Brown marmorated stink bug

Plant Biosecurity and Product Integrity
Orange NSW DPI

Introduction

The brown marmorated stink bug (*Halyomorpha halys*) is an exotic plant pest. The presence of even small numbers of the brown mamorated stink bug (BMSB) within bunch structures can cause physical damage to berries. BMSB are known to give off a foul smelling odour if disturbed and cause wine taint if they end up in ferments. The impact of the brown mamorated stink bug (BMSB) to Australian vineyards and wineries could result in loss of yield and bunch rots.

The brown marmorated stink bug (BMSB) is a typical stink bug with a shield shaped body. They emit a pungent odour when disturbed. There are a number of Australian native stink bugs which are similar to BMSB. However, the distinct features of adult BMSB are the white bands on the antennae, sides of the abdomen and on the legs (Figure 37).

Notifiable status

The BMSB is a notifiable plant pest in NSW and must be reported within 1 working day by one of the following methods:

- call the Exotic Plant Pest Hotline on 1800 084 881
- email biosecurity@dpi.nsw.gov.au with a clear photo and your contact details
- complete an online form.

Current situation

The brown marmorated stink bug was found in warehouses in western Sydney over the 2017-18 summer season, in consignments originating in Italy. Fumigation and extensive surveillance activities have taken place in the area surrounding the detections. Importation rules have now been changed to ensure all consignments from Italy are fumigated before they arrive in Australia during the stink bug season.

Damage

The brown marmorated stink bug causes damage to fruit and vegetables resulting in produce that is unfit for sale. Adults generally feed on fruit while nymphs feed on leaves, stems and fruit. Stink bugs pierce the outer surface of fruit injecting saliva and sucking out juices. This causes dimpling of the fruit's surface and rotting and corking inside the fruit.

Description

Adult BMSB are approximately 12–17 mm long and 7–10 mm wide. They are variable in colour but generally have a mottled brown coloured body with alternating light and dark bands on the antennae, legs and the side margins of the abdomen. Young nymph stages are yellowish brown and mottled with black and red (Figure 38).

Figure 37. The distinct features of adult BMSB are the white bands on the antennae, sides of the abdomen and on the legs. Photo: Gary Bernon, USDA APHIS, Bugwood.org.

Older nymph stages are darker with the banding pattern on the legs and antennae beginning to appear. Eggs are light green, barrel shaped and found in groups of 20 to 30 (Figure 39).

Lifecycle

Five nymphal instars develop before the BMSB matures to an adult. Overwintering adults emerge from hibernation in early spring. Mating and egg laying occurs on the underside of plant leaves. Eggs hatch 3–6 days later and newly emerged nymphs gather around the egg mass.

Host range

The BMSB feeds on a wide range of fruiting plants including ornamentals and vegetables. Preferred plants include apples, peaches, raspberries, sweet corn, green beans, capsicums and tomatoes. Host plants belong to 49 different plant families with Rosaceae the most common family.

Spread

Adult BMSB are strong fliers and have been recorded flying up to 2 km in a single flight. They are highly mobile and can move from host to host during spring and summer. The pattern of movement is from plants with early ripening fruit to plants with later ripening fruit.

In autumn adult BMSB seek out a safe hibernation spot to overwinter. Preferred hibernation sites are cracks and crevices in houses, buildings and structures such as containers or packing crates.

Distribution

The brown marmorated stink bug is native to Asia and is found in China, Japan, Taiwan and Korea. It was introduced to the USA where it rapidly spread and has been detected in more than 40 states. It is also now present throughout Europe.

Actions to minimise risks

Put in place biosecurity best practice actions to prevent entry, establishment and spread of pests and diseases:

- practice 'Come clean, Go clean'
- ensure all staff and visitors are instructed in and adhere to your business management hygiene requirements
- use new or thoroughly cleaned packing crates and bins
- monitor your plants and fruit regularly.

Figure 38. Young nymph stages of the BMSB are yellowish brown and mottled with black and red. Photo: Gary Bernon, USDA APHIS, Bugwood.org.

Figure 39. Brown marmorated stink bug eggs are light green, barrel shaped and found in groups of 20 to 30. Photo: Gary Bernon, USDA APHIS, Bugwood.org.