or branches should be cut off in the spring, close by the stem or limb, without leaving any projecting stub, and the wound covered with a preparation of gum-shellac dissolved in alcohol.

The proper time to gather the fruit is also of importance to be known. All pears are better of being gathered a short time before maturity, and ripened in the house; as when ripened on the tree they are, in general, mealy, and comparatively inferior. But care must be had not to pull them before they have attained their full size. Directions have been given that whenever pears will separate easily at the junction of the stalk with the branch, on gently raising them with the hand, it is time to pull them; but this is not an invariable test, as many varieties will separate easily when they are little more than two-thirds grown, and though some varieties, such as the Bartlett, will ripen well when gathered or blown off at this stage of maturity, they are always smaller, and inferior in appearance and coloring, while many varieties will shrivel and be worthless. It is only experience that will tell the right time. Winter pears should be left on the tree as late as possible, so as not to be injured with severe frosts. A slight frost will not hurt them.

SELECT LIST OF TWENTY FIVE BEST PEARS FOR GENERAL CULTURE.

The following list of what I consider the best twenty-five varieties of pears for general culture, taking all things into consideration, will, I think, greatly help the new beginner in fruit culture, as well as those who have had some experience. It is, however, very difficult to reduce the selection to exactly that number, as some left out are, on account of their hardihood or other good qualities, nearly as good as these, and for some localities even better. I have given a supplementary list of other varieties that are really good, though many of them not yet sufficiently

tested to warrant them as suitable for general culture.

I have also given a separate list of cooking varieties, the previous lists comprising only table fruit. These will be found very profitable to raise for the market, on account of keeping so well during winter. Sufficient attention has not yet been paid to this branch of fruit culture.

I have also given a list of the most hardy varieties selected from these lists, which will be found most suitable for cultivation in the colder parts of the country.

The times of ripening here given are the average times of ripening at Windsor; as you go to the east and north they will ripen from a fortnight to three weeks later; they are also placed in the list as nearly as possible in their order of ripening:—

SUMMER PEARS.

*Doyenné d'Été*.—Small, clear, yellow; often shaded with red; the best, very early pear; a free grower, and early bearer as a standard; on the quince it succeeds pretty well, but is apt to overbear and get stunted, in which case half of the fruit should be thinned out and the tree well manured; ripens early in July.

*Beurré Giffard*.—Medium size, greenish yellow, marbled, with brownish red; the best early pear, exceedingly juicy, sweet, and melting; tree a moderate grower, with slender reddish shoots; bears early and well on the quince, and as a standard grows slowly at first, but becomes eventually a thrifty and very productive tree. August.

*Supreme de Quimper*.—Medium size, yellow, with a reddish brown cheek; very sweet and fine. The tree is a very erect grower, like a Lombardy poplar,—succeeds well as a standard or on the quince; tree hardy, and a very early and excellent bearer,—August.

*Rostiezer*.—Nearly medium size; dull greenish yellow, covered with brown and russet, exactly resembling a Jargonelle in minature; one of the most delicious pears; tree very hardy; makes very strong straggling shoots; needs severe pruning to keep it in shape; succeeds well either as a Standard or Dwarf,—August and Sept.

AUTUMN PEARS.

*Ananas d'Été*.—Large, a most beautiful and excellent pear, not sufficiently known; an inferior pear having been described under this name in some works; skin clear yellow with a beautiful red cheek when exposed to the sun;

surface wavy and uneven; tree exceedingly hardy, and succeeds well on the quince. Begins to ripen latter part of August, and continues to ripen during September.

*Bartlett.*—Large, clear yellow, with sometimes a blush on sunny side; sweet, buttery, and excellent; by far the most popular fruit we have, and always commands a higher price in market than any other; commences to bear early as a standard, as which it succeeds best; as a dwarf on the quince it comes into bearing very early, the fruit being very large and beautiful, but it does not grow so freely or make so permanent a tree on the quince as others, nor is it so hardy in unfavorable situations. September.

*Belle Lucrative* or *Fondante d'Automne.*—Above medium size, greenish yellow; a delicious, very sweet melting pear; one of the very highest flavor, and best either as a standard or dwarf; tree hardy, and bears very early a large crop of fine fair fruit annually, which does not interfere with the healthy growth of the tree. September and October.

*Albertine.*—Large, beautiful bright clear yellow with a reddish cheek; a new pear of first quality that will prove one of the best for market; tree hardy, with stiff rather horizontal branches; bears very early, and fruit always fair; succeeds exceedingly well on the quince. September and October.

*Louise Bonne de Jersey.*—Large, handsome, bright yellow, with a mottled reddish brown cheek, sometimes brilliant red, melting and excellent, a good grower, and a most productive bearer on the quince, on which it is better than on the pear stock; the most profitable pear for the market when well grown, but in poor soils or with careless cultivation it is often rather acid and astringent. September and October.

*Seckel.*—Small, yellowish, russet, with a reddish brown cheek; the highest flavored and richest pear known; a stout but slow grower, making only a comparatively dwarf tree on the pear stock; on the quince it grows equally slowly, though the fruit is larger and finer; pretty hardy. September and October.

*Flemish Beauty.*—Very large when well grown, yellowish russet, with reddish brown on the exposed side; very sweet and excellent; tree hardy, a fine grower and bearer as a standard. On the quince it grows very slowly for the first two or three years, becoming afterwards a fine, large, thrifty tree, bearing enormous fruit. Its growth as a dwarf is greatly improved by

double working (*i.e.* first budding a strong free growing variety on the quince, and the following year budding the Flemish Beauty on the previous year's pear shoot). September and October.

*Kingsessing.*—Large; a beautiful and excellent pear; clear bright yellow, with a beautiful carmine cheek where exposed to the sun; ripening a short time before the old famous White Doyenné, but larger and more beautiful, and not liable to crack and spot like that variety; the tree is also exceedingly hardy, and succeeds well either as a standard or on the quince; the leaves are dark green, and have a peculiar crumpled wavy appearance, quite different from any other pear; the slug—that pest of the pear—never attacks it. This is not the Kingsessing described in the other American Horticultural works, the scions of it and the Tyson (both just then introduced) were sent to me by mail by the late Mr. Reid, of Elizabeth Town, New Jersey, one of the most careful nurserymen in the United States; I therefore presume mine to be correct. September and October.

*Urbanite.*—Rather above medium size, yellow, with a few gray dots, buttery, melting and rich; tree succeeds well both on pear and quince; a rather slow but healthy grower; late of coming into bearing; owing to its being one of the most hardy, it is suitable for cultivation where the winters are severe. September and October.

*Vezouzière.*—Rather below medium size, yellow, oblate, irregular in form; very juicy, melting, and agreeable; not sufficiently large and showy for a market fruit, and would not have been included in this list were it not for the remarkable vigor of the tree and its great hardiness, making it more suitable for general culture throughout Canada than almost any other; succeeds better than any other pear on the quince. September and October.

*Beurré Deil.*—Very large, skin thick, greenish yellow at first, becoming dark yellow with large brown dots, rich, sugary, melting, and delicious; a very excellent market fruit; tree vigorous and succeeds well on the quince. Sept. to Nov.

*Duchesse d'Angouleme.*—Very large and beautiful, when well grown a magnificent pear; skin yellowish green, becoming dull yellow, and in some specimens a bright yellow with a reddish cheek; buttery, juicy, rich, and excellent; an excellent market fruit, but is only suitable for the quince, on which it succeeds well; will prove tender at the North. October and November.



*Grosin*.—Very large; this fine new pear is not sufficiently known. As a dwarf on the quince, it is almost unrivalled as a market fruit on account of its vigorous growth, exceeding hardness, early bearing, and great productiveness; skin smooth green till near maturity, when it becomes a bright, clear yellow; the fruit, when perfectly green and hard, will commence falling from the tree, though there may be no wind to cause it, it is then fit to gather, when it can be barrelled and sent to market with safety, as it will not mature or get yellow for three weeks or a month. When matured it is juicy, sweet, and excellent, and the skin can be peeled off like a tomato or boiled potato. October and November.

*Onondaga*.—A very large melting pear, yellowish green, becoming quite yellow at maturity; tree hardy, early bearing and productive; succeeding well, either as a standard or on the quince; in cold seasons and poor soils, it is rather too acid for a table fruit. I have some doubts about the propriety of putting this pear in the select list, and think, the Pratt or St. Michael Archange should probably be substituted in place; but they are hardly sufficiently proven yet. October and November.

*Beurré d'Anjou*.—Very large, greenish russet, with often a dull, brownish, red cheek; buttery, melting, and excellent; and will keep longer without rotting at the core than any pear of its season; the tree is very hardy, succeeding well either as a standard or dwarf; this is a noble market fruit, and one of the best for orchard culture. October and November.

*Beurré Clairgeau*.—Very large; the most magnificent and beautiful of all pears, skin yellow, inclining to fawn, shaded with orange, and a brilliant crimson cheek; buttery, juicy, and sweet, a little granular; one of the best for orchard culture; succeeding well either as a standard or on the quince, though on the latter it is slow of growth, but very early in bearing, and fruit always large and fine. October to December.

#### WINTER PEARS.

*Dumas*.—Medium size; a new winter pear of great excellence; ripening exceedingly well in the house; rich juicy, exceedingly sweet and melting; bright yellow, with a red cheek; probably the best flavored winter pear, succeeds well on the quince. November to January.

*Beurré Gris d'Hiver*.—Medium size; skin a

little rough, golden russet; flesh a little granular, juicy, buttery, and melting; rich and sugary; succeeds well on the quince. November to February.

*Lawrence*.—Medium size; lemon yellow, juicy, sugary; a little gritty at the core; tree hardy and productive, either on the pear or quince stock; fruit ripening in the house without trouble, like a barrel of apples. November to February.

*Glout Morceau*.—Large, skin smooth, pale greenish yellow, buttery, melting, sweet, and rich, without any acid flavor; astringent as a standard or on cold soils; but, with high culture, very fine on the quince, on which it succeeds best. December and January.

*Winter Nellis*.—Medium size, yellowish green, almost covered with russet: flesh fine grained, buttery, and very melting, with an excellent saccharine aromatic flavor; tree hardy, but crooked and twisting in its growth. Succeeds on the quince, but is best as a standard, on which it is excellent everywhere. December to January.

#### SELECT LIST OF BAKING OR STEWING WINTER PEARS.

*Vicar of Wakefield*.—Very large, long shaped; sometimes a fair table fruit, but in general only fit for cooking. The tree is a very strong grower both on pear and quince, and is very productive, making a beautiful pyramid on the quince. Unfortunately, it is not very hardy. November to January.

*Catillac*.—Very large; keeps all winter and succeeds well on the quince, for which, like the very large pears, it is the most suitable stock, the fruit not being liable to blow off.

*Uvedale's St. Germain or Pound*.—Enormously large, often weighing 2 lbs. and upward; stews, tender, and of a rich crimson color; tree vigorous and productive, succeeding well on the quince; keeps till May.

*Leon Le Clere of Laval*.—Large, handsome and excellent, sometimes half-melting as a desert pear; tree exceedingly productive, being covered annually with large, handsome fruit; hardy and succeeds well on the quince. Keeps till May.

#### SUPPLEMENTARY LIST OF PEARS.

The following is a supplementary list of excellent pears, several of which are equal in quality to some of those in the select list, though not yet sufficiently proved. Many are quite new and promise very fairly; others are useful on

account of being hardy, or early and great bearers.

#### SUMMER PEARS.

*Bloodgood.*—Below medium size, bright orange yellow, partially covered with russet; very high flavored, buttery, and melting; hardy and succeeds on the quince. August.

*Dearborne's Seedling.*—Small to nearly medium size; smooth, clear yellow, very juicy, sweet, and melting; a very early and enormous bearer, requiring severe thinning of the young fruit to have it large and fine; succeeds admirably on the quince, but apt to stunt from overbearing. August.

*Duchesse de Berri d'Été.*—Small, yellow, with red on exposed side; very beautiful, high-flavored and excellent. Last of August.

*Elliot's Early.*—Medium size, a new fruit raised by the late Judge Elliot of Sandwich, evidently a seedling of the Madelaine; fruit pale yellowish, inclining to green, larger than the Madelaine, and about a week earlier; growth of tree nearly allied to its parent; but perfectly distinct; succeeds on the quince, and if on further trial it retains its high quality will prove the best very early pear known. July.

*Julienne.*—Medium, clear bright yellow, skin very smooth, a beautiful pear; sweet, buttery and juicy, but not very high flavored; succeeds well on the quince. August.

*Osband's Summer.*—Small, clear yellow, with a reddish cheek, sweet and melting, with a sugary, perfumed flavor; pretty hardy, and forms a beautiful dwarf tree on the quince. August.

*Ott.*—Below medium, yellow, delicious, high-flavored; a seedling from Seckel; does well on the quince. August and September.

*Tyson.*—Rather below medium, deep yellow, russeted with a crimson cheek; fine, juicy, melting, and sugary; tree hardy, and does exceedingly well on the quince. August and early September.

#### AUTUMN PEARS.

*Abbott.*—Medium; yellowish, considerably shaded with crimson; buttery, juicy, and melting, not very high-flavored,—its greatest qualities being its thrifty growth both on pear and quince stock, and being one of the most hardy of pears. September and October.

*Beurré Bose.*—Large, smooth, dark yellow, with russet dots and streaks tinged with red; flesh white, melting, and buttery, with a rich delicious flavor; by many this is considered one

of the best pears; but it will not grow on the quince. September to October.

*Beurré Gobault.*—Medium; exceedingly juicy and melting; very pleasant and refreshing, but not very high-flavored; on strong, warm, rich soils this is one of the best early fall pears; grows exceedingly well on the quince; is one of the earliest and greatest bearers; fruit requiring severe thinning out to be fine; on sandy or poor soils it is insipid; like all early and great bearers, requires high culture. September.

*Beurré Konig.*—Large, greenish, very sweet and melting; a fine new pear, succeeds well on the quince. October.

*Bezy de Montigny.*—Medium; yellowish green, very smooth and well formed; melting, juicy, and buttery, with a sweet musk flavor; grows very well on the quince; is a very early bearer and productive. October.

*Buffum.*—Below medium; deep yellow, with russet dots; more than half of the fruit covered with bright red; buttery, sweet, and excellent; very strong and upright grower, bears very profusely and succeeds well on quince. September.

*Doyenné Boussoch.*—Rather large; skin rough, deep yellow, with some russet and a reddish cheek; buttery, juicy, aromatic, and excellent. October.

*Doyenné de Comice.*—Large; a new pear of great excellence; tree very thrifty, and grows finely on the quince; rather slow of coming into bearing. October.

*Doyenné White.*—Large, medium; smooth, clear yellow, with often a red cheek; very melting, buttery, rich, and delicious. Where it succeeds there is no better pear of the season; but, unfortunately, it cracks and spots almost everywhere now. Grows well on the quince. October and November. This sort is remarkably hardy, and thrives perhaps best of any in Lower Canada.

*Doyenné Gray.*—Strongly resembles the white but is covered with a lively cinnamon russet, and is rather higher flavored; it is the only pear in these lists that I have never been able to procure true, and have, therefore, never fruited it. October and November.

*Griatioli of Jersey.*—Medium; skin rough, greenish; partially russeted, and sometimes with a reddish brown cheek; very rich, vinous, high flavor; succeeds on quince. October.

*Kirtland.*—Below medium; entirely covered with a bright yellowish russet; juicy, sweet, aromatic; a seedling from the Seckel, but not so rich; succeeds on quince. September.



*Napoleon*.—Rather large; smooth, clear green, becoming yellowish; exceedingly juicy, but not very high flavored. It is thought very much of by some; but it is rather tender, and can hardly be recommended. September and October.

*Pratt*.—Large, yellow; sprinkled with russet dots; juicy, melting, sweet, and firm; makes a beautiful, upright, growing tree, either as a standard, or on the quince, on which it succeeds admirably; new and not much known. October.

*St. Michael Archange*.—Large, yellow, with russet dots; juicy, melting, with a rich, but not very high flavor; a very handsome pear; succeeds well on quince. October.

*Soldat d'Esperin* or *Soldat Laboureur*.—An immense and excellent pear, when properly cultivated; under poor cultivation it does not attain half its size; falls from the tree before maturity, and is worthless; smooth, yellow, dotted with russet; flesh granular, melting, juicy with a sugary, vinous flavor; one of the strongest growers on the quince, and very productive.

*Williams Early*.—Small, round, bright orange yellow, with a scarlet cheek; very beautiful, juicy, rich, with a slightly musky flavor; tree grows freely, and is very hardy and productive both on pear and quince; not so good as some others of the same season, except on account of its suitability for a severe climate. September.

#### WINTER PEARS.

*Belle de Noel*.—Medium, clear smooth yellow, with often a reddish cheek; very handsome, juicy, sweet, and perfumed, one of the strongest growing pears on the quince, and enormously productive; to have fine fruit, one-half should be thinned out. December and January.

*Beurré Bachelier*.—Very large, round, greenish; buttery, juicy, and melting, quite new; succeeds well on the quince, and bears very young. November and December.

*Beurré Euster*.—Large, yellowish green, with some russet; buttery, melting, juicy, and sweet. When the fruit is fair it is one of the best, but is apt to be irregularly shaped, knobby and hard; hardy and succeeds well on quince. January to April.

*Beurré Millet*.—Medium; greenish, nearly covered with large russet dots, sometimes entirely covered with russet; fruit rough, not handsome, but exceedingly sweet, melting, and juicy; grows finely on the quince. Last of November to January.

*Beurré Langelier*.—Medium; fruit always fair; pale yellow, with a reddish cheek; buttery,

juicy, and rich; hardy, productive, and forms a beautiful pyramid on the quince. December and January.

*Beurré Winter, Rivers*.—Large, green, rough, spotted with russet; juicy, melting, vinous or sub-acid; very hardy, and an early and prolific bearer; quite new; succeeds on quince. January to February.

*Blanc Perné*.—Large, green, very like *Leon le Clerc* of Laval, but tree of a freer growth; does exceedingly well on the quince; an early and prolific bearer. December and January.

*Délices de Hardenpont*.—Large, green, becoming yellowish at maturity; juicy, sweet, and good; tree hardy, very strong grower; succeeds well on quince, and bears early. Nov. and Dec.

*Fondante de Comice*.—Large, whitish green, becoming yellow; always smooth and fair; juicy, sweet, and good; tree succeeds well on quince; a low, irregular grower, but one of the earliest bearers, and enormously productive. November and December.

*Forelle* or *Trout Pear*.—Below medium, rich, lemon yellow; deep red on the sunny side, where it is marked with large margined crimson spots like a trout; the most beautiful of all pears. Melting, juicy, and rich; tree a strong grower, with dark, reddish brown shoots; very hardy, and succeeds very well on quince. November to January.

*Jones Seedling*.—Small, yellow, covered with bright russet, with cinnamon red on the sunny side; buttery, juicy, sweet, with a brisk vinous flavor; tree very hardy, and succeeds well on quince; an enormous annual bearer; fruit ripens without care, like a barrel of apples; an excellent market fruit. November and December.

*Josephine de Malines*.—Medium, yellowish russet, buttery, juicy, sugary, and perfumed; when in perfection an excellent pear; succeeds on quince. November and February.

*Madame Elisa*.—Medium, a fine, new, long shaped pear, bright yellow, with a beautiful carmine cheek; one of the most beautiful and best of pears; buttery, melting, and perfumed; succeeds pretty well on quince, but not yet sufficiently proven. November and December.

*Prevost*.—Medium, clear, smooth, yellow, with a handsome carmine cheek; juicy, sweet, and good, always fair; tree hardy; grows very strongly on quince; an early and enormous bearer; fruit will need thinning severely; makes the handsomest Dwarf Pyramid of any when covered with fruit. December to February.

There are many other very good new pears which I have not sufficiently proved to recommend, but all the older varieties not included in these lists are comparatively inferior.

LIST OF HARDY SORTS BELIEVED TO BE SUITABLE FOR EASTERN CANADA.

|                     |                 |
|---------------------|-----------------|
| Supreme de Quimper, | Urbaniste,      |
| Kostiezier,         | Beurré d'Anjou, |

|                  |
|------------------|
| Ananas d'Été,    |
| Abbott,          |
| Belle Lucrative, |
| Albertine,       |
| Flemish Beauty,  |
| Kingsessing,     |
| Graslin,         |
| Vezouzier,       |
| Onondaga,        |

|                         |
|-------------------------|
| Williams Early,         |
| Lawrence,               |
| Glout Morceau,          |
| Leon le Clero of Laval, |
| Forelle,                |
| Jones Seedling,         |
| Prevost,                |
| White Doyenné,          |
| Fondante de Comice.     |

## LETTER FIFTH.

### ON THE PLUM.

Owing to the attacks of the curculio the cultivation of the plum has been in a great measure discontinued in many parts of the country; but as that pest appears to be gradually disappearing in many places where its ravages were severely felt; and as it has never extended in any serious degree to many parts of the country, we may expect that more attention will be given to this delicious fruit. I may add that by proper attention, even where the curculio is worst, abundance of plums can be got, not only without trouble and expense, but with a profit, apart from the value of the fruit.

The plum does not succeed well in a light sandy soil, nor is a heavy cold clay suitable for it. A good loamy or clayey-loam soil, that will retain sufficient moisture to keep the tree in vigorous growth, will be found the best. In light, dry soils, or in hard clays, the plum is liable to a leaf-blight, the leaves becoming spotted, and falling off in July and August, leaving the fruit immature, sour, and worthless. But even in unsuitable soils many of the strong-growing varieties will do well, it being the weak, slow-growing varieties that are most affected, and also easiest injured by the severity of our winters.—As the plum is to be found in almost every part of the country, intending planters can easily ascertain if it thrives, and is free from the curculio in their locality, and guide themselves accordingly, better than by any general rules that can here be given.

The progress of civilization and wealth has given a general knowledge of the best way of preserving and canning fruit; while the cheapness of sugar has enabled almost every one to preserve fruit in a way utterly unknown to the great mass of our ancestors. This has wrought a revolution in the varieties of plums

wanted; there being comparatively little demand for the smaller and inferior kinds of plums, such as damsons, &c., used for making jams; while every one wishes the large handsome plums for preserving and canning.

The American Horticultural writers, such as Downing, Thomas, Barry, &c., besides having written, some time ago, when our knowledge was not so good regarding the best fruits as now,—had to write for a wide range of country, embracing almost all varieties of climate. They were, therefore, unable to depend wholly on their own knowledge and experience, but had to consult correspondents in various parts of the country as to the varieties most suitable for their localities; many of whom, probably, were incompetent to give the proper information.

Writing for Canada, which embraces, comparatively, a small range of climate, I am saved from depending on the knowledge of others, being satisfied that healthy, strong-growing, hardy varieties, which best stand the climate here, where the thermometer sometimes falls to 25 degrees below zero and under, will be found the most suitable for culture everywhere. I have, therefore, discarded from my select list a large portion of those recommended in the select lists of these writers, as being with our present knowledge comparatively unworthy of cultivation, and have only recommended those that I know from my own experience to be the best for the climate, and for the requirements of the public. All the slow-growing, weak, or tender varieties, with the exception of the Green Gage,—and even it cannot be recommended for general culture,—I have left out; substituting those above-mentioned that have large and handsome fruit, which, should the grower have any surplus to dispose of, will always bring the highest price.

The plum can be planted from twelve to fifteen feet apart, and wherever the curculio is plenty it should be planted in a yard by itself (in that case closer planting, say ten feet distant, will be more profitable) This yard should be surrounded by a high paling or close board fence, into which the poultry-house should open, and a sufficient number of fowls, in proportion to the size of the ground, should be kept all the year round. If this is not convenient coops of fowls with young chickens should be brought in the plum yard, and placed here and there under the trees, when the fruit is commencing to form, and kept there till it is nearly full-grown. I have found this a perfect protection from the curculio, two separate yards being annually loaded with fruit; while in the garden adjoining, where chickens are not allowed to run, and in my nursery grounds, I have never saved a plum. No other mode, I am convinced, will preserve them where the curculio is plenty, excepting laying sheets under the trees, and jarring them daily for about a month after the fruit commences to form, which is very troublesome and expensive, and is often rendered comparatively abortive by two or three days of rainy weather (at the time when the curculio is most plenty) preventing the usual jarring of the trees, during which time nearly all the fruit will be stung. The first mode, with the present high price of chickens and eggs, will be a source of profit, besides being a pleasure to many.

When thus grown, the plum-yard will require neither manure nor culture, and will be all the better of being seeded down with grass after the trees have commenced bearing, as the fowls will keep it closely eaten down, the grass being necessary for their health. Where so protected the plum is liable to overbear, and the fruit will be greatly improved by thinning sufficiently to prevent the plums from touching one another when ripe. When allowed to grow in large clusters, pressing against each other, they are very liable to rot at the time of ripening, and the spores of the rot-fungus quickly spread over all the tree, destroying sometimes nearly the entire crop. The fruit when over-crowded is also undersized and has little flavor.

The plum requires very little pruning. Where growing very strong the young shoots that are too long should be shortened, and any branches that cross one another, and where too close in the centre of the tree, should be cut out. It also requires to be well manured, unless grown

as above recommended, so as to keep the tree healthy and vigorous. Salt has been much recommended as a manure, and also as a preventive for the curculio. For the latter it is worthless, and it should be used with great caution as a manure. A friend killed all his plum trees by spreading salt on the surface of the ground, in the way advised by the principal horticultural works. The plum is liable in some localities to a disease called the black knot. Whenever this occurs, the branch affected should be cut off considerably below the knot, and burned. But the strong, healthy-growing trees are not liable to be attacked; as parasitical insects, by one of which it is probably caused, seldom or never attack healthy trees, the feeble and diseased being the most liable

#### SELECT DESCRIPTIVE LIST OF BEST PLUMS.

##### *Green, Yellow, or White Plums in order of Ripening.*

*McLaughlin*.—Large; greenish white, becoming yellowish, marbled with red in the sun; flesh yellow, firm, juicy, very sweet and luscious; adheres to the stone. Middle to last of August.

*Lawrence's Favorite*.—Large; yellowish green, clouded with streaks of darker green, with a few brownish red dots; flesh green, remarkably juicy, melting, and rich, free-stone; one of the most delicious plums. August.

*Guthrie's Apricot*.—Large; bright golden yellow, with a beautiful red cheek; flesh orange; a little coarse, but very rich and delicious; adheres partially to the stone; tree very hardy, and one of the strongest and largest growing kinds; does not bear so heavily as many; fruit, therefore, always large and fine. August.

*Drap d'or d'Espèrni*.—Medium to large; oval yellow with light streaks of green beneath, which gives it a rather greenish appearance in the shade; flesh yellowish, very tender, juicy, and rich, free-stone. Last of August and September.

*Green Gage*.—Small, green with a tinge of yellow at maturity dotted or marbled with red on the exposed side; flesh green, exceedingly melting and juicy, sprightly and luscious, has always been considered the standard of high excellence, separates from the stone. Being of a slow growth and dwarfish habit in some places it is liable to leaf-blight, and therefore cannot be universally recommended. August and September.

*Washington*.—Largest size; oval, dull yellow, with faint marks of green; flesh firm, sweet, and luscious, separating from the stone; tree too tender for general culture. August and September.

*Lucomb's Nonsuch*.—Large; round, green, flesh pretty firm, green; sweet, juicy, and good; adheres slightly to the stone. This is a very hardy, free-growing plum, which, with all the properties of the green gage is much superior for preserving, and well calculated to take its place. August.

*Jefferson*.—Large, oval; golden yellow, with a purplish red cheek; flesh orange, rich, juicy, luscious, and high flavored; separates pretty freely from the stone. This fruit has been praised more highly than it deserves. September.

*Guthrie's late Green*.—Above medium to large, round, dark green; flesh greenish yellow, juicy, sweet, and high flavored; tree a strong thrifty grower and excellent bearer; in great demand as a market fruit for preserving, as it has all the qualities of the Green Gage, though not equal to it as a desert fruit. September.

*Magnum Bonum, White*.—Very large, oval, pale whitish yellow; flesh sweet, firm, rather coarse, but one of the best for preserving, parts from the stone. This is the English Magnum Bonum, quite different from the Yellow Egg of this country, which is a clingstone, and much inferior. September.

*Reine Claude de Bayay*.—Large round, green, with stripes and splashes of darker green; flesh yellowish green, very rich, juicy, and melting, separates from the stone. This is a very excellent fruit, good for desert, and, on account of the lateness, excellent for preserving. September and October.

*Coe's Golden Drop*.—Large, nearly equal to the Magnum Bonum; oval, light yellow, marked with rich red spots on the sunny side; flesh firm, yellow, rich, sweet, and delicious, adhering to the stone; will not ripen well to the north.—September and October.

PURPLE, RED, OR BLUE PLUMS.

*Diapree Rouge*.—Large, oval, reddish-purple; flesh pale green; juicy, very melting, rich, and delicious; one of the best; separates freely from the stone; tree rather slow-growing. August and September.

*Mediterranean*.—Large, oval, bright orange;

in the shade covered with scarlet on the exposed side; flesh bright orange, firm, sweet, and excellent; tree a free grower, and great bearer, —too much so,—fruit being liable to fall off when over-loaded; this is a variety of the Red Magnum Bonum, but is much superior and fine for preserving. August and September.

*Lombard*.—Large, oval, violet red, paler in the shade, dotted with dark red; flesh deep yellow, pleasant and juicy, but not very rich; adheres partly to the stone; tree exceedingly hardy strong, and vigorous; great and constant bearer, withstanding the attacks of the curculio better than any other variety; a very beautiful and excellent market plum. August.

*Diamond*.—Very large roundish oval; the largest purple plum; dark purple covered with a fine bluish bloom; flesh deep yellow, rather coarse and dry; sweet though not high-flavored, free-stone. Free strong grower, hardy and productive; an excellent market fruit, being good for preserving or canning. September.

*Victoria*.—Very large, oval; the most beautiful of plums; fine bright red; orange red in the shade; flesh deep yellow; separates freely from the stone; of a good, moderately rich flavor; tree very productive; one of the very best market fruits, and excellent for preserving. September.

*Smith's Orleans*.—Large, oval, reddish purple; flesh yellow, firm, juicy, but rather acid flavor; adheres very firmly to the stone; tree one of the most hardy and vigorous growers. September.

*Damson Winter*.—Small, round, black, with a copious blue bloom; flesh greenish yellow, sweet, rather acid at the stone, which adheres closely. This is the best of the damsons; tree strong, healthy grower. October, hanging long on the tree.

*Prune d'Age*.—Above medium, oval, violet purple; flesh greenish, yellow, juicy, sugary, and rich; adheres slightly to the stone; one of the best for drying. September and October.

*Fellenberg*.—Large, dark-blue, with a bloom; flesh dark yellow, juicy, sweet, and good; separates from the stone; this is as good as any of the prune plums for those who wish to cultivate them.

Farther north the time of ripening would be a few days later than the above dates.

Several other varieties are equally good with these; but, not having proven them, they are not included.

## LETTER SIXTH.

## ON THE CHERRY.

The cherry is the earliest of our fruits, commencing to ripen early in June, and continuing in season during that month and July; some varieties even ripening as late as August and September. Its delicious flavor, usefulness, and healthfulness will always make it a popular fruit. Unfortunately, the climate of a large portion of Canada is too rigorous for the finer varieties—the *Heart* and *Bigarreau* cherries—to thrive. The varieties of the *Morello*, and perhaps a few of the *Duke* cherries, are the only ones that succeed in Lower Canada.

A large portion of Upper Canada, more especially along the shores of Lakes Ontario, Erie, St. Clair, and a part of Huron, and the rivers flowing into them, is well suited for the culture of all of the varieties. There is no reason why the more favored parts should not cultivate sufficient to supply the rest of Canada. The principal drawback to this has been the ravages of the birds, from which in many places it is almost impossible to save the fruit. The only remedy for this is to plant plenty of trees, so as to have abundance of fruit for both the birds and yourself; for it is a barbarous mode to try and save cherries by destroying birds, as they are of far greater benefit on account of the immense number of insects they devour than the fruit they destroy. The only exception to this is the cedar bird or waxwing, commonly called the cherry bird, which does not come from the south, in general, till the cherry begins to ripen, and leaves again when the different kinds of fruit it likes are past. This bird never eats insects (at any rate, as long as it can get fruit, notwithstanding some accounts to the contrary written by partial observers), but will devour an enormous quantity of fruit in a day, being literally a glutton.

No tree grows faster or is more symmetrical or ornamental than the *Heart* or *Bigarreau* cherry. If it were planted in rows along the road-sides in the fence corners, as in Germany, and even as the U. E. Loyalists from Pennsylvania, who early settled in Western Canada, did with the *Kentish* and *Morello* cherries in many places, we would have plenty and to spare, besides refreshing the weary traveller. I asked a friend who had always plenty of the finest cherries, both for himself and market, how he preserved them from the

birds as I could save none of mine. He said he had planted along the fence near his wood-lot a long row of the common *Kentish*, and the birds never came to the garden near his house to eat the others till these were done.

The birds are nearly as fond of the berries of the upright Tartarian honeysuckle, ripening at the same time as the cherry, which is perfectly hardy and makes the handsomest ornamental hedge of any shrub. If used more for hedges, in cemeteries, on lawns, and as screens, the fruit would supply a great number of birds, and consequently, in a measure, save the cherries.

The cherry requires a light loamy, or gravelly soil; but it will also do on any good soil that is dry, or in which there is not stagnant water in the subsoil. Where that is present, the land must be drained before planting. It requires very little pruning, in fact after the head is once properly formed, it only requires some of the small wood in the centre of the tree to be thinned out, or such branches as cross and bruise one another removed.

Cherries may be divided into three classes, first the *Heart* and *Bigarreau*, which are virtually the same in growth and appearance of the fruit; and, though one is tender-fleshed, and the other more solid, there is not much distinction between them. The other classes are more distinct, viz., the *Duke* Cherries, which are of slower growth than the *Heart*, and make smaller trees, besides being more hardy, and the *Morello*, which are quite distinct in their growth, having slender and pendulous twigs or branches, and are perfectly hardy.

The following list combines a sufficient number of the best in each of these classes for all practical purposes of cultivation:—

## CLASS I.—HEART AND BIGARREAU CHERRIES.

*Early purple Guigne*.—This is the earliest cherry, ripening the first week in June, when it is purplish red, and sweet, but, if allowed to hang a week longer, will nearly double in size, becoming black and delicious. Tree hardy.

*Belle d'Orleans*.—This comes next in succession; larger than the former, pale red, tender exceedingly sweet and excellent.

*Knight's Early Black*.—Resembles the black Tartarian, but ripens a week earlier; large, black;

flesh purple, rich, juicy, and high-flavored. Tree spreading. Middle of June.

*Black Tartarian*.—A superb, large fruit, glossy, purplish black; flesh purplish, rich, juicy, and delicious; tree erect and vigorous. Middle of June.

*Rockport Bigarreau*.—Large, bright red, shaded with amber; flesh rather firm, juicy, rich sweet, and excellent. Middle of June.

*Ohio Beauty*.—Large, bright red; tree a vigorous grower and great bearer; an excellent cherry. June.

*Governor Wood*.—Large, yellow, shaded with red, becoming nearly all bright red; tender, sweet, rich, and delicious. June.

*Elton*.—Large, pale yellow, with a delicate red cheek; flesh nearly tender, juicy, rich, and excellent; one of the very best; tree a free grower and the hardiest; it and the Early Purple Guigne being almost the only varieties of this class that will stand severe cold. June and July.

*Bigarreau, or Yellow Spanish*.—Very large; whitish yellow in the shade, deepening to bright red in the sun; flesh pale yellow, firm, juicy, rich, sweet, and delicious; tree vigorous grower. June and July.

*Black Eagle*.—Pretty large; deep purple, nearly black; flesh purple, rich, juicy, and highly flavored. July.

*Bigarreau Napoleon, or Holland Bigarreau*.—One of the largest cherries; amber, marbled, and dotted with dark red; flesh very solid, but juicy, with an excellent flavor.

*Belle Agathe*.—A new cherry, not yet proved in this country, but worthy of trial on account of its lateness; medium size, bright red, sweet, firm, yet juicy and agreeable; ripens in September, and will hang on the tree if protected, till October.

#### CLASS II.—DUKE CHERRIES.

*May Duke*.—Large, red, juicy, and fine; a well known variety, ripening early in June, and hanging long on the tree, with increasing excellence.

*Archduke*.—Large, very rich, and good; ripens about ten days after the May Duke; tree

more pendulous when old; the finest of the Duke Cherries. June.

*Duchesse de Palluau*.—Large, dark red; a very large and robust variety of the Duke cherry, of excellent quality. June.

*Empress Eugénie*.—Large; an early variety of the May Duke of the same quality; ripens about ten days before it. Not introduced into this country yet, but deserving of trial.

*The Belle de Choisy and Reine Hortense*, belonging to this class, are in all the select lists of other works, but though the fruit is fine, and they make beautifully formed trees, they are such poor bearers that they cannot be recommended.

#### CLASS III.—MORELLO CHERRIES.

*Belle Magnifique*.—Very large, sub-acid, and excellent; hardy. August.

*Kentish or Early Richmond*.—The common red cherry of the country; medium bright red, becoming dark-red at maturity; very hardy, and prolific; pleasant when ripe, and excellent for cooking.

*Morello*.—Large, dark-reddish black, acid, and rather bitter; hardy and a great bearer; only fit for cooking.

*Nowelle Royale*.—Large; a cross between the Kentish and May Duke; more nearly allied to the latter, with dark, glossy leaves; the latest and largest of the class (new), not yet introduced, but may be found hardy and worthy of trial.

*Dwarf Cherries* on the Mahaleb stock are the best for garden culture. The Duke and Morello cherries are the most suitable for dwarfing; but the others, though growing larger trees, do very well. Orchard-house culture of the cherry on this stock is much in vogue in England; and it might be advantageously practised in the colder parts of Canada, where the finer kinds do not succeed. As it is not the object of this work to give directions for culture under glass, those intending this mode of culture are recommended to get the "Orchard House," by Thomas Rivers, of the Sawbridgeworth Nurseries, Herts, England, which can be procured from Messrs. Longman & Co., London.

## LETTER SEVENTH.

## ON THE PEACH, NECTARINE, APRICOT, AND QUINCE.

## THE PEACH.

The greater part of Canada is unsuitable for the open air culture of the Peach, but along the borders of our lakes and rivers, say from below Toronto to near Goderich, in suitable soils and localities, it can be brought to perfection; and in several places in the more Southern parts of the country, it could be grown as a profitable crop for the market.

The tree requires a warm, dry soil. A rich sandy loam with a porous subsoil is the best, and next a good mellow loam; though a rich clay loam properly underdrained (which is essential to the peach culture in Canada) is conducive to greater longevity of the tree; and on this soil, though the fruit is not so large, it is much higher flavored and more juicy. In a light, sandy soil the tree bears young and plentifully, but is very short-lived. If the soil is naturally rich it does not require high manuring, but in poor soil it should have an annual top-dressing of manure late in fall.

In orchard-planting the trees could be planted at 15 feet apart each way; but 12 feet distance will be found sufficient if proper attention is paid to pruning, which merely consists in shortening in each spring all the previous year's shoots or young wood, to the extent of from one-third to one-half, according to the vigor of the tree, and cutting out any small, weak growth in the centre of the tree. As the Peach in favorable seasons is apt to greatly overbear, causing the fruit to be small and insipid, and greatly injuring the tree unless the fruit is severely thinned out, the shortening in system of pruning by reducing the crop fully a third, saves all the evil effects of overbearing, keeps the tree more healthy and within bounds, while the fruit is much larger and finer flavored.

For planting, trees should not be more than one, or at most two years old, and should be well cut back to about two and a half feet from the ground. Plenty of young shoots will spring, of which, only the three best situated should be left to form the head of the tree, which should be cut back the following spring as above directed. While the trees are young, hood crops may be cultivated, taking care to leave sufficient space round each tree free from

crop. As soon as they begin to bear, no other crop should be taken from the ground, which should be kept mellow by regular ploughing, harrowing, and cultivation, so as to keep it free from weeds and grass, which injure the trees more than regular cropping, and this remark will hold good with all young orchards.

When the trees get stunted from any cause, such as overbearing, lack of pruning or manuring, so that the young wood is too weak to bear good fruit, a good top-dressing of manure should be applied in fall, and early in the following spring all the main branches should be cut back, which will cause a vigorous growth of young wood, renewing the tree, and enabling it to bear abundance of fine fruit.

The following is a list of the varieties that I would recommend for open air culture:—For the orchard-house, the slower-growing, high-flavored varieties are best; as, though many varieties, such as Early Crawford, produce beautiful, large fruit under glass, they are in general insipid, and greatly inferior to those grown in open air.

The serrated-leaved peaches are liable to mildew of the leaves in open-air culture. The Early York and Rosebank are the least subject to it of this class. Under glass the mildew does not affect them, or can be easily cured. Those with globose or reniform glands at the base of the leaves are more vigorous growers, and more suitable for open-air culture, not being subject to mildew.

## PALE-FLESHED PEACHES.

*Haile's Early*.—The earliest large Peach, a new variety of great excellence; strong, robust grower. All the other earliest peaches have generally serrated leaves, and are subject to mildew, which this is not. August; flowers small; leaves with globose glands.

*Early York*.—The earliest good Peach; medium-sized fruit; pale, yellowish white, nearly covered with pale-red dots; ripe red in the sun; very tender, melting, rich, and juicy; leaves serrated without glands; flowers large. August.

*Walter's Early*.—Large, ripening shortly after Early York; skin white with a beautiful red cheek; melting, juicy, and excellent; tree



hardy, vigorous, and productive; latter part of August; flowers small; leaves globose glands.

*Grosse Mignonne*.—Large; skin pale greenish yellow, mottled with red with a purplish red cheek; melting, juicy, and rich; one of the best; latter part of August; flowers large; leaves globose glands.

*Brevoort*.—Rather large; pale yellowish-white, with bright red cheek; flesh very firm; rich, sugary, and fine-flavored; early September; flowers small; leaves reniform glands.

*George IV*.—Large; pale, yellowish-white, finely dotted with red, deepening to a dark red cheek in the sun; very juicy, melting, with a rich, luscious flavor; early September. Haine's Early Red, Large Early York, Honest John, and some others, so closely resemble this that they are not worth keeping distinct. They are all fine Peaches, if not identical; flowers small; leaves globose glands.

*Rosebank*.—Large; pale greenish white, with a beautiful dark-red mottled cheek; melting, rich, juicy, and excellent; one of the best; a moderate bearer; fruit always large and fine; raised by the author; early September; leaves serrated without glands; flowers small;

*Oldmixon Freestone*.—Large; pale yellowish-white, marbled with red with a deep-red cheek; tender, with a rich, sugary, vinous flavor; early September; flowers small; leaves globose glands.

#### YELLOW-FLESHED PEACHES.

*Crawford's Early*.—Very large; a splendid Peach; oblong; skin yellow, with a bright red cheek; flesh yellow; melting, sweet, and excellent; tree hardy, vigorous, and productive; early September; flowers small; leaves globose glands.

*Bergen's Yellow*.—Very large; skin deep orange mottled with red, and dark-red cheek; flesh deep yellow; melting, juicy, with a rich, delicious flavor; ripens early in September, a little after the Crawford's Early; finer flavor, but not so great a bearer as it; flowers small; leaves reniform glands.

#### CLINGSTON PEACHES.

*Oldmixon Cling*.—Large, roundish oval; skin yellowish white, dotted with red, with a lively red cheek; flesh pale white; melting, juicy, rich, and luscious; early September; flowers small; leaves globose glands.

*Large White Cling*.—Large, round; skin white with a yellowish tint, dotted with red, with a

light-red cheek on the sunny side; flesh tender; melting, juicy, luscious, and high flavored; September; flowers small; leaves globose glands

#### THE NECTARINE

Requires the same soil and culture as the peach, but being smooth-skinned is very liable to attacks of the curculio; it is also very liable to rot on the tree at the time of ripening; a few trees may be planted by amateurs, but for general culture it cannot be made profitable. For orchard-house culture under glass, it will well repay all the trouble by its great beauty and delicious flavor.

The following are the best varieties:—

*Hunt's Tawny*.—Medium size; the best early nectarine; yellow, with a dark-red cheek; flesh yellow, rich and juicy, leaves serrated; August.

*Hardwick Seedling*.—Large; pale green with a violet red cheek; melting, sweet, and good flavor; early September; globose glands.

*Large Early Violet*.—Large; skin pale yellowish green, nearly covered with dark purplish red, mottled with darker spots; flesh whitish; melting, juicy, rich, and very high flavored; ripens early in September; flowers rather small; glands reniform. The *Violette Hative* or *Early Violet* is very like this, but smaller and does not grow so vigorously.

*New White*.—Large, round; skin white, with sometimes a slight tinge of red where exposed to the sun; flesh white, tender, juicy, with a rich vinous flavor; ripens early September; flowers large; glands reniform.

#### THE APRICOT.

The same remarks as those applied to the nectarine are suitable for the apricot; it is equally liable to attacks from the Curculio, and to jar the trees, as recommended for plums, causes all the fruit to fall off; it is also more tender than the peach or nectarine. In suitable localities a few trees might be planted in the plum yard, where fowls are kept, as it ripens very early, and is very beautiful. It is peculiarly liable to be eaten by the Baltimore Oriole and other birds.

For orchard-house culture it is well adapted, as the tree is very productive, and can be easily kept within bounds, while the great beauty and



excellence of the fruit make it a very ornamental as well as valuable tree.

The best varieties are :—

*Breda*.—Rather small ; skin orange ; darker orange in the sun ; flesh, deep orange, rich and high-flavored ; it is rather more hardy than the following, but not so good ; early August.

*Large Early*.—Medium size ; pale orange in the shade ; bright orange with some reddish spots in the sun ; flesh orange, rich, and juicy ; latter part of July.

*Moor Park*.—Fruit large ; orange with a brownish-red cheek, mottled with numerous dark dots ; flesh firm, bright orange, juicy, with a very rich, luscious flavor ; early August.

*Peach*.—Largest size ; skin yellowish in shade, but deep orange, mottled with dark, brownish red in the sun ; flesh yellow, juicy, rich, and high-flavored. Early August.

### THE QUINCE.

The quince is more hardy than the peach, and will succeed farther north than it. It requires a rich, deep, loamy soil, which should be underdrained to insure good crops of fine fruit. The tree should be trained to a stem two or three feet high, after which it will require very little pruning, except keeping down the suckers or shoots from the lower part of the stem. The fruit is greatly prized for preserves and jellies, and always commands a high price in the market. It might be profitably cultivated in many places in Canada, more especially along the borders of Lakes Ontario and Erie, and the Niagara and Detroit Rivers. It should

be planted from 10 to 12 feet apart ; and requires deep, rich cultivation, with an annual dressing of manure. Salt is said to be very beneficial along with other manures, but care must be had not to give too much ; a thin sprinkling will be sufficient, which should be applied in spring ; other manures are best applied in fall.

#### BEST VARIETIES.

*Angers*.—Rather small, round, bright orange ; a basket of this variety can hardly be distinguished at a short distance from medium-sized oranges. Tree very vigorous, and of free growth, being the only one suitable for working the pear upon. This variety has been strangely overlooked by cultivators. It is more easily trained than any other variety, and the fruit is excellent for preserves ; it comes rather slow into bearing.

*Orange or Apple-Shaped*.—Large, roundish ; this is the most popular variety ; it stews tender, and is of excellent flavor ; and is of a bright golden color, equal in size to a large apple.

*Portugal*.—Large, bright lemon color ; tree a vigorous grower, and a great and early bearer, but rather late in ripening, so that it will not mature except in the more southern parts. The variety generally described as the Portugal is not the true one, which is very little known in this country.

*Rea's Seedling*.—Very large ; a superb fruit, averaging about one-third larger than the Apple Quince ; of the same form and color, and equal excellence ; a thrifty, vigorous grower, and productive.



## LETTER EIGHTH.

## ON THE GRAPE.

The grape is the most delicious and healthful of fruits. Unfortunately, the finest varieties—the European—can only be grown to advantage under glass in this country; the season being too short to bring the best, such as Black Hamburg, Bowood Muscat, &c., to perfection, and the climate being otherwise unsuitable, inducing mildew of the leaves and berries.

Under glass even in cold vineries—*i. e.*, without artificial heat—these varieties come to great perfection, and no doubt could be grown on a large scale for the supply of the market, by those skilled in their culture, so as to give a fair profit on the capital and labor expended. As it is not the object of this letter to treat of the culture of the grape under glass, I will restrict myself to the open-air culture for which the NATIVE GRAPE is admirably suited in many parts of Canada.

Very few of the native varieties commonly cultivated are sufficiently hardy or ripen their fruit early enough to allow of their culture in the greater part of Canada. Several are early enough to ripen in favorable seasons as far north as Montreal, but none, with the exception of the Clinton (which is inferior), are hardy enough to stand the rigors of a Canadian winter without protection, except in the western portions of the country; but, as it is easy to cultivate the grape so as to give it protection during winter, this need present no insuperable barrier to its successful cultivation, if early enough varieties can be procured.

Great advances in this direction have been made of late years, and the Delaware, and more lately the Adirondac, and probably some others, will be found, except in very unfavorable seasons, to ripen well through the greater part of Canada; and, as new and earlier and hardier varieties are raised, there is no reason why, eventually, good grapes should not be grown from one end of Canada to the other.

Several varieties of the wild grape grow spontaneously, and ripen their fruit from far below Quebec to the western extremity of the Province; those in Lower Canada ripening very early. By judicious crossing of these with some of the earliest and finest of the less hardy native varieties, no doubt new varieties could be obtained suitable for culture in the colder parts of the Province. Something has already been done in

this direction; Mr. Rogers, of Massachusetts, having crossed the Charter Oak Grape with pollen from the Black Hamburg, from which he has raised several fine varieties. His No. 4 is said to be nearly as large and fine as the Black Hamburg, and as early and hardy as the Delaware. Probably a cross between it and the earliest of the Lower Canada varieties might produce one perfectly hardy, requiring no protection in winter in the severest latitudes.

The Concord, Adirondac, and Delaware would also be useful to experiment with, though the latter is rather weak-growing and small in the berry for crossing with one still smaller.

At present we have varieties that with more or less winter protection will succeed well in a large portion of Canada West, and even as far north as Montreal and Ottawa; while all along the shores of the Detroit River, Lake Erie, the Niagara River, and a portion of Lake Ontario, where the soil is suitable, vineyard culture will be found as profitable as any where on this Continent, with the exception of what are now called the Grape Islands, at the upper end of Lake Erie, while the largest of these, Pelé Island, nearly equal in size to all the rest, belongs to Canada, and is as suitable for the vine as the best of the others.

The soil most suitable for the grape is a well-drained, strong, clayey loam; and the next best is a strong, gravelly soil. In a low, black loam or in a sandy soil they will not do so well. In the clayey soil the fruit colors better, ripens earlier, and is more full of the saccharine principle, and is less liable to mildew than in the other soils.

The exposure may be various at the west, but towards the east and north it should be on a south or south-westerly slope, fully exposed to the sun for as much of the day as possible, but protected by trees or screens from the cold northerly winds. This has been found of great benefit on the Grape Islands, where a belt of trees is usually left along the shore on the exposed sides of the islands. The winter on these islands is as severe as on the main shore opposite, and even considerably farther north, the lake being annually frozen over. What makes them more suitable for the vine than elsewhere is, that, being surrounded by water on all sides,

they are not liable to late spring and early fall frosts, which are the greatest hindrances to the profitable culture of the grape in this country. It is the ameliorating influence of open water on the air that recommends the shores of the great rivers and lakes for fruit-culture. This benefit is lost at a very short distance back from them, more especially on the northern shores of the lakes; hence the southern shores are more suitable for fruit or vine culture, as the coldest winds have to pass over the water to reach them, and are warmed on the way. It is this that makes the shore of Lake Ontario, from Hamilton to Niagara, one of the best fruit-growing localities in Canada. If it were not for the great accumulation of ice at the northern end of Lake Huron, the shores of that lake at the southern extremity would be equally good.

For the garden culture of the grape it is more difficult to give suitable brief directions than for the vineyard culture; as the situations and soil where they are required to be planted will be so various in the former, while in the latter no one will think of planting largely unless everything is suitable.

A very common mode of culture is to make a long arbor overarching a walk, planting vines on both sides and training over it. This will only succeed in the warmest parts of Canada, and cannot be recommended; as the vine on the inner side of the trellis or arbor is not exposed to the sun and air, and the ground under it is kept damp, predisposing the vine to mildew. A simple trellis, which may be such as is hereafter described for vineyard culture, running north and south, so as to expose each side of the vine to the influence of the sun, will be found the best. Nothing should be grown for, at least, four feet on each side of the trellis, that the sun may have free access to the earth to warm it, as much depends upon this for the proper maturing of the fruit. A trellis set up against the wall of a house (a brick wall is best), or a high fence with a southerly exposure, will also be found excellent; and in towns where there is not space for a garden, a few vines can be grown to great advantage in this way, provided there is sufficient space of good ground for the roots to extend in, and where, if necessary, the vine can be laid down and protected during winter.

Persons having a kitchen or low building covered with a flat composition gravel roof, may also grow a few vines to great advan-

tage, by training them up to a single cane till they reach the roof, and then extending them along the roof on a trellis about fifteen inches above it. This trellis is easily made. All that is necessary is to have blocks of wood six inches square and fifteen inches long; these are set on end, in rows, on the gravel roof, and slats of wood or strong wire nailed along them each way, connecting the blocks together so as to make them quite firm. I have followed this plan for years, and find that the fruit grows very large, ripens much earlier, and is much finer flavored than those grown on the common trellis.

In the colder parts of Canada—unless the vine is perfectly hardy—it will be necessary to protect it during winter. The best way to do this is to prune it as soon as the leaves fall, and before winter sets in loosen it from the trellis, lay it down on the ground, and cover it with a few inches of earth. Litter or manure may be put over the earth; but, in no case, should these be next the vine, as they tend to keep it too damp. The vines should be uncovered and trained to the trellis as soon as the cold weather is over in spring. The 1st of May will be early enough in the greater part of Canada.

The training hereafter recommended for vineyard culture will be found very suitable for the open trellis in the garden. More elaborate systems might be successfully adopted, but it is difficult to give directions, without wood engravings, that will give an intelligent idea of what is required.

#### VINEYARD CULTURE.

The mode adopted at the Grape Islands in Lake Erie is probably the best.

The vines are planted in rows eight feet apart, and from six to eight feet distant in the row, according to the variety, the Concord being the farthest apart. During the first, and oftentimes the second year, they are trained to temporary poles, the trellis being put up the second or third spring. The trellis is made of stakes or small posts set eighteen feet apart in rows north and south, and from four to five feet high. The posts at each end are larger than the others, and are braced so as to resist the strain of the wire. The wire used is No. 9 annealed iron. In general only three wires are used, though some use four; where three are used, the first one is placed eighteen inches from the ground, the upper one four feet, and the other intermediate. These wires are stretched along the row and fastened at each post by a

staple driven in so tightly that the wire is prevented from slipping, thus avoiding sagging in one place more than another, and distributing the strain from contraction, &c., equally along the whole line.

Where four wires are used, the bottom one is placed fourteen inches from the ground, and the others at equal distances apart. It takes about twelve hundred and fifty pounds of wire to an acre where four wires are used.

#### TRAINING THE VINE.

When the vine is planted, all the canes but one are cut close away, and only one cane from the bud nearest the ground of the remaining one allowed to grow. Some do not train it the first year, but it is better to tie it up to a temporary pole as it grows; it requires no other pruning. In the fall it is cut back to within a foot of the ground, and covered with earth to protect it.

The second year allow two canes to grow from the buds nearest the ground, rubbing off the rest. These should be trained vertically to the trellis or pole, and if strong, each might be allowed to bear one bunch of fruit. The laterals that shoot from the bud at the axils of the leaves of the young shoots, should be pinched off after they have attained one or two leaves in length; this is only necessary for a short distance at the lower end of the canes; above that they may grow as nature directs.

In the fall these should be cut back to three buds each (or four to insure three good buds), from which six canes can be grown during the third year, which are to be trained vertically on the trellis. Each of these canes may be allowed to bear two or three bunches of fruit; the laterals should be pinched off as before directed, till the cane reaches the top of the trellis, when it may be allowed to grow as it chooses. In the fall three of these canes alternately are cut back to two buds each, and the other three left three feet long.

Fourth Year.—The canes cut back to two buds each will produce six canes for fruiting the fifth year. These are trained upright to the trellis, and the laterals pinched out as before, while the three canes left long are bent over the middle wire in the form of a bow; their ends fastened to the lower wire; this causes the buds to start more regularly. The vine is now considered fully established, and each bud on the long canes will produce a branch which will bear two or three bunches of fruit; these branches may be stopped at the second leaf be-

yond the last bunch of fruit. In the fall the three canes that have fruited may be cut entirely away, three of the other canes cut back to two buds each, and the other three, which should always be the highest on the vine, left three feet long as before.

The subsequent management is to cut out the three bearing canes every fall, cut back three of the young canes to two buds, and the other three to three feet each. Each of the canes for fruiting the following year may be allowed to bear two or three bunches of fruit, which, with the three bearing canes, will be as much as the vine can bring properly to perfection. Very little summer pruning is required except what has already been directed. The water-shoots,—that is the shoots springing from the main stem of the vine—should be taken off entirely early in June. After some years, the main stem of the vine gets too high, in which case it is well to select a couple of strong water-shoots near the ground to renew it; these are cut back to two buds each at the fall pruning, and two canes are permitted to grow from them the following year. In the fall these are cut back to three buds each, and the old vine above them cut entirely away; but it is best to renew only one half of the vine at one time, leaving the other half to the following year.

Where it is necessary to protect the vines in winter, they should be grown as low as possible, to make it easier to bend them down and cover with earth.

One great cause of success in the Grape Islands before alluded to is, that they are on a limestone formation, the rock coming near the surface, in some places too near for successful culture. When the vine is planted in a very deep, rich soil, or when the subsoil is a rich, damp clay, the roots are induced to go too deep, out of the influence of the sun. On these soils the vine will flourish for a few years, till the roots get deep, when they will be liable to mildew and other diseases. For such soils, deep, thorough underdraining is indispensable.

Between the rows of the vines, the earth is cultivated with the plough and cultivator in the same manner as Indian-corn. Without perfectly clean culture, success cannot be expected. Before the vines are planted the ground should be well-manured by ploughing in, after which, for years at least, unless the ground is poor, they will require no manure. Deep trenching, so as to bring the subsoil to the surface, has been found

injurious; those planted after only common subsoil ploughing having done best. Deep trenching and manuring tend to draw the roots too far down, as before-mentioned.

LIST OF BEST NATIVE GRAPES.

In the Grape Islands the Catawba is the one most cultivated, and the Isabella next; but the Concord is taking the place of the latter on account of its greater vigor and hardiness. The Delaware is also getting more and more into cultivation, but the former is considered the most profitable; and as it cannot be grown so successfully on the mainland, back from the influence of the lake, there will always be a demand for it from the Islands where it matures so well.

As yet but few varieties can be recommended for general cultivation in Canada. The following are the best and are placed in their order of ripening:—

*Adirondac*.—This is a new grape of fair quality, and one of the earliest yet raised. At Montreal in 1866, though a most unfavorable season, it ripened in the open garden by the 14th of September, at which time the Delaware was only beginning to color. If it were perfectly hardy it would be all that is required; but it is not more hardy than the Isabella, which is evidently its parent. The bunches are of good size; the berries as large and of the same color as the Isabella, but more round; the flavor is good.

*Delaware*.—Bunches small, compact, generally shouldered; berries small, round, light red; skin very thin; very sweet and delicious; almost without pulp; pretty hardy, but is the better of protection; ripens in September. It requires higher culture than the others, as it is a weak and slender grower.

*Hartford Prolific*.—Bunches and berries large; dark purple with a blue bloom; pretty good in quality, but with too much pulp. Berries apt to fall from the bunch when ripe; except for its earliness it cannot be recommended, and it cannot compare to those previously described.

*Concord*.—A very vigorous and hardy vine, suitable for general culture in Western Canada; bunch large and shouldered; berries large, round, almost black, covered with a full bloom; flavor good, though not first-rate. Horace Greeley's prize of \$100 for the best grape for general cultivation was in 1866 awarded to the Concord for its many good qualities.

*Clinton*.—Bunches small, compact; berries small, black covered with bloom; it colors pretty early, but is not fit to eat for a considerable time after. As it is perfectly hardy, and will stand the winter without protection throughout Canada, it is suitable for covering arbors, &c. It is also extensively used for vineyard culture in Canada. The *Franklin*, a seedling from this, bids fair to be much superior. It is earlier, larger in the bunch and berry, and better flavored, while equally hardy and otherwise similar.

*Diana*.—Bunches small; very compact; light red; sweet and good flavored, but not a handsome color, and liable to become opaque when the bunches are exposed to the full sun; a very strong grower, but does not ripen its wood well. Some prize it very highly, but it cannot be recommended for general culture.

*Isabella*.—Bunches large, berries large oblong; when well-grown, nearly round; dark purple, nearly black, covered with a blue bloom; flavor good. In the west, except in very severe seasons, it stands the winter without protection; it will only ripen well in the more favored localities, and will soon be replaced with the Adirondac and others.

*Catawba*.—Bunches large, shouldered; berries large light red, becoming darker when fully ripe. A very excellent grape, much more hardy than the Isabella, requiring little or no protection at the west, but ripening too late to succeed anywhere except along the shores of the Detroit and Niagara Rivers, Lake Erie, and a small part of Lake Ontario; this is the great wine grape of Ohio and the Grape Islands.

NEW VARIETIES NOT YET SUFFICIENTLY TESTED,  
BUT WHICH PROMISE WELL.

*Rogers Hybrid, No. 4*.—This is a new grape, which I have not yet proven; but it is said by those who can be depended on to be very fine. Bunches and berries very large, resembling the Black Hamburg, one of its parents. Quality very good; said to be as early and hardy as the Delaware. If on further proof it is found equal to the description, it will be very suitable for general cultivation. Rogers, Nos. 15 and 19 are also said to be good.

*Iona and Isarella*.—These are new varieties raised by Dr. Grant, of Iona, New York, and have been much prized on account of their earliness and quality. The first is a dark purple grape, the last a light red, and both bid fair to be acquisitions, more especially the last.

## LETTER NINTH.

## ON THE GOOSEBERRY, CURRANT, RASPBERRY, AND BLACKBERRY.

## THE GOOSEBERRY.

There are two drawbacks to the successful and profitable culture of this fruit in this country,—the mildew and the caterpillar, to which may be added in some localities the birds. The Baltimore Oriole, and the Scarlet Tanager, two of our most beautiful birds, are very fond of this fruit, and for years I have not been able to get a ripe berry, and have therefore not been able to test the different varieties as I could have wished.

Some of the English varieties, such as the Whitesmith and a few others, do not appear to be subject to mildew, while the Houghton seedling, and some other crosses with the American wild gooseberries, are perfectly exempt.

Different localities, and even different parts of the same grounds, are much more free from it than others, for which there is no way of accounting.

The small green caterpillar, and more lately the British gooseberry caterpillar, have increased to so great a degree in some places, that the leaves of both the gooseberry and currant are entirely eaten off before the fruit is ripe, and the crop is lost. Patience in clearing the bushes of these pests by hand-picking, or other contrivances, or by waiting till they disappear through natural causes, which they in general do sooner or later, is the only remedy.

The gooseberry requires good, rich soil, well-manured annually, as, unless it grows strongly, it is apt to suffer from the great heat and droughts of our summers, and the fruit becomes small and inferior.

The best mode of pruning is very simple; all suckers rising from the bottom of the stem should be taken off early in the season, and a portion of the old wood should be cut out annually, leaving younger to take its place, taking care not to have the centre filled up with small wood. As a general thing it is better after the bushes have grown six or seven years, to root them out, having new plantations coming on to replace them.

## BEST VARIETIES OF GOOSEBERRIES.

The following are amongst the best varieties; but, except by trial of many of the best varie-

ties, it is impossible to tell which are the most suitable for the climate in any given locality. Some of the large, smooth Lancashire varieties are apt to spoil with the sun, getting opaque and sour, instead of remaining transparent and sweet.

The smaller varieties are probably more suitable here, and they are also finer flavored. The following can be recommended:—

## SMALL HIGH-FLAVORED BERRIES.

|                   |                      |
|-------------------|----------------------|
| Champagne Red,    | Green Gage Smooth,   |
| Champagne Yellow, | Keen's Seedling Red, |
| Early Hairy Green | Ironmonger Red,      |
| Gage,             | Warrington Red.      |

## AMERICAN VARIETIES.

Houghton's Seedling Reddish,  
American Seedling,  
and sub-varieties of these.

These are crosses between the small, smooth, wild gooseberry, and the English; they are weaker and more slender growers than the English, very thorny, and the fruit small; but it is better for preserving, being richer and more aromatic in flavor.

I have raised some very fine varieties, hybrids between the wild prickly-fruited variety, and the English, or rather from seed of the original hybrid, again crossed with the best English.

These varieties grow very strong and upright; the young shoots covered with light yellowish-brown spines; the fruit is of various sizes and colors, some smooth and some hairy; many of them are of excellent flavor, and I think will be found more suitable to the climate and great acquisitions. I have not yet been able to test them sufficiently as to productiveness.

## BEST LANCASHIRE PRIZE SORTS.

*Red.*—Atlas, Crown Bob, Hopley's Champion.  
*White.*—Ostrich, Wandering Girl, Whitesmith.  
*Green.*—Angler, Conquering Hero, Thumper Riley's.

*Yellow.*—Bank's Dublin, Husbandman, Pilot.  
Many others, however, are probably equally as good as these. The Whitesmith is the surest variety for a large crop of choice fruit. The Early Sulphur will not answer in this climate.

## THE CURRANT.

The cultivation of this fruit is so easy and well-known that it is waste of space to dwell on it; but if fine, very large berries are wanted, they must be well-manured, and pruned more or less, cutting out all the suckers, and the old wood when it has borne a few years, and pruning about a third off the ends of the stronger young shoots annually, keeping up a good supply of two-year-old wood for bearing.

The following varieties are the best:—

*Black Naples*.—This is the best black, being the largest and longest keeping, as also the most hardy.

*White Dutch*.—When got true,—which is difficult,—is the best white, both as regards flavor and vigorous growth.

*White Grape*.—Very large, beautiful, and fine.

*Cherry*.—Red; largest of all, a little too acid and not just so hardy, but very beautiful and good.

*Long Bunched Red Dutch*; *Fertile de Paluan*.—These are nearly similar; very large, fine, and extremely productive.

*La Versailles*.—Red, very large, and abundant bearer.

*Victoria or Houghton Castle*.—Red; a good late variety, with long bunches, but not so vigorous a grower as others.

*La Native*.—Red; is a very early and excellent variety.

## THE RASPBERRY

Succeeds well on almost any soil except a stiff cold clay. It should be protected in winter by carefully bending down the canes, and covering them with earth. In Lower Canada they do well by merely laying down and putting billets of firewood over them, the deep snow being sufficient protection.

They should be planted in rows four feet apart, and from three to four feet in the row.

The common way of training is to tie the bearing canes of each plant to a pole about four feet high every spring; but the fruit will be finer and more easily gathered if the canes are more spread out. A good plan is to put wooden or iron stakes—the last are the best, and if

pointed are easily planted—about twelve feet apart in the row, along which two wires, such as are used for grape trellis, or smaller, are stretched,—the highest about two and a half or three feet from the ground,—and attach the canes to these in a fan shape.

After the fruit is gathered (or in the fall) the canes that have borne should be cut down close, and the weakest of the young canes of the same season pulled out; leaving only four or five of the strongest canes for bearing next year, which in the following spring should be shortened to from three to four feet, according to their strength. An annual top-dressing of manure in fall is requisite for their successful culture. The ground among them should not be dug.

The best varieties are *Red Antwerp*, *Yellow Antwerp*, *Fastolf*, red, *Prince of Wales*, red.

The *Philadelphia*, and *Brinckle's Orange* are also excellent, hardy, and good varieties.

There are several varieties of autumn-bearing raspberries, the best of which are *October Red*, and *October Yellow*, or *Merveille des Quatre Saisons*. To make them bear well in fall, the canes should be cut close down in spring, as it is on the young shoots that spring from these that the fruit is borne; as too many young shoots are apt to come up, the weaker ones should be pulled up, leaving the others about a foot apart.

## THE BLACKBERRY.

The *New Rochelle* or *Lawton* is the one principally cultivated; it succeeds very well in general, though in some soils the cane is not sufficiently hardy; the fruit, unless very ripe, is too acid.

The *Kittaniny* is in much request now, and is said to be much superior to the *Lawton*.

Owing to the roots sending up suckers all over, and the strength and length of the canes, it is hard to keep them within bounds in the rows, so as to get at them easily to gather the fruit: they must be kept open by repeated ploughing between the rows.

The formidable character of the prickles on blackberries renders it somewhat disagreeable to tend them.



## LETTER TENTH.

## ON THE STRAWBERRY.

No fruit, with the exception of the apple, is so generally used as the strawberry; its easy culture and great productiveness, together with its delicious flavor and wholesomeness, has made it almost a necessary of life during its season, while it is largely in demand for preserves.

The cultivation of the strawberry has consequently increased enormously, but it has not kept pace with the demand, and hence the price has been gradually increasing, instead of diminishing.

The improved methods of packing, and facilities for sending the fruit safely great distances by railway, have greatly increased the consumption and prolonged the season, as those raised towards the south are sent north before the fruit here is ripe, while those raised at the north are sent south later in the season.

The cultivation is very simple, and almost any good ground, if well manured, will produce them in perfection.

The ground should be prepared during summer by ploughing in (if for field culture) a good coating of well-rotted manure; it should be frequently ploughed so as to have the manure well mixed, and the ground in good tilth, free from weeds, by the season for planting, which should be latter end of August or September. Wait for a good rain and then plant at once in rows from 2½ to 3 feet apart, and from 12 to 14 inches in the row. Three feet apart is none too much for Wilson's Albany, and equally strong-growing varieties, while 2½ feet will be sufficient for La Constante and other weaker-growing ones. They need no further cultivation till the following spring, except hoeing them should weeds appear; for the strawberry does not require the ground to be kept loose, rather preferring a compact soil, as may be seen by the strongest runners growing in the alleys of the beds. As winter approaches each row should be slightly covered with straw or litter, but not sufficiently thick to prevent your seeing the green leaves peeping through here and there; if too thickly covered, the leaves get blanched before they are uncovered in spring, and the crop is materially injured.

If the plants were got in early enough to make a good growth the same fall, a fair small crop

will be got the next season. After it is gathered, the plough with a very sharp coulter should be run lightly between the rows from time to time, so as to cut off all runners, and the cultivator and hoo used to keep down the weeds. The following year will give the greatest and best crop, and it will not be advisable to take more than three crops off the same rows, but the bed can be renewed by spreading manure between the rows the third season, cultivating it in, and allowing runners to grow. In the fall the old row is ploughed down, and a strip of the runners between the old rows allowed to grow for the two next years' crop, after which the whole should be ploughed down, having a new plantation coming on to replace it.

In September, 1865, I planted a large piece of ground that was in cabbages and cauliflowers, with strawberries, a row of strawberries being put between every row of cabbages, the shade from which protected them from the sun. When the cabbages were cut the stalks were left in the ground and the loose leaves littering about; they had no other protection. But as the winter was severe without snow, they would have been better of some. The ground has never been ploughed or cultivated since, merely hoed to keep down the weeds; the runners have been allowed to grow so that the land is fully covered with strong, fine plants, and the prospect of an enormous crop next season is almost certain; after the crop is off they will be ploughed into rows again, and kept clean for the next year.

Market gardeners could, without any loss of ground, easily thus plant strawberries amongst cabbages, as the manuring for the latter is sufficient for the strawberry also.

*Wilson's Albany* is, without doubt, the best, for market purposes, of any strawberry we now have. Its great productiveness,—double that of any other variety,—its hardy, vigorous growth, and good carrying qualities,—make it the only one I can at present recommend for general cultivation for the market. Several other varieties are very good, and of better flavor (though as they are principally used with ice-cream, sugar and cream, &c., and for preserving, a little more acidity makes no material difference), but none of them are so hardy, ripen so



early, and continue ripening so long in succession as the Wilson's Albany.

*The Agriculturist, Downer's, and Russell's Profits, Triomphe de Gand, Duc de Malakoff, Bonté de St. Julien, &c.*, though all good and useful for amateurs, are not to be recommended for the market. The only other variety that

now grows is *La Constante*, a very fine, very large, solid-fruited, and very late variety. The plants are dwarf, but robust and hardy. This sort bears a fair crop, which, coming in late, always commands the highest price, as it bears carriage well.

## LETTER ELEVENTH.

### ON THE PROFITS OF FRUIT-CULTURE, MARKETING, ETC.

#### PROFITS.

The profits of fruit-culture, when carried on with skill and undivided attention, are large; but when it is merely tried in connection with general farming or other employments, it will usually prove unsatisfactory. The apple is the only fruit that the farmer can cultivate to advantage for the market, and at the same time attend to the ordinary crops and labors of the farm. Where the other kinds of fruit are largely cultivated (and unless largely cultivated, so as to make it worth while sending to the best markets, it will not pay well) they take so much time and skill, that unless the whole attention of the fruit-raiser is devoted to the business, it will not be done well.

Many of the small fruits require so much cheap labor to pick them for daily market, that, unless in the neighborhood of towns where children can be got to pick them, they cannot be profitably grown on a large scale; and fruit-farms should, at any rate, be in the neighborhood of large cities, or near water or railway communication.

In horticultural works and periodicals, instances are often given of the great profits to be derived from fruit-culture, but to collect these accounts together would be only apt to mislead the new beginner and lead to disappointment. The fruit-grower must make up his mind to have unprofitable years as well as profitable, as an overcrop one year will usually cause a poor crop the next, or the severity of the winter may injure or destroy the blossom buds, or they may be injured by late spring frosts while in blossom. Suffice it to say, that, with the necessary capital and knowledge, a well-situated fruit farm with a suitable soil and climate, will pay as well as, or better than, any other

business that could be engaged in with the same means, while it is a respectable, healthy, and delightful employment. This has been found the case wherever it has been properly gone into, and fortunes have been made from it in almost every section of the United States. In Canada we have been very backward in this matter, but people are thinking more of it, and it only lacks the necessary knowledge which these letters are in a measure intended to supply, to induce the cultivation of fruit as a business for the market.

Lands in the Lake Erie Grape Islands suitable for grape growing, are now worth from \$300 to \$400 an acre, and are eagerly bought up at these prices, principally by intelligent Germans, who make an easy, pleasant, and profitable livelihood out of three to five acres planted in vines.

Strawberry and other small fruit culture has been also very profitable in the neighborhood of the large cities; while the peach, in suitable localities, such as at St. Joseph, in Michigan, has proved exceedingly profitable, the crop from a ten-acre orchard in good seasons bringing from six to nine thousand dollars delivered on the grounds.

Much delay and disappointment has been caused from parties engaging in fruit-growing who knew at first very little about it. Many gave it up before succeeding, and those who were successful only learned by dear-bought experience what were the best varieties to cultivate, and the proper way to do it. It has been my object in these letters to give the new beginner the benefits resulting from a long and careful experience, so that with proper attention he will be certain of success, and be as well advanced in knowledge at the commencement as many others are after years of failure.

## MARKETING, ETC.

At first I intended giving directions at length for the proper gathering, packing, and marketing of fruits; but, on consideration, I think it will be useless, as the improvements from year to year are so great, both in the packages in which the different kinds of fruit are packed, and in the mode of transportation to market, that any directions given now would be superseded by better methods long before the fruit from trees planted now would be ready for market. The new beginner must, therefore, when the time arrives, ascertain from the fruit-dealers in the larger cities, the best methods of marketing their fruit.

As many farmers, however, have large bearing orchards of apples at present, it may be well to give a few hints on gathering and marketing that fruit; and Pears, when in sufficient quantity, should be treated in the same way.

The fruit should be carefully gathered by hand, and packed as gathered into new flour barrels; old flour-barrels that have held flour being unsuitable, as the fruit will neither keep nor look well in them. Many carefully gather the fruit from the boughs, and pitch it carelessly into the basket or barrel; while others, after carefully filling their basket, empty it into the barrel, thus more or less bruising all the fruit, and spoiling it for long-keeping. Apples should be handled as carefully as eggs. As the barrels are filled, they should be gently shaken, so as to fill the barrel quite full, and then be headed up and put into a cool shed or outbuilding till time to send to market, or put in the cellar; which latter should be perfectly dry, cool, and dark. Fruit gathered and packed in this way is worth fifty per cent. more than in the usual way that it is done in Canada.

## LETTER TWELFTH.

## GENERAL REMARKS.

In concluding these letters, it may be well to dwell a little more at large on the suitability of Canada for a fruit-growing country, and the benefits to be derived from planting and cultivating fruit.

The fruit-growing portion of Canada may be said to extend from its southern extremity in latitude 42 to the 46th degree of North latitude. Except in very favorable localities the apple will not succeed further north, and in unfavorable ones it will not thrive even as far north as 46°, though some other kinds of fruit will.

Owing to the greater part of Western Canada being surrounded by the great lakes, and Eastern Canada having the valleys of the St. Lawrence and Ottawa, the climate is much more favorable for fruit-raising than at the same latitudes, or even further south in the interior of the United States removed from the influences of these waters. It will thus be seen that we have ample space within our bounds of the richest soil, and most favorable climate, for raising the greater part of the finest fruits grown in temperate climes.

Montreal was long famed for the finest and best apples raised on this continent; its Fameuse,

St. Lawrence, Pomme Grise, and others, have never been equalled, let alone surpassed; and though of late years the trees have not been apparently so hardy there, it is not so much caused by a change of climate as the caterpillar, which for years back destroyed the leaves annually, thereby greatly weakening the trees, and making them unable to withstand severe winters. Last year this pest had, in a great measure, disappeared; and there is no reason why both the valleys of the St. Lawrence and Ottawa should not be covered with thriving orchards if proper precautions for shelter and the destruction of insects were adopted.

There is no difficulty in growing fine fruit; it is both a healthy and pleasant pursuit, and a little practical knowledge after reading these letters will enable beginners to do it with success, so that they will have abundance for the use of their own families, and a surplus to dispose of.

But, to insure satisfactory results, the planting should be general throughout a locality, as there is nothing more discouraging to the enterprising fruit culturist who has been the pioneer in planting and cultivating a small orchard in a new part of the country, or where

fruit had not previously been grown, than to find, as soon as the results of his care and labor are beginning to be realized, by his trees commencing to bear, that his orchard is invaded, his fruit stolen, and his trees broken down, probably by the sons of his nearest neighbors. But this will be always more or less the case until planting becomes general, when each family will find itself interested in discouraging such conduct.

The enterprising and intelligent fruit-grower (and it requires enterprise and intelligence to succeed in any business) who is willing to devote his whole energies to that end will always succeed; and, besides being really a public benefactor, will acquire as handsome a competence as he could from the same amount of skill and capital invested in other business, and with much less risk of loss than he would in commercial pursuits.

But it is not the fruit culturist alone that will be benefited: the mass of the people in our cities, towns, and villages, who at present have nothing like an adequate supply, will also be benefited by having abundance of fine fruit brought within their reach and means.

But it is still more important for the farmer or owner of a smaller lot of land to at once go into fruit-raising, which need not be on a large scale at first. In many parts of the country, more especially in the eastern, few or no fruit trees have been planted, and the inhabitants are either entirely dependent upon wild fruits, or on those imported from a distance, which are high in price, and, probably from long carriage, inferior in quality; or, as is more often the case, have to do without entirely.

Now every farmer should have abundance of fruit and to spare, on his own farm, as it is conducive to both the health and comfort of his family, and everything that tends to make home pleasant and comfortable should be encouraged. No wonder that the farmers of Lower Canada when they visit the United States and see the farm homes there imbedded in thriving orchards, and compare them with their own bleak and cheerless homesteads without a tree of any kind, in many places, near them,—no wonder, I say, that they wish to emigrate to what they suppose to be more fertile lands and genial climes; when the fact is that their own country and homes could be made equally as pleasant by adopting the same means.

In many parts of Eastern Canada it is sup-

posed that the apple will not grow well on the old cleared farms, owing to the soil being worn out, and that only rich newly-cleared lands are suitable for it. If this theory were correct, it would be equally applicable to Western Canada, where, it is well known, such is not the case. The idea, however, is, no doubt, in a measure correct, though from a different cause than supposed. It is the surrounding woods sheltering the new farms from the cold winter that makes the principal difference; and too much stress cannot be placed upon proper shelter from woods or belts of trees, as being more than anything else what is required for successful fruit-culture in Canada, and even much further south.

If those going on new farms would bear this in mind, and in the process of clearing leave belts of trees on the sides exposed to the coldest winds, they would find their account in it both as regards fruit-growing, stock-raising, and grain-growing. The present custom in clearing farms is to begin at the front on the concession line, and clear off everything in the shape of a tree till they come to near the rear of the farm, where a portion is left uncleared, to give them a future supply of firewood, &c. A much better plan would be to leave a strip or belt of trees down each side as well as in the rear, and also in the front if that is the coldest exposure. The large trees from these belts could be cut out as required, leaving the second growth to shoot up, which makes by far the best shelter. These remarks apply more especially to the more level farms; hilly ones will require to be sheltered in conformity with the exposure of the land, and the hills themselves afford excellent shelter, which is one reason for the thriving of orchards on hill sides.

A pretty dry soil, the result either of natural or artificial drainage, is essential also to the preservation of fruit trees from the severity of the climate of Canada.

On old cleared lands, the best mode, under the particular circumstances of each case, should be adopted. In many instances, a good shelter could be had by having the dwelling-house and some of the out-buildings on one side, and the barns and stables on the other side of the orchard; the other sides, if sheltered by hills or trees, would make it complete; or, in case of need, a belt of evergreens and other trees might be planted.

It is very necessary that the orchard should be

near the house and out-buildings, so that fowls and pigs could have the run of it to pick up insects and fallen wormy fruit; but, in this case care should be taken to have a good fence between the barn-yard and it, to prevent cattle getting in. Too many have only a poor or temporary fence between them, and in winter the cattle have the run of the orchard, browsing on and destroying the trees. Sheep, even, can be permitted to run in a young bearing orchard, with good advantage, if proper precautions are taken to have the branches so high from the ground that the sheep cannot reach them, and the stems protected in the following, or some other manner, to prevent them from gnawing the bark of the trees:—

A very simple mode of protection is to take a section of bark from a young elm or other suitable tree, say of six inches in diameter, and of the necessary length to reach from the ground to the branches. This can easily be done by cutting two circles through the bark at the proper distance apart, and then slitting it up on one side, when it can easily be removed. The bark will at once contract loosely round the stem of the fruit-tree, and will be found a perfect protection from sheep, or from wild rabbits in parts of the country where they are plentiful; and it will also be a great protection from frosts in winter, as it is the action of the bright sun on the frozen stem, more especially at the snow line that causes the greatest injury from the alternate freezing and thawing of the bark.

No young orchard (unless growing very strongly) should be seeded down to grass till the

trees have commenced to bear. Previous to that time, it should be cultivated with hoed crops that require manuring annually. In no case should grain of any kind (except Indian-corn) be sown, as it is destructive to orchards; more of which are permanently injured from this cause than any other; but where from any cause it may be advisable to seed it down earlier, a space of from four to six feet in diameter round each tree should be kept clear from grass or weeds by repeated digging or hoeing till the trees fairly commence to bear; and where root crops or Indian-corn are planted, it is equally necessary to leave that space round each tree unplanted, to be kept perfectly free of weeds.

Some think that seedling apples are more hardy and bear better than grafted; but even were such the case (which it is not if proper varieties are selected) it cannot be advisable to plant them, as the fruit is comparatively worthless, and any surplus cannot be profitably sold. They are also, in general, of much slower growth than the better varieties of grafted fruit, while it costs as much to cultivate the worst as it does the best varieties.

Should the directions given in these letters, which are derived from upwards of thirty years' practical experience, enable the intending fruit-grower to plant and cultivate trees satisfactorily and profitably, they will have served the end I had in view in writing them.

JAMES DOUGALL.

WINDSOR, C.W., March, 1867.



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