Timing of weed control in soybean, Doyon, 2011. Greg Endres, Lucas Walter, and Bill Hodous. The study was conducted to build a North Dakota database documenting response of soybean to timing of weed removal. Experimental design was a randomized complete block with four replicates. The trial was conducted in a commercial field using 'Asgrow 0202' Roundup Ready soybean planted June 5 in 15-inch rows. Treatments were applied with a hand-held boom sprayer delivering 10 gal/A at 35 psi through 8001 flat fan nozzles to the center 6.7 ft of 10- by 25-ft plots. Extreme at 36 fl oz/A plus Class Act NG at 16 fl oz/A was PRE applied June 6 with 74 F, 44% RH, and 9 mph wind. Rainfall totaled 0.5" during the 9 days following PRE application (NDAWN – Crary location). Table 1 provides POST application details for glyphosate (Roundup PowerMax at 22 fl oz/A plus Class Act NG at 16 fl oz/A). The trial was harvested for grain yield on October 3.

Soybean seed yield statistically was similar (Table 2) which likely was due to excellent crop density and low weed density. However, yield with the late POST application of glyphosate and especially the untreated check tended to be reduced. Also, oil and protein with the untreated check tended to be less compared to yield with herbicide treatments.

Table 1. POST glyphosate application details for soybean response to timing of weed control, Doyon, 2011.

Application date[1]	POST treatment	Soybean stage	Weed[2] stage (height)	Weed density		Environment			
				Grass	Broad-leaf	Air temp.	RH	Wind speed	Clouds
			inches	square foot		F	%	MPH	%
28-Jun	A	unifoliate to V1	0.5 to 8	2	1	70	65	11	25
11-Jul	B	V3-4	1 to 24	1	1	74	51	6	60
25-Jul	C	R2	NA	NA	NA	79	50	6	0

[1]Soybean density on June 28 averaged 216,600 plants/A.

[2]Weeds include barnyardgrass, volunteer wheat, biennial wormwood, Canada thistle, common lambsquarters, prostrate and redroot pigweed, sheperdspurse, smartweed, sowthistle, wild buckwheat, and wild mustard.

Table 2. Soybean response to timing of weed control, Doyon, 2011.

Treatment		Seed yield	Test weight	Seeds/lb	Oil	Protein
Number	Description[1]	bu/A	lb/bu		%	
1	untreated	35.6	58.4	2672	18.2	24.1
2	PRE	55.4	58.5	2835	18.6	32.2
3	POSTA	55.5	58.4	2806	19.1	31.2
4	POSTB	56.3	58.5	2788	18.8	31.6
5	POSTC	53.7	58.3	2697	18.7	32.0
C.V. (%)		21.9	0.6	3.3	1.3	24.2
LSD (0.05)		NS	NS	NS	0.4	NS

[1]PRE=Extreme at 36 fl oz/A;POSTA-D=Roundup PowerMax at 22 fl oz/A. All herbicide applications included Class Act NG at 16 fl oz/A.