

Land intended for rape, turnips, peas, potatoes, late sowings of vetches, and linseed should be cultivated as time permits. Owing to the delayed sowings of cereals there will be a tendency for late spring and summer crops to be neglected in this way. Land for mangolds and swedes should be deep-ploughed as soon as possible.

Old grassland intended for summer fallow should be cross-ploughed and thrown into rough lumps to allow the roots to be weathered and killed, especially if the land is infested with twitch of any description. The skimming should be deep enough to just get below the twitch and no more, probably 3 in. in old pasture.

IRRIGATION FARMING.

In Central Otago all irrigation ditches should by now be well cleaned and able to carry their full complement of water. Boxes must be repaired, and everything be in readiness for the irrigation season. Land intended for lucerne should be ploughed and kept cultivated to control fat-hen and sorrel prior to sowing in November. It is better to delay lucerne-sowing until November, thus allowing spring weeds to be overcome in the meantime.

LUCERNE.

Established stands of lucerne should be cut or quickly fed off about the end of September, and, if the land is dry, given a good cultivation. The object is to break the surface of the land which has become firm by too much grazing or constant rain, and allow the air to get in, also to shake up weeds and grass that have become established. If the field had a good autumn cultivation and was not heavily grazed during the winter the spring cultivation is simple, and can be done with a light cultivator or the tine harrows weighted with a few posts or a bag or two of soil. If, however, autumn cultivation was neglected, or the land has become badly infested with grass, the spring cultivation must be more drastic. In cases of this sort the best method is to give the paddock a good disking, in some cases several strokes being necessary. The disks should be run with as little set as possible, the object being to cut up the surface of land and grasses or weeds as small as possible. This having been accomplished, the loosened material can be shaken up by means of the cultivator or tine harrows. If the cultivator is used first in the spring on land badly infested with fog and similar grasses the ground is torn up in lumps, and subsequent working fails to properly break it up, with the result that it is almost impossible to get the mowing-machine over the paddock when cutting-time comes.

It should be remembered that spring cultivation is carried out more with the object of bringing about a rapid growth than destroying weeds, but if the cultivation is well done and carried out at the proper time—namely, when the weather conditions are suitable for the lucerne making rapid growth—the bulk of the weeds and grasses will be smothered. Lucerne should not be cultivated when the land is wet. If the stand cannot be worked reasonably dry it is better to leave it alone in the spring.

If the lucerne has not been doing very well and requires top-dressing this is the time for applying it, and provided the field has been liberally treated in the past with lime there is nothing better than superphosphate, which may be used at the rate of 2 cwt. or 3 cwt. per acre. Slower-acting phosphates like basic slag, Ephos, and Nauru rock are also useful, but they should be applied earlier in the season. Lucerne is expected to give heavy crops, and consequently must be well fertilized if the land is at all poor.

On old lucerne-fields that are becoming very thin the first cut of lucerne can be greatly improved by drilling $1\frac{1}{2}$ bushels of oats in the ground after cultivation. The mixture of oats and lucerne is excellent for ensilage. Any weak patches in young lucerne-fields that were sown in the spring of last year can be greatly invigorated by top-dressing them with any well-rotted cowyard manure that is available. These weak patches usually show up along the "finishes" or on the hillsides, where the soil is thin, and quickly become a mass of weeds and grass if the lucerne is not helped along.

If green crops are being grown in preparation for lucerne they should be ploughed under during September. If this cannot be done it is better to feed them off and plough under the residue.