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APPLE MAGGOT (*Rhagoletis pomonella*)*

Apple maggots or maggot-injured apples have not been detected in any commercial orchards to date in Oregon. However, in the late summer of 1979, the presence of the pest on a homeowner's tree in Portland was confirmed. In 1980, apple maggot adults on noncommercial plantings were found widely distributed in the northern Willamette Valley west of the Cascades; isolated infestations were found as far east as Cascade Locks and south to Jackson County.

Hosts

The apple maggot displays some apple variety preference: generally, early maturing, sweet varieties are the most heavily attacked (i.e. Yellow Transparent, Lodi, Gravenstein, and Pippin types). Though no variety is immune, later maturing varieties (i.e. Yellow and Red Delicious) are less susceptible).

The apple maggot also attacks native hawthorn, pear, cherry, plum and apricot fruits when they grow adjacent to apples that are heavily infested with apple maggot.

Damage

Small numbers of apple maggot flies can heavily damage apple crops. Egg deposition damages apple cells surrounding the puncture resulting in a depression as the apple grows. The apple appears dimpled and lumpy (Fig. 1).

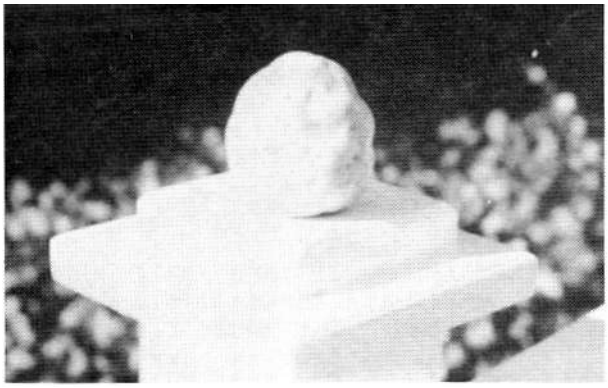

Fig.1

Larval feeding within the apple leaves brown trails that are easily observed in a cross section (Fig. 2). When many larvae feed on an early maturing variety, the flesh often turns mushy, and the apple drops prematurely. In hard, later maturing apples, internal breakdown does not usually occur until the apple drops.

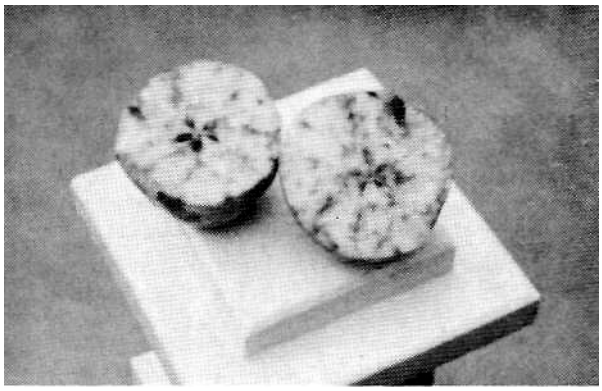

Fig.2

Detection and control
Sticky traps, such as those produced by Zoecon or Biolure, have been used to monitor emergence and activity of the adult apple maggot fly (adult flies have been caught in sticky traps from July through October in western Oregon).

Peak emergence patterns depend on soil temperatures and vary from location to location, occurring later in cooler areas and higher elevations; a second generation of adult flies may appear in the fall. Traps should be positioned among the foliage of the outer one third of the apple tree at a height easy to check from the ground.

First emergence of adult apple maggot flies can be detected by hanging traps in abandoned orchards or in unsprayed apple trees.

If necessary, the first insecticide spray to control apple maggot flies should be applied within 7-10 days after the first fly has emerged. Later sprays follow at 10 to 14-day intervals during the period that adults are active and still being caught in traps.

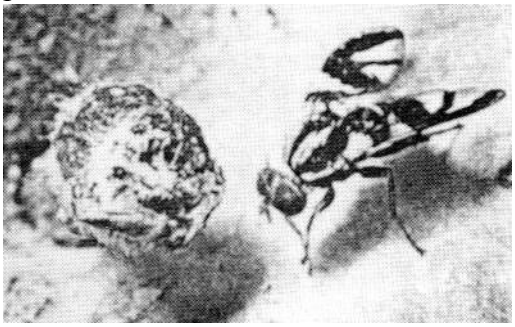

Fig.3

The following insecticides have been used in apple maggot control programs in the northeast and are registered for control of the apple maggot: Guthion 50W, Imidan 50W, diazinon 50W, Zolone 3EC. It has not been determined at this time which insecticides or modes of application are most effective in Oregon.

*(Based on information presented in "The Apple Maggot in Oregon", Oregon State University Extension Fact Sheet 271, June 1981, by Glenn Fisher - OSU Extension Entomologist, and Dick Penrose - Oregon Department of Agriculture Entomologist).
