Smutgrass Control in Pastures
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Overview

• Basic smutgrass information
• Past experiments
  • Rate titration
  • Use of adjuvants
  • Sequential programs
• Current experiments
  • Wiping studies (already covered)
  • Rainfall studies
  • Glyphosate

Smutgrass

• Two species in Florida
  • Small smutgrass
  • Giant Smutgrass
• Control
  • 3-4 pt Velpar/Tide Hexar-rainy season
  • No surfactant is required
• Grazing restriction = 0; 38 d haying restriction
Rate Titration Summary

- Rate titration data:
  - Giant smutgrass EC₉₀=0.65-0.99, mean 0.83 lb/acre
  - Small smutgrass EC₉₀=1.01 lb/acre
- Recommended rate for both varieties is 1.0 lb/acre

Adjuvants

- Different rates of Optima and different adjuvants
- Hexazinone applied at 3 or 4 pt/acre
- Optima: 0.125, 0.25, 0.5, 0.75, 1% v/v
- 1 pt of MSO, Optima 0.5, Kinetic 0.1, Dyne-Amic 0.5, Induce 0.25% v/v
Field Experiment 1

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
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<tbody>
<tr>
<td>Velpar</td>
<td>2008</td>
<td>2009</td>
<td>2008</td>
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<tr>
<td>Velpar</td>
<td>2 qt/A</td>
<td>0 qt/A</td>
<td>0 lb/A</td>
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Field Experiment 2

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<td>Velpar</td>
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<tr>
<td>Nitrogen</td>
<td>2008</td>
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<tr>
<td>Velpar</td>
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<td>0 lb/A</td>
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<tr>
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Sequential Applications

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<th>Treatments</th>
<th>2008 Velpar rate (qt/A)</th>
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<th>Cost ($/A)</th>
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<td>1.2 defg</td>
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Smutgrass

- Two-year programs vs one-year
- Renovation
  - Should occur when >70% of the pasture is infested
  - Must be followed with Velpar 1 year after planting
- Hexazinone is lethal to oaks
- Rainfall necessary, but too much is bad too

Rainfall and Velpar
Rainfall Field Study - 2018

Use of Hexazinone on Forages

- Bahiagrass
- Bermudagrass

- BUT NOT:
  - Limopgrass
  - Stargrass
  - Mulato
Is Glyphosate an Option for Selective Control of Smutgrass in Bahiagrass Pastures in Florida?

Brent A. Sellers and Jose L.C.S. Dias

Calculation Example

- Convert Gly Star Plus (3 lb ae) to Roundup PowerMax (4.5 lb ae)

\[
\frac{32 \text{ oz}}{A} \times \frac{3 \text{ lb ae}}{128 \text{ oz/A}} = \frac{0.75 \text{ lb ae}}{A}
\]

\[
\frac{0.75 \text{ lb ae}}{A} \times \frac{128 \text{ oz/A}}{4.5 \text{ lb ae}} = \frac{21.3 \text{ oz}}{A}
\]

Methods-Smutgrass

- 2 Locations
  - Brighton, FL; July, 2017
  - Hobe Sound, FL; May, 2018
- Sites mowed to 6 inches; allowed to regrow 2 weeks
- Glyphosate application
  - 0-0.94 lb ae/A (3 lb ae formulation)
  - 0-40 oz/A
- ATV sprayer, 30 GPA
- Plot size: 20 x 50 ft
- Evaluations
  - Smutgrass height
  - Smutgrass seed-head counts
  - Smutgrass biomass
Methods-Bahiagrass

- Ona, FL; July, 2018
- Mowed to 6 inches, allowed to regrow 2 weeks
- Glyphosate application
  - 0-0.94 lb ae/A (0 to 40 oz/A of 3 lb ae formulation)
  - Handheld boom, 30 GPA
- Plot size: 5 x 5 ft plots
- Evaluations
  - Biomass 30 and 60 DAT

Smutgrass Height - Brighton

- Graph showing Smutgrass height (inches) vs. Glyphosate rate (oz/A) at 15 DAT and 30 DAT.

Smutgrass Height - Hobe Sound

- Graph showing Seedheads (#/m²) vs. Glyphosate Rate (oz/A) at 15 DAT, 30 DAT, and 60 DAT.
Smutgrass Seedhead - Brighton

Smutgrass Seedhead - Hobe Sound

Smutgrass Biomass - Brighton
Smutgrass Biomass - Hobe Sound

Brighton – 30 DAT

Hobe Sound – 30 DAT
Bahiagrass Response

Bahiagrass Injury– 30 DAT

Untreated  
4 oz/A  
8 oz/A  
16 oz/A  
32 oz/A
Research Continues.....

- Use of hexazinone with aminopyralid, pendimethalin, and indaziflam
- Impregnating dry fertilizer with hexazinone
- Continue work with glyphosate

Take Home

- Velpar our selective choice
- Environment plays a big role
- Grazing management plays a large role in density
  - Less gaps = less smutgrass
  - Continuous grazing = more smutgrass
- Having a good grass stand may be our best management tool

“A recurring theme is the importance of a competitive, well managed pasture sward to minimise gaps within the pasture throughout the year thus preventing giant rats tail grass seedling establishment from the long-lived soil seed bank. Without a vigorous, competitive pasture being present, any attempts to control giant rats tail grass will be futile.”

*Slide from Dr. Wayne Vogler
Tropical Weeds Research Centre
Charters Towers, Queensland
Acknowledgements

• FCEB: Greenhouse and rainfall impacts on hexazinone activity.