

Survival of spores in pine straw liter

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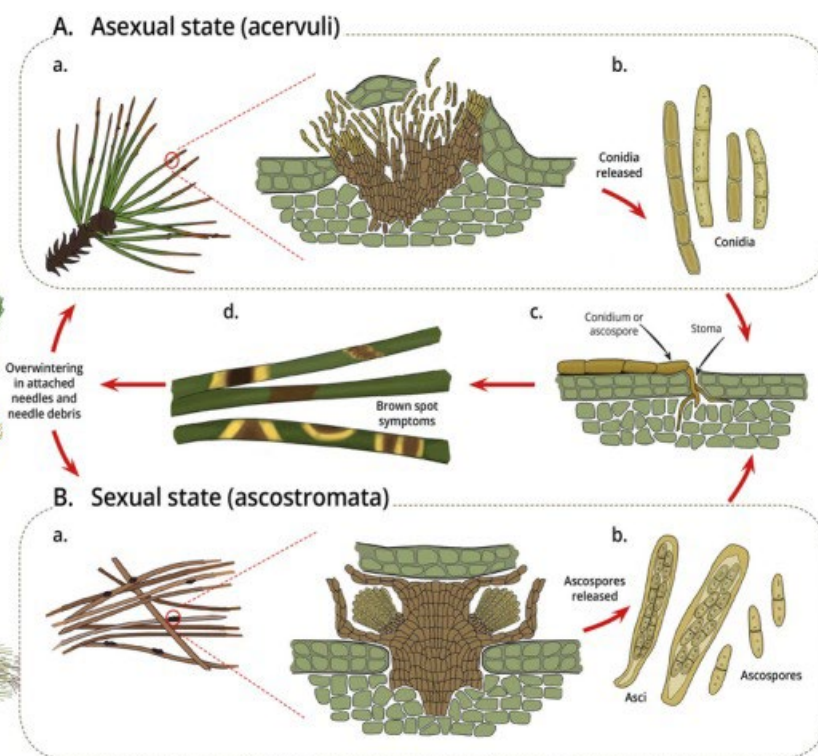
Forest Health Dynamics Laboratory

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Pine Straw Study: Background

L. acicola overwinters in the leaf litter



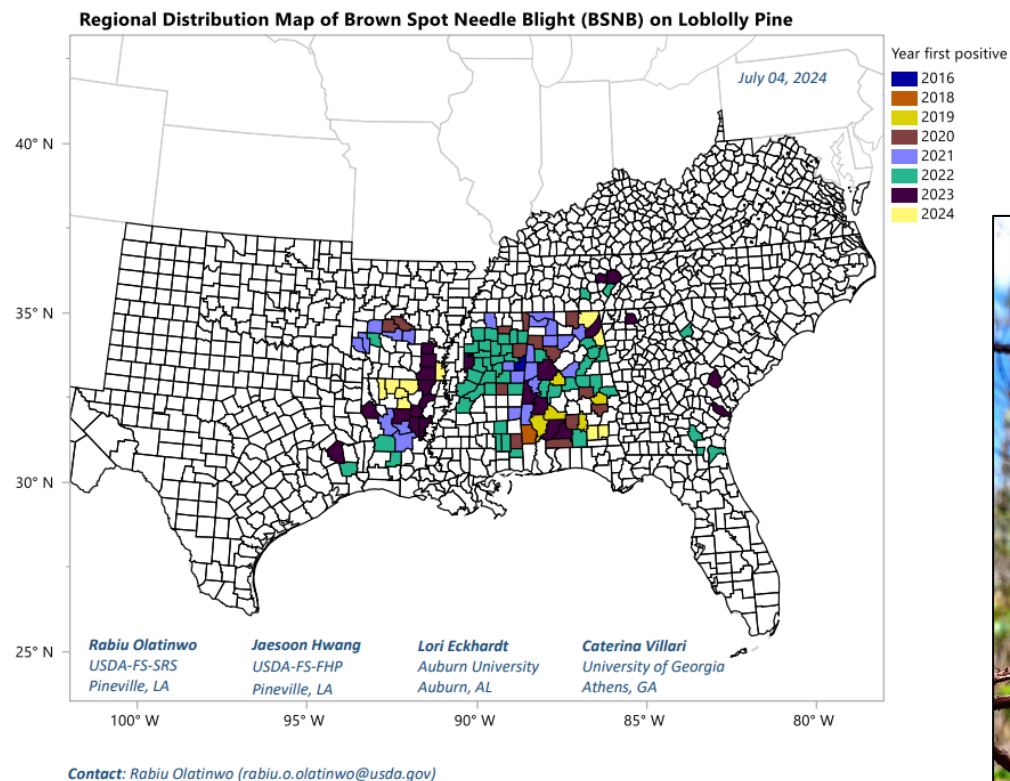
Pine Straw Study: Background

- *L. acicola* controlled by burning in grass stage longleaf
- Burning is used in non-forest systems to reduce pathogen presence
- Decrease of prescribed burning opportunities predicted



Pine Straw Study: Background

Stands across the S.E. are infected



Pine Straw Study: Other fungi

Pestalotiopsis sp.

Numerous plant diseases

Environmental conditions often favor spread

Alternaria sp.

Recovered from multiple pine species

Long sporulation period

Diplodia sp.

Host range from conifers, hardwoods, fruit trees

Pine Straw Study: Other fungi

Hendersonia sp.

Extend lesions initiated from BSNB

Isolated from multiple pine species

Lophodermium sp.

Defoliator of pine stands (*Lophodermium* needle cast)

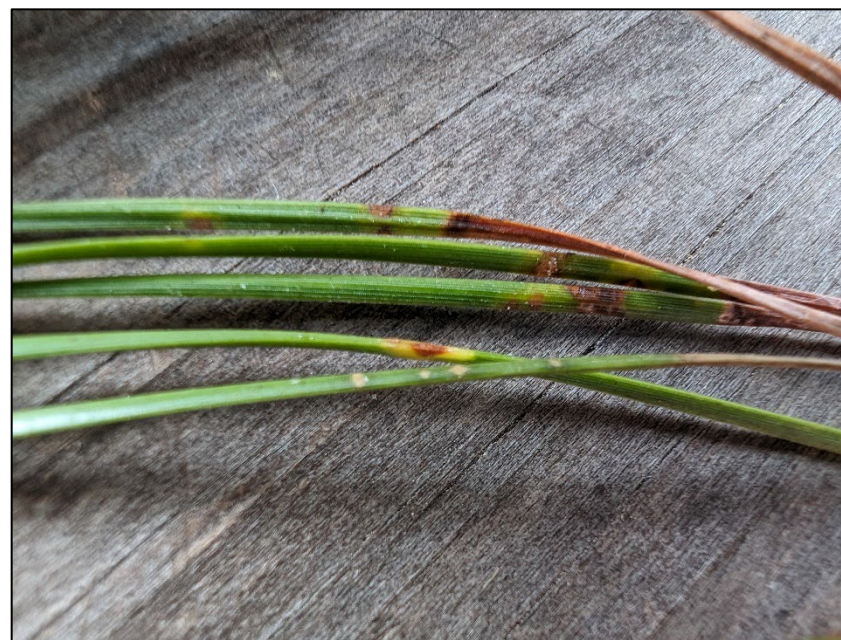
Trichoderma sp.

Beneficial

Can reduce the growth of competing fungi

Pine Straw Study: Objectives

1. To see the longevity of *Lecanostica acicola* on infected needles of loblolly pine and determine if spores can survive overwinter.
2. Observe other fungi present in leaf litter



Pine Straw Study: Methods

Needle Collection

- Fall
- Spring

3 Trees

- Bottom
- Middle
- Top



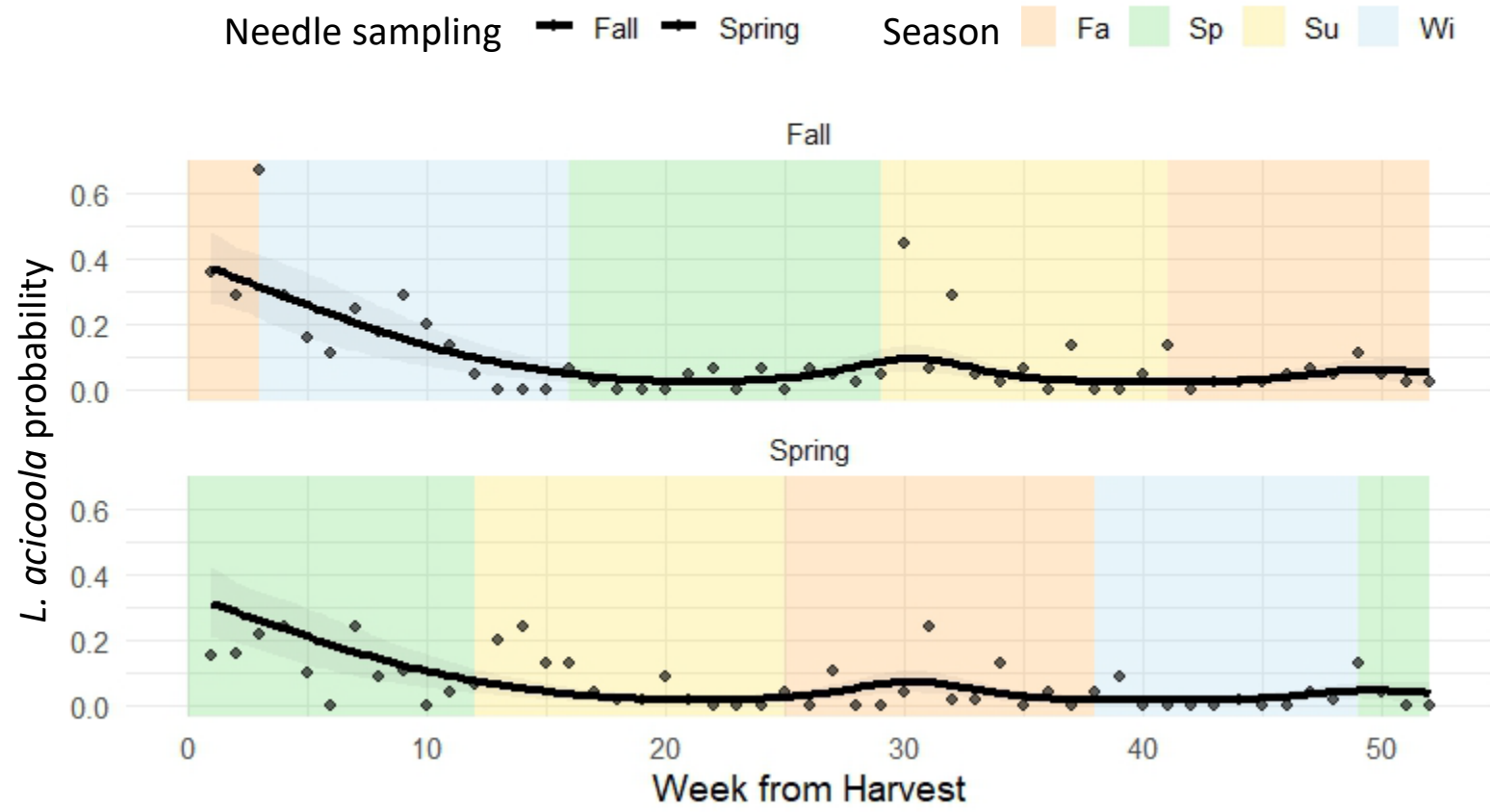
Pine Straw Study: Methods



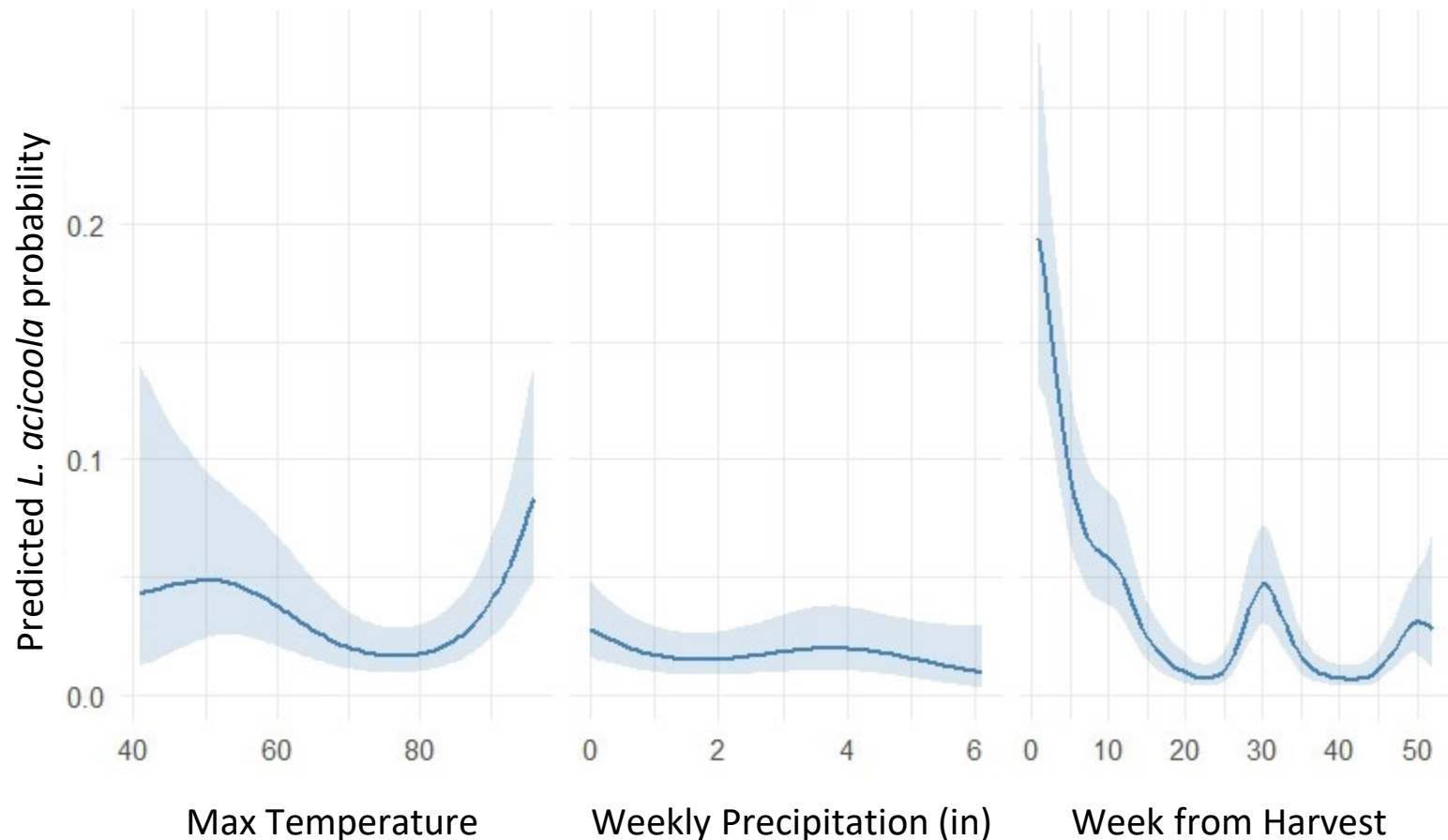
What was recovered

- *L. acicola*
- *Pestalotiopsis* sp.
- *Alternaria* sp.
- *Diplodia* sp.
- *Hendersonia* sp.
- *Lophodermium* sp.
- *Trichoderma* sp.

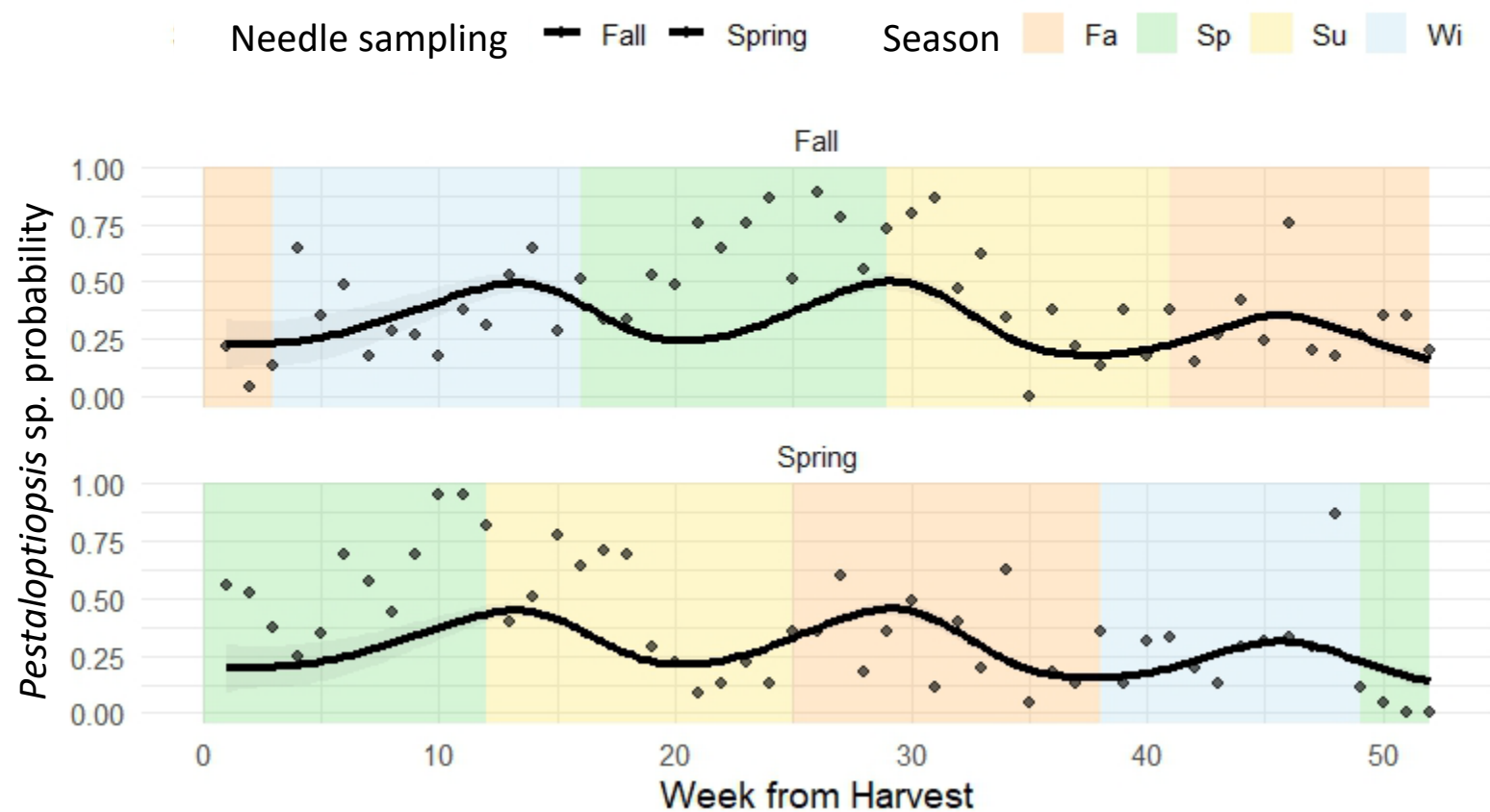
Pine Straw Study: *L. acicola*



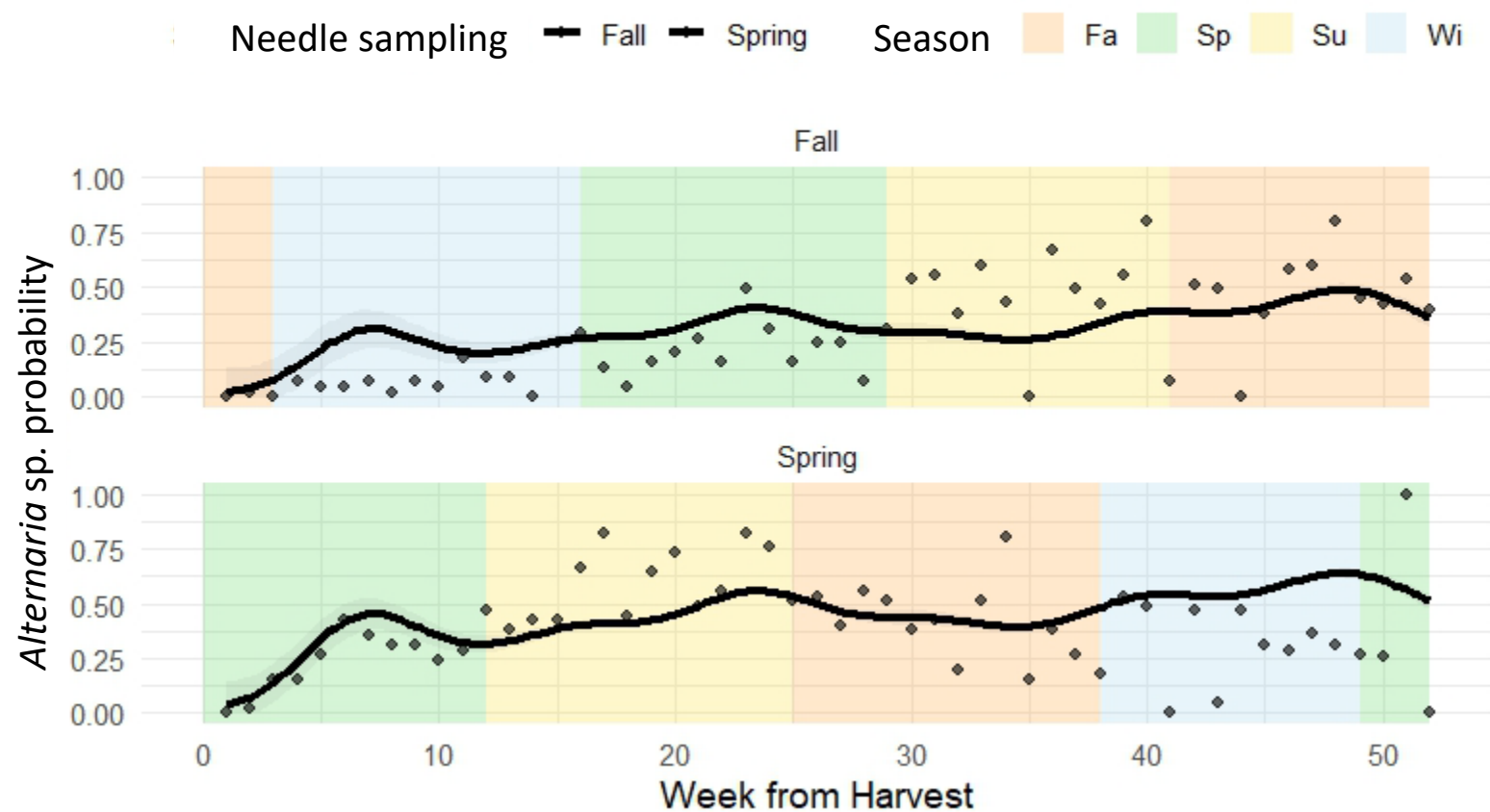
Pine Straw Study: *L. acicola*



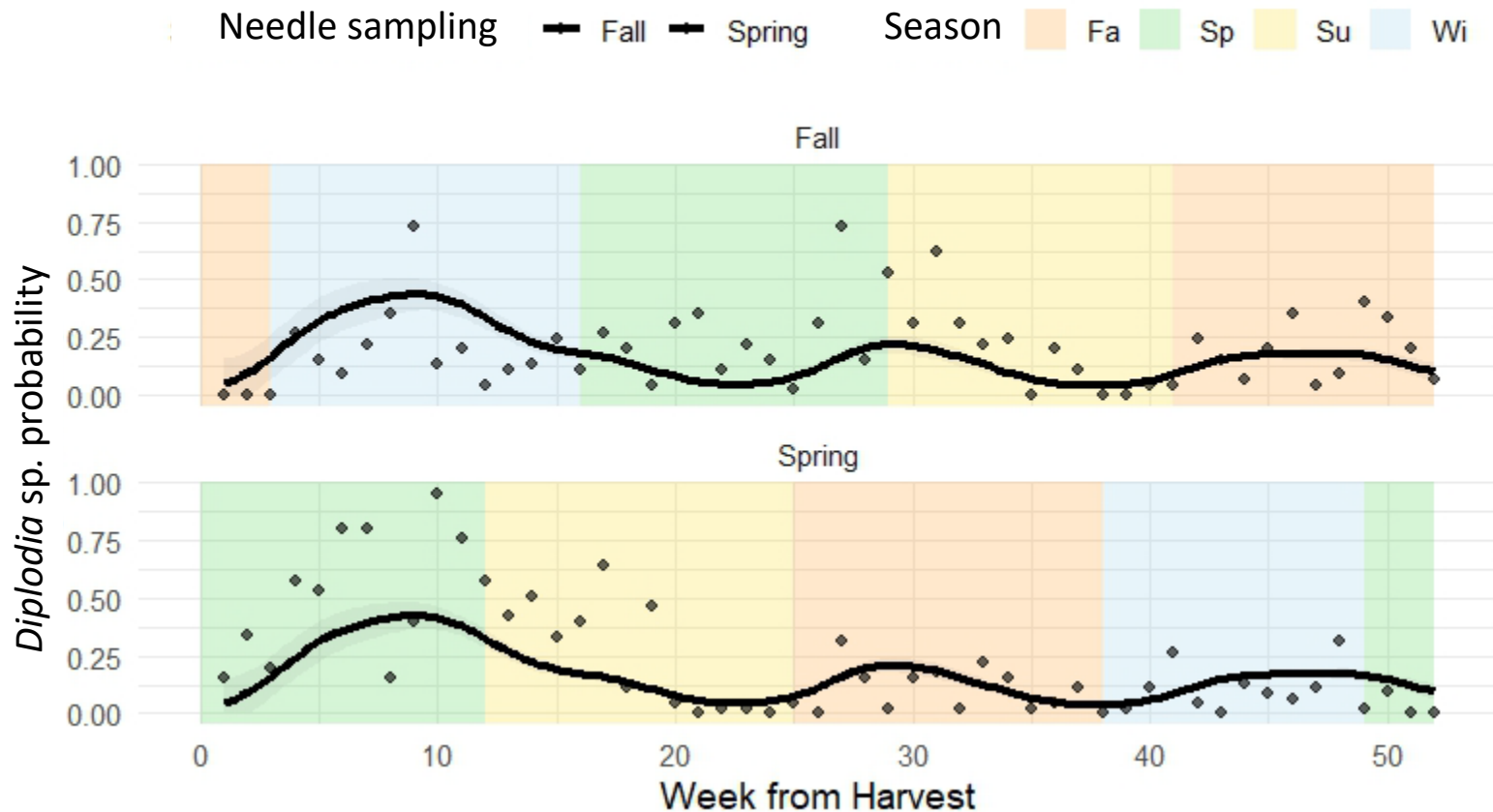
Pine Straw Study: *Pestalotiopsis* sp.



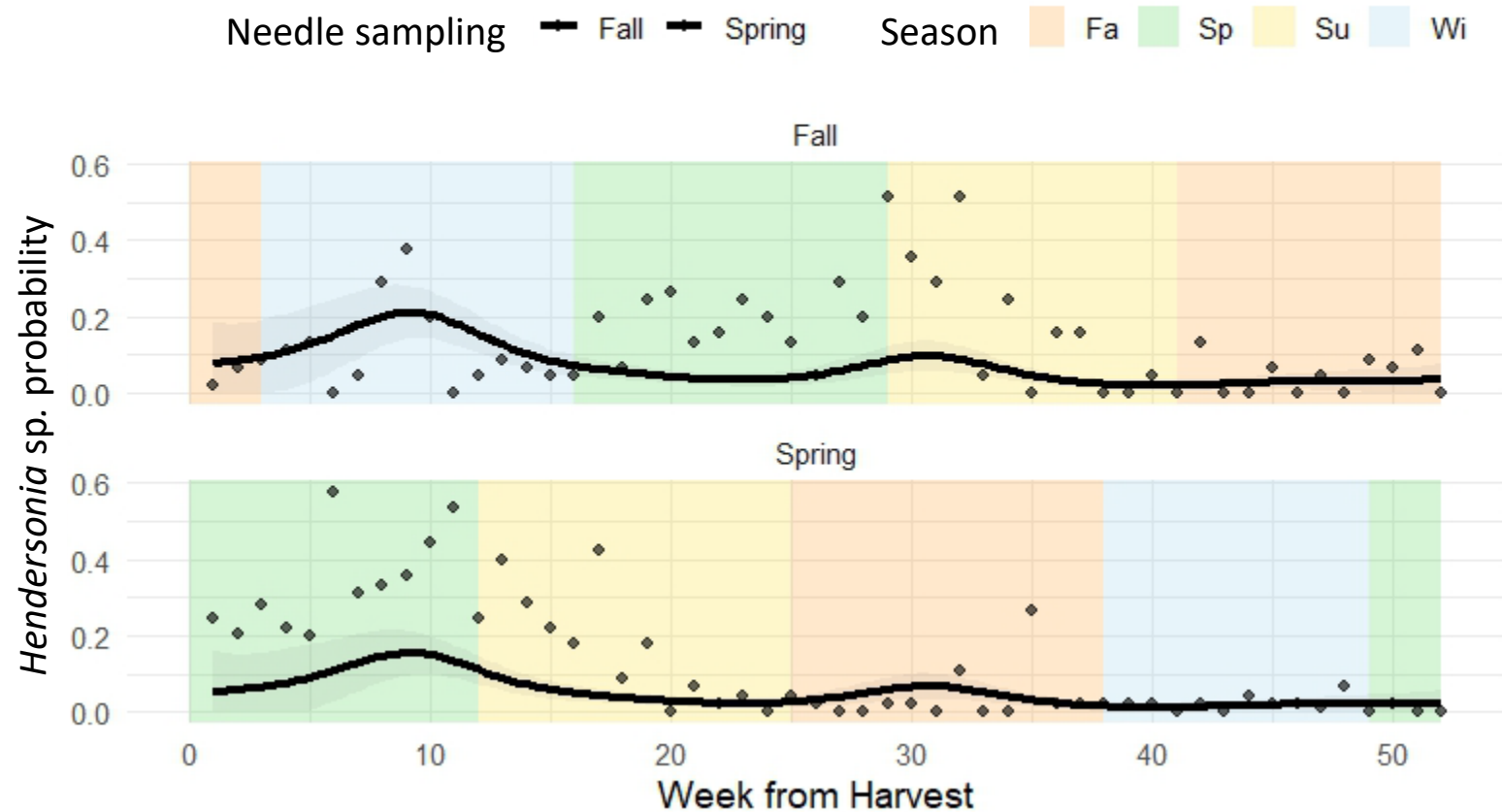
Pine Straw Study: *Alternaria* sp.



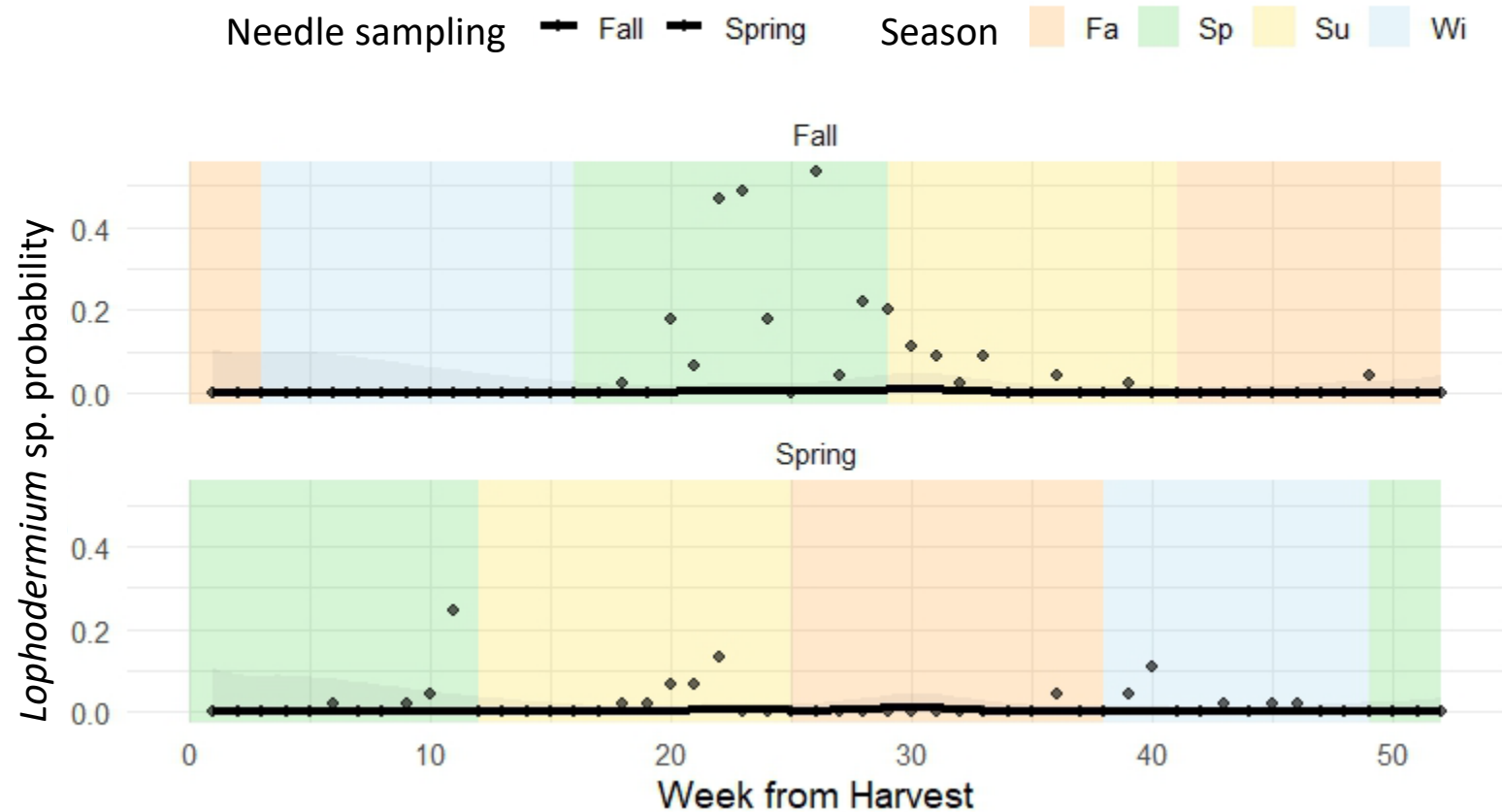
Pine Straw Study: *Diplodia* sp.



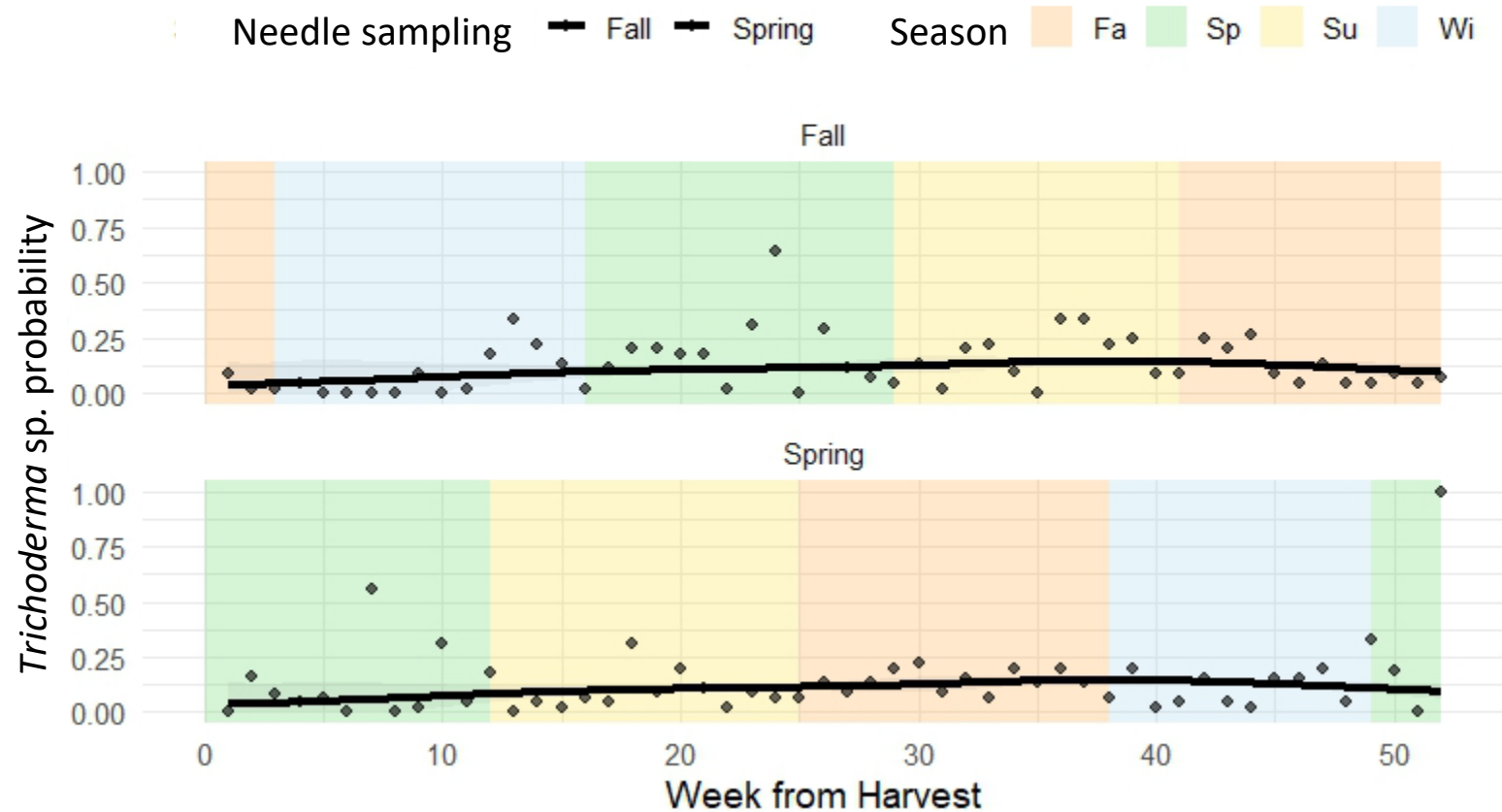
Pine Straw Study: *Hendersonia* sp.



Pine Straw Study: *Lophodermium* sp.



Pine Straw Study: *Trichoderma* sp.



Conclusions

- *L. acicola* can be sporulated from the pine straw 12 months after removal from the tree
- Week from harvest and temperature had the greatest impact on *L. acicola* sporulation
- Other fungi also sporulated from the pine straw

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Landowners

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Facilities

Forest Health Dynamics Lab
Molecular Mycology Lab
Conservation and Genomics Lab
Geospatial Analytics Lab
Forest Products Lab



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