Identification and Control of Limpograss and West Indian Marsh Grass

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UF-IFAS Range Cattle REC
Limpograss

- *Hemarthria altissima*
- Stoloniferous grass
- 3 to 6 feet tall
- Introduced as a forage
- Four cultivars released; similar attributes
Limpograss

- Leaf sheath usually glabrous, sometimes with fringe of hairs; red coloration
- Ligule-ciliate membrane
- Leaf blade-2 to 6 in. long; 3-4 mm wide – can depend on cultivar
Limpograss

- **Inflorescence**
  - Single spike
  - Panicle of several spikes
  - 2 to 8 in. long

- **Seed**
  - Few produced
  - Highly viable
Limpograss

- Introduced from Africa
- Stoloniferous perennial
- Little to no viable seed
- No underground rhizomes
- Grows poorly in well-drained soils
- Suited for poorly drained soils
- Tolerant to flooding
  - Will survive with \( \frac{3}{4} \) of the plant submerged
History of Limpograss

- Four cultivars in 1964; 3 released 1978
  - Redalta-low digestibility
  - Greenalta-low dry matter yield
  - Bigalta-poor frost tolerance and persistence under heavy grazing
- Large group of limpograss introductions in 1970’s; 1 released 1984
  - Floralta-high yield and good persistence
- More coming?
Limpograss Utilization

- Stock-piled winter grazing
- Hay/Haylage
- Grown in areas where flooding is common
- Approximately 200,000 acres
  - $50 million economic impact from grazing alone!
Stockpiled Forage - Limpograss

- **Floralta limpograss is an excellent forage for stockpiling.**

- Unlike other sub-tropical species, limpograss retains good digestibility even in later stages of maturity.

- Limpograss is usually low in protein.

- Limpograss provides good winter growth.
Winter growth (% of annual)

- Limpograss: 30-35
- Bahiagrass: 10-15

Arthington & Pate, 2001
Starvation Slough
Charlotte County
Limpograss Spread

- Recreational vehicles
- Seed
  - 100% germination
Limpograss Biomass-6 MAT

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate</th>
<th>Mowed</th>
<th>Non-mowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td>1</td>
<td>30</td>
<td>96</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>2</td>
<td>53</td>
<td>100</td>
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<tr>
<td>Glyphosate</td>
<td>3</td>
<td>100</td>
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</table>
Limpograss

- Very sensitive to glyphosate
  - 6 pints/acre – even to very old growth
  - Do not treat young growth
- Habitat
  - 2 pints/acre very effective
- No information on water depth available
Other Observations

- Mowing limpograss followed by glyphosate resulted in broadleaf weed invasion.
- Burning may be required after treatment for reestablishment of native species.
- Limpograss is sensitive to 2,4-D when young and tender during the rainy season.
West Indian Marsh Grass

- Exotic, invasive semi-aquatic grass
- Native to Central and South America
- Spread to most of the neo-tropics
- First found in Florida in 1957
  - Ponded pasture
  - Introduced as a forage?
- Dry season cattle forage in Australia
West Indian marsh grass

- *Hymenachne amplexicaulis*
- Semi-aquatic grass
- 3 to 8 ft tall
- Stoloniferous
- Prefers water fluctuations & high nutrients
West Indian marsh grass

- Leaf sheath glabrous; some hairs on upper margins
- Ligule a membrane
- Leaf
  - Flat
  - 14 in. long by 1.6 wide
  - Clasping at the stem
  - Long hairs on lower margin
West Indian marsh grass

- **Inflorescence**
  - Terminal spike
  - Dense
  - 0.3 in wide by 20 in. long

- **Seeds**
  - Stick to animals, clothes
  - 98% germination
West Indian marsh grass

- Biggest difference – central pith in stem
Hymenachne Attributes

- Germination can occur all year
- Spreads
  - stolons-2 node sections
  - seed-4,000 seeds/plant; 98% germination
- Biomass
  - 18 tons/A/yr under flooding
  - 8 tons/A/yr during dry season
## Visual Control

<table>
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<tr>
<td></td>
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<td>3 MAT</td>
<td>3 MAT</td>
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<tr>
<td>Glyphosate</td>
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<td>97</td>
<td>90</td>
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<tr>
<td>Imazapyr</td>
<td>4</td>
<td>97</td>
<td>95</td>
</tr>
<tr>
<td>Imazapyr</td>
<td>6</td>
<td>99</td>
<td>97</td>
</tr>
<tr>
<td>Glyphosate + Imazapyr</td>
<td>7 + 4</td>
<td>98</td>
<td>97</td>
</tr>
<tr>
<td>LSD (0.05)</td>
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<td>NS</td>
<td>NS</td>
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## Effect of Water Depth

<table>
<thead>
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<th>60 DAT</th>
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<tr>
<td></td>
<td></td>
<td>%</td>
<td>g</td>
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<tr>
<td>Glyphosate</td>
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<td>72</td>
<td>97</td>
<td>14</td>
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<tr>
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<td>7 + 4</td>
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<td>8</td>
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</table>
West Indian marsh grass

- 7 pint/acre glyphosate
  - Para grass tended to invade our research plots
- 4 to 6 pint/acre Habitat
  - No para grass within 1 yr of treatment
  - Native species quick to reestablish if water present at application
- Water depth at application not an issue with either herbicide
Questions?