

CONTROL OF PROTOX-RESISTANT COMMON WATERHEMP IN CORN AND SOYBEAN.
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Common waterhemp (*Amaranthus rudis*) is a major problem in corn and soybean production. Resistance to protoporphyrinogen oxidase (protox)-inhibiting herbicides was confirmed in 2001 in a population of common waterhemp that had been treated with acifluorfen for several years. The objectives of this research were to evaluate herbicide efficacy on protox-resistant common waterhemp in corn and soybean. In 2001 and 2002, experiments were conducted in the field where the protox-resistant common waterhemp biotype was found. Corn and soybean were planted according to Kansas State University Research and Extension recommendations. In soybean, postemergence application of protox-inhibiting herbicides acifluorfen and lactofen gave 14 and 24% common waterhemp control, respectively. However, application of preemergence protox-inhibiting herbicides flumioxazin and sulfentrazone gave 95 and 92% common waterhemp control, respectively. Alachlor, metolachlor + metribuzin, and glyphosate provided 100% common waterhemp control. In corn, flufenacet + atrazine, isoxaflutole followed by bromoxynil + atrazine, and mesotrione + metolachlor gave greater than 98% control of common waterhemp. The lowest common waterhemp control was with imazethapyr + imazapyr + diflufenzopyr + dicamba, which gave 65% control of common waterhemp.