Rattail Fescue – *Vulpia myuros*

Drew Lyon – Small Grains Extension & Research, Weed Science
Rattail Fescue

- Winter annual
- Tightly folded, narrow leaf blades
- Narrow, compact seed head
  - emerges May to June
  - Long awns
- Self-pollinating, reproducing by seed only
  - Seed survival in soil is short-lived
- Grows up to 3 feet tall, but usually 1-2 feet
- Shallow, fibrous root system
  - susceptible to drought

Seeds in congested panicles
Rattail Fescue

- Can form dense mats of residue
- Residue can be allelopathic to wheat seedlings
  - reducing root and shoot elongation
- Intolerant of repeated tillage
- Glyphosate only marginally effective
  - control requires higher rates and repeated applications

Ball and Hulting, 2009, PNW 613
Control in Fallow with Glyphosate

Ball & Hulting, PNW 613
Control in Fallow with Glyphosate

Visual control (%) vs. EPOST/LPOST Rate (fl oz/A)

Ball & Hulting, PNW 613
Glyphosate Dose Response Study
Glyphosate Dose Response Study

\[ y = -10.83 \ln(x) + 50.813 \]
\[ R^2 = 0.99 \]
Glyphosate Dose Response Study
Control in Wheat - 2004 & 2005
Pendleton, Corvallis, Genesee, Moscow, & Pullman

Visual control (%)

Define (9.6)  Maverick (0.67)  Osprey (4.75)  Beyond (6)  Define/Maverick  Define/Osprey  Define/Beyond

Ball & Hulting, PNW 613
Control in Wheat
2011 & 2012

Visual control (%)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Visual Control</th>
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</thead>
<tbody>
<tr>
<td>PowerFlex 3.5 oz ESP</td>
<td>d</td>
</tr>
<tr>
<td>Zidua 1.35 oz</td>
<td>c</td>
</tr>
<tr>
<td>Zidua 1.7 oz</td>
<td>ab</td>
</tr>
<tr>
<td>Axiom 10 oz</td>
<td>bc</td>
</tr>
<tr>
<td>Zidua 1.35 oz/powerFlex</td>
<td>ab</td>
</tr>
<tr>
<td>Zidua 1.7 oz/powerFlex</td>
<td>a</td>
</tr>
<tr>
<td>Axiom/powerFlex</td>
<td>ab</td>
</tr>
</tbody>
</table>

Nevin Lawrence and Ian Burke
Control in Wheat
2013

Bruce Palmer, McGregor Research Station
Control in Wheat
2013

Visual control (%)

Zidua 1.7 oz
Everest 2.0 1 oz
PowerFlex 3.5 oz
Zidua*/Everest 2.0 0.75 oz
Zidua*/Everest 2.0 1 oz
Everest 2.0 1 oz
PowerFlex 3.5 oz

*0.85 oz
Control in Wheat
2013

Visual control (%)

- Anthem 5 oz
- Anthem 6.5 oz
- Anthem 8 oz
- Anthem 6.5 oz PPI
- Anthem 5 oz / PFlex 2.5 oz
- Anthem 6.5 oz / SBL
- PowerFlex 3.5 oz

Categories with the same letter (a) are not significantly different.
Wheat Yield
2013

Grain yield (bu/acre)

Anthem 5 oz
Anthem 6.5 oz
Anthem 8 oz
Anthem 6.5 oz PPI
Anthem 5 oz/PFlex 2.5 oz
Anthem 6.5 oz/SBL
PowerFlex 3.5 oz
Check

Legend:
c
bc
abc
ab
a

Note: The graph shows the yield of different wheat treatments compared to a check. Different letters indicate significant differences in yield.
Rainfall After Planting

Date

Wheat planted

Anthem applied

Precipitation (inches)

Total = 1.66 inches


Date
Take Home Message

• In fallow, two glyphosate applications work better than a single application
• Soil-applied herbicides are an essential component of rattail fescue management.
  – Axiom
  – Pyroxasulfone-containing products when labeled
    • Zidua (BASF)
    • Anthem (FMC) also contains fluthiacet [Cadet]
    • Fierce (Valent) also contains flumioxazin [Valor]
Future Research

• Effects of tillage in fallow
• Effects of herbicide rate, timing, carrier volume, and nozzle type on glyphosate efficacy
• Effects of rate & timing for herbicides containing pyroxasulfone on weed control and crop safety
  – Zidua, Anthem & Fierce
Non-labeled Uses

Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to $7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.
Questions?