



Loblolly Pine Re(for)soration Succeeds in Significant Cogongrass Suppression after 8 years

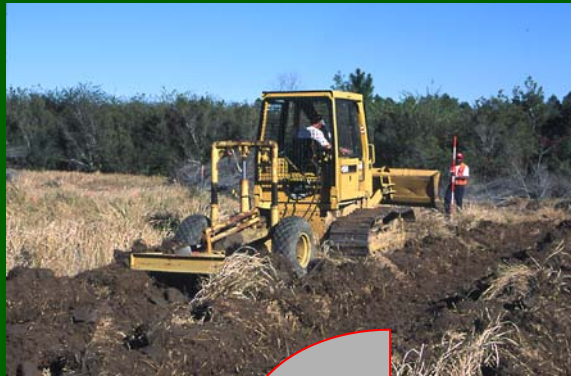
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Dr Luke Marzan (Remote Sensing), and Dr. Jim Miller (USFS R&D)



Integrated Vegetation Restoration for Cogongrass Management

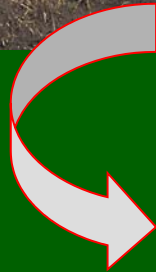
Mechanical



Herbicides

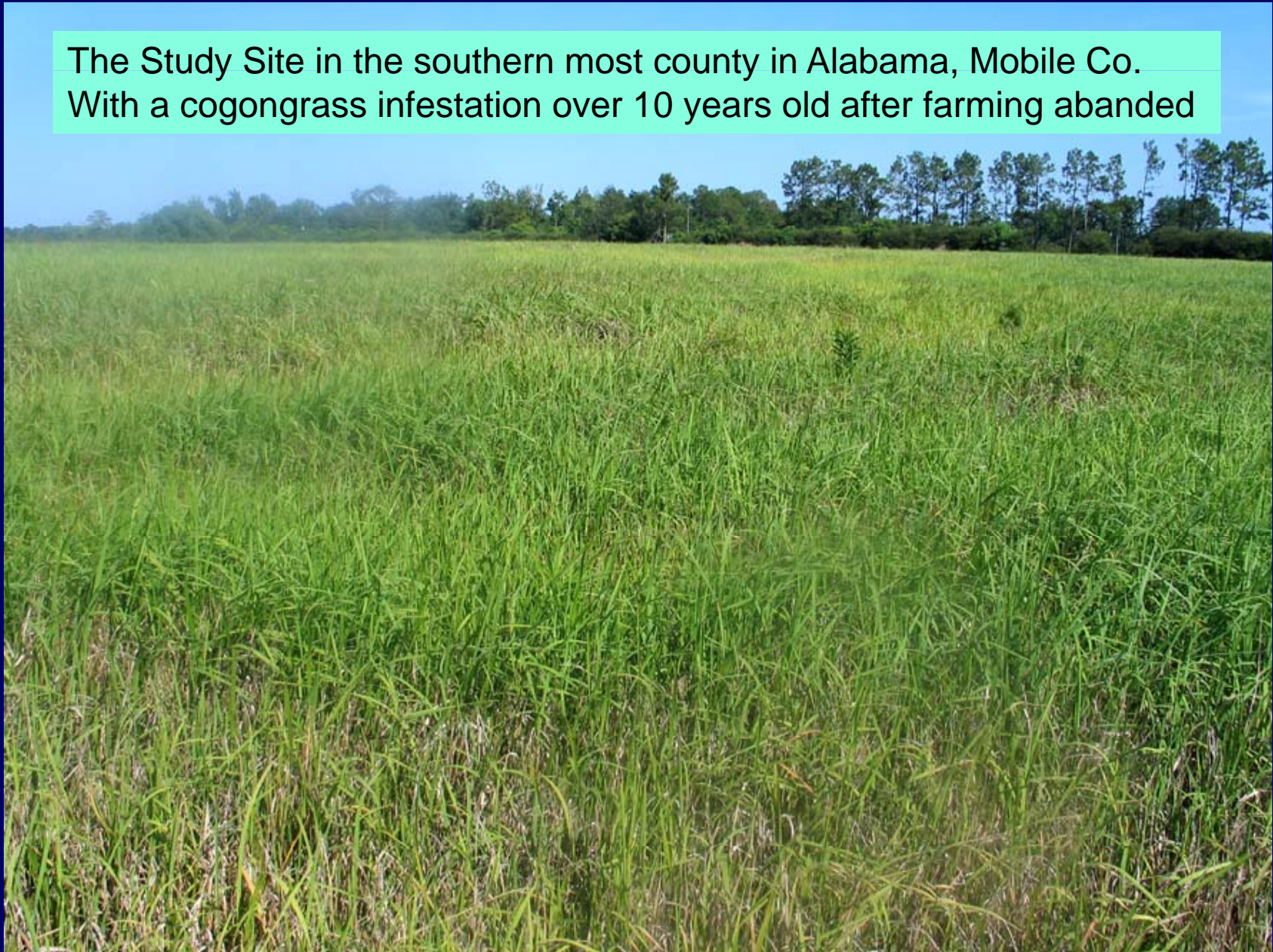


Cultural – Plant Something



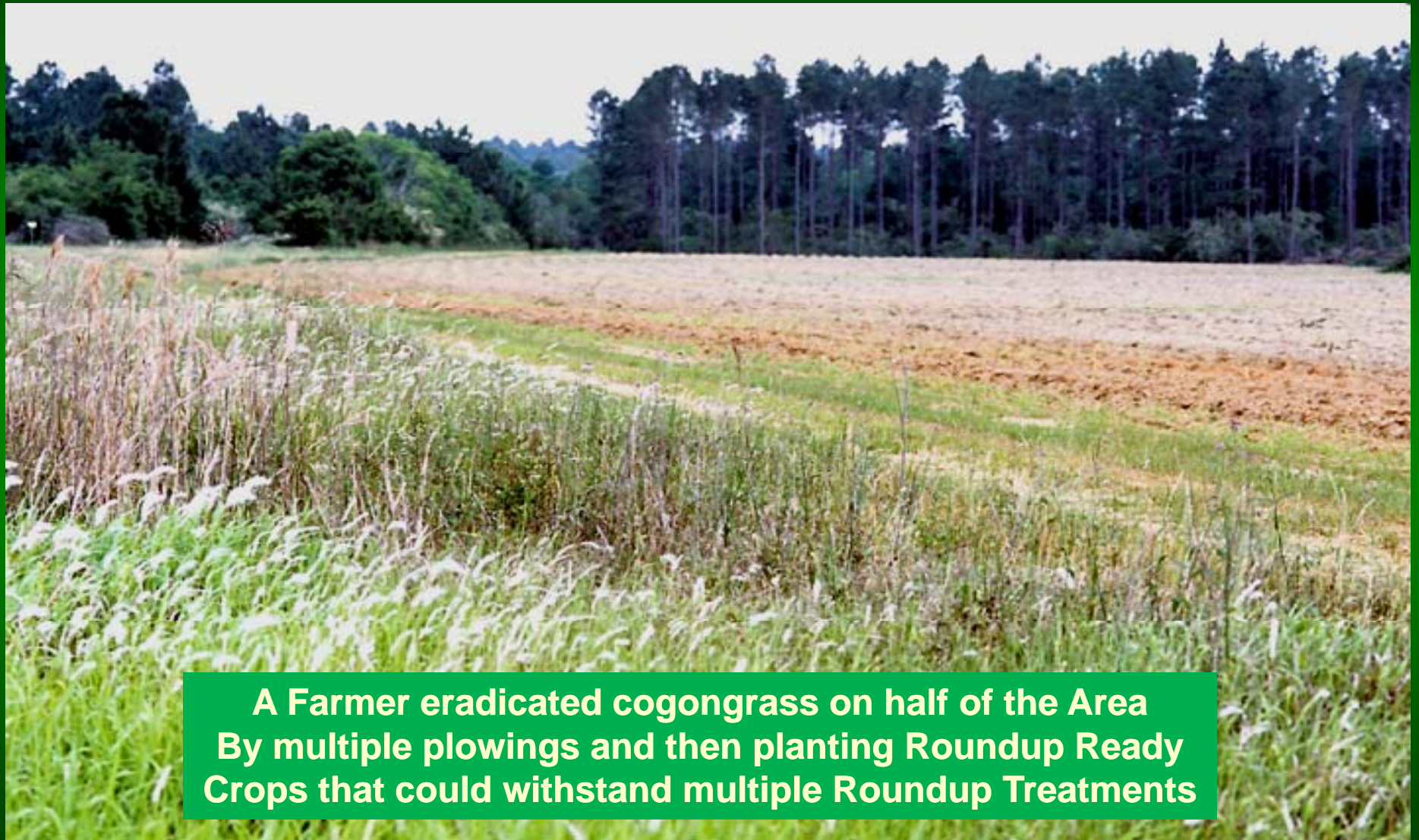
**Wilson Faircloth's Ph.D. Research
Auburn + USFS + ALDOT + DeGussa
on Combinations of Herbicide and
Mechanical Site Preparation and Banded
Herbicide Release for Establishing
Loblolly Pine**

The Study Site in the southern most county in Alabama, Mobile Co.
With a cogongrass infestation over 10 years old after farming abanded



Research Site during Study Establishment





**A Farmer eradicated cogongrass on half of the Area
By multiple plowings and then planting Roundup Ready
Crops that could withstand multiple Roundup Treatments**

Test Treatments for Establish Loblolly

All Combinations of the 3 Main Treatments plus 2 extras

1. Mechanical Site Preparation

“Scalping” treatment using fireplow behind a dozer

Removed a 6 to 10 inch layer of soil, creating a planting trench

2. Herbicide Site Preparation – at 26 gallons total volume per acre

imazapyr Arsenal AC[®] 12 oz /A +

glyphosate Accord Conc[®] 0.8 gal /A + surfactant 0.5 % v/v

3. Pine release May or Oct - banded sprays over rows

Arsenal AC[®] 4 or 6 oz /A alone and mixtures with

Oust[®] 2 oz /A and Escort[®] 1.0 oz /A

– Double Rate Herbicide SP and release with Arsenal + Escort+Oust

– Check Non-treated Plots

Cogongrass infestation reforestation by planting loblolly pine Seedling after herbicide SP + fireplow scalp and scalp alone



2 x 2 meter spacing
8.2 x 8.2 ft, 650 trees /ac

January 2001

Seedling spots were heel stomped to flatten grass and expose soil to eliminate dormant grass stems that can, if placed in the planting slit, will wick moisture to cause excessive drying
Improved seedlings were planted that had been re-graded onsite
To have over a 3/8th inch groundline diameter

After 1st growing season



**Mechanical SP only vs. Mechanical SP + Chemical SP in the
1st growing season**



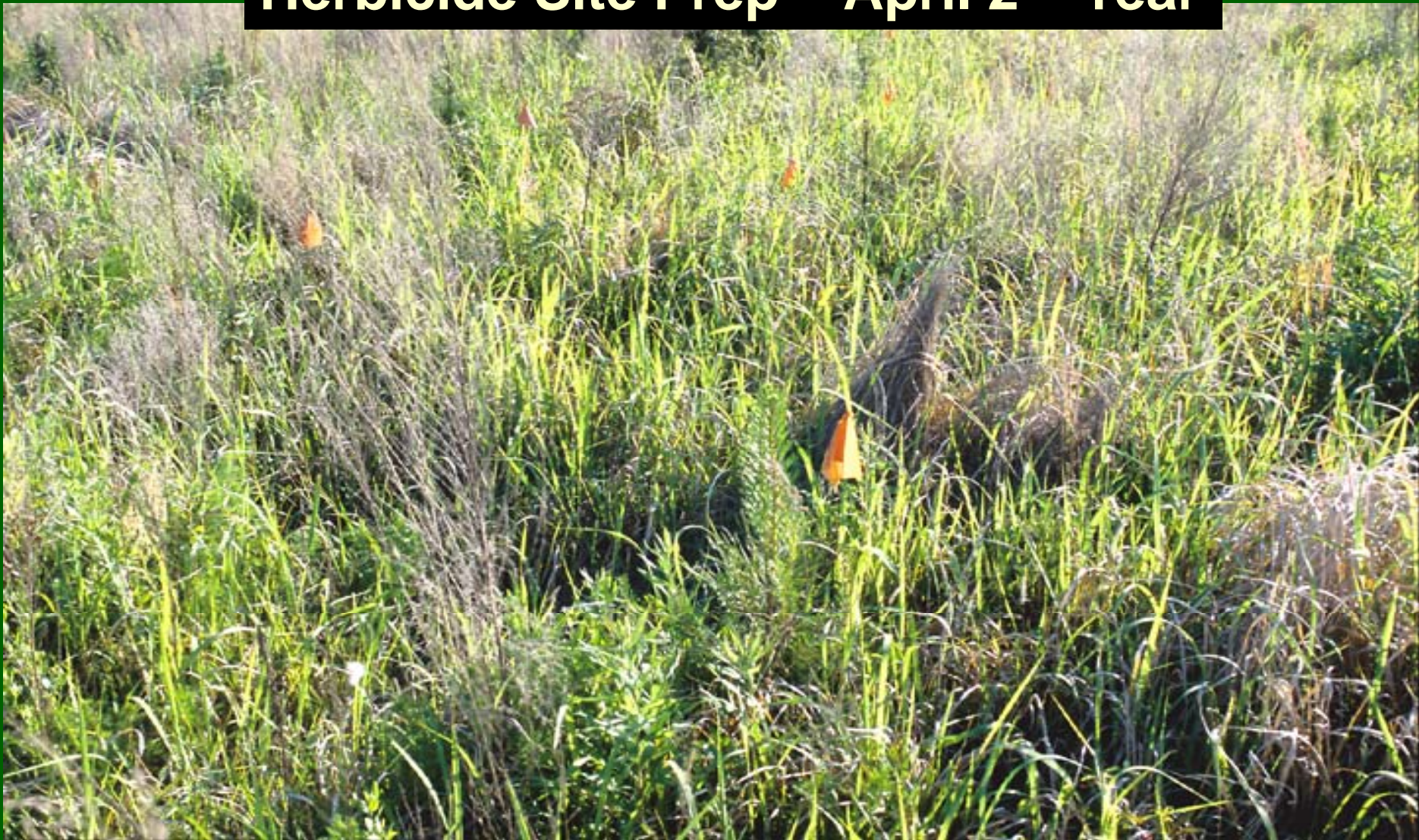
April of the 2nd growing season on Check non-treated plot



Herbicide and Scalp Site Prep - April 2nd Year



Herbicide Site Prep - April 2nd Year



September after 3rd growing season Max Site Prep
with early succession initiated which later was reinvaded
by cogongrass



August of the 6th Growing Season



After 8 Growing Seasons

Herbicide Site Prep 2X Rate + Fall Arsenal Release



Herb + Scalping Site Prep



After 8 Growing Seasons Significant Suppression has occurred

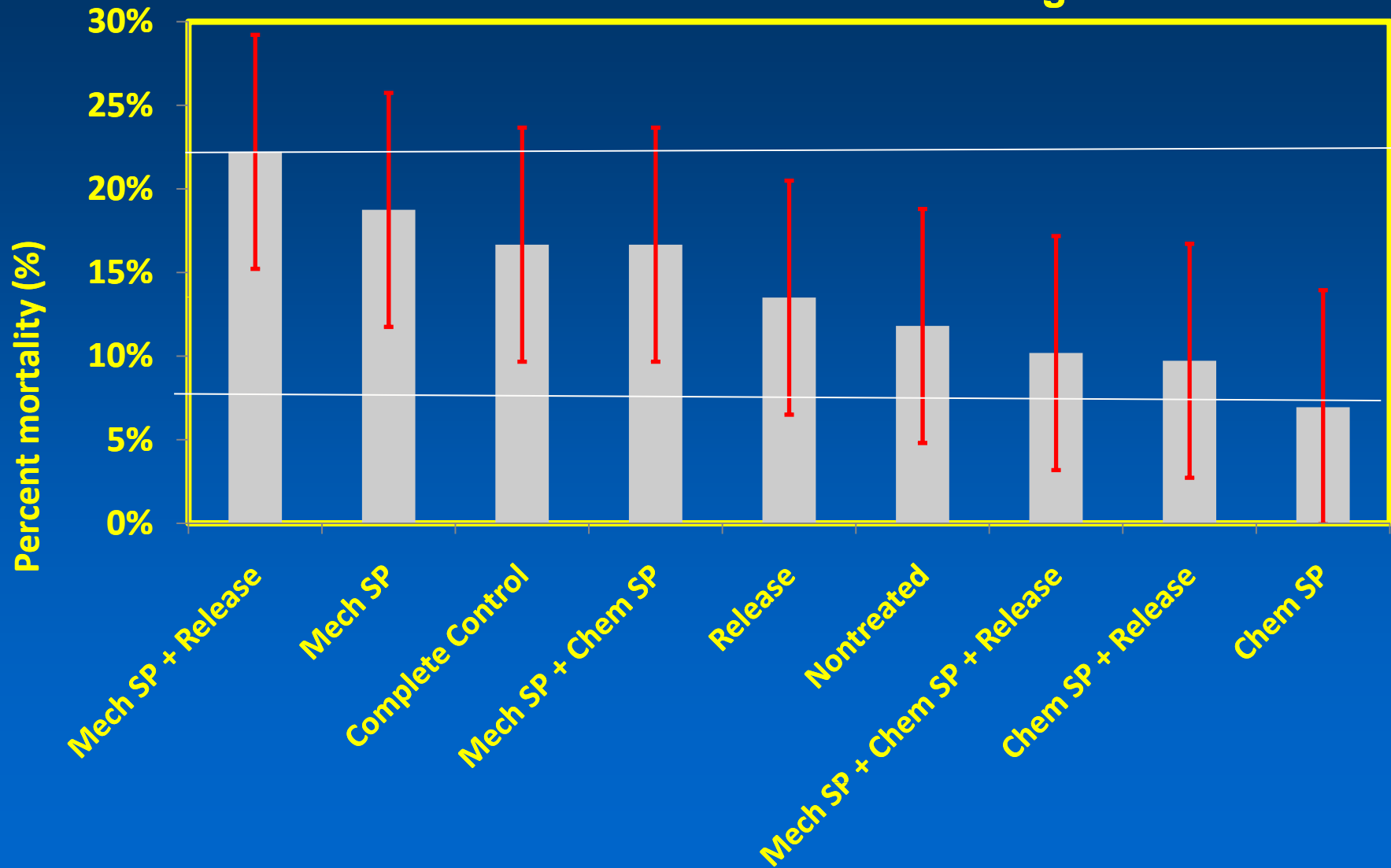
Plant Pines Only with yaupon, privet, and waxmyrtle
Volunteer establishment and Pine cover with needle
Litter layer



Herb Site Prep & Missing Tree
permits light to sustain
cogongrass

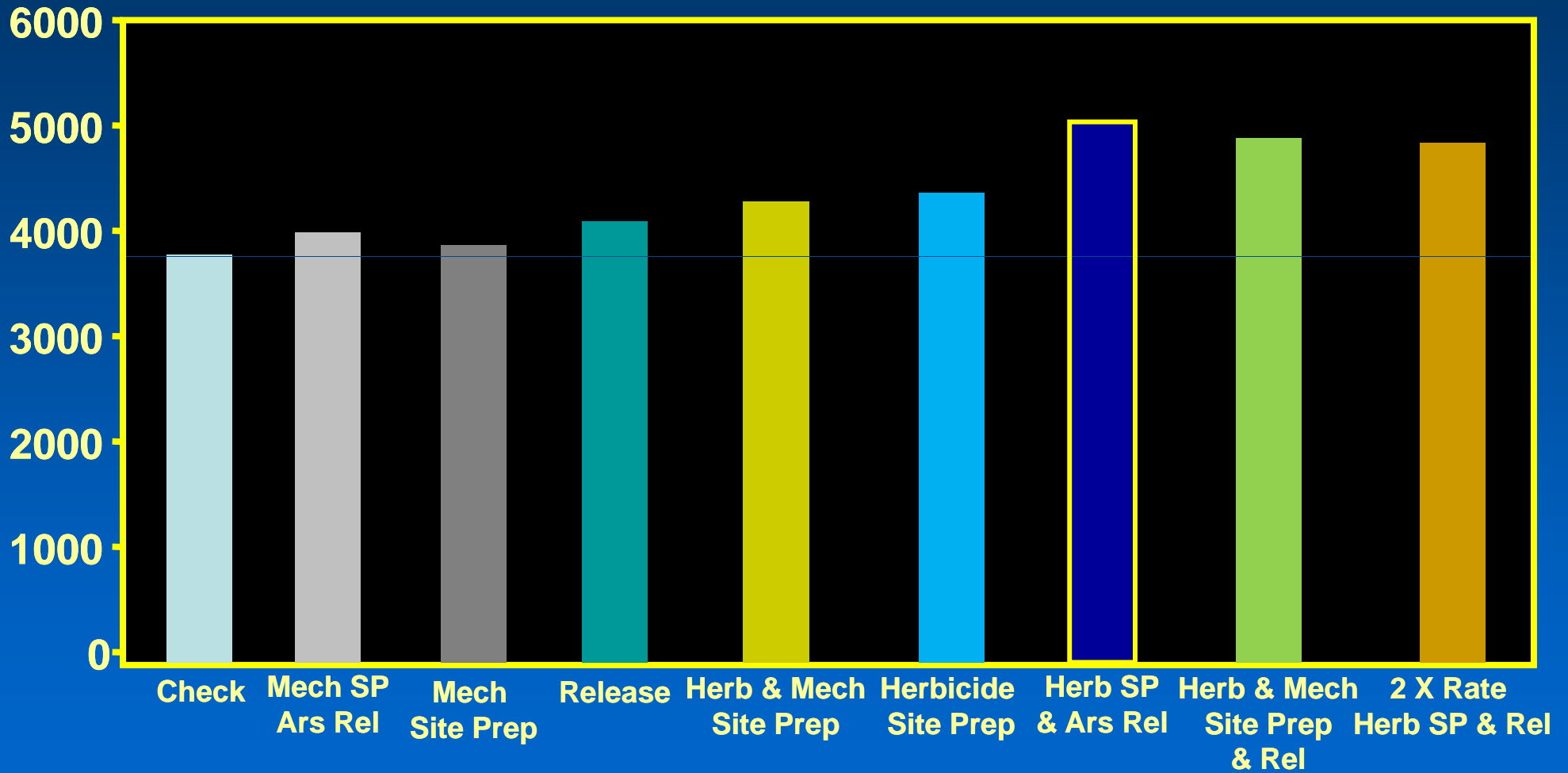


**Loblolly pine mortality 8 years after establishment
Mobile Co., AL - 3 hurricanes had occurred
Which resulted in blowdowns and leaning trees**

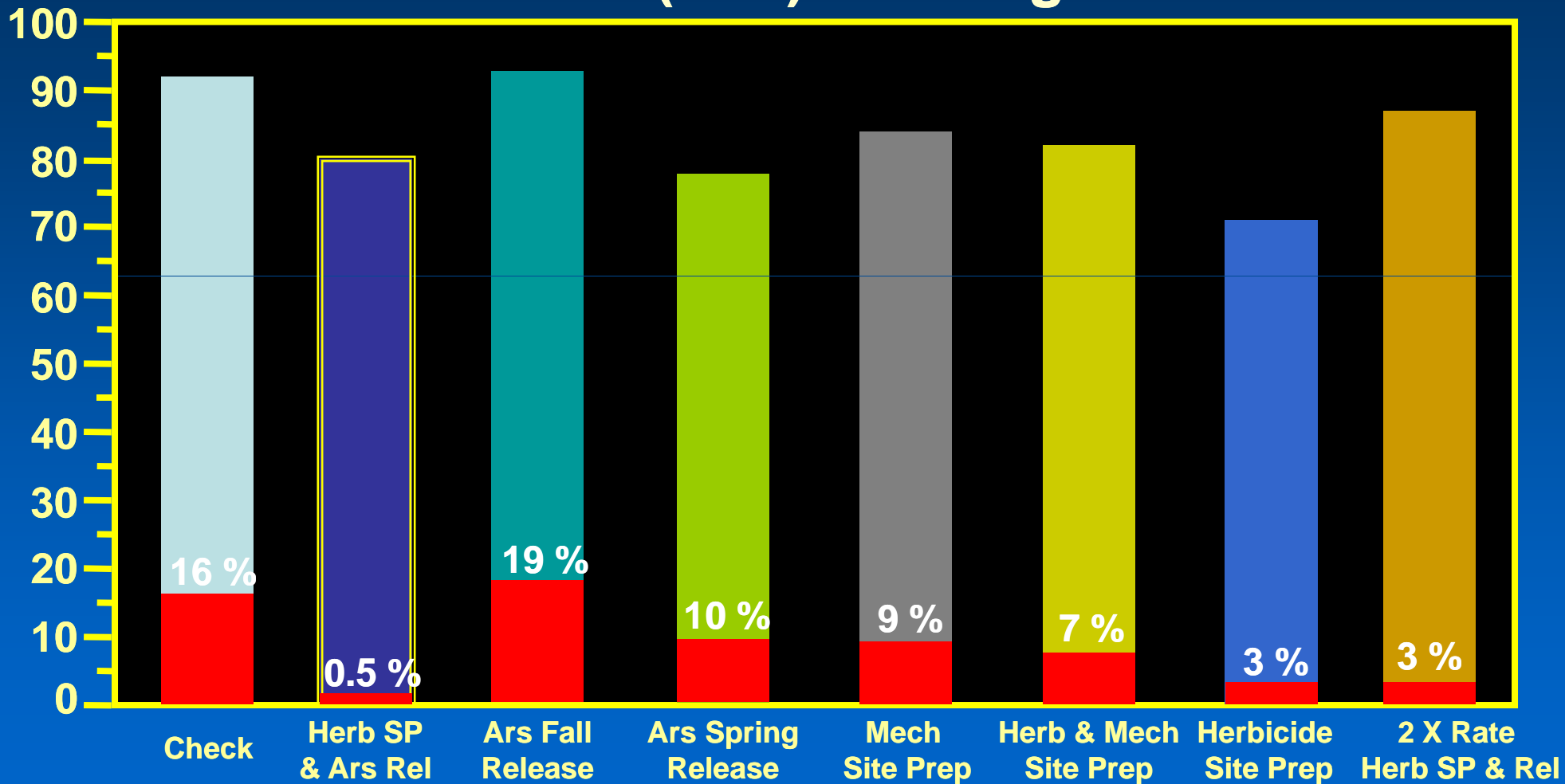


Eight Year Pine Volume (cu. ft.)

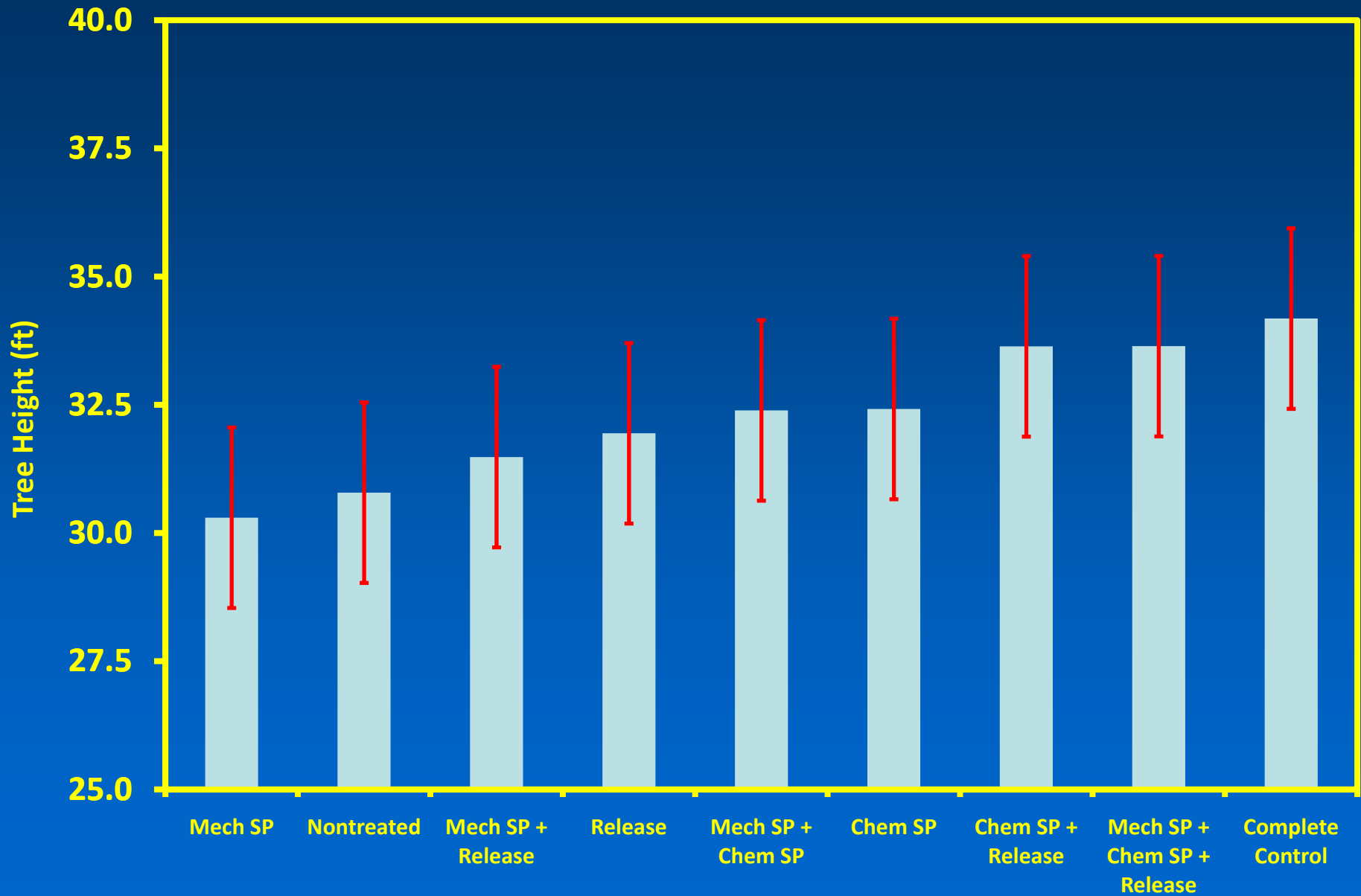
very little difference apparent although not yet statistically tested



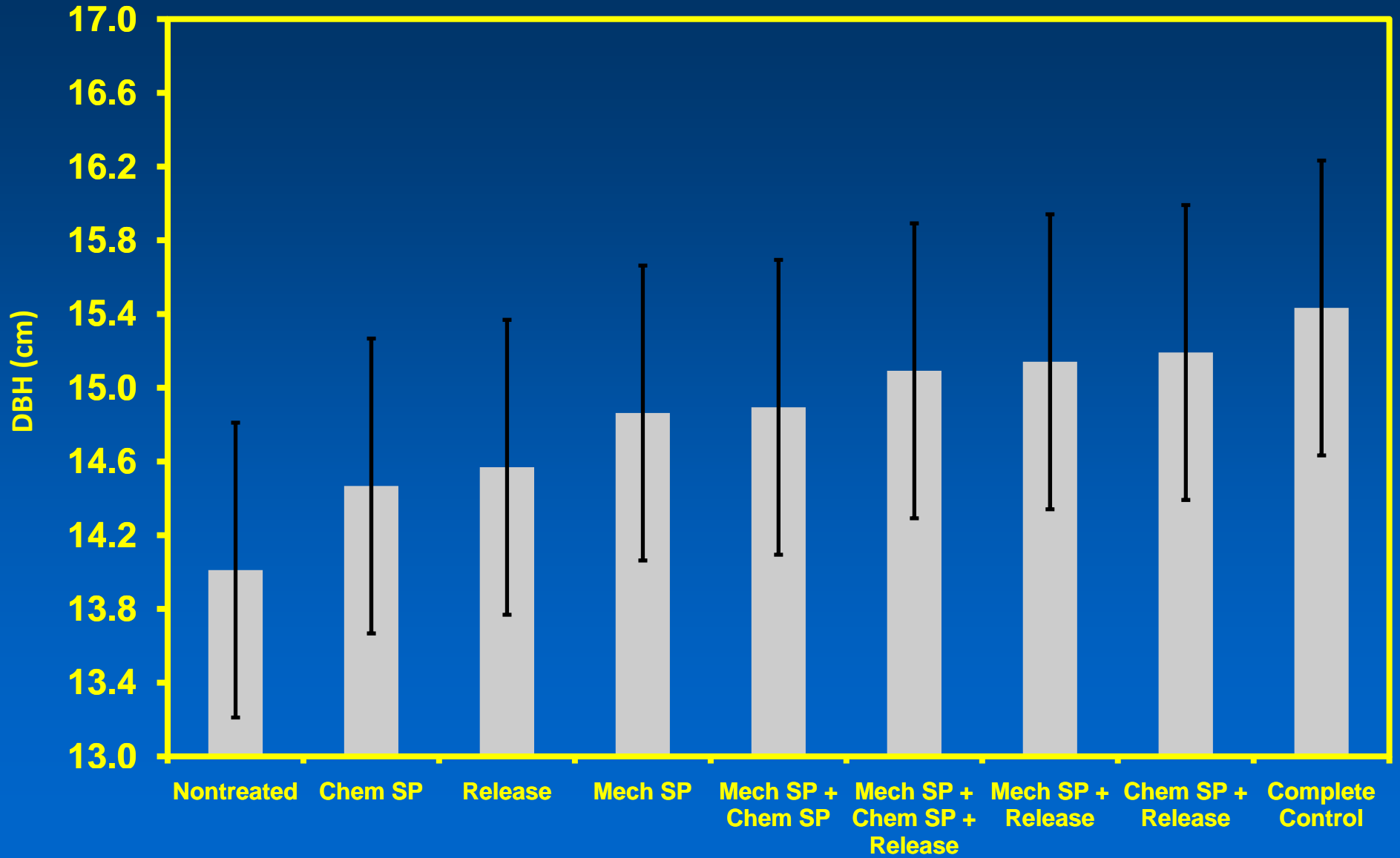
Cogongrass Cover (%) after 5 and 8 (Red) Growing Seasons



Loblolly pine height 8 years after establishment
Mobile Co., AL



Loblolly pine DBH 8 years after establishment Mobile Co., AL



What We Learned

- Initial cogongrass control increased with the intensity of treatments was but was not sustained due to absence of eradication with even the multiple treatments.
- Scalping site preparation that laid the rhizome mats back as a mound between pine rows sustained the cogongrass longer than other treatments , which is not advised as a useful treatment.
- Dense pine canopies with pine litter layers or pine canopies with woody shrub midstories suppressed cogongrass to an average of 0.5 to 20 percent after 8 growing seasons.
- 8-yr pine volumes were not dramatically different among treatments although statistical analyses have yet to be performed.

We Can Establish Loblolly Pine Plantations in Cogongrass Infestations

