

# Maintenance Work in the Home Orchard

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**T**HE productivity of the fruit tree is influenced by numerous factors, such as temperature and climate; the texture and structure of the soil and the amount of organic matter, moisture, and acids it contains; the available supply of plant nutrients; and the extent of attacks by insects and diseases. Man can have little effect on temperature and climate but may greatly influence the other factors and by good management secure results favourable to the growth of his orchard.

**T**HE general maintenance of the home orchard from year to year consists of cultural operations, maintenance of soil fertility, manuring, pruning, and disease control.

## Cultural Operations

Cultivation is necessary to assist soil aeration and the elimination of soil acids and gases. Cultivation fosters moisture conservation by the elimination of weeds and other volunteer growth and by the provision of a soil mulch, but also facilitates the evaporation of excess soil moisture and is the means of incorporating green material with the soil to provide organic matter.

As the home orchard is seldom of sufficient size to permit of mechanical cultivation, the spade and hoe will be the main implements used by the average home gardener.

The trees should be dug round at least twice a year, in autumn and early spring, and kept hoed throughout the summer. On the larger farm orchards which have been planted to permit mechanical cultivation, the orchard should be ploughed in the autumn, double disced in the spring, and kept cultivated during the summer.

Cultivation around such shallow-rooted trees as citrus, passion fruit, tree tomatoes, and berry fruits should not be to a greater depth than 4 in., as their roots are very close to the surface. Because of the disruption caused to the young fibrous feeding

The first article of this series, published last month, dealt with the establishment of a home orchard. In this article cultivation, pruning, and other details of general maintenance are discussed, and next month measures to control pests and diseases will be detailed.

roots, spring or summer ploughing is not recommended, and spring digging should be shallower than in the autumn.

## Soil Fertility

The fertility of a soil is influenced to a great extent by the amount of organic matter which it contains. Organic matter is the main source of energy of the soil population, or soil bacteria, and from it the main supply of nitrates is provided by the action of the bacteria. The presence of or-

ganic matter, or humus as it is commonly termed, tends to increase the water-holding capacity of the soil in dry weather, yet facilitates the drainage of excess soil moisture. Furthermore, it improves the aeration and warmth of the soil and increases its power of retaining dissolved food substances.

Organic matter may be said to be the basis of soil fertility and many soil troubles may be traced to a deficiency of it. Organic matter may be added to the soil in the form of compost, lawn clippings, leaf mould, and stable and other animal manure, or by growing and turning into the soil some suitable green crop, such as blue lupins, field peas, and vetches, oats, or mustard.

The correct time to sow the green crop will depend on circumstances. The most satisfactory period under normal conditions is during January or February so that the resultant crop will be ready (when the stems or straw have begun to develop fibre) for turning into the soil in the late autumn. On soils prone to be very wet in winter it is an advantage to have a crop such as blue lupins growing through the winter to act as a de-watering agent; for that purpose the crop should be sown in March and turned into the soil in August. Fig. 19 shows an excellent crop of lupins ready to be incorporated into the soil before the planting of orchard trees.

The most satisfactory method of incorporating green matter in the soil is by discing (on large areas), rotary hoeing, or chopping with a spade and then digging in. Ploughing the green crop under or trenching it, especially in the spring, is not recommended, as the decomposing "blanket" of green matter tends to increase soil acidity and temporarily decrease the available supply of nitrogen when it is required by the tree in increasing quantities.



Fig. 19—An excellent crop of blue lupins which will be turned under before fruit trees are planted.