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Management of Brunswickgrass in Bahiagrass Seed Production Fields

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Outline

- Brunswickgrass history
- Brunswickgrass ID
- Preliminary herbicide evidence
- 2018 field research
- Management study

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History

- 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



Agronomics/Biology



- 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%

Slide: Marcelo Wallau

Problem



- Increased reports of Brunswickgrass in Pensacola pastures and hayfields
- Low palatability
- Contaminate of seed – seed separation



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Brunswickgrass patches as result of close grazing



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Brunswickgrass ID



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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Seedhead



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Root Systems



Seeds



Paspalums and Herbicides

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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

Paspalums and Herbicides



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



Pensacola
0.3 oz/A metsulfuron
60 DAT

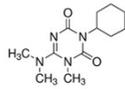


Argentine
0.3 oz/A metsulfuron
60 DAT

Hexazinone – Grower Observations



- Velpar/Tide Hexazinone/Velossa (hexazinone)
 - Used primarily for smutgrass management in pastures
 - Bahiagrass
 - Bermudagrass
 - 3-4 pt/acre
 - Mode of action – inhibits photosynthesis
 - Uptake both foliar and soil
 - Primarily soil uptake by smutgrass - rainfall



Brunswickgrass Control?



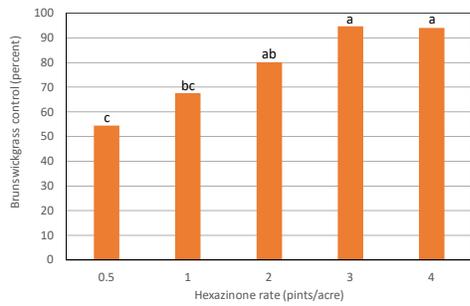
Hexazinone Study



- 4 locations
 - Wildwood (July)
 - Lecanto (July & August)
 - Brooksville (August)
- Tide Hexazinone (0 to 4 pints/acre)
 - 30 GPA
- Brunswick assessment
 - Pre & Post treatment counts



Brunswickgrass Control



Hexazinone @ 2 pt/acre; 3 WAT



Hexazinone @ 3 pt/acre; 3 WAT



Hexazinone @ 4 pt/acre; 3 WAT



Hexazinone @ 3 pt/acre; 1 WAT

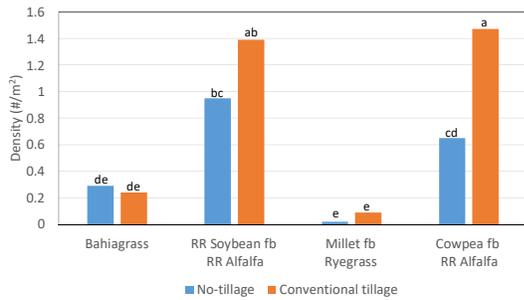


Brunswick Management Study



- 2017
- Conventional tillage vs. no-tillage
- Cropping systems
 - Bahiagrass (check)
 - RR Soybean fb RR alfalfa
 - Millet fb ryegrass
 - Cowpea fb RR alfalfa
- Glyphosate
 - 4 qt/A in July, 2017; planted August 2017
 - 2 qt/A in December, 2017; planted ryegrass in December, Alfalfa in January 2018
 - 2 qt/A in May, 2018

Brunswickgrass Counts



Brunswickgrass Management



- We still have a lot to learn
 - April applications (commercial) – significant regrowth
 - Seedling recruitment the year after application?
 - Seed germination characteristics/longevity
- What is the best timing
- How does rainfall affect activity (short and long-term)?
- Will crop rotation help?

Cooperators



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

FYI



- sellersb@ufl.edu
- 863-735-1314 x207
- Next Webinar
 - February 12
 - John Arthington
