OREGON AGRICULTURAL COLLEGE

EXPERIMENT STATION

J. T. Jardine, Director

Circular of Information No. 20. May, 1928.

THE EFFECT OF LAND PLASTER APPLIED AS A DUST TO SEED CORN

by

E. N. Bressman, Associate Agronomist

Recently there has been considerable interest in and publicity about the use of dusts on seed corn. The application of land plaster to seed corn has given good results in limited trials by the Oregon Experiment Station and in demonstrations by Western Oregon farmers. On the other hand, the application of certain mercuric dusts has given no measurable results at harvest time. All of the different mercuric compounds have not been used, but none of those tried have been as valuable as land plaster on seed corn.

The Station has two years' results on the use of land plaster on seed corn, and in both years we obtained increased vigor of the corn seedlings and larger and greener plants during the entire year. The average increase in yield of fodder has been slight, but the increase in yield of ear corn has been more than seven bushels for a two year average. Germinator trials in the laboratory have shown that land plaster treated seed will germinate more quickly and develop larger and more vigorous root systems In addition, treated seed has been very free of the molds that are ordinarily found in the germinator. We do not know to just what extent these molds affect the growth and yield of corn. It is not known just what causes the gain in vigor.

We have usually applied about equal amounts of land plaster with the corn, that is, planting 8 pounds of corn to the acre requires from 8 to 10 pounds of land plaster on the seed. The cost of the land plaster is about 5 cents per acre. Apparently, it makes little difference how much land plaster is applied, as we have used varying amounts and have always gotten increased vigor and growth with no injury.

If a corn planter is used to plant the crop, it is necessary to use a fertilizer attachment to put the land plaster in the hill in contact with the corn. This is not safe with most easily soluble fertilizers like nitrate of soda which should be distributed in the soil, and which must not come in contact with the seed.

If the corn is planted by hand, one-half teaspoonful of plaster may be put in each hill, or better yet, the seed corn can be immersed in water for a few seconds and then dusted with land plaster. The land plaster adheres to this seed quite readily and gives stimulation to the crop.

This experiment was conducted to test the value of certain dusts on corn seed and not as a fertilizer trial. Therefore, it may be valuable

to note the results with superphosphate obtained by F. E. Price, Extension Specialist in Soils. This fertilizer has consistently given him good results on corn in western Oregon. Applications of 300 pounds disked in the plowed ground early in the spring have given increased yields of 25 to 50 per cent of ear corn and a substantial increase in fodder. Usually superphosphate has given as good or greater increases in yields of corn as the same investment in complete fertilizers, and it practically always advances the maturity of the corn ten days to two weeks. Inasmuch as superphosphate is about half land plaster, there may be some connection with the land plaster dust treatment of the seed, and the land plaster in the superphosphate used as a fertilizer. It is hoped that this connection may be worked out in trials this year.

In view of the fact that land plaster has given such good results and the cost is negligible, it appears that its use should be recommended as a dust on seed corn in western Oregon.