

Lindane Repellent to Pheasants

seed grain treated with high levels of lindane
apparently avoided in favor of untreated grain

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Pheasants showed aversion to lindane-treated grain in acceptance tests at Davis.

To investigate reports that birds—pheasants and blackbirds particularly—showed an aversion to lindane-treated seed corn and grain in planted fields, experiments were conducted under controlled conditions. Results of the experiments—acceptance tests—support the likelihood that pheasants will avoid treated seed, at least at higher levels of treatment.

To measure the effectiveness of lindane repellency, ten penned pheasants were offered a choice of treated and untreated scratch grain in measured amounts. Food was treated with a 75% lindane formulation at the rate of one and two-thirds ounces of chemical per 100 pounds of grain—the ratio generally used commercially for grain treatment and one-third ounce higher than that used for corn.

Consumption of feed was measured for a three-week period. The lower graph

in columns two and three shows the daily percentage of treated food consumed over this period—grouped in three-day intervals. The frequency curve illustrates two patterns of acceptance. Consumption of treated food was relatively high for the first few days but dropped sharply to a plateau of 1% to 3% for the remainder of the test period. The birds apparently became conditioned in the first few days to the bad taste or to the ill effects of the treated grain and thereafter did little more than sample the food before rejecting it. Tray positions were first shifted on the fifth day. A noticeable but temporary increase in consumption of treated food followed this shift. Thereafter trays were altered in position almost every day to force the birds to discriminate between the contents of the trays.

Effects of Treated Grain

The toxicity of the treated grain was tested with a second group of ten pheasants. Birds in this group quickly exhibited an aversion to the treated food and lost weight. Abnormal symptoms, including listlessness and convulsive seizures—probably induced by the chemical—were observed in several of the birds.

On the twentieth day, the treated food was withdrawn and normal feeding was resumed. The birds ate heavily for several days thereafter, and weight recovery was almost complete within three weeks. The accompanying chart shows weight curves for the test birds and those used as controls.

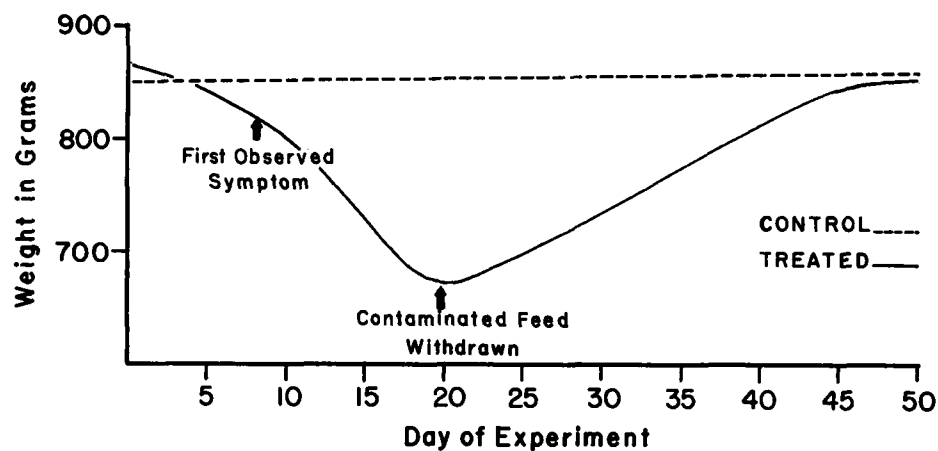
Seed treatment not only provides effective soil insect control—its primary purpose—but may also discourage birds from feeding on sprouting seeds. Verification of the apparent repellency of lindane treated grain under field conditions must await additional tests.

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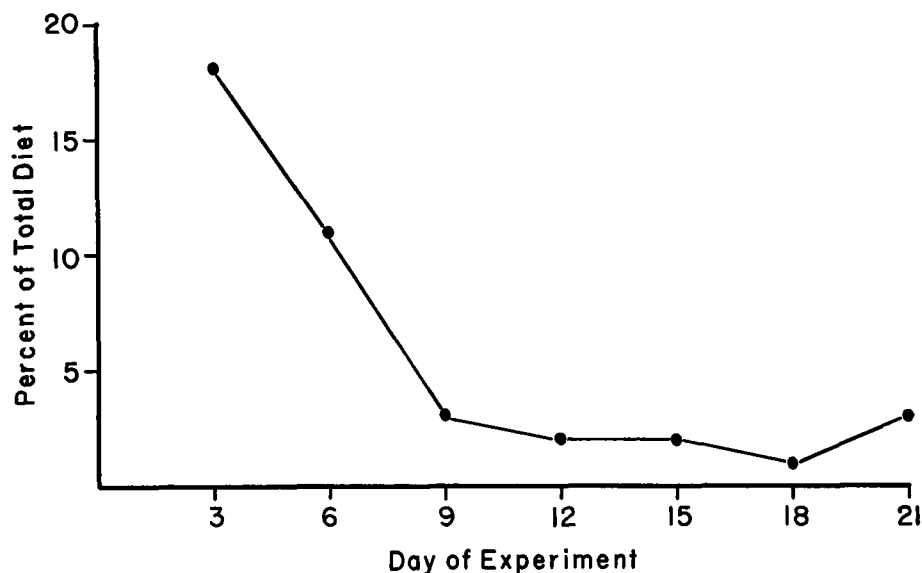
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Dr. Donald W. Davis, Research Entomologist, California Spray-Chemical Corporation, co-operated in the studies reported above.

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EFFECT OF TREATED FEED ON WEIGHT



CONSUMPTION OF TREATED GRAIN