Biology and Current Spread of the Brown Marmorated Stink Bug in North America

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Brown Marmorated Stink Bug

- Native to Asia
- Allentown, PA in 1996
- First identified in 2000
- Found in NJ blacklight trap in 1998
- Quickly moved throughout NJ and PA
Monitoring for the Brown Marmorated Stink Bug

- **How to Identify the Brown Marmorated Stink Bug**

Since 2000, the Brown Marmorated Stink Bug (*Halyomorpha halys* (Stål)) (Hemiptera: Pentatomidae) has been confirmed in several Mid-Atlantic States and in Oregon and California. It is believed that its distribution is much wider than currently documented.

To determine the risk to agricultural and ornamental industries, we must first determine where the Brown Marmorated Stink Bug is currently located. With the help of sightings from homeowners, Rutgers University will be able to quickly develop monitoring methods and control techniques for this invasive plant pest.

If you believe you have the Brown Marmorated Stink Bug, please see the **How to Identify the Brown Marmorated Stink Bug** link and then fill out the secure electronic form, which will be sent to researchers currently working on monitoring this pest. If you are able to capture a specimen, please do so in any type of container. For more information please see the **Rutgers New Jersey Agricultural Experiment Station (NJAES) Cooperative Extension fact sheet FS002** (PDF file).

For more information on this project, contact George Hamilton at the NJAES Pest Management Office.

www.njaes.rutgers.edu/stinkbug
US Distribution – 2003*

*Includes known detections and established populations
US Distribution – 2005*

*Includes known detections and established populations
US Distribution – 2007*

*Includes known detections and established populations
US Distribution – 2009*

*Includes known detections and established populations
US Distribution – 2011*

*Includes known detections and established populations
Life Cycle
Life Cycle

2\textsuperscript{nd} Instar

3\textsuperscript{rd} Instar

4\textsuperscript{th} Instar

5\textsuperscript{th} Instar

\(~3.7\ mm\)

\(~5.5\ mm\)

\(~8.5\ mm\)

\(~12.0\ mm\)
Adults

12-17 mm in length, 7-10 mm in width
Development

• Lower dt – 13.94 °C
• Egg – 53.3 DD
• Total – 537.6 DD
• Preoviposition – 147.7 DD

Photo’s courtesy of Gary Bernon, 2004
Seasonal Flight Activity

Based on blacklight catches at Lichtenwalner Farms, Allentown, PA

Average Weekly Distribution of BMSB in New Jersey

2008

2009

2010

Legend:

0 - 1
1 - 5
6 - 25
>25

Miles
Aggregation Behavior
• *H. halys* pheromone unavailable

• Attracted to an isomer of the brown-winged stink bug pheromone (Khrimian, 2005)

• Good for monitoring (Khrimian et al. 2008)
What Trap Style to Use?

Football Trap

Pyramid Trap (large/small)
Research Plans for 2011

- Insecticide Trials
  - Laboratory
  - Apple
  - Peach
  - IR-4 Biopesticide trial
- Work in Peppers
  - Varietal screening
  - Monitoring tools
  - Damage assessments
- Homeowner Work
  - Mass Trapping Study
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