

# Mycorrhizal Fungicide Resistance

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SFNMC Contact Meeting

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# Previous Research

- Research around the time of Bayleton registration focused on questions similar to ours.
- Bayleton harms mycorrhizal fungi in the lab, especially *P. tinctorius*.
  - Triadimenol is even more harmful.
- Seedlings have levels of fungicides that are toxic to mycorrhizae late into the growing season when analyzed in laboratory.

# Our Goals

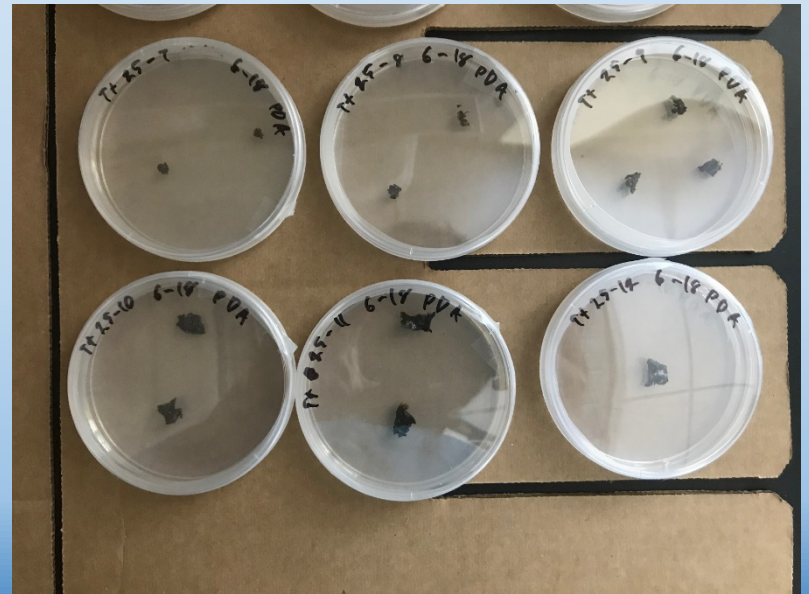
- To Determine:
  - If after 35 years, *Thelephora terrestris* and *Pisolithus tinctorius* have developed resistance to Bayleton fungicide.
  - Potential effects of Proline:
    - Important for nurseries.
    - Important to the scientific community.
  - Potential effects of other promising chemistries identified for rust control

# The Work

- Very similar to laboratory work conducted in 70's and 80's with Bayleton.
- Grow mycorrhizal fungi from:
  - natural sources.
  - pre-Bayleton collections.
  - current operating nurseries.
- Evaluate the three different fungal sources for resistance to fungicides in the laboratory.

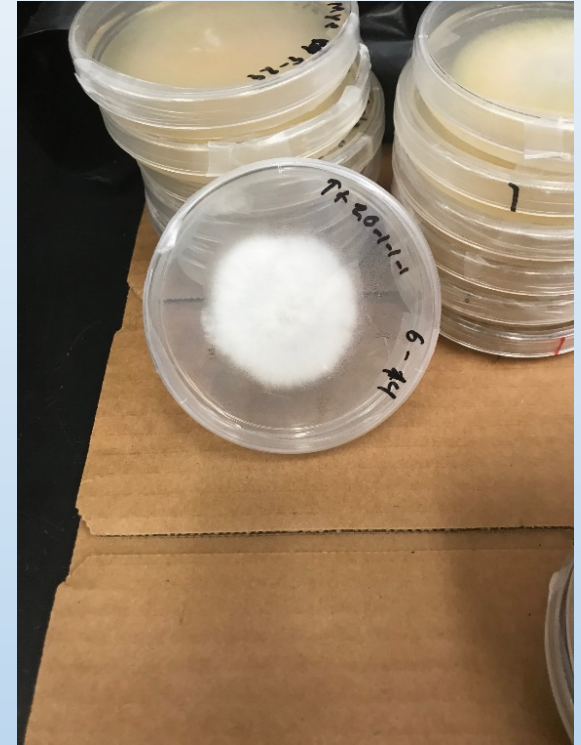
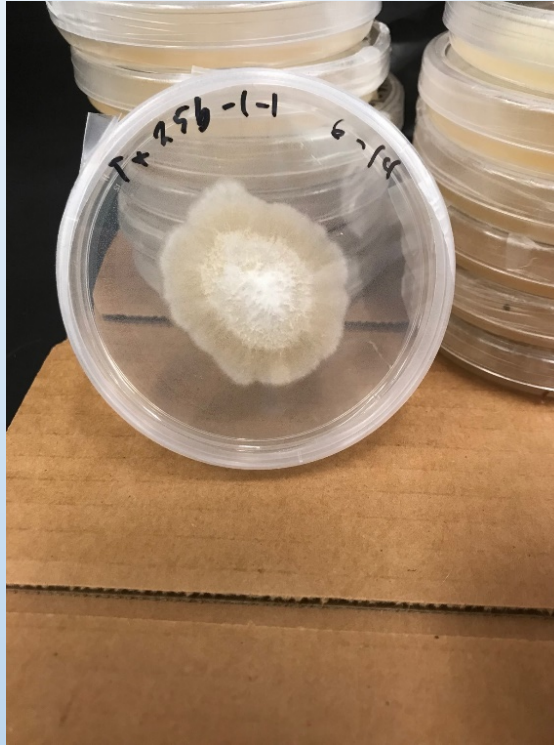
# The Work

- A number of strains from nurseries isolated.
- Strains from pre-1984 collections identified.
- The next step is to positively ID our isolates.
- We continue to isolate strains from samples.
- We look forward to moving forward with testing the different treatments.

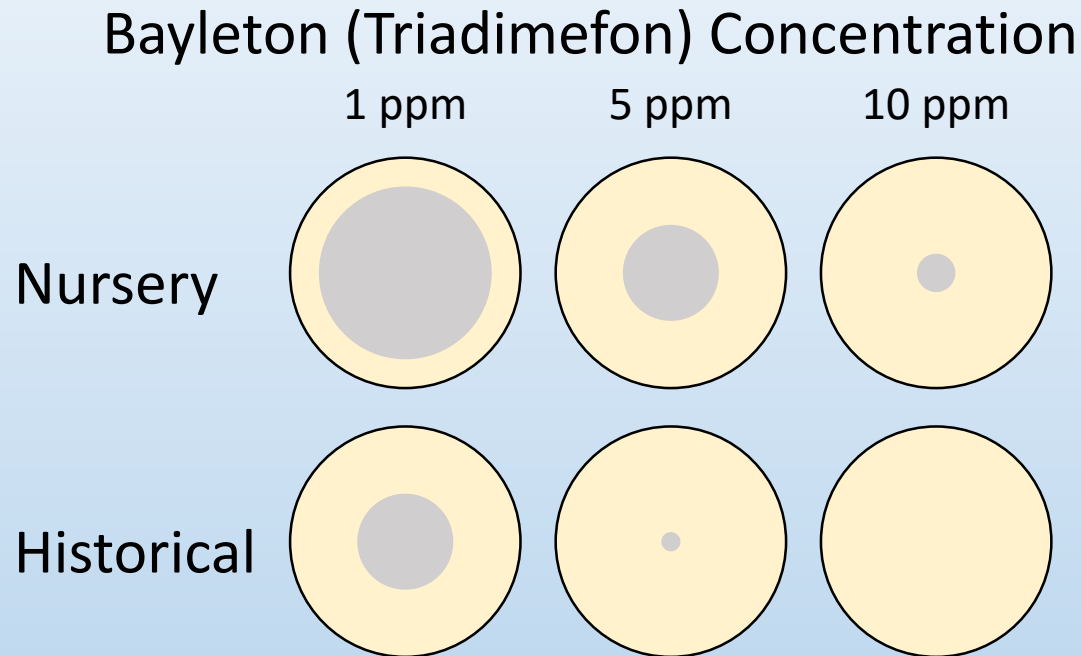




# Fungi Growing on Media



# Treatment and Expected Outcomes





# Treatment and Expected Outcomes

- Treatments with Proline may show differences that are similar to Bayleton between sources since it has been in use for about 6 years.
- All are effective against Basidiomycetes so we could expect some activity against *P. tinctorius* and *T. terrestris*.
- Treatments with Compass and Stratego should not show a similar pattern between sources.

# Where the Coop-eration Begins

- We need fruiting bodies of *P. tinctorius* and *T. terrestris*.
- Contact me first.
- Shipping:
  - Package in double paper bags
  - Please expedite shipping and pack with leak proof ice.
  - Ship to:  
ATTN: Will Harges,  
Southern Forest Nursery Management Cooperative  
3301 School of Forestry and Wildlife Sciences Bldg.  
Auburn, Alabama 36849

# Fruiting Bodies of the fungi



Robert L. Anderson, USDA Forest Service, Bugwood.org



Edward L. Barnard, Florida Department of Agriculture and Consumer Services, Bugwood.org

Questions  
&  
Comments?

## RR03-04

- “Evaluating Fungicides for control of *Rhizoctonia* Foliage Blight of Loblolly”
- Azoxystrobin did not impact mycorrhiza relative abundance.