RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

NE BMSB Update for 2015

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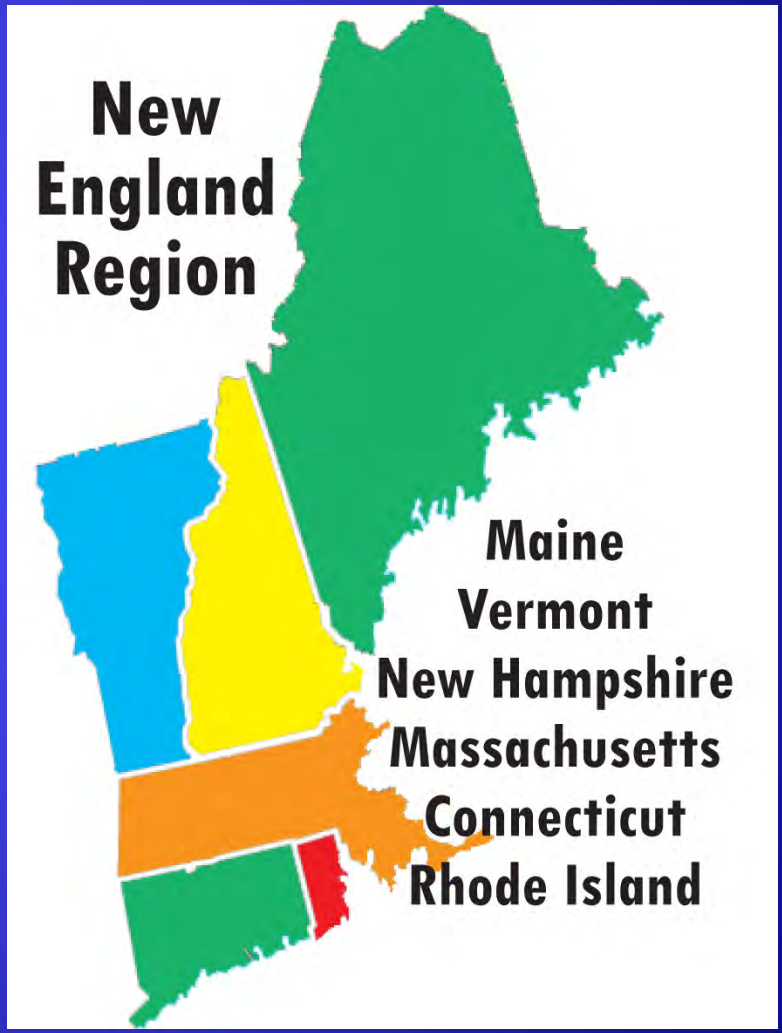
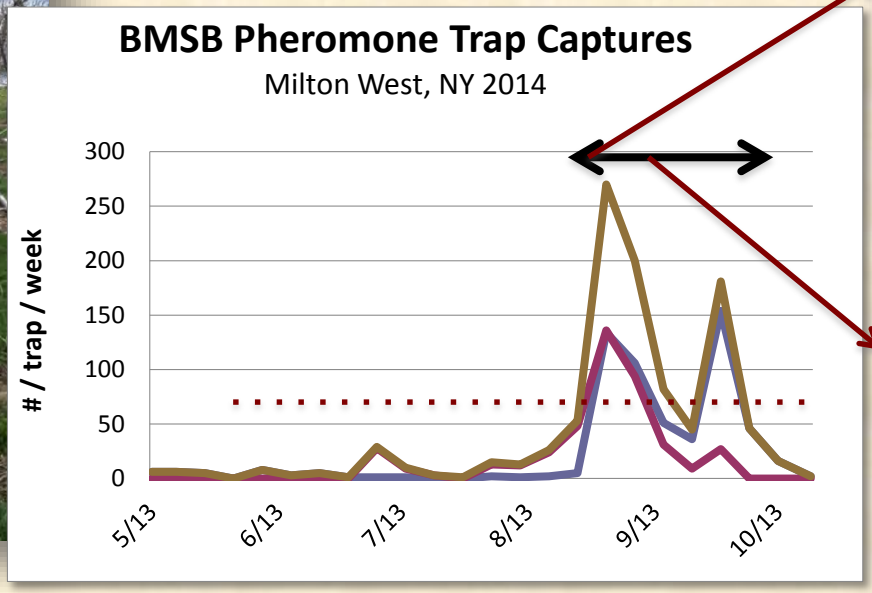
BMSB WG Meeting
December 2, 2015

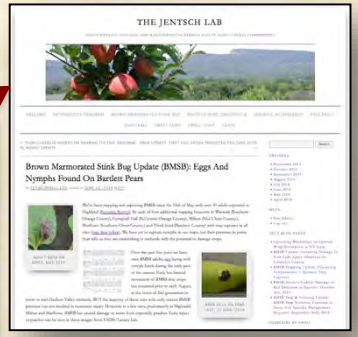
New England States

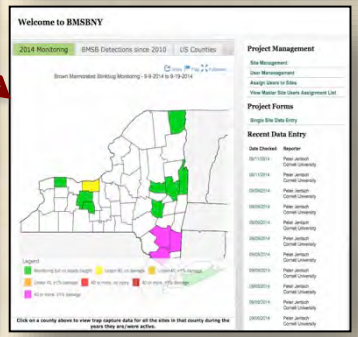
- Nuisance Pest Only
- Very little if any Ag damage except CT
- VT – would like to know the average time from state introduction until AG problems begin to occur
- Nielsen et al. 2013



The Invasive Brown Marmorated Stink Bug, *Halyomorpha halys* (Stål): (Pentatomidae) In NY Tree Fruit.







Art Agnello
Professor – Entomology

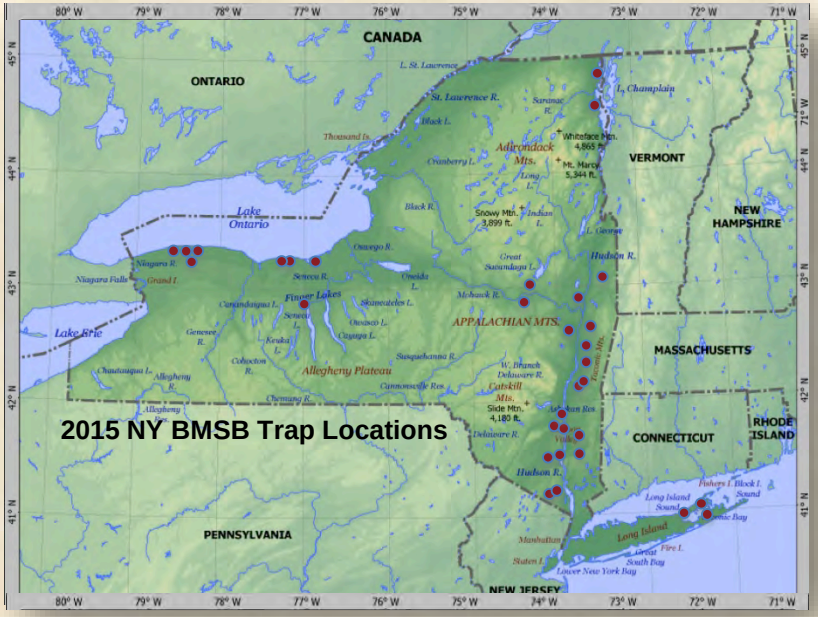
Peter Jentsch
Senior Extension Associate – Entomology

The Invasive Brown Marmorated Stink Bug, *Halyomorpha halys* (Stål): (Pentatomidae) In NY Tree Fruit.

State-wide Trap Monitoring of BMSB in NY in 2015

Conducted in 30 commercial agricultural farm sites throughout

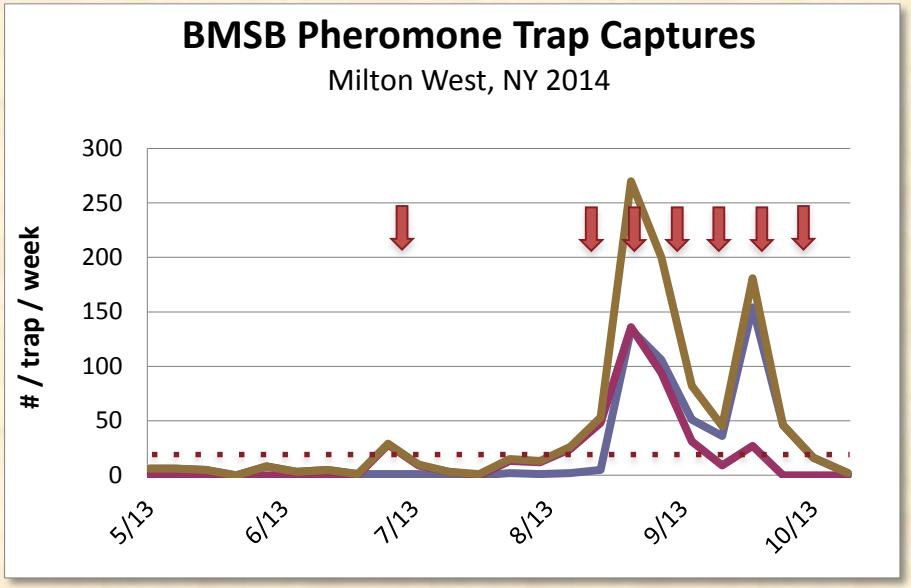
- Western NY (8)
- Champlain Valley (2)
- Hudson Valley (17)
- Long Island (3)

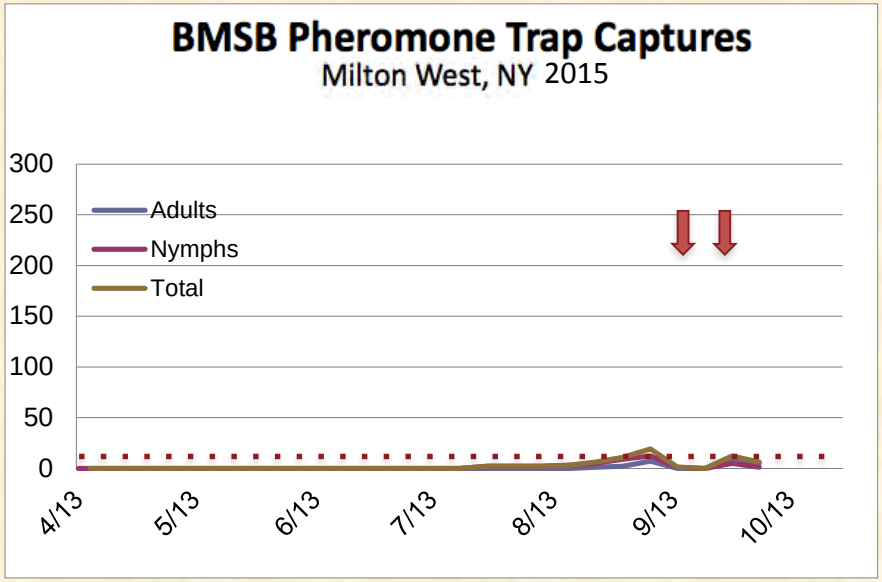


- Occurrence, distribution, and levels of BMSB and natives.
- Single BMSB generation in NY in in Geneva and Highland, NY voltinism studies

The Invasive Brown Marmorated Stink Bug, *Halyomorpha halys* (Stål): (Pentatomidae) In NY Tree Fruit.

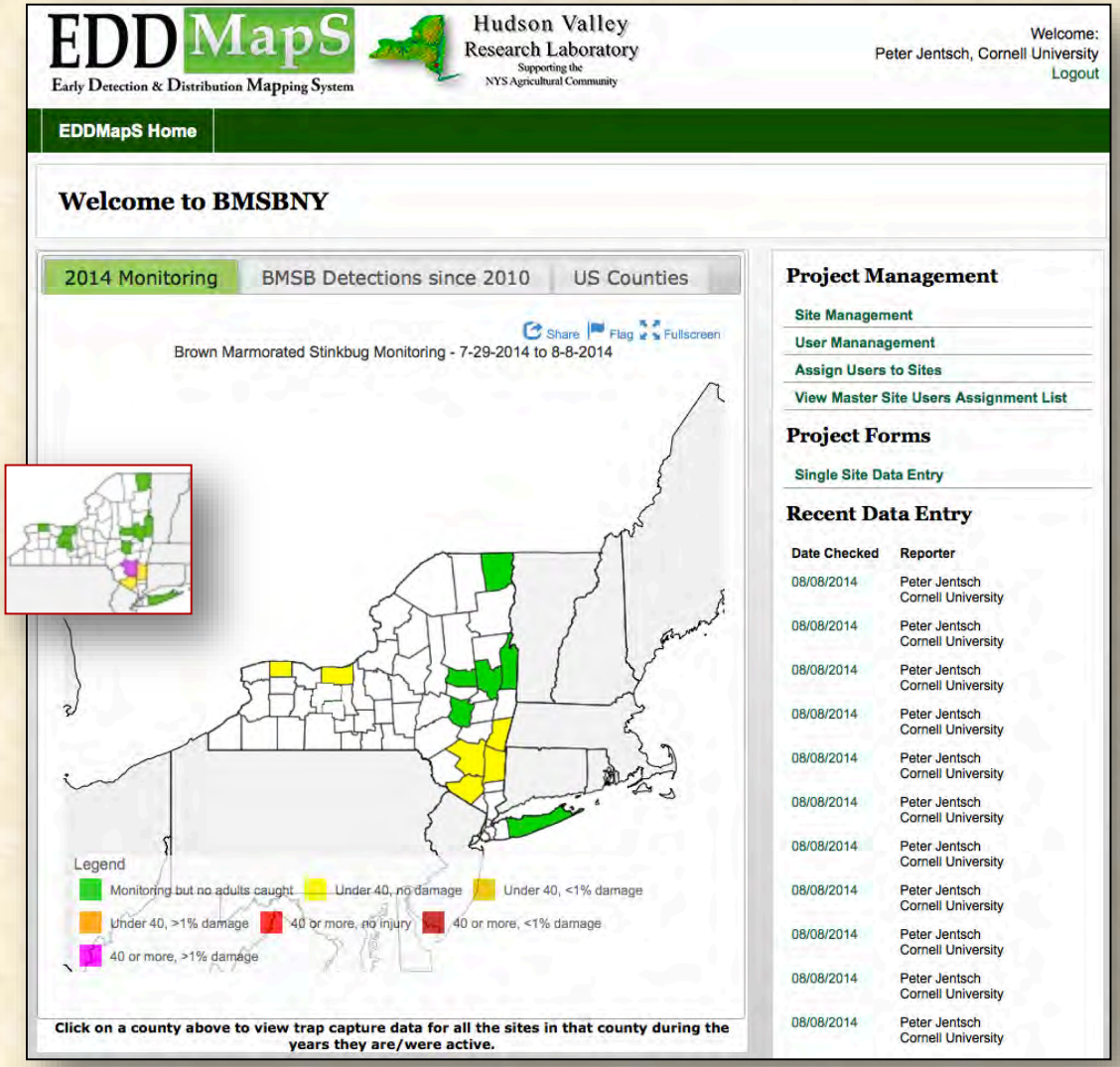
Lower populations than in 2012-14





Fewer sprays required across the region, especially late season.

BMSB Management Threshold: Communication

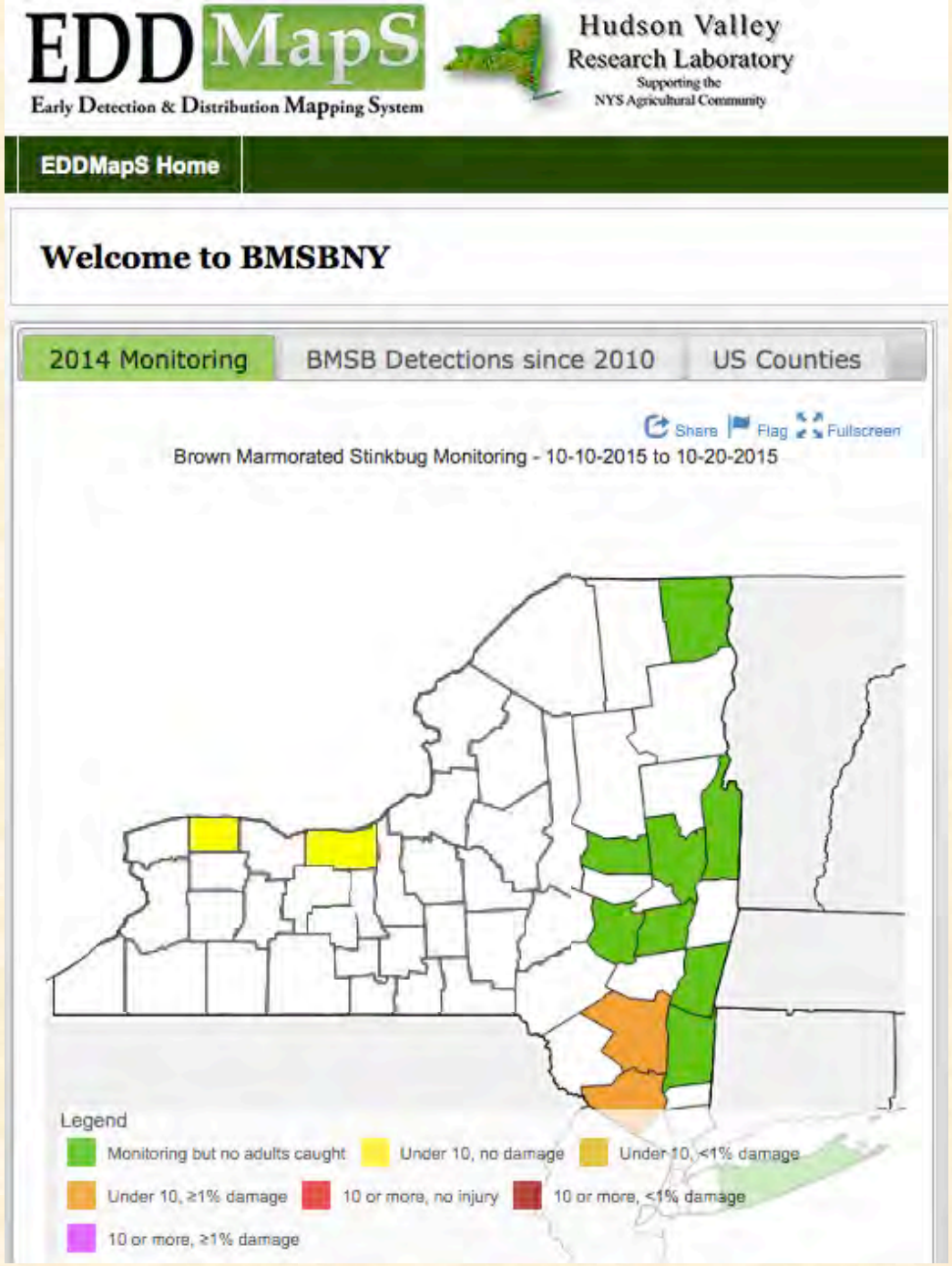


Partnered with EEDMaps for Extension Outreach

- Early Detection & Distribution Mapping of Invasive Insects
- Provides regional invasive species tracking
- Provides customized data outputs for threshold development

Updated Weekly by NY County

- Trap data per county
- Presence in degrees of risk
- Threshold levels



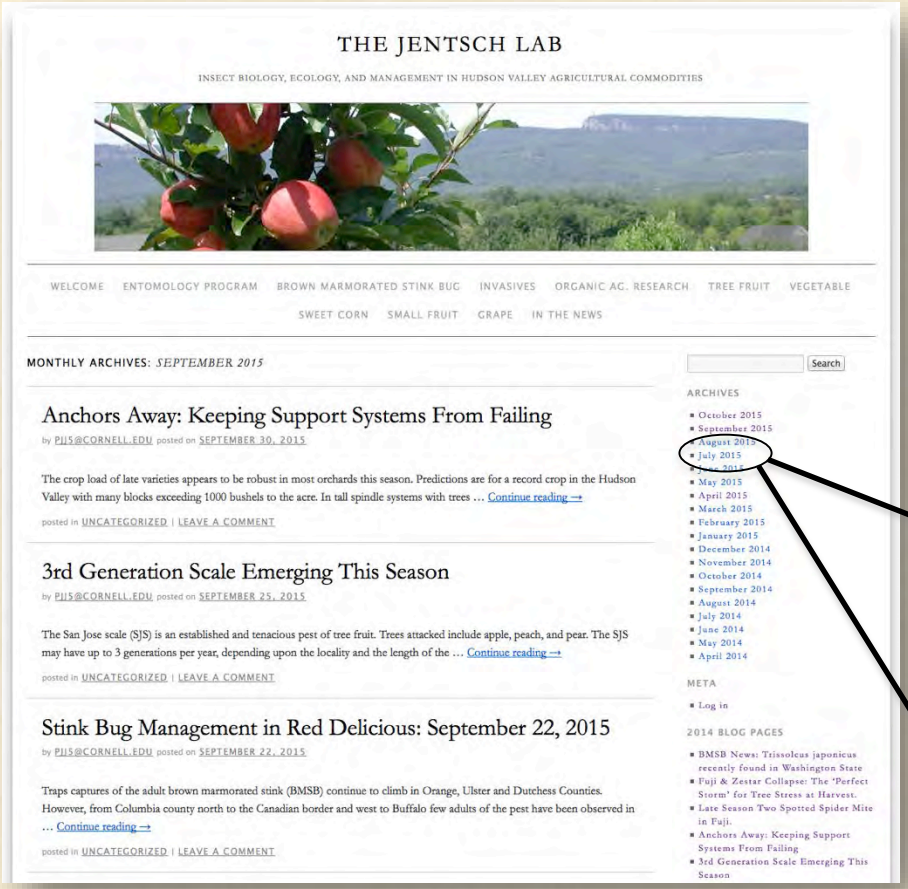
15 NYS counties / 27 Sites (44 Traps)

Use of County Color for Threshold

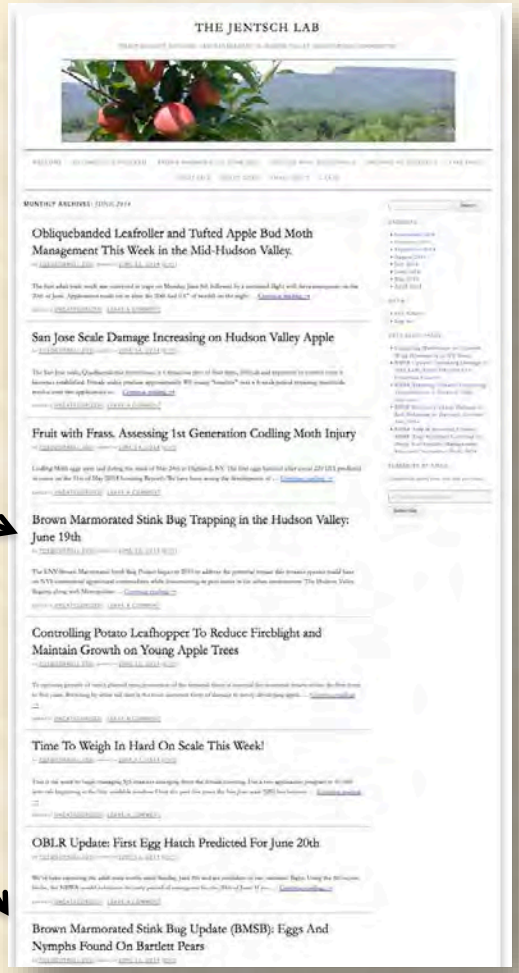
- •Absence (Green)
  Monitoring but no adults caught
- •Presence (Yellow)
  Under 10, no damage
- •Presence + Damage Levels
  Under 10, <1% damage
- •Presence + Damage Levels
  Under 10, ≥1% damage
- •BMSB Threshold + Damage Levels
  10 or more, no injury
- •BMSB Threshold + Damage Levels
  10 or more, <1% damage
- •BMSB Threshold + Damage Levels
  10 or more, ≥1% damage

BMSB Management Threshold: Communication

Extension Outreach Use of Blog Site E-Alerts

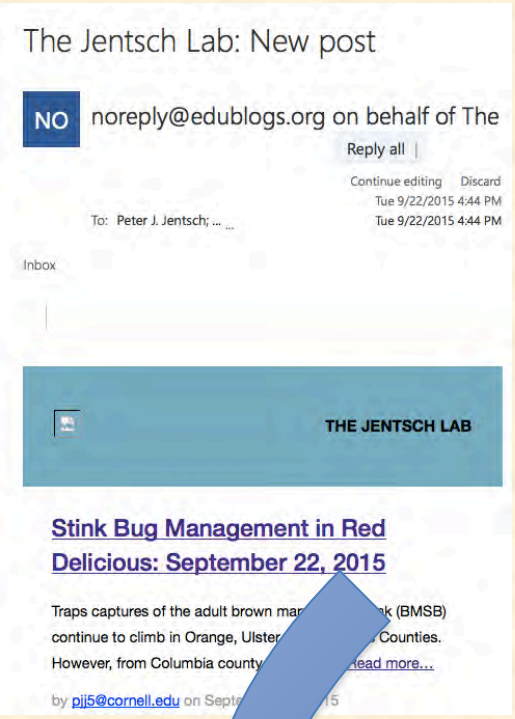


Use of 10 Adult Threshold Alerts & Recommendations



BMSB Management Threshold: Communication

Subscriber: Email Searchable


The Jentsch Lab: New post

NO noreply@edublogs.org on behalf of The

Reply all

Continue editing Discard

Tue 9/22/2015 4:44 PM

To: Peter J. Jentsch; ... ...

Tue 9/22/2015 4:44 PM

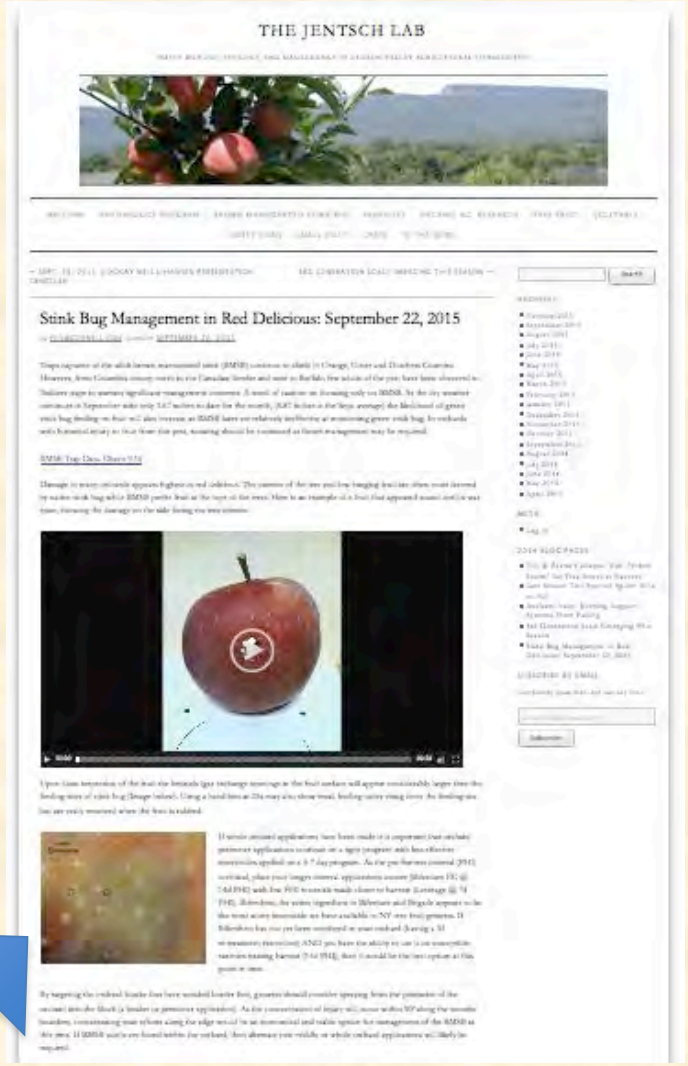
Inbox

THE JENTSCH LAB

Stink Bug Management in Red Delicious: September 22, 2015

Traps captures of the adult brown mar... ...k (BMSB) continue to climb in Orange, Ulster... ... Counties. However, from Columbia county... ...Read more...

by pjj5@cornell.edu on Sept... ...15


THE JENTSCH LAB

Stink Bug Management in Red Delicious: September 22, 2015

- Timely
- Use of Video
- Expandable imagery
- Web Links

The Invasive Brown Marmorated Stink Bug, *Halyomorpha halys* (Stål): (Pentatomidae) In NY Tree Fruit.

Use of PAK Unlimited Blockade 3625 Nets as Attract and Kill Stations in Late Varieties

Augment insecticide control during 7d pre-harvest window of reduced residual.

•Used near harvest of Red Delicious - Pink Lady to reduce BMSB migration into orchards.

•7’ X 14’ stations on perimeter deer fencing along wooded borders

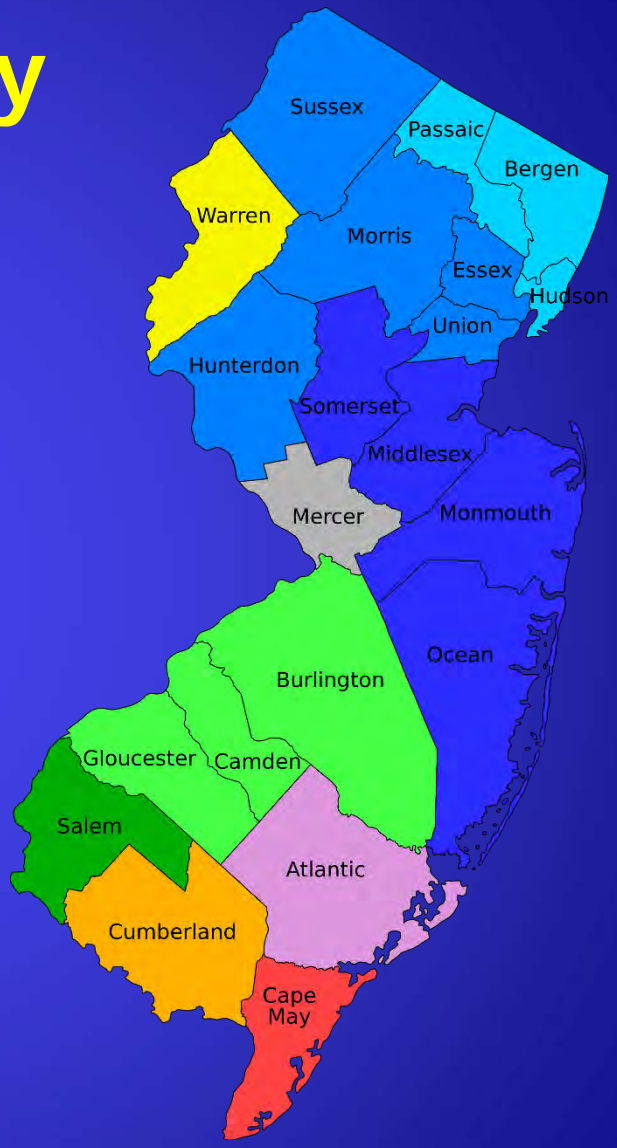
•Baited with duel pheromone

•Sprayed weekly with Bifenthrin

•No late harvested fruit injury in 2015 where nets were employed

New Jersey

- Populations lowest since 2011
- No blacklight trap maps
- Damage to peaches
- Participated in the pheromone trial and overwintering study
- Very few website reports



Pennsylvania

- Lowest BMSB pressure in 5 years – cold winters and cool springs
- No new commodities impacted
- Ag-Bio, Rescue traps caught very low numbers until September
- Very few applications based on nymphal presence

Challenge – Interpreting new monitoring tools

BMSB Status in Delaware 2015

Joanne Whalen
Department of Entomology and Wildlife Ecology

UNIVERSITY OF DELAWARE

Agricultural and Nuisance Pest Status

- Agricultural Status – present but generally populations were low again; highest populations still in New Castle County
- Nuisance – higher levels in houses in Sept. 2015 compared to 2014 in New Castle County; more reports of detections in houses statewide

Agricultural Crops- 2015

- Crops with Significant Problems Late Season: Tomatoes, Pole Lima Beans and Apples
- Crops with Detections – not treating specifically for BMSB but for BMSB in the mix with Native Stink Bugs : Peaches, Processing Lima Beans, Soybeans, and Peppers

Tactics Used in Agricultural Crops

- Growers, Private Consultants and Agribusiness all scout for BMSB in- season
- Consultants/Agribusiness using UD BLT trapping information to identify new areas of detection
- Insecticides still the primary approach for management
- Edge treatments with insecticides used in soybeans – only in areas of state where BMSB is the primary species

Gaps in Knowledge

- Guidelines on best way to use pheromone traps to monitor
- Alternative Insecticides
- Economic thresholds

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BMSB Status in Agricultural Crops – Maryland

- Well below economic levels in the major vegetable host crops; however, native stink bug populations were higher and caused significantly more damage to peppers and tomatoes.

- At research farms in central and western MD where populations have been very high in past years, infestations were barely detectable … well below levels in trials to vigorously test insecticides.

- In agronomic crops, BMSB was virtually absent in field corn in late July when ears were most attractive for feeding. Likewise, infestations in soybeans were well below economic levels throughout western MD, with no perimeter treatments applied according to local agri-service companies.

- Fall populations of adult BMSB coming at favorite overwintering sites were about 2 weeks late and levels were down by at least 80%.

West Virginia & Maryland

- Ongoing agricultural and nuisance problem, but less so in 2013 and 2014
- Potentially from high levels of overwintering mortality.
- In some locations where we would normally observe up to 50% mortality, we observed up to 90% (and sometimes 100%) morality

Management

Crop	Growers Treat	Severity
Pome Fruit (apple, pear)	Yes	In recent years, still severe late season, less so early and mid season (in high pressure years – season-long issue)
Stone Fruit (peach, nectarine)	Yes	Still severe all season
Brambles (raspberry, blackberry)	Rarely	Minor (SWD driving the sprays)
Field Crops (soybeans, corn)	Yes in Soybean – perimeter spray	Injury limited to perimeter, light in 2014
Vegetables	Occasionally	Moderate to severe just before harvest

Management

- Management is almost entirely insecticide-based.
- Some organic growers using hand removal, protective covering, or companion plants.
- Many growers ask workers to alert them if BMSB observed in the trees during thinning, summer pruning, or harvesting.
- Growers involved in research projects are using monitoring traps to help guide management decisions.
- Some growers have curbed their use of pyrethroids to intentionally protect beneficial insects.

Knowledge Gaps

- Finalized insecticide spray guide by crop
- Decision support tools such as treatment thresholds for various crops
- Trap deployment strategies for monitoring and management (i.e., number of traps per acre, where to put the trap)
- Forecasting of pest densities
- Utility of alternative management strategies (e.g., trap cropping, attract-and-kill, border sprays with embedded attract and kill sites) and how can they be improved

Knowledge Gaps

- Cultural control – Host removal and managing woodlines.
- Identification of BMSB adults and nymphs for growers and scouts
- Spread and impact of *T. japonicus*
- Development of management programs in absence of neonics (regulatory changes)

Acknowledgements

- Ane Hazelrigg
- U of Vermont

- Art Agnello & Peter Jentzsch
- Cornell University

- Anne Nielsen and Dean Polk
- Rutgers University

- Greg Krawczyk
- Penn State

- Joanne Whalon
- U of Delaware

- Galen Dively
- U of Maryland

- Tracy Leskey
- USDA ARS