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New Jersey Agricultural Experiment Station

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

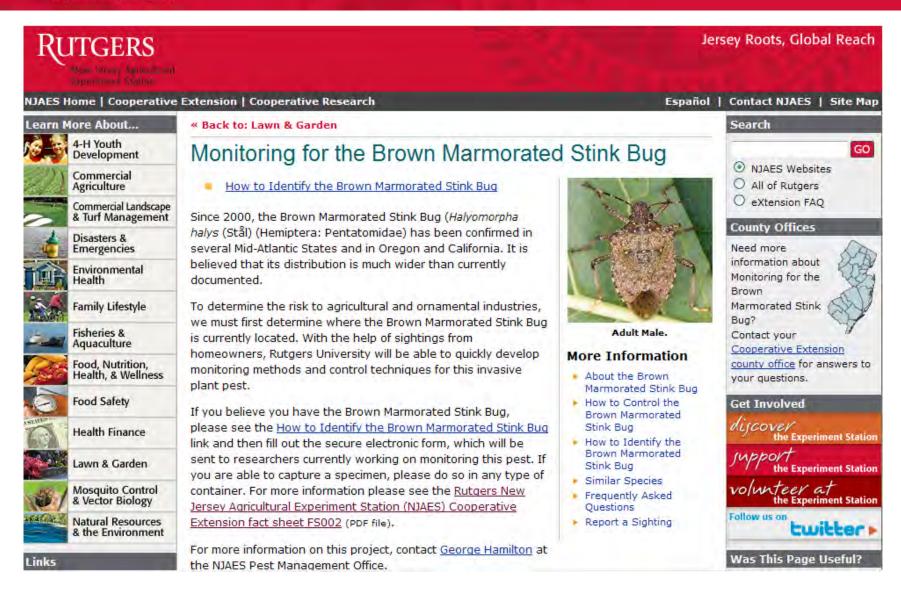




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Monitoring Halyomorpha's Spread



www.njaes.rutgers.edu/stinkbug

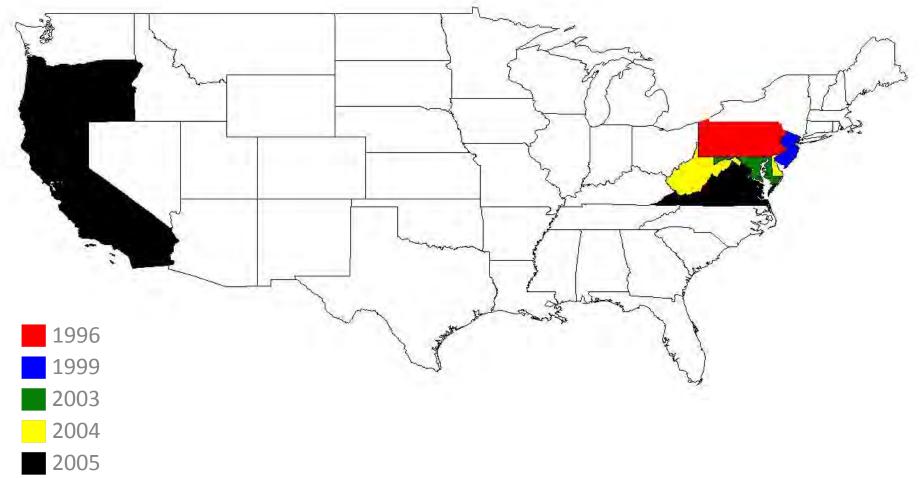


US Distribution – 2003*





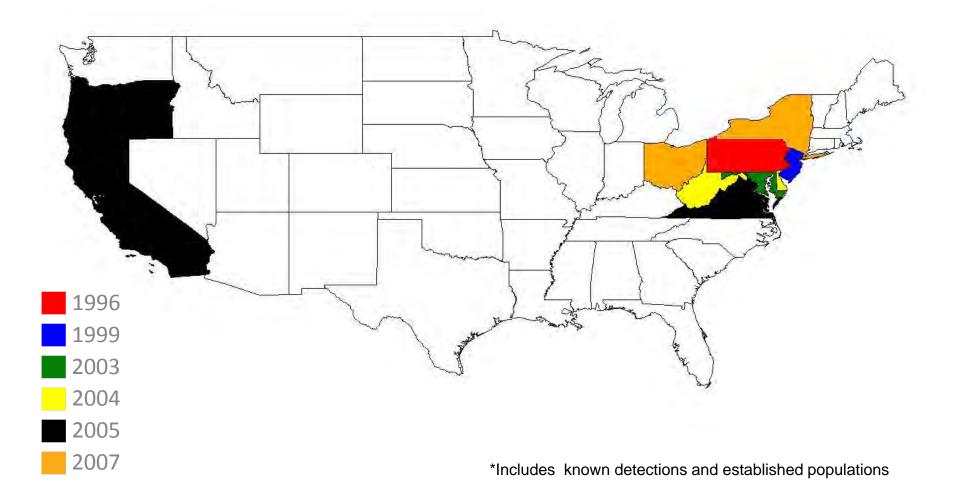
US Distribution – 2005*



*Includes known detections and established populations

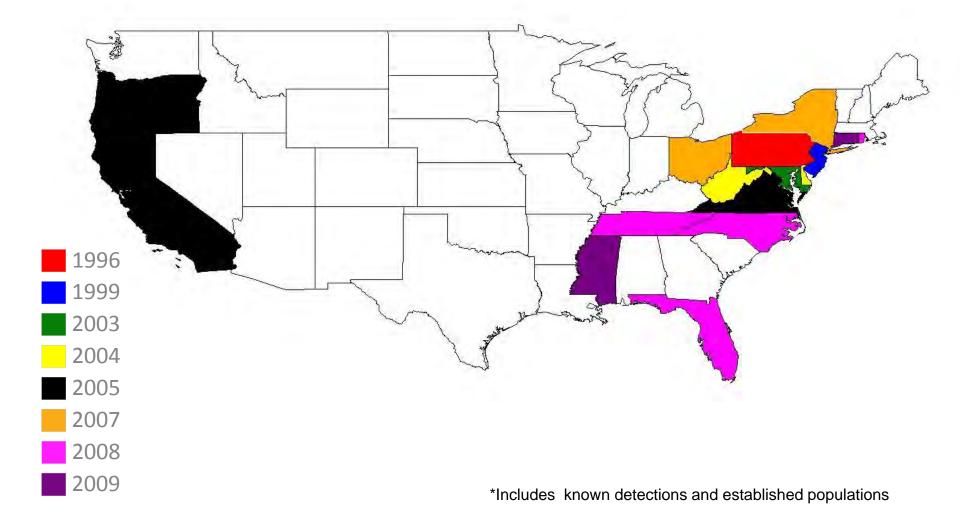


US Distribution – 2007*



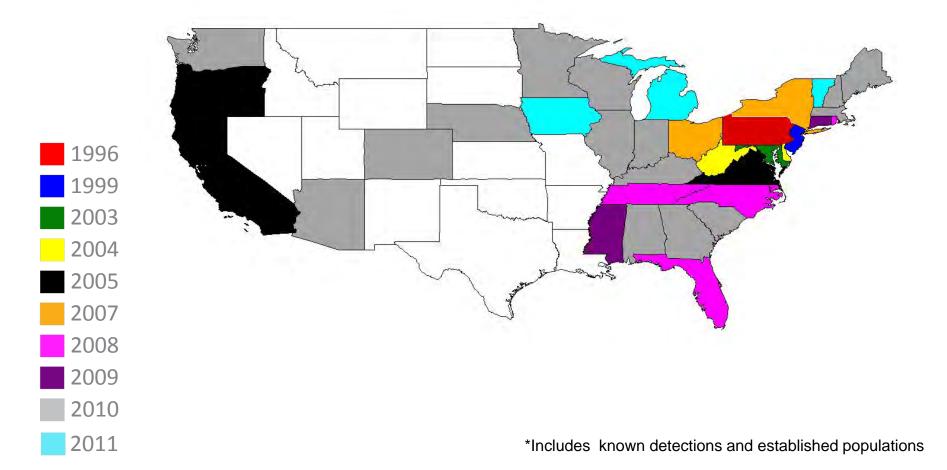


US Distribution – 2009*





US Distribution – 2011*



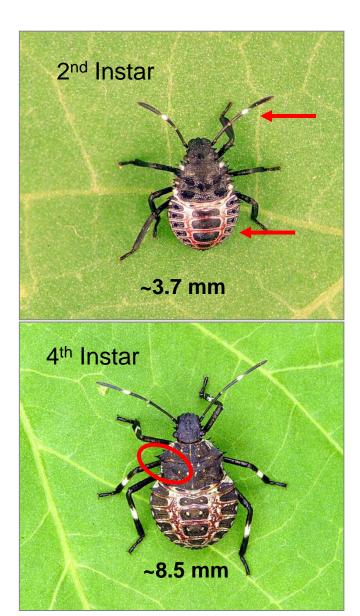


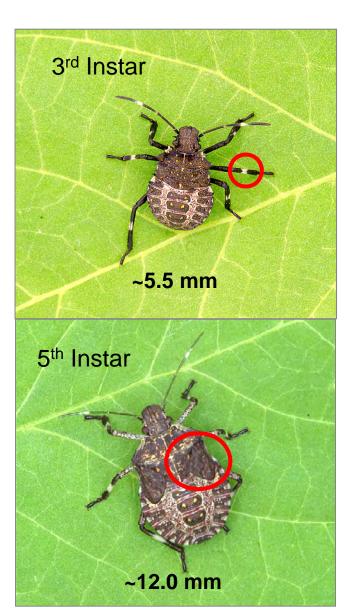
Life Cycle





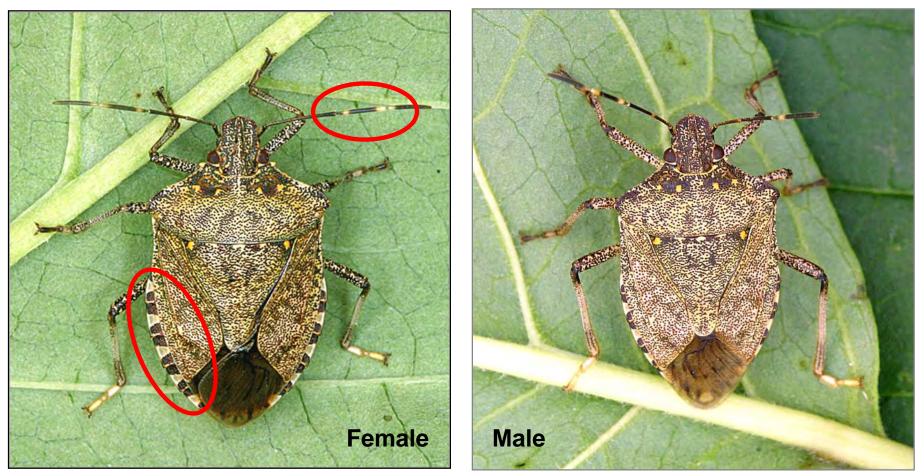
Life Cycle







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



Nielsen et al. 2008. Environ. Entomol.













Photo's courtesy of Gary Bernon, 2004

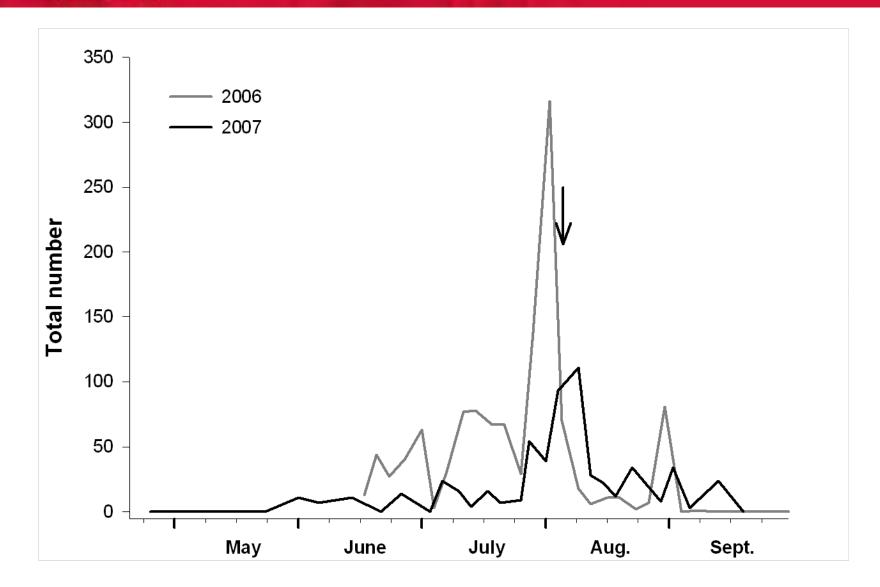




Photo's courtesy of Tracy Leskey 2010

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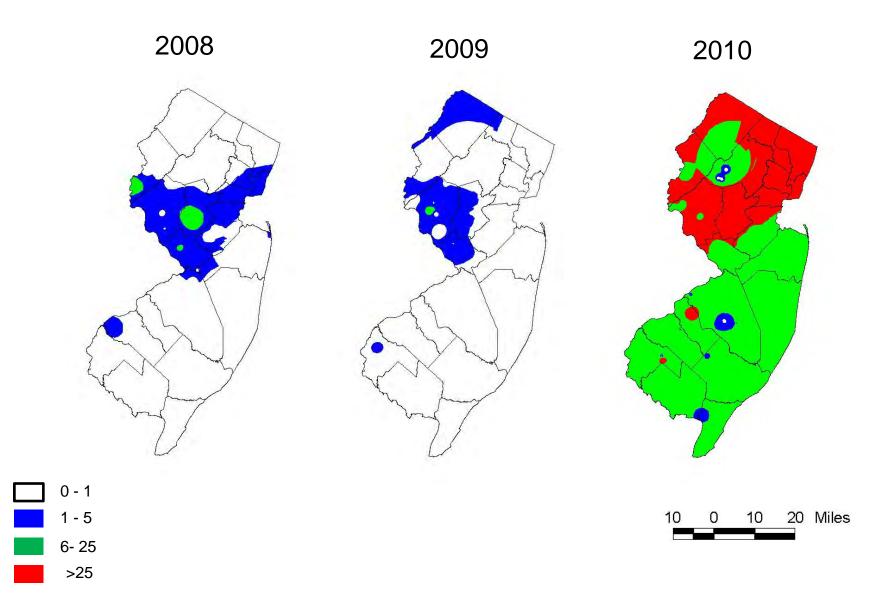
Seasonal Flight Activity



Based on blacklight catches at Lichtenwalner Farms, Allentown, PA

Nielsen & Hamilton. 2009. Ann. Entomol. Soc. Am.

TGERS Average Weekly Distribution of BMSB New Jersey Agricultural in New Jersey





Aggregation Behavior







Aggregation Pheromone

- *H. halys* pheromone unavailable
- Attracted to an isomer of the brown-winged stink bug pheromone (Khrimian, 2005)
- Good for monitoring (Khrimian et al. 2008)



Plautia stali



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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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Rodale Institute Lichtenwalner Farms Peaceful Valley Farms

<u>Home</u> > <u>Health</u>





He's just in from Asia and he's disguised as a small brown shield. But don't let that fool you. He's not the one who'll need to be intercepting attacks this Fall.

Rather, while the people of the Northeast have been distracted over the past several months – with their eyes fixed on their beds –- Stink and his friends have been letting themselves in through the back door – your vents.

And once the stink bugs are in your home, it's unfortunately very difficult to get them out.