

HERBICIDE AND ADJUVANT TANK-MIXES WITH GLYPHOSATE FOR WEED CONTROL.
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Glyphosate is frequently tank-mixed with adjuvants and/or other herbicides to control a variety of weed species. Ammonium sulfate (AMS) is recommended to be tank-mixed with glyphosate to minimize the adverse effect of poor water quality on efficacy. Several products are available to growers to substitute for the AMS additive. Field experiments were established near Manhattan and Garden City, KS to evaluate AMS replacements with a K salt of glyphosate, "Roundup WEATHERMAX" and an IPA salt of glyphosate, "Cornerstone". Treatments were applied when the temperature was 89 F and 55% RH in 15 gpa to 6 to 12-in velvetleaf, 16-in sorghum, 20-in corn, and 12 to 16-in sunflower on July 12, 2005 near Manhattan. In experiment 1 near Garden City, treatments were applied in 10 gpa to 2 to 6-in Palmer amaranth and 3.5 to 4-lf volunteer winter wheat with 70 F and 78% RH on July 18, 2005. In Experiment 2, treatments were applied to 3 to 8-in Palmer amaranth and 4 to 4.5-lf winter wheat, with 68 F and 82% RH on July 22, 2005. All adjuvants were applied consistent with label recommendations. Glyphosate rates were Roundup WEATHERMAX at 0.27 lb/a near Manhattan, Roundup WEATHERMAX at 0.38 lb/a in experiment 1, 0.5 and 0.75 lb/a Cornerstone in experiment 1, and 0.38 lb/a Cornerstone in experiment 2. Carfentrazone "Aim EW" was applied at 0.119 oz/a in experiment 2. Glyphosate tank-mixed with liquid or dry formulations AMS, gave equal or better control of all plant species treated. Choice, Request, Guardian, Blendmaster, US 500, and Citron AMS replacements tank-mixed with glyphosate consistently gave less control of the plant species evaluated than AMS tank-mixed with glyphosate in all experiments. Aim EW at 0.119 oz/a tank-mixed with Cornerstone controlled 15% less volunteer wheat than Cornerstone at 0.375 lb/a applied alone. These results suggest that choosing an AMS replacement or herbicide to tank-mix with glyphosate may influence the effectiveness of glyphosate to control several plant species.