



No. 89

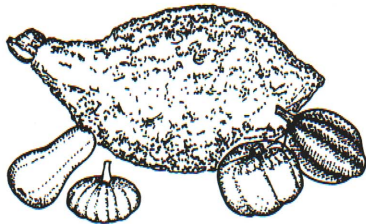
Cucumber, Melon, Squash and Pumpkin Insect Pests

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Seed corn maggots overwinter as small brown pupae in the soil. (1) Adult flies ($\frac{1}{4}$ -inch long, dusty-brown color) emerge in early to mid-May. They are attracted to soils which are high in decomposing organic matter, such as plowed down winter cover crops or animal manure. The eggs are laid on, or just under, the soil surface and hatch in a few days. The maggots begin to feed on the decomposing organic matter in the soil. (2) Seeds which are planted in such soils are often attacked before they sprout, or shortly thereafter. This causes substantial loss in stand. There are three or more generations per year. The generations emerging after late June are of less importance since most annual plants are well established by this time.

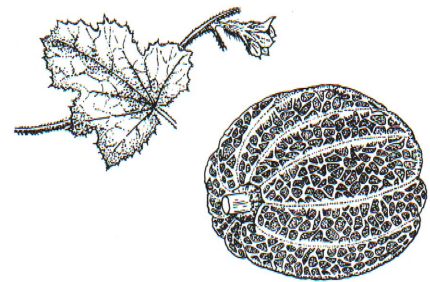
The (3) spotted cucumber beetle ($\frac{1}{4}$ -inch long, yellowish-green color with 12 black spots on its back) is a general feeder on over 200 host plants including common grasses, weed and cultivated crops. The (4) striped cucumber beetle ($\frac{1}{5}$ -inch long, yellow in color with 3 longitudinal black stripes on its back) is the most serious pest of cucurbit crops in Michigan. Both beetles overwinter as adults in fence rows, woodlots, ditch banks and similar sheltered areas outside the field. On the first warm days of spring, they



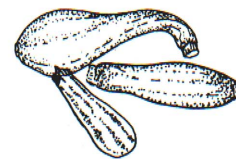
move into the cucurbit fields; arriving about the time the young seedling plants are emerging. The striped beetle has been known to dig down in the soil to meet the emerging sprouts. After feeding for a few days on the young seedlings, the adults mate and oviposit (lay eggs) at the base of the plants. The eggs hatch in about a week and the larvae feed on the plant roots. The (5a, L & R) damage consists of defoliation of the young plants, which, under moderate to high beetle populations, can severely stunt and/or kill the plants. In addition, the striped beetle harbors bacterial wilt disease in its gut overwinter and spreads the (6) disease to the young plants the following spring. Both the striped and spotted cucumber beetles may have one and a partial second generation per year.

(7) Aphids ($\frac{1}{16}$ -inch long, dark-bluish-green to black in color) are sometimes a pest of cucurbit crops in Michigan. Their damage consists of sucking large quantities of sap from the leaves. This causes the leaves to curl downward and ultimately stunts the plants. In addition, they transmit (8) cucumber mosaic disease to several of the cucurbit and other vegetable crops. Cucumber mosaic stunts the plants, reducing yield and causes the fruits to be malformed and often unmarketable. Since all the aphids are females, populations can build and spread rather rapidly. There may be 10 or more generations per summer in Michigan.

(9) Thrips are very small (less than $\frac{1}{16}$ -inch long, cream to brownish-black in color) and cause damage by rasping the undersides of the leaf surfaces and sucking up the resulting sap. The rasping process is repeated many



times. On such cucurbit crops as muskmelons and hand harvested cucumbers, that is, on crops where the harvest consists of several weeks of picking (as opposed to once-over destructive machine harvest), this leaf surface damage can be an important cause of vine deterioration which becomes apparent when the plants are under stress from fruit set, high temperatures, water stress, etc. There may be 3 to 6 generations of thrips per year. Damage from thrips is usually intensified after mid-season when their other hosts (grasses and weeds) mature and die. Unusually dry growing conditions may intensify this damage.



For chemical control recommendations, homeowners should consult Extension Bulletin E-760(b), "Home Vegetable Garden Insect and Disease Control." Single copies are Free to Michigan residents from your County Cooperative Extension Office or you may write to the Michigan State University Bulletin office, P.O. Box 231, East Lansing, MI 48824.

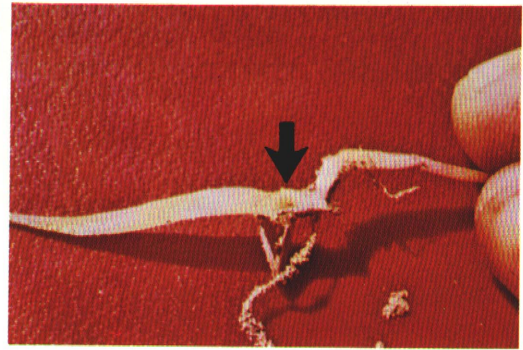
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Numbers in parentheses refer to pictures on p. 2.

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(1) Seed corn maggot, adult fly



(2) Seed corn maggot, (left) maggot in seed; (right) maggot in stem (arrow)



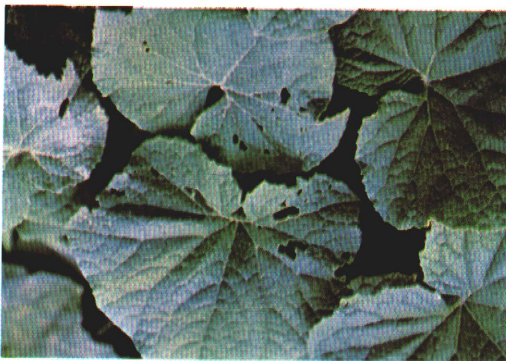
(3) Spotted cucumber beetle, adult



(4) Striped cucumber beetle, adult



(5) Mechanical (wind) damage to cucumber leaf (arrows)



(5a) Cucumber beetle damage to (left) mature plant; (right) seedling plant (note hole in leaf, arrow)



(6) Bacterial wilt disease (dead) runner transmitted by cucumber beetle



(7) Aphids (arrow) on underside of cucumber leaf



(8) Cucumber mosaic disease transmitted by aphids



(9) Thrips (arrow) on underside of cucumber leaf