

SUGGESTIONS REGARDING APPLICATION.

Any form of lime should be applied to the surface, for the tendency of all lime compounds is to sink. It must be thoroughly incorporated with the soil by disk or harrowing. Lime can be applied broadcast from a wagon with a shovel, but it is more easily applied with a fertilizer attachment or a fertilizer drill. Many "home made" machines are in use that are cheaper, more satisfactory, and more durable than anything on the market. In handling and spreading lime it is of first importance to save time and labour. As a rule, it is usually far more economical to purchase in bulk and have it shipped on box cars. Wetting will do no harm except to give trouble in spreading. Handling in bags is expensive and the bags are easily damaged. If tight wagon-boxes are procurable the bags are wholly unnecessary. If bags must be used, bag it at the car when handling. To save time, haul direct from the car to the field. Transfer there to the spreader and spread at once on the land.

Sometimes lime is applied with the manure-spreader. The spreader is set at its lowest gear and a few inches of fine manure is spread over the bottom to hold the lime in. The lime must be spread evenly on top of this thin layer of manure.

LIMING SOMETIMES INJURIOUS.

Excessive amounts of lime, especially on light sandy soils, may be injurious. It hastens the decomposition of the vegetable matter quickly. The result is that you have a soil depleted in humus which is neither retentive of moisture or of fertilizing elements applied. This is particularly true when freshly water-slaked lime is used.

There is an old adage that lime "make the fathers rich and the sons poor." If lime is used alone it acts as a soil stimulant. That is, it tends to liberate potash, nitrogen, and sometimes phosphoric acid, the important elements of fertility in soils. The extra drain of the increased crops, due to the liberation of the plant-food in the soil, will leave the soil finally in a worse condition than at the outset. The use of lime does not do away with the necessity of using barnyard manure and commercial fertilizer.

HOW OFTEN SHOULD LIMING BE PRACTISED?

The frequency and quantities of lime to apply in order to keep up maximum yields depends very largely on the character of the soil. Under average conditions, one ton of pulverized limestone once every four years ought to be sufficient. Every crop leaves a certain quantity of acid in the soil that must be neutralized. There is also a considerable loss of lime by leaching that must be replaced. The first application should be heavy. Two tons per acre at least should be applied. When the soil is so acid that it needs lime, it is a waste of time, money, and energy to continue to fertilize it until this need has been supplied; for the economic use of all fertilizing material, including manure, depends upon the lime supply.

GYPSON OR LANDPLASTER.

Gypsum or land-plaster will not correct the acidity of soils, and therefore cannot take the place of lime.

SUMMARY.

- (1.) A large proportion of the soils of British Columbia need lime.
- (2.) The lack of lime is checking the successful culture of clover and alfalfa, particularly the latter.
- (3.) The need of lime can be detected by any person by using the limed-lime test. Sheep-sorrel or sour grass and horsetail rush, when troublesome as weeds, indicate the necessity of liming.
- (4.) Ground limestone can probably be more cheaply procured and handled than any other form.
- (5.) Lime should be top-dressed. It should not be ploughed in.
- (6.) Barnyard manure or commercial fertilizers are necessary in addition to lime to keep up the fertility of soils.
- (7.) For the economic use of all fertilizers, including barnyard manure, lime is necessary.