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**🍏 Agricultural Research and Extension on Tree Fruit, Grape and Vegetables 🍏**

**Brown Marmorated Stink Bug Update in New York State: Harvest Alert.**

The Brown Marmorated Stink Bug, (BMSB), *Halyomorpha halys*, has captured the attention of agriculturalists and homeowners of the Empire state this past year. Reports of the insect in rural and urban communities have made the headline news throughout the Hudson Valley and western Long Island. Agricultural producers to our south are currently experiencing widespread BMSB feeding injury to late peaches, apple, tomato, soy bean, sweet corn, berry crops and grape for a second growing season. On many of these farms, producers have been able to keep the insect from destroying the entire crop only through intensive pest management practices. Stink bug feeding results in the removal of fluids from the fruit or seeds, leaving behind brown corky tissue and surface wounds often leading to significant loss of quality and yield (Image 1). Estimate losses from BMSB damage to mid-Atlantic apple production reached \$37 million in 2010.

Fortunately for New York farmers the insect has yet to reach a population high enough to cause economic injury. However, the season is far from over. In 2010, apple growers in New Jersey, Virginia and Maryland had extensive late season damage just prior to harvest. Growers should continue intensive scouting through the latter part of the season as the insect begins a feeding frenzy to stock up on food reserves for the long winter ahead. Thereafter it will begin its movement out of the field as adults begin to aggregate in large masses on the sides of buildings while making their way into homes to find refuge and escape the winter elements (see the map of the 2010-11 urban distribution ( <http://hudsonvf.cce.cornell.edu/bmsb1.html> )

*So where are BMSB now?* We have found very few in the field this summer. From information we've gathered from researchers in New Jersey, Pennsylvania, Delaware, Maryland, Virginia and West Virginia USDA-ARS, it appears the population can spend much of their time in deciduous woodlands throughout the season, feeding on *Ailanthus altissimas* (Tree of Heaven), native to China, as well as maple, ash and over 300 other host-plant species.

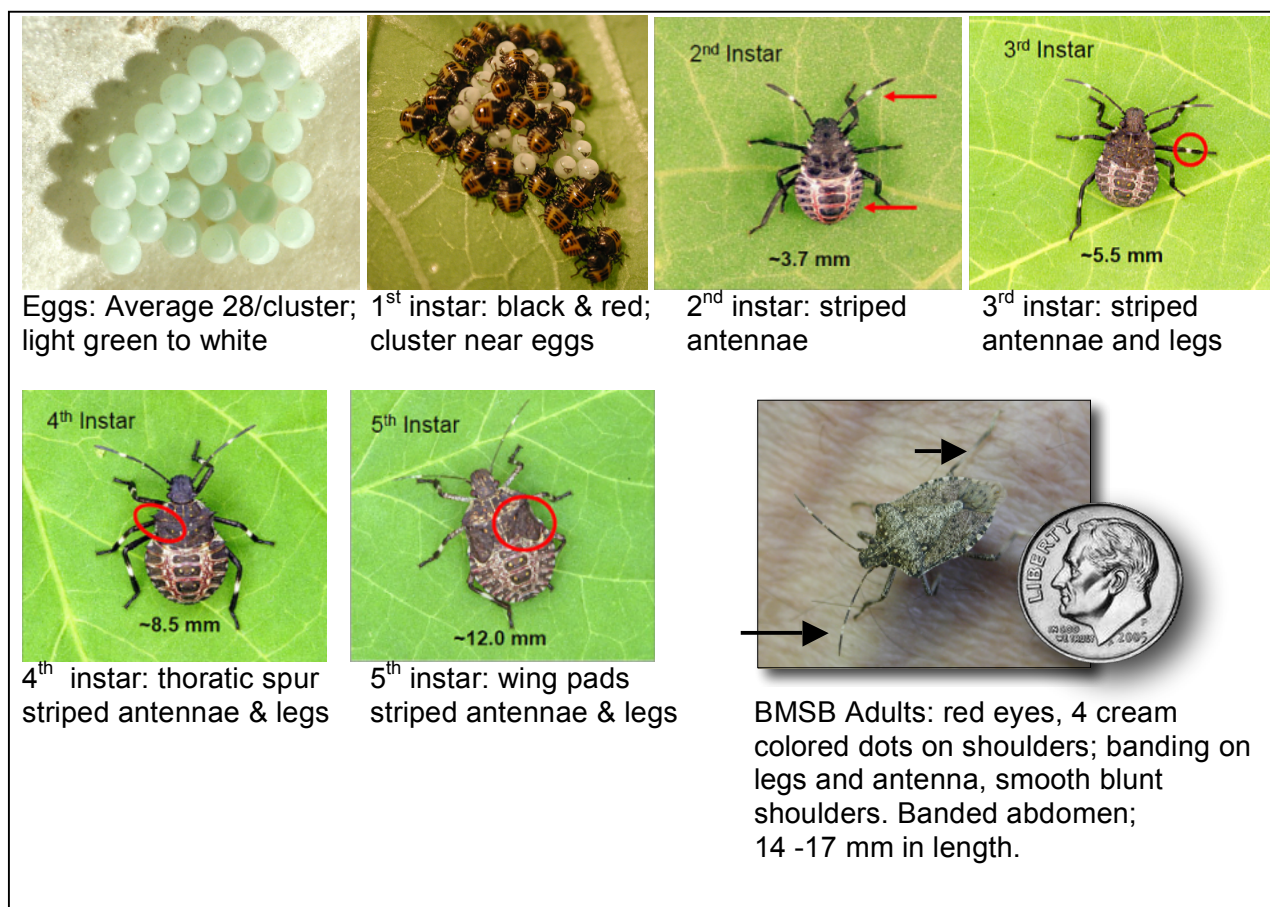
BMSB has become a formidable insect pest for reasons that can generally be attributed to newly emerging invasive insects. First and foremost, it's reproductive potential is unhampered by natural biological controls that keep populations in check in its native habitat of China, Korea and Japan, where a species of *Trissolcus* wasp, an egg parasitoid, can keep BMSB populations low. In as much, it has been capable of producing very high populations, overwintering very successfully throughout the mid-Atlantic in 2009-2010. Its ability to feed on a diverse forest, landscape and agricultural host plant complex provides assorted safe habitat and abundant food resources that supply the need for carbohydrates and proteins required for successful reproduction throughout the season. The insect, in seemingly low numbers, can cause severe economic injury in a large variety of crops, especially late in the season when scouting for insects is significantly reduced. The robust size of the BMSB adult does not easily succumb to the newer reduced risk insecticide classes in the field. And lastly, late season intensive feeding is not easily reduced through commercial pest management practices as the allotment of effective insecticides may have already been used during the growing season. Most effective insecticides have limited use close to harvest to be effective control measures, in part due to lengthy pre-harvest intervals (PHI) and low effective residual activity of the insecticide.

Given the potential threat the BMSB poses for NY agriculture, Cornell scientists and Cornell Cooperative Extension (CCE) began a 3-year statewide monitoring program this year, funded through NY Ag & Markets & Apple Research and Development Program to establish baseline populations in urban and agricultural landscapes. Cornell researchers including Art Agnello, NYSAES, Geneva; Hudson Valley & LI CCE including Mike Fargione, Deborah Breth, Teresa Rusinek, Laura McDermott, Crystal Stewart, Chuck Bornt, Maire Ullrich, Gigi Jennings, Dan Gilrain and IPM Grape cooperators including Tim Weigle, Hans C. Walter-Peterson, Timothy Martinson, Steve Hoying, and Alice Wise are presently monitoring 80 pheromone based trap sets and 10 black light traps in the grape growing regions in Niagara, Finger Lakes, Hudson Valley and Long Island, as well as vegetable, sweet corn, pome fruit and berry crops throughout the Hudson Valley and Lake Ontario region.

Alongside trapping efforts we have initiated boarder and interior scouting to determine the presence of BMSB adult and nymph stages in our monitoring sites. The key to BMSB damage reduction is early detection through monitoring. We rely heavily on trap monitoring and conventional scouting techniques and encourage producers to scout orchard, berry, vineyard, and vegetables to look for the BMSB adult and nymphs on foliage and fruit as often as time permits as we approach harvest.

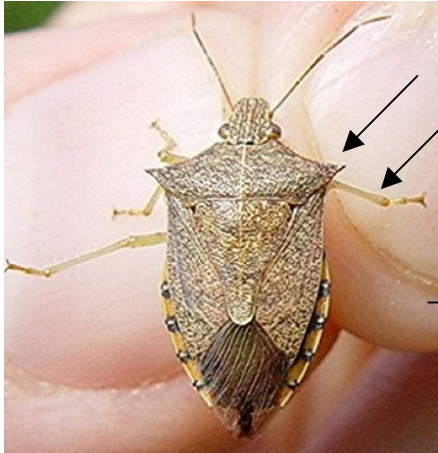
Trapping and scouting locations to date have only produced 1 egg cluster on grape, 3 egg clusters on apple and 5 adults, 3 in Marlboro and 2 in Highland, NY. **In as much, we have not seen populations that would warrant control measures for BMSB thus far.** Insect look-alikes have added confusion to this situation. A key for both BMSB life stages (Figure 1) and look-alike species (Figure 2) for identification purposes are below. If you are seeing stink bug in the field you can send the specimens to the **Hudson Valley Lab, P.O. Box 727, Highland, NY 12528** along with an submission form (<http://hudsonvf.cce.cornell.edu/bmsb1.html>) to which we will provide a speedy ID reply via e-mail. If you have an iPhone, you can submit a clear image to [pjj5@cornell.edu](mailto:pjj5@cornell.edu) from which we can obtain identifying features and provide a confirmation reply.

#### Brown Marmorated Stink Bug Life Stages: Figure 1.

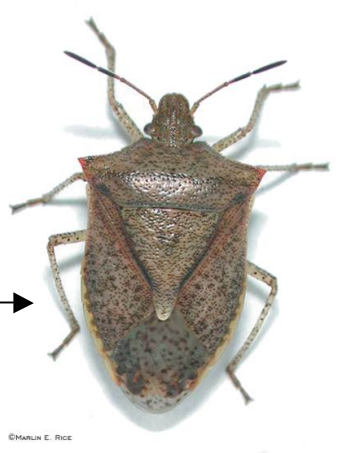




**'Local Look-A Likes' often confused with Brown Marmorated Stink Bug: Figure 2.**



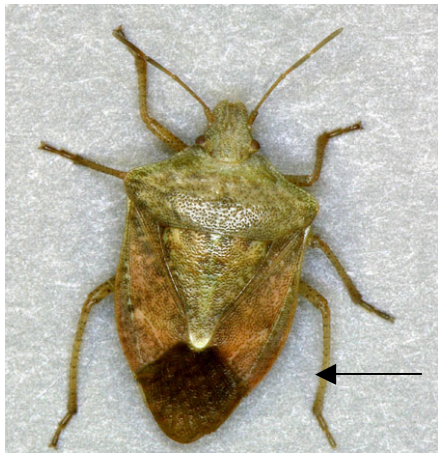
**Spined Soldier Bug**  
Pointed shoulders  
No leg stripe



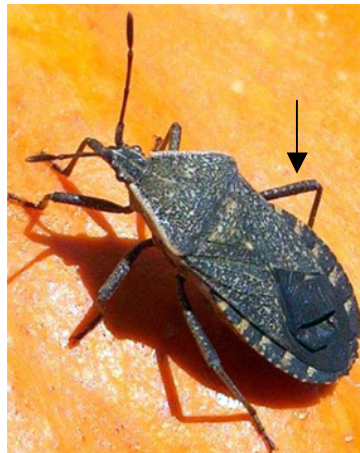
**Brown stink bug**  
No leg stripe



**Rough Stink Bug**  
'Teeth' along shoulders



**Green Stink Bug**  
No leg stripe



**Squash Bug**  
No leg stripe



**Western conifer seed bug**  
'leaf footed'

**A Deciduous Plant Host of BMSB**



*Ailanthus altissima*  
(Tree of Heaven)

**BMSB Damage to Apple**

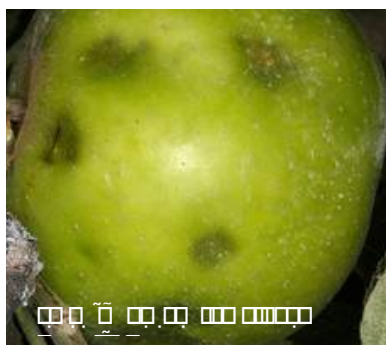


Image 1.