

Evaluation of the performance of KIH-485 for weed control in field corn at Potsdam, MN in 2004.

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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 Port Byron silt loam containing 3.2% organic matter, soil pH of 6.7, and soil test P and K levels of 66 ppm and 376 ppm, respectively. The previous crop was soybean. The area was fertilized in the spring with 160 lb/A of nitrogen and 120 lb/A of potash. The field was disked and field cultivated once prior to planting. The corn hybrid, Pioneer 37R70 RR, was planted on May 11, 2004 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 Turbo Tee 11002 nozzles. Evaluations of the plots were taken on May 27, June 14, and July 9. Application dates, environmental conditions, and crop and weed stages are listed below. Giant ragweed distribution was variable at Potsdam, and dramatically affected yields.

Date	May 12	June 15
Treatment	PRE	POST
Temperature (F)		
air	73	67
Relative humidity (%)	73	67
Wind (mph)	24	7
Soil moisture	adequate	adequate
Corn		
stage	seeded	V3
height (inches)	0	12.6
Wild proso millet		
weed density	--	moderate
height (inch)	--	1.9
Giant ragweed		
weed density	--	moderate
height (inch)	--	8.7
Common lambsquarters		
weed density	--	moderate
height (inch)	--	0.9
Velvetleaf		
weed density/ft ²	--	light
height (inch)	--	1.2
Rainfall after application (inch)		
week 1	1.47	1.92
week 2	2.98	0.57
week 3	1.31	1.68

No crop injury response was observed from any of the treatments in this trial. All rates of KIH-485 and Dual II Magnum tested provided comparable control of wild proso millet. Package mixes of KIH-485 & atrazine provided better control of wild proso millet than Bicep Lite II Magnum package mixes on the July 9 rating. Suppression of giant ragweed was observed with all rates of KIH-485 and with the 2.66 pt/A rate of Dual II Magnum. The KIH-485 & atrazine package mixes also suppressed giant ragweed as did the high rate of Bicep Lite II Magnum.

KIH-485 at the 6 oz/A and 8 oz/A rates, KIH-485 & atrazine, and Bicep Lite II Magnum package mixes provided better common lambsquarters control than the Dual II Magnum treatments and the KIH-485 treatment at 4 oz/A rate on the June 14 rating. All rates of KIH-485 offered suppression of velvetleaf. KIH-485 at the 4 oz/A rate offered significantly lower velvetleaf control than the higher rates of KIH-485 and the high rate of Dual II Magnum. Dual II Magnum at the 1.33 pt/A rate provided significantly lower velvetleaf control than all of the KIH-485 treatments and the Dual II Magnum treatment at the 2.66 pt/A rate (June 16 rating). KIH-485 & atrazine and Bicep Lite II Magnum package mixes provided similar control of velvetleaf to the higher rates of KIH-485 and the high rate of Dual II Magnum, (University of Minnesota Extension Service, Regional Center, Rochester, MN).

Table. Performance of KIH-485 for weed control in corn on May 27, June 14, and July 9 at Potsdam, MN in 2004. (Behnken, Breitenbach, Schaufler, and Stearns).

Treatment	Rate	Wild proso millet control			Giant ragweed control		Common lambsquarters control		Velvetleaf control		Corn yield
		5/27	6/14	7/9	6/14	7/9	6/14	7/9	6/14	7/9	
	(rate/A)	(%)			(%)		(%)		(%)		(bu/A)
Preemergence/ Postemergence											
KIH-485 / Clarity	4 oz / 16 oz	99	92	96	5	98	72	98	46	98	176
KIH-485 / Clarity	5 oz / 16 oz	99	89	96	10	98	81	98	49	98	179
KIH-485 / Clarity	6 oz / 16 oz	99	88	96	23	99	94	98	65	98	223
KIH-485 / Clarity	8 oz / 16 oz	99	94	97	47	99	97	98	65	98	205
Dual II Magnum / Clarity	1.33 pts / 16 oz	93	74	90	0	99	75	98	25	98	208
Dual II Magnum / Clarity	2.66 pts / 16 oz	99	81	93	27	98	75	98	49	98	206
KIH-485&atrazine / Clarity	19 oz / 16 oz	98	83	92	44	99	98	97	59	98	213
KIH-485&atrazine / Clarity	30.5 oz / 16 oz	97	91	93	53	98	99	98	63	98	203
Bicep Lite II Magnum / Clarity	29 oz / 16 oz	91	70	63	0	99	96	99	55	98	204
Bicep Lite II Magnum / Clarity	35.5 oz / 16 oz	88	78	74	43	98	96	99	46	98	206
Postemergence											
Clarity	16 oz	0	0	6	0	99	0	99	0	99	208
Untreated		0	0	0	0	0	0	0	0	0	39
LSD = (0.10)		4	8	10	11	1	13	1	16	1	26