SEED CORN TREATMENTS IN ARKANSAS

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Dust treatments for seed corn are more common in the northerly parts of the corn belt, where noticeable improvement in stand and yield and in freedom from seed-borne diseases often results. Especially favorable results have been obtained with seed treatments on early-planted corn which often rots in the cool, water-logged soil before it can germinate. Much of the value from dust treatments seems to result from the control of seedling blights caused by Diplodia zaeae, Gibberella saubinettii, and other weak parasites. Reddy, Holbert, and Erwin (1), Melhus, Reddy, Raleigh, and Burnett (2), Holbert, Reddy and Koehler (3), Reddy and Holbert (4), and Raleigh (5) reported good results especially with early-planted corn but also with late-planted corn during warm wet weather. In Nebraska, Kiesselbach (6, 7) and Kiesselbach and Culbertson (8) report that benefits from the use of dust treatments for seed corn have been less pronounced and the statement is made by Kiesselbach and Culbertson (8) that, "Seed corn selected by ordinary farm methods and secured directly from the growers has not responded significantly, on an average, to seed treatment when planted under field conditions." Wedgeworth, et al. (9) in Mississippi found little or no benefit from organic mercury treatments for seed corn where precautions were taken to select sound ears for seed.

Observations in northwest Arkansas, indicate that the diseases caused by D. zaeae and G. saubinettii are of much less importance in Arkansas than in many parts of the main corn belt. However, since dusts for seed corn treatment are on sale and are being used by farmers in Arkansas to a very limited extent, it seemed advisable to ascertain whether or not the use of such treatments should be recommended. No attempt was made to select diseased corn seed for the experimental work, but sound seed similar to that commonly used by farmers was taken. The experimental work was carried out at the University Farm at Fayetteville on silt loam soil of rather low fertility. Seed treatments were made by agitating the seed and dust in a closed container until all seeds were thoroughly coated with the dust. Seed was planted by hand at the rate of two kernels per hill and, after stand counts had been obtained, the plants were thinned to one plant per hill.

1928 METHODS AND RESULTS

Neal’s Paymaster corn seed was treated with Bayer Dipdust and Semesan Jr. at the rate of 3 ounces per bushel. Each plat consisted of 21 rows 132 feet long and was equivalent to 0.233 acre. There were four replications of each treatment and five checks, making a total of

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3Reference by number is to "Literature Cited," p.195.