

2009 Preplant burndown timing with Kixor in Soybeans (L0932).

A field study was initiated near Lincoln, Nebraska to evaluate burndown weed control and residual activity of Kixor applied at different intervals before planting. The experimental design was a randomized complete block with four replications. Plots were 10 feet wide by 30 feet long and located on a Sharpesburg silty clay loam soil with an organic matter of 3.1 % and a pH of 6.6. Asgrow '2903' was planted on May 15. Soybeans emerged on May 28. Early preplant herbicides were applied April 15, Preplant herbicides on May 1, Preemergent herbicides on May 15, and post herbicides on June 18. Herbicides were applied with a tractor mounted sprayer calibrated to deliver 15 gallons per acre at 40 psi with Teejet 110015 AIXR nozzles. The environmental conditions at the time of spraying are given in Table 1. Rainfall received April 9 – June 22 is listed in Table 2.

Winter annual weed pressure at this location was moderate. The dominant weeds were henbit (*Lamium amplexicaule*) and tansymustard (*Descurainia pinnata*). Weed pressure declined as you moved from SE (plot 112) to NW (plot 301) across the study. Weed densities were taken at the time of spraying in the center of the plot, two ft² samples were taken. Plots were evaluated using visual ratings. None of the treatments caused an observable crop response. Burndown was faster with saflufenacil products (Sharpen or Optill) + glyphosate than with 2,4-D + glyphosate, especially at the early application timing. The residual activity of Sharpen for control of velvetleaf (*Abutilon theophrasti*) and sunflower (*Helianthus annuus*) was greater at the 30 DBP timing and the 0 DBP timing than at the 15 DBP timing. We attributed that to a lack of precipitation in the two weeks following the 15 DBP timing. Optill provided superior control of the summer annual weeds at the two preplant timings compared to Sharpen, which was expected based on the low rate of saflufenacil that can be applied. Weed control following the postemergence application of glyphosate was excellent for all treatments.

Table 1. Environmental conditions at the Time of Herbicide Application.

Date	Air Temperature (F)	Soil Temperature At 4 in (F)	Humidity	Wind Speed & direction (mph)	Time of Day	Application Timing	Weed Heights (inches)					
							LAMAN	DESSS	CONCA	ABUTH	HELAN	SETGL
April 15	64	52	46	9 S	1:00 pm	EPP	2	4	2	NA	NA	NA
May 1	57	57	54	6 NNE	11:00 am	PP	4	8	4	0.5	0.5	NA
May 15	64	63	92	5 SE	11:00 am	PRE	6	12	6	3	3	1
June 18	89	82	49	10 SW	12:01 pm	POST			8	6	8	4

Table 2. Rainfall received April 9 – June 22.

Date	Amount (in)	Date	Amount (in)
April 9	0.2	June 16	0.11
April 12	0.13	June 19	0.71
April 13	0.09	June 20	0.27
April 18	0.34	June 21	0.23
April 26	0.60	June 22	0.73
May 6	0.11		
May 12	0.14		
May 13	0.39		
June 13	0.47		
June 15	0.24		

Table 3. Preplant burndown timing with Kixor

Treatment	Rate	Unit	Application Timing	Henbit	T Mustard	Maretl	Velvetlf	Sunflwr	Marestl	Velvetlf	Sunflwr	Yel foxtl	YIELD
				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
				%	%	%	%	%	%	%	%	%	
				5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	6/18/09	6/18/09	6/18/09	6/18/09	bu/acre
Roundup Powermax + AMS	22	oz/a	PRE	83.3	93.3	80	94.7	85	76.7	73.3	80	60	40.3
Roundup Powermax + AMS	22	oz/a	POST										
Roundup Powermax	22	oz/a	PRE	83.3	95	91.7	99	85	91.7	70	81.7	78.3	32.7
2,4-D ester + AMS	16	oz/a	PRE										
Roundup Powermax + AMS	22	oz/a	POST										
Sharpen	1	oz/a	PRE	85	93.3	85	94.7	86.7	85	76.7	80	76.7	36.7
Roundup Powermax	22	oz/a	PRE										
MSO + AMS			PRE										
Roundup Powermax + AMS	22	oz/a	POST										
Optill	2	oz/a	PRE	90	93.3	83.3	99	86.7	83.3	75	83.3	85	49
Roundup Powermax	22	oz/a	PRE										
MSO + AMS			PRE										
Roundup Powermax + AMS	22	oz/a	POST										
Extreme	2	pt/a	PRE	70	76.7	85	91.7	85	85	80	81.7	86.7	41
Prowl H2O + NIS	2	pt/a	PRE										
Roundup Powermax + AMS	22	oz/a	POST										
LSD (P=.05)				13.82	15.51	15.51	25.28	20.83	17.91	31.36	22.35	24.15	13.24