

## Clearfield lentil weed control and tolerance

The objective of this study was to evaluate weed control with Sharpen and Express applied alone or tank mixed with glyphosate or Prowl. Another objective was to evaluate weed control with or without Beyond. Clearfield lentil ('Maxim') was seeded May 11 into 7.5-inch rows into stubble. Preemergence (PRE) treatments were applied May 12. Beyond was applied POST on June 9 in three treatments when lentils were 4- to 6-inches tall. Select Max was applied POST to control grasses in treatments that did not include Beyond, except for treatments 1 and 2 (untreated and glyphosate alone).

Express tank mixed with glyphosate did not improve weed control over glyphosate alone (Table 1). Sharpen tank mixed with glyphosate significantly increased lambsquarters control compared to glyphosate alone, but only slightly increased control of other weeds. Applying Beyond POST provided >90% control of all weeds except kochia. Pigweed control was poor with all treatments except where Beyond was applied POST.

None of the treatments caused more than 7% visible crop injury and did not reduce crop density or height (Table 2). Beyond increased lentil yield 200-600 lb/A compared to treatments with soil-applied herbicides followed by Select Max (Table 2).

Table 1. Weed Control in Clearfield Lentil. (1007)

Treatment <sup>ac</sup>	Rate	Weed control <sup>b</sup>				
		Kocz	Prle	Howe	Rrpw	Colq
		July 9				
-----%-----						
Untreated		0	0	0	0	0
Glyph	22 fl oz	75	83	78	17	20
Glyph + Express	22 oz + 0.25 oz	80	85	80	17	20
Sharpen + Glyph	1 fl oz + 22 fl oz	81	94	88	37	83
Sharpen + Glyph + Prowl H2O	1 fl oz + 22 fl oz + 2 pt	82	93	88	58	98
Sharpen + Glyph / Beyond	1 fl oz + 22 fl oz / 4 fl oz	81	91	92	99	99
Glyph + Express / Beyond	22 fl oz + 0.25 oz / 4 fl oz	80	98	91	99	99
Sharpen + Glyph + Prowl H2O / Beyond	1 oz + 22 oz + 2 pt / 4 oz	87	96	94	99	99
Glyph + Prowl H2O	22 fl oz + 1.5 pt	68	85	77	57	88
LSD (0.05)		16	11	9	16	21
CV		13	8	7	13	18

<sup>a</sup>Glyphosate applied with AMS (2%); Express applied with NIS (0.25%); Beyond applied with NIS (0.25%);

Sharpen applied with MSO (1%); Glyph = Roundup PowerMax; Select = Select Max

<sup>b</sup>Kocz=Kochia; Prle=Prickly Lettuce; Howe=Horseweed; Rrpw=Redroot pigweed; Colq=Common lambsquarters

<sup>c</sup>All treatments applied PRE except for Beyond which was applied POST.

Table 2. Clearfield lentil tolerance to herbicides applied PRE and POST. (1007)

Treatment <sup>ab</sup>	Rate	Lentil				
		Density	Height	Injury	Yield	TW
		Jun 4	Jul 26	Jul 3	Aug 25	Aug 25
		m row	cm	%	lb/A	lb/bu
Untreated		24.9	40.8	0	255	60.4
Glyphosate	22 fl oz	26.3	45.8	0	712	60.3
Glyph + Express <sup>c</sup>	22 oz + 0.25 oz	28.6	43.5	3	1644	62.3
Sharpen + Glyph <sup>c</sup>	1 fl oz + 22 fl oz	23.5	42.0	3	1936	62.7
Sharpen + Glyph + Prowl H2O <sup>c</sup>	1 fl oz + 22 fl oz + 2 pt	24.8	44.7	7	2006	63.1
Sharpen + Glyph / Beyond	1 fl oz + 22 fl oz / 4 fl oz	27.6	43.2	7	2237	63.2
Glyph + Express / Beyond	22 fl oz + 0.25 oz / 4 fl oz	27.3	43.5	3	2432	63.3
Sharpen + Glyph + Prowl H2O / Beyond	1 oz + 22 oz + 2 pt / 4 oz	27.5	45.3	3	2610	63.0
Glyph + Prowl H2O <sup>c</sup>	22 fl oz + 1.5 pt	27.8	43.9	2	1944	63.0
LSD (0.05)		NS	NS	4.7	513	0.94
CV		10.6	9.1	90	17	0.87

<sup>a</sup>Glyphosate applied with AMS (2%); Express applied with NIS (0.25%); Beyond applied with NIS (0.25%);

Sharpen applied with MSO (1%); Glyph = Roundup PowerMax; Select = Select Max

<sup>b</sup>All treatments applied PRE except for Beyond which was applied POST.

<sup>c</sup>Select Max was applied POST to control grasses.