

Soybean insects in Missouri



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SR 358

New 10/87/5M

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Acknowledgements

The authors wish to acknowledge the assistance of Mary Jackson, Sara Seidel and Joe Marks in the proof-reading and preparation of this booklet. Funding was provided by the Missouri Soybean Merchandising Council, as part of Research Agreement No. 020. Several people and organizations provided slides for the figures, for which

the authors express appreciation: Bob Blinn (#19,26,27,38,39); Clemson University Extension Service (#7,18); Leon Higley (#30,33); Lee Jenkins (#10-13,15,17,20,21,25,30,33,34); James Mertins (#44); Gene Munson (#8); Larry Pedigo (#1,2,5,23,35,37); and the USDA (#3,4,9,28,31,41,42). Some two dozen farmers throughout

Missouri allowed us free access to their fields and tolerated inconveniences during our sampling program.

We appreciate the assistance of Marilyn Higdon during many hours of tedious laboratory work and for her help in collecting samples in hot soybean fields throughout the state.

Contents

Introduction	3
Seed feeders:	
Seedcorn maggots and beetles	4
Chewing insects:	
Grasshoppers	5
Bean leaf beetles	6
Southern corn rootworms	6
Grape colaspis	7
Blister beetles	7
Green cloverworms and loopers	8
Corn earworms	9
Sucking insects:	
Stinkbugs	10
Potato leafhoppers	11
Tarnished plant bugs	11
Tiny creatures:	
Spider mites	12
Thrips	13
Whiteflies	13
Beneficials	14

Cover Photo: The differential grasshopper is a chewing insect that can cause damage throughout the season. See page 5.

Introduction

A soybean crop is most susceptible to insect injury twice during its season: first, just after planting, by seed and sprout feeders, and, second, late in the season, by pod feeders when the pods are filled and nearly mature. Leaf-feeders and sap-suckers rarely cause economic damage. When they do, it is usually only under adverse conditions, such as the severe drought of 1983.

Some insects can be pests of Missouri soybeans, but most are not. Many soybean insects feed only on the soybean leaves with no ill-effect on the plant. Others prefer certain weeds in the soybean field. Still others are lost in or just passing through a soybean field. And many should be valued for their beneficial roles as predators, parasites, pollinators and decomposers.

Despite the presence of several potential insect pests, damage to Missouri soybeans seldom reaches eco-

nomical proportions. Some general guidelines for soybean insect management in Missouri are:

- For seed and sprout feeders, take several carefully measured stand counts throughout the field and convert that figure to plants per acre. Is this plant population acceptable? If not, replant the bad spots.
- Prior to bloom, up to 50 percent leaf-destruction will probably not reduce yield. During bloom, up to 33 percent defoliation can be tolerated with no yield loss, and during pod fill, plants can still withstand up to 25 percent leaf-feeding with no impact on yield.
- After pod fill, carefully consider the economics of spraying if an average of one or more pods per plant are damaged. Account for

the number and species of insects present, the time left before harvest, expected yield and market price.

Insect counts alone are insufficient to determine whether to treat. You must combine counts with the severity of the damage, the life expectancy of the pests and other factors. Walking the beans is much preferable to a quick, convenient windshield survey.

Proper identification of insects is essential and may have both economic and ecological consequences. This publication is offered to help you identify the insects you are most likely to encounter in your fields.

The insects are grouped according to their feeding habits. Included are pictures, descriptions, brief biologies, damage potentials and control considerations for 14 of the most common insects found in Missouri soybean fields.

Seed feeders

Seedcorn maggots and beetles

Identification

Several species of insects living in the soil can reduce soybean stands. Most of the time, they are beneficial as predators or scavengers. When conditions are poor for quick seed germination, however, these insects might feed upon the seeds of corn and soybeans.

Seedcorn maggots, seedcorn beetles and slender seedcorn beetles are among the most common soil pests.

Seedcorn maggots are less than 1/4-inch long, legless, dirty white and cylindrical, tapering to a point at their head (Figure 1). The adults are small gray flies, resembling skinny houseflies (Figure 2).

Seedcorn beetles are red, brown and black and less than 1/4-inch long (Figure 3). Slender seedcorn beetles are skinnier and brighter red (Figure 4). They scurry across the soil surface, especially at night, but they rarely climb onto the plants.

Damage

Seedcorn maggots and beetles are destructive only when cool, wet weather delays sprouting and emergence. The insects feed underground on the cotyledons, and the feeding hampers emergence (Figure 5). If the attacked sprout manages to emerge, the plant will probably be weakened. Extent of the damage may be limited to a localized spot in a field, or in rare cases, it might extend throughout the entire field, causing uniform stand reduction.

Life cycle

Seedcorn maggots overwinter as red-brown puparia (hibernating forms) in the soil or as maggots in manure. Flies emerge in the spring when temperatures reach about 50 degrees F and lay eggs in the soil or on plants. Maggots hatch and develop at any



Figure 1. Seedcorn maggot.



Figure 2. Adult seedcorn maggot.

temperature above 50 degrees F. The life cycle takes about three weeks, so two or three generations might appear in a typical planting season.

Control decisions

1. No rescue treatment exists. Seed treatment or spot replanting are the alternatives.

2. Prevent damage by planting when field conditions are ideal for quick germination.

3. High organic matter and reduced tillage increase the chances for damage.

4. Scout newly-planted fields during emergence. If the stand is unacceptable, if the plants appear stunted, wilted or yellow, and if the cotyledons look as though they've been chewed-on, dig up some seeds and look for maggots or beetles burrowing into them. If you can see the insects or their damage, consider replanting with insecticide-treated seed.



Figure 3. Seedcorn beetle.



Figure 4. Slender seedcorn beetle.



Figure 5. Seedcorn maggot damage.

Chewing insects

Grasshoppers

Identification

Several grasshopper species are common in soybeans including differential (see cover), meadow (Figure 6) and redlegged grasshoppers (Figure 7). They come in various colors, such as yellow, green, pink and brown, and various sizes depending on the species and the stage of growth. Nymphs (immatures) look like adults, but are smaller and wingless (Figure 8).

Damage

Both nymphs and adults feed on foliage and green pods of soybeans, as well as on many other plants. Grasshopper defoliation is characteristically ragged-looking, with irregular holes torn from the leaves, starting from the edge and working inward. Damage is usually most severe along the end and border rows.

Life cycle

In the fall, females lay egg cases in the soil (Figure 9), especially in uncultivated land. Before frost hits, each female might deposit several egg masses of 20 or more eggs each. Nymphs hatch the following spring and stay in about the same area until green vegetation becomes scarce. They then disperse from fencerows, waterways, forage fields and idle land to the edges of soybean fields and other cropland. The nymphal stages last 40 to 60 days, during which time the grasshoppers grow and develop wings. Adults can then disperse over greater distances and infest the entire field.

Control decisions

1. Damage can occur anytime throughout the season, but is more likely to occur during a drought.

2. You can expect no-till soybeans to be infested more uniformly throughout the field and by greater numbers than conventionally tilled soybeans.



Figure 6. Meadow grasshopper.

3. You should scout soybean fields, especially the edges, for the small nymphs during May and June. If control becomes necessary, it is more effective and cheaper to attack the smaller, less mobile nymphs than the adults.

4. Control of the adult stages is generally poor and is recommended only as a last resort.

5. Prevent grasshoppers from moving into the soybean field by spraying fencerows, waterways and roadsides if you can find an average of 20 or more nymphs per square yard in those sorts of places.

6. A rescue spray over the entire field may be justified if:

- You find an average of 10 or more grasshoppers per square yard along the edges and four or more per square yard in the interior; or
- You find that average defoliation exceeds 50 percent during vegetative growth, 33 percent during bloom or 25 percent during pod fill; or
- You find an average of at least one damaged pod per plant.

7. In applying these guidelines, account for the length of time left until harvest and the expected price.



Figure 7. Redlegged grasshopper.

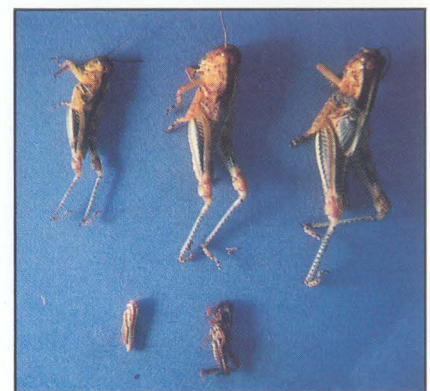


Figure 8. Immature grasshoppers.



Figure 9. Grasshopper egg case.

Chewing insects

Bean leaf beetles

Identification

Common leaf beetles are about a ¼-inch long. The typical bean leaf beetle is yellow, with four black spots and a black triangle on its back (Figure 10). Colors may vary from red to orange to tan or gray, and the spots may be absent in some specimens. All specimens, however, do have the black triangular area at the base of their wings (Figures 11 and 12). When disturbed, these beetles quickly drop to the ground or onto lower leaves and run for cover.

Damage

Adult beetles chew smooth-edged, round holes in leaves and stems. Later in the season, they might feed on

blossoms and pods, especially if the plants are subjected to drought or other stresses. The larvae (immatures) feed on roots, nodules and underground stem portions. Bean leaf beetles are also vectors of some viruses, particularly bean pod mottle and cowpea mosaic.

Life cycle

Bean leaf beetles overwinter as adults in or near the previous year's soybean fields. When spring temperatures reach 50-55 degrees F, the beetles become active. They inhabit forage legumes and weedy areas if soybeans are unavailable at this time.

Females lay eggs in the soil around soybean plants. The resulting immature forms (larvae and pupae) spend a

month or more underground before emerging as adults.

Two generations occur annually, peaking from mid-July to early-August, and again in September. The second brood is more likely to cause economic injury because its emergence coincides with pod development.

Control considerations

1. At soybean emergence, the overwintered bean leaf beetles can kill a plant if they destroy all its early leaves. Base your decisions on stand counts.
2. Defoliation after emergence is seldom severe enough to justify spraying. Follow guidelines for grasshoppers.
3. Pod-feeding is more serious. Consider taking action if, on average, one pod per plant is damaged.



Figure 10. Bean leaf beetle.



Figure 11. Bean leaf beetle.



Figure 12. Bean leaf beetle.

Southern corn rootworms

Identification

These common yellow-green beetles with 11 black spots on their wings are ¼-inch long (Figure 13). They are also known as "spotted cucumber beetles."

Damage

Southern corn rootworm beetles feed on more than 200 plant species. A constant but minor pest of soybeans, the adults chew round holes in the leaves, just like bean leaf beetles do.

Life cycle

Southern corn rootworms overwinter as adults and might migrate north in the spring. After temperatures reach 70 degrees F, the females lay eggs at the base of various plants. The larvae bore into stems and roots, where they feed and later pupate (hibernate). Adults emerge in July, and two overlapping generations occur annually.

Control considerations

1. Control is usually not necessary.

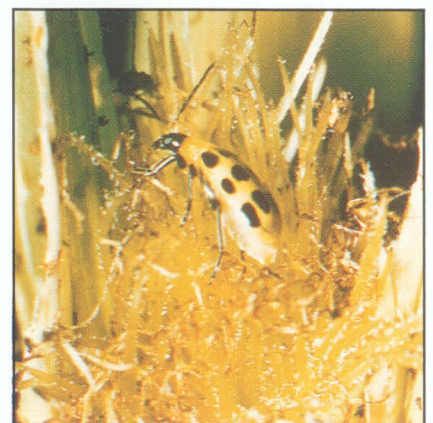


Figure 13. Southern corn rootworm.

Chewing insects

Grape colaspis

Identification

These tan or light brown beetles, with rows of pits on their backs (Figure 14), are smaller than bean leaf beetles. The larvae (immatures) resemble tiny white grubs (Figure 15). They are also sometimes called “clover rootworms.”

Damage

The adults are general feeders. In soybeans, they chew small, round holes in the leaves during June and July, but the extent of such feeding is negligible.

Root feeding by the larvae in May and June may discolor, stunt or kill soybean seedlings. Continuous soybeans, or soybeans after clover, lespedeza, timothy, smartweed or grapes, are most susceptible to colaspis damage, especially in poorly drained fields.

Life cycle

One generation occurs annually. Females lay eggs near the roots of various plants in midsummer. The eggs hatch, and the partially grown larvae



Figure 14. Grape colaspis.

overwinter in the soil. After pupation (hibernation) in the spring, adults emerge in June and July.

Control considerations

1. Control of adults is rarely necessary.
2. To prevent larval root damage, don't plant soybeans after clover or any of the other preferred host plants.
3. Fall plowing eliminates any larval infestations, but the potential for soil erosion is more serious than any expected damage due to these beetles.

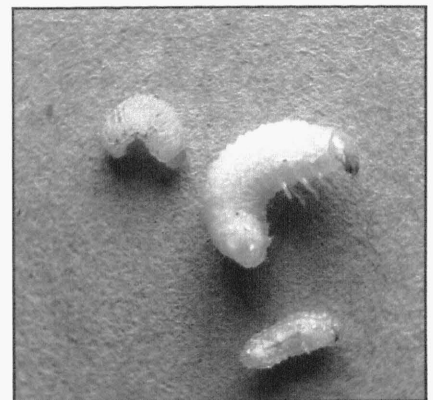


Figure 15. Immatures.

Blister beetles

Identification

Blister beetles, also known as “old-fashioned potato bugs,” are elongate, soft-bodied beetles with broad heads, narrow necks and long legs (Figure 16). The yellow and black striped species is the most common blister beetle in Missouri soybean fields, but other solid gray or black species might appear. Length ranges from 1/2- to 3/4-inch.

Blister beetles get their name from a chemical in their bodies. The chemical, cantharadin, can cause blisters when it contacts human skin.

Damage

Blister beetles are general feeders. They are only minor pests of soybeans, but the evidence of their feeding may

appear quite alarming, especially if you cannot find the beetles. The adults are nomadic insects, often moving on before their damage is noticed.

Heavy infestations occur during grasshopper outbreaks or a year later. Herds of blister beetles can cause extensive, but isolated, hotspots in the field from June through August. Feeding is characteristic in that blister beetles leave the weblike network of veins mostly intact (Figure 16).

Life cycle

Females lay their eggs in the soil in late summer. The larvae (immatures) feed on grasshopper eggs in the soil. For their predatory habits, the larvae must be considered beneficial, even though the adults are considered pests.

Most blister beetles have only one



Figure 16. Striped blister beetle.

generation per year, overwintering as hibernating larvae in the soil.

Control considerations

1. Usually, there is no need to spray for blister beetles in soybeans.
2. At most, consider spot treatment if defoliation is extreme and the beetles are still present.

Chewing insects

Green cloverworms and loopers

Identification

Both loopers and green cloverworms are green caterpillars with faint white stripes (Figures 17 and 18). Mature worms are an inch or more long. Not counting the pair of legs at the hindmost end of the body, green cloverworms have three pairs of fleshy middle legs (prolegs), while loopers have only two pairs. In the field, it is usually not necessary to distinguish between the two species. The total population will probably be mostly cloverworms and a few loopers.

The adult green cloverworm is a brown moth with a wingspan of an

inch or more (Figure 19). The moths appear to have a long, pointed snout when viewed from above. At rest, they hold their wings in an upright triangle.

Damage

The defoliation due to green cloverworm feeding is very noticeable in a soybean field. The leaves in the top half of the plants appear ragged, especially after it has been windy.

Although green cloverworms usually do not consume pods, in severely defoliated late plantings, they are forced to feed on pods and blossoms.

Life cycle

Two to four generations might mature annually. The early generations occur in forage legumes, and the later broods occur in soybeans during bloom and pod fill.

Female moths lay eggs singly on the undersides of leaves. Worms hatch and feed on leaves until full-grown. They then crawl down to the soil surface, where they pupate (hibernate) for a week or two before emergence as adults. Each generation takes about a month.

Control considerations

1. Green cloverworms are often controlled by natural diseases parasites and predators.
2. Late plantings and soybeans in southern Missouri are more susceptible.
3. Spraying should not be necessary unless average defoliation is at least 25 to 30 percent and 10 to 20 worms per foot of row are present.



Figure 17. Looper.



Figure 18. Green cloverworm.

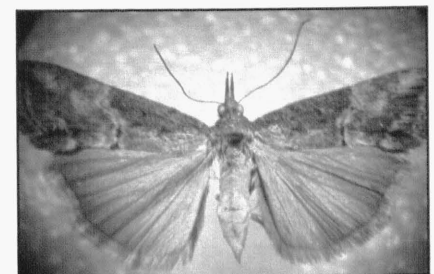


Figure 19. Adult green cloverworm.

Chewing insects

Corn earworms (soybean podworms)

Identification

The corn earworm has many common names, such as soybean podworm, cotton bollworm, tobacco budworm, tomato fruitworm or vetchworm, depending upon where it is found. These names all refer to the same insect (Figure 20).

The full-size worms are 1½-inches long and are green, pink, brown or black with irregular light and dark stripes along the length of their bodies. Under a hand lens, their skin appears rough and bristly with a series of small thorny hairs on top. In addition to the pair of legs at the hind end, corn earworms have four pairs of fleshy, middle legs (prolegs). When disturbed, they play dead, curling up into a C-shape.

The adult is a brown moth with 1½-inch wingspan (Figure 21). It has a dark band across the outer edges of the hind wings. The band is concealed under the front wings when the moth is at rest.

Damage

In an outbreak, corn earworms can greatly reduce soybean yields. They are a major pest of soybeans in southern states, but in northern states, they apparently prefer corn. In soybeans, they feed on both leaves and pods. The small worms feed on the terminals, while older, larger worms eat the beans from within the pods. They make visi-



Figure 20. Corn earworm.

ble entrance and exit holes in the pods where they feed.

Life cycle

Three generations occur annually. The third generation is most important because it is the largest and because it occurs in August or September when pods are filling and beans are maturing.

Females lay eggs singly on many plants, especially those in bloom. Worms hatch in about a week and feed until full-sized, about two to four weeks later. They then crawl down the plant and burrow into the soil, where they pupate (hibernate) for two to three weeks. The pupae overwinter in the soil, and some moths migrate northward in the spring.

Control considerations

1. Damage is usually more serious in southern Missouri, in late-planted and double-cropped soybeans and in



Figure 21. Adult corn earworm.

open canopies (wide rows).

2. Depending on other stresses, such as drought or other insect pests, one to four worms per foot of row after pod fill begins may justify a rescue spray.

3. Fall plowing may reduce the number of moths that emerge in the spring, but that has little effect on the number of worms present later in the season, when they are most important. Soil losses do not justify the control obtained.

Sucking insects

Sucking insects

Stinkbugs

Identification

Most stinkbugs are $\frac{3}{8}$ - to $\frac{5}{8}$ -inch long, shield-shaped and broad-shouldered. The back half of their wings looks like thin, transparent paper. Brown and green stinkbugs are the most common and important in Missouri (Figures 22 and 23). Nymphs (immatures) are smaller and more colorful; they're black, green, yellow, brown or red (Figure 24).

Damage

Adults and nymphs suck juices from plants, especially from flowers and pods. They pierce through the pods to suck on the green beans, reducing soybean quality. Young beans may abort; older beans will discolor and shrivel, with sunken spots at puncture sites. Stinkbugs carry the yeast-spot disease. Germination of seed beans will be reduced.

Life cycle

Stinkbugs overwinter as adults in non-crop areas, where they feed in the spring. In early summer, females lay batches of 10 to 30 barrel-shaped eggs on soybean leaves (Figure 25). Maturation from egg to nymph to adult takes about 45 days. Peak stinkbug popula-

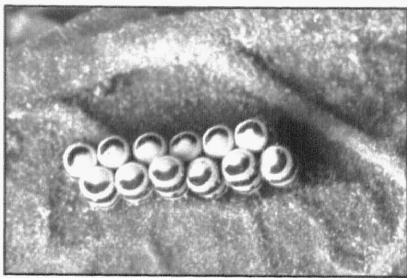


Figure 25. Stinkbug eggs.

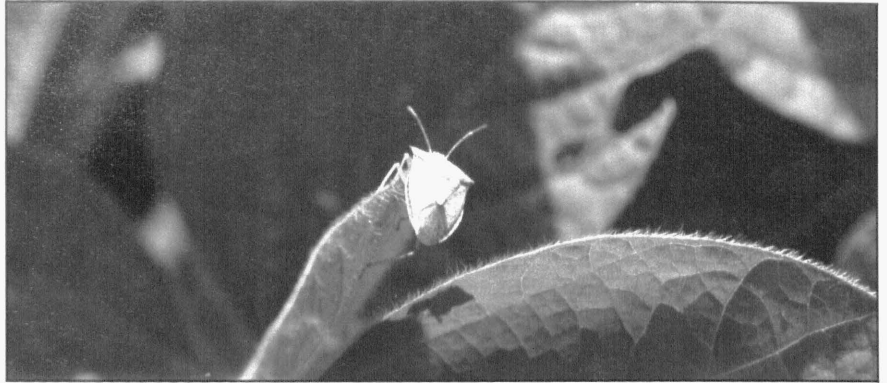


Figure 22. Brown stinkbug.

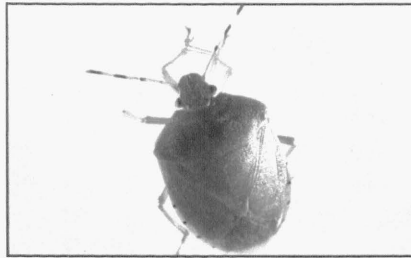


Figure 23. Green stinkbug.

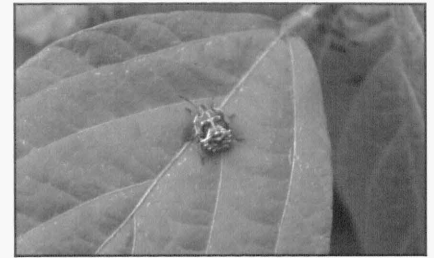


Figure 24. Immature stinkbug.

tions occur in soybeans in August and September. Depending on the species, one to three generations occur annually.

Control considerations

1. At least one species of stinkbug is a beneficial predator—the spined soldier bug (Figure 26). From above, the spined soldier bug looks a lot like the brown stinkbug (Figures 22 and 27). The spined soldier bug is narrower

and its shoulders are more sharply pointed than the brown stinkbug.

2. Some stinkbugs feed only on weeds and do not bother soybeans.

3. Stinkbugs reduce quality more than quantity. If grain grading standards were stricter, the pest status of stinkbugs would greatly increase.

4. If an average of two to three brown or green stinkbugs per yard of row are present while the pods are still green, consider a rescue spray.

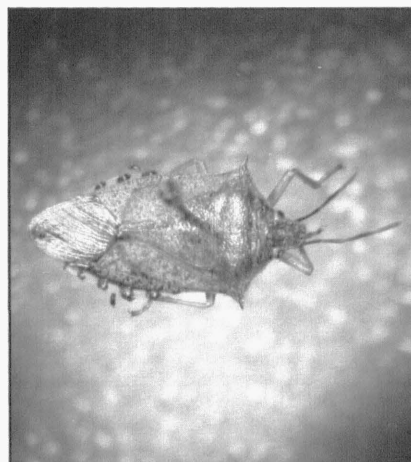


Figure 26. Spined soldier bug.

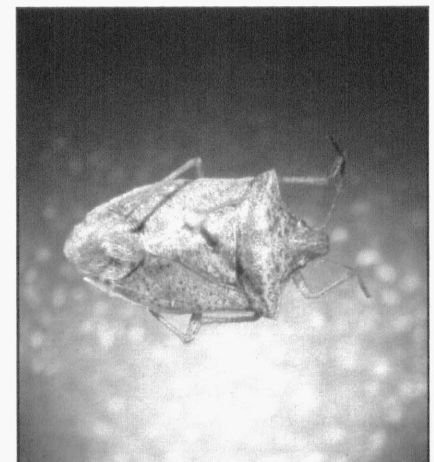


Figure 27. Brown stinkbug (pest).

Sucking insects

Potato leafhoppers

Identification

Several leafhopper species appear in soybeans. Most species are small ($\frac{1}{8}$ -inch or smaller), wedge-shaped and easy to overlook. When disturbed, they scoot sideways across the leaf surface and hide on the other side of the leaf, or they quickly jump away.

The two most common leafhoppers in Missouri soybeans are the potato leafhopper, which is light green with white dots on its back just behind the head (Figure 28), and a plain brown species, *Agallia constricta*, with no common name. Nymphs (immatures) look like the adults, but they are smaller and wingless (Figure 29).

Damage

Potato leafhoppers are serious pests of alfalfa, potatoes and other crops, but they are of only minor importance to soybeans. The tiny hairs (pubescence) on soybean leaves protect this crop by interfering with the leafhoppers' piercing and sucking mouthparts. Both nymphs and adults suck sap from the undersides of leaves, causing the leaves

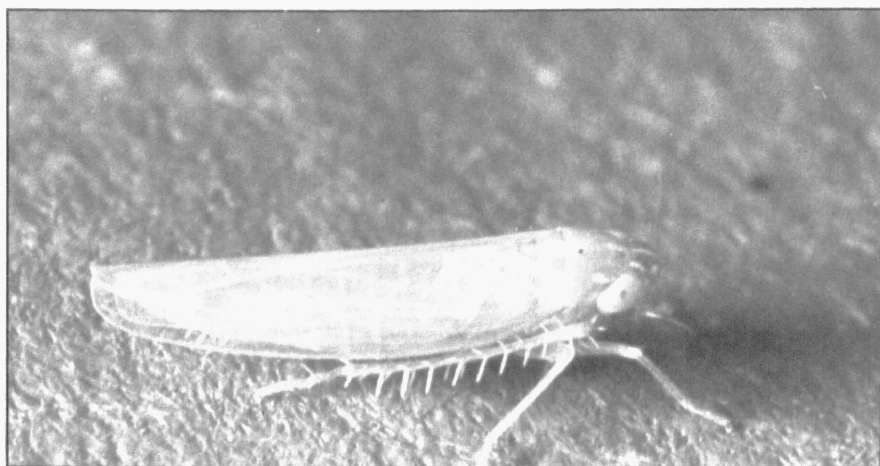


Figure 28. Potato leafhopper, greatly enlarged.

to turn yellow prematurely, a condition known as hopperburn.

Life cycle

Potato leafhoppers overwinter in the Gulf states. They migrate northward in the spring, colonizing alfalfa and soybeans along the way. Females insert eggs singly within plant tissues. Nymphs hatch and mature into adults in about two weeks. There may be several generations until the leafhoppers are killed off by frost.



Figure 29. Immature leafhopper.

Control considerations

1. Control is usually not needed.

Tarnished plant bugs

Identification

Adult tarnished plant bugs are less than $\frac{1}{4}$ -inch long. They are mottled brown, with white, yellow and black patches (Figure 30). The nymphs (immatures) are green with five black dots on their backs.

Damage

Tarnished plant bugs are general feeders and occur in large numbers in cotton, clover and alfalfa. Nymphs and adults feed on the blossoms and

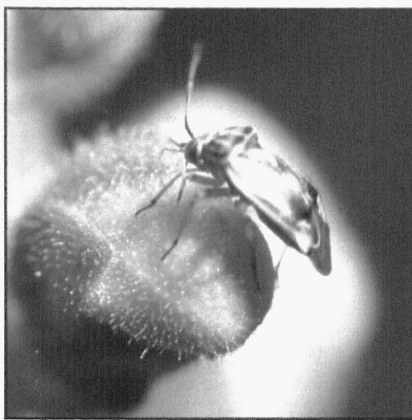


Figure 30. Tarnished plant bug.

young seeds of soybeans, but they do little damage.

Life cycle

Adults overwinter in various plant debris. In the spring, females deposit eggs inside the above-ground portions of many plants. Nymphs hatch and mature in three to four weeks. Three to five generations may mature annually.

Control considerations

1. Control is not necessary.

Tiny creatures

Spider mites

Identification

Two-spotted spider mites are so small (Figure 31) that several mites could fit onto the period at the end of this sentence. Their general outline is round (as opposed to the elongate shape of thrips). Technically, they are not insects, but are more closely related to spiders. A hand lens is a must for in-the-field identification. If you see a speck of dust crawling across the leaf, you've probably just seen a spider mite.

Damage

Mites suck sap from the undersides of leaves. Light infestations impart a mottled yellow, sandblasted, curled, crinkly appearance to the leaves (Figure 32). Heavy infestations cause the leaves to prematurely turn reddish brown, wilt and die. A fine webbing might be present beneath and between leaves. Outbreaks are severe during extended drought, especially following a mild winter, with severe damage showing up during July and August.

Damage is first noticed next to fencerows, waterways and red clover fields, especially just after such areas are mowed. Mites disperse by hitching a ride on wind, animals, machinery and people moving through the field. They also crawl along the netlike webbing they spin from plant to plant.

Life cycle

Mites undergo a complex life cycle, involving several immature forms with varying number of legs. Depending on temperature, each generation may take only a week or two. Many generations are possible in one season. Each female may lay 100 or more eggs, so populations seem to explode almost overnight.

Control considerations

1. A hard, driving rain reduces

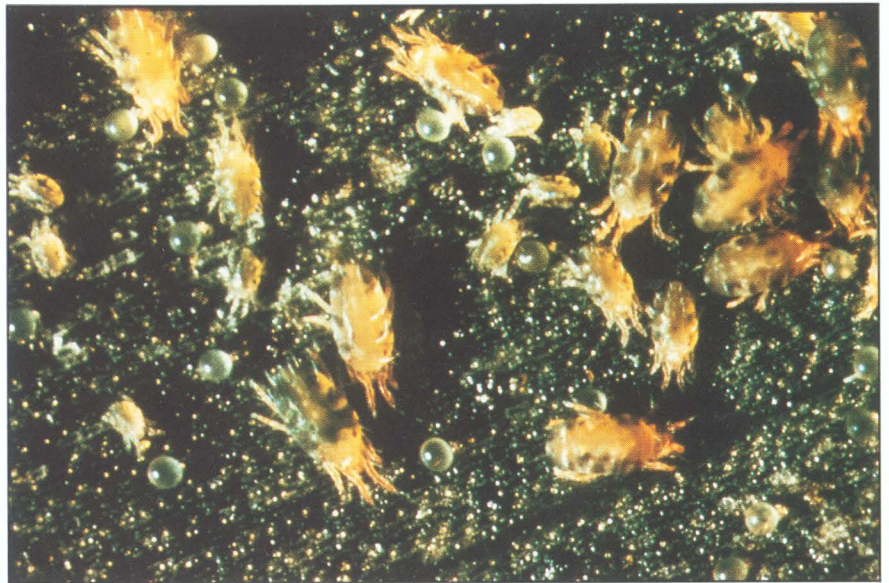


Figure 31. Spider mites, greatly enlarged.



Figure 32. Spider mite damage.

mite populations better than any man-made control technique.

2. Do not mistake thrips for mites. Thrips are relatively harmless; mites are devastating. Thrips are cigar-shaped; mites are round.

3. Scout for mites along field edges and waterways by examining the undersides of off-color leaves with a hand lens. You could also hold a piece of stiff, white paper or cardboard under the tops of several suspect plants, and shake or gently tap the leaves over the paper. Watch for tiny, round specks to

move on the paper. Then examine the creatures with a hand lens.

4. If the field edges are infested and you can see bushel-basket sized, yellowish hotspots throughout the field, consider an immediate rescue spray. Once the entire field is uniformly infested, it is too late for control measures to be effective.

5. Thorough coverage of the spray, especially to the undersides of the leaves, is essential. Add drop extensions to a ground rig to direct the spray under the canopy.

Tiny creatures

Thrips

Identification

Soybean thrips are tiny; they are less than $\frac{1}{16}$ -inch long. They are narrow, with brown and yellow bands running across their bodies (Figure 33). Several species occur in bean fields.

Damage

Thrips feed on soybeans by scraping or rasping the leaves with their mouthparts and then sucking up the macerated tissues. Heavily infested leaves might appear mottled or silver-streaked, and they might fall off the plant prematurely.

Life cycle

Females insert eggs into plants. Larvae (immatures) hatch and later drop to the soil where they pupate



Figure 33. Thrips, greatly enlarged.

(hibernate) for awhile. Each generation takes about two weeks, and many generations mature each year.

Control considerations

1. Infestations of thrips rarely re-

duce soybean yields in Missouri fields.

2. Some thrips may be involved in the transmission of certain plant diseases.

3. Be careful not to mistake thrips for mites. Mites are round; thrips are cigar-shaped.

Whiteflies

Identification

Whiteflies are $\frac{1}{16}$ -inch long, white, powdery fly-like insects (Figure 34). When disturbed, clouds of them may erupt from soybeans and velvetleaf plants. Nymphs (immatures) are wingless, waxy (rather than powdery) and are found along with the adults.

Damage

Both nymphs and adults suck plant juices from the leaves. A heavy infestation gives plants a speckled, yellow appearance, and the leaves may dry up prematurely. Whiteflies also might carry disease-causing viruses.

Life cycle

Females anchor a single egg on the leaf surface at the end of a stalk. Nymphs hatch, feed for a month and then mature into adults.



Figure 34. Whiteflies, greatly enlarged.

Control considerations

1. Control is usually not necessary in Missouri soybeans.

2. Velvetleaf (buttonweed) plants attract the whiteflies more so than do soybeans.

Beneficials

Beneficial insects

Many factors combine to keep most Missouri soybean fields free of economically damaging insect outbreaks. Among these natural control agents are birds, toads, diseases, spiders and parasitic and predatory insects.

Many species of tiny flies and wasps are parasites of other larger insects. The parasites are difficult to identify in the field, and their beneficial action goes on largely unnoticed.

Predators are easier to identify than parasites. Unfortunately, it is difficult to account for their impact on pest control. Be aware that if you kill off predators and parasites with an unnecessary or poorly timed insecticide application, you might cause more harm than the target pest causes. Pest populations can resurge quickly in the absence of their natural controls.

The most common predators found in Missouri soybeans include:

- Spiders: general predators of many insects (Figure 35).
- Assassin bugs: general predators, especially of soft-bodied caterpillars (Figure 36).
- Minute pirate bugs: predators that feed on the eggs of soybean podworms and corn borers (Figure 37).
- Damsel bugs: predators that pierce soft-bodied caterpillars (especially green cloverworms) and aphids with their sharp beaks. They then suck out the body fluids (Figure 38).
- Big-eyed bugs: general predators (Figure 39).
- Ground beetles: general predators of soil insects. They may also consume seeds and sprouts of weeds and crops (Figures 40 and 41).
- Lady beetles: predators that prey on aphids, eggs and caterpillars (Figures 42 and 43).
- Stilt bugs and many others, not shown.



Figure 35. Spider.



Figure 36. Assassin bug.



Figure 37. Minute pirate bug.



Figure 39. Big-eyed bug, enlarged.

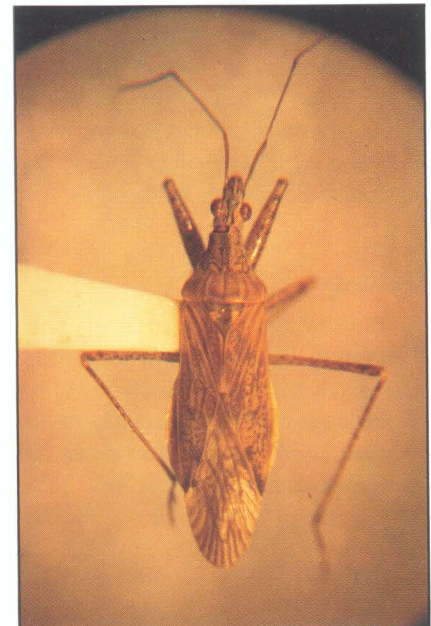


Figure 38. Damsel bug.

Beneficials

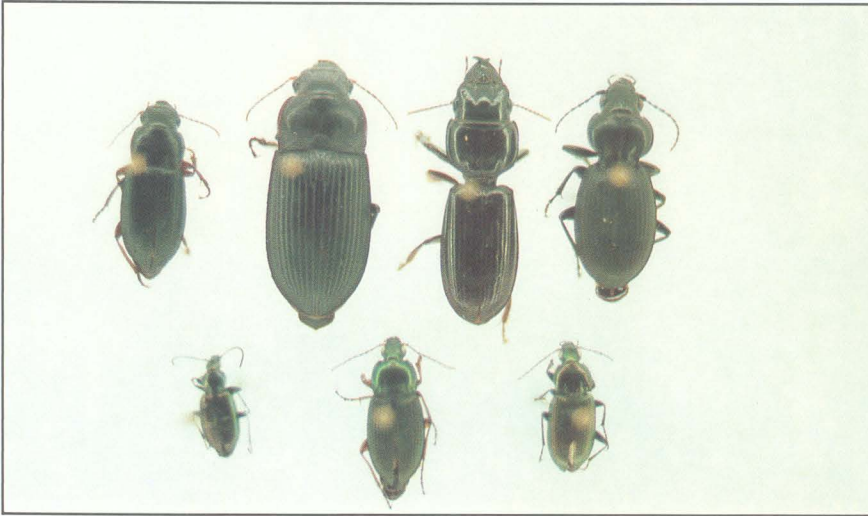


Figure 40. Ground beetles.



Figure 43. Lady beetle.



Figure 41. Immature ground beetle.



Figure 42. Lady beetle.