

danger in vigorous orchards of carrying the cultivation so far that nearly all the energies of the tree will be directed to the production of wood. The grower must determine the culture which shall meet his requirements. It is true that in the great majority of cases, however, the culture is inadequate. Barn yard manure, when it can be spared, is valuable for the bearing orchard.

#### Trees in Grass.

PERMANENT sod is an injury to the orchard. This has been proved in the experience of nearly every successful orchardist. It is forcibly illustrated in the instance of the old College orchard. In the earlier experiments conducted by Dr. Beal the same fact was emphasized. For some years he

kept a part of the trees in sod, others were cultivated thoroughly, while still others were cultivated at varying distances from the body of the tree. Even as early as 1874 he found that "trees in grass made less growth, looked yellow in foliage, and bore smaller fruit and apparently less of it." In 1875 he observed that "the evidences look more and more strongly every year against the propriety of leaving trees, in our section, in grass. They have stood the severe winters no better; they have borne no better; the apples are smaller; the trees grow more slowly; a greater proportion of trees have died than of those cultivated each year. So marked have been the results that we have plowed up about half that part of the orchard which was left in grass."—*L. N. Bailey, in Bulletin 31, Agric. Coll., Mich.*

## THE VINEYARD.

### Early Grapes.

I FIND that sometimes one grape and sometimes another will come out ahead, according to the season. Usually the Brighton is considerably ahead of the Delaware here. But the Brighton requires a warmer season than the Delaware, and this year hung back and was not even "a good second" to it. The Tolman (otherwise "Champion," and "Beaconsfield") is positively the earliest grape in any season, but can never claim rank as a dessert grape, though very good for jelly-making. I prefer it to Hartford. Israella is a very good and early grape. Eumelan is about with it, but has a straggling cluster. Moore's Early is just an early Concord in quality, with a smaller cluster and a larger berry. In quality the Brighton is ahead of everything, and in a warm year is as early as any but Tolman. Salem does fairly with me.—*T. H. Hoskins, M.D., Orleans county, Vt., in Farm and Home.*

### Fertilizers For Grapes.

POSSIBLY aside from our changeable climate one reason why the grape vine is often diseased in this country is from neglect in properly fertilizing it. The stable manures commonly used have an excess of carbonaceous matter, and are, besides, too strongly nitrogenous in proportion to their mineral elements. The grape vine is a liberal feeder, but this kind of manure makes it run too much to vine without furnishing the material for making fruit. Some kinds of grapes always set too heavily, often three and even four clusters in the present year's shoot. Think how many berries there are in each of these, and one to three seeds in every grape. In elaborating the seed the vine requires plenty of potash and some phosphate. In the fruit these minerals are also found, the potash being especially necessary in changing the green acid pulp of the unripened grape to the luscious clusters which