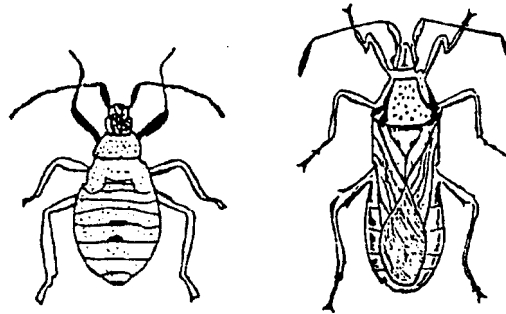




SQUASH BUGS



Nymph

Adult

Definition. The squash bug (*Anasa tristis*) is in the insect order Hemiptera, also referred to as true bugs. Hemiptera means "half wing" and refers to the adult's first pair of wings, part of which is toughened and hard while the rest is membranous. True bugs have modified piercing and sucking mouthparts; some suck plant juices and are plant pests, while others (assassin bugs, minute pirate bugs) feed on insects and mites and are considered beneficial insects.

Plants affected. The principal targets are winter squash, summer squash, and butternut squash. Squash bugs also feed on cucumber, gourds, melons, and pumpkin. Some squash varieties are resistant, including "Butternut," "Early Summer Crookneck," "Improved Green Hubbard," "Royal Acorn," and "Table Queen." Zucchini is among the squash varieties least susceptible to damage by squash bugs.

Appearance. Squash bug adults are almond-shaped with flat backs. They are most often dark brown or black and about 1/2 to 5/8 inches long. The orange-toned body protrudes a bit from under the wings. When folded, the tips of the wings overlap forming a fairly well defined X on the back. This X formation, along with the distinctive inverted triangle behind the head, makes this and other true bugs easy to identify. The nymphs are smaller than the adults, wingless, yellowish green, and may have red heads. The adults have long legs, run quickly, and emit an unpleasant odor when crushed.

Damage. In early summer adults and nymphs feed on the foliage of preferred plants. The first indication of squash bug damage is often small specks on the leaves that turn yellow and later brown. Squash bugs inject saliva into the plant as they feed that causes leaves and stems to wilt, turn blackish green, and then die. In some cases the entire plant is killed. Later in the season, squash bugs feed directly on fruit. This produces a wound that allows entry of rotting organisms.

History and Habitat. Squash bugs over-winter in the adult stage under plant debris, rocks, and in other protected sites around previously infested plants. They mate in spring and the female lays clusters of eggs

on the undersides of leaves or on stems. These eggs are easy to spot as they are shiny brown and look like small ball-bearings. After hatching, nymphs feed in groups on the underside of leaves. They mature early in July; the next generation is more numerous and destructive than the first, so it is important to treat them early.

Management. The key to managing squash bugs is good sanitation to reduce the number of hiding places for these bugs. For immediate relief from damaging numbers of these pests, combine sanitation with one or more other control method such as trapping, destroying eggs, and treating with insecticides.

Sanitation. Keep the area around the base of squash plants free of mulch such as straw, hay, and other covers that provide shelter for the bugs. Remove plant debris from the garden throughout the growing season and in the fall. Training plants up a trellis is also helpful in reducing the number of hiding places at the base of the plant.

Trapping. Newspapers and boards can be placed in the garden at night to provide a refuge for the bugs. The following morning, lift the boards and destroy the bugs hiding underneath.

Destroying eggs. Destroying eggs is a great way to reduce bug populations before they can cause damage. Look for clusters of shiny, bronze eggs on the leaves and stems of plants that are favored by squash bugs, especially early in the season. Destroy the eggs by crushing them or clipping off the affected leaves and disposing of them.

Insecticides. One of the least-toxic insecticides to use in a home garden is insecticidal soap. Insecticidal soap must contact the insect in order to kill it. For convenience, you can keep a hand-held sprayer filled with insecticidal soap ready at all times. Check plants daily and spray adults and nymphs. Safer soap has no residual effect, and only kills by contacting the insects. It is therefore more effective in nymphs than adults. Read the precautions carefully on the insecticidal soap label because it can damage plants if applied in very hot weather (over 90°F) or if the plants are water stressed. Also, some plants like cucumbers are sensitive to soap, so test the soap first on one plant before spraying all of them.

Other, more toxic insecticides (carbaryl, permethrin) have been used to control squash bugs, but in many cases squash bugs have developed resistance to these materials. In addition, carbaryl is very toxic to honey bees.

Bibliography

California Master Gardener Handbook
Pests of the Garden and Small Farm, 2nd Edition by Mary Louise Flint
Pests of the West by Whitney Cranshaw

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