

into nice shapely form as to the desired height of the lower limbs from the ground and the direction of leading branches, during the first five years; after that, under no circumstances ever prune closer than to cut a branch off a limb. Never cut a leading branch off the trunk. Now, sir, I know there is nothing new in this paper. I leave much that might have been said to more able men. Still, I think that success in apple-growing as in many other things, lies in the faithful carrying out of some of the old well-established facts which I have tried to point out. *First and last, feed the apple tree.*"

The SECRETARY: We have had a good paper. Two points, gentlemen who have had experience will heartily approve of. Fertilizing the orchard well is too much neglected in our country. The point about pruning is well put. I think our apple orchards are over-pruned in a great many cases. Trees are made sickly and short-lived because of barbarous butchering. With regard to the distances apart, I think on some rich soils 30 or 32 feet is perhaps a little too close. I have old trees 40 feet apart on good soils where the branches are interlacing.

Mr. JONES (Burford): A great many contend that orchards should be plowed and worked. By so doing you trim, in a measure, the roots, which are thus said to be trimmed at the top; but my experience is that isolated trees, where the ground has never been plowed, are the best trees in the orchard. I believe top-dressing an excellent thing if properly done—to cover the whole ground with coarse manure, and frequently to keep the grass down. As to under-draining, where there is gravel and a good deal of sub-soil, orchards do not do well. I have observed the best results in orchards where there is a very deep soil, or, if clay, sub-soil.

Mr. McMICHAEL (Waterford): In the last few years my observation has led me to believe that the fungus or spot in the fruit is worse in orchards that have been laid down to grass. I have also known orchards that have been very highly cultivated by fertilizing with barn yard manure, that year after year have raised large crops, with very little fungus on them. It seems the vitality of the tree has, to a certain extent, the power to withstand this trouble if highly fertilized; and where they are left to grass the trees are not, perhaps, one-fifth as productive as where they are more cultivated.

Mr. CASTON (Craighurst): I agree with the last speaker about fertilizing. Of course it stands to reason that a tree must be fed. There is a growth of tree, of leaves, and of fruit. It is claimed that it exhausts a tree just as much to perfect the fruit in a small seed as a large one; and it might be well to thin out the fruit while small. Where you can work close up to the tree with a plow, never leave it in grass at all. While the orchard is young we grow a crop of roots, provided the fertility of the soil is kept up. In this climate, where we have six or seven weeks of very drouthy weather, cultivate the ground all the time you possibly can; and keep up fertility if you want healthy trees and good fruit.

Mr. RACE: How do you mean to cultivate? Would you take a crop off the soil?

Mr. CASTON: I would not unless sufficient fertilizing material was put in, so that what is taken away by the crops would not rob the tree. If you cannot find sufficient fertilizing material, do not crop at all, but simply summer-fallow and feed the tree; and I think it will be found that the trees at forty feet occupy the ground pretty well when they come to maturity, and you will thus make as good use of the ground as you can.

Prof. CRAIG here showed two specimens of fruit picked at the same time—one which had not been thinned, and the other thinned early in the season. The latter was twice as large as the former. The apples were both of the same variety—a Russian called the Romna. The large one was of poorer color than the small one, but the speaker said he could have secured color as well as size by allowing the large one to remain longer on the tree.

A DELEGATE: Which give the best financial results—the thinned or the unthinned?

Prof. CRAIG: The thinned gave me a larger number of bushels, and I leave it to the fruit growers to say which would bring the most money.