

# Seed-Corn Maggot on Gladioli

a newly recognized pest of glads may be controlled by application of chlordane to furrows at planting

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**The seed-corn maggot**—*Hylemya cilicrura* (Rondani)—a well-known pest of several important vegetable and flower crops, has been found to be widely distributed in California.

During the spring of 1950, commercial fields of gladiolus in the San Francisco Bay area were seriously injured by the seed-corn maggot. Although iris has been known to be injured by the maggots, other flowering plants have not previously been recognized as hosts.

Injury to gladiolus consisted primarily of feeding on the soil-covered sprouts, and in some fields nearly all of the primary shoots were attacked. Very uneven stands of plants were produced, and growers regarded the flowers from subsequent shoots to be considerably reduced in vigor and quality.

## Insecticides Tested

Several workers in other parts of the United States have reported that chlordane or benzene hexachloride has given considerable control of the seed-corn

surface immediately after planting. Field observations indicated that most of the eggs were laid by the flies on the surface of the soil, although a few were laid near the corms during planting. The maggots work their way through the soil to attack the initial shoots.

## Tests with Chlordane

Tests were made in a commercial planting of gladiolus near San Bruno, in order to determine the most satisfactory type of treatment. Replicated plots consisted of three 115-foot double rows each. Chlordane 40% wettable powder was used in a conventional spray rig at a dilution of three pounds per 100 gallons of water. Applications were made to the furrows in which corms had been placed or to the surface above planted corms at a rate of 4.5 pounds actual chlordane per acre.

Ten days following planting and treatment, 20 corms were dug at random from each plot and the shoots were examined for the presence or absence of seed-corn maggots.

applied to corms in the furrows at a rate of 1.5 pounds of actual gamma isomer per acre. Counts of infested shoots were made at the time of the counts in the chlordane plots. The results indicated that good control of the seed-corn maggot was obtained, but that a higher rate of application would be necessary to obtain the degree of control which was obtained with chlordane.

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**Insecticide Tests Against the Seed-Corn Maggots on Gladiolus, May 12, 1950**

| Type of application | Insecticide | Actual insecticide per acre | Infested plants on May 31 |
|---------------------|-------------|-----------------------------|---------------------------|
| furrow              | chlordane   | 4.5 lbs.                    | 0.0%                      |
| surface             | chlordane   | 4.5                         | 32.5                      |
| furrow              | lindane     | 1.5                         | 7.5                       |
| Check               | none        | .....                       | 55.0                      |

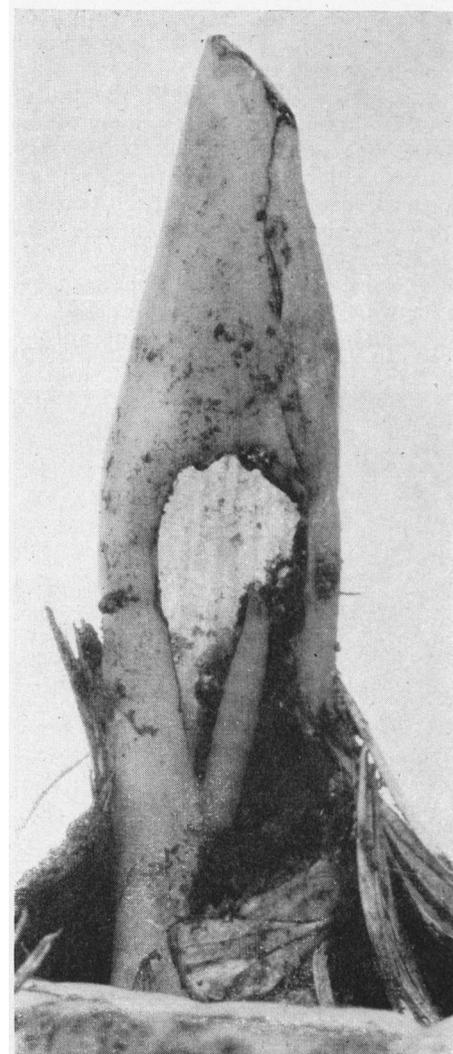
maggot. Aldrin and dieldrin, two newer insecticides which are not yet available commercially in California, have been reported also to give considerable control of the cabbage maggot, a very closely related pest. The application of these materials to vegetable plantings has consisted mainly of soil surface treatments with dusts or sprays. Poor results have been reported for seed treatments.

In the San Francisco Bay area, the commercial fields of gladiolus are planted by hand. The corms are placed in a single or double row, about four inches apart, after which soil is turned over the furrow. Such a system permitted the comparison of insecticidal treatment of corms in the furrow with treatments of the soil

The results indicated that excellent control of the seed-corn maggot was obtained by spraying the rows of exposed corms, while unsatisfactory control was obtained by spraying the surface of the soil above newly planted corms. Subsequent to these tests, a number of commercial growers have used the furrow treatment with excellent success.

## Tests with Lindane

A large section of the field adjoining the experiment plots was simultaneously treated by the grower with lindane. The lindane, wettable powder containing 25% gamma isomer, was diluted at a rate of one pound per 100 gallons of water and



**The seed-corn maggot attacking the shoot of a gladiolus corm. Several maggots are often found simultaneously in these new shoots.**