

## PERENNIALS.

Exa. . . , Canada thistle, ribgrass, docks, sheep sorrel, plantain.

Perennials are plants that live for many years. They are propagated in several ways, but all produce seeds. Annuals and biennials, which live only one or two years and are reproduced only by seeds, may be eradicated by preventing them from maturing their seeds, but in combating perennials it is necessary to destroy the plant. On account of the variety of life-habits of the plants belonging to this class, no general treatment for their eradication can be given except that fields in which they are prevalent must be broken up and worked under a crop rotation that provides opportunities of attacking the weeds when they are most easily injured. Methods of eradicating the different weeds belonging to this class are outlined in circulars describing individual weeds. See footnote page 14.

## GETTING A STAND OF CLOVER.

One of the best means of producing clean seed is to secure a good stand of the clover crop. On many farms clover once grew luxuriantly where it is now very difficult if not impossible to get a stand. The longer land is allowed to run without securing a good catch of clover, the more difficult it is to get a stand. This condition should be given serious attention and every possible means used to get red clover back into the rotation.

**The chief causes of clover failures** are soil acidity and depletion of the humus content of the soil. Another common cause of clover failure is the heaving of fields in spring through alternate thawing and freezing of water-soaked soil. This may be minimized by proper drainage. Other causes of winter-killing are:—

- (1) Plants going into the winter in a weak condition or with too much growth.
- (2) Exposed position of fields.
- (3) Water lying in pockets.
- (4) Wet weather on bared soil, followed by cold winds or formation of ice.

**To ensure a stand of clover** the following precautions should be taken:—

(1) See that the land is well drained; fill up pockets by levelling.  
 (2) Correct acidity by application of lime. For further information in this connection apply to Publications Branch, Department of Agriculture, Ottawa, for copies of Ex. Circular No. 86 and Bulletin No. 80 on "Lime in Agriculture."

(3) Get some humus into soil by manuring.  
 (4) Inoculate the seed with nitroculture.\*  
 (5) Sow nurse crop thin and if season is dry, cut it green.  
 (7) Avoid pasturing new seeding. The young plants are easily killed by tramping in wet weather. Pasturing with sheep or horses, which graze closely, should never be practised.

(8) Clipping with a mowing machine soon after the nurse crop is harvested stimulates the branching and stooling of the clover and encourages root development, thus ensuring a better stand and a more uniform growth the following spring. It is important, however, that this be done in plenty of time to ensure a good top growth for winter protection. After such autumn clipping the meadow should never be pastured.

(9) A light dressing of manure applied to a weak stand will often bring it through the winter in good condition.

(10) Early the following spring, if the land is sufficiently well drained, the use of a heavy roller is often beneficial. It packs the earth around the roots of plants that may have been partially lifted out of the soil by alternate thawing and freezing.

\* For further information consult the Division of Botany, Central Experimental Farm, Ottawa. Various agricultural colleges sell nitroculture at practically the cost of preparation.