

Forest Health Dynamics Laboratory Update

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Forest Health Coop Diagnostic Laboratory Services - Overview

- History
- Weather Data
- Laboratory Sample Analysis
- Results

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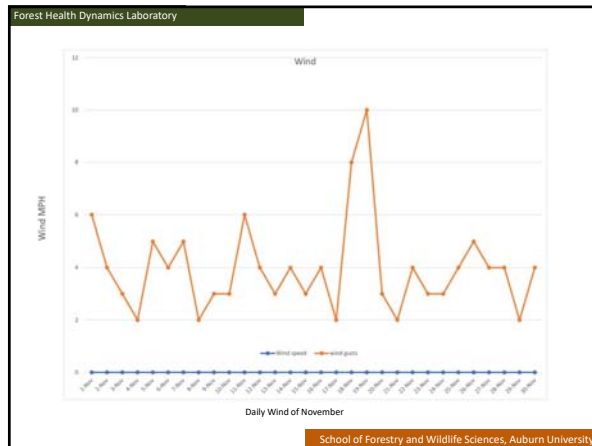
History

- Forest Health Cooperative began in 2008
- To bring together parties interested in maintaining forest health, productivity, and sustainability
- Membership for those managing for or purchasing forest products, wildlife and endangered species
- Address important and current forest health issues with real world management as a focus

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Diagnostics Clinic

- Sample collection and submission guide
 - Provide an instruction set for collecting “good” samples for laboratory analysis
- Tree Diagnostics Form
 - Provide a detailed sample/site history to aid in diagnosis accuracy
- Members only page – Diagnostics Clinic
- Project Updates in process

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Tree Disease Diagnostic Form

Sample Information

Tree and Site Information

Disease Information




http://www.auburn.edu/academic/forestry_wildlife/foresthealthcooperative/

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Field Consulting

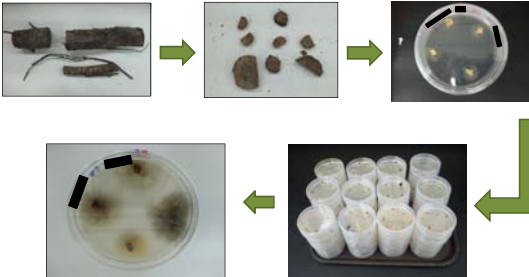
- Travel to member's location
- Provide onsite diagnostic information
- Collect samples for laboratory analysis

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Laboratory Sample Analysis



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Results

- Results available after a minimum of twenty-one days after sample is received
- Results letter sent to member with description and relevant species information


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Emerging Forest Pests and Sudden Oak Death Review

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Sirex spp.

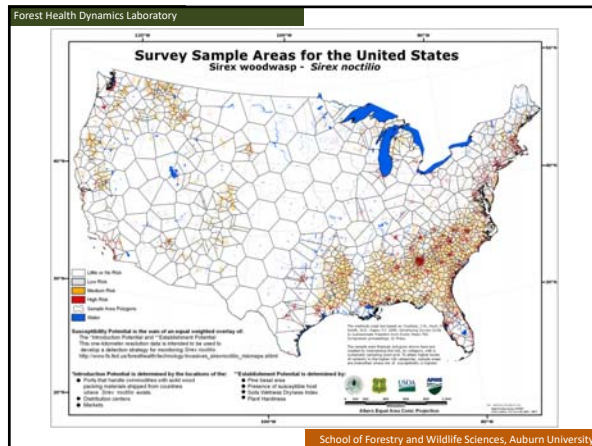
- *Sirex noctillio* not native to U.S.
- Vectors *Amylostereum areolatum*
- *A. areolatum* v.s. Ophiostomatoid fungi
- Damage caused by larvae and fungus
- Wasp needs healthy wood
- *Sirex nigricornis* native to southeastern U.S.

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Needle Diseases

- *Lophodermium* spp.
- *Phytophthora* spp.
- *Coleosporium* spp.
- *Dothistroma* spp.
- *Lecanosticta* spp.
- Mycosphaerellaceae family
- *Pestalotiopsis* spp.

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Emerald Ash Borer

- Family-Buprestidae (jewel beetles)
- First detected in Michigan 2002
- Damage caused by larvae
- Ash tree mortality in the millions
- Now in 33 states
- Confirmed in Calhoun County, AL

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Don't Move Firewood

- Limiting the movement of infested firewood could help control the spread
- Infested trees can be treated with insecticides, quarantined, or destroyed onsite



Larvae



S-Shaped Gallery



D-Shaped Exit Hole



Adult

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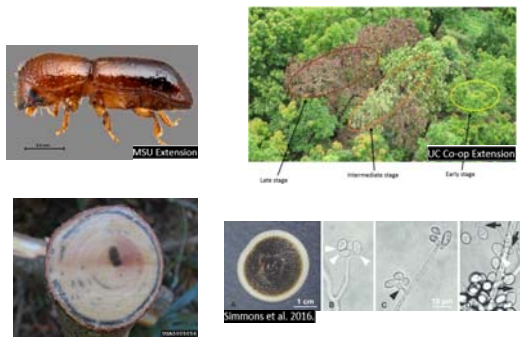





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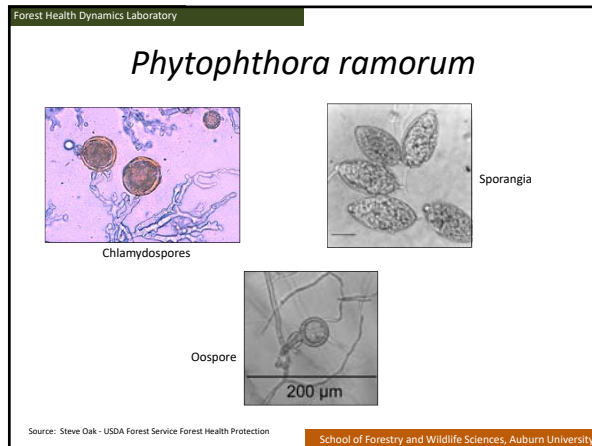
Laurel Wilt

- Caused by *Raffaelea lauricola*
- Family-Ophiostomataceae
- Vectored by Red Bay ambrosia beetle, *Xyleborus glabratus*
- Spread via natural flight and firewood movement
- Kills many species in the Lauraceae family
- Symptom-green leaves wilting then turning red-brown
- Has impacted Avocado industry in Florida



Sudden Oak Death

- First reported 1995 coastal region of central California with *Phytophthora ramorum* positively linked to the disease in 2001
- Fungus-like water mold (Oomycete)
- Spreads aurally and aquatically
- Pathogen has a wide host range
- Three expressions of the disease



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Risk To Our Forests


- *Phytophthora ramorum* persists in infected nurseries even after eradication measures.
- Inoculum is leaving infected nurseries via waste water
- A pathway from the water into terrestrial ecosystems is plausible
- Southeastern US climate is at least seasonally suitable for infection
- Eastern woody plants are susceptible

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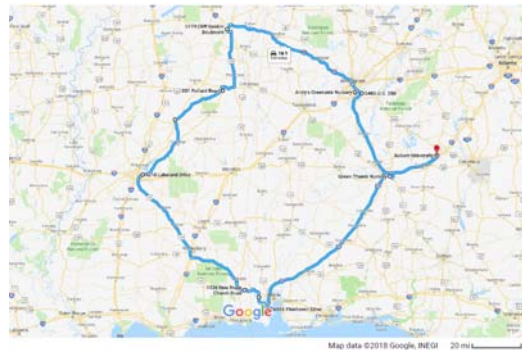
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Field Sampling



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Results

- 2013: 7 Alabama sites, 2 confirmed positive; 6 Mississippi sites, 1 positive
- All sites negative for 2014 and 2015 sampling
- 2016 Spring: 7 AL sites, 3 confirmed positive; 6 MS sites, 1 confirmed positive
- 2016 Fall: 7 AL sites, 1 confirmed positive; 6 MS sites, all negative
- 2017 Spring: 7 AL sites, 1 confirmed positive; 6 MS sites, 1 confirmed positive
- Awaiting Fall 2017, Spring 2018 Results

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