

Grass weed control with clethodim in dry edible bean, Carrington, 2007

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The field experiment was conducted at the NDSU Carrington Research Extension Center to test grass weed control and dry bean tolerance to Loveland Products clethodim and adjuvants. The experimental design was a randomized complete block with three replicates. 'Maverick' pinto bean was planted on June 18 in 30-inch rows into previously-seeded spring wheat. Herbicide treatments were applied with a CO₂-hand-boom plot sprayer delivering 10 gal/A at 30 psi through 8001 flat fan nozzles to the center 6.7 ft of 10 by 25 ft plots. Treatments were applied on June 28 with 55 F, 76% RH, 100% cloudy sky, and 4 mph wind to unifoliate beans, 6- to 8-inch tall (jointing stage) wheat and 2- to 4-inch tall (tillering) leaf yellow and green foxtail. The trial was over-sprayed with Basagran at 32 fl oz plus MSO at 32 fl oz/A on July 2 to control broadleaf weeds.

Volunteer wheat control was good (82-88%) when evaluated about 2 wk after application (WAA) and excellent (94-96%) 4 WAA with LI 6213 or LI6190 at 12 fl oz/A plus adjuvants (Table). Foxtail control was good (80-83%) 2 WAA with LI 6213 or LI6190 at 12 fl oz/A plus adjuvants. LI6190 at 12 fl oz/A plus Quad7 provided excellent control (94%) of foxtail. Minor leaf chlorosis and necrosis was observed on the pinto bean, likely due to response to Basagran plus MSO.

Table. Grass weed control with clethodim in dry edible bean, Carrington.

Treatment	Herbicide fl oz product/A	Grass control ¹			Crop injury	
		7/13 Spwh	7/26 Fxtl %	7/26 Spwh	7/13	7/26
LI 6213	6	65	65	72	1.5	1.5
LI 6190	6	67	72	76	2.0	2.0
LI 6213	12	73	78	90	1.5	1.5
LI 6190	12	70	76	87	1.0	1.0
LI 6213 + LI 6193-11	6 + 1%	72	72	89	1.5	1.5
LI 6190 + LI 6193-11	6 + 1%	74	77	88	1.5	1.5
LI 6213 + LI 6193-11	12 + 1%	82	83	94	2.0	2.0
LI 6190 + LI 6193-11	12 + 1%	88	80	96	1.5	1.5
LI 6190 + Quad7	12 + 1%	83	94	94	1.5	1.5
untreated check		0	0	0	0	0
mean		67	70	79	1.5	1.0
C.V. (%)		4.8	9.0	2.3	27.5	57.2
LSD (0.05)		6	11	3	0.5	1.0

¹Spwh = spring wheat; Fxtl = yellow and green foxtail.

²0 = no injury; 9 = severe leaf chlorosis to necrosis.