Emerging Threats

2017 MIFPC Stakeholder Meeting
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Invasive Tree Pests

- New damaging pest every ~2 years
- $1.7 billion per year
- Human-assisted movement is #1
- High risk species
  - Hard to detect during transport
  - Available host & habitat
  - Frequent introductions
Spotted Lanternfly
*Lycorma delicatula*
2014 -- 2016 Lycorma Detection Survey
Results through 15 November 2016

Spotted Lanternfly Presence

- Positive
- Negative
Redbay Ambrosia Beetle
*Xyleborus glabratrus*

Actual length: 2mm
Sassafras with Laurel Wilt
Distribution of Counties with Laurel Wilt Disease* by year of Initial Detection

Laurel Wilt Disease is a destructive disease of redbay (Persea borbonia), and other species within the laurel family (Lauraceae) caused by a vascular wilt fungus (Raffaelea lauricola) that is vectorized by the redbay ambrosia beetle (Xyleborus glabratus). The pathogen has been confirmed through laboratory analysis of host samples collected in the counties highlighted.

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Updated: August 1, 2016
Asian Longhorned Beetle
*Anoplophora glabripennis*
Why care about ALB?

- Can attack healthy trees
- Host trees: ≥12 genera
- Urban trees: ~35% loss ($669 million)
- Eastern forests: 71 billion trees ($2 trillion)
- Huge impacts on wetland ecosystems
- Eradication is possible but costly
Before...

...after!
Preferred hosts
- Maple & boxelder (Acer)
- Buckeye & horsechestnut (Aesculus)
- Willow (Salix)
- Elm (Ulmus)

Good hosts
- Birch (Betula)
- Sycamore & planetree (Platanus)
ALB loves red maple!

Red Maple

*Acer rubrum*
How does ALB move?

- Inside wood
  - Pallets
  - Crates
  - Yard waste
  - Firewood
- Can fly but prefers to walk!
Where has ALB been found?
MA: August 2008, 110 mi²
35,871 trees removed
(24,111 infested)

OH: June 2011, 61 mi²
88,195 trees removed
(18,782 infested)
2,150,617 surveys

NY: August 1996, 137 mi²
23,738 trees removed
(7,083 infested trees)
How does ALB kill trees?

Young larvae eat phloem tissue.
How does ALB kill trees?

Older larvae tunnel into heartwood & destroy structural integrity.
Exit holes
Exit hole
Frass collects in branch crotches
Frass collects at the base of trees
Females chew egg sites
Egg sites
Multiple generations of ALB infestation!
Be on the lookout!

- New pests can arrive at any time
- Identify your trees & watch for issues
- Report abnormal tree damage
- Report unusual insects
Report invasive forest pests!

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Hotline: 866-716-9974

MU TreePests Website: treepests.missouri.edu