

Evaluation of the performance of KIH-485 for weed control in corn at Rochester, MN in 2003.

Breitenbach, Fritz. R, Lisa M. Behnken, Angela L, Plank, and Kevin R. Griffin. The objective of this trial was to evaluate and compare the performance of KIH-485 at different rates to s-metolachlor&CGA-154281 for weed control in corn in southeastern Minnesota. The research site was a Lawler sandy loam soil containing 2.3% organic matter with a pH of 5.6 and soil test P and K levels of 57 ppm and 181 ppm, respectively. The previous crop was soybean. The area was fertilized in the spring with 625 lb/A Pel-lime and 134, 23, 120, and 24 lb/A of nitrogen, phosphorous, potassium, and sulfur, respectively. The field was disked and field cultivated once prior to planting. The corn hybrid, DKC 47-10, was planted on April 28, 2003 at a depth of 1.5 inches in 30-inch rows at 32,000 seeds/A. A randomized complete block design with four replications was used. Preemergence (PRE) and postemergence (POST) treatments were applied with a tractor-mounted sprayer, delivering 20 gpa at 32 psi using TurboTee 11002 nozzles. Evaluations of the plots were taken on May 20 and 29 and July 2. Application dates, environmental conditions, and crop and weed stages are listed below.

Date	April 28	June 5
Treatment	PRE	POST
Temperature (F)		
Air	64	72
Soil	---	---
Relative humidity (%)	34	38
Wind (mph)	16	10
Soil moisture	adequate	adequate
Corn		
Stage	---	3-collar
height (inch)	---	5
Giant ragweed		
Weed density/ ft <sup>2</sup>	---	27
height (inch)	---	12
Common lambsquarters		
Weed density/ft <sup>2</sup>	---	4
height (inch)	---	4
Common waterhemp		
Weed density/ ft <sup>2</sup>	---	1.5
height (inch)	---	16
Giant foxtail		
Weed density/ft <sup>2</sup>	---	3
height (inch)	---	3
Rainfall after application (inch)		
Week 1	1.87	2.46
Week 2	2.60	0
Week 3	0.26	1.63

No crop response due to herbicide was observed throughout the trial. In the July 2, evaluation KIH-485 provided a weed control advantage for common waterhemp, and giant foxtail when compared to equivalent rates of s-metolachlor. This advantage was also observed with KIH-485 + atrazine when compared to s-metolachlor&atrazine. (Southeast District, University of Minnesota Extension Service, Rochester).

Table. Performance of KIH-485 for weed control in corn on May 20, 29, and July 2 at Rochester, MN in 2003 (Breitenbach, Behnken, Plank, and Griffin).

Treatment	Rate	----AMBTR---- control			----CHEAL---- control			----AMATA---- control			----SETFA---- control			Corn injury
		5/20	5/29	7/2	5/20	5/29	7/2	5/20	5/29	7/2	5/20	5/29	7/2	
	(lb/A)	(%)			(%)			(%)			(%)			7/2
		(%)			(%)			(%)			(%)			(%)
<b><u>Preemergence / Postemergence</u></b>														
KIH-485 / dicamba	0.122/0.375	26	6	80	91	88	81	98	97	86	93	96	72	0
KIH-485 / dicamba	0.186/0.375	51	29	85	97	91	81	98	99	96	96	98	80	0
KIH-485 / dicamba	0.233/0.375	51	43	85	97	93	90	99	99	97	98	98	86	0
KIH-485 / dicamba	0.446/0.375	74	59	90	98	98	94	99	99	99	99	99	93	0
S-metolachlor & CGA-154281 / dicamba	0.955/0.375	10	1	81	83	85	65	85	90	69	94	95	63	0
S-metolachlor & CGA-154281 / dicamba	1.6/0.375	20	5	82	90	86	78	90	90	75	92	95	66	0
S-metolachlor & CGA-154281 / dicamba	1.91/0.375	53	19	82	91	84	79	96	91	73	97	98	78	0
S-metolachlor & CGA-154281 / dicamba	3.82/0.375	68	36	85	96	89	90	99	99	91	98	98	85	0
KIH-485 + atrazine / dicamba	0.186+ 1.0/0.375	90	88	95	99	99	99	99	99	99	98	95	89	0
S-metolachlor & atrazine & CGA-154281 / dicamba	1.25&1.0/0.375	81	69	90	99	97	99	99	96	69	98	97	72	0
<b><u>Postemergence</u></b>														
Dicamba	0.375	0	0	80	0	0	49	0	0	37	0	0	0	0
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.10)		13	10	3	5	5	11	4	5	15	3	3	6	0