

Crop response to KIH-485 carryover. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate crop response in 2004 to KIH-485 applied PRE in 2003. KIH-485 was applied PRE on May 28, 2003 at 10:00 am with 71 F air, 57 F soil at a 4 inch depth, 50% relative humidity, 100% clouds, 8 to 12 mph SSW wind, dry soil surface, moist subsoil, and no dew present. Treatments were applied to the entire 10 by 40 foot plots with a bicycle-type plot sprayer with an attached 10 foot boom delivering 17 gpa at 40 psi through 8002 TeeJet flat fan nozzles. The study was maintained in 2003 by several mowings and tilled with a field cultivator parallel with the plot lengths to minimize soil contamination into adjacent plots in the fall. On May 19, 2004, a shallow cultivation with a field cultivator parallel with the plot lengths was performed followed by the planting of: Seeds 2000 'Charger' sunflower, 'Rider' canola, 'ND096' flax, and Betaseed '6610' sugarbeet in each plot. The experiment had a randomized complete block design with three replicates per treatment.

KIH-485 is an experimental herbicide from Kumiai America. The chemistry, fate and action, and biological information has not been released at this time. Weed control through soil activity, and similar application timing, weed spectrum, and rate comparison to metolachlor and other acetanilides would lead one to assume it is of similar chemistry. Acetanilides have a short soil residue and most all crops can be planted the year following application without any crop response. These data show that KIH-485 does have soil residue that extends to the following year and injures susceptible crops. Flax stunting was not visible at the final evaluation. Sugarbeet exhibited severe stunting and stand loss. Canola and sunflower was only affected terminally by the higher rate. Carryover studies should be conducted in other areas with different soil conditions and environmental patterns. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Crop response to KIH-485 carryover (Zollinger and Ries).

Treatment ¹	Rate	21 DAP ²				28 DAP				42 DAP			
		Flax	Sgbt ³	Canola	Snfl ⁴	Flax	Sgbt	Canola	Snfl	Flax	Sgbt	Canola	Snfl
	(lb/A)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
KIH-485	0.223	10	50	20	10	20	70	30	20	0	70	0	0
KIH-485	0.446	10	63	50	55	20	77	70	30	0	77	25	20
LSD (0.05)		0	57	0	7	0	29	0	0	0	29	0	0

¹KIH-485 = a proprietary herbicide from Kumiai America.

²DAP = days after planting.

³Sgbt = sugarbeet.

⁴Snfl = sunflower.