

This can be done in the following two ways:—

1. Soil from an old alfalfa field is scattered on the land, when the seed bed is prepared, and harrowed in. The soil used should be scraped from the surface foot of an old alfalfa field, and still scattered over the land, prepared for alfalfa, at a rate of 150 to 300 pound to the acre.

It must not be allowed to dry up in the sun, before being scattered and harrowed in, as then its inoculating power may be destroyed.

Should old alfalfa soil not be cheaply available, then soil from a sweet clover field, if accessible, can be used with the same effect.

2. When soil inoculation, as described above, is impracticable the bacteria can be incorporated with the soil through the medium of the alfalfa seed sown. In this case the seed is treated, immediately before sowing, by an artificial culture, called nitro-culture.

This can be obtained free, with directions as to its use, upon application to the Division of Botany, Central Experimental Farm, Ottawa. When asking to be supplied with nitro-culture the applicant should state how many pounds of seed are to be inoculated.

SEED AND SEEDING.

QUALITY OF SEED AND VARIETY.

For the best results with alfalfa, the quality of the seed is of the greatest importance.

Not only is it necessary to use well filled plump seed of strong vitality and free from impurities, but still more so to use seed of a variety adapted to the Canadian climate.

It is absolutely necessary to use seed of a variety able to withstand the winter without being partly or wholly killed.

The safest varieties, available commercially at present, are **Grimm's alfalfa** and **Ontario Variegated alfalfa**. Still better is homegrown seed, i.e., seed produced in the home district, because such seed has been produced by plants which, by reason of their very existence, have proven themselves able to survive and thrive.

WITH OR WITHOUT A NURSE CROP.

Alfalfa can be sown with a nurse crop or without. Whether it should be sown with a nurse crop or not depends largely on the state of fertility of the land and the climatic conditions. As a rule a nurse crop should be used only when the soil is rich in plant food and humus, and the climatic conditions known to be in favour of alfalfa growing in the district or on soil where some difficulty in starting alfalfa has been experienced. In such cases a nurse crop should be used.

In the Maritime Provinces, New Brunswick, Nova Scotia, Quebec and Eastern Ontario it is advisable to sow without a nurse crop on land of average fertility.

Time of Seeding.

If sown with a nurse crop the seed should be sown in the spring with not more than one bushel of early maturing barley or spring wheat.

If no nurse crop is used, the seed can be sown any time from the spring to the beginning of August, depending upon conditions. Sowing too early in the spring, when the ground is still wet and cold, is not advisable.

Methods of Seeding.

When sown with a nurse crop the seed is sown from the grass seed attachment of the grain drill.

When sown without a nurse crop, the seed can be sown broadcast either by hand or from the grass seed attachment to the grain drill. It can also be sown in drills from the grain tubes of the ordinary seeder. In the latter case the seed should be