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## Squash Bugs

The squash bug, *Anasa tristis*, is common throughout the United States. The squash bug will feed on all members of the cucurbit family but are most common on pumpkins and squash. It has piercing/sucking mouthparts and feeds primarily on the plant foliage, but they will also feed on stems and fruit later in the season. Symptoms of damage include wilting of leaves and ultimately results in leaves that appear black or dried out or vines that senesce and die back.

Squash bugs are in the Order Hemiptera (also called “true bugs”). Other true bugs include stink bugs, plant bugs, box elder bugs, bed bugs, and kissing bugs. Insects in this order do not have a larval stage like butterflies, beetles, flies, bees, etc. Immature true bugs are called nymphs and look similar to the adult in shape, but lack wings and are smaller.

Squash bugs are a common garden pest and recognizing them is the first step to managing their impact. Adult squash bugs are 5/8 inch long by 1/3 inch wide and are able to fly. They are usually grayish-green to black. Sometimes the edges of the abdomen have orange and brown stripes. Nymphs are 3/16 to 1/2 in. in length. Young nymphs have a red head and legs with a green abdomen, however as the nymphs age the red color will turn to black. Both adults and nymphs are secretive and quickly scurry for cover when disturbed. One generation develops each year (in some cases, there can be a second generation). The life stages overlap and all stages can be seen at any given time during the growing season.

Unmated adults overwinter and find shelter during the early fall under plant debris, around buildings, under rocks, etc. With the onset of freezing temperatures, nymphs die off. The overwintering adults will emerge in spring and fly into fields when the plants begin to grow. Mating begins in early spring, and the females lay eggs until midsummer. Egg masses are deposited on the underside of leaves, are brownish colored, and usually arranged in rows of 7 to 20. After eggs hatch, they take a total of 4 to 6 weeks to develop into adults. Nymphs commonly form groups at the base of the plant or under the leaves but are also seen on vines or unripe fruit.

Both adults and nymphs cause damage by sucking nutrients from leaves, disrupting the flow of water and nutrients, which can cause wilting. Yellow specks will develop on the leaves before wilting is apparent. Damaged leaves eventually turn brown. When squash bug populations are high, small plants can be killed; larger plants can have many damaged leaves and affected vines. Squash bug damage on fruit appears as small lighter colored spots and squash fruits can have a stippled appearance.

Maintaining plant health and vigor through proper irrigation and fertilization can help plants to tolerate low levels of squash bug damage. Adult squash bugs are difficult to control, so early detection of nymphs is critical. Monitor young squash plants for egg masses and nymphs. Squash bug nymphs and egg masses can be collected and destroyed or placed into a pail of soapy water.

Other non-chemical controls can be applied. Place boards, cardboard, or newspapers on the ground adjacent to plants. At night, squash bugs will cluster and hide under these objects and in the morning they can be gathered and destroyed. A shop vacuum can be used to suck them up (if you have one that you don't mind using on insects). Prevent harborage by removing plant debris around the garden during the growing season to reduce the potential squash bug hiding places. Clean up dead squash, pumpkin, and melon plant debris around the garden in the fall to reduce the number of overwintering sites.

Horticultural oils and neem-based insecticides are labeled for use on squash bugs. These will be most effective on nymphs and qualify as "organic" insecticides. Conventional insecticides can also be used when squash bug populations are very high and damage threatens the crop. Carbaryl and permethrin are labeled for squash bug control and have been the traditional insecticides used to control squash bugs in the home garden. These should be used with care as they can have negative effects on pollinators and beneficial insects. Always follow label directions when using pesticides.



Squash bug eggs on a leaf (Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org).



Squash bugs in multiple life stages (Whitney Cranshaw, Colorado State University, Bugwood.org).

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