

Host Plants

Reported hosts of BMSB in the U.S. include:

- Commercial and backyard fruit crops: peach, apple, Asian pear, pear, cherry, raspberry, grape, currant.
- Agronomic crops: soybean and corn.
- Vegetable crops: green bean, asparagus, pepper.
- Ornamental trees: crabapple, persimmon, catalpa, walnut, maple, basswood, sweet gum, redbud, and American holly.
- Ornamental shrubs: butterfly bush, serviceberry, pyracantha, viburnum, rose, honeysuckle.



Photo by USDA, ARS

Management

Crops and gardens: Managing BMSB in agricultural settings is challenging because there are currently few effective pesticides labeled for use against them. The pesticides that have some effect may have to be applied repeatedly as new batches of the insect emerge, which is expensive and unsustainable. Researchers are looking into short- and long-term ways to effectively control this stink bug species. These methods could include biological control with *Trissolcus* wasps, tiny Asian parasitoids that kill BSMB in the egg stage.

Homeowners: BMSB can be mechanically excluded from homes and buildings by sealing cracks and other openings in the buildings. Typical entry points include cracks and crevices around windows and door trim, window-mounted air conditioners, exhaust fans, ceiling fixtures, baseboards and chimneys. Cracks or openings should be sealed with caulk to prevent entry by the stink bugs. Torn window screens should be repaired, and window-mounted air conditioners should be removed. Live and dead stink bugs can be removed from buildings with a vacuum cleaner or shop vac, and the vacuum bag should be promptly removed and discarded. Using an insecticide indoors is not recommended. This will not stop additional invasions and exposure of humans and pets to pesticides can be harmful.

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Brown Marmorated Stink Bug (BMSB)

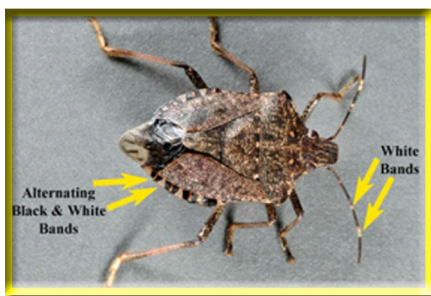
The brown marmorated stink bug (*Halyomorpha halys*) is an invasive pest from Asia that is of concern both to agricultural producers and homeowners. It has become a major pest in some U.S. orchards and also feeds on a number of high-value ornamental plants in its immature and adult life stages. It can be an annoying nuisance pest to homeowners because it overwinters in houses and other buildings. Since its accidental introduction into Pennsylvania in 1998 the insect has spread to over 40 U.S. states. BMSB numbers and range continue to grow, partly because it has no known natural predators in this country.

Description

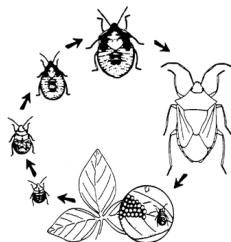
BMSB has the shield-shaped body characteristic of all stink bugs. The adults are just over ½ inch long and have a mottled brownish-gray color (the word “marmorated” means marbled).

Distinctive features of the adult BMSB

- Antennae have alternating black and white bands
- Several of the abdominal segments that protrude from beneath its wings are alternately banded with black and white.
- The insect’s underside is white with gray or black markings, and its legs are brown with faint white banding.
- The edge of the thorax is smooth with a single “tooth” directly behind each eye.

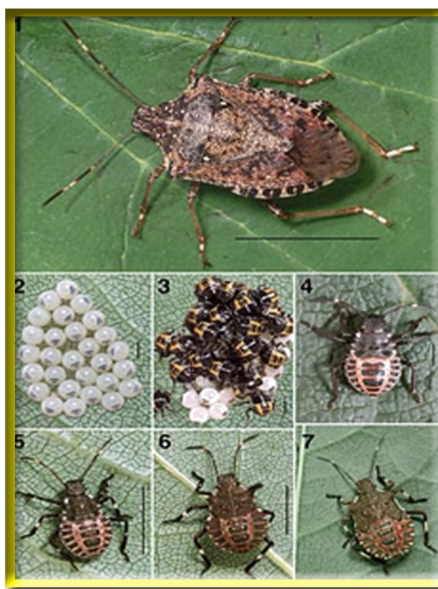


Life Cycle



Adult BMSB mate in the spring, approximately two weeks after emerging from diapause (the resting phase similar to hibernation). After mating, females begin laying egg masses at weekly intervals. Each female lays as many as 400 eggs in her lifetime.

BMSB has five nymphal stages. Each stage lasts approximately one week, depending upon temperature. Since females continue to lay new egg masses throughout the season, different nymphal stages usually overlap. Adult BMSB are very active; when disturbed, they drop from plants or fly away.



Life stages of the brown marmorated stink bug:

1. adult; 2. eggs; 3-7. nymphs

K. Loeffler, Photo Lab, Dept. of Plant Pathology, Cornell University

Behavior



Crops: In the Pacific Northwest, BMSB begin to feed in late May or early June. They attack a wide range of fruits, vegetables, and other host plants including peaches, apples, green beans, soybeans, cherries, raspberries, and pears. BMSB is a “true bug,” piercing the host plant with its tube-like mouthparts to feed. This type of feeding can result in the formation of dimpled or necrotic areas on the outer surface of fruits, leaf stippling, seed loss and possible transmission of plant pathogens.

Residences: BMSB is one of the biggest nuisance pests in the U.S. The adult insect survives winter by occupying houses and other structures, entering under siding and soffits, around window and door frames, or any place they can fit through. Once inside, they enter a state of hibernation to wait for winter to pass. Unfortunately, the home’s warmth can awaken them. They annoy homeowners as they fly clumsily around light fixtures and crawl on floors and windows, often emitting their peculiar pungent odor. Handling the bug, injuring it, or attempting to move it can trigger it to release the odor. Many people find the odors emitted by hundreds of stink bugs in their homes offensive and even overwhelming.

