

COMPARISON OF KIH-485 AND S-METOLACHLOR IN CORN. Patrick W. Geier and Phillip W. Stahlman, Assistant Scientist and Professor, Kansas State University Agricultural Research Center, Hays. KS 67601.

Field research conducted near Hays, KS in 2003 and 2004 compared the efficacy and crop response of KIH-485 at four rates (123, 168, 246, or 302 g/ha) with S-metolachlor at four rates (1075, 1456, 2130, or 2580 g/ha) preemergence in field corn. Treatments of KIH-485 plus atrazine (134 plus 1340 g/ha), a package mixture of S-metolachlor&atrazine (1075&1340 g/ha), and a nontreated control were included both years. All herbicides controlled redroot pigweed 94% or more in 2003, whereas green foxtail was controlled 89 to 100% in both years. KIH-485 provided similar to slightly greater control of puncturevine and common lambsquarters when compared to S-metolachlor in 2003. The addition of atrazine to either herbicide improved control of puncturevine but not common lambsquarters. KIH-485 at 123 g/ha controlled Palmer amaranth better than S-metolachlor at 1075 g/ha regardless of rating date in 2004; however, atrazine plus KIH-485 or S-metolachlor controlled Palmer amaranth best. Longspine sandbur was the most difficult to control weed; 50 to 74%, regardless of treatment. Sandbur control increased as rate increased with either KIH-485 or S-metolachlor but did not differ between the two herbicides. Generally, atrazine plus either herbicide was the most efficacious on sandbur.

Corn in all herbicide-treated plots matured 2 to 4 days sooner and was 7 to 15 cm taller at maturity than nontreated corn. Corn maturity and height generally were similar between herbicide treatments. Due to late-season drought and severe weed competition, corn yields were not determined in 2003. In 2004, grain yields were 43 to 81% greater (3980 to 5040 kg/ha) in plots receiving KIH-485 alone compared to nontreated corn (2780 kg/ha). Yields did not differ between nontreated corn and corn in plots receiving S-metolachlor at 1075, 1456, or 2580 g/ha, KIH-485 plus atrazine, or S-metolachlor&atrazine.