

FLUMETSULAM + CLOPYRALID IN COMBINATION WITH REDUCED RATES OF MESOTRIONE FOR POSTEMERGENCE WEED CONTROL IN FIELD CORN. Sarah Taylor-Lovell\*, Jon M. Babcock, Scott C. Ditmarsen, Mark A. Peterson, Larry G. Thompson, Field Research Biologists, Dow AgroSciences, Indianapolis, IN, 46268.

Eight trials were conducted across the Midwest US in 2002 to determine weed efficacy and crop tolerance resulting from postemergence applications of the premix clopyralid + flumetsulam (Hornet WDG<sup>1</sup>) at 144 g ae/ha tank-mixed with various rates of mesotrione (Callisto) with or without atrazine at 280 g ai/ha. The mesotrione rates used in the tank mix included 0, 8.8, 17.5, 26.3, 35, or 52.5 g ai/ha. All treatments contained COC at 1.0% v/v and 28% UAN at 2.5% v/v. Trials were located in fields containing at least one of the following small-seeded broadleaf species: common waterhemp, pigweed species, common lambsquarters, and Eastern black nightshade, in addition to other large-seeded broadleaf weeds. To reduce the pressure from grass species, most fields were chosen with low indigenous grass populations. On sites where grass populations were higher, metolachlor was applied preemergence at a 1/3X rate or sethoxydim resistant corn was planted to allow a postemergence application of sethoxydim for grass control. These methods reduced grass pressure with minimal impact on broadleaf populations.

All treatments demonstrated acceptable corn tolerance (less than 10% injury) at all rating times and locations. The clopyralid + flumetsulam premix alone provided greater than 90% control of common cocklebur, common sunflower, velvetleaf, and Venice mallow at 4 and 8 weeks after application. The addition of mesotrione at 8.8 g ai/ha plus atrazine at 280 g ai/ha improved control of common lambsquarters and eastern black nightshade to over 95%. Mesotrione at 26.3 g ai/ha + atrazine in combination with clopyralid + flumetsulam controlled common waterhemp (including a triazine-resistant population) and other pigweed species greater than 95% through the duration of the studies. Data from these trials indicate mesotrione at 26.3 g ai/ha + atrazine at 280 g ai/ha used in combination with clopyralid + flumetsulam will provide control of a wide range of broadleaf weeds.

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<sup>1</sup> Trademark of Dow AgroSciences, LLC.