UTILIZATION OF DICAMBA FOR THE CONTROL OF GLYPHOSATE-RESISTANT
GIANT RAGWEED (*Ambrosia trifida* L.) AND WATERHEMP (*Amaranthus rudis* Sauer.)

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ABSTRACT

Soybean varieties resistant to the herbicide glyphosate consist of of the majority of soybean acres planted in the U.S. Glyphosate has often been used as the primary herbicide for post-emergence control of problematic weeds such as giant ragweed or waterhemp. Continuous use of glyphosate for weed control imposes a heavy selection pressure on weeds and can expose biotypes that are naturally resistant to glyphosate. Soybean varieties resistant to the herbicide dicamba are currently under development by Monsanto and are intended to provide growers with additional options for control of glyphosate-resistant (GR) broadleaves and to delay the spread of GR weed biotypes. The objectives of these experiments were to determine the influence of application timing, dicamba rate, dicamba plus glyphosate combinations, influence of sequential dicamba applications on the visual control and biomass reduction of GR giant ragweed and GR waterhemp; and to evaluate herbicide programs for the management of GR giant ragweed and GR waterhemp in dicamba-resistant (DR) soybean. Results from these experiments suggest a single application of 0.28kg ha\(^{-1}\) dicamba effectively controls GR giant ragweed measuring 15-cm or less, while single dicamba applications did not effectively control GR waterhemp. Sequential dicamba plus glyphosate applications did not exceed 73% visual control of 7.5-cm GR waterhemp. Additionally, sequential dicamba-containing applications provided 99 and 88% control of GR giant ragweed and waterhemp when in competition with DR soybean.