CROP TOLERANCE AND EFFICACY OF FLUMETSULAM + CLOPYRALID TANK MIXED WITH REDUCED RATES OF DICAMBA + DIFLUFENZOPYR IN FIELD CORN. Scott C. Ditmarsen, Jon M. Babcock, Neivaldo T. Caceres, Steven P. Nolting, Sarah Taylor-Lovell, Larry G. Thompson, and Terry R. Wright, Development Biologists, Dow AgroSciences LLC, Indianapolis, IN 46268.

Field experiments were conducted at six locations to evaluate the crop tolerance and broadleaf weed efficacy of tank mixtures of flumetsulam + clopyralid (Hornet WDG, 144 g/ha) with reduced rates of dicamba + diflufenzopyr (Distinct, 49, 78, 98, and 147 g/ha) applied early postemergence in field corn. Treatments were compared to tank mixes of flumetsulam + clopyralid (144 g/ha) with reduced rates of dicamba (Banvel, 140, 280, and 560 g/ha) and the 1x rates of dicamba + diflufenzopyr (294 g/ha) and primisulfuron + dicamba (Northstar, 166 g/ha) applied alone. Above ground crop injury one week after application averaged less than 10 percent for flumetsulam + clopyralid tank mixed with reduced rates of dicamba + diflufenzopyr and was less than that observed from tank mixtures of flumetsulam + clopyralid with reduced rates of dicamba and the 1x rates of dicamba + diflufenzopyr and primisulfuron + dicamba applied alone. Field corn brace root injury data collected 8 to 11 weeks after application showed similar relative treatment differences. The tank mixture of flumetsulam + clopyralid with 49 g/ha dicamba + diflufenzopyr provided over 95 percent control of common cocklebur, common lambsquarters, common sunflower, eastern black nightshade, redroot pigweed, and velvetleaf eight weeks after application. Ninety-eight and 147 g/ha of dicamba + diflufenzopyr were required in the tank mix to control common waterhemp and morningglory species, respectively. Control of all weeds with tank mixtures of flumetsulam + clopyralid with reduced rates of dicamba + diflufenzopyr was equivalent to or better than that provided by the other treatments. Results of this research indicate that flumetsulam + clopyralid tank mixtures with reduced rates of dicamba + diflufenzopyr provide acceptable crop tolerance and effective control of key broadleaf weeds, as compared to tank mixtures of flumetsulam + clopyralid with reduced rates of dicamba or other dicamba-based products applied alone.