

If stem-rot (*Sclerotinia trifoliorum*) has appeared in a stand of lucerne cultivation is most inadvisable, as it assists in the spread of this disease by tending to scatter infected soil. In order to enable crops infected with stem-rot to survive in a useful condition as long as possible the aid to weed suppression provided by cultivation must be replaced by specially good management in respect to such matters as time of mowing and adequate manuring.

CULTIVATION OF IRRIGATED LUCERNE.

The following statement relative to lucerne under irrigation is an extract from Department of Agriculture Bulletin No. 120, "Irrigation: Practice for Central Otago Conditions," by R. B. Tennent and J. R. Marks:—

Under irrigation frequent cultivation of lucerne is of great necessity. One of the commonest causes of a lucerne stand rapidly going out is the intrusion of weed plants. Of these probably the grasses are most aggressive, and it is only by repeated cultivation that their invasion can be arrested. By cultivating during the winter months at least twice with a strong spring-tooth cultivator the bulk of the weeds can be kept under control. Where it is possible a cultivation after each cutting is desirable. Not only will cultivation of this description check the growth of weeds, but its secondary effect of breaking up the consolidated soil, thus separating it and lessening the rate of evaporation, will be of great advantage in maintaining the vitality of the crop. Any damage likely to accrue from this practice may be considered as negligible in contrast with the benefits conferred on the crop.

Unfortunately, even with a maximum amount of cultivation, couch-grass (*Poa pratensis*) gradually asserts itself, until in the course of from five to eight years the lucerne stand becomes a mixture of probably 50 per cent. grass and 50 per cent. lucerne. Experience has shown that it is practically impossible to renovate a stand of this mixture without ploughing and resowing, and probably the most practical method of dealing with a field in this condition is simply to treat it as a grazing paddock and establish fresh lucerne elsewhere.

GRAZING.

To secure for lucerne a long life of maximum production grazing of the crop should as a rule be avoided. The consolidation caused by grazing favours grass, and thereby increases the competition with the lucerne. But at times despite this it is not practicable or desirable that the farmer should abstain totally from grazing of the stand. Provided the conditions are favourable to lucerne, grazing, if carried out carefully, may not do much harm to established stands, but grazing of lucerne in its first year is not advisable. Close and continuous grazing of a lucerne crop may be expected to lead to a permanent reduction in the yield from it. On the other hand, successful lucerne fields have been grazed firstly in the spring to remove coarse growth present from the winter, and secondly in the autumn when an intermediate amount of growth not worth mowing is available. Particularly is close grazing of lucerne during its dormant winter period productive of harm, as also is grazing when the land is so wet that it is subject to poaching by stock. Grazing at times has the effect of introducing viable weed-seeds in the dung of animals fed on herbage which has been allowed to ripen seed, and because of this, and apart