AUBURN
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College of Forestry,
Wildlife and Environment

Southern Forest Nursery Management Cooperative

2024 Contact Meeting

THE EFFECT OF LIFTING DATE AND STORAGE DURATION ON LOBLOLLY PINE GROWTH AND SURVIVAL

Aim

1. Seedlings are packed and cold-stored to reduce survival issues from mold and decay.

2. Weather conditions are not always favorable for the outplanting after lifting and seedlings are sometimes stored for longer time intervals than recommended.

3. Optimum lifting time, storability once lifted and growth and survival after outplanting.

4. Compare container and bareroot piedmont and coastal plains family.

Methods

1. A Piedmont and Coastal Plains genotype of loblolly pine (container and bareroot) was lifted at 4 intervals between December 1 and February 15.
2. For each lift date, seedlings were either planted immediately or planted after cooler storage for 2, 4, or 6 weeks, for a total of 12 seedlings per lift date*storage length.

Date	Stock Type	Provenance	# Seedlings/ Date
12/1/2023	BR	CP	48
12/15/2023	BR	CP	48
1/16/2023	BR	CP	48
2/15/2023	BR	CP	48
			192

Stock Type	Provenance	# Seedlings/ Date	Total Seedlings By Date
Cont	CP	48	96
Cont	CP	48	96
Cont	CP	48	96
Cont	CP	48	96
		192	**384**

Date	Stock Type	Provenance	# Seedlings/ Date
12/1/2023	BR	PD	48
12/15/2023	BR	PD	48
1/16/2023	BR	PD	48
2/15/2023	BR	PD	48
			192

Stock Type	Provenance	# Seedlings/ Date	Total Seedlings By Date
Cont	PD	48	96
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Cont	PD	48	96
Cont	PD	48	96
		192	**384**

Total Seedlings **768**

Measurements

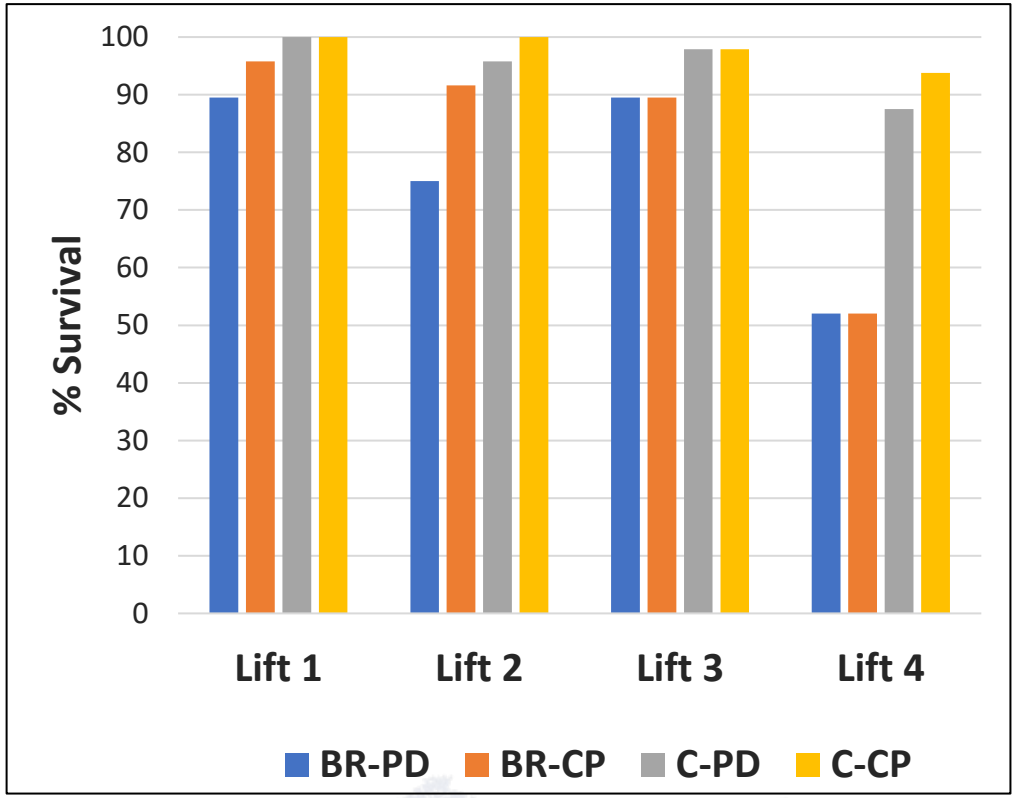
1. Root collar diameter (RCD) and height (Ht) measured on all seedlings (12 for each lifting and storage period) prior to outplanting and at end of study.

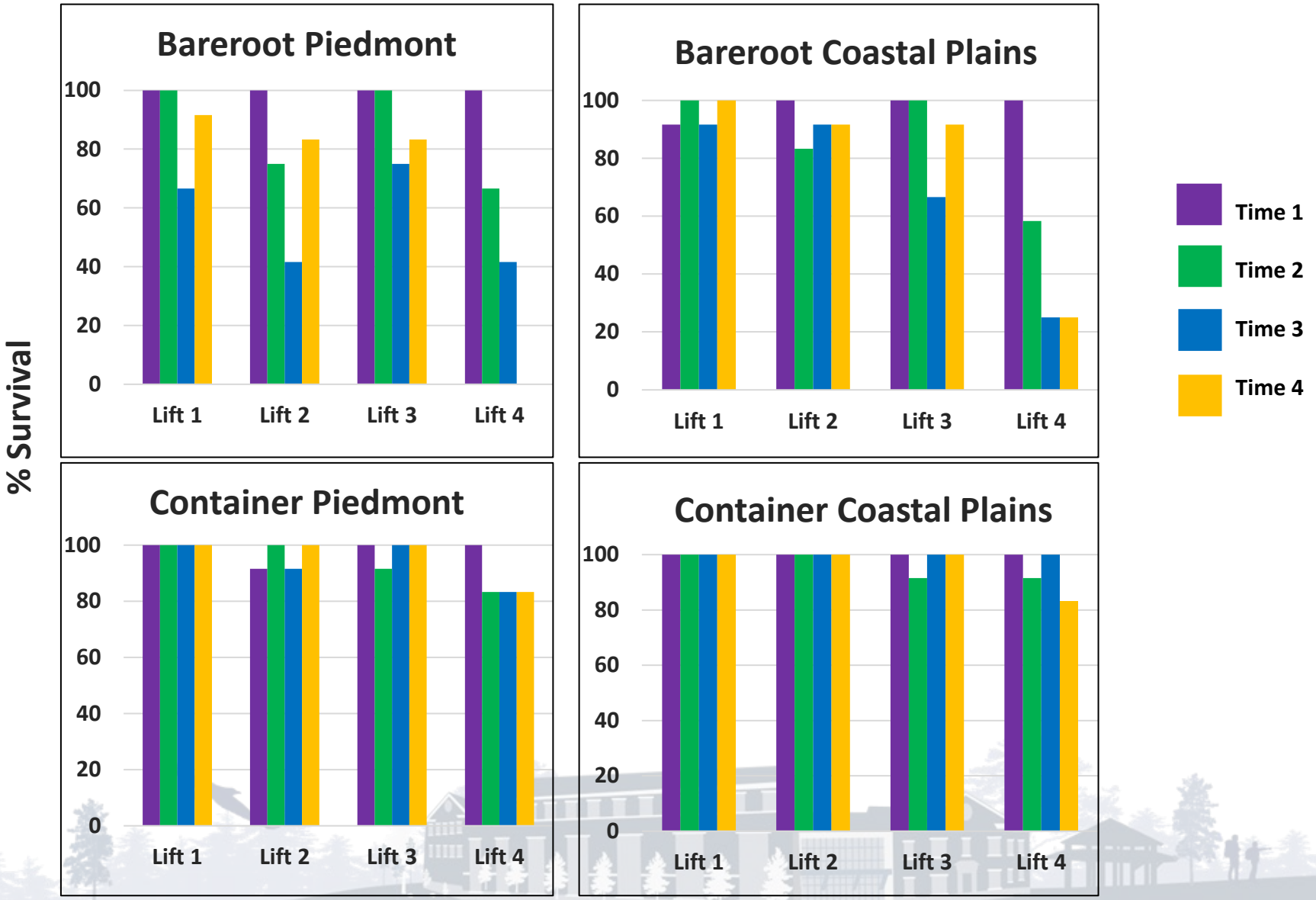
2. Seedling survival after 6 months

3. Seedling survival and growth after 12 months

4. Root biomass

6-month Survival




Bareroot Piedmont
Bareroot Coastal Plains
Container Piedmont
Container Coastal Plains
% Survival
100
80
60
40
20
0
Lift 1
Lift 2
Lift 3
Lift 4
Time 1
Time 2
Time 3
Time 4

FUNGICIDES FOR FUSIFORM RUST CONTROL

Fusiform Rust

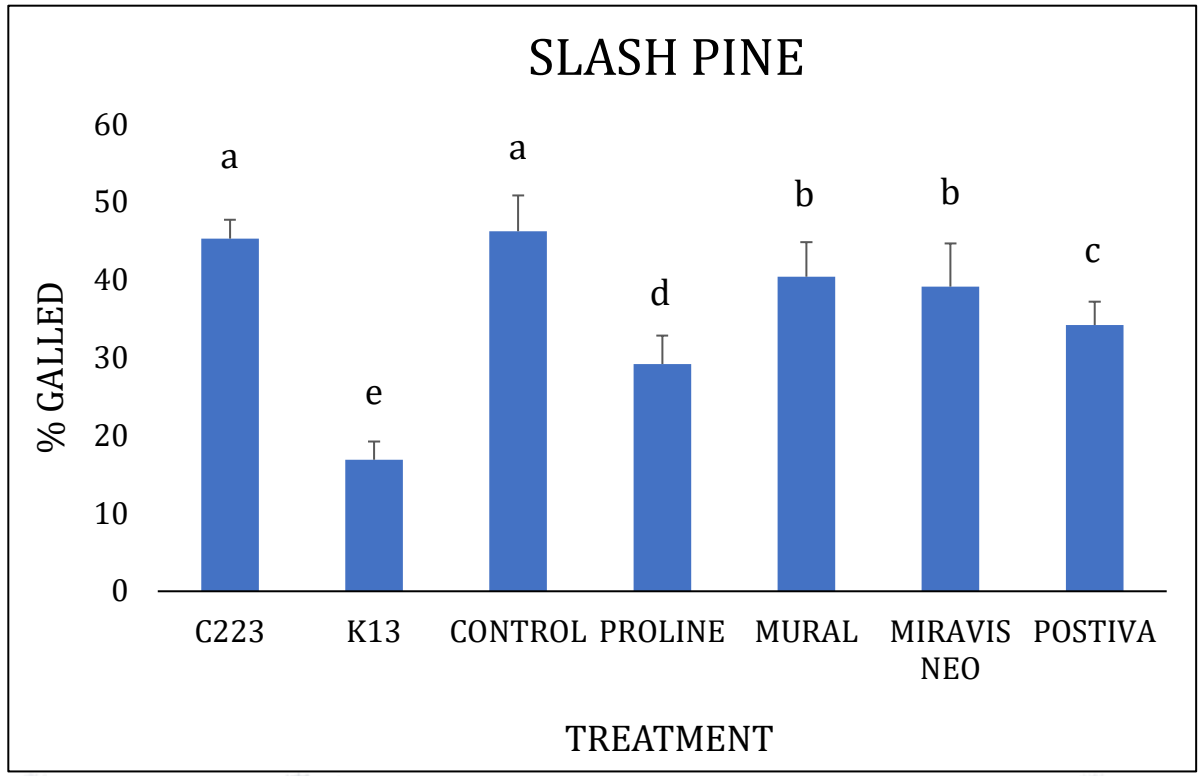
- Caused by the fungal pathogen *Cronartium quercuum* f. sp. *Fusiforme*
- Problem in loblolly and slash pine production
- The use of fungicides is the most effective control strategy
- The Nursery Cooperative spearheaded the registration of Bayleton® and Proline® for control of the disease
- Ongoing program to identify new chemistries

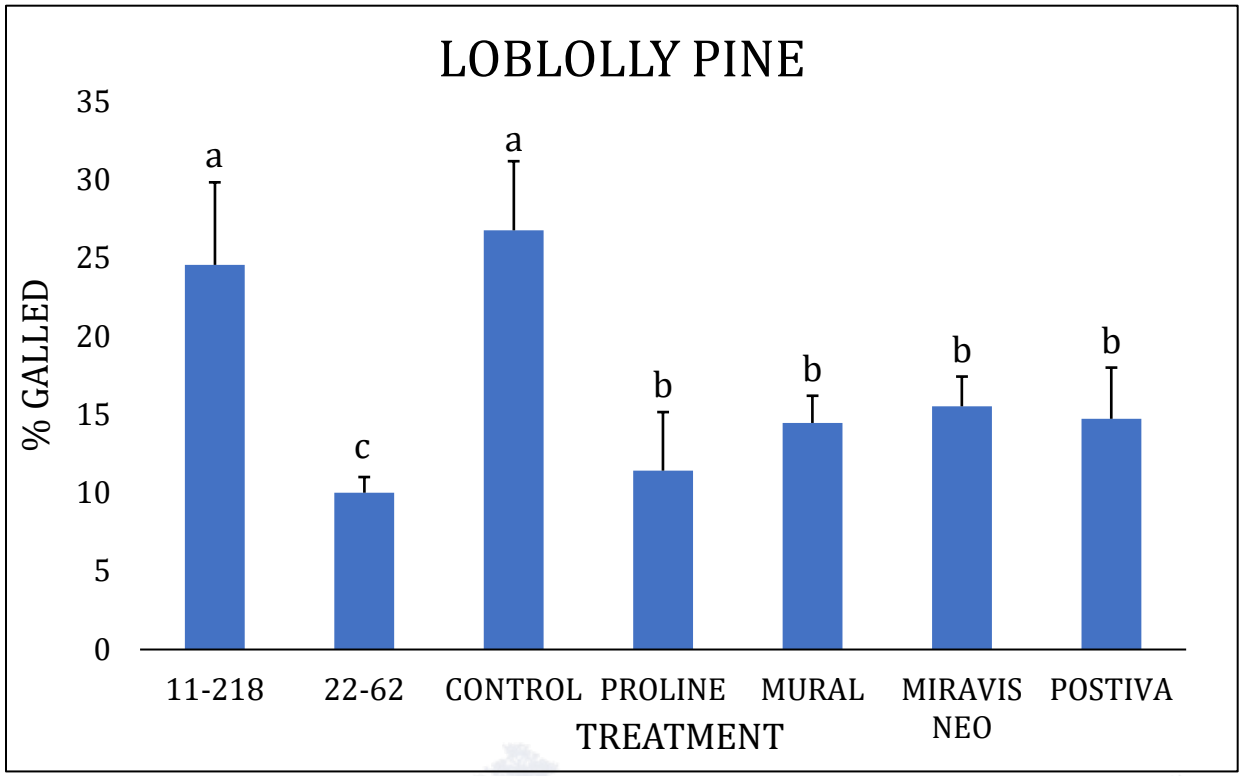
EPA regulations

Proline is the only fungicide currently registered for the control of fusiform rust resistance

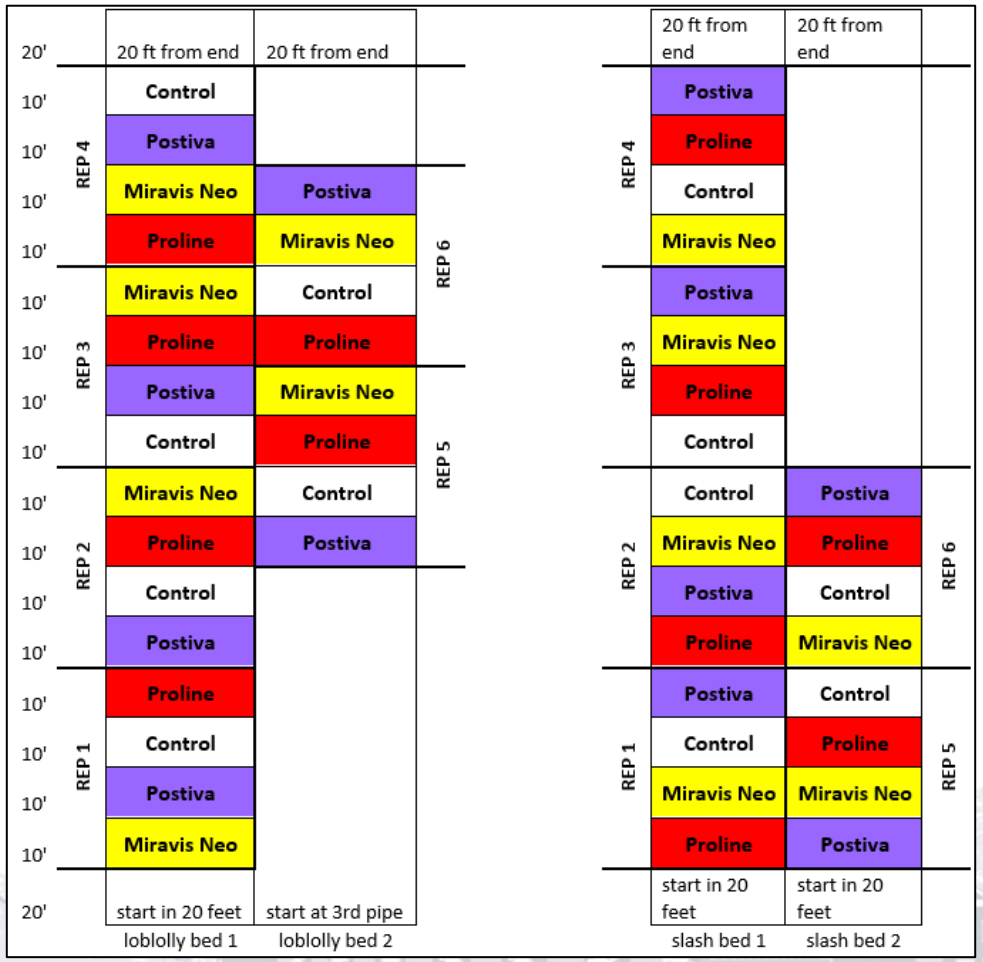
Other fungicides may offer broad-spectrum control

2022 Greenhouse Study Results





2024 Field Study Layout



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