KIH-485 evaluation in soybean. Young, Bryan, G. and Julie M. Young. This study was designed to determine the crop safety and weed control from preemergence and postemergence applications of KIH-485 compared with s-metolachlor in soybean. The study was conducted on a Weir silt loam with 2.1% organic matter and pH 5.6 at the Belleville Research Center. Fertilizer applied was 50 and 100 lb/A of P_2O_5 and K_2O, respectively, to an area that had been cropped to corn in 2004. Asgrow 4403 RR soybean was planted 1.0 inch deep at 75 lb/A into a reduced-till seedbed on May 12, 2005. Plots consisted of four 30 inch rows, 24 ft long arranged in a randomized complete block design with 3 replications. The herbicides were broadcast applied with a CO_2 pressurized sprayer using 8003 flat fan tips at 40 PSI in 20 GPA water. Monthly rainfall in inches was 2.9, 0.8, 1.6, 4.8 and 3.2 in April, May, June, July and August, respectively. Rainfall in May was sparse; 0.07 inches on the 9th, 0.4 inches on the 14th, and 0.32 inches on the 20th. Weed population per 0.25m^2 in the nontreated plots, mid-season, was 40 giant foxtail, 30 yellow nutsedge, and 5 each of common cocklebur and common ragweed. Application timings were preemergence (PRE) and postemergence at 2 to 3 inch weed height (2-3"W). Application information is listed below.

Date	May-12-05	Jun-02-05
Treatment	PRE	2-3"W
Air temperature (F)	76	68
Relative humidity (%)	68	90
Soil moisture	NORMAL	BELNOR
soybean		
leaf no.		V2
height (inch)		3
giant foxtail		
leaf no.		3-5
height (inch)		1-3
yellow nutsedge		
leaf no.		4-5
height (inch)		2-3
common cocklebur		
leaf no.		3-4
height (inch)		2-3
common ragweed		
leaf no.		4-6
height (inch)		2-3

Soybean injury 28 days after planting (DAP) was 1-2% from KIH-485 and 7% from s-metolachlor & benoxacor applied PRE. However, KIH-485 applied POST caused 10 to 11% soybean injury at 28 DAP (7 days after POST). Tank mixing glyphosate with KIH-485 increased soybean injury to 20%. A similar level of soybean injury was observed from s-metolachlor & benoxacor + glyphosate applied POST.

Giant foxtail, common cocklebur, and common ragweed control was similar from KIH-485 and s-metolachlor & benoxacor applied PRE alone or POST in combination with glyphosate. However, KIH-485 provided significantly less control of yellow nutsedge compared with s-metolachlor & benoxacor. (Dept. of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale).

Table. KIH-485 evaluation in soybean. (Young and Young)

							Control											
	Application		Soybean injury[c]				SETFA			CYPES			XANST			AMBEL		
			DAP		14 DA	56	28	14 DA	56	28	14 DA	56	28	14 DA	56	28	14 DA	56
Treatment[a]	Rate	Time[b]	14	28	POST	DAP	DAP	POST	DAP	DAP	POST	DAP	DAP	POST	DAP	DAP	POST	DAP
	(lb/A)		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Nontreated			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KIH-485	0.111	PRE	0	1	0	0	97	93	92	27	17	17	7	7	0	20	12	0
KIH-485	0.223	PRE	0	2	0	0	99	95	92	37	23	13	15	17	0	33	27	0
S-metolachlor & benoxacor	1.27	PRE	0	7	0	0	95	95	90	50	45	37	3	7	0	20	10	0
S-metolachlor & benoxacor	2.54	PRE	0	7	0	0	99	95	95	67	65	65	17	17	0	30	27	0
KIH-485	0.111	2-3"W	0	10	7	0	0	0	0	0	0	0	3	0	0	0	0	0
KIH-485	0.223	2-3"W	0	11	7	0	0	0	10	0	0	0	0	0	0	0	0	0
KIH-485 + glyphosate + AMS	0.111 + 0.77 + 2.0%	2-3"W	0	20	8	0	99	99	99	33	83	88	99	99	92	99	99	99
S-metolachlor & benoxacor + glyphosate + AMS	1.27 & 0.0 + 0.77 + 2.0%	2-3"W	0	20	8	0	99	99	99	33	82	95	99	99	91	99	99	99
Glyphosate & s-metolachlor + AMS	0.845 & 1.12 + 2.0%	2-3"W	0	18	8	0	99	99	99	30	81	93	99	99	90	99	99	99
LSD			0	3.7	1.3	0	2.8	1.6	9.6	15.9	11.7	22.4	6.3	8.3	2.5	11.6	10.3	0
P			1.0	0.01	0.01	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.0

[a]AMS = spray grade ammonium sulfate.

[b]2-3"W = 2 to 3 inch weed height.

[c]DAP = Days after planting. DA POST = Days after 2-3"W postemergence application.

Ratings at 28 DAP were also 7 DA POST. Ratings at 14 DA POST were also 35 DAP. Ratings at 56 DAP were also 35 DA POST.