Herbicides in Green Peas

Bob Parker
Weed Scientist
Irrigated Agriculture Research and Extension Center
Washington State University-Prosser
Herbicides are Only One Tool in a Successful Weed Control Program
Plant Competition
Positive Attributes of Green Peas

• Several herbicides available
• Densely-growing crop competes well with weeds
• Short-season crop
• Lower soil N may decrease weed growth
Herbicides Registered

- Basagran (bentazon)
- Aim (carfentrazone)
- Select (clethodim)
- Command (clomazone)
glyphosate
MCPA
MCPB
Dual (metolachlor)

- Sencor (metribuzin)
- Prowl (pendimethalin)
- Treflan (trifluralin)
- Pursuit (imazethapyr)
- Assure (quizalofop)
- Poast (sethoxydim)
- Far-Go (triallylate)
- Oxystar (oxyfluorfen)???
Preplant-incorporated Herbicides Available for Use in Green Peas

- Treflan (trifluralin)
- Far-Go (triallate)
- Buckle (trifluralin + triallate)
- Pursuit (imazethapyr)
- Prowl (pendimethalin)
Preemergence Herbicides Available for Use in Green Peas

• Pursuit (imazethapyr)
• Prowl (pendimethalin)
• Dual Magnum (s-metolachlor)
• Command (clomazone)
• Sencor (metribuzin)
Command effect on peas
Apply **Prowl® H₂O herbicide** and incorporate (rainfall, irrigation or mechanically) in late fall prior to planting lentils or peas (English, dry, garden, dwarf, green, pigeon, and edible pod) or edible beans (chickpeas (garbanzo beans), dry beans (such as navy, great northern, red kidney, black turtle, cranberry, and small white type), lima beans, snap beans, Southern peas (cowpeas), and sweet lupines) the following spring. Apply **Prowl H₂O** in the late fall when soil temperatures are 45 °F or below but before the ground freezes.

**DO NOT** apply **Prowl H₂O** preemergence in peas.
Postemergence Herbicides Available for Use in Green Peas

• Pursuit (imazethapyr)
• Sencor (metribuzin)
• MCPA
• MCPB
• Basagran (bentazon)
• Poast (sethoxydim)
• Assure II (quizalofop)
Preplant and Preemergence Weed Control in Green Peas
Athena, OR

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate/A</th>
<th>Fanweed</th>
<th>Shephardspurs</th>
<th>Lambquart</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PPI</strong></td>
<td></td>
<td>---------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Pursuit</td>
<td>1.0 oz</td>
<td>91</td>
<td>83</td>
<td>85</td>
</tr>
<tr>
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<td>1.5 oz</td>
<td>99</td>
<td>93</td>
<td>96</td>
</tr>
<tr>
<td>Pursuit</td>
<td>3.0 oz</td>
<td>99</td>
<td>96</td>
<td>97</td>
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<tr>
<td><strong>PRE</strong></td>
<td></td>
<td>---------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Pursuit</td>
<td>1.0 oz</td>
<td>95</td>
<td>88</td>
<td>68</td>
</tr>
<tr>
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<td>97</td>
<td>87</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Prowl</td>
<td>1.2 pt</td>
<td>59</td>
<td>37</td>
<td>65</td>
</tr>
<tr>
<td>Prowl</td>
<td>1.8 pt</td>
<td>44</td>
<td>37</td>
<td>77</td>
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<tr>
<td>Treflan</td>
<td>1.0 pt</td>
<td>68</td>
<td>57</td>
<td>84</td>
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<tr>
<td><strong>PRE</strong></td>
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<td></td>
</tr>
<tr>
<td>Prowl</td>
<td>1.2 pt</td>
<td>82</td>
<td>60</td>
<td>53</td>
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<tr>
<td>Prowl</td>
<td>1.8 pt</td>
<td>92</td>
<td>80</td>
<td>72</td>
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--------- % control ---------

*From Dan Ball OSU*
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<tr>
<td><strong>PPI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pursuit + Treflan</td>
<td>1.5 pt + .75 pt</td>
<td>94</td>
<td>82</td>
<td>80</td>
</tr>
<tr>
<td><strong>PRE</strong></td>
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<tr>
<td>Pursuit + Prowl</td>
<td>1.5 pt + 1.2 pt</td>
<td>97</td>
<td>96</td>
<td>90</td>
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From Dan Ball OSU
# Preplant and Preemergence Weed Control in Green Peas

**Athena, OR**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate/A</th>
<th>Timing</th>
<th>FW</th>
<th>SP</th>
<th>LQ</th>
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</thead>
<tbody>
<tr>
<td>Treflan</td>
<td>0.75 pt</td>
<td>PPI</td>
<td>88</td>
<td>58</td>
<td>75</td>
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<tr>
<td>Treflan / MCPA</td>
<td>0.75 / 1 pt</td>
<td>PPI / EPOST</td>
<td>98</td>
<td>52</td>
<td>53</td>
</tr>
<tr>
<td>Treflan / MCPA</td>
<td>0.75 / 1 pt</td>
<td>PPI / MPOST</td>
<td>96</td>
<td>65</td>
<td>58</td>
</tr>
<tr>
<td>Treflan / Basagran</td>
<td>0.75 / 1 pt</td>
<td>PPI / EPOST</td>
<td>98</td>
<td>87</td>
<td>75</td>
</tr>
<tr>
<td>Treflan / Basa + COC</td>
<td>0.75 / 1 pt+2 qt</td>
<td>PPI / EPOST</td>
<td>98</td>
<td>88</td>
<td>75</td>
</tr>
<tr>
<td>Treflan / Basa</td>
<td>0.75 / 1pt</td>
<td>PPI / MPOST</td>
<td>97</td>
<td>65</td>
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</tr>
<tr>
<td>Treflan / metr+ Basa</td>
<td>0.75 / 1 oz+1 pt</td>
<td>PPI / EPOST</td>
<td>98</td>
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--- % control ---

From Dan Ball OSU
Stale Seedbed
Stale Seedbed

Prepare seedbed, allow weed seeds to germinate, then kill them with herbicide, flame, or shallow tillage prior to planting or crop emergence.
Stale Seedbed Trial

- Prepare the final seedbed 14, 7, or 3 days prior to seeding
- Seed the crop
- Apply non-selective herbicides or flame just prior to crop emergence
  - Roundup, Gramoxone, Rely, or flame
- Evaluate weed control and crop canopy periodically during the year

Tim Miller-WSU
Weed Ratings from Stale Seedbeds
Green Pea; July, 2007 (6 WAT)

Tim Miller-WSU
Stale Seedbed Trial
Green Peas, 2007

- Pea cover was **poor** (32-52% of a full stand)
- **Roundup**, **Gramoxone**, and **Rely** performed better than flame
- Weed control was **not much improved** with longer delays in seeding
- Weeds outcompeted peas, so no harvest was performed

Tim Miller-WSU
Winner of the "Not My Job" Award - ADOT
Litchfield Park, AZ 85
Pea Interference Studies
Tim Miller-WSU

- 'Charo' green pea
- Weeds removed from plots at weekly intervals and kept weed-free until harvest
  - 1, 2, 3, 4, 5, and 6 weeks after emergence
- Weedy and weed-free plots
- 4 replicates per trial, 2 years of data
Pod Production and Pea Yield
2001-03

The chart shows the relationship between the number of pods per plant and the yield (in tons per acre) for different weed management strategies:

- **Pods/Plant**
  - Weed free
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - Full

- **Yield (tons/acre)**
  - Weed free
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - Full
Pea Interference Studies

- Pea plant density slightly reduced by weed interference
- Pea size not reduced by duration of weed interference, but pod number decreased
  - No yield loss if weeds controlled by 5 weeks after emergence
CAUTION:
Vehicle may be Transporting Political Promises!
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