Weed Control for Resilient Pasture

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UF/IFAS WFREC (Jay, FL) and UF/IFAS RCREC (Ona, FL)
Presentation Outline

• Importance of weed control

• Herbicides

• Establishment

• Forage Tolerance

• Key weeds and control options

• Weed wipers
Why Weed Control is Important?

- Limit competition for desirable forage
- Increase forage quality and yield
- Increase grazing – decrease grazing interference
- Decrease likelihood of poisonous plants
- Reduce encroachment from woody plants - can be a serious problem
  - Woody brush or trees are very difficult to control after established
Weeds Interfere With Grazing
Weeds Interferes With Grazing

Albany
Fix Points Prior to Application (7/8-7/29)

- Treated – 53%
  (250 fixes)
- Untreated – 47%
  (225 fixes)

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Weeds Interfere With Grazing

Albany
Fix Points for All 4 Months After Application

- Treated -72%
  (2,718 fixes)

- Untreated -28%
  969 fixes)

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Weed Types/Life Cycle

Broadly 3 categories:

- **Annual weed:**
  - Winter annual: wild radish, henbit, chickweed etc.
  - Summer annual: pigweed spp., ragweed, teaweed etc.

- **Biennial weed:** thistle, marestail, curlydock etc.

- **Perennial weed:** several grass and broadleaf weeds
  - Johnsongrass, smutgrass, cogongrass, broomsedge etc.
  - Blackberry, mint, creeping indigo etc.
Weeds Management Considerations

- Consider multiple sprays in the season (2 to 3 times)

- In the time or resource limited situation
  - Identify the most troublesome weed and implement control measure

- Which one to attack first?
  - Get rid-off the toxic weeds
  - Go after the weeds that inhibit grazing the most
  - Follow up with weed control that reduce forage yield and quality
# The Current Toolbox

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate/Acre</th>
<th>$/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>dicamba (Generic Dicamba DMA, Clarity etc)</td>
<td>1.5 - 2 pt</td>
<td>$13 to 17</td>
</tr>
<tr>
<td>2,4-D (Weedar 64, 2,4-D amine, LV Ester etc.)</td>
<td>2 - 4 pt</td>
<td>$7 to 14</td>
</tr>
<tr>
<td>dicamba + 2,4-D (WeedMaster etc.)</td>
<td>1 - 4 pt</td>
<td>$4 to 16</td>
</tr>
<tr>
<td>diuron (Diuron 4L, Diuron 80 etc.)</td>
<td>1.5 - 4.5 pt</td>
<td>$6 to 18</td>
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<tr>
<td>pendimethalin (Pendimethalin, Prowl H₂O)</td>
<td>1.5 - 4 qt</td>
<td>$11 to 30</td>
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<tr>
<td>triclopyr (Pathfinder, Remedy Ultra etc.)</td>
<td>2 pt</td>
<td>$14</td>
</tr>
<tr>
<td>metsulfuron (MSM 60, Chaparral etc.)</td>
<td>2 - 3.33 oz</td>
<td>$12 to 20</td>
</tr>
<tr>
<td>imazapic (Imazapic 2SL, Panaromic, Impose etc.)</td>
<td>4 - 12 oz</td>
<td>$5 to 15</td>
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</table>
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<tbody>
<tr>
<td>Aminopyralid+2,4-D (GrazonNext HL)</td>
<td>1.6 - 2.1 pt</td>
<td>$12 to 15</td>
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<tr>
<td>Hexazinone (Velpar/Tide Hexazinone etc.)</td>
<td>2.75 - 4.5 pt</td>
<td>$$</td>
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<tr>
<td>Triclopyr+fluroxypyr (PastureGard HL)</td>
<td>1 - 2 pt</td>
<td>$16 to 32</td>
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<tr>
<td>chlorsulfuron (Telar)</td>
<td>0.1 - 1 oz</td>
<td>$2 to 17</td>
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<tr>
<td>sulfosulfuron (Outrider)</td>
<td>1 - 1.33 oz</td>
<td>$15 to 20</td>
</tr>
<tr>
<td>metsulfuron+nicosulfuron (Pastora)</td>
<td>1 - 1.5 oz</td>
<td>$15 to 23</td>
</tr>
<tr>
<td>fluroxypyr (Vista XRT)</td>
<td>22 oz</td>
<td>$30</td>
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</table>
Weed Control During Establishment

• Bahiagrass
  • None; 6” tall or 3 tillers

• Bermudagrass and stargrass
  • 2,4-D amine - 2 pt/a
  • WeedMaster - 2 pt/a
  • 7-10 DAP

• Limpograss
  • Banvel - 1.5 pt/a
  • 7-10 DAP
Pasture Establishment Considerations

• Start clean – proper method for land preparation
• Suitable forage species/variety
• Optimum seeding time and seeding rate
• Seed quality, purity
• Being careful with herbicide product selection
  • Several product has restrictions for use during establishment
Established Forage Tolerance

- Bahiagrass
  - Tolerant to most herbicides except
    - Metsulfuron (Chaparral, Pastora)
    - Imazapic (Impose, Panoramic)

- Bermudagrass & stargrass
  - Tolerant to most herbicides
    - Can get injury under high temps and RH
    - Imazapic (Impose, Panoramic)

- Limpograss
  - Can be sensitive
    - 2,4-D, WeedMaster, GrazonNext etc.
Key Weeds and Their Control
The Most Common Weed
## Dogfennel Treatment at 30” vs 42”

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<th>Cost</th>
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<tr>
<td></td>
<td>pt/acre</td>
<td>%</td>
<td>$/acre</td>
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<tr>
<td><strong>Treated at 30”</strong></td>
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<tr>
<td>Grazonnext HL</td>
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<td>60</td>
<td>12</td>
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<tr>
<td>Grazonnext HL</td>
<td>2.1</td>
<td>95</td>
<td>15</td>
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<tr>
<td>WeedMaster</td>
<td>2.0</td>
<td>68</td>
<td>8</td>
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<tr>
<td>WeedMaster</td>
<td>3.0</td>
<td>86</td>
<td>12</td>
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<tr>
<td>PastureGard HL</td>
<td>1.5</td>
<td>98</td>
<td>24</td>
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<td></td>
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<tr>
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<td>Grazonnext HL</td>
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<tr>
<td>Grazonnext HL +</td>
<td>1.5 +</td>
<td>93</td>
<td>12</td>
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<td>WeedMaster</td>
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<td>8</td>
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Tropical Soda Apple (TSA)

• Broadcast:
  • Grazonnext HL at 1.5 - 2.1 pints/acre
    • Apply anytime during the year except when frost is likely (January through February)
    • Use in limpograss ONLY during November – April
  • Chaparral at 2 - 3 oz/acre (limpograss, bermudagrass, stargrass)

• Spot spraying: All forage grasses
  • 0.11% v/v Milestone solution (3 tsp/gallon or 1 oz/5 gallons)
  • 1 oz/gallon for Grazonnext HL
  • Spray the entire plant
Blackberry Species in Florida

Highbush blackberry

Sand blackberry

Photograph Credits: Shirley Denton
Blackberry Control - 24 MAT

Blackberry Control

- Full vs. reduced rates
  - Remedy
    - Full rate = rapid brown out
    - 1 pt/A = slower brown out

- Telar
  - 1 oz/acre – more consistent

- Chaparral
  - Apply only in late fall after bahia is dormant
  - Addition of 2,4-D helps safen bahiagrass
Thistle Control

• Biennial species

• Common species are
  • Nuttall’s thistle
  • Horrible/purple thistle
  • Bull thistle

• Control is always better when sprayed at the rosette growth stage
Thistle Growth Stages

- Rosette
- Bolting
Comparing Milestone with Standards

% Control

Milestone 1 fl oz
Milestone 3 fl oz
Weedmaster 2 pt
Weedmaster 3 pt
2,4-D Amine 1 qt
2,4-D Amine 2 qt

Rosette
Bolting
Teaweed
Teaweed Control

- Remedy 2 pt
- Pasturegard HL 1.5 pt
- Telar 1 oz
- Telar 1 oz + Remedy 1 pt
- Metsulfuron 0.5 oz

Control (%)

90 DAT
60 DAT
30 DAT
Smutgrass

- Two species in Florida
  - Small smutgrass
  - Giant Smutgrass

- Control
  - 3-4 pt Velpar/Tide Hexazinone at rainy season
  - No surfactant is required

- Grazing restriction = 0; 38 d haying restriction
<table>
<thead>
<tr>
<th>Treatments</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; year Hexazinone rate (qt/A)</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Year Hexazinone rate (qt/A)</th>
<th>(No. plants/plot)</th>
<th>Cost ($/A)</th>
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<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>12</td>
<td>32</td>
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<td>2</td>
<td>1.5</td>
<td>2</td>
<td>4</td>
<td>70.00</td>
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Smutgrass Control Strategy

- Two-year programs vs one-year

- Renovation
  - Should occur when >70% of the pasture is infested
  - Must be followed with Hexazinone product 1 year after planting

- Hexazinone is lethal to oaks

- Rainfall necessary, but too much is bad too
Rainfall and Velpar Activity
Cogongrass – An Invasive Weed
Cogongrass Control - Tillage

• Till it out!
  • Repeated, frequent tillage that breaks up the entire rhizome layer is effective

• Recreational tillage will FAIL
  • Infrequent tillage spreads cogongrass rhizomes and seed
  • Tillage for wildlife food plots can be a major source of cogongrass spread

• Cutting can also spread rhizomes
Cogongrass Control - What Works in Florida

- Fall Applications best
  - 3-5% glyphosate (Roundup, etc.)

  - 1% imazapyr (Arsenal, etc.)

- Retreatment
  - Must be part of the plan
    - Glyphosate every 6 months

  - Imazapyr – every 12 months (treat only 1/10th or less of the pasture area)
    - Watch out for trees
Broomsedge Control

• No selective herbicides for broadcast application

• Spot-treat with glyphosate in bahiagrass & limpograss

• Broadcast glyphosate at 1 pt/A 7-10 days after harvest in bermudagrass & stargrass

• Weed wiper
Using a Wiper for Weed Control
Using a Wiper for Weed Control

- Usually a 10% v/v solution (glyphosate)
- Wipe in two directions
- Practice makes perfect
  - Use of foam marker solution?
Wiping Broomsedge – 1 Year
Wiping Broomsedge – 2 Year
Wiping Smutgrass
Wiping Considerations

• If height differential does not exist - hexazinone at 30% v/v

• If height differential is significant - glyphosate at 35% v/v

• Do not mow prior to using the wiper

• Wipe plants in two (opposite) directions

• There’s more ‘art’ than ‘science’ to using a wiper
Considerations for More Resilient Pastures

• Managing healthy pasture is the key
  • Healthy pasture = less weeds

• Proper grazing management
  • Poor grazing management – primary cause for weed issue

• Know the field history – previous season weed

• Scouting and keeping eye out for any new weed species
Spray Considerations

3-R rules for applying herbicide for greater efficacy:

• Right time – getting out sprays during early weed stages
  • Costs less $
  • Less impact on forage/pasture

• Right product – knowing the weeds and targeting problematic weeds

• Right rate – full herbicide rate depending on weed species, growth stages
  • Multiple applications
Thank You!