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CC124 Revised 1962 Use Top Quality Lime on your farm.

W. E. Ringler

USE TOP QUALITY LIME

ON YOUR FARM

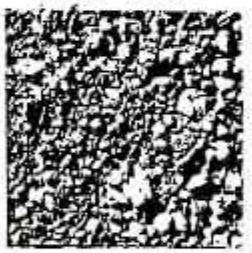
C.C. 124

W. E. Ringler, Ass't. Extension Agronomist (Soils)
June 1955 Revised 1962

Through 50 mesh
(like flour)

100% effective

8-50 mesh



40% effective

Held on 8 mesh
(like gravel)

Less than
10% effective

The value of a liming material for correcting soil acidity depends on three factors: purity, fineness, and moisture content. These three factors must be considered in determining how much lime should be applied per acre.

Purity

Purity refers to the neutralizing power of the liming material. It is expressed as "per cent calcium carbonate equivalent". Pure limestone would test 100%. Some of the dolomitic limestone or hydrated lime may test over 100%. The lower the purity the more lime it takes to neutralize the acidity.

Fineness

Fineness refers to the particle size of the liming material. Many ground limestones contain particles from dust to the size of coarse gravel. When the limestone is applied to the soil, the fine particles combine readily with the soil acids to neutralize them and furnish calcium to the plants. The coarse particles react very slowly and have little value.

The fineness of ground limestone is determined by passing a sample through a set of screens or sieves. Usually 3 sieves are used. The coarsest of these has 8 openings per inch, while the finest sieve has 50.

Moisture

The moisture content of liming material will vary with the weather. Excessive moisture in the lime does not lower its effectiveness but the weight of water it contains has no value for neutralizing acid soil. As the lime is ground it is usually put in cone shaped piles for storage. In this way the bulk of the lime is not affected by seasonal rains.

Extension Service, University of Nebraska
College of Agriculture and U. S. Department of Agriculture Cooperating
E. F. Frolik, Dean E. W. Janike, Director

Liming Materials Tested Each Month

Lime samples are taken each month from the various quarries and lime dumps over the state. Representative samples are taken and tested by the University of Nebraska Soil Testing Service. The results of the tests are sent to the county extension agents each month. The report gives the purity, fineness, and moisture content of each lime sample tested. On the basis of these factors the "per cent effectiveness" of each material is calculated.

RATE OF APPLICATION DEPENDS ON QUALITY (Per cent effective*) OF LIMING MATERIAL

Liming Material % Effectiveness	Adjusted Rate	Liming Material % Effectiveness	Adjusted Rate
15	4.0	60	1.0
20	3.0	65	.95
25	2.4	70	.90
30	2.0	75	.80
35	1.7	80	.75
40	1.5	85	.70
45	1.3	90	.66
50	1.2	95	.63
55	1.1	100	.60

*Ask your county agent about liming materials sold in your area. He can tell you the quality (per cent effectiveness) of all liming materials sold in Nebraska, on which ASC payments are made.

Lime Recommendation

The lime recommendation given on the soil test report is based upon liming material that is 60 per cent effective. If you buy materials of lower effectiveness you need more lime. If you buy lime of higher quality less lime is needed. Adjust your rate of application according to the quality of lime to be applied. For example, if your soil tests show a lime requirement of 3 tons per acre and you are buying 50 per cent effective lime then 3 x 1.2 = 3.6 tons per acre needed.

Apply the lime several months before seeding legumes if possible. Liming just before seeding the legume is usually less effective than applying several months before seeding, but is far better than using no lime at all, or applying it after seeding.

Lime may be spread at any time of the year and is harmless to all crops, even though some of it sticks to the leaves.

Kinds of Liming Materials

a. Ground limestone. Limestone is valuable for its content of calcium carbonate, or calcium plus magnesium carbonate. These materials, depending upon the fineness, neutralize soil acidity and supply the necessary calcium for all crops. Dolomitic limestone supplies both calcium and magnesium.

b. Sugar factory lime. Sugar factory lime is a fine, floury material high in calcium carbonate, and therefore an excellent liming material. Sugar factory lime dumps are located near Norfolk and Ames, Nebraska, and at the sugar factories located near Grand Island and Scottsbluff.

c. Hydrated and burned lime. Hydrated and burned (quick) lime are very effective and quick acting. These materials are caustic and therefore hard to handle.