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Ona Graduate Student Highlight Brunswickgrass Study

FOR THE
#GATORGOOD

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Overview

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- Brunswickgrass Facts
- Identification
- What We Know
- Titration Study
- Timing Study
- Further Research

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Facts


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- Brunswickgrass (*Paspalum nicorae* Parodi)
 - "Brown-seed" paspalum
 - Perennial warm season grass
- Native to S. Brazil, N. Argentina, Paraguay, and Uruguay
- Adapted to a variety of soil types
 - Well-drained, sandy, and acid soils
 - Loamy to medium clay
- Introduced into the U.S. for soil conservation
 - PI202044 – Americus, GA; Arcadia, FL; Coffeeville, MS – not released
 - PI310131 – Americus, GA, released 1993




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Facts




- Thick sod and aggressive root system
- Competitive and tolerates overgrazing
- Production season similar to Pensacola bahiagrass
- Tetraploid like Argentine bahiagrass
- Intolerant to residue buildup
- Production:
 - 4-5 ton DM/acre
 - TDN: 50-55%
 - CP: 7-11%




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So what is the problem?




- Plant identification
- Increased reports of Brunswickgrass infestations
- Contaminated seed
- Seed separation
- Extremely competitive
- Low palitability



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Identification




Characteristic	Brunswickgrass	Pensacola Bahiagrass
Growing season	April to October	April to October
Flowering	July to September	July to September
Height	8-28 in	4-24 in
Leaf shape	Linear, lanceolate, white mid-rib	Linear, lanceolate, crowded at the base with overlapped keeled sheaths
Leaf size	8-14 in long, 0.25 in wide, but highly variable	1-20 in long, 0.1-0.5 in wide
Leaf pubescence	Generally smooth, but can be hairy	Smooth leaves and sheath
Seed head	3 to 4 alternate racemes	2 racemes, Y-shaped
Seeds	Brown-coated, convex, hairy glumes when present	Tan-colored, relatively flat
Seed weight	Estimated 200,000 seeds/lb	Estimated 250,000-275,000 seeds/lb
Root system	Long, thin rhizomes	Short, thick, J-shaped surficial rhizomes

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Identification - Seedhead

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- Easiest identification method
- Generally 3-4 racemes per head while bahiagrass typically has 2-3

Brunswick Grass Compared to Pensacola Bahiagrass




Maria Pinheiro - Brunck, Doreen, © 2014 & F. www.4000.com

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Identification - Seedhead


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Identification - Roots

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A Bahiagrass B Brunswickgrass

- Deep and aggressive rhizomes
- Rhizomes appear below the surface (approx. 4")
- Rhizomes spread laterally vs. stolons spreading along soil surface

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Identification - Seed

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- Seed is slightly smaller
- Darker in color
- Convex in shape
- Does not readily separate during seed cleaning

Brunswickgrass Bahiagrass

A B

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What we know!

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- Pasture herbicides that affect diploids but not tetraploids:
 - Escort, others (metsulfuron)
 - Pastora (nicosulfuron + metsulfuron)
 - Chaparral (metsulfuron + aminopyralid)
 - Impose/Plateau/Panoramic (imazapic)
- With Brunswickgrass being tetraploid, these may not be an option

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What we know!

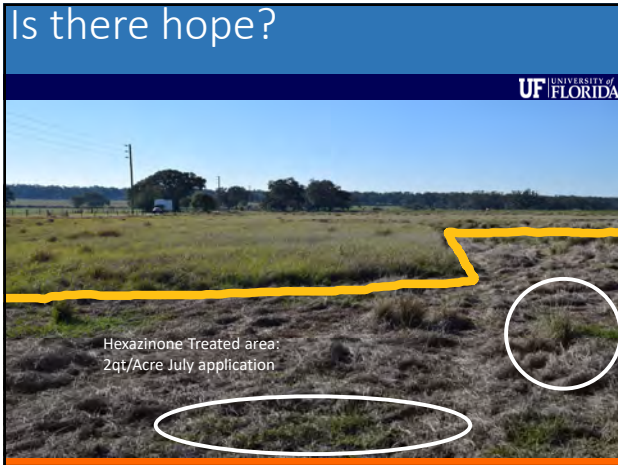
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- In general, diploids (Pensacola, etc.) more sensitive than tetraploids (Argentine, etc.)

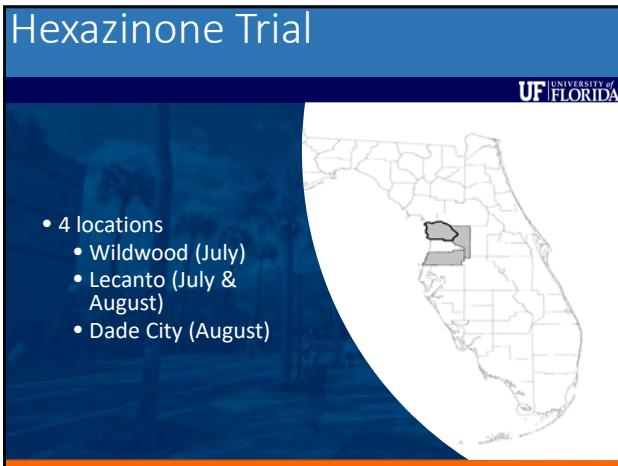
Pensacola
0.3 oz/A metsulfuron
60 DAT

Argentine
0.3 oz/A metsulfuron
60 DAT

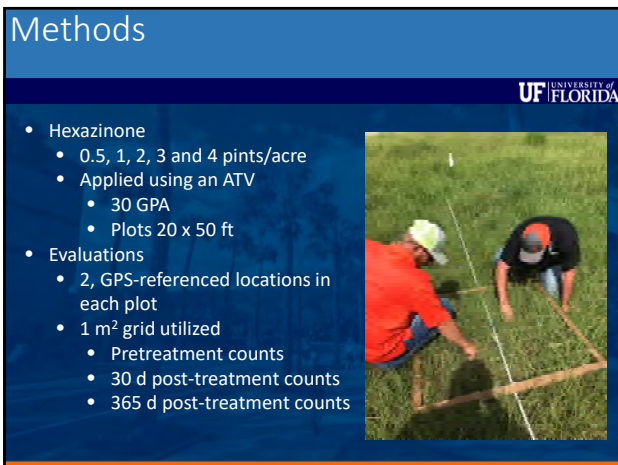
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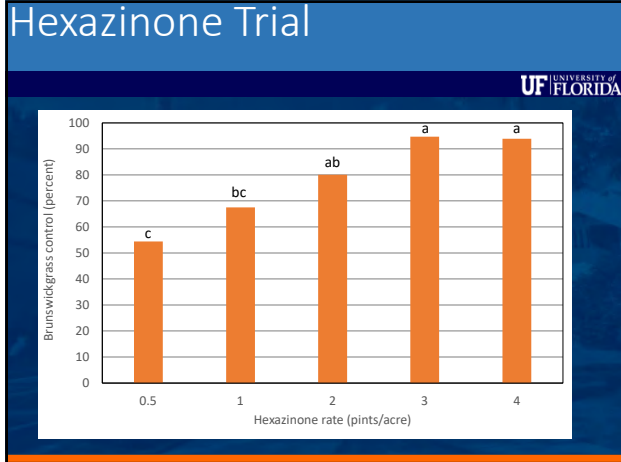
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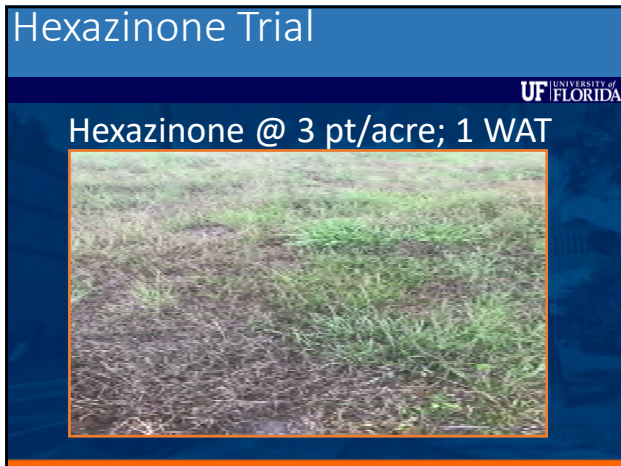
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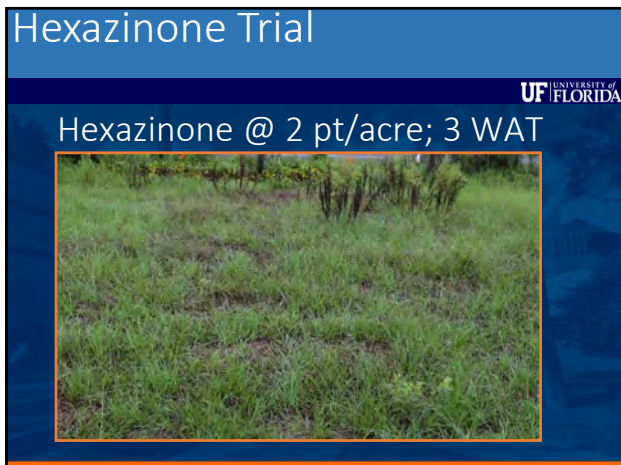
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Hexazinone Trial

Hexazinone @ 3 pt/acre; 3 WAT




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Hexazinone Trial

Hexazinone @ 4 pt/acre; 3 WAT



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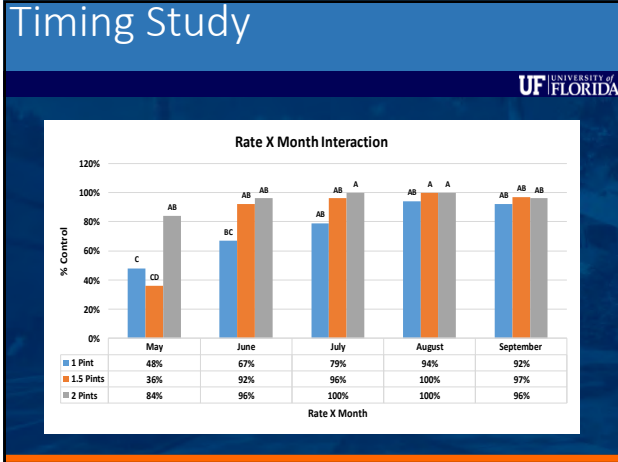
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Timing Study - Methods

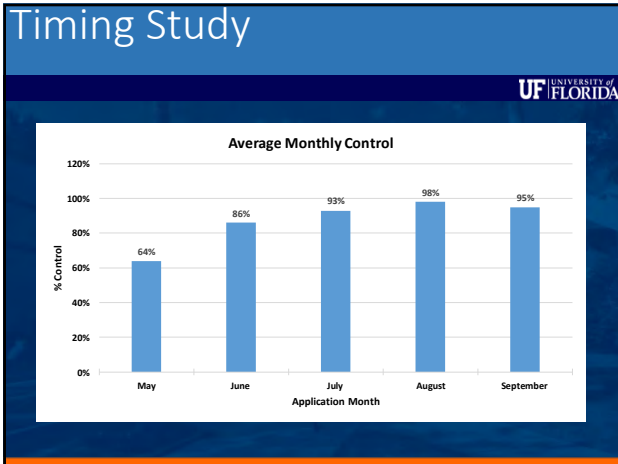
- Hexazinone
 - 1, 1.5 and 2 pints/acre
 - Applied using an ATV
 - 30 GPA
 - Plots 20 x 50 ft
- Evaluations
 - 2, GPS-referenced locations in each plot
 - 1 m² grid utilized
 - Pretreatment counts
 - 30 d post-treatment counts
 - Plan 365 d post-treatment counts

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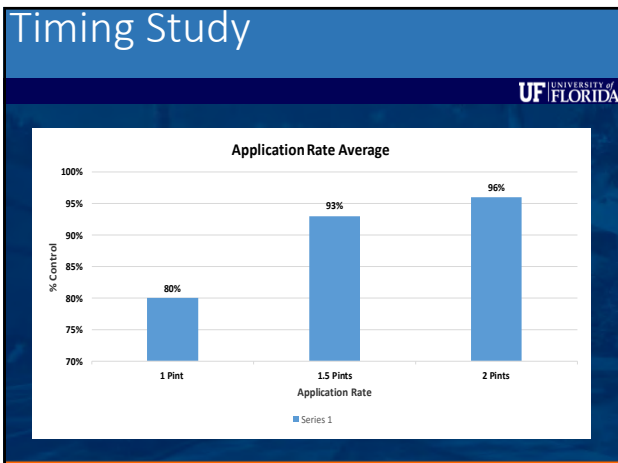
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Brunswickgrass Control?

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- We still have a lot to learn
 - Seedling recruitment the year after application?
 - Seed germination characteristics/longevity
- How does rainfall affect activity (short and long-term)?
- Will crop rotation help?

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Further Research

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- Evaluation of cropping rotations
- Effects of rainfall on hexazinone uptake in Brunswickgrass
- Seed germination and viability studies

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Cooperators

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• Dr. Brent Sellers	• Rooks Family
• Ed Jennings	• John Thomas/Leon McClellan (M&B Dairy)
• Marcelo Wallau	• John Massaro (Cigar City Cattle Co.)
• Ann Blount	• Jim Fenton
	• Barthle Bros.
	• Johnny Melton (Jack Melton Family, Inc.)

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