

SNAP BEAN INSECT PESTS

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Seed corn maggots overwinter as small, brown pupae in the soil. Adult flies (Fig. 1) (¼ inch long, dusty brown) emerge in mid- to late May. They are attracted to soils that 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. Seeds planted in such soils are often attacked before they sprout or shortly thereafter, which may cause substantial loss in stand. There are 3 or more generations per year. The generations emerging after late June are less important because most plants are well established by this time.

Potato leafhoppers (Fig. 2) (1/8 inch long, light green) do not overwinter in Michigan. They migrate into Michigan on storm fronts beginning in late May. There are 4 to 6 generations per year. Generation time is around 20 days. Leafhoppers will commonly move from alfalfa, when it is cut, into beans. The adults and nymphs attack the underside of the leaves, where they suck the sap, causing the leaves to curl and turn yellow and reddish-brown (hopperburn) (Fig. 3). The plants may be stunted and yields reduced.

Tarnished plant bugs (Fig. 4) (¼ inch long, brownish) overwinter as adults under trash in fencerows, woodlots and similar protected areas. They emerge in the early spring and begin feeding on grasses and alfalfa hay. There are 3 to 5 generations of 3 to 4 weeks each per year. Adults and nymphs feed by sucking sap from the leaves and

stems, injecting a toxic saliva in the process. They often attack the flowers and buds, causing them to drop off, and may also damage pods, thus reducing the yield and/or quality. Bean fields adjacent to hay fields are often heavily invaded when the hay is cut.

European corn borers overwinter as larvae in cornstalks. Adult moths (Fig. 5) emerge in late May and begin laying eggs. The eggs (Fig. 6) hatch in about 4 days, and larvae (Figs. 6, 7) bore directly into the stems and/or pods. The damage results in loss of yield when stem boring occurs (Fig. 8, left: hole in stem, enlarged; Fig. 8, right: flagging leaves), but more importantly, larvae in the pod (Fig. 9) reduce quality and contaminate the processed product. There are 2 to 3 generations per year. Flight activity of the first generation adults usually peaks during June 10 - 20; the second generation usually peaks during Aug. 15-25.

Mexican bean beetles (Fig. 10) (½ inch long, yellow-orange with black spots) overwinter as adults in fencerows, woodlots and similar protected places. They emerge in late May and attack the young bean plants. The orange-yellow eggs are laid on the underside of the leaves, and the young larvae begin feeding on the leaves alongside the adults. The damage is a characteristic skeletonization of the leaves. There may be up to 3 generations (one month each) per year. Damage from this pest is very sporadic, both from year to year as well as within any given field.

Bean aphids (Fig. 11) (1/16 inch long, black) overwinter as eggs. The eggs

hatch in early spring, and the aphids migrate into the bean fields. Since these adults are all females, capable of producing 80 to 100 nymphs each, the population builds extremely fast. Generation time is 7 to 10 days. Aphids damage plants by sucking plant sap. Loss of plant sap results in stunted plants and reduced yields. In addition, the aphids transmit bean mosaic virus disease, which further stunts the plants and reduces the yield. Bean mosaic looks very similar to leafhopper damage.

Green cloverworms (Fig. 12) overwinter as pupae or adults. They emerge in late spring, mate and lay their eggs singly on the underside of the leaves. The larvae feed for about 4 weeks. (Note the white stripe along the side and 3 pairs of legs in the midsection of the larvae.) There are two generations of around 6 weeks each per year. Infestations on snap beans begin in late June. The larvae chew large holes in the leaves and attack the pods. This damage reduces yield and quality.

For chemical control recommendations, homeowners should consult Extension Bulletin E-760(b), "Home Vegetable Garden Disease, Insect and Weed Control," available from your county Cooperative Extension Office. Commercial growers should consult Extension Bulletin E-312, "Control of Insects, Diseases and Nematodes on Commercial Vegetables."

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Snap Bean Insect Pests



1. Seed corn maggot (inset: adult) and maggot damage to beans



2. Potato leafhoppers—adult (left); immatures (right)



3. Hopperburn damage by leafhoppers



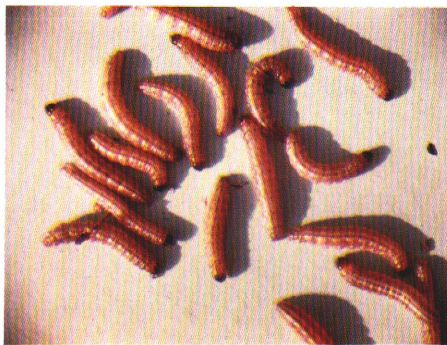
4. Tarnished plant bug on bean blossom



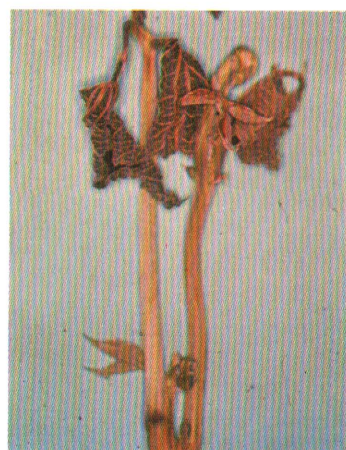
5. European corn borer adults



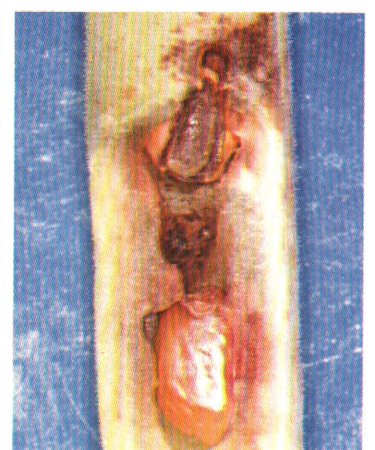
6. European corn borer egg mass and larvae



7. Full-grown European corn borer larvae



8. Left: European corn borer entry hole in bean stem (arrow); right: European corn borer in pod flagged leaves indicate borer in stem



10. Mexican bean beetle—adult (left); larvae (right)



11. Black bean aphid



12. Green cloverworms on bean pods