2009 Efficacy and selectivity of metribuzin 75 WDG when applied pre (L0938).

A field study was initiated near Lincoln, Nebraska to compare metribuzin formulations and metribuzin+other a.i.'s for crop response and residual weed control efficacy in soybean. The experimental design was a randomized complete block with three replications. Plots were 10 feet wide by 30 feet long and located on a Sharpesburg silty clay loam soil with an organic matter of 3.1 % and a pH of 6.6. Asgrow '2903' soybeans were planted on May 11. Soybeans emerged on May 22. Preemergent herbicides were applied on May 12. Herbicides were applied with a tractor mounted sprayer calibrated to deliver 15 gallons per acre at 40 psi with Teejet 110015 AIXR nozzles. The environmental conditions at the time of spraying are given in Table 1. Rainfall received May 2 – May 22 is listed in Table 2.

Major weeds consisted of velvetleaf (Abuthilon theophrasti), marestail (Conyza Canadensis), sunflower (Helianthus annuus), palmer amaranth (Amaranthus palmeri), and yellow foxtail (Setaria glauca) species at average densities of 5, 10, and 5 plants/ft^2. Weed densities were taken at the time of spraying in the center of the plot, two ft^2 samples were taken. Plots were evaluated using visual ratings. No crop injury was observed on any treatment. The most striking result was the effect of metribuzin rate. The efficacy of glyphosate + metribuzin (1 lb ai/a) on marestail was greater than glyphosate+metribuzine (0.5 lb ai/a). Differences between treatments in efficacy on velvetleaf and common sunflower were minimal.

Table 1. Environmental conditions at the Time of Herbicide Application.

Date	Air Temperature (F)	Soil Temperature At 4 in (F)	Humidity	Wind Speed & direction (mph)	Time of Day	Application Timing	Weed Heights (inches)		
							ABUTH	CONCA	HELAN
May 12	63	63	72	9 S	11:30 am	PRE	1	4	1

Table 2. Rainfall received May 2 – May 22.

Date	Amount (in)
May 6	0.11
May 8	0.08
May 12	0.14
May13	0.39

Table 3. Efficacy and selectivity of metribuzin 75 WDG when applied pre

Treatment	Rate	Unit	Application Timing	Velvetlf CONTROL % 6/2/09	Marestl CONTROL % 6/2/09	Sunflwr CONTROL % 6/2/09	Velvetlf CONTROL % 6/9/09	Marestl CONTROL % 6/9/09	Sunflwr CONTROL % 6/9/09	Velvetlf CONTROL % 6/23/09	Marestl CONTROL % 6/23/09	Sunflwr CONTROL % 6/23/09	YIELD bu/acre
GLYFOS X-TRA	1	lb ai/a	PRE	86.7	65	86.7	81.7	58.3	83.3	76.7	46.7	76.7	23.2
METRIBUZIN + AMS	0.5	lb ai/a	PRE										
GLYFOS X-TRA	1	lb ai/a	PRE	95	81.7	71.7	91.7	80	65	90	73.3	60	25.8
METRIBUZIN + AMS	1	lb ai/a	PRE										
GLYFOS X-TRA	1	lb ai/a	PRE	91.7	61.7	75	88.3	56.7	66.7	86.7	46.7	56.7	26.4
METRIBUZIN	0.5	lb ai/a	PRE										
PROWL H20 + AMS	1.07	lb ai/a	PRE										
GLYFOS X-TRA	1	lb ai/a	PRE	93.3	63.3	80	88.3	53.3	73.3	86.7	43.3	63.3	28.2
CHA-019 + AMS	1.13	lb ai/a	PRE										
GLYFOS X-TRA	1	lb ai/a	PRE	93.3	66.7	85	90	58.3	80	90	50	73.3	29.4
SENCOR + AMS	0.5	lb ai/a	PRE										
UNTREATED				0	0	0	0	0	0	0	0	0	7.5
GLYFOS X-TRA	1	lb ai/a	PRE	80	58.3	63.3	73.3	48.3	53.3	66.7	33.3	46.7	20.1
AUTHORITY MTZ + AMS	0.42	lb ai/a	PRE										
GLYFOS X-TRA	1	lb ai/a	PRE	90	65	83.3	86.7	60	76.7	83.3	50	70	27.3
BOUNDARY + AMS	1.95	lb ai/a	PRE										
LSD (P=.05)				14.36	11.64	16.37	15.57	12.94	19.41	20.18	17.67	25.53	11.38