Long-term milkweed control 2002-05 (Wolf Creek, ND)

We monitored the long-term effect of herbicide applications on milkweed densities in a field near Wolf Creek, ND. The study was conducted in a field that was planted to wheat in 2002, canola in 2003, wheat in 2004, and canola in 2005.

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 incrop

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 in-crop glyphosate application to canola. Spring wheat was seeded in 2004. Milkweed plants were counted in the same fashion as previous years on June 7, 2004. A pre-harvest glyphosate application was made prior to harvest in 2004. Canola was seeded in 2005 and milkweed counted on June 13, 2005.

In 2003, all treatments had reduced milkweed densities compared to initial densities in 2002; however, treatments that received pre-harvest glyphosate 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 in-crop glyphosate application 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 preharvest at 0.75 lb ae to the entire plot on July 27, 2004. By June 2005, all treatments had reduced milkweed densities over 90% compared to initial densities in 2002.

		2003 Canola	2004 Wheat	Common Milkweed				Stand Red.
Herbicide treatment in wheat in 2002[ab]	Timing in 2002	Applied in-crop	Applied post-harvest	Jun 7 2002	Jun 4 2003	Jun 7 2004	Jun 13 2005	2002-2005
				----------plants/ plot[d]----------				%
Express + 2,4-D	POST	Glyphosate[e]	Glyphosate[f]	56	16	16	3	94
And fb glyphosate[c]	PRE-H	Glyphosate	Glyphosate	154	12	23	2	96
Express + 2,4-D + Banvel	POST	Glyphosate	Glyphosate	60	28	36	2	97
And fb glyphosate	PRE-H	Glyphosate	Glyphosate	60	4	9	1	99
Express + 2,4-D + Starane	POST	Glyphosate	Glyphosate	98	34	49	4	93
And fb glyphosate	PRE-H	Glyphosate	Glyphosate	36	5	7	0	100
Express + 2,4-D/ Express	POST / II	Glyphosate	Glyphosate	107	54	41	6	90
And fb glyphosate	PRE-H	Glyphosate	Glyphosate	59	13	18	1	99
Express + Curtail	POST	Glyphosate	Glyphosate	153	66	44	3	96
And fb glyphosate	PRE-H	Glyphosate	Glyphosate	75	5	13	1	99
Paramount + Curtail + MSO	POST	Glyphosate	Glyphosate	84	49	22	3	96
And fb glyphosate	PRE-H	Glyphosate	Glyphosate	61	8	14	1	99

[a] *Express treatments were applied with Quad 7 at !% v/v.*

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

[c] Treatment listed above was applied in-crop followed by glyphosate applied pre-harvest.

[d] Represents the average number of milkweed plants over the four replications.

[e] Glyphosate applied in 2003 to canola was Roundup Ultra Max at 0.58 lb ae.

[f] Glyphosate in 2004 was applied to wheat pre-harvest.