SQUASH BUGS

Integrated Pest Management for Home Gardeners and Landscape Professionals

Squash bugs, *Anasa tristis* (order Hemiptera), are a common pest in vegetable gardens. They feed on plant foliage using mouthparts that let them pierce the foliage and suck plant sap. Their feeding results in plant wilt and in some cases plant death. Squash bugs target vegetable crops in the cucurbit family, such as pumpkin, squash, and melon, and can be especially aggravating to gardeners when populations reach large numbers.

IDENTIFICATION

Squash bugs are 5/8 of an inch long and 1/3 as wide (Fig. 1). Adults are winged and grayish brown with a flat back. The edges of the abdomen and underside of the insect have orange to orange-brown stripes. If necessary, turn squash bugs over to better identify them.

Squash bug eggs are 1/16 of an inch long and laid in groups or clusters. Eggs are bronze to brick red in color and are usually found in groups of 15 to 40 on the undersides of leaves or stems in the spring. Nymphs hatch 1 to 2 weeks later and are wingless, spiderlike, and often covered with a whitish powder. Nymph size varies between 3/16 to 1/2 of an inch. They range in color from mottled white to greenish gray and have black legs. Nymphs later turn dark brown and begin to resemble adults, growing wing pads in their later stages. After molting several times into increasingly larger nymphs (instars), they become adults (Fig. 2). This process takes 4 to 6 weeks.

Often, squash bugs and stink bugs are mistaken for each other. They are similar in shape and both bugs have a disagreeable odor when crushed. However, stink bugs possess the name because they can also give off this odor when disturbed. Stink bugs are wider and rounder than squash bugs. In the garden, stink bugs are not a pest of cucurbits and prefer to feed on tomatoes and legumes.

LIFE CYCLE

Squash bugs feed on garden crops of summer and winter squash as well as pumpkin. Both adults and nymphs can be found near the crown of the plant, underneath leaves or under dirt clods and other protective cover. When disturbed, they disperse quickly.

For overwintering, unmated squash bugs find shelter in the fall under dead leaves, rocks, wood, and other garden debris. Once spring approaches, they fly from their protective habitat to nearby cucurbits where they feed, mate, and lay eggs. Eggs hatch in 5 to 10 days, and this second generation of squash bugs overwinters and produces eggs the following spring.

DAMAGE

Injury is limited to squash, pumpkin, melon, and other plants in the cucurbit family. Adults and nymphs cause damage by sucking plant juices. Leaves lose nutrients and water and become speckled, later turning yellow to brown. Under heavy feeding, plants begin to wilt, and the point of attack becomes black and brittle. Small plants can be killed completely, while larger cucurbits begin to lose runners. The wilting resembles bacterial wilt, which is a disease spread by another pest of squash, the cucumber beetle. The wilting caused by squash bugs is not a true disease. Squash bugs may feed on developing fruits, causing scarring and death of young fruit.

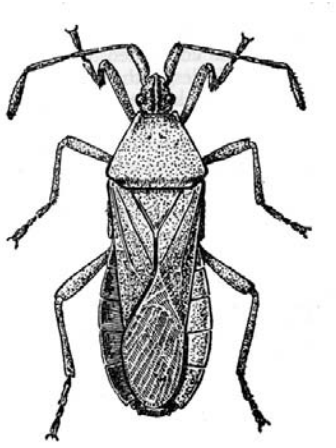

Figure 1. Adult squash bug, ***Anasa tristis*****.**

MANAGEMENT

In spring, search for squash bugs hidden under debris, near buildings and in perennial plants in the garden. Inspect young plants daily for signs of egg masses, mating adults, or wilting. Place wooden boards throughout the garden and check under them every morning, then destroy any squash bugs found.

Cultural Practices

The best method for control is prevention through sanitation. Remove old cucurbit plants after harvest. Keep the garden free from rubbish and debris that can provide overwintering sites for squash bugs. At the end of the gardening season, compost all vegetation or thoroughly till it under. Handpick or vacuum any bugs found under wooden boards. During the growing season, pick off and destroy egg masses as soon as you see them. Use protective covers such as plant cages or row covers in gardens where squash bugs have been a problem in the past and remove covers at bloom to allow for pollination.

PEST NOTES Publication 74144

University of California
Agriculture and Natural Resources

July 2008

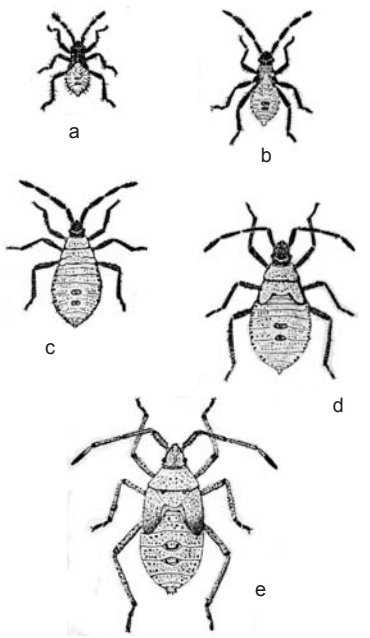

Figure 2. Five stages of nymphs, from newly hatched (a) to mature (e) of the squash bug, *Anasa tristis*.

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ILLUSTRATIONS: **Figs. 1-2**: adapted from F. H. Chittenden. 1899. *Some Insects Injurious to Garden and Orchard Crops.* U.S. Dept of Agric., Bulletin No. 19.

Produced by UC Statewide IPM Program, University of California, Davis, CA 95616

This Pest Note is available on the World Wide Web (www.ipm.ucdavis.edu)

This publication has been anonymously peer reviewed for technical accuracy by University of California scientists and other qualified professionals. This review process was managed by the ANR Associate Editor for Urban Pest Management.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.

This material is partially based upon work supported by the Extension Service, U.S. Department of Agriculture, under special project Section 3(d), Integrated Pest Management.

Trellising. Using a trellis for vining types of squash and melons can make them less vulnerable to squash bug infestation.

Resistant Varieties. Some squash varieties, including Butternut, Royal Acorn, and Sweet Cheese, are more resistant to squash bugs.

Biological Control

The parasitic tachinid fly *Trichopoda pennipes,* which lays its eggs on squash bugs, has been introduced into California and may be found in some gardens. Look for the eggs of this parasite on the undersides of squash bugs.

Chemical Control

Squash bugs are difficult to kill using insecticides because egg masses, nymphs, and bugs are often hidden near the crown of the plant and difficult to reach with sprays. Several insecticides are available that are less toxic to the environment including products containing soaps and oils such as neem oil, horticultural oil, and canola oil. These soaps and oils are most effective on the smallest nymphs, but good penetration throughout the canopy is essential so that nymphs under the leaves and deep within plants will be covered. Other more toxic pesticides are also registered for use on squash bugs; however, these materials should be used with caution because of negative impacts on bees and beneficial insects such as predators and parasites that help to keep other pest insects and mites in check. In addition, they are not likely to give better control than handpicking combined with softer chemicals.

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