

Lentil tolerance to previous year, fall, and spring herbicide applications (2004)

Mountrail durum was seeded April 23 at 120 lb/A into 7.5-inch rows. Spartan was applied preemergence at 5.33 oz in durum in Spring 2003 (April 29). Individual plots were 10 x 30 ft and replicated 3 times. Plot corners were maintained from 2003 to 2004. Spartan, Prowl, Pursuit, and Sonalan were applied to durum stubble in Fall 2003 (Oct 6) and preemergence (PRE) in Spring 2004 (May 10). Merrit lentils were seeded May 6, 2004 at 80 lb/A into 7.5-inch rows.

Spartan alone or tank mixed with Prowl or Sonalan reduced lentil densities. Spartan tank mixed with Prowl or Sonalan reduced crop densities and increased visible crop injury more than when the herbicides were applied alone. Crop injury was consistently higher with the spring application compared to the fall application. Prowl alone or tank mixed with Pursuit provided better kochia control when applied in the spring, but also resulted in more crop injury. Spartan generally provided good to excellent kochia control. The Spartan application in the previous year (Spring 2003) caused moderate crop injury, but only provided 76% kochia control.

The PRE treatments were applied on May 10. Within three days, 1.3 inches of precipitation fell in the form of rain and snow. Within three weeks after the PRE application, the area had 3.2 inches of precipitation and generally cold conditions.

Table. Fall vs. spring herbicide applications for weed control in lentil.

| Treatment ^a | Rate | Timing | Lentil | | | Kochia | |
|------------------------|----------------|-------------|------------|-------------|--------|--------------|--------|
| | | | Jun 4 | Jun 18 | Jul 13 | Jun 22 | Jul 13 |
| | product / A | | pl / m row | —% injury — | | —% control — | |
| Spartan | 5.33 oz | Spring 2003 | 10.8 | 27 | 16 | 82 | 76 |
| Spartan | 2.67 oz | Fall 2003 | 11.4 | 16 | 10 | 95 | 89 |
| Spartan | 4 oz | Fall 2003 | 9.6 | 29 | 23 | 97 | 91 |
| Spartan | 2.67 oz | PRE 2004 | 8.2 | 46 | 42 | 92 | 79 |
| Prowl | 3 pt | Fall 2003 | 13.7 | 9 | 5 | 77 | 62 |
| Prowl H2O | 2 pt | PRE 2004 | 13.6 | 27 | 16 | 90 | 72 |
| Prowl + Pursuit | 3 pt + 2 fl oz | Fall 2003 | 12.9 | 10 | 4 | 81 | 65 |
| Prowl H2O + Pursuit | 2 pt + 1 fl oz | PRE 2004 | 12.0 | 19 | 14 | 93 | 88 |
| Spartan + Prowl | 2.67 oz + 3 pt | Fall 2003 | 10.0 | 33 | 21 | 98 | 94 |
| Spartan + Prowl H2O | 2.67 oz + 2 pt | PRE 2004 | 4.5 | 82 | 75 | 99 | 89 |
| Sonalan | 3 pt | Fall 2003 | 12.3 | 12 | 5 | 70 | 56 |
| Sonalan | 2 pt | PRE 2004 | 14.0 | 14 | 8 | 77 | 61 |
| Spartan + Sonalan | 2.67 oz + 3 pt | Fall 2003 | 9.7 | 40 | 31 | 97 | 94 |
| Spartan + Sonalan | 2.67 oz + 2 pt | PRE 2004 | 5.4 | 73 | 60 | 92 | 82 |
| Handweeded check | | | 14.1 | -- | -- | -- | -- |
| LSD (0.05) | | | 3.1 | 27 | 22 | 14 | 15 |
| CV | | | 17.0 | 55 | 60 | 10 | 12 |

^aAssure II plus COC at 8 oz + 1% v/v, respectively, were applied postemergence in 2004 to all treatments.