Ecology & management of feathertop Rhodes grass

Today’s presenter is

Mark Congreve (ICAN)

Facilitated by Mark Congreve and Erica McKay (ICAN)

This Webinar will start at the following times

9.30 AM (NSW/VIC/TAS)
8.30 AM (QLD)
Housekeeping

• On your screen on the top right you will see a small red arrow pointing to the left. If you click on this, this will open up a chat box to ask questions & audio etc.
• We are using chat box for questions, audio questions are muted to maximise sound quality. Questions will be relayed by the moderator.
• Questions (except for clarification) will be left until the end of the presentation and repeated by the moderator
• Should you drop out, please go to joinwebinar.com and enter the webinar code 141-860-115 (should also be on the confirming emails you have been sent).
• If you are having audio difficulties, you will see a place to select ‘telephone’ on your chat box – this will come up with the phone number and log in pin to join the webinar by phone. Phone number is 02 8355 1054, code 874-083-867 and a individual pin number.

Moderator: Erica McKay
GRDC Project code ICN00016
Today’s Agenda

• Feathertop Rhodes grass ecology
  – Why it has become a weed of zero till?
  – Understanding ecology & agronomy to manage it?
• Resistance
• Management approaches
  – Prevention
  – Fallow management – Tillage & Residuals
  – Knockdowns – Weed size and herbicide timing
Feathertop Rhodes grass

(*Chloris virgata* Sw.)
How does it spread?

- Livestock
- Evidence of vehicle movement along roads
- Flood water
- Wind blown seeds
Germination and establishment

- First to establish on bare ground
  - 10+mm rainfall
  - 2 days @ 30/20°C; 3 days @ 25/15°C
- No germination from >2cm
- High seed production (6000/plant)
- Rapidly goes to seed under moisture stress
Persistence

- Seed persistence is short (~12 months)
  - Either on the surface or buried
  - 1-2 summers of zero seed replenishment
Competition

• First to establish – will out compete other species
• Does not establish well into existing cover

• Loves bare ground
  – Roadsides
  – Fallow
  – Crop edges
Resistance

• Glyphosate (Group M)
  – Not on the glyphosate label
    • Highly variable and usually not effective
    • Added as a glyphosate ‘resistant’ species in 2015

• Group A & Group B
  – Expecting rapid selection
    • Always follow up & ensure survivors don’t set seed
Prevention is better than cure

- Farm hygiene
  - Imazapyr (e.g. Arsenal) long term residual in non-crop areas
- Remove individual plants
- Spot spraying
- GPS mark clumps
  - Monitor
  - Residuals
Cultivate blow-outs / old patches

- Removes established plants
- Able to contact seedlings
- Residual herbicides
- Bury seed

Emergence of FTR after different tillage practices compared to zero till (Source: DAFF QLD)
Residuals

- Isoxaflutole (e.g. Balance®) registered in fallow
- Several grass residuals used to control Barnyard grass show useful activity (except Spinnaker)

**NGA 2014/15. Millmerran, Qld.**

11mm rain day after application. 310mm within 69 days.

<table>
<thead>
<tr>
<th>Herbicide Treatment</th>
<th>% Untreated</th>
<th>BYG @ 25DAA</th>
<th>FTR @ 69DAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Gold</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Flame</td>
<td>90</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td>80</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>Dual + Terbyne</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Flame + Terbyne</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Data on FTR for other herbicide treatments in this trial not presented as these options are not currently registered for FTR.

Terbyne not registered for barnyard grass.
Knockdown herbicides

- Glyphosate alone is usually ineffective (and not registered)
- Glyphosate fb paraquat highly variable
  - ‘sometimes’ works on seedlings
- Group A
  - Haloxyfop fb paraquat (PER12941 pre mungbeans)
  - Shogun® (propaquizafop) now registered
    - Fallow, cotton, sunflowers, peanuts
Group A knockdowns

- Choice of adjuvant important
Group A knockdowns

• Choice of adjuvant important

• Plantbacks
  – Haloxyfop label 12 weeks
    • 150mL/ha maximum label rate
    • 300mL/ha (permit rate) has not been tested
  – Shogun 4 weeks
Group A knockdowns

- Choice of adjuvant important
- Plantbacks
  - Haloxyfop label 12 weeks
  - Shogun 4 weeks
- Small weeds – up to early tillering
  - Actively growing
# Shogun – weed size

<table>
<thead>
<tr>
<th>Cotton</th>
<th>Sunflowers</th>
<th>Peanuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 8 leaf</td>
<td>8 leaf to 3 tiller</td>
<td></td>
</tr>
<tr>
<td>500mL/ha</td>
<td>900mL/ha</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Fallow</th>
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<tbody>
<tr>
<td>3 leaf to early tillering</td>
</tr>
<tr>
<td>500mL/ha followed by minimum of 1.6L/ha Spraytop® 250SL (paraquat) 7 to 14 days later</td>
</tr>
</tbody>
</table>

Always apply with an adjuvant such as Kwickin† or Hasten† Spray Adjuvant at 0.5% v/v (500 mL/100L of water). SHOGUN® is not compatible with crop oils. DO NOT mix with Synertrol† or Codacide† oil.

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## % control of Feathertop Rhodes Grass 49/38DAA

**Warra Qld (Jubilee Consulting)**

**Timing A (blue bars)**
- Sprayed 27/12/14
- Good moisture, good conditions

**Timing B (green bars)**
- Sprayed 11 days later
- No further rain
- Larger weeds

![Graph showing % control of Feathertop Rhodes Grass](graph.png)
Group A knockdowns

- Choice of adjuvant important
- Plantbacks
  - Haloxyfop label 12 weeks @ 150mL/ha
  - Shogun 4 weeks
- Small weeds – up to early tillering
  - Actively growing
- High resistance risk – double knock in fallow
Double knock

Mean efficacy comparison (3-4 WAA1) on a range of FTR growth stages.
Source: Adapted from CQ Grower Solutions

All double knocked with 2.4L/ha paraquat
Group A knockdowns

- Choice of adjuvant important
- Plantbacks
  - Haloxyfop label 12 weeks @ 150mL/ha
  - Shogun 4 weeks
- Small weeds – up to early tillering
  - Actively growing
- High resistance risk – double knock in fallow
- Compatibility
Tank mixing

• Group A’s incompatible with phenoxyxs

Weed size 3-5 tiller at application (outside label)
All treatments 100% when double knocked
For a ‘blow out’ paddock

1. Cultivate - before seed shed
2. Residual - especially if further germination opportunity before winter

3. Then either
   • Fallow
     – Residual before first spring rainfall
     – Optical sprayer / Double knock

   OR
   • Broadleaf summer crop (better)
     - Avoid sorghum or maize
     - Residual + in-crop Group A
     - Crop competition

Repeat again following year
Thanks to the many advisers that made their data available to assist ICAN in delivering Integrated Weed Management extension training and workshops sponsored by GRDC.

In particular QDAF, NSW DPI, Northern Grower Alliance, CQ Grower Solutions Group and Adama.
## Further resources

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<th>Resource</th>
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