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Tomato: Brown marmorated stink bug

Use Integrated Pest Management (IPM) for successful plant problem management.

Biology

The brown marmorated stink bug (BMSB) is an introduced pest species from Asia that is spreading quickly across the United States. Nymphs and adults feed on a wide variety of plant hosts. BMSB prefers to feed on fruit, seeds, and seed pods, but will also feed on stems and leaves of some hosts. Both adults and nymphs have piercing-sucking mouthparts and inject digestive enzymes into plant tissues to aid in feeding. On the surface of immature tomato fruit (green through pink stage), BMSB damage appears initially as a pinprick surrounded by a light discolored spot. The injured areas may turn yellow or decay as the fruit matures, and overall, the fruits may become distorted or catfaced. On the surface of ripe fruit, damage appears as whitish or yellow spots about 1/2 inch in diameter. The surface spots often appear slightly sunken as whitish corky or spongy areas develop under the skin. Secondary damage from rot may occur at the feeding site and severely damaged fruits may rot on the vine. Other known vegetable hosts of BMSB include peppers, corn, beans, and cucumbers. One or two generations of BMSB per year are expected in the Pacific Northwest. Adults overwinter in sheltered locations (including houses, where they can become a significant nuisance pest). In the spring, light green to white eggs are laid in groups of about 20 to 30 on the underside of leaves. Young stink bugs, or nymphs, are black with a red-and-black striped abdomen. Nymphs often feed in groups when young. Older nymphs are dark with white bands on body, legs, and antennae. They may feed in groups or singly. Adults are a little over 1/2 inch long, with a shield-shaped body. Body color on adults is mottled gray and brown, while the legs and antennae have alternating dark and light bands. The abdomen also has dark and light bands which are visible at the edge of the wings. NOTE: BMSB adults closely resemble other stink bugs found in WA and OR. For more information on BMSB identification, see FS079E, Pest Watch: Brown Marmorated Stink Bug, available at https://pubs.wsu.edu/.

Management Options

Non-Chemical Management

~ Pick and destroy BMSB egg masses or groups of young nymphs. While hand-picking adults may be somewhat effective in small gardens, manual control may not be very successful due to the wide host range and large numbers of BMSB in some areas. Catching adults and nymphs can be facilitated through net-sweeping, plant vacuuming or shaking the infested plant over a drop cloth.
~ Some natural enemies feed on BMSB, including domestic chickens, praying mantids, and other predaceous insects. While natural enemies may not be sufficient to provide complete control, avoid use of broad-spectrum insecticides which would harm populations of beneficial insects.
~ When practical, plants may be screened with a floating row cover or similar barrier. Row covers must be in place BEFORE stink bugs are present; however, for best fruit production, row covers should be placed after pollination has occurred. Depending on timing of the stink bug life cycle, row covers placed after fruit formation begins may not be completely effective at preventing stink bug damage.
~ For management of nuisance populations of BMSB in and around homes and structures, visit the WSU Pestsense website (http://pep.wsu.edu/pestsense/) for more information.

Select non-chemical management options as your first choice!

Chemical Management

IMPORTANT: Visit Home and Garden Fact Sheets for more information on using pesticides

Pesticides may provide temporary relief, but their efficacy is likely to be short-lived as the products break down and the highly mobile stink bugs will reinfest the garden from nearby areas. Chemical management of BMSB is most effective against very young nymphs (immature insects). Chemical management is NOT RECOMMENDED FOR ADULT INSECTS. CAUTION: These pesticides are toxic to bees. To reduce risk to pollinating bees, make pesticide applications in the evening after bees are done working for the day. Do

not apply on or near flowering plants.

Listed below are examples of pesticides that are legal in Washington. Always read and follow all label directions.

~ Bayer Advanced Vegetable & Garden Insect Spray R-T-U
- *active ingredient: cyfluthrin*
- *EPA reg no: 72155-40*

~ Ortho Bug B Gon Insect Killer for Lawns & Gardens Conc
- *active ingredient: bifenthrin, zeta-cypermethrin*
- *EPA reg no: 279-9535-239*

~ Safer Brand BioNEEM Multi-Purpose Insecticide & Repellent Conc [Organic]
- *active ingredient: azadirachtin*
- *EPA reg no: 70051-6-42697*

~ This list may not include all products registered for this use.

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Images

~ Caption: Brown marmorated stink bug damage on green tomato fruit
~ Photo by: Gerald Brust, Univ of Maryland

~ Caption: Brown marmorated stink bug damage to tomato (inside fruit)
~ Photo by: Gerald Brust, Univ of Maryland