Oregon State University
Columbia Basin Ag Research Center

Tolerance and efficacy of Goal and Goaltender in chickpeas

Trial ID: 07-149
Location: CBARC  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: CHICKPEAS chickpeas
Variety: Sierra
Planting Date: Apr-20-07
Rate, Unit: 155 lb/a
Planting Method: Great Plains drill
Depth, Unit: 2 in
Seed Bed: tilled and rough

Pest Description
Pest 1 Code: SASKR  Salsola kali
Common Name: Russian thistle
Pest 2 Code: CHEAL  Chenopodium album
Common Name: Common lambsquarters
Pest 3 Code: SOLTR  Solanum triflorum
Common Name: Cutleaf nightshade

Site and Design
Plot Width, Unit: 9 FT
Plot Length, Unit: 30 FT
Replications: 4
Study Design: Randomized Complete Block

Soil Description
% Sand: 23.6  % OM: 3.2
% Silt: 66.5  pH: 6.1
% Clay: 9.8  CEC: 17.4
Texture: Silt loam

Application Description
Application Date: Apr-26-07
Time of Day: 2:50 pm
Application Method: Broadcast
Application Timing: PRE
Application Placement: Surface
Air Temperature, Unit: 71 F
% Relative Humidity: 20
Wind Velocity, Unit: 3 mph
Wind Direction: W
Dew Presence (Y/N): N
Soil Temperature, Unit: 82 F
Soil Moisture: Dry-surf
% Cloud Cover: 70

Crop Stage At Each Application
Crop 1 Code: CHICKPEAS
Stage: PRE
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Pest Stage At Each Application

A

Pest 1 Code: Russian thistle
Stage: PRE

Pest 2 Code: Common lambsquarter
Stage: PRE

Pest 3 Code: Cutleaf nightshade
Stage: PRE

Application Equipment

A

Appl. Equipment: Handboom
Operating Pressure, Unit: 30 psi
Nozzle Type: Flat fan
Nozzle Size: XR-8002
Nozzle Spacing, Unit: 18 in
Boom Length, Unit: 9 ft
Ground Speed, Unit: 3.5 mph
Carrier: Water
Spray Volume, Unit: 16 gpa
Mix Size, Unit: 1.7 liters
Propellant: CO2
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<table>
<thead>
<tr>
<th>Crop Name</th>
<th>Chickpeas Chickpeas R thistle lambsquarters</th>
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<tbody>
<tr>
<td>Part Rated</td>
<td>Stand crop Weed Weed</td>
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<tr>
<td>Rating Date</td>
<td>May-23-07 Jun-19-07 Jun-19-07 Jun-19-07</td>
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<td>Rating Data Type</td>
<td>Plants/ Injury Control Control</td>
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<td>Rating Unit</td>
<td>M row % % %</td>
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<table>
<thead>
<tr>
<th>Trt Treatment No. Name</th>
<th>Form</th>
<th>Rate Conc Type</th>
<th>Appl Prod/A Code</th>
<th>Rating Date</th>
<th>Rating Data Type</th>
<th>LSD (P= .05)</th>
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<tr>
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<tr>
<td>2 Goal 2XL</td>
<td>2</td>
<td>0.125 LB A/A A</td>
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<td>9</td>
<td>0</td>
<td>84</td>
<td>95</td>
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Replicate F: 0.643 0.000 2.397 3.444
Replicate Prob(F): 0.6018 1.0000 0.1190 0.0517
Treatment F: 0.331 0.000 116.806 393.267
Treatment Prob(F): 0.8520 1.0000 0.0001 0.0001

NS 0.0 11 7
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LSD (P=.05) 8 NS

Replicate F 3.648 0.326
Replicate Prob(F) 0.0445 0.8065
Treatment F 272.650 0.812
Treatment Prob(F) 0.0001 0.5411
The objectives of this trial was to determine the crop tolerance and weed control efficacy of Goal and Goaltender on chickpeas. Chickpeas were planted 4/20/07 and the treatments were applied to the soil surface on 4/26/07 prior to emergence of the crop. Stand counts were taken on 5/23/07 and crop injury was rated 6/19/07. There were no significant differences in crop stand and no visual injury was observed. All treatments gave good control of Russian thistle and cutleaf nightshade and excellent (>94%) control of common lambsquarters. The plots were harvested 8/15/07 with a 'Hege' small plot combine. There were no significant differences in yield between any of the treatments and the untreated control. Under the conditions experienced in this trial it appears that Goal and Goaltender are safe on chickpeas when applied preemergence.