**Study Name:** Weed control in chickpeas

**Study Number:** 9909

**Objectives:** Evaluate chickpea tolerance to registered and experimental herbicides

**Results:** Only Broadstrike + Treflan caused any visible crop injury to the chickpeas. Weed infestation was very erratic, therefore we did not do individual weed ratings. Comments on weed control follow the table.

It appears that chickpeas are sufficiently tolerant to Balance and Spartan that we can pursue registration for these products. In discussions with representatives from Rhone-Poulenc, it was mentioned that they have also seen excellent chickpea tolerance to Balance. The Spartan treatments were also conducted at Carrington and Williston. There was no consistent trend in the effect of the herbicides on chickpea yield. The Frontier yield was lower due to higher kochia pressure in those plots. Disease was present in portions of the plot area.

*Table.* Weed control in chickpeas

| | | | June 19 | August 18 | Chickpea | |
|---|---|---|---|---|---|---|
| Treatment | Rate | Timing | % Chickpea Injury | % Chickpea Injury | Yield (lb/A) | Test Weight |
| Untreated | | | 0 | 0 | 871 | 60.8 |
| Balance | 1.25 oz | PRE | 0 | 0 | 1372 | 62.0 |
| Balance | 2 oz | PRE | 0 | 0 | 1644 | 61.0 |
| Spartan | 0.125 lb ai | PPI | 0 | 0 | 1640 | 61.3 |
| Spartan | 0.25 lb ai | PPI | 0 | 0 | 1292 | 62.1 |
| Spartan | 0.50 lb ai | PPI | 0 | 0 | 1458 | 61.4 |
| Spartan | 0.125 lb ai | PRE | 0 | 0 | 950 | 61.4 |
| Spartan | 0.25 lb ai | PRE | 0 | 0 | 1084 | 61.8 |
| Spartan | 0.50 lb ai | PRE | 0 | 0 | 1290 | 61.0 |
| Axiom | 15 oz | PRE | 0 | 0 | 1065 | 60.7 |
| Valor | 1.5 oz ai | PRE | 0 | 0 | 1195 | 60.5 |
| Frontier | 32 fl oz | PRE | 0 | 0 | 886 | 58.6 |
| Sonalan | 3 pt | PPI | 0 | 0 | 1192 | 61.7 |
| Sencor | 0.25 lb ai | PRE | 0 | 0 | 1037 | 60.9 |
| Broadstrike + Treflan | 2 pt | PPI | 8 | 17 | 949 | 60.5 |
| Treflan | 1 lb ai | PPI | 0 | 0 | 1007 | 62.0 |
| Prowl | 3.6 pt | PPI | 0 | 0 | 1285 | 61.5 |
| Tough | 2 pt | POST 1 | 0 | 0 | 1071 | 61.8 |
| Tough | 2 pt | POST 2 | 0 | 0 | 1094 | 61.5 |
| Treflan / Tough | 0.75 lb ai / 2 pt | PPI / POST 1 | 0 | 0 | 1570 | 63.2 |
| LSD | | | 0 | 1 | 493 | 1.8 |
| CV | | | 0 | 77 | 25 | 2 |

**Herbicide efficacy and crop tolerance in Chickpeas**. (1998) (Brian Jenks and Kent McKay, Minot) 'Sanford' chickpeas were planted May 23 into 7.5-inch rows at 140,000 pls/A in a conventional tillage system. Herbicide treatments consisted of preplant incorporated, preemergence, and postemergence applications. Individual plots were

10 by 30 ft and were arranged in a RCBD with three replications. PPI and PRE treatments were applied (May 22 and May 25) with 80015 flat fan nozzles delivering 20 gpa at 30 PSI. All postemergence treatments were applied June 25 with 8001 flat fan nozzles delivering 10 gpa at 40 PSI. Chickpeas were approximately 7-inches tall at the POST application. Foxtail pressure was initially light and erratic, but emergence continued through the season. Foxtail populations in some areas were about 5 per square foot and 1-2 inches tall at POST application. Yellow foxtail was the most common species, but green foxtail was also present. Chickpeas were harvested with a small plot combine on September 29.

| | | July 14 | | Sept 14 | | |
|---|---|---|---|---|---|---|
| **Treatment**[a] | **Rate** | **Injury** | **Fxtl** | **Injury** | **Fxtl** | **Yield** |
| | | ----------% injury or control ---------- | | | | lb/A |
| Untreated | | 0 | 0 | 0 | 0 | 1562 |
| Prowl / Motive + NIS | 3 pt / 2 fl oz + 0.25% | 63 | 93 | 33 | 100 | 2061 |
| Prowl / Motive + NIS | 3 pt / 3 fl oz + 0.25% | 77 | 92 | 50 | 100 | 1393 |
| Motive + NIS | 2 fl oz + 0.25% | 70 | 84 | 50 | 83 | 1646 |
| Motive + NIS | 3 fl oz + 0.25% | 75 | 93 | 57 | 95 | 1325 |
| Balance | 1.25 oz | 1 | 48 | 0 | 40 | 1738 |
| Balance | 2 oz | 2 | 52 | 0 | 55 | 1724 |
| Spartan | 0.25 lb ai | 3 | 50 | 0 | 40 | 1974 |
| Axiom | 15 oz | 1 | 65 | 0 | 83 | 2272 |
| Resource + NIS | 0.027 lb ai + 0.25% | 15 | 0 | 8 | 0 | 1403 |
| V-53482 | 0.078 lb ai | 0 | 72 | 0 | 88 | 2417 |
| Frontier | 20 fl oz | 0 | 65 | 0 | 73 | 2151 |
| Sonalan | 2 pt | 0 | 80 | 0 | 83 | 2247 |
| Sencor | 0.25 lb ai | 3 | 55 | 0 | 32 | 1299 |
| Broadstrike + Treflan | 2 pt | 19 | 67 | 17 | 80 | 1906 |
| Treflan | 1.5 pt | 0 | 82 | 0 | 73 | 2531 |
| Prowl | 3 pt | 0 | 60 | 0 | 65 | 1862 |
| Tough + NIS | 2 pt + 0.25% | 0 | 0 | 0 | 0 | 2084 |
| Treflan / Tough + NIS | 1.5 pt / 2 pt + 0.25% | 0 | 85 | 0 | 90 | 2247 |
| CV | | 27 | 12 | 45 | 19 | 23 |
| LSD (0.05) | | 8 | 12 | 8 | 20 | 700 |

[a] Applied PPI: Prowl, Sonalan, Broadstrike + Treflan, and Treflan
Applied PRE: Balance, Spartan, Axiom, V-53482, Frontier, Sencor
Applied POST: Motive, Resource, and Tough

Motive, Resource, and Broadstrike + Treflan caused moderate to severe injury to chickpeas. No injury was observed with the other treatments. Prowl/Motive, Motive, Axiom, V-53482, Sonalan, Broadstrike + Treflan, and Treflan/Tough provided good to excellent foxtail control. Foxtail control with Motive alone at 2 fl oz/A was 12% less than 3 fl oz/A.