

ripened. I am strongly averse to growing stocks from crab-apple seed, except those which are to be used for grafting with buds or scions of crabs and crab hybrids. I do not believe that trees on crab stocks are more hardy, and I am sure that they are neither so healthy nor so long lived as when worked upon the right kind of apple stocks. Working the apple upon the crab produces results analogous to those which result from working the pear upon the quince. The cases where success follows are rare and exceptional.

Besides being careful in the selection of seeds for growing stocks, it is important, in root grafting, to use large and whole roots. If this is done there is much less difficulty in getting a tall and vigorous stem the first year without over-manuring, which gives a soft and tender growth. For the slow growing varieties I would use two years old stocks, trimming the side roots but very little, and setting them in the nursery with the spade, instead of the dibble. If this is well done, even the Tetofsky will make three or four feet of growth the first year, and ripen its last buds well.

A great many of the more extensive wholesale nurseries in New York and of the West use short roots and long scions, setting them so deep that it is expected to get roots from the scion. Some advocate this as the best of all methods. The growth the first year is small, and is cut back the next spring so as to get a shoot from near the ground, which gives the appearance of a budded tree. There has been much controversy over this way of growing trees. My own opinion is that it is neither so good nor so bad a way as it is made out to be by its friends and its opponents. Some varieties can be grown by it better than others, for some root freely, and others refuse to root at all, from the scion. I do not see why those varieties which will grow, like the quince, from cuttings, may not be as well grown, and become as good trees (and perhaps better) this way as any other. I have a very good row of Duchess of Oldenburg in my orchard, grown by this method, as an experiment. But I do not practise it.

The subject of varieties is one which is so thoroughly