

**Study Name:** Long-term milkweed control 2002-04

**Study Number:** 0406

**Objectives:** Compare Express tank mixes and split applications in-crop with and without a pre-harvest application of Roundup to determine the impact on common milkweed densities the following years.

**Results:**

Spring wheat was seeded May 13, 2002 near Wolf Creek, ND. In-crop and pre-harvest herbicide treatments were applied June 7, 2002 and August 14, 2002, respectively. Individual plots were 10 x 30 ft and replicated four times. All common milkweed plants present in each plot were counted prior to the in-crop herbicide application on June 7, 2002. Canola was planted over the study area April 26, 2003. All milkweed plants present in each plot were counted June 4, 2003 prior to a single glyphosate application to canola. Spring wheat was seeded again in 2004. Milkweed plants were counted in the same fashion as previous years on June 7, 2004.

A visual evaluation of common milkweed control in August 2002 did not provide much useful information. Milkweed control ranged from 50-81%, but was not consistent across the four replications. Milkweed is difficult to control because it emerges at different times throughout the growing season. At the August 2002 evaluation, we observed some dead plants, some injured plants, and many healthy plants. It was not possible to determine whether these live plants were emerged or not at the June 2002 application time. The most encouraging observations came from the density counts in June 2003. All treatments reduced milkweed densities compared to the initial densities in 2002; however, treatments that received the pre-harvest glyphosate application had significantly lower milkweed densities in 2003.

Common milkweed densities generally increased slightly in most treatments in 2004 compared to 2003. The only herbicide applied in 2003 was a single glyphosate application in-crop to canola. Although milkweed density tended to increase slightly, the plants were very small when wheat was about 5-leaf. Fewer plants grew above the wheat canopy compared to previous years. Glyphosate was applied pre-harvest at 0.75 lb ae to the entire plot on July 27, 2004. The study will continue in 2005 to determine the impact of the 2004 pre-harvest glyphosate application.

Table. Long-term milkweed control 2002-04

Herbicide treatment in wheat in 2002 <sup>ab</sup>	Herbicide treatment in canola in 2003	Timing	Common milkweed		
			Jun 7 2002	Jun 4 2003	Jun 7 2004
Express + 2,4-D	Glyphosate <sup>e</sup>	POST	56	16	16
Same as above fb glyphosate <sup>c</sup>		PRE-H	154	12	23
Express + 2,4-D + Banvel	Glyphosate	POST	60	28	36
Same as above fb glyphosate		PRE-H	60	4	9
Express + 2,4-D + Starane	Glyphosate	POST	98	34	49
Same as above fb glyphosate		PRE-H	36	5	7
Express + 2,4-D/ Express	Glyphosate	POST / II	107	54	41
Same as above fb glyphosate		PRE-H	59	13	18
Express + Curtail	Glyphosate	POST	153	66	44
Same as above fb glyphosate		PRE-H	75	5	13
Paramount + Curtail + MSO	Glyphosate	POST	84	49	22
Same as above fb glyphosate		PRE-H	61	8	14

<sup>a</sup>Express treatments were applied with Quad 7 at 1% v/v.

<sup>b</sup>Glyphosate applied in 2002 was Roundup Ultra Max at 0.75 lb ae with AMS at 2.5 gal/100 gal.

<sup>c</sup>Treatment listed above was applied in-crop followed by glyphosate applied pre-harvest.

<sup>d</sup>Represents the average number of milkweed plants over the four replications.

<sup>e</sup>Glyphosate applied in 2003 to canola was Roundup Ultra Max at 0.58 lb ae.