

### The Horticulture Division :—

The pruning of the Irish Peach apple requires care if a good tree is expected. The natural habit of the tree is to bear fruit on the terminal buds of lateral growths. Fruit-spurs form but slowly, and usually only occur on laterals that have borne fruit on the terminal buds. When fruit-spurs thus form the lateral should be shortened to them at the winter pruning. When laterals are fairly short they should not be cut until they have borne fruit. Very strong laterals may be shortened back to a few inches in winter, and the subsequent growths thinned to one about midsummer, or they may be better cut out altogether, this depending on their number and position. The trees must not be crowded with growth. Laterals may be cut shorter—that is, to bear fruit nearer the tree—by cutting back such as are palpably too strong to three or four buds about the first week in January or soon after. New laterals are formed that frequently bear fruit the following season. Of course, this would not occur if cutting-back were done at a later period.

### CONTROL OF PENNYROYAL.

H. OLIVER, Onehunga :—

Will you kindly tell me how to rid my land of pennyroyal. Last year I grubbed and burned, but it is thicker than ever now.

The Fields Division :—

Drainage, cultivation where practicable, and the free use of lime are the best means of ridding land of pennyroyal. As the plant does not root deeply, skimp-ploughing and allowing to fallow for a time, especially in hot weather, will also be found a help. An account of experiments in the control of pennyroyal was published in the *Journal* for January, 1917.

### SOIL-FERTILITY QUESTIONS.

G. H., Ramarama :—

If you can give me any information on the following I shall be obliged : Take two farms, with similar soil originally—No. 1 has been well looked after, top-dressed, &c., and is in really good heart ; No. 2 has been neglected and is in poor condition. If both get the same good treatment henceforth, how long, approximately would it take No. 2 to overhaul No. 1 ? Or will No. 2 always be the inferior farm unless it gets better treatment than No. 1 ? People speak of a farm as always having been "done well," implying that the manure sown nine or ten years ago is giving results even now ; but there must be some limit to the beneficial effects of even bonedust.

The Fields Division :—

The condition of soils known as "fertility" is a very complex matter indeed. When a soil is really run down this has generally been brought about by taking off successive white crops or hay, and the reduced fertility may be due to lack of readily available plant-food material in the surface soil, or to lack of lime, or lack of humus. Probably it is the lack of humus which gives rise to the most pronounced run-down condition of soils, and this is a lack which does not arise under a grazing system of utilizing land. Comparative unfertility due to reduction of the humus-content of a soil can be restored only by degrees, and with difficulty, whereas a simple lack of mineral ingredients can be rapidly overcome by the application of suitable manures. There is another aspect of the matter which must not be lost sight of. When land remains in pasture for a number of years there is a gradual accumulation of humus on the surface. What is necessary, then, is to get it mixed up with the soil by ploughing and cultivation, converting it from a more or less sour inactive condition to an active agent in promoting fertility. With this very brief explanation as a basis we would say that if farm No. 2 is ploughed and green-cropped, using small dressings of lime and ordinary dressings of phosphatic fertilizers, and is then laid down, it will within a year or two equal in production farm No. 1. A further question may be anticipated here—