

that the information in their possession would prove of great benefit, and show how orchards of apples may be grown successfully in some of our colder sections, where trees pruned up in the old fashion have thus far, and probably always will, fail.

Apple trees pruned in the manner adopted by these gentlemen may be termed *half standards* or *dwarf standards*; and are produced, not by grafting upon any peculiar stock, but by forming the head low and keeping it there by pruning. As we gather in the experience of cultivators in different sections, and this mode of training is more extensively tried, we shall know whether there be any parts of our country where even the dwarf standards will not endure the climate, and where consequently it becomes necessary to grow the apple in some other way, in order to enjoy the fruit fresh from the trees.

In view of the possibility of such a result, and of the difficulty already experienced in growing some very desirable varieties, I now propose to say a few words about growing the apple in the form known as the Dwarf Apple Tree. And in the outset, it may be well here to correct a very common but also very erroneous opinion, that the dwarf apple tree is a particular kind of very small apple, produced by an equally diminutive tree. On the contrary, any kind of apple, even the largest in size, can be grown on a dwarf apple tree. By grafting or budding the desired variety of apple upon the Paradise apple stock, the tree is dwarfed in its growth, begins to bear fruit at two and three years old, when the fruit is often larger and finer than when grown on the common apple stock. The Paradise apple tree, which is simply used as a stock, only grows three or four feet high, and when our fine varieties of apple are grafted upon it, the stock checks the natural growth of the graft, and compels it to form a low tree or bush, about the size of a currant bush. These stocks are as yet all imported from Europe, planted out here and grown until fit for grafting or budding; and though the tree is so very small as to look contemptible in the eyes of those accustomed to standard trees, yet they cost more and are necessarily at a higher price than apple trees grown on the common apple stock.

When thus grown on the Paradise stock, such varieties as the Baldwin, the Rhode Island Greening, and others too tender in the colder parts of the Province, seem to be perfectly hardy, and to endure any exposure and cold to which they have been subjected. It seems then but natural to expect that if there be any section of the Province where the apple tree will not thrive either as a standard or dwarf standard, that there it can be successfully grown when thus dwarfed. I have been informed by a resident of the county of Waterloo, that he is acquainted with sections, not very far north of him, where the inhabitants have never as yet gathered an apple of their own raising, though they have planted

many trees that should long before this have shown fruit, but instead of bearing fruit they have wholly perished. Without more knowledge of all the circumstances, it is not easy to form an opinion of the cause of this extensive failure. Yet it has seemed probable that in those sections, where the snow usually falls so early as to cover the ground before it is frozen, and so deep as to prevent the frost from reaching it throughout the winter, so that the undug potatoes lie safely in the hill until spring, that there the roots of the tree are kept so warm as to allow of the sap starting too early in the spring, when the sun shines out in March and early April, upon the branches and tops, causing the buds to swell, and the sap vessels to be filled, before the severe freezing weather is all passed away.

But whether this be the case or not, the dwarf apple tree would be likely to be wholly protected in those regions, not only from sun, but from frost and frosty wind, for being so small it would be buried all the winter long under the snow, and thus kept safe until the return of spring made its covering no longer necessary. And besides all this, the slow, short growth it makes during the summer is so hard and firm, so well ripened and perfected, that it is prepared to resist a degree of cold that would kill a more succulent growth. Nor would the amount of fruit obtained from an acre of such dwarf apple trees be so trifling a matter after all, for although not more than half a bushel of fruit could be expected from each tree at seven or eight years old, yet being so small they are usually planted at six feet apart, so that twelve hundred trees are set on an acre. Our orchards of standard trees are rarely set nearer than thirty feet apart, giving at that distance only fifty trees to the acre, so that each tree must bear an average of twelve bushels per tree to equal the product of the acre of dwarfs. Very few orchards indeed, even in the most favored parts of the Province, yield such a crop at eight years old, and where the trees are liable to be injured by the winter when grown in any other than the dwarf form, the question as to which to plant is no longer open.

My object, however, was not so much to express my own views of the probable value of the dwarf apple tree to Canada, as to invite, through the columns of your journal, an expression of opinion by those who have tried them, particularly those who reside in the northern and western counties, where the climate is more trying than in this favored county of Lincoln. Mr. Werden has given them sufficient trial to say "as for dwarf apple trees, I feel so well satisfied that they will give good satisfaction, that I recommend every man that has ground only for a garden, to fill it up with these trees." But we need something more full and definite. We require to know whether any varieties are tender when dwarfed on the Paradise; and if so, what they are; whether the fruit is as large, as fair