Case Study: The Mystery of Perennial Pepperweed and Chlorsulfuron in Sierra Valley

Tom Getts UCCE
Previous Research

• Young, Renz, DiTomaso, Wilson, Hutchingson, Grewell Etc.
• Mowing, cultivation, grazing, tarping, burning
  - Combined with herbicides
- Bud Stage
  - Telar (Chlorsulfuron)
  - 2,4-D
  - Glyphosate
  - Imazapyr
Sierra Valley- Telar Not Working?
Honey Lake Valley - Telar Works Fine!
Sierra Valley

• Trial Established in 2019
  • Feather River Land Trust Property
  • History of multiple applications of Telar on property
  • Pepperweed Persisted
Implemented Trial

- Three Replications
- RCBD
- Applied 20 gal/acre
- 10*15 ft. plots
- Applied Bud Stage June 2019
Initial symptomology consistent with previous work 3 weeks after treatment.

Untreated 30 Days
Evaluation

Initial symptoms consist with previous work.

2,4-D 30 Days
Evaluation

Intial symptoms constits with previous work.

Telar 30 Days
<table>
<thead>
<tr>
<th>Treatment</th>
<th>12 MAT</th>
<th>24 MAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D 2 qt/acre + MSO</td>
<td>77 A</td>
<td></td>
</tr>
<tr>
<td>Telar 1.3 OZ/acre + MSO</td>
<td>28 BC</td>
<td></td>
</tr>
<tr>
<td>Telar 2.6 OZ/acre + MSO</td>
<td>40 B</td>
<td></td>
</tr>
<tr>
<td>Telar 2.6 OZ/acre + NIS</td>
<td>20 C</td>
<td></td>
</tr>
<tr>
<td>Untreated</td>
<td>0 D</td>
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</table>
Treated the Same Plots Again!

- Two Years of Max Label rate for Telar?
Telar 2.6oz 30 Days After Second Treatment
Telar 2.6oz 2 YAT After First Treatment
1 YAT After Second Treatment
2,4-D 2 YAT After First Treatment
1 YAT After Second Treatment
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What is Happening??

• Unique soil
• 10-13 percent organic matter
• “Binding” Telar (Limited Root Bud Absorption)
  • Not an explanation for lack of translocation
• History of Telar on site (multiple applications)
  • Possible- not probable resistance.
  • Starting pot study 2021 for initial resistance screening
    • Population from Sierra Valley
    • Population from Honey Lake Valley
Interested in Your Experiences!

• Have you had failures of Telar/chlorsulfuron on Pepperweed in your area?

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