Insect Update

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Find PDFs of presentations and links to new publications at the Soil Plant and Pest Center web site under publications and presentations.
Crape Myrtle Bark
Scale in February
CMBS overwintering nymphs exposed and possibly adults with cover of white waxy threads in February.
Crape Myrtle Bark Scale

New fact sheets at: http://www.uaex.edu/Other_Areas/publications/pdf/fsa-7086.pdf
And http://www.agrilifebookstore.org/product-p/eht-049.htm
Crape Myrtle Bark Scale
(July 30, 2014, Germantown, TN)

Top or dorsal view

Underside or ventral view with eggs
Crape Myrtle Bark Scale Eggs
Crape Myrtle Bark Scale

Peeled back to show eggs
‘Natchez’ crape myrtle on left treated with dinotefuran on May 28, blooms better, appears more thrifty and lacks honeydew and black sooty mold compared to untreated one on right (Courtesy of J. Robbins, University of Arkansas)
Insecticide Used

Not Treated
Crape Myrtle Bark Scale Populations - USA

- Longview, Tyler (2011, 2012)
- Shreveport, Bossier City (2011)
- Little Rock, AR (2014)
- Monroe (2014)
- Minden, Alexandria (2014)
- Germantown, TN (2013)
- Collierville, TN (2014)
- Fayette Co. (2014)
- Tipton Co. (2015)
- Ardmore, OK (2012)
- Houma (2012)
- College Station (2013)
- Newnan, GA (2013)
- Little Rock, AR (2014)
- Runnymede, LA (2012)
An IPM Approach to Crape Myrtle Bark Scale Control With or Without Neonicotinoids

- As needed, use a JD9-C spray gun at 125 – 150 psi with insecticidal soap solution or pressure wash to physically remove scale.

- Apply a dormant application of horticultural oil.

- With reduced scale populations, predaceous lady beetles have a better chance of achieving an acceptable level of biological control.
Hyperaspis bigeminata
(A Scale Predator)
Crape Myrtle Bark Scale Control in the Landscape

- Drench with imidacloprid (Merit and other brands), thiamethoxam (Meridian 25 WG) or dinotefuran (Safari 20 SG) in the spring prior to scale crawler emergence
Crape Myrtle Bark Scale Control in the Landscape

- Target crawlers with sprays of acetamiprid (TriStar) when they emerge, probably around mid-May and again for second generation crawlers in early August.
Crape Myrtle Bark Scale Control in the Landscape

- Insect growth regulators (IGRs) such as pyriproxyfen (Distance, Fulcrum) and buprofezin (Talus 70DF) target crawlers

- IGRs have not been evaluated on this pest but have been very effective on many species of immature scale
Scale Monitoring

- Sticky traps can be made to catch the emerging scale crawlers

- Use double sided Scotch tape, black electrical tape, or even white tape coated with a thin layer of petroleum jelly (Tape color depends on crawler color)

- Flag the branch and check at least once per week starting 10-14 days before expected emergence
Japanese Maple Scale

- Very small, white body
- Generalist – attacks numerous species!
  - cherry, dogwood, Euonymus, holly, hornbeam, Itea, lilac, linden, magnolia, maple, pyracantha, privet, Prunus, redbud, serviceberry, Stewartia, Styrax, yellowwood, & Zelkova

Image courtesy of A. Fulcher, UT
Japanese Maple Scale:

An Important New Insect Pest in the Nursery and Landscape

Amy Fulcher, Assistant Professor, Plant Sciences
Frank Hale, Professor, Entomology and Plant Pathology
and Mark Halcomb, Area Specialist, UT Extension

Introductory Information
A relatively new pest has been identified in Tennessee and several other states that is proving to be a difficult pest to control. The insect is Japanese maple scale (Lopholeucaspis japonica Cockerell), and, unfortunately, it infests many more plant species than just Japanese maple. The insect’s

Appearance
Japanese maple scale (JMS) is a small, oystershell-shaped, armored scale (Figure 1). The waxy coating over the body is white, but the female, eggs and crawlers (the immature stage) are lavender (Figures 2 and 3). Scales are most commonly found on bark but can be found on leaves, in particular, leaves of

- Two generations per year in KY, TN and MD
- East coast, south of us, and spreading
- While this pest has been in many states for years it has recently become an emerging nursery pest (KY in 2006, TN in 2010)
Adult Female (Dorsal)
Japanese Maple Scale Chemical Control

- All season horticultural oil targeting adults and eggs during dormant period

- In spring and summer target the crawlers with:
  - pyriproxifen (Distance) – IGR
  - buprofezin (Talus 70DF) – IGR

- horticultural oil (0.5-1 percent) can be tank-mixed with Distance or Talus for improved control
A New Native Weevil Pest of an Introduced St. John’s Wort, *Hypericum calycinum*
Plesiobaris albilata (LeConte)

3 mm (1/8 inch)
Emerald Ash Borer

- First U.S. find in Detroit, Michigan in 2002
- Thought to have been there 6 to 10 years before being discovered
- Subsequently, eradication was attempted but failed

http://arnprior.ca/live/emerald-ash-borer/
Monitoring for Emerald Ash Borer Adults Using Purple Sticky Traps

Infestation expanding from East Tennessee into Middle Tennessee

Emerald ash borer adult image courtesy of The Ohio State University
D-Shaped Exit Holes
Ash Trees Killed by EAB in Michigan
Ash Trees Killed by EAB

First found in Michigan in 2002
(Image taken 9-11-2003)

Southwest Ohio
2013

Knox County TN
2010
Emerald Ash Borer Larvae
Extensive Feeding Girdles Tree
Early Canopy Thinning in Loudon County

Image courtesy of Kristy Stultz, USDA APHIS
Blonding by Woodpeckers
Emerald Ash Borer Biological Control

- Biological control agents (several species of parasitoid wasps from Asia) have been brought to the U.S. and are being evaluated.

- Releases in Tennessee & other states may aid in the natural control of emerald ash borer.

- Dr. Jerome Grant has overseen the releases in Tennessee.
Insecticide Options for Protecting Ash Trees from Emerald Ash Borer

Daniel A. Herms, Deborah G. McCullough, David R. Smitley, Clifford S. Sadof, Whitney Cranshaw

http://www.emeraldashborer.info/files/multistate_EAB_Insecticide_Fact_Sheet.pdf
Asian Longhorn Beetle

- Native to China, Japan and Korea
- White markings on a black body
- First discovered on maple, horsechestnut and elm trees in Brooklyn, NY in October 1996
- Later found in Chicago’s North Side in July 1998 and most recently in Clermont County Ohio (east of Cincinnati)
The adult ALB (Asian Longhorned Beetle) is a distinctive-looking insect with the following unique characteristics:

- 1 inch to 1 ½ inches in length
- Long antennae banded with black and white (longer than the insect’s body)
- Shiny, jet black body with distinctive white spots
- Six legs
- May have blue feet

While the ALB may appear threatening, it is harmless to humans and pets.
HAVE YOU SEEN THE BEETLE?

- Conduct annual tree check
- Report beetles or signs of damage
- Allow officials access to survey
- Purchase firewood where you will burn it
- Diversify the trees you plant

Sign-up for the ALB eNewsletter
How are we doing?

LATEST NEWS

Bell tolls for ALB
Beetle trackers hunt for ‘hitchhikers’
ALB Ohio Marshalling Yard Solicitation
Beetle Busters: A Rogue Insect and the People Who Track It, by Loree Griffin Burns, Now Published
APHIS Extends Tree Removal Hours for Tate Township, Ohio
August Is Tree Check Month. A Devastating Pest Could Change the Way You View the Great Outdoors

http://beetlebusters.info/
Asian Longhorn Beetle

- Larvae chew into the tree doing extensive tunneling damage while adults exit the tree leaving it riddled with round holes and oozing sap

- While tree removal is used extensively for infested trees, imidacloprid soil or trunk injection is used on an area-wide basis to lower the populations of foraging adult beetles
WHAT ARE THE SIGNS?

- Dime-sized exit holes
- Shallow scars in bark
- Sawdust-like material around tree
- Dead branches
- The beetle

Once a beetle infestation is identified, there is no cure. The only thing you can do is look for and destroy adult beetles.
In the summer, the adult beetles chew their way out, leaving dime-sized, 1/4 inch or greater, perfectly round exit holes.
Asian Longhorned Beetle
Host Trees

More than 80,000 trees lost so far

- Ash
- Birch
- Golden rain tree
- Hackberry
- Poplar
- Willow
- Horse chestnut
- Maple
- Mountain ash
- Elm
- Katsura
- London plane tree

Spotted Lanternfly Found in Pennsylvania

Image courtesy of L. Barringer, Penn. Dept. of Agri.
An Invasive Pest from Asia

Has potential to greatly impact grape, fruit tree, and logging industries

Courtesy of H. Raguza, Pennsylvania Dept. of Agri.
Spotted Lanternfly Nymphs

This planthopper has attacked 25 plant species in Pennsylvania

Images courtesy of Park et al. 2009
Spotted Lanternfly Egg Masses
Pink hibiscus mealybug
(Maconellicoccus hirsutus)

http://entnemdept.ufl.edu/creatures/orn/mealybug/mealybug.htm
Pink Hibiscus Mealybug Adult Female
Pink hibiscus mealybug

- Adult mealybugs are small (about 3 mm long) and pink in body color but covered with a waxy secretion. The waxy filaments are short and females are usually obscured by this white mealy wax.

- When adults are crushed their body fluids are also pink. Adult males are smaller than females, reddish brown and have one pair of wings. Males have two long waxy "tails."

http://entnemdept.ufl.edu/creatures/orn/mealybug/mealybug.htm
Pink Hibiscus Mealybug Nymphs
Arborvitae Leafminer Top Side Damage
Underside of Foliage with Exit Holes
Arborvitae Leafminer

- Tiny caterpillars (1/8 inch long) found infesting arborvitae in Sullivan County in 2015 and Davidson County in January 2016
- One generation per year with larvae inside the mines most of the year
- Moth (3/8 inch wingspan) emergence unknown for Tennessee (possibly in mid-to late May)
Arborvitae Leafminer moths
Questions?

https://tiny.utk.edu/ag/insectandmite
https://tiny.utk.edu/ag/turfinsect
Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.

University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.

UT Extension provides equal opportunities in programs and employment.