

Poor to very poor control of the disease was obtained when plants were sprayed with Flordo Cl, Ceresan plus SS3 spreader-sticker, U. S. Rubber Co. No. 366, sulfur wettable and bismuth subsalicylate plus vatsol. Copper-lime, copper compound A, sulfur and ferbam dusts also gave poor control.

Cuprocide spray controlled downy mildew but burned and stunted the plants. Addition of 8 pounds of emulsified cottonseed oil to 100 gallons Cuprocide spray increased plant injury.

Ferbam spray containing SS3 spreader-sticker controlled the disease but injured the plants.

Chloranil sprays and dusts³ proved superior to the other fungicides, as they gave good control of downy mildew without injuring the plants (6).

1944-1946 TESTS

Chloranil, nabam, zineb and manzate sprays; and zineb, chloranil, chloranil plus ferbam, ziram and copper compound A dusts were tested for control of downy mildew during the 1944-1946 period. Treatments were made with a traction sprayer and a traction duster in two-drill-row plant beds 25 to 50 feet in length. The schedule developed in 1941 was used in applying the fungicides. Treatments were not made on schedule when temperatures dropped to 40° F. or lower and when heavy rains flooded the field, making it impossible to operate sprayers and dusters without miring. The quantity of spray and dust used at each application is given in Table 1.

Number and weight of plants drawn from 5 feet of plant bed in each plot were used in evaluating the fungicides. Plant bed areas selected for sampling were chosen so that plants in each sample would be as representative as possible of other plants in the plot. Differences in the average number of plants per treatment were a good indication of the effectiveness of the fungicides for downy mildew control only when the disease appeared early and killed seedlings before they grew large enough to withstand it. Average weight of plants from different treatments was a better criterion for evaluating the fungicides, as

³ Chloranil sprays used in tests reported in this bulletin were made of chloranil paste and chloranil wettable containing 40 to 50 percent tetrachloro-para-benzoquinone and also a wetting agent which aided in mixing the fungicide with water and wetting plants with the spray. Chloranil dusts used contained 5 and 12 percent tetrachloro-para-benzoquinone. Chloranil wettable containing 50 percent of the active ingredient and the 5 percent dust were special mixtures labeled stabilized by the manufacturer. The other forms of chloranil tested were regular commercial mixtures.