

2009 Kixor preplant burndown efficacy in no-till soybeans with tankmix partners (L0933).

A field study was initiated near Lincoln, Nebraska to evaluate saflufenacil for burndown efficacy on winter annual weeds and residual efficacy on summer annual weeds. The experimental design was a randomized complete block with four replications. Plots were 10 feet wide by 30 feet long and located on a silty clay loam soil with an organic matter of 3.1 % and a pH of 6.6. Asgrow '2903' was planted on May 11. Soybeans emerged on May 26. Preplant herbicides were applied May 1, and midpost 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 26 – May 11 and June 8 – June 28 is listed in Table 2.

Winter annual weed pressure was moderate. The dominant species was tansymustard (*Descurainia pinnata*), followed by henbit (*Lamium amplexicaule*). Velvetleaf (*Abutilon theophrasti*) and sunflower (*Helianthus annuus*) were the dominant summer annual weeds in the study area. 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. No soybean injury was detected by any of the treatments. Sharpen increased the rate of burndown of henbit, tansymustard, and marestail (*Conyza canadensis*) compared to glyphosate alone. In my field notes, I indicated on 5/26 that the henbit control was delayed in the Saflufenacil treatments. This was a few henbit plants that survived in a stunted state. It was something that was true for all the PPO inhibitor herbicides we tested in combination with glyphosate this past spring. The combination of Sharpen + Prowl + Roundup resulted in an antagonism on henbit. It was not evident immediately after the application, but became very evident by 14 days after treatment. Control of the velvetleaf and sunflower weeds by the residual herbicides was highly variable, and there were not differences between treatments. All treatments were clean following the postemergence application of glyphosate.

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
May 1	57	57	54	6 NNE	11:00 am	PP	4	8	4	NA	NA	NA
June 18	89	82	49	10 SW	12:01 pm	POST	NA	NA	8	6	8	4

Table 2. Rainfall received April 26 – May 11 and June 8 – June 28.

Date	Amount (in)
April 26	0.60
May 6	0.11
June 13	0.47
June 15	0.24
June 16	0.11
June 19	0.71
June 20	0.27
June 21	0.23
June 22	0.73

Table 3. Kixor preplant burndown efficacy in no-till soybeans with tankmix partners

Treatment	Application			Henbit	T Mustrd	Marestl	Velvetlf	Sunflwr	Henbit	T Mustrd	Marestl	Velvetlf	Sunflwr	Yel foxtl	YIELD
	Rate	Unit	Timing	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
				%	%	%	%	%	%	%	%	%	%	%	bu/acre
				5/8/09	5/8/09	5/8/09	5/8/09	5/8/09	5/29/09	5/29/09	5/29/09	5/29/09	5/29/09	5/29/09	
Sharpen	1	oz/a	PP	82.5	97	97	47.5	94.8	92.5	99	88.8	45	88.8	57.5	46.2
Roundup PowerMAX + AMS	22	oz/a	PP												
HSOC (Destiny HC)	1	% v/v	PP												
Roundup PowerMAX + AMS	22	oz/a	MPOST												
Sharpen	1	oz/a	PP	91.3	98	98	47.5	96	95.8	99	90	47.5	85	86.3	40.6
Outlook	16	oz/a	PP												
Roundup PowerMAX + AMS	22	oz/a	PP												
MSO	1	% v/v	PP												
Roundup PowerMAX + AMS	22	oz/a	MPOST												
LSD (P=.05)				5.77	1.54	9.43	26.86	13.59	10.3	1.54	13.06	30.78	22.75	28.46	12.07