

Crimson Beauty. I wish I could tell positively which. I would soon increase my modest plantation of these varieties, or of the one that would best fill the bill. But we must wait for tests.

Turner puzzles me as to its origin. Surely this, the hardest of all tested kinds, must be a pure native (*R. strigosus*). Yet the appearance of the foliage, taken along with the assertion of Prof. Turner, that he grew it from seed of the Hudson River Antwerp, seems sufficient to cast a suspicion upon its native claims, especially when it mildews a little. Yet this fault is so slight, and it is so vigorous and so hardy, and so sweet and good, that it stands out as the only raspberry that can be confidently recommended for localities where the winters are particularly severe. It begins to ripen three or four days after the Highland Hardy, and before any other tested variety that I know of, so that it seems well worthy of a place in the home garden anywhere for early berries, and for a near market it takes very well. I think it bears over half as much as the Philadelphia, but it is much handsomer and better flavored, and rather larger.

Knevet's Giant and Victoria are two English varieties that in the lake regions will greatly please the careful amateur gardener with delicious berries of the very largest size; and in some seasons, on rich land, they will yield a very large crop. Knevet's Giant is the largest, Victoria the sweetest; both good enough to please any man that can be pleased with red raspberries. Yet they are of the pure foreign strain—like Franconia—difficult to manage; and even where they succeed, the family vote will probably place them behind Clarke and especially Herstine, which look nearly as fine, taste as good, and are more reliable.

But Cuthbert is the variety that casts a shadow on all of these noble varieties. Not that it is more productive than any, or larger, or harder, or sweeter, or firmer—well, yes, it is very firm. But it is so large, so handsome, so hardy and so productive, as, in my opinion, to distance by its combination of excellences all tested varieties. This can now be said without suspicion of motive, for it is getting about as cheap as any in cultivation, although our growers move so slowly that it must take some time yet to become very common. It is not that it is good for only one or another class of growers; but the man who plants for the family will find it fine for the family, fine to show his guests, fine to market, if he has a surplus, and fine to ship to a city market, if the local demand is over-supplied. Be it remarked here that with all the cry about the glut of wild berries, the Cuthbert will probably make its way in almost any town in our Dominion where it can be produced. Markets that are glutted with strawberries are often poorly supplied with wild raspberries, and these even would soon give place to a large fruit like the Cuthbert. Yet its faults are plain. When we get a berry that with equal firmness, size, quality, hardiness and productiveness, can show "scarlet red" instead of "cherry red," rather more vigor of growth on poor land, and a smaller cavity where it fits the stem, then Cuthbert, too, must retire, especially as it now and then suffers from "curl-leaf." But we may have to wait long for such a new-comer; meantime, I for one will rejoice in this prince of red rasps while it yet is first. I would rather eat it than any red raspberry I know of, except perhaps the Clarke, and I think it comes nearer in bearing to the Philadelphia than any other of its class, while nearly double the size. It is about as hardy, too, but will sometimes freeze where the Turner will come green through the winter.

Lost Rubies are too sour to please me. It needs to be planted near other varieties, as the flower is not perfect; and I had it isolated, and on a low, wet spot, too, so that it did not have a fair chance with me. But I do not think it will prove equal to Cuthbert on further test, unless it develops superior hardiness to Cuthbert. But folks who like acid fruit may be pleased with it. Its grains are quite large, and it seems hardy enough.

I thought the Reliance might beat the Cuthbert, for it seems more vigorous in growth, and, being a seedling of the Philadelphia through two or three generations, it might be expected to come out ahead in productiveness. Perhaps it will on further test; I have only seen it on one year plants. But the berry does not come up to Cuthbert in size, appearance or quality, and I pronounce it *not* the berry to succeed Cuthbert for all purposes, whatever it may yet prove for home use.

Shaffer's Colossal is the first raspberry I have seen that fairly meets the Philadelphia on its own ground and beats it. This, too, I have only tested on one year plants; but growth and crop have been

fully equal to those of two year plants of many varieties, while its growth of this season I think I will pass as "huge." I cannot speak positively, as one might from close comparison of the varieties with equal chances, but I think it will yield a larger crop than Philadelphia, while the berries are about the largest I have ever seen. I am well pleased with the quality, too; it is certainly not of the best, but it is quite pleasant—not dead sweet, like Philadelphia, but with a certain agreeable quality mixed with its sub-acid flavor that most people like. It does not send up suckers, which will be a great recommendation to the careless gardener, and it seems as hardy as any sort in the garden. True, it is quite soft and will not keep well over a warm night, and its Philadelphia color is against it in market. But it sells well here, and I purpose setting it out with the expectation of finding it the most profitable I can plant, unless I have to ship.

I must reserve my notes on black caps and white rasps for a future article, and now condense these rambling jottings by recommending as the best I know—

1st. Cuthbert for a late berry, for all possible purposes, except where the single item of *quantity* is the one desideratum.

2nd. Shaffer's Colossal for home use and a local market, where color is not very important—with a few Philadelphia as a "stand-by."

3rd. Turner for an early berry for home use or a local market where color "counts," and for all purposes where the winters are very severe.

4th. Herstine and Clarke are very fine berries for the family and home market, where color, size and flavor are in high demand.

The great want of the day is a good early berry; with the above six sorts we can wait complacently for developments.

The Principles of Successful Orchard-ing in the Province of Quebec.

BY R. W. SHEPPARD, JR.

If success is to be expected in the cultivation of orchards in this severe climate of ours, much greater consideration must be given to the selection of more hardy varieties than is generally the case when farmers set out trees.

The failure of a large percentage of the orchards of grafted trees that have been planted out within the last twenty-five years must be attributed to the fatal mistake of setting out tender or *only half* hardy varieties; of course there are other causes why orchards have failed, but that is the chief one in this Province, at least. A farmer who contemplates setting out an orchard ought first to consider what varieties he should plant. He is not planting corn to be cut down in the autumn, but trees, which should live long after he himself has passed away—a legacy to his children and grandchildren. Unfortunately, there are few nurserymen in this Province, and they, having only small nurseries, can only supply local demands, and in consequence the majority of farmers have been the prey of agents of large nurseries in the States or Western Canada, who, offering their surplus stock at *slaughter* prices, and adopting a plan of delivering the trees, *freight paid*, at the nearest railway station, thus putting the purchaser to little trouble and expense, have sold varieties totally unfit for this climate. We cannot grow, successfully, five per cent. of those varieties of apples which are the leading commercial kinds of the Ontario fruit growers. When I say *cannot*, I mean that the trees would not live long enough, under the most favorable circumstances, to yield paying crops. I would not dream of setting out a thousand trees of the following varieties:

Northern Spy, Baldwin, Golden Russet, Rhode Island Greening, Ribston Pippin and Spitzenburgh; yet these are the leading commercial kinds which the report of the Ontario Fruit Growers' Association for 1881, tells us are cultivated in that Province. The Golden Russet, perhaps, can be profitably grown, but yet it is not hardy enough to induce me to plant out a tenth of a thousand. A friend of mine in Mississquoi County informed me this spring that he lost 60 trees of that variety last winter.

Half-hardy varieties, Fameuse for example, from Ontario nurseries, and planted out in this Province, do not succeed as well as trees of the same variety, from a Quebec nursery. I have proved this fact to my own satisfaction, by trees in my experimental orchard. In 1876, I planted a row of Fameuse, received from Galt, Ont., and in the same orchard, only a few feet distant, a number of the same variety from Abbotsford, Que. What is the result? To-day the Abbotsford trees are sound

and healthy; those from Galt nearly all, if not all, diseased and dying. Now the latter have had the same care and attention as the former and grown in the same soil. Why this marked difference? Because the Galt trees, nursed in a milder climate, were induced to grow until late in the season, the fall before they were sent to me. The young branches, no doubt, ripened their wood sufficiently to withstand the winter in that part of Canada, but not in this. The mischief was done the first winter here. The young branches are now main branches of these trees, and are all diseased and rotten, at their junction with the trunk, easily breaking off with the weight of fruit or in high winds.

The Hon. J. J. C. Abbott, whose orchard at St. Anne's is situated within a dozen miles of my own, has had much the same experience. His first trees were from Ontario and the west, and are dead or dying, never living long enough to bear paying crops; but now he has a large and profitable orchard of Quebec nursery trees.

What varieties do I recommend? Well, I have tried over 80 varieties of apples, but can recommend very few to grow for profit. The following, however, are the leading varieties:

Tetofsky, Duchess of Oldenburgh, Peach of Montreal (for summer.)

Alexander and St. Lawrence (fall.)

Winter St. Lawrence, Fameuse, Wealthy (early winter.)

Canada Baldwin and Ben Davis (late winter.)

Fameuse is undoubtedly the most profitable apple. It is such a heavy bearer, and the fruit of such quality, and so well known (the favorite in the Montreal market), that it is always saleable; but the tree is not *quite* hardy enough. A large percentage of those planted out, however, with good care and cultivation, will live long enough to bear heavy crops for ten or a dozen years.

The *Wealthy* (a new apple from Minnesota) is, in my opinion, *quite hardy*. The best evidence of hardiness in a tree is when the buds at the ends of the branches (terminal buds they are called) start to grow in the spring; it is a sign that the tree is hardy, and has ripened its wood to the very tips of the branches. I have never seen it otherwise in the "Wealthy." But the hardiness of the "Wealthy" was conclusively proved in my nursery at Como last winter. It was, perhaps, (owing to the want of snow protection) one of the most severe winters we have had for many years. Of 1,000 two-year-old *Wealthy* trees, not more than two per cent. was winter killed. Whereas the 500 Fameuse in the next row, four feet distant, quite, if not more than fifty per cent. was completely killed out.

The "Wealthy" compares favorably with Fameuse in *size, color, flavor and productiveness*, and under like conditions, the fruit will keep a few weeks longer. I have about 700 Fameuse trees in my orchard; they look well and pay well, but I shall set out no more. I have 100 "Wealthy" in my orchard; they look better and healthier and will pay better, because being more hardy trees, will live longer.

Winter St. Lawrence, a fine large apple that keeps as long as Fameuse, and is as profitable. The tree is hardy.

Of the late keeping varieties, *Canada Baldwin* and *Ben Davis* have proved quite hardy and productive. The former is a beautiful red apple of fair flavor. "Ben Davis" is an apple of fair size, but rather poor quality. Both these varieties sell well in the Montreal markets. This season I sold my "Canada Baldwin" at \$4.50 per barrel.

In planting an orchard, bear in mind that the trees of three years growth from the bud are the best. A small tree with all its roots intact, can easily be taken out of the nursery, and if transplanted *properly, must grow*. Do not plant the trees deeper than they stood in the nursery; dig large shallow holes. It is no advantage to dig deep holes, and to fill them up (before setting trees) to the desired height; that only induces the roots to strike down into the poor cold sub-soil. Spread out the roots well, shovel in surface earth carefully; when the hole is nearly full, pour in a pail of water, which will carry the earth all around the roots, filling up all interstices.

After planting, *mulch* the surface of the earth around the tree, for three feet with the straw, chips, or coarse manure, and *wash* your trees with a weak solution of potash and water, or soft soap and water every spring. I generally have this work performed in the early part of June, when the insects are most active. The washing destroys borer eggs, bark lice, &c., and gives the bark of the trees a nice, fresh, healthy appearance. *Borers*