BAITS AND DUSTS TESTED AGAINST GRASSHOPPERS AND CRICKETS

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That grasshoppers and black field crickets are more quickly controlled by the application of poison in a bran bait than in a dust mixture was indicated from preliminary field tests conducted at this station in 1948. The comparison was based on results obtained from Chlordane, one of the recently developed insecticides.

Both the bran and the dust mixture were formulated to contain 1 lb. of Chlordane in the dry mix and applied at a rate to insure 1 lb. of the Chlordane per acre. The bait mixture was moistened with water. The dust mixture contained the usual carrier, (pyrax or talc) and was designated as a 5 percent Chlordane dust.

The applications were made in late afternoon to plots which were moderately infested with grasshoppers and heavily infested with crickets. The grasshoppers were mainly **Melanoplus mexicanus** and **M. bivittatus**, and the crickets, **Gryllus assimilis.**

The degree of control obtained was based largely upon the reduction in insect populations. The reason for this being so is that many of the insects had gone into cracks and crevices of the soil to die which made counting of them difficult or impractical.

Observations made 24 hours after the treatments were applied, showed the bait to have decimated the grasshopper population about 80 percent, and the black field crickets about 50 percent; while for the dusted areas the grasshopper reduction was about 50 percent and for crickets about 30 percent. After 48 hours had elapsed from the time of applying the treatments, it was observed that the dust had become increasingly effective and closely paralleled that of the bait. However the bait ranked slightly over the dust applications in final effectiveness.

The main advantage to be gained by incorporating the poison in a bran bait however was the quicker control obtained on grasshoppers and crickets. The reason for this was not definitely clear, but it is probable that the poisoned bran flakes in the bait resulted in the insects coming in more satisfactory contact with the poison, than was possible from the poisoned particles of the dust mixture.

Other insecticides used at the same rates as Chlordane in bran bait, were Benzene hexachloride and Sodium fluosilicate. They were highly satisfactory, although ranking second and third in the order of effectiveness to Chlordane in grasshopper control and almost the same for all three in cricket control.

Two additional dusting mixtures were tested at the rate of 20 lbs. per acre. These were Parathion 2 percent and Toxaphene 10 percent. Both gave satisfactory control of the insects although slightly lower than was obtained from the Chlordane.

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