

TANK-MIXING MICRONUTRIENT FERTILIZERS, WATER CONDITIONERS, AND GLYPHOSATE FOR AN EFFICIENT SOLUTION. Mark L. Bernards, Donald Penner, and Jan Michael, Assistant Professor, Department of Agronomy and Horticulture, University of Nebraska-Lincoln, Lincoln, NE 68583-0915, and Professor and Research Technician, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824

Tank-mixing foliar micronutrient fertilizers with glyphosate may reduce weed control because of antagonistic cations present in the spray solution. This research 1) quantified the antagonism caused by various formulations of copper (Cu), iron (Fe), manganese (Mn), and zinc (Zn), and 2) measured the extent that water conditioner adjuvants may prevent the antagonism from occurring. Most formulations of copper, iron, manganese, and zinc antagonized glyphosate efficacy on giant foxtail and velvetleaf. Formulations containing EDTA, HEDTA, or flavonol were the least antagonistic; those containing the sulfate salt or a lignosulfonic acid chelate were the most antagonistic. Tank-mixtures including the adjuvant NTANK overcame the antagonism more often than those containing ammonium sulfate (AMS) or Class Act Next Generation. Two micronutrient blends, one with (MC) and one without (MS) the chelates citric acid and EDTA, both reduced glyphosate efficacy on giant foxtail and velvetleaf. The addition of AMS or NTANK to these blends increased velvetleaf control, but neither adjuvant overcame the antagonism.