Weed Management in Alfalfa...

EARL CREECH, EXTENSION AGRONOMIST
UTAH STATE UNIVERSITY
...is a marathon, not a sprint
Race strategy

1. Start fast
2. Maintain a good pace
3. Finish strong
Phase 1: Start fast

Establish a good stand
  ◦ Site selection
  ◦ Herbicide carryover
  ◦ Seedbed prep
  ◦ Variety selection/seed quality
  ◦ Innoculation/seed treatment
  ◦ Planting date
  ◦ Seeding rate
  ◦ Seeding method/equipment
  ◦ Seeding depth
  ◦ Irrigation
  ◦ Control perennial weeds before planting
  Control annual weeds in seedling alfalfa
Is this a problem?
Yield – Year 1
(Ave across sites in PA, OH, WI, OK, SD, UT)
Yield – Years 2-5 (yearly average)

- Non-treated
- Raptor
- Roundup

Tons/ac

- Weeds
- Alfalfa
Phase 2: Maintain a good pace

Manage for a healthy/competitive stand

- Scout fields
- Fertilization
- Irrigation
- Disease management
- Insect management
- Weed management
- Cutting schedule
A Fact of Life...

“A field can look pretty darn good from the seat of your pickup tooling down the blacktop.”

-R.L. Nielsen, Purdue
Scouting fields

Weed spectrum and size
Product
Use rate
Field conditions
## Maximum weed size for selected alfalfa herbicides

<table>
<thead>
<tr>
<th>Product</th>
<th>Weed size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prowl</td>
<td>Before weed emergence</td>
</tr>
<tr>
<td>Velpar</td>
<td>Alfalfa dormant to 2 inches in regrowth</td>
</tr>
<tr>
<td>Sencor</td>
<td>Less than 2 inches</td>
</tr>
<tr>
<td>Pursuit</td>
<td>Less than 3 inches</td>
</tr>
<tr>
<td>Raptor</td>
<td>Less than 3 inches</td>
</tr>
<tr>
<td>Butyrac 200</td>
<td>1-3 inches, depending on species</td>
</tr>
<tr>
<td>Buctril</td>
<td>Less than 2 inches</td>
</tr>
<tr>
<td>Poast</td>
<td>Less than 4-8 inches</td>
</tr>
<tr>
<td>Select</td>
<td>Less than 6-8 inches</td>
</tr>
</tbody>
</table>
Phase 3: Finish strong

- Stand termination decisions
- Rotational restrictions
Should I control the weeds or terminate the stand?
Use stem counts to make management decisions

<table>
<thead>
<tr>
<th>Stand density (stems/sq ft)</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 55</td>
<td>Stem density not limiting yield</td>
</tr>
<tr>
<td>40-55</td>
<td>Some yield reduction expected</td>
</tr>
<tr>
<td>&lt;40</td>
<td>Consider replacing stand</td>
</tr>
</tbody>
</table>
Rotational restrictions of selected herbicides (months)

<table>
<thead>
<tr>
<th></th>
<th>Barley</th>
<th>Canola</th>
<th>Corn</th>
<th>Potato</th>
<th>Sugarbeet</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursuit (imazethapyr)</td>
<td>9.5</td>
<td>40*</td>
<td>8.5</td>
<td>26</td>
<td>40*</td>
<td>4</td>
</tr>
<tr>
<td>Raptor (imazamox)</td>
<td>4</td>
<td>18</td>
<td>8.5</td>
<td>9-18</td>
<td>18-26</td>
<td>3</td>
</tr>
<tr>
<td>Sencor (metribuzin)</td>
<td>4-8</td>
<td>12-18</td>
<td>4</td>
<td>4-12</td>
<td>18</td>
<td>4-8</td>
</tr>
<tr>
<td>Velpar (hexazinone)</td>
<td>2CS</td>
<td>2CS</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>2CS</td>
</tr>
</tbody>
</table>

* From the Pursuit label:
Following forty months after a Pursuit application and before planting any crop not listed elsewhere in the ROTATIONAL CROP RESTRICTIONS, a successful field bioassay must be completed. The field bioassay consists of a test strip of the intended rotational crop planted across the previously treated field and grown to maturity. The test strip should include low areas and knolls, and include variations in soil such as type and pH. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year.
Winning the race

1. Start fast
   ◦ Begin with a good stand

2. Maintain a good pace
   ◦ Keep the stand healthy/competitive

3. Finish strong
   ◦ Have an exit strategy