

Organic Solutions for Squash Bugs

A Factsheet from Toxic Free NC

About Squash Bugs

Squash bugs are a common pest of the cucurbit family, which includes all kinds of squashes, cucumbers, melons, and gourds. They suck the juices from the leaves of your plants, causing small yellow or brown spots on the leaves. The attacked leaves will wilt, turn brown, and dry up. Fruits may become deformed or fail to develop at all, and the entire plant may die. Squash bugs may also spread Cucurbit Yellow Vine Disease.

Controlling squash bugs in the garden can be very challenging, but these tips should give you a fighting chance at bringing in a good squash crop!

Sustainable pest management strategies usually work best when used together. Think about your garden, your resources, and your time, and put several of these tips together into a plan that works for you.

Identifying Squash Bugs

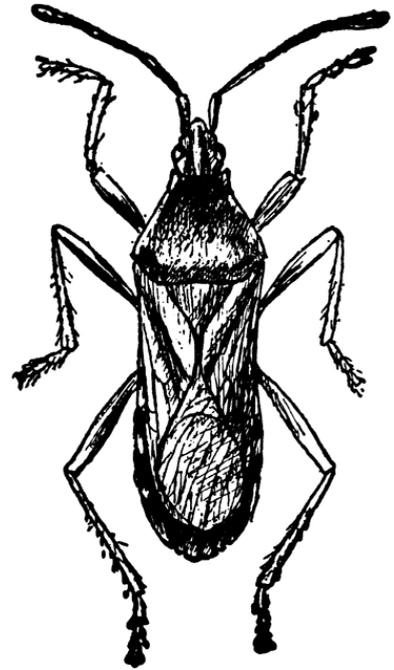
Adult squash bugs are about half an inch long, dark gray to brown or black, sometimes outlined with orange-brown just outside the wing edges. They have a flat back and a long shield shape.

Nymphs are smaller but similar in shape to the adults, and are usually a powdery pale green-gray color that darkens as they grow. They are often found massed together on the undersides of leaves.

Eggs are a yellow-bronze color, oval shaped, and found attached to the undersides of leaves in small groups.

Life Cycle

Adult squash bugs spend the winter in garden litter and come out in late spring and early summer to mate. They lay their eggs on the undersides of leaves and the young squash bugs, or nymphs, emerge within 10 – 14 days. Both nymphs and adults cause crop damage.



Squash bug drawing.

Photo credit: John B. Smith, Economic Entomology



Adult squash bug with cluster of eggs.

Photo credit: Whitney Cranshaw, Colorado State University

Prevention

1) Grow healthy organic plants. Strong, healthy plants are can handle some squash bug damage better than weak, struggling plants. Plants can “outgrow” a squash bug problem, at least for a while! Make sure that your squash and other cucurbits are planted in a sunny location in loose, well-drained, soil rich in nutrients and with plenty of organic matter, and keep them well watered.

2) Grow resistant varieties. Pumpkins, Hubbard squashes, and yellow summer squashes seem to be favorites for squash bugs. Generally speaking, butternut squashes, acorn squashes, and zucchinis appear to be their least favorites, so they may do better in North Carolina gardens. Other cucurbits (cucumbers, melons, and gourds) are somewhere in between.

3) Time your plantings to avoid squash bugs. Squash bugs come out from their winter hiding in late spring and early summer. You may do well to plant squash very early in the season so that the plants are large, healthy, and already producing before squash bugs come out. If you have a long enough growing season and use some of the other tips to control squash bugs, you may also find that succession planting works well. Time it so you have new transplants ready to put in the ground just as a previous planting gets old or gives way to pests.

4) Don't provide hiding places. Squash bugs hide under boards, rocks, mulch and garden litter. They can spend all winter there, just waiting for your spring squash plants to arrive. Keep the garden free of hiding places by keeping a tidy garden all season long. Remove or thoroughly till in old plants and mulch in the fall.

5) Keep the squash bugs off your crop. Keep squash bugs away by covering your young squash plants with a light weight “floating” row cover such as Reemay. These materials (as opposed to plastic or heavier fabrics) allow air and water to get through and do not block much sunlight. They can be found at garden supply stores or ordered from seed catalogs.

The covers can lie directly on the plants (the plants will lift the cover as they grow), or you can support the covers with wire hoops. The trick is to keep the edges of the covers buried or weighted down so that the squash bugs cannot get in.

When female flowers appear on your plants you will need to uncover them for pollination by flying insects. Covering works very well when used together with succession planting (see #3). When it is time to remove the covers on your first round of squash, have another round ready to plant under cover. Then, when your first planting gets old or beaten down by squash bugs, destroy the plants and they squash bugs by sealing them into big plastic trash bags and leaving them in the sun to bake for a few days. Uncover your next planting, but only after the first planting is destroyed, otherwise the squash bugs can come right over and find your new plants!



Close-up of eggs.

Photo credit: Whitney Cranshaw, Colorado State University



Squash bug .

Photo credit: Whitney Cranshaw, Colorado State University

Getting Rid of Squash Bugs Without Toxic Chemicals

1) Scout and hand pick. Hand picking, especially early in the season, can greatly reduce the number of bugs down the road! Keep a close eye on your plants. Inspect often by looking at the undersides of the leaves and on the stems near the ground. Search for egg clusters, nymphs, or adults. When you find them, simply crush them between your fingers or drop them into a pail of soapy water. Some folks even use a small, hand-held vacuum cleaner to suck them up before killing them. Growing cucurbit vines upright on a trellis can make scouting and hand picking easier.

2) Trap them. You can take advantage of the squash bug's love of dark hiding places to lure them into a trap. Place boards, flat rocks or even newspapers on the ground in and around your squash plants. Turn these "traps" over daily and kill any squash bugs you find hiding beneath. But don't forget to check your traps often, and remove them in the late fall. Otherwise you are just providing the squash bugs with a home!

3) Plant a trap crop. Plant a trap crop to lure the squash bugs away from your main crop. For example, you could plant a few yellow crookneck squash plants at the edge of the garden early in the season to draw the squash bugs over. Later, kill the trap crop along with the squash bugs and their eggs by sealing them all together into plastic garbage bags and leaving them in the sun to bake for a few days. Then, plant your favorite squash variety in another part of the garden.

4) Attract natural enemies. You can attract parasites and predators of the squash bug to your garden by creating homes for beneficial insects nearby. Pollen and nectar plants with small flowers, such as wildflowers and herbs, will attract parasitic wasps and flies to the garden. Parasitic wasps lay their own eggs on squash bugs or their egg clusters. When the larvae hatch they burrow in to the squash bug or its eggs and eat it from the inside! Spiders and ground beetles are also predators of squash bugs, and they will make their homes in perennial herb and flower beds near the garden.

5) Organically acceptable insecticides. As a last resort, you might choose to apply least-toxic insecticides that appear on the Organic Materials Review Institute's list of products approved for Certified Organic farms, such as rotenone, pyrethrin, Neem oil, or insecticidal soap.

Even though these sprays are approved for organic farms, they can be hazardous, so be sure to follow instructions on the labels very carefully. Keep in mind, too, that these insecticides can kill pollinators and other "good bugs" you want to keep in your garden. Use as little as possible, and spray only in the early morning or late evening when the "good bugs" are less active. Insecticidal soap can burn the leaves of your plants, so do not spray them in direct sunlight or when temperatures are above 80 degrees. Insecticides are usually only effective in slowing squash bugs down, not stopping them.

Adult squash bugs and their eggs are very resistant to insecticides, so spraying should be timed to kill the nymphs soon after they come out. The sprays must come into contact with the bugs themselves to be effective. Try to cover the entire plant with spray, including the stems and the undersides of the leaves where the bugs usually hide. Obviously, even "organic" sprays come with risks and problems, so try the other tips here first, and you may be able to skip the sprays altogether.



Adult with mixed life stages of squash bugs.

Photo credit: Whitney Cranshaw, Colorado State University

Sources

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This factsheet was written with the needs of non-commercial home, school and community gardeners in mind. Certified Organic growers, or those seeking a certification, should check with their certifying agency before using ANY insecticide. Some organically acceptable insecticides are approved for use in Certified Organic systems only against certain pests or in certain situations.