

GLYPHOSATE RESISTANT GIANT RAGWEED MANAGEMENT IN CORN AND SOYBEANS. Jason Waite, D. Shane Hennigh, and Kassim Al-Khatib, Graduate Research Assistant, Graduate Research Assistant, Professor, Department of Agronomy, Kansas State University, Manhattan, KS 66506.

Giant Ragweed *Ambrosia trifida* (AMBTR) has become a major weed in corn and soybeans. There are several management strategies for controlling AMBTR which includes tillage, a chemical burndown program as well as selective herbicides. With the widespread use of glyphosate resistant crops there has been an increase in the use of glyphosate to manage AMBTR in corn and soybeans. The increased use of glyphosate has led to the development of glyphosate resistant AMBTR. A population of glyphosate AMBTR was confirmed to be eight times more resistant than the susceptible populations (Al-Khatib personal communication). Field experiments were conducted near Topeka, KS in 2008 to evaluate the efficacy of selected herbicides and tank mixes for control of glyphosate resistant AMBTR in corn and soybeans. Other weed populations found in the field were common waterhemp, velvetleaf, Palmer amaranth, large crabgrass, morningglory species, horseweed and common sunflower. Crop injury, general weed control (GWC) and AMBTR control were visually rated at 14 and 28 days after the first postemergence application (DAT). Visual ratings were based on 0 = no crop injury or weed control and 100 = mortality. Herbicide treatments were applied when weeds were 7.5 to 10 cm in height. No corn injury was observed with any treatment except saflufenacil, where 30% injury was observed at 14 DAT. However, plants recovered from injury and were similar to nontreated control 28 DAT. At 28 DAT, s-metolachlor + atrazine followed by (fb) s-metolachlor + glyphosate + mesotrione, s-metolachlor + glyphosate + mesotrione + atrazine, glyphosate + diflufenzopyr + dicamba, saflufenacil + dimethenamid-P + atrazine, s-metolachlor + glyphosate + mesotrione, glyphosate + topramezone, and acetochlor + atrazine fb glyphosate gave 100% control of AMBTR in corn. In the soybean experiment, soybean injury with lactofen was 30% at 14 DAT, however, plants recovered from injury and were similar to nontreated control 40 DAT. At 28 DAT, flumioxazine + chlorimuron + glyphosate fb glyphosate + lactofen, saflufenacil + glyphosate fb glyphosate, and flumioxazin + chlorimuron + glyphosate fb glyphosate gave 100% control of AMBTR in soybeans. In conclusion several treatments gave excellent control of glyphosate resistant AMBTR in both corn and soybeans, however; producers should also take GWC into consideration when making management decisions to control glyphosate resistant AMBTR.