

VOLUNTEER OR FAILED WINTER WHEAT CONTROL IN THE SPRING WITH GLYPHOSATE, CLETHODIM, OR PARAQUAT + ATRAZINE. Zach Deeds, Dallas Peterson, Kassim Al-Khatib, Phillip Stahlman, and Brian Olson, Graduate Research Assistant, Professor, Associate Professor, Professor, and Multi-county Extension Agronomist, Department of Agronomy, Kansas State University, Manhattan, KS 66506.

Control of volunteer or failed winter wheat in reduced or no-till cropping systems is an issue that must be addressed with the anticipated release of glyphosate resistant wheat. Field research was conducted at three diverse sites in Kansas to evaluate the effects of application timing and rate on glyphosate, clethodim, and paraquat + atrazine for control of wheat in the spring. Glyphosate, clethodim, and paraquat + atrazine were applied to wheat at the jointing and heading growth stages at 0.25X, 0.5X, 0.75, and 1X of the typical field use rate. The 1X field use rates were 1120 g ha⁻¹ of glyphosate, 280 g ha⁻¹ of clethodim, and 1050 g ha⁻¹ of paraquat. All paraquat applications were applied with 1120 g ha⁻¹ of atrazine. Glyphosate provided the most complete control of wheat with early applications. All rates of glyphosate eventually controlled the wheat; however, time required to control the wheat was progressively longer with reduced rates. Clethodim was slow to control the wheat, but eliminated seed production. Percent wheat control was similar among the rates of clethodim. Paraquat + atrazine controlled the wheat at higher rates with both timing applications. Wheat control with paraquat + atrazine was not complete at the 0.25X and 0.5X rates and did not prevent wheat seed production.