



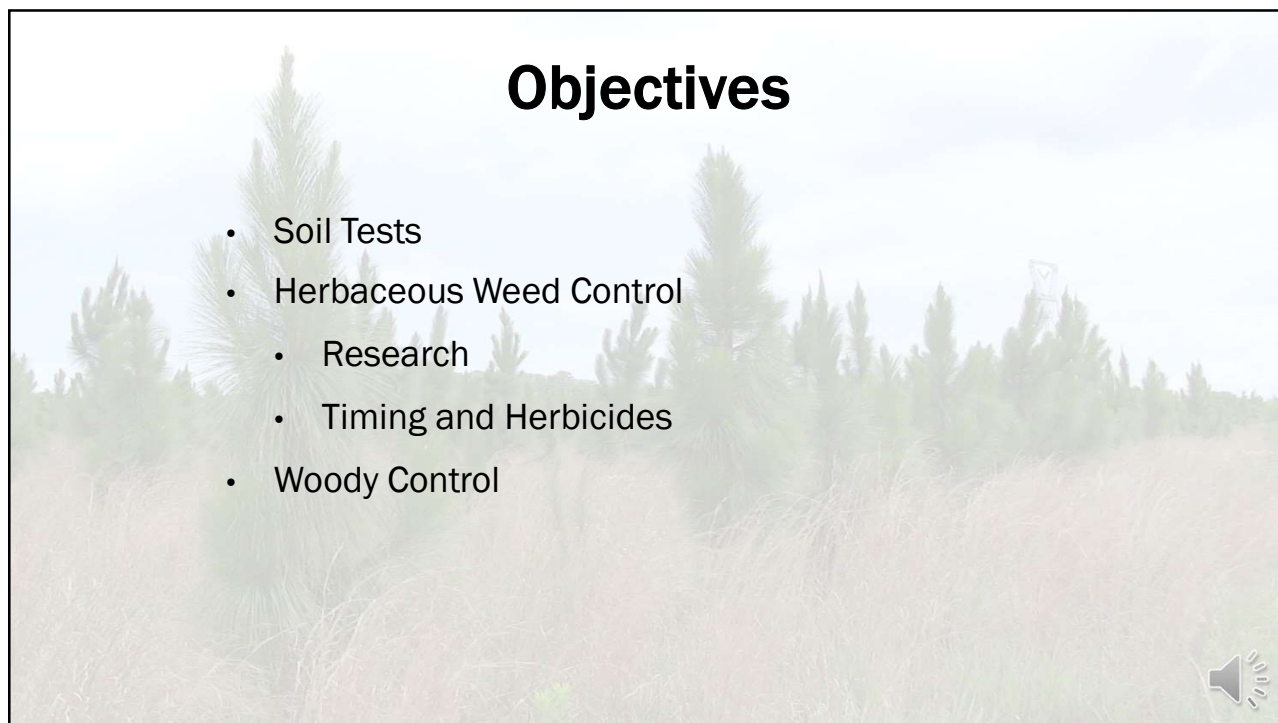
Herbaceous Release & Woody Release

extension
ALABAMA A&M & AUBURN UNIVERSITIES

Ryan Mitchell




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Objectives

- Soil Tests
- Herbaceous Weed Control
 - Research
 - Timing and Herbicides
- Woody Control



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Soil Test

- **On Ag/Pasture Sites**
 - Chicken litter and livestock feed areas
 - Cutover sites if prior problem
- **Include micronutrients**
 - A normal test will not include these
- **Test pH**
 - Avoid high pH soils (>7.0)
 - Use caution when spraying



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Longleaf establishment phase

- Most difficult phase for longleaf pine (Boyer 1972)
- 1st question: “What do seedlings need?”
 - Sunlight
 - Water (soil moisture)
 - Nutrients
- 2nd question: “What limits seedling survival and early growth on upland well drained former old-field soils?”

Research by Dr. David Dickens, UGA



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Longleaf establishment phase – Addressing the Timing Issue

- On old-field and former pasture sites and most cut-over sites there is plenty of sunlight and nutrients for seedlings (sites with little to no native herb or grass vegetation)
- Therefore (on moderately well to excessively well drained soils)
- Soil moisture tends to be the limiting factor (for survival and early growth)
- Earlier herbicide treatments (prior to 15 April) give better survival and early growth on well drained soils in droughty springs on non-scalped sites for the Coastal Plain of GA and north Florida

Research by Dr. David Dickens, UGA



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Is there a difference in banded vs broadcast and 1 vs 2 yrs HWC? Loblolly HCW Study 9-yrs post treatment (Lauer et al 1993)

- Volume/acre
 - SD¹ between HWC vs no HWC (25% gain) 7 of 8 sites
 - SD between 1 vs 2yr HCW 4 of 7 sites
 - SD between HCW method (band vs broadcast) 0 of 6 sites

» ¹SD = significant difference @ 5% alpha level

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Herbaceous Weed Control Herbicides in Longleaf

Common Name	Trade Name*	Product Rate Per Acre
Hexazinone	Velpar® L Velpar® DF	4-8 pints 1.3-1.8 lb
Imazapyr	Arsenal® AC	4-6 oz
Sulfometuron	Oust® XP	2-8 oz
Sulfometuron (12%) + Hexazinone (63%)	Oustar®	10-19 oz
Clopyralid	Transline®	¼ - 1 1/3 pints ~15 oz
Aminopyralid	Milestone®	3-7 oz

* Generics available for most

Dr. Pat Minogue



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LLA HWC Research

- Mark Hains (1995-2014)
- HWC Research conducted 1997-2003
- Tested over 45 different herbicide combinations on more than 7 sites



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Most Consistent Herbaceous Release Treatments on AG SITES

- **The Split Treatment**
 - 2 Oz Oust between March 15 - April 15
 - Followed by 4-6 oz Arsenal after May 15 (as necessary)
- **Arsenal 5 oz & Oust 2 oz (Tankmix)**
 - Apply after May 15



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Check -No Herbaceous Release Treatment (Survival/Mortality)

- Best of 16 treatments in 97 bareroot study
- 1999 Site Prep and Herbicide Study
 - Scalping Site Prep = 8th out of 11 treatments
 - Chemical Site Prep = Worst out of 11 treatments
 - Check (Rip Only) Site Prep = 4th Worst out of 11 treatments
- Second best of 20 treatments 01 Monroeville Container study
- Ranked 12th out of 20 treatments in 02 Samson Study



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Check Treatment

- On average, across four studies we reduced survival 3 out of 4 times (74%) by applying a herbaceous release treatment.
- Removing treatments that were off label (Atrazine/Oust, Escort), we still reduced survival 70% of the time.
- On average, across four studies we increased height growth by applying a herbaceous release treatment with 4 out of 5 treatments (80%).



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When is the “Check” or “No Release” Treatment a Good Option?

- **When the Site Prep is Adequate**
 - Some agricultural sites that have been scalped
 - Cutover sites that have been chemically site prepared
- **When the soils are very poor**
 - Lakelands, Kershaws, other sands
- **When the seedlings are planted late**
 - 1st Screening trial planted in March
 - Best out of 16 treatments
 - Monroeville Site planted in Mid-February
 - Tied for 1st best out of 20 treatments.



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Post-plant herbaceous weed control timing considerations for the GA Coastal Plain

- April and May have been historically the driest months of the first half of the year for interior CP GA
- Other studies done during droughty growing seasons by Ezell, Yeiser, and Nelson have found that **earlier** treatments (March-April HWC) often gives better survival and early growth than May-June treatments
- Five and eight year results show that 10 oz/ac Oustar in April (and May in 2 of 3 cases) outperformed all other treatments using cumulative ht and volume index/ac

Research by Dr. David Dickens, UGA



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Summary of post-plant herbaceous weed control for longleaf pine on old-field sites

- A four to six feet band is generally sufficient HWC control in the 1st (especially) and 2nd year vs a wider band or a broadcast treatment (Lauer et al 1993)
- Based on the recent longleaf study looking at herbicide timing; there was a significant survival decline (15 to 25 percentage points) if the herbicide was applied within 2 months of planting → therefore do not apply a herbicide over longleaf pine within 2 months of planting

Research by Dr. David Dickens, UGA



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Dig before you spray!
Planted on Jan. 14
Excavated on March 30.



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Chemicals to Avoid

- Escort (at any rate)
 - Oust Extra
- Arsenal/Oust Tankmix (before May)
- Atrazine/Oust Tankmix
- Surfactants



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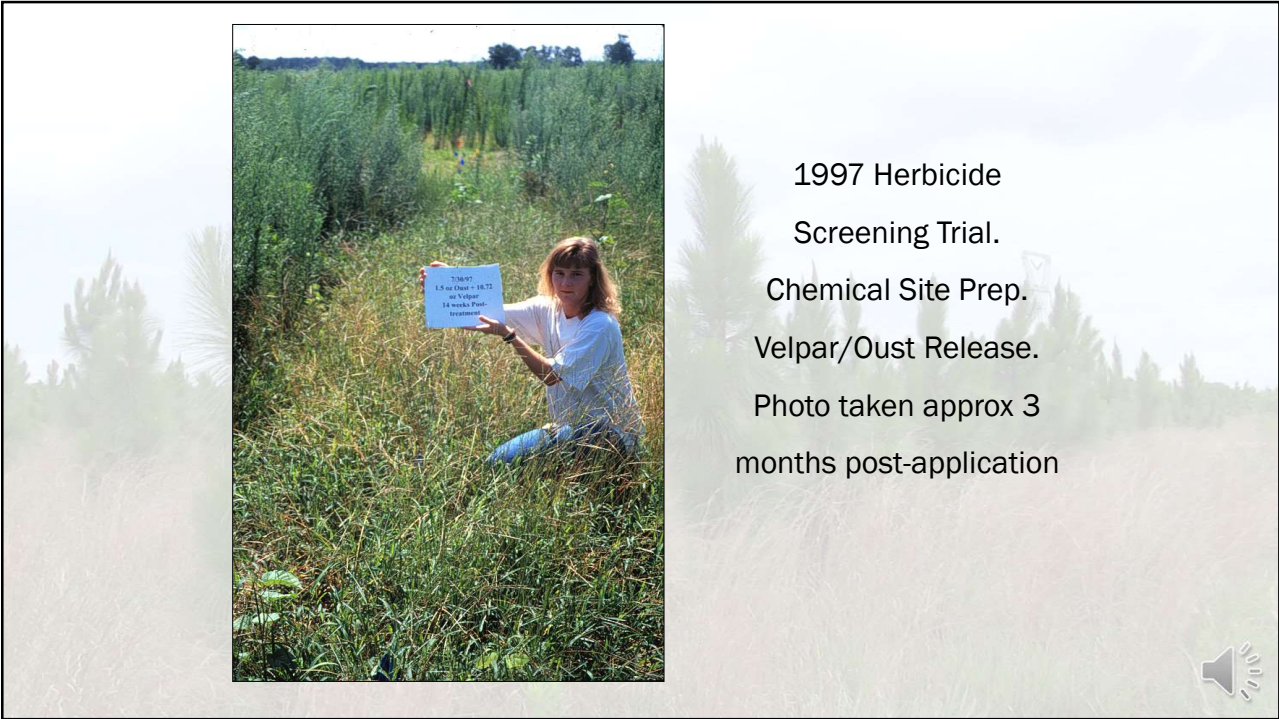
Herbaceous Weed Control & Woody Release



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1997 Herbicide Screening Trial.
Chemical Site Prep.
Velpar/Oust Release.
Photo taken approx 3 months post-application

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No Veg. Control
Yr 1 or 2
Survival: 67%
Grass Stage: 11%
Avg. Height: 5.4'



20

Velpar/Oust Yr 1 only

Survival: 63%

Grass Stage: 4%

Avg. Height: 9'





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Complete Yr 1,
Velpar / Oust Yr 2

Survival: 67%

Grass Stage: 2%

Avg. Height: 12.1'



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2 Years Velpar/Oust -
4 ½ Growing Seasons
Avg. Hgt = 9.8'
Survival = 68%
Grass Stage = 2.6%

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Treatments – herbaceous vegetation poor control weeds

Treatment: / timing	Oust + Arsenal	Oustar	Arsenal
March		croton, minor camphorweed, minor TX panicum	croton, TX panicum, dogfennel, minor camphorweed
April		croton, minor camphorweed, minor TX panicum	croton, TX panicum, dogfennel, minor camphorweed
May		croton, minor FL pursley, coffeeweed	croton, TX panicum, dogfennel
Mar or April & June/July	Bermudagrass, minor TX panicum, coffeeweed		

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Large-Flower Partridge Pea

- A native legume / herbaceous species
- Annual
- Native to Southeastern US
- Attractive flower / aesthetics
- Quail and & birds consume the seed
- Seed is readily available
- Easy to establish
- Nitrogen fixer

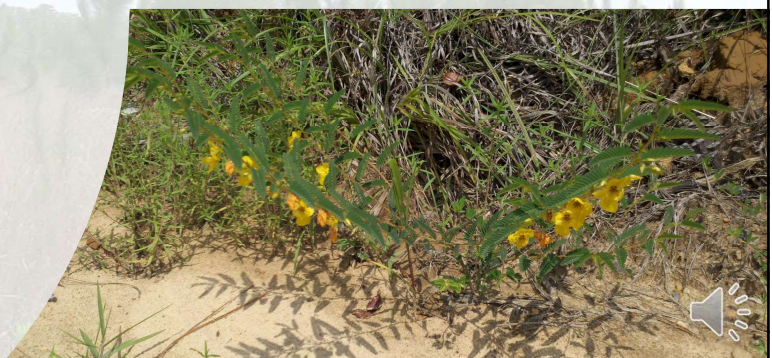


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Small-flower
partridge pea



Large-flower
partridge pea



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Large Flower Partridge Pea in a Food Plot




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Large Flower Partridge Pea 1st Growing Season in Covington County!



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Two years post-planting an upland CRP site in Covington County, Alabama w/ large-flower partridge pea.



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2011 Herbicide Screening Trial over Partridge Pea in Geneva County, AL

- Originally planted in 2007 under CRP
- Included approx. 1 lb of large-flower PP/acre
- 1st year survival reported above 90%
- End of 2nd growing season, near total loss in wetter fields

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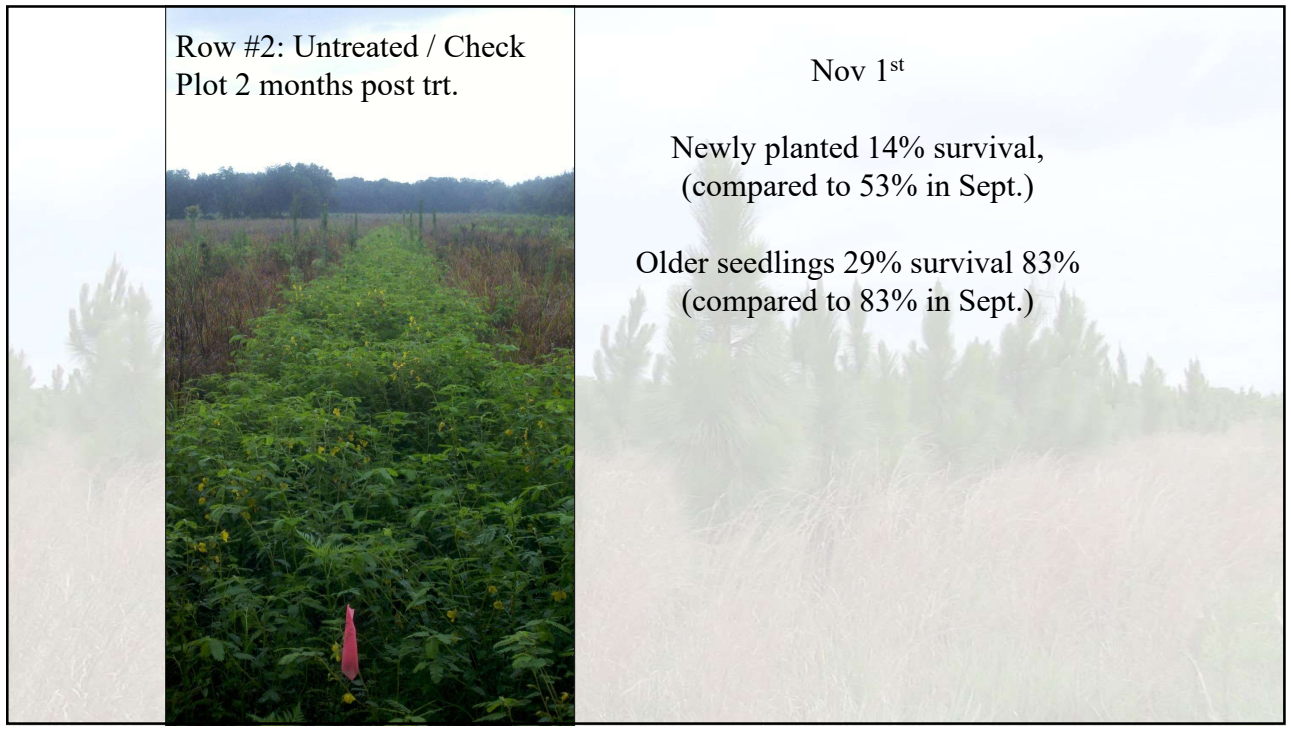
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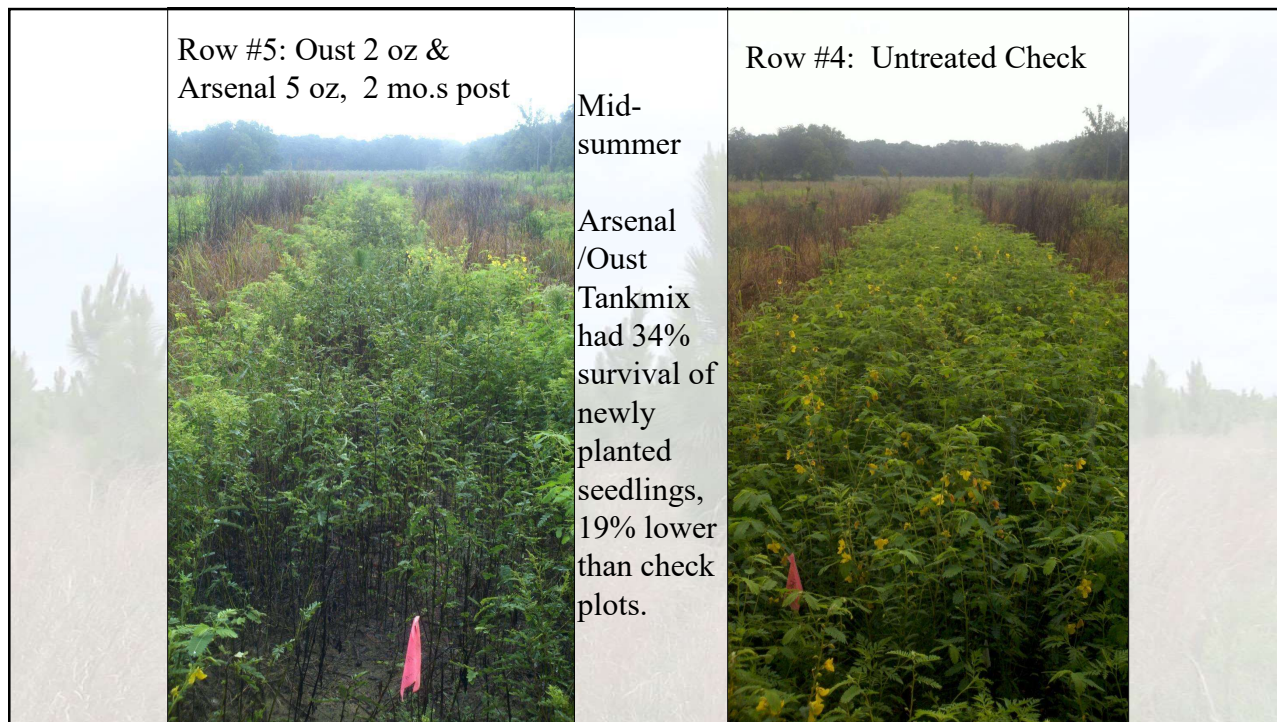
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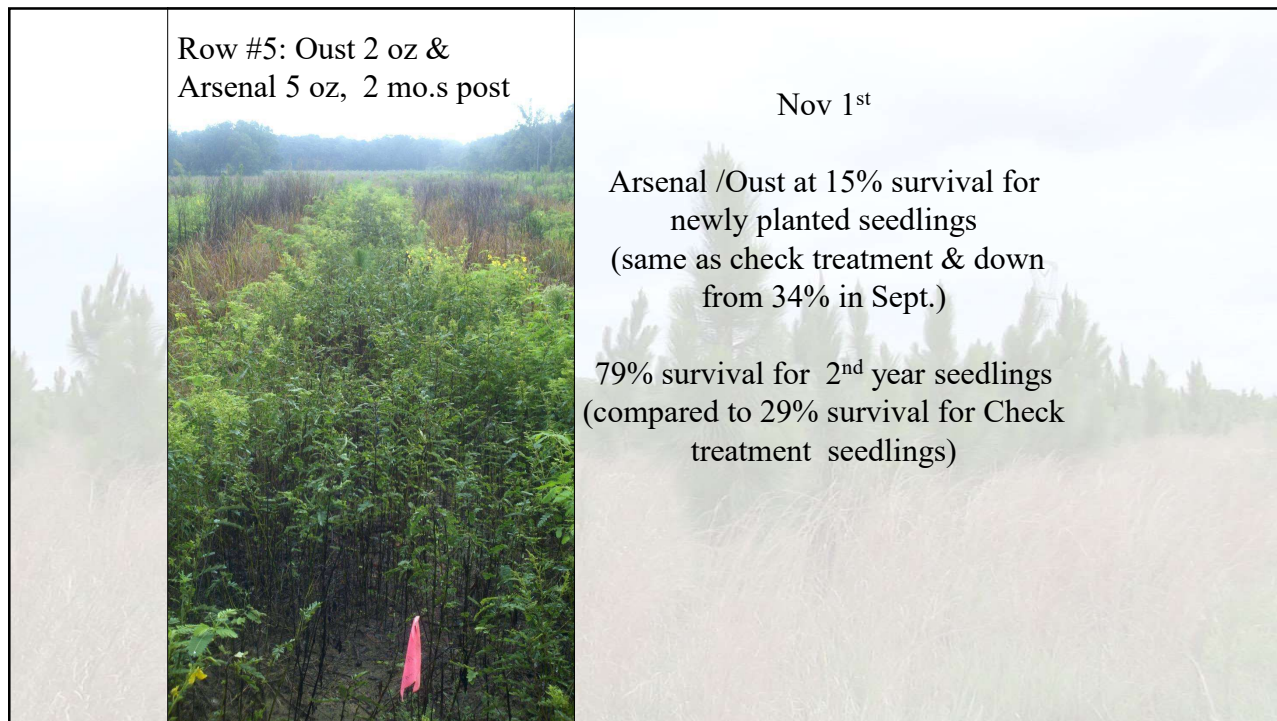
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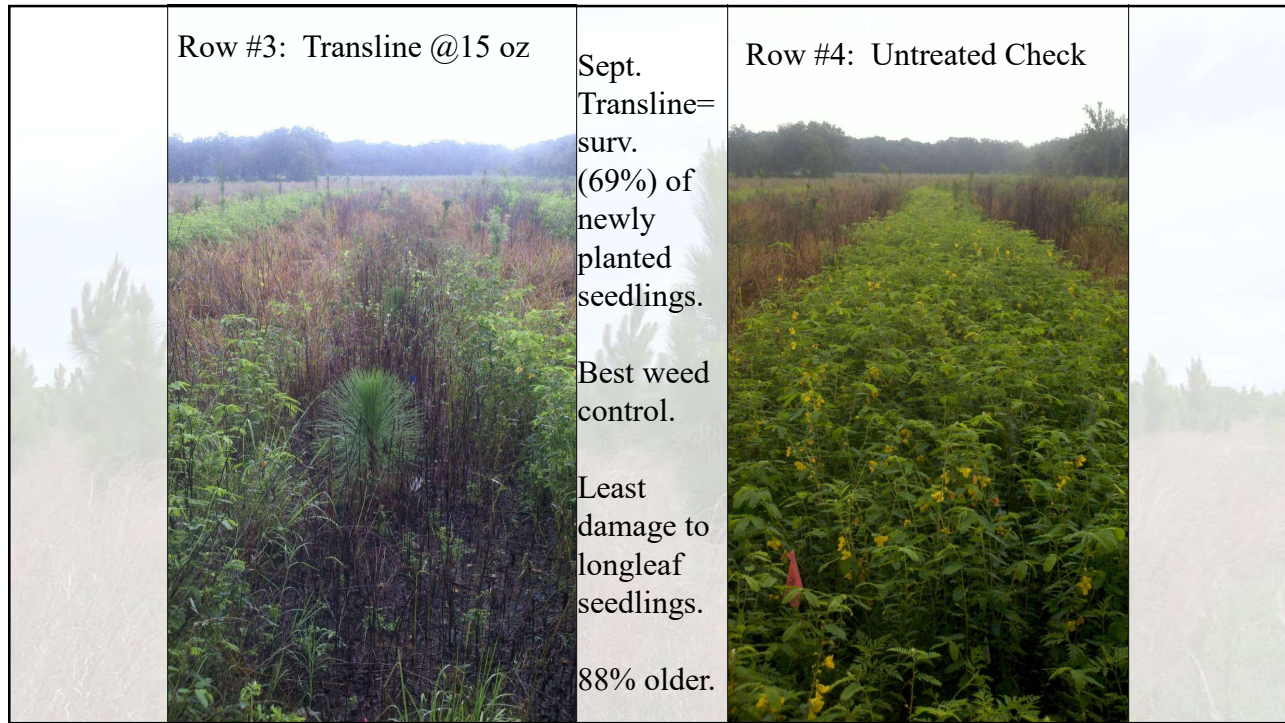
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	<p>Row #6: Milestone VM 7 oz acre 2 mo.s post trt</p> 	<p>September</p> <p>Milestone VM had 49% survival of newly planted</p> <p>Better weed control than Ars./ Oust</p> <p>97% Surv. older seedlings</p>	<p>Row #4: Untreated Check</p> 	
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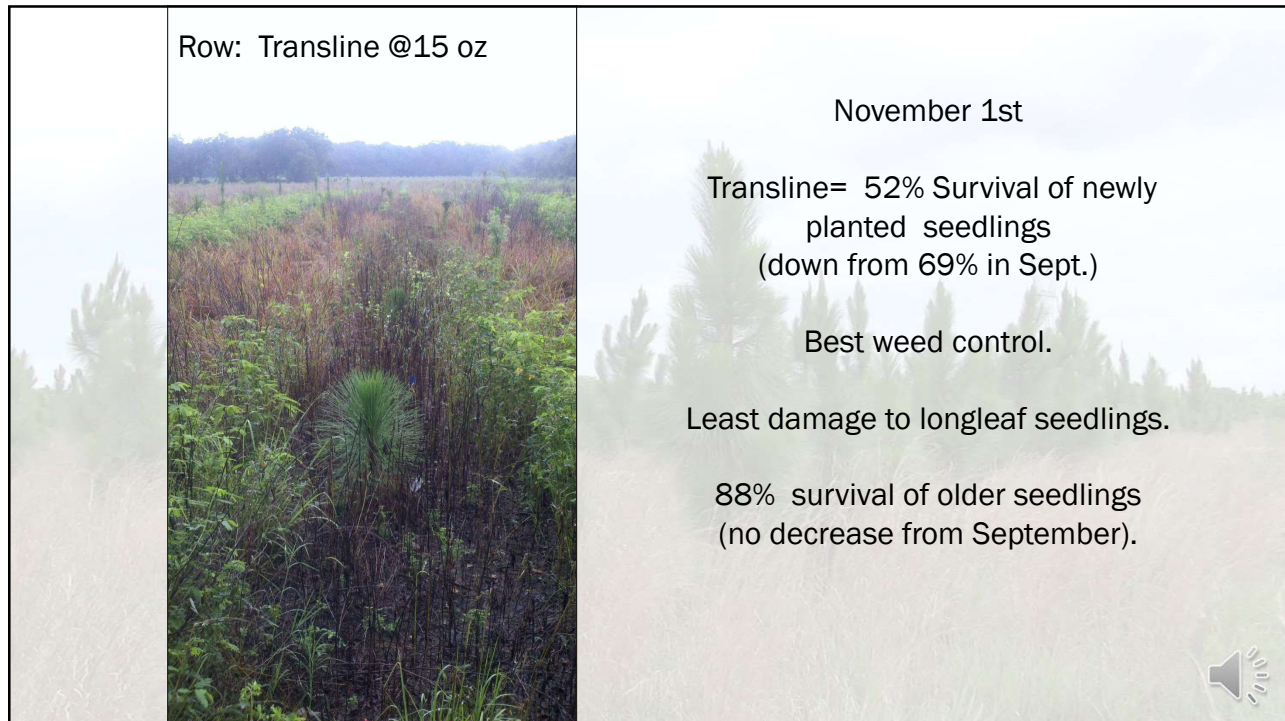
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	<p>Row #6: Milestone 7 oz acre 2 mo.s post trt</p> 	<p>November 1st</p> <p>Milestone had 33% survival of newly planted seedlings (down from 49% in September)</p> <p>Better weed control than Arsenal/Oust</p> <p>84 % survival of older seedlings (down from 97% in September)</p>
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**Coffeeweed & Sicklepod are
closely related to partridge pea.**



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**Milestone VM on
glyphosate resistant
pigweed**



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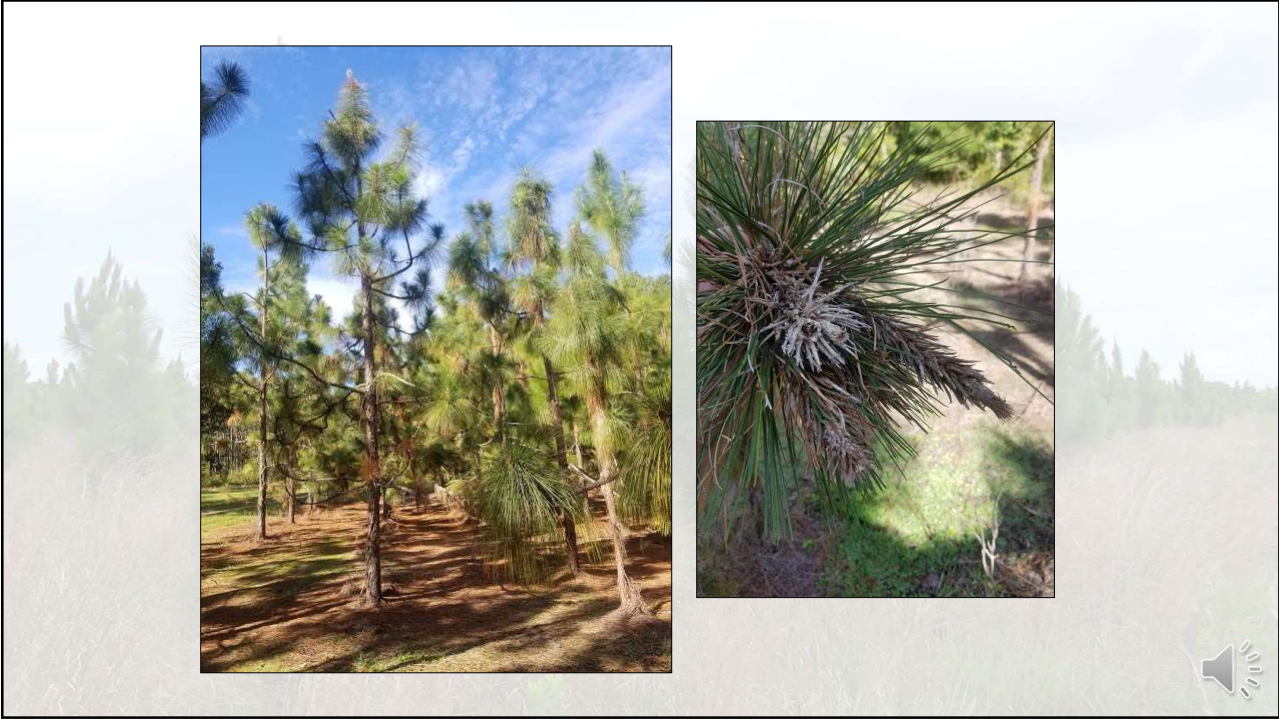


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Herbaceous Weed Control & Woody Release



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Hexazinone




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Bermudagrass



- Sethoxydim (Poast)
- Fluazifop (Fusilade)
- Clethodim (Select/Envoy)
- Glyphosate*

• Key is timing!




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Pasture Grass Control

- Based on TTRS current research and objectives at this time they recommend:
- Bahiagrass control - Sethoxydim SPC® @ 24-30 oz/acre or Metsulfuron @ 2-3.5oz/acre
- Bermudagrass control - Sethoxydim SPC® @ 30-34 oz/acre
- To minimize germination - Plateau® @ 4-6oz/acre can be added to either chemical

Research done at TTRS.



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Gallberry & yaupon treated with 3
quarts Garlon 4 per acre.



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Garlon 4 may volatilize at higher
temperatures*



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Released legumes & warm season bunch grasses.



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Aminopyralid and triclopyr



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Please direct questions to:

Ryan Mitchell
Regional Extension Agent
Forestry, Wildlife & Natural Resources
Alabama Cooperative Extension System
Email: jrm0023@auburn.edu
Mobile: 251-423-9415
www.aces.edu

