Do Tank-Mixtures of Clethodim with Dicamba or 2,4-D Adversely Effect Control of Grass Weeds?

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Soybean varieties resistant to dicamba and 2,4-D have been approved for use in the United States. Farmers are expected to use them to improve control of troublesome broadleaf weeds. Previous use of glyphosate in glyphosate-resistant crops selected populations of weeds resistant to glyphosate. Among these include populations of glyphosate-resistant goosegrass, johnsongrass, and annual ryegrass. In addition, many soybean fields are infested by volunteer glyphosate-resistant corn. The most likely herbicide to be used to manage these grasses in soybean dicamba or 2,4-D resistant soybean fields will be clethodim. However, tank-mixes of clethodim and dicamba, or clethodim and 2,4-D, can sometimes result in reduced grass control. Experiments conducted at WIU in 2014, showed no negative effect on control of dicamba + clethodim tank-mixtures applied to manage corn, but did show reduced control from tank-mixtures applied to sudangrass. Our research is measuring the interactions between 2,4-D or dicamba tank-mixed with clethodim on control of important grass weeds of Midwest in a greenhouse environment. Species include volunteer corn, giant foxtail, yellow foxtail, green foxtail, barnyardgrass, shattercane, italian ryegrass, johnsongrass, and large crabgrass. Plants were grown in 4 inch pots. Treatments applied included an untreated control, clethodim, 2,4-D, dicamba, clethodim + 2,4-D, and clethodim + dicamba. Plant response will be collected 7, 14, and 21 days after treatment.