

Weed Control in Corn

Preemergence weed control with KIH-485 in corn. Dekalb, Illinois, 2003. Maxwell, Douglas J., Ryan F. Hasty, and Aaron G. Hager. The objective of this research was to evaluate KIH-485 preemergence for weed control in corn. The study was established at the Northern Illinois Research and Education Center, Dekalb. The soil was a Drummer silty-clay loam with a pH of 6.0 and 6.0% organic matter. Pioneer 33G29 corn was planted 2 inches deep on April 28 in 30 inch rows. Treatments were arranged in randomized complete blocks with three replications of plots 7.5 by 28 feet. Herbicides were applied with a CO₂ backpack sprayer delivering 20 gpa and equipped with 8003 flat fan nozzles. Application information is listed below:

Date	April 29
Application	pre
Temperature (F)	
Air	72
Soil	67
Soil Moisture	Moist
Wind (mph)	5-W
Sky Cover (%)	0
Precip. after application	
Week 1 (inch)	1.31
Week 2 (inch)	1.46
Relative humidity (%)	46

Corn tolerance was excellent with all treatments. Giant foxtail control was excellent at 30 days after treatment (DAT) for all treatments. Velvetleaf control at 30 DAT was significantly better at comparable rate structures for KIH-485 versus the S-metolachlor and CGA-154281. Both compounds provided greater than 90% control at 30 DAT for common lambsquarters and Pennsylvania smartweed at all but the lowest rate level. Neither compound gave 90% or greater control of giant foxtail 60 DAT, with no significant differences between the two products. A heavy population brought on new velvetleaf emergence in all plots by 60 DAT. KIH-485 at 0.19 lb/A and at 0.27 lb/A 60 DAT gave significantly greater control of common lambsquarters over S-metolachlor and CGA-154281 at 1.59 lb/A and at 2.16 lb/A, respectively. S-metolachlor and CGA-154281 with atrazine provided better common lambsquarters control than a similar KIH-485 treatment at 60 DAT. Pennsylvania smartweed control at 60 DAT was comparable through the dual rate comparisons, with moderate control beginning at the 0.22 lb/A and 1.91 lb/A for KIH-485 and S-metolachlor and CGA 154281, respectively. (Dept. of Crop Sciences, University of Illinois, Urbana).

Table. Preemergence weed control with KIH-485 in corn. Dekalb, Illinois, 2003. (Maxwell, Hasty, and Hager).

Treatment	Appl Rate (lb/A)	Time	Zeamd	Zeamd	Setfa	Abuth	Cheal	Polpy	Zeamd	Setfa	Abuth	Cheal	Polpy
			5-20	5-28	5-28	5-28	5-28	5-28	6-27	6-27	6-27	6-27	6-27
			% inj	% inj	% control			% inj	% control				
KIH-485	0.11	pre	0	0	99	45	63	58	0	77	0	76	0
S-metolachlor&CGA-154281	0.96	pre	0	0	99	32	63	58	0	70	0	65	0
Check	-	-	0	0	0	0	0	0	0	0	0	0	0
KIH-485	0.19	pre	0	0	98	72	99	98	0	87	0	93	0
S-metolachlor&CGA-154281	1.59	pre	0	0	99	57	99	91	0	80	0	77	0
KIH-485	0.22	pre	0	0	96	68	99	91	0	70	0	77	75
S-metolachlor&CGA-154281	1.91	pre	0	0	99	53	99	99	0	72	0	75	77
KIH-485	0.27	pre	0	0	98	77	99	96	0	80	0	92	78
S-metolachlor&CGA-154281	2.16	pre	0	0	99	68	99	96	0	82	0	77	80
KIH-485	0.45	pre	0	0	99	85	99	99	0	88	0	93	99
S-metolachlor&CGA-154281	3.82	pre	0	0	99	72	99	99	0	88	0	93	87
KIH-485+atrazine	0.19+2.0	pre	0	0	99	82	99	96	0	88	0	80	98
S-metolachlor&atrazine &CGA-154281	1.55+2.0	pre	0	0	99	73	99	99	0	88	0	96	96
LSD (0.05)			0	0	3	9	9	14	0	12	0	12	11