

Geo B. Boring
Director
U.S.C.

PROVINCE OF BRITISH COLUMBIA.

DEPARTMENT OF AGRICULTURE (LIVE STOCK BRANCH).

The Use of Agricultural Lime in
British Columbia.

BY W. NEWTON, SOIL AND CROP INSTRUCTOR.



LARGE PROPORTION of the soils of British Columbia are in need of lime. Although mainly applied to sweeten sour or acid soils, lime has three other important uses. It improves the texture of soils, especially heavy clays, it makes plant food in the soil more available to crops, and it is a plant food. The benefit of liming is seldom a result of the last-mentioned use, for most soils contain enough lime as a plant food.

CORRECTING ACIDITY.

Soil acidity is detrimental to fertility in several respects. Most important is that acidity tends to check the growth of alfalfa, clover, and other most valuable leguminous plants. It is the lack of lime in many sections of this Province that prevents the successful culture of alfalfa. The difficulty that is being experienced in some of the older sections in getting a "catch" of common red clover is also probably due to a lack of lime. New lands are inclined to be acid and are benefited by an application of lime, although common red clover seems to do well on them for a number of years in spite of the acid. The accumulation of acid in peaty soils very often makes them unproductive until this acid is neutralized by the application of lime.

HOW TO DETECT SOIL-ACIDITY.

A very simple and reliable method to detect soil-acidity is by the use of blue litmus-paper. Secure some of this paper from a druggist, and when the soil is moist from rain make a slit in it with a clean knife. Insert a strip of blue litmus-paper and close the soil for fully five minutes. If the paper becomes dotted with pink spots or becomes entirely pink, the soil is acid. The test can also be made as follows: Take a handful of the soil and form a ball. Break the ball in half and put the paper between. Dry soil can be tested in the same manner by wetting with soft water, preferably rain-water. Always allow fully five minutes to elapse before examining the blue litmus-paper. Soil-acidity is very often indicated with great clearness by the growth of certain weeds, such as sheepsorrel or stem-grass (*Rumex acetosella*), horsetail rush (*Equisetum arvense*), corn-spurry (*Spargula angustis*), and wood horsetail (*Equisetum sylvaticum*). Fields which have become acid, unless kept entirely free from weeds by very thorough cultivation, usually become infested with these weeds. They are found in soils containing plenty of lime, but on such soils they are seldom troublesome, being easily eradicated by the ordinary methods of cultivation. They are acid-loving plants and are difficult to control when the soil is lacking in lime. The farmer should always investigate the condition of his soil when these plants infest his fields. The failure of alfalfa and clovers would lead one to suspect acidity in the soil.