SFNMC Contact Meeting

Shellman, Georgia

July 29, 2025

2024 Loblolly Pine Lift and Store Study Update

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2024 Loblolly Pine Lift and Store Study Update

Objectives
Methods
Current Data Collection and Processing

Research Objectives

1. Evaluate the effects of **lift date**, **storage length, stock type, and seedling provenance** on survival and quality of loblolly pine seedlings.
2. Develop seedling storage recommendations based on these factors.

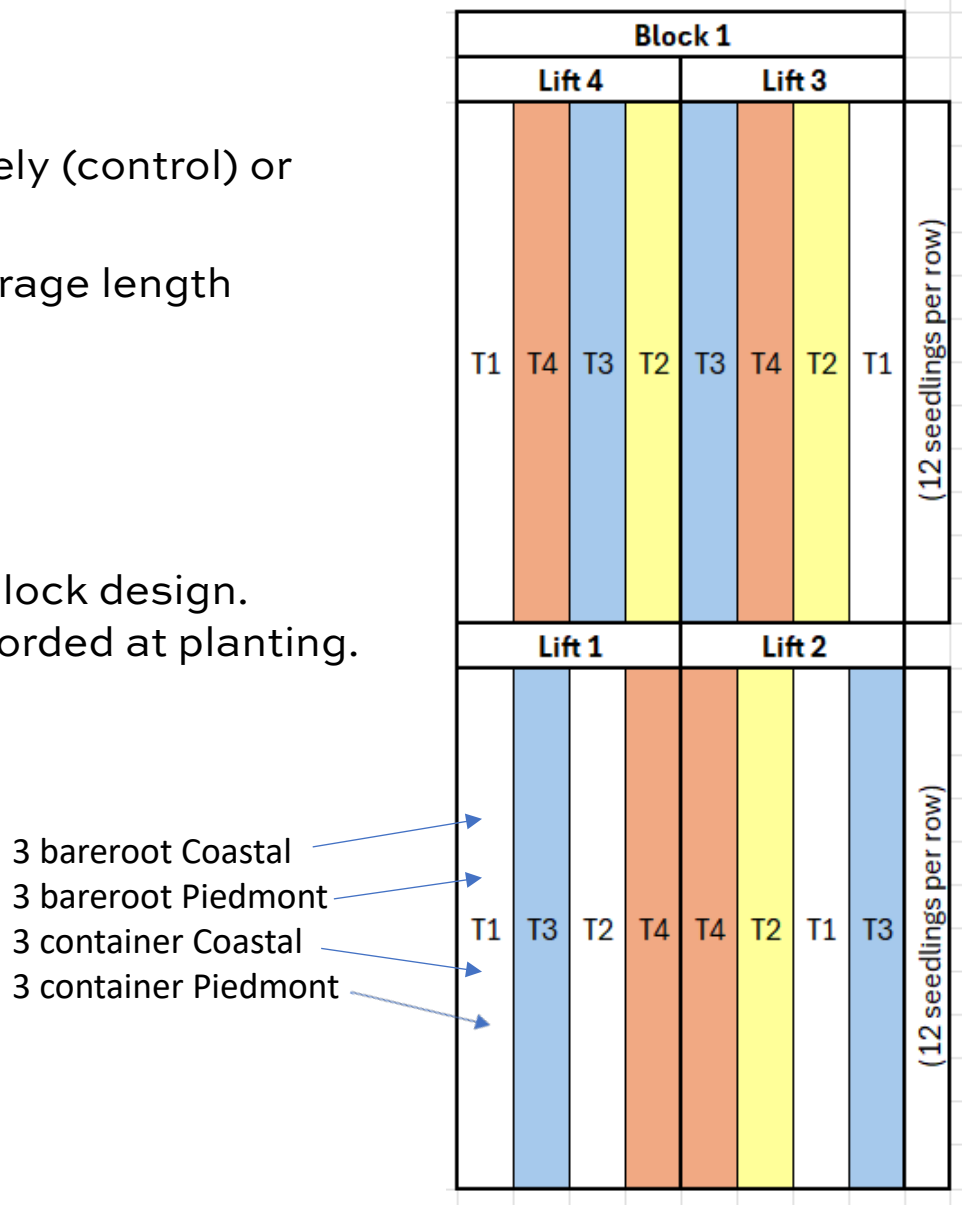
Methods

- Bareroot and container loblolly pine seedlings were grown under operational conditions at the PRT-IFCO Nursery in Pine Hill, AL.
- Seedlings were machine lifted/extracted on:
  - December 1, 2024
  - December 15, 2024
  - January 16, 2025
  - February 15, 2025
- 192 seedlings were collected on each date.
  - 96 bareroot seedlings
    - 48 Coastal (CP001)
    - 48 Piedmont (PD0105)
  - 96 container seedlings
    - 48 Coastal (CP001)
    - 48 Piedmont (PD0105)
- A total of **768 total loblolly pine seedlings** were used in the study.

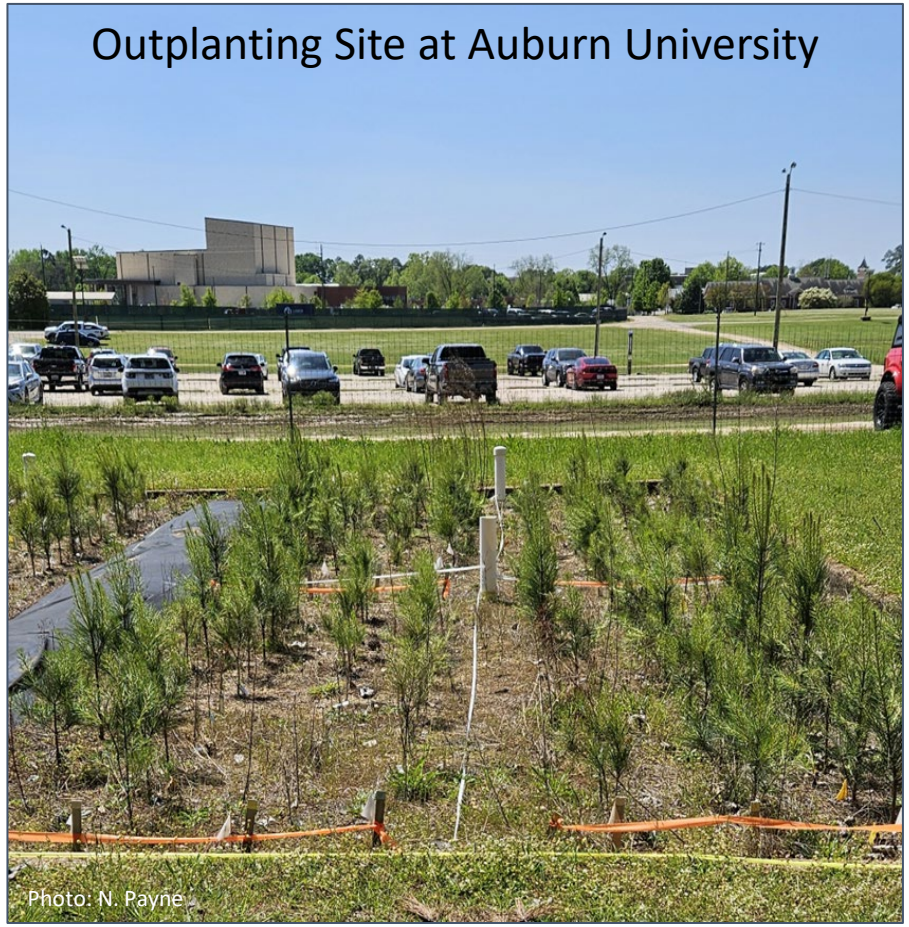
Methods

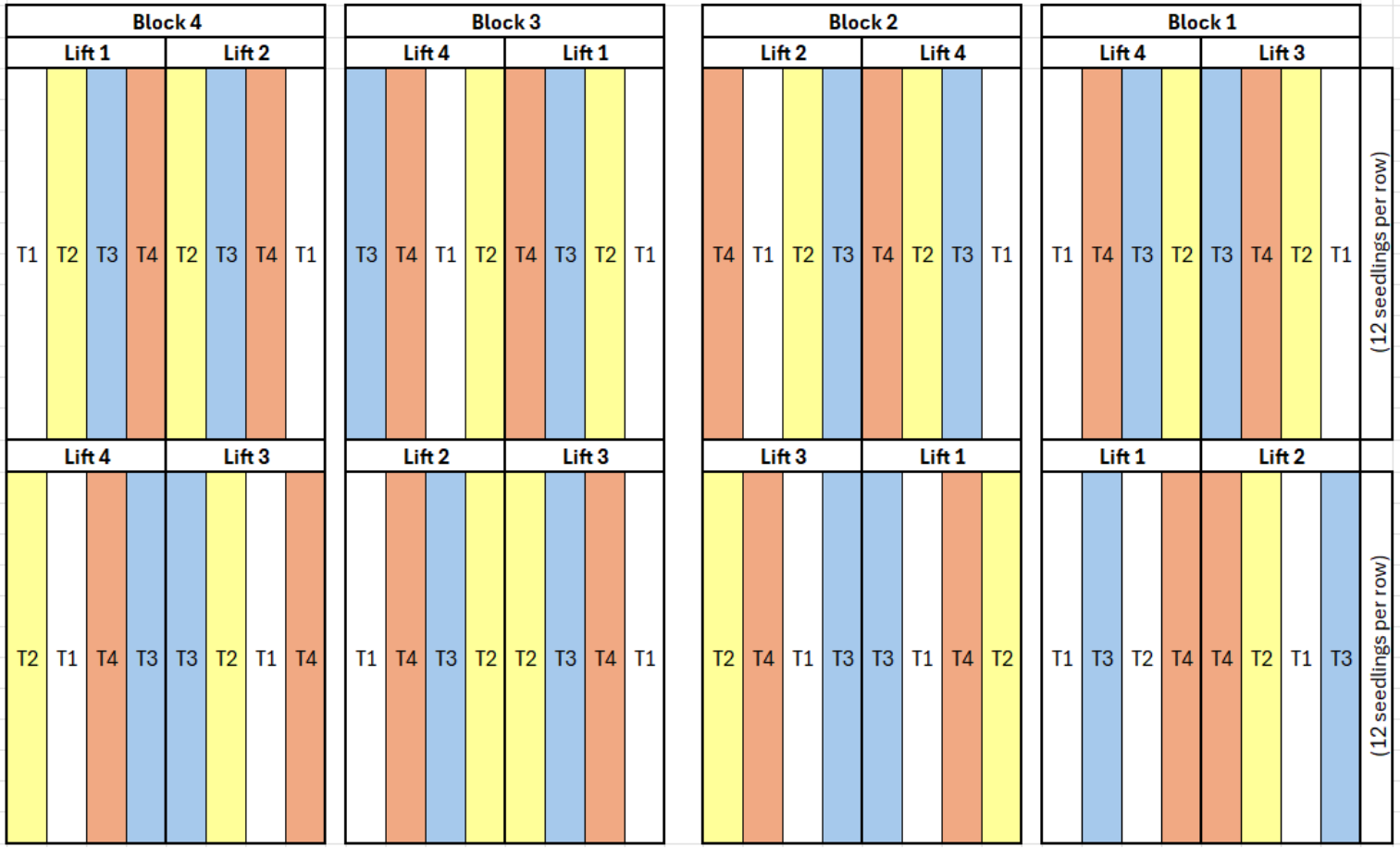
- For each lift date, seedlings were planted immediately (control) or placed in cold storage at Auburn University.
- 48 seedlings were planted for each lift date and storage length treatment:
  - 12 bareroot Coastal
  - 12 bareroot Piedmont
  - 12 container Coastal
  - 12 container Piedmont
- Seedlings were planted in a randomized complete block design.
- Root collar diameter (mm) and height (cm) were recorded at planting.

Lift Date	Planting Date			
	Storage Length (weeks)			
	0	2	4	6
December 1, 2024	Dec. 1	Dec. 15	Jan. 2	Jan. 16
December 15, 2024	Dec. 15	Jan. 2	Jan. 16	Jan. 30
January 16, 2025	Jan. 16	Jan. 30	Feb. 15	Feb. 29
February 15, 2025	Feb. 15	Feb. 29	Mar. 14	Mar. 28



Methods


Outplanting Site at Auburn University
Photo: N. Payne


Block 4
Lift 1
T1 T2 T3 T4
Lift 2
T2 T3 T4 T1
Lift 4
T2 T1 T4 T3
Lift 3
T3 T2 T1 T4
Block 3
Lift 4
T3 T4 T1 T2
Lift 1
T4 T3 T2 T1
Lift 2
T1 T4 T3 T2
Lift 3
T2 T3 T4 T1
Block 2
Lift 2
T4 T1 T2 T3
Lift 4
T4 T2 T3 T1
Lift 3
T2 T4 T1 T3
Lift 1
T3 T1 T4 T2
Block 1
Lift 4
T1 T4 T3 T2
Lift 3
T3 T4 T2 T1
Lift 1
T1 T3 T2 T4
Lift 2
T4 T2 T1 T3
(12 seedlings per row)
(12 seedlings per row)

Methods

- Seedlings were hand lifted on April 10-11, 2025 and survival data was recorded.
- Seedling quality attributes were measured from April-July 16, 2025.
  - Root collar diameter (RCD)
  - Height
  - Shoot weight
  - Root weight
  - Root weight ratio (RWR) = root dry weight/total dry weight


Photo: N. Payne

Next Steps

- Collect weather data beginning 2 weeks before planting through lifting:
  - Nov. 17, 2024 - Apr. 10, 2025
- Determine if initial height and RCD was significantly different within stock types and provenances before outplanting.
- Determine significant differences in survival (%), RCD, seedling height, shoot weight, root weight, and root weight ratio based on lift date, length of cold storage prior to planting, stock type, and provenance.
- A final research report will be published by September 30, 2025.

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