

## CHRYSANTHEMUM LEAF MINER

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Chrysanthemum leaf miner (*Phytomyza atricornis*) has become more common in this state again. Early identification and control of this pest can save you much aggravation and perhaps your entire crop.

The adult is a minute black fly (the marguerite fly) which deposits its eggs just below the epidermis of leaves and petioles of many plant varieties. When eggs hatch, the larvae feed just below the epidermis forming irregular, light-colored mines. Badly infested leaves may dry up and hang on the plants.

The presence of eggs may be suspected if small light-colored specks are seen at random on leaf surfaces (figure 1).

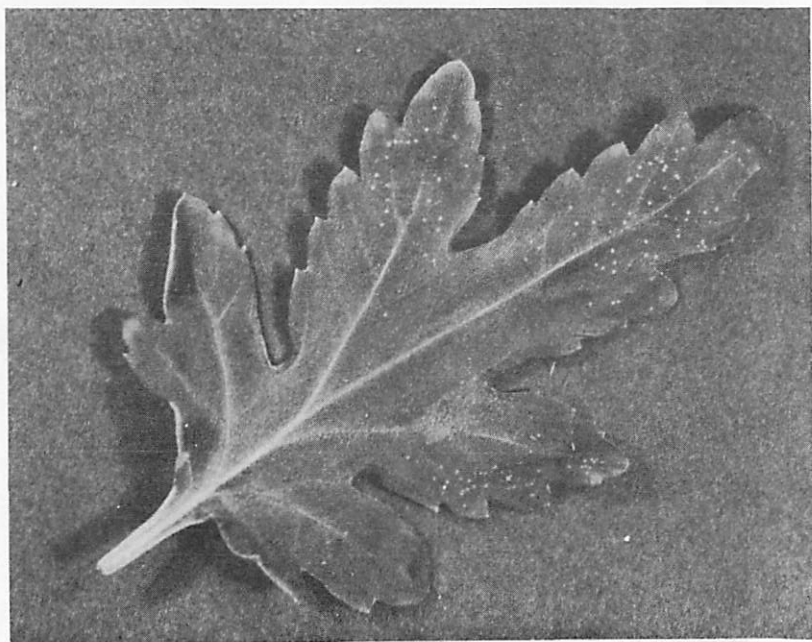


Figure 1. Chrysanthemum leaf with light-colored specks caused by the ovipositor of the adult marguerite fly during egg laying.

The mines (figure 2) are the sites of larval feeding and pupation and are often filled with black specks of excrement.

Commercial plants which may be affected include chrysanthemum, marguerite, cineraria, eupatorium, daisy, shasta daisy and other Compositae.

The life cycle of this pest varies tremendously depending on local conditions. In general, however, eggs laid in leaves will hatch in 2-6 days. The larvae feed on parenchyma cells for 7-14 days and then pupate in the leaf mines. Adult flies will emerge after 5-10 days of pupation. The male and female flies live 6-18 and 8-22 days respectively during which time they mate.

Oviposition (egg laying) by female flies follows mating and is normally completed in 4-11 days. If left unchecked, eight or more generations of flies may be produced each year.

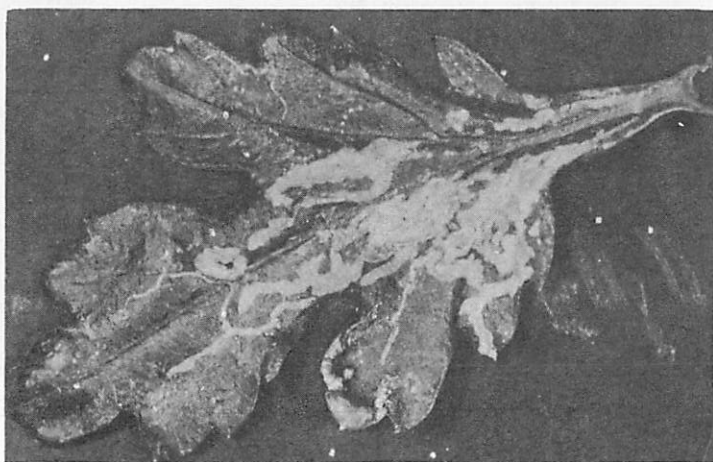


Figure 2. Irregular mines formed by feeding larvae.

It is possible to control adult flies with many pesticides. Since a female may lay eggs two days after emergence, any control measure that kills only adults must be repeated every two days for perhaps up to one month. It is therefore important to kill larvae in the leaf for efficient control.



Figure 3. Larva in a leaf mine.

Feeding larvae are controlled quite effectively with the systemic aldicarb (Temik). Unfortunately, many of the commercial crops previously mentioned are not included in the Temik label.

A foliar spray of Diazinon will kill young larvae in the leaf. It should be reapplied in 10-14 days. Other materials labelled for this pest in greenhouses include trichlorfon (Dylox), oxyde-

meton methyl (Meta-Systox R), nicotine sulfate and DDVP (Vapona). Vapona should not be used on 'Shasta', 'Pink Champagne' and 'Nightingale' cultivars of chrysanthemums because phytotoxicity may occur.



Figure 4. An example of chrysanthemum leaf miner infestation.