COMMON SOYBEAN INSECTS

For safe and effective use of insecticides, always identify the problem correctly.

1. Bean leaf beetle
2. Mexican bean beetle and larva
3. Japanese beetle
4. Striped blister beetle
5. Green stink bug and damaged seeds
6. Two-spotted mite (not an insect)
7. Thrips (greatly enlarged)
8. Grape colaspis larva
9. Seed maggot
10. White grub
11. Grasshopper
12. Green clover worm
13. Cabbage looper
14. Garden webworm
15. Corn earworm

Prepared by Extension Entomologists of the North Central States in cooperation with the Federal Extension Service, U.S. Department of Agriculture
Common Soybean Insects of Missouri

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1. Bean leaf beetle adults overwinter under debris in and around bean fields. These adults attack germinating soybeans by chewing on the cotyledons, underground stems and the first sets of true leaves. Adults are about 1/2 inch in length, either reddish or tannish in color, and with or without 4 black spots on the back. Eggs are deposited in the soil around stems of beans. Larvae feed upon the smaller roots and eventually upon the nodules. Larvae are small, slender, white with brownish heads and brownish spot at the end of the abdomen. There are two generations annually over most of the state, except the Delta Counties may have a third generation. The adults are primarily foliage feeders, however, the last generation adults may occasionally turn to feeding upon blossoms, newly set pods, or developing beans within pods. Control measures are recommended only when pod damage is occurring.

2. Mexican bean beetle (adult and larva) is not known to be a pest of soybeans in Missouri, but probably will become so in years to come. Adults overwinter under debris, move to beans during late spring, and lay packets of yellowish-orange eggs on underside of leaves. Larvae and adults feed by stripping the green surface from underside of leaves resulting in a skeletonized or lace appearance. There are two generations annually.

3. Japanese beetle is known to occur only within the City of St. Louis and St. Louis County, and here its numbers have been quite low since its introduction in 1934. The larval stage is found in the soil preferring to feed upon the roots of grasses. It overwinters as a pupa in the soil, and emerge as adults during July. The adults are voracious feeders upon the foliage and fruits of numerous crops, ornamentals and flowers. Eggs are deposited in grassland during August. There is one generation annually.

4. Striped blister beetle, and other species of blister beetles, may occur in heavy numbers within localized areas of a soybean field during July and August resulting in rapid defoliation of infected plants. Usually, by the time the infection is noted, the damage has been done and the beetles have dispersed to other localities. Striped blister beetle larvae are predators of grasshopper eggs, and therefore, populations are more abundant the year following moderate to high grasshopper numbers.

5. Green stink bug (adult and damaged soybean seed), some other species of stink bugs and small-headed bugs, damage soybeans by inserting their beak through the pod and into the developing to nearly mature seed. Such damaged beans may be shriveled or show a small, sunken dark spot around the point of injury. Both nymphs and adults may cause injury and both may transmit yeast spores resulting in yeast spot disease. Stink bugs overwinter as adults and have at least one generation on other favored hosts before moving into soybeans. There are probably two generations over the northern half while three generations occur over most of the southern half of the state. Stink bug problems on soybeans reach a peak during August and early September. A population of one or more immature or adult stink bugs per foot of row appears to justify control efforts.

6. Two-spotted mites and other spider mite species may injure soybeans by sucking sap from underside of leaves resulting in foliage becoming light yellow to bronzy, while heavy infestations may cause defoliation. The tiny mites move into soybeans from surrounding weedy fence rows or adjacent red clover. Spider mites multiply rapidly during hot, dry weather, therefore their damage is most common during July and August.

7. Thrips are small, slender insects that feed by rasping the underside of leaves, usually close to a vein, and then sucking up the exuding sap. This feeding leaves a thin, narrow, silvered streaking visible on the leaf surface. Thrips are most common during the early part of the growing season. This feeding injury has not been shown to cause yield losses, and control measures are not recommended.

8. Grape colaspis larva resemble a very small white grub. They feed upon the roots of seedling soybeans or corn following old stands of lспектora or red clover. Root feeding may discolor, stunt, or kill seedlings. The partially grown larvae overwinter in the soil, complete larval growth in the spring, pupate, and emerge as adults during June and July. The adult beetle is small, oval, and tannish in color with minute ridges on the wing covers. These adults often eat small holes in the leaves of soybeans.

9. Seed maggots, usually feed corn maggots, may destroy the seed before it germinates, particularly during cool, wet weather. The adult flies are attracted to and lay their eggs in fields having large amounts of decaying organic matter on or near the soil surface. Rarely are stands reduced to the point necessitating replanting.

10. White grub is the larval stage of the May beetle. Most species of white grubs prefer the roots of various grasses, but a few species are known to attack soybean roots. Most species require three years to complete their life cycle. The grubs usually occur following planting of crop in soils which were previously sod land.

11. Grasshoppers, nymphs and adults of several species, may feed upon the leaves and pods of soybeans, especially during a dry summer. Damage is usually confined to the marginal rows adjacent to fence rows, ditch banks, and grass land. Grasshoppers overwinter as eggs in the soil, hatch during May and June, and the partially grown to mature hoppers begin to move into creeps during July and August when surrounding vegetation becomes scarce or matures.

12. Green cloverworm larva is light green in color with 5 faint white lines running the length of the body, and is just over an inch in length when fully grown. They are primarily foliage feeders, although under outbreak situations where plants are largely defoliated, these larvae may turn to feeding upon blossoms and newly set pods. There may be three to five generations each year, but the generation that occurs during August and early September causes the most concern to soybean growers. Seldom do larval populations become heavy enough to necessitate control measures. These larvae are often naturally controlled by a fungus disease and by parasitic insects -note fly eggs behind head on illustration.

13. Cabbage looper and other closely related species of looper larva may occasionally cause some defoliation of late planted soybeans from July to September, especially in the southern counties. Looper larvae are light green in color, a little over 1 inch in length when fully grown, gradually taper toward the head, and crawl with a distinct looping or measuring worm motion. There are several generations on other preferred host plants before moving to soybeans.

14. Garden webworm larva most seriously damage young soybeans that are less than 10 inches in height, especially planted in fields of soybeans. Larvae are about 3/4 inch in length when fully grown, yellowish-green in color, with three black spots on each side of each abdominal segment. There are usually several larvae per plant which tie the leaves together with a thin silken web and feed by skeletonizing the foliage within this semi-protected area. There are at least three generations annually. Control measures are suggested whenever small beans show evidence of webworm infestation.

15. Corn earworm larvae may attack both foliage and pods of soybeans, especially over the southern counties. Newly hatched larvae feed upon terminal foliage for a few days before moving down to feed upon small pods and eventually upon the larger pods. Pod injury is most severe on mid-season and late planted beans during late August and early September. There are three generations annually, but the last generation is the one most likely to damage soybeans. Control measures are suggested when there is an average of three or more larvae per foot of row after pods are beginning to fill.