PLANT BUGS AND STINK BUGS

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Plant bugs and stink bugs feed on peaches, other stone fruit, and a wide array of wild and cultivated plants, including numerous horticultural and agronomic crops. These hemipterous (sucking) bugs are significant pests throughout the United States. Some hemipterous insects known to attack peach include: *Lygus* spp., primarily the tarnished plant bug, *L. lineolaris* (Palisot de Beauvois); the leaffooted bug, *Leptoglossus phyllopus* (Linnaeus); *Euschistus* spp., primarily the brown stink bug, *E. servus* (Say); the green stink bug, *Acrosternum hilare* (Say); the southern green stink bug, *Nezara viridula* (Linnaeus); and *Thyanta* spp. stink bugs.

DESCRIPTION

Sucking bug pests of peach vary greatly in color, size, and shape. Sucking bugs are hemipterans; all have certain characters in common. The front half of the forewing is leathery, the back half membranous. Mouthparts are of the piercing-sucking type; the beak is three or four segmented, arises on the front of the head, andis held below the body, between the legs, when not in use. Antennae are usually long, and four or five segmented. Compound eyes are normally large. Nymphs (immature stage) are generally similar to adults, but do not have wings.

Tarnished plant bugs (Figure 1) are small, oval, fragile-looking insects that are green to dark-brown in color, flecked with white, yellow, reddish-brown and black markings and a yellow “V”-shaped marking on the triangular portion of its back. Nymphs are pale-yellow to green, black dots may be visible on the back (Figure 1). Adults are about 1/5 to 1/4 inch (5 to 6 mm) long.

Figure 1. Adult and immature tarnished plant bug.

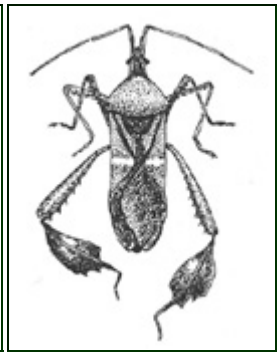

Figure 2. Adult leaffooted bug.

The leaffooted bug (Figure 2) is large, up to 3/4 inch (19 mm) long, slender, shield-shaped, and flatbacked. It is brownish-black in color with two transverse whitish-yellow lines across the back. The lower portion of the hind legs is expanded and leaf-like. Nymphs are orange.

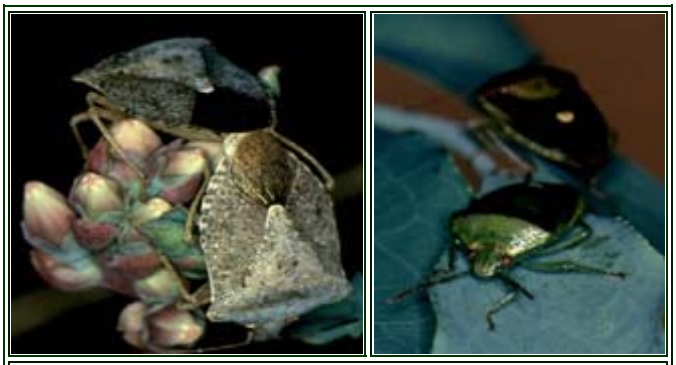

Figure 3. Stink bugs. Images by J. A. Payne.

Stink bugs (Figure 3) are broadly shield-shaped, flattened, with a narrow head, and rather short legs. The green stink bug is bright green, sometimes with a visible yellowish-orange to reddish border. On the underside, the first ventral body segment behind the backpair of legs is pointed. The point extends forward between the hind legs. Green stink bugs are about 1/2 inch (12-13 mm) long. The southern green stink bug is similar in size and appearance. It is uniformly light green, and the first ventral segment behind the back legs is rounded and does not extend forward between the back legs. Many *Thyanta* spp. stink bugs are also green, frequently with red shoulders; they are smaller, usually only about 3/8 inch (9-10 mm) long. *Euschistus* spp. stink bugs are light grayish-brown to brown, marked with dark brown to black speckles. The brown stink bug, *E. servus*, is often the most common stink bug on southeastern peaches. The brown stink bug frequently has slightly pointed shoulders. It is about 3/8 to 1/2 inch (10 to 12 mm) long.

PLANT INJURY

Figure 4. Catfacing damage.

Sucking bugs feed by sucking sap from plants. They inject a salivary secretion into the plant when feeding to break down plant tissues. Sucking bugs feed on a great diversity of host plants, moving from one host to the next to feed on the best available food source. They prefer to feed on maturing flower buds, blooms, and fruit, but if no reproductive tissues are available, they feed on succulent vegetative growth. Feeding injury is very destructive to fruiting bodies and other tender plant parts, but wounds are confined to the small areas actually fed on. Earliest injury to peaches is caused by the tarnished plant bug, other *Lygus* spp.,and possibly stink bugs that are active in the early spring. Tarnished plant bugs can be present in high numbers when peaches start to grow in the spring. Before fruit set, plant bugs feed on swelling fruit and leaf buds and then blooms, causing the buds and blooms to dry up and abort. This injury is insignificant if flower bud numbers are within normal healthy ranges. In peach, injury from tarnished plant bug is most severe immediately following bloom, from petal fall until the peaches are 1/2 to 3/4 inch in diameter. Feeding on young fruit causes fruit deformation. Cells are destroyed in the small area around the feeding site, inhibiting fruit development and producing localized scarring. Surrounding tissues are unaffected and continue to grow and expand (Figure 4). This normal growth around the small feeding wound is called "catfacing" injury. Cold weather, hail, and plum curculio can also cause injury that is very similar in appearance. By cutting thin slices across the wounded area, it is sometimes possible to see the round, symmetrical wound channel left by sucking bugs. Cold injury tends to be irregular, often with internal gum pockets. After pit hardening (May), plant bug or stink bug feeding causes less scarring and distortion of the fruit; more often, beads or strings of clear gum (ooze) exude from the pinprick-size feeding wound. These wounds may develop into dry, corky, shallow, sunken areas in the fruit.

SEASONAL HISTORY AND HABITS

All sucking bugs that attack peaches overwinter as adults in protected places, such as in ground debris or between folds or cracks in bark. Adults may become active periodically on warm days during the winter. Time of emergence from hibernation in the spring varies with species, but many emerge in early spring.

Sucking bugs are very mobile. They are particularly attracted to orchards with blooming or fruiting broadleaf weeds in the orchard floor. Trees on the edges of orchards bordering woodlands, fencerows, or fields are usually the first and most severely damaged.

Tarnished plant bugs are typically present in peach orchards by the time buds begin to swell. They feed on the flower buds of peach and of numerous other plants. Plant bugs are strongly attracted to orchards with winter annual weeds in bloom. Egg laying begins shortly after adult emergence. Eggs are laid primarily in the tender shoots or flower heads of herbaceous weeds, vegetables, and legumes. Few eggs are laid in peaches. Eggs hatch in about 10 days and emerging nymphs begin to feed. The nymphal stage lasts about a month. There are several generations of tarnished plant bugs each year, but the bugs normally begin to leave peaches shortly after petal fall and move to other hosts. Populations in peaches usually decline significantly by shuck fall.

Feeding by stink bugs may occur at almost any time during the growing season. Red shouldered stink bugs, *Thyanta* spp., are often the first stink bugs to attack peaches. They have been reported to be present in peaches from the late-bloom through shuck fall stages. Most leave for other hosts within a month after shuck fall. In most years, brown stink bug, *E. servus*,is the most common stink bug on southeastern peaches. Normally brown stink bug numbers peak within six weeks after shuck fall, but they may be abundant into July. The summer stink bug generations may reappear in late May in Florida, extending to the upper South in June and July. Green and southern green stink bugs frequently increase in number after mid-June. Stink bugs have two or more generations per year, depending upon species. The species and number of sucking bugs present in peach trees at a given time during the season are greatly dependent upon weather, surrounding vegetation (alternate host plants), orchard history, and other factors. Bugs normally are most abundant in peaches from bud break until about eight weeks after bloom.

CONTROL

Sucking bug control begins with cultural practice. Orchard floor management, in the form of chemical mowing to suppress broadleaf weeds, especially the winter annuals, renders orchards less attractive to sucking bugs.

Begin checking weekly for plant bugs by bud swell. Trapping can be very useful. White traps are particularly good for tarnished plant bug. Yellow traps are attractive to the full range of plant bugs and stink bugs. White rectangular sticky traps may be hung from the lowest scaffold limbs along the orchard perimeter nearest woods or fencerows. Change to yellow sticky traps along the orchard perimeter at petal fall. Bait the yellow sticky traps with *Euschistus* spp. aggregation pheromone (methyl 2,4-decadiendate). Check traps weekly for stink bugs and replace bait. Growers can also jar stink bugs from trees over a ground sheet as for plum curculio.

Appropriate management for catfacing insects includes suppression of broadleaf weeds with early season insecticide applications. Legumes such as clover and vetch should be avoided as cover crops. Insecticide applications at shuck split and possibly two additional sprays at 10- to 14-day intervals typically provide good control. In blocks where flower bud numbers are low, sprays during pink bud can be helpful if plant bugs are abundant.

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