



CLIMATE CHANGE ADAPTATION PROGRAM

Brown Marmorated Stink Bug

Fact Sheet

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Brown Marmorated Stink Bug

Halyomorpha halys

About Brown Marmorated Stink Bug

This bug is native to Asia, but was first identified in Pennsylvania in 2001. It was accidentally introduced to the United States in the 1990s. Since then, it has spread throughout the United States and was first discovered in British Columbia in 2015. The Brown marmorated stink bug feeds on over 100 different plant species including apple trees and sweet corn, and is considered extremely destructive. They do not bite but they have a foul odour when crushed. Use the Report Invasives app or contact ISCBC if you spot one of these invasive species.

Legal Status

Brown marmorated stink bug (BMSB) is an invasive agricultural pest in British Columbia.

Distribution

High numbers of BMSBs are present in downtown Kelowna. They are also present in urban areas of Vancouver, the Fraser Valley, the Okanagan Valley, and Brentwood Bay on Vancouver Island. BMSB may have arrived in British Columbia by travelling on shipping containers or hitchhiking on vehicles from the United States or other provinces.



BC Ministry of Agriculture

Identification

Appearance: Shield shape, about 1.5 cm long, brown marbled colour on the outer body, brown and white markings on the abdomen, white bands on last two antenna segments.



Eggs & nymphs; D. Lance, Bugwood.org

Egg: White or light green, spherical, 1.5 mm in length, found on the underside of leaves in clusters of about 25 eggs.

Nymph (immature bug): They range in size from 2-12 mm in length, do not have developed wings. The youngest nymphs are bright orange or red, and the older nymphs are black with wine coloured markings.

Similar species: Western conifer seed bug, Rough stink bug, common Brown stink bug.

Ecological Characteristics

Habitat: BMSBs feed on juice from various fruits that grow on trees or bushes, vegetables, and ornamental plants. In British Columbia they have attacked wild chokecherry trees, ornamentals, berries, apples, Asian pears, and vegetables such as corn. The first signs of damage to crops can often be found at the edge of crop borders next to wild landscapes or woodlots. The adult bugs find shelter over the winter in buildings or other protected areas such as woodpiles or dead standing trees and emerge in the spring.

Reproduction: Female bugs can lay up to 400 eggs during the summer on host plants. There can be up to 2 generations of bugs in a year if the weather is warm enough. The bugs mature in about 5 weeks, and then lay eggs the following spring.

Dispersal: Spreads by “hitchhiking” on vehicles, cargo containers, wood, and packing material. Also can be found on or in buildings and other protected areas over the winter.



Damage to a peach; C. Penca

Impacts

Economic: BMSBs threaten the agriculture industry by feeding on fruits and vegetables and damaging the crops, causing rotten areas on the produce. They can also damage grape crops and can contaminate wine if they are harvested with grapes.

Ecological: The BMSB injects enzymes that destroy fruit/plant tissue, both in its nymph and adult stages. Symptoms of an infestation include: deformed and discoloured fruits and seeds, shrivelled berries and seeds, delayed maturity, increased sap flow and discoloured tree bark.

Integrated Pest Management

Prevention

Prevent BMSB from entering your home or workplace by sealing off entry points. If you notice a BMSB, send photos or send samples to the BC Ministry of Agriculture offices. You can also report a sighting on this form: <https://forms.gov.bc.ca/industry/report-brown-marmorated-stink-bug/>

Mechanical Biocontrol

Homeowners can remove BMSBs by hand, by shop vacuum, or by sweeping. Collected bugs can be dropped into soapy water to drown.

Biocontrol

There are several insects which will feed on the eggs of the BMSB, such as ladybugs, spiders and lacewings. Small Samurai wasps lay their eggs in BMSB eggs. Biocontrol is in progress of being developed in British Columbia.

Chemical Control

Insecticide recommendations and use must consider site characteristics and be prescribed based on site goals and objectives. Insecticide labels and other sources of information must be reviewed before selecting and applying insecticides.

- » Pesticides for BMSB are not recommended for use in residential settings.
- » The following pesticides suppress populations of BMSB, but do not completely eradicate them: Actara 25 WG, Clutch 50 WDG.
- » Application of pesticides on Crown Land must be carried out following a confirmed Pest Management Plan (Integrated Pest Management Act) and under the supervision of a certified pesticide applicator. <https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management>

References/Links

- <https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/insects-and-plant-diseases/tree-fruits/brown-marmorated-stink-bug>
- <http://www.omafra.gov.on.ca/english/crops/insects/bmsb-registrations.htm>
- <https://hortnews.extension.iastate.edu/2010/11-17/stinkbug.html>
- http://www.omafra.gov.on.ca/english/crops/facts/info_bmstinkbug.htm
- <https://journal.entsocbc.ca/index.php/journal/article/view/981>
- <https://www.cbc.ca/news/canada/british-columbia/samurai-wasp-possible-solution-okanagan-stink-bug-1.4838181>
- <https://www.sciencemag.org/news/2018/08/scientists-spent-years-plan-import-wasp-kill-stinkbugs-then-it-showed-its-own>
- <https://forestinvasives.ca/Meet-the-Species/Insects/Brown-Marmorated-Stink-Bug>



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Additional Contact Info