MODIFIED SOWING TRIAL 2021 INSTALLATION

SFNMC 2022 CONTACT MEETING

JULY 18, 2022

Southern Forest Nursery Management Cooperative

Nina Dowling Payne

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2021 MODIFIED SOWING OPERATIONS TRIAL

- Trial proposed by nursery operator to better utilize limited equipment and labor available at sowing - idea of spraying herbicides prior to sowing 'borrowed' from ag
- Trial designed to quantify differences in seedling characteristics and weed control in beds prepared and sown by 2 methods:
  1. Operational method: prepare beds, sow, apply pre-emergent herbicides, mulch, water in
  2. Modified method: prepare beds, apply pre-emergent herbicides + water in, sow ± 3 days later, mulch
- Installed at K & L Forest Nursery

K & L Forest Nursery

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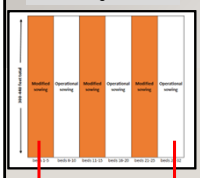
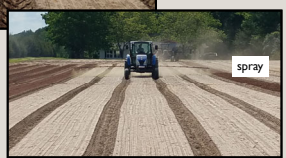
32 beds used
mean bed length of 370 feet





pre-emergent herbicides sprayed
herbicides watered in
sowed 4 days later
mulched

sow
pre-emergent herbicides sprayed
mulched
watered in

3

2021 Bareroot loblolly pine seedling characteristics from two sowing methods

Sowing method	Density/ft^2	Shoot height (cm)	Root collar diameter (mm)	Shoot dry weight (g)	Root dry weight (g)
Operational	24.9 ± 1.21	31.0 ± 0.37	5.09 ± 0.05	3.32 ± 0.12	0.57 ± 0.02
Modified (pre-sowing herbicide application)	28.6 ± 0.10	30.2 ± 0.04	4.90 ± 0.13	2.99 ± 0.12	0.55 ± 0.05
p>f	*0.081*	*0.180*	*0.393*	*0.147*	*0.634*

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RESULTS

- Germination: no differences reported between operational and modified beds
- Weeds: quantities and species did not vary by treatment
- Seedlings at end of growing season:
  - no statistical differences in density/square foot, height, root collar diameter, or dry weights of shoots and roots
- K and L Forest Nursery used the modified sowing method in 2022.
- Modified sowing method may provide greater flexibility for equipment and labor and alleviate some time pressures associated with sowing.

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Celebrating 50 Years 1972 - 2022

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RESEARCH REPORT 22-01

THE EFFECT OF MODIFICATIONS TO SOWING PROCEDURES ON THE GROWTH AND DEVELOPMENT OF LOBLOLLY PINE SEEDLINGS

by

Nina Payne, Tom Stokes, and Lucas Singleton

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QUESTIONS?

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