

## Evaluation of the performance of KIH-485 in field corn at Rochester, MN in 2006.

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The objective of this trial was to evaluate the performance of KIH-485 for weed control in field corn in southeastern Minnesota. The research site was a Lawler loam series with a pH of 7.0 and soil test P and K levels of 61 ppm and 204 ppm, respectively. Spring fertilizer was spread ahead of planting on April 20, at a rate of 109-19-85-24 (N-P-K-S). The area was side dressed with an additional 30 lb/A of N on June 7. The field was chisel plowed, spring disked, and field cultivated once prior to planting. The corn hybrid NK N38B4 was planted on April 24, 2006 at a depth of 1.5 inches in 30 inch rows at 32,000 seeds per acre. A randomized complete block design was used with four replications. Preemergence (PRE) and postemergence (POST) treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 32 psi using Turbo Tee 11002 nozzles. Evaluations of the plots were taken on May 23, May 30, June 14, and June 28. Application dates, environmental conditions, and weed stages are listed below. The plot was harvested on November 2, 2006.

Date	April 25	May 30
<b>Treatment</b>	PRE	POST
<b>Temperature (F)</b>		
air	50	75
soil	58.5	77.7
<b>Relative Humidity (%)</b>	32	59
<b>Wind (mph)</b>	14	7
<b>Soil moisture</b>	adequate	dry
<b>Corn</b>		
stage	--	4 collar
height (inch)	--	8.0
<b>Giant Ragweed</b>		
weed density (ft <sup>2</sup> )	--	7.4
height (inch)	--	7.8
<b>Common Lambsquarters</b>		
weed density (ft <sup>2</sup> )	--	124
height (inch)	--	3.0
<b>Common Waterhemp</b>		
weed density (ft <sup>2</sup> )	--	4.5
height (inch)	--	1.9
<b>Woolly Cupgrass</b>		
weed density (ft <sup>2</sup> )	--	11.0
height (inch)	--	3.8
<b>Rainfall after each application (inch)</b>		
week 1	1.02	0.25
week 2	0.09	2.53
week 3	1.36	0.10

### CONCLUSIONS

No crop response due to herbicide application was observed in the trial.

Giant ragweed and common lambsquarters control with KIH-485 and Harness proved to be superior to that of Dual II Magnum at 28 days after treatment (5/23 rating) and at 35 days after treatment (5/30 rating), with the exception of the lowest rate, 2.1 oz, of KIH-485. KIH-485 at the 3.5 oz rate provided equivalent control of giant ragweed and common lambsquarters to that of Harness at the 1.8 pt rate on the 5/23 rating date. On the 5/30 rating date, the giant ragweed equivalence remained; however, common lambsquarters control with Harness had slipped to a significantly lower level of control. A similar situation occurred with KIH-485 at the 5.6 oz rate and Harness at the 2.3 pt rate. Both giant ragweed and common lambsquarters control were similar on the 5/23 rating date. On the 5/30 rating date, common lambsquarters control had again slipped lower with the Harness treatment. KIH-485 at the 2.8 oz rate provided minimal giant ragweed control, however, common lambsquarters control was similar to that of Harness on the 5/23 rating, and superior to that of Harness by the 5/30 ratings. All herbicide treatments regardless of rate provided excellent common waterhemp control.

Woolly cupgrass control ratings indicated a slight advantage to Dual II Magnum, both Harness treatments, and to the high, 5.6 oz, rate of KIH-485 on the 5/23 rating date. The high rate of Harness was able to maintain this control advantage over the lower rates of KIH-485 throughout the duration of the trial. Harness at the 1.8 pt rate provided similar levels of control to that of KIH-485 at the 2.8 and 3.5 oz rate for the duration of the trial. The advantage exhibited by the Dual II Magnum treatment, however, was short lived and provided control similar to that of the low, 2.1 oz, rate of KIH-485 for the duration of the trial.

Corn grain yield was similar for all treatments except the low rate, 2.1 oz, of KIH-485 and the Dual II Magnum treatment. Lack of early season giant ragweed control and a reduced level of woolly cupgrass control are the likely reasons for this reduction in grain yield. (University of Minnesota Extension Service, Regional Center, Rochester, MN).

**Table. Performance of KIH-485 programs for weed control in field corn on May 23, May 30, June 14, and June 28 at Rochester, MN in 2006.**

Treatment	Rate	Giant ragweed control				Common lambsquarters control				Common waterhemp control				Woolly cupgrass control				Corn yield
		5/23	5/30	6/14	6/28	5/23	5/30	6/14	6/28	5/23	5/30	6/14	6/28	5/23	5/30	6/14	6/28	
	(rate/A)	(%)				(%)				(%)				(%)				(bu/A)
Untreated Check		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
<b>PRE / POST I</b>																		
KIH-485 + Clarity	2.1 oz + 12 oz	10	0	96	98	94	69	90	97	99	99	99	99	83	79	75	70	121
KIH-485 + Clarity	2.8 oz + 12 oz	18	16	97	97	98	83	92	97	99	99	98	99	89	86	81	76	139
KIH-485 + Clarity	3.5 oz + 12 oz	25	24	98	98	98	83	93	97	99	99	99	99	88	86	80	73	148
KIH-485 + Clarity	5.6 oz + 12 oz	35	39	98	98	99	93	97	99	99	99	99	99	96	95	91	86	143
Dual II Magnum + Clarity	1.3 pt + 12 oz	0	0	96	96	81	39	81	91	98	97	98	98	96	80	76	71	120
Harness + Clarity	1.8 pt + 12 oz	28	24	97	97	93	64	89	97	99	98	97	95	94	93	84	75	147
Harness + Clarity	2.3 pt + 12 oz	38	38	98	98	99	70	94	99	99	97	99	98	99	91	86	81	145
<b>LSD (P=0.10)</b>		<b>7</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>18</b>