Oregon State University
Columbia Basin Ag Research Center

Annual grass control in rangeland

Trial ID: 08-600
Location: Pilot Rock Study Director: Larry Bennett
Investigator: Daniel A Ball

General Trial Information
Study Director: Larry Bennett Title: Research Assistant
Affiliation: Columbia Basin Ag. Research Center
Postal Code: 97801 E-mail: larry.bennett@oregonstate.edu
Investigator: Daniel A Ball Title: Professor
Affiliation: Columbia Basin Ag. Research Center
Postal Code: 97801 E-mail: daniel.ball@oregonstate.edu

Crop Description

Crop 1: Bluebunch wheatgrass

Planting Method: Roughrider drill
Plants Date: Apr-10-08
Rate, Unit: 15 lb/a
Depth, Unit: 0.5 in
Row Spacing, Unit: 12 in
Seed Bed: No-till rangeland
Soil Moisture: Good

Crop 2: Sandberg bluegrass

Planting Method: Roughrider drill
Plants Date: Apr-10-08
Rate, Unit: 22 lb/a
Depth, Unit: 0.5 in
Row Spacing, Unit: 12 in
Seed Bed: No-till rangeland
Soil Moisture: Good

Crop 3: Squirreltail bottle brush

Planting Method: Roughrider drill
Plants Date: Apr-10-08
Rate, Unit: 16.4 lb/a
Depth, Unit: 0.5 in
Row Spacing, Unit: 12 in
Seed Bed: no-till rangeland
Soil Moisture: Good

Crop 4: Idaho fescue

Planting Method: Roughrider drill
Plants Date: Apr-10-08
Rate, Unit: 16 lb/a
Depth, Unit: 0.5 in
Row Spacing, Unit: 12 in
Seed Bed: no-till rangeland
Soil Moisture: Good

Pest Description

Pest 1 Code: MEDUSA
Common Name: Medusahead rye

Pest 2 Code: DBROME
Common Name: Downy brome

Site and Design

Plot Width, Unit: 15 FT
Plot Length, Unit: 40 FT
Replications: 4 Study Design: Split-Plot
Soil Description

% Sand: 27.0  % OM: 2.9  Texture: Silt loam
% Silt: 57.2  pH: 6.5
% Clay: 15.8  CEC: 20.3

Application Description

A          B
Application Date:  Nov-14-07  Feb-18-08
Time of Day:       1:00 pm     11:15 am
Application Method: Broadcast  Broadcast
Application Timing: EPOST        LPOST
Application Placement: Foliar  Foliar
Air Temperature, Unit: 46 F  42 F
% Relative Humidity: 53  62
Wind Velocity, Unit: 2 mph  4 mph
Wind Direction: W  N
Dew Presence (Y/N): N  N
Soil Temperature, Unit: 42 F  36 F
Soil Moisture: Good  Good
% Cloud Cover: 100  0

Pest Stage At Each Application

A          B
Pest 1 Code: MEDUSA    MEDUSA
Stage:        3 leaf    3-4 leaf

Pest 2 Code: DBROME    DBROME
Stage:        4-5 leaf  5-8 leaf

Application Equipment

A          B
Appl. Equipment: Hand boom  Hand boom
Operating Pressure, Unit: 30 psi  30 psi
Nozzle Type: Flat fan  Flat fan
Nozzle Size: XR-8001  XR-8001
Nozzle Spacing, Unit: 16 in  16 in
Boom Length, Unit: 8 ft  8 ft
Ground Speed, Unit: 3.5 mph  3.5 mph
Carrier: Water  Water
Spray Volume, Unit: 11 gpa  11 gpa
Mix Size, Unit: 2.7 liters  2.7 liters
Propellant: CO2  CO2
Oregon State University  
Columbia Basin Ag Research Center  

Annual grass control in rangeland

Trial ID: 08-600  
Location: Pilot Rock

<table>
<thead>
<tr>
<th>Crop Name</th>
<th>Annual grass</th>
<th>Native grass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Rated</td>
<td>Weed</td>
<td>stand</td>
</tr>
<tr>
<td>Rating Date</td>
<td>Apr-9-08</td>
<td>Apr-9-08</td>
</tr>
<tr>
<td>Rating Data Type</td>
<td>control</td>
<td>rating</td>
</tr>
<tr>
<td>Rating Unit</td>
<td>%</td>
<td>0-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trt Treatment</th>
<th>Form</th>
<th>Rate</th>
<th>Appl</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Name</td>
<td>Conc Type</td>
<td>Prod/a</td>
<td>Code</td>
</tr>
<tr>
<td>1 Untaxed control</td>
<td></td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2 Matrix</td>
<td>25 SG</td>
<td>4 OZ/A</td>
<td>A 93 1</td>
</tr>
<tr>
<td>2 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>3 Matrix</td>
<td>25 SG</td>
<td>8 OZ/A</td>
<td>A 98 1</td>
</tr>
<tr>
<td>3 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>4 Landmark</td>
<td>75 SP</td>
<td>0.75 OZ/A</td>
<td>A 86 3</td>
</tr>
<tr>
<td>4 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>5 Plateau</td>
<td>2 SC 7.5 FL OZ/A</td>
<td>A 73 2</td>
<td></td>
</tr>
<tr>
<td>5 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>6 Plateau</td>
<td>2 SC 7.5 FL OZ/A</td>
<td>B 88 1</td>
<td></td>
</tr>
<tr>
<td>6 R-11</td>
<td>SL 0.25 % V/V</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>7 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>A 24 3</td>
<td></td>
</tr>
<tr>
<td>7 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>8 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>A 31 4</td>
<td></td>
</tr>
<tr>
<td>8 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>8 Soln 32</td>
<td>SL 32 FL OZ/A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>9 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>A 41 3</td>
<td></td>
</tr>
<tr>
<td>9 Sencor</td>
<td>75 WG 4 OZ/A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>9 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>10 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>B 45 3</td>
<td></td>
</tr>
<tr>
<td>10 R-11</td>
<td>SL 0.25 % V/V</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>11 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>B 54 3</td>
<td></td>
</tr>
<tr>
<td>11 R-11</td>
<td>SL 0.25 % V/V</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>11 Soln 32</td>
<td>SL 32 FL OZ/A</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>12 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>B 55 3</td>
<td></td>
</tr>
<tr>
<td>12 Sencor</td>
<td>75 WG 4 OZ/A</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>12 R-11</td>
<td>SL 0.25 % V/V</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>13 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>A 73 2</td>
<td></td>
</tr>
<tr>
<td>13 R-11</td>
<td>SL 0.25 % V/V</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>13 Olympus</td>
<td>70 WG 1.22 OZ/A</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>13 R-11</td>
<td>SL 0.25 % V/V</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

LSD (P=.05) 14 1
Oregon State University
Columbia Basin Ag Research Center

Annual grass control in rangeland

Trial ID: 08-600
Location: Pilot Rock

Crop Name | annual grass | Native grass
--- | --- | ---
Part Rated | Weed | stand
Rating Date | Apr-9-08 | Apr-9-08
Rating Data Type | control | rating
Rating Unit | % | 0-5

Replicate F | 2.610 | 1.050
Replicate Prob(F) | 0.0664 | 0.3823
Treatment F | 38.232 | 5.515
Treatment Prob(F) | 0.0001 | 0.0001

Trial Comments

This study was designed to evaluate different herbicides for control of medusahead rye and downy brome in rangeland prior to planting four species of native grasses. The study was located east of Pilot Rock, OR in an area heavily infested with medusahead rye and some downy brome. Fall applications were applied 11/14/07 and spring applications were made 2/18/08. Control of medusahead rye and downy brome was evaluated on 4/9/08 and existing native grass populations that were still present in the plots were rated on a 0-5 scale with 0 = no native grasses to 5 = a good population. Matrix at both rates gave the best control of medusahead rye and downy brome, evaluated together and listed as annual grasses, followed by Landmark and the spring applied Plateau. Olympus was generally less effective, but the split applications applied both fall and spring was comparable to spring applied Plateau. Matrix and the spring applied Plateau were the most injurious treatments to the existing native grasses in the plot area. Landmark, fall applied Plateau, and all of the Olympus treatments were less injurious. Four native grass species were planted 4/10/08 with a Truax Roughrider rangeland drill. They were Bluebunch wheatgrass, Idaho fescue, Sanberg bluegrass, and squirreltail bottle brush. No appreciable populations of these native grasses were found when checked during July of 2008. No establishment of the planted native grass species was observed when evaluated again in November of 2008.

The results of individual trials are considered to be of a preliminary nature and should not be considered as a product endorsement or recommendation for commercial use. Several treatments or treatment combinations evaluated in these studies are not registered for use. Consult herbicide labels for appropriate application details in appropriate crops. These results are not for publication unless authorized by Oregon State University.