

Continuing Project

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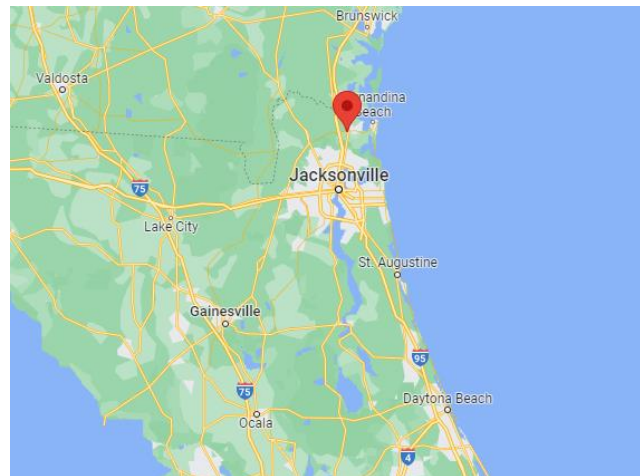
**Soil Phosphorus Availability Internship: New Techniques to Predict
Fertilizer Response in Loblolly Pine**
CAFS.22.94

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Objective

- Partner with Rayonier over 6 months
- Gain industry experience
- Conduct scientific research on an engaging and interesting topic related to forestry



Activities

- Grafting saplings onto adult pine trees to maintain a genetic bank of material that could eventually be used for future genetic lines and crosses
- Collecting, bagging, and pollinating loblolly pine trees
- Learned various flower stages and proper application timing of pollinations



Activities

- Observe field operations for site preparation for loblolly pine, longleaf pine, and slash pine
 - Bedding
 - Burning
 - Harvesting and loading
- Improve understanding of soils located within the coastal plain and their individual strengths and weaknesses
- Cruising timber and assessing pine stands for inventory analysis.



Activities - Research

- Collecting sample from trees for nutrient uptake
- Generator with 4 separate microdialysis probes carefully inserted into the tree trunk and anchored in place using a quick drying silicone gel
- Results will help us understand soil P availability

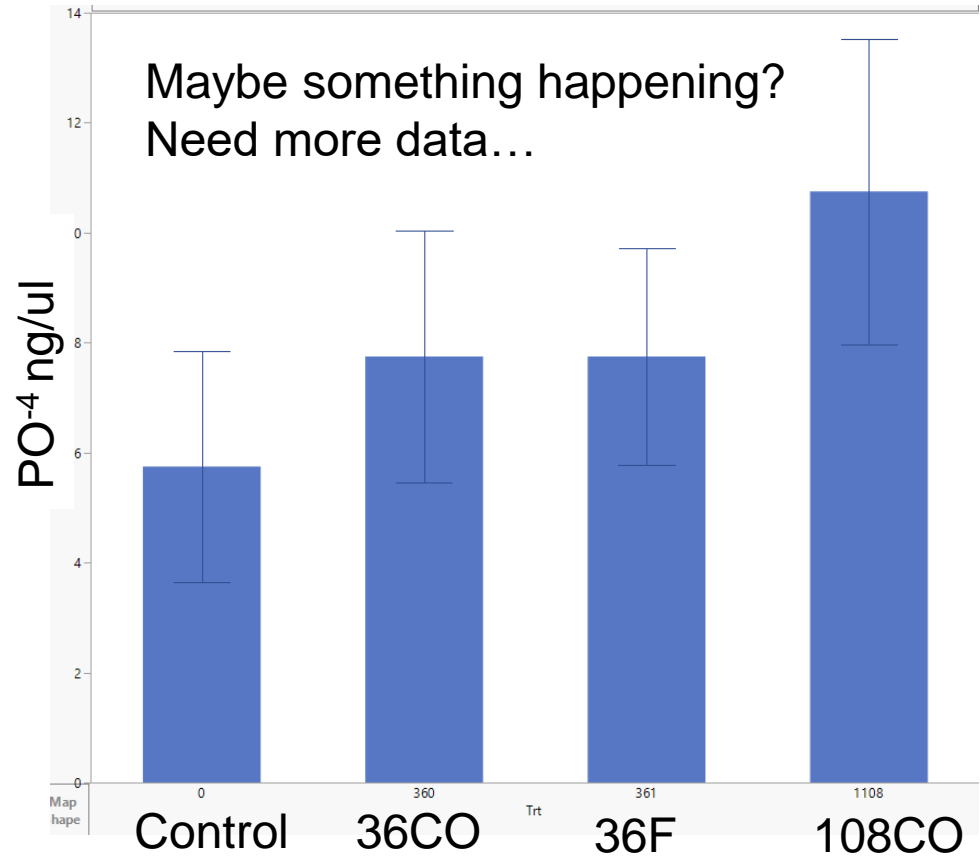


Research – P availability

Testing Microdialysis in the Tree



Long run time: 1-2 samples per day
Sap flow changes with weather
Probes break frequently



Carry Over Phosphorus Treatments



Summary

“This experience has provided me thus far with a first-hand appreciation and understanding of how to operate, manage, and maintain a pine forest from the planting of a seedling to the final destination of the tree itself at harvest time. Current individual research is on task and additional sampling is still needed.”

