



# Pest e-alerts



Entomology and Plant Pathology, Oklahoma State University  
127 Noble Research Center, Stillwater, OK74078  
405.744.5527

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## Squash Bug Management

Eric Rebek, Extension Entomologist

When it comes to vegetable pests in Oklahoma, there is nothing more loathed than the dreaded squash bug, *Anasa tristis* (DeGeer). Below is information about squash bug summarized from OCES Circular E-918: Major Horticultural and Household Insects of Oklahoma.

### Description

Adults are brownish black to dark ashy black and measure about 5/8 inch long. The body is compact and flat across the back with the wings overlapping toward the rear. They give off a disagreeable odor when handled or crushed. Eggs are somewhat diamond- or spindle-shaped



and white when first deposited, gradually turning yellowish brown and finally dark bronze. They are laid in loose masses, mostly on the underside of leaves. Newly hatched nymphs are pale green. As they grow, they develop a gray body color with black legs. Nymphs are smaller than adults and do not have wings, but the last two nymphal stages have noticeable wing pads.

## **Life Cycle**

Squash bugs overwinter as unmated adults under plant debris or other suitable shelter. They emerge in April or May, search for suitable hosts, and mate. Eggs are laid over a period of several weeks, often in the angles formed by leaf veins, and hatch one to two weeks later. Five nymphal stages grow for four to six weeks before new adults are produced. There are three or four generations per year, but due to the extended egg-laying period all stages are present for most of the season. Nymphs present in late fall are killed by freezing temperatures and adults seek overwintering sites.

## **Hosts**

All cucurbit vine crops are subject to squash bug infestation. The bugs prefer squash, pumpkin, watermelon, cantaloupe, and cucumber, in that order. Hubbard, winter, and marrow squash are often heavily infested.

## **Damage**

Both nymphs and adults feed by sucking juices from plants. The overwintered adults can cause extensive damage as they appear just after plants have emerged. Feeding can greatly stress and even kill young seedlings. Once the plants attain greater size they can withstand a moderate number of squash bugs. Nymphs tend to feed in clusters at first but will disperse as they become older. All stages prefer the leaves but will feed on all above-ground plant parts. They may congregate and feed on unripened fruits, especially late in the season. Squash bugs can increase in abundance quite rapidly and can cause plants to wilt due to feeding in large numbers. When combined with hot, dry weather, feeding stress on plants is greatly increased. However, squash bugs will not kill plants “overnight.” If plants wilt and die overnight, one should suspect another causal agent, such as bacterial wilt.

## **Inspection and Control**

Good cultural practices help prevent serious squash bug damage. Proper fertilization of vines produces a vigorous crop that is better able to withstand insect attack. Squash varieties such as Butternut, Royal Acorn, and Sweet Cheese are less susceptible to infestation than pumpkin or summer squash. Removal and destruction of crop debris after harvest eliminates some of the insects, their late-season hosts, and some potential overwintering sites. In small gardens, adult bugs and leaves with egg masses can be handpicked and destroyed. The bugs can also be trapped by placing small boards near the host vines. Squash bugs gather under the boards at night and can be collected and destroyed the next morning.

Seedlings should be inspected regularly and treatment applied as soon as adult squash bugs enter the field in spring. If these first insects can be controlled, the late-season population can be greatly reduced due to the presence of fewer eggs. Once plants are established, they should be inspected frequently to detect adult bugs and eggs. Adults spend most of their time within the plant canopy around the stems or on the underside of leaves. They often seek shelter under leaves in contact with the ground. Eggs also are found mostly on the underside of leaves. The key to control is to prevent development of large populations, so chemical treatments should be applied to kill the maximum number of small nymphs.

A study was conducted at Ohio State University in 2005 to compare the effectiveness of several insecticides against squash bug. Treatments consisted of biorational, or environmentally friendly, and conventional insecticides and were targeted against young nymphs, old nymphs, and adults. Interestingly, certain insecticides were more effective on different life stages of squash bug. In other words, the type of product recommended for control varies with the size and developmental stage of the target population. The results of this study are summarized in the table below—trade names for common homeowner products containing these active ingredients are listed after the table.

Squash bug life stage	Most effective	Moderately effective	Least effective
Young nymphs	Spinosad	Carbaryl Pyrethrins Permethrin	
Old nymphs	Spinosad	Permethrin	Pyrethrins Carbaryl
Adults	Lambda-cyhalothrin Cyfluthrin Pyrethrins	Esfenvalerate	Spinosad Permethrin Carbaryl

Carbaryl – Sevin

Cyfluthrin – Bayer Advanced Vegetable & Garden Insect Spray

Esfenvalerate – Ortho Bug B Gon Max Garden & Landscape Insect Killer

Lambda-cyhalothrin \*\*\*

Permethrin – Bayer Advanced Vegetable & Garden Insect Dust; Bonide Eight Insect Control Garden Dust

Pyrethrins – Bonide Tomato & Vegetable Ready to Use; Ferti-lome Quick-Kill Home, Garden & Pet Spray Ready to Use

Spinosad – Ferti-lome Borer, Bagworm, Leafminer & Tent Caterpillar Spray

\*\*\* There are no registered homeowner products labeled for squash bug control that contain this active ingredient.

The full report can be viewed at: <http://entomology.osu.edu/welty/pdf/VegIPMReport2005.pdf>

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**Dr. Richard Grantham - Director, Plant Disease and Insect Diagnostic Laboratory**

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