CLORANSULAM-METHYL + SULFENTRAZONE FOR FOUNDATION WEED CONTROL IN GLYPHOSATE TOLERANT SOYBEANS. Marvin E. Schultz*, David C. Ruen, Jeff M. Edwards, and Mark A. Peterson, Dow AgroSciences, Indianapolis, IN 46268.

Tank mixes of cloransulam-methyl + sulfentrazone were applied pre-plant to glyphosate tolerant soybeans in 2002 and 2006 to evaluate residual weed control prior to a planned post-emergence application of glyphosate. A total of 10 field trials were established in Midwest U.S. soybeans. Five trials in 2002 tested cloransulam-methyl + sulfentrazone at 11.7 + 93.3, 17.5 + 140, and 23.3 + 187 g ai/ha. Five additional trials conducted in 2006 included the same rates of cloransulam-methyl + sulfentrazone, plus three rates of cloransulam-methyl (FirstRate®) alone, sulfentrazone (Spartan) alone, cloransulam-methyl + flumioxazin (Gangster), chlorimuron-ethyl + metribuzin (Canopy), and *s*-metolachlor + metribuzin (Boundary). Rates tested were about 0.33X, 0.5X, and 0.66X of the full label rates. Weed control at 5-9 weeks after application (WAA) is reported in this paper.

Cloransulam-methyl + sulfentrazone exhibited a consistent weed control dose response across the three rates tested. The 17.5 + 140 g ai/ha rate provided excellent control of a wide range of broadleaf weeds; including velvetleaf, pigweed species, common waterhemp, common lambsqarters, Venice mallow, common purslane, prickly sida, eastern black nightshade, and common ragweed. However, this treatment only provided variable suppression and/or control of giant ragweed, morningglory species, common cocklebur, and grass weeds.

Cloransulam-methyl + sulfentrazone tank mixes provided better weed control than either herbicide used alone at the same rates. Cloransulam-methyl + flumioxazin treatments performed similar to cloransulam-methyl + sulfentrazone. Mixes of cloransulam-methyl with sulfentrazone or flumioxazin provided better general broadleaf weed control than chlorimuron-ethyl + metribuzin or *s*-metolachlor + metribuzin treatments. However, s-metolachlor + metribuzin provided better control of giant foxtail than all other treatments tested. No significant crop injury was observed with any treatment in these trials.