

It may happen that the mechanical condition of the soil is at fault. It may be that lime is needed to cure a certain sourness of the soil ; or gypsum, to counteract an alkaline character ; or salt, to attract moisture. There may be plenty of plant food, but not available for the tiny rootlets of the trees.

It is often difficult to tell which of the fertilizing elements is most needed. A deficiency in growth of foliage is usually taken to indicate a need for more nitrogen and barnyard manure or nitrates. Inability to produce fruit, provided the growth of foliage is normal, is usually set down to a lack of the other elements. But the most satisfactory means of ascertaining the actual needs of worn-out soils is afforded by actual tests with fertilizers.

Once a farmer or fruit-grower knows what his soil most lacks, it will save him much labor and money, for then he need buy only the plant food that is necessary, or concentrate his efforts upon that particular feature of the soil that renders his labor ineffectual.

The Pear.

The pear is a fruit that has developed its excellent qualities in comparatively recent times. Although known and cultivated by the ancients, it was not held in high esteem. It had to be boiled before it could be eaten. What great progress has been made in the development of all vegetable and animal life that serves human purposes ! Historians tell us that five centuries ago a sheep's fleece weighed, as a good average, a pound and a half ; and of wheat twelve bushels per acre was considered a good yield. But nowhere do the results of selection and care show so well as in the case of the pear. In France, especially, this fruit has been cultivated and developed with care and patience, as the French names among our most esteemed varieties amply testify. There are over one thousand different varieties under classification in America ; but of these not more than fifty are really valuable. Some of the best have been discovered by accident. The Duchesse was found in a hedgerow ; the Seckel is a chance seedling, and so is the Bartlett ; and all these are not much more than a hundred years old.

The pear is a long-lived tree, and may grow to a height of sixty feet and a thickness of two and a half feet, but usually it is not more than twenty feet high. Though it resembles very much the apple, it will not graft on

apple stock. But upon the quince—or, at least, the Angers variety of quince—it grafts and buds very freely. When a pear bud is grafted on a quince stock, a dwarf pear is the result. The dwarf bears earlier, and heavier in proportion, than the standard, but is shorter lived. Some varieties, such as the Duchesse, mentioned above, do much better as dwarfs than as standards, though, as a rule, the standards are better. Dwarfs can be removed from one place to another without injury, and they can be changed into standards by having the point of junction below the surface of the ground, so that rootlets may start from the pear trunk. Pears are of all sizes and shapes ; the Bartlett may be taken as the typical form. Japanese pears are of the same shape as apples.

The pear needs a good, strong soil, well drained and well cultivated. It has a number of enemies that prey upon the tree or the fruit. The chief of these are the bark-louse, the slug, the curculio, and, worst of all, the fire blight.

Pears are classified according to the period of the year in which they ripen their fruit—into summer, autumn, and winter varieties. Of summer varieties, the earliest with us in this district are two French pears, the Doyenne d'été and the Beurre Giffard. Clapp's Favorite and Doyenne Boussock are better known and more esteemed varieties. The Tyson is a pear that deserves more notice than it gets. It is a sweet, clear-skinned, pretty pear, and the tree—in my orchard, at least—bears abundantly every year. One would wonder how so small a tree can carry such a load. But all summer varieties—indeed, all kinds of pear—yield the palm to the Bartlett. I need not describe this well-known fruit. Its flavor is not excelled by many other kinds. It bears abundantly, year after year. It is one of the hardiest varieties, as well ; and, all things considered, it is the most desirable variety to plant.

A greater assortment of excellent pears may be found among the autumn varieties. The Flemish Beauty, the Howell, the Kieffer, the Clairgeau, the Beurre Bosc, the Duchesse, the Sheldon, and the Anjou all have special features to recommend their cultivation. If the Beurre Bosc were not so slow and shy a bearer, it would be the nonpareil of pears.

Among winter pears, the Lawrence is the most esteemed. It keeps till the end of January, and is a large, smooth, well-shaped pear, of excellent taste and grain. The Josephine and Winter Nelles are other well-tried varieties.