

Mesotrione premixes in corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Casselton, ND, to evaluate weed control from mesotrione premixes in corn. Dekalb 'DKC39-47' was planted on May 23, 2002. PRE treatments were applied May 31 at 9:30 am with 79 F air, 60 F soil at a 4 inch depth, 22% relative humidity, 0% clouds, 3 mph NW wind, dry soil surface, and moist subsoil. EPOST (early post emergence) treatments were applied June 5 at 10:00 am with 75 F air, 67 F soil surface, 30% relative humidity, 35% clouds, 3 to 5 mph N wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to 3 inch (1 to 3 collar) corn. Weed species present were: 0.5 to 1 inch (5 to 20/yd²) yellow foxtail; cotyledon (1/yd²) common cocklebur; cotyledon (1/yd²) common lambsquarters; and cotyledon (1/yd²) wild mustard. Treatments were applied to the center 6.67 feet of the 10 by 40 foot plots with a bicycle-wheel-type plot sprayer delivering 17 gpa at 40 psi through 8002 flat fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 8001 flat fan nozzles for EPOST treatments. The experiment had a randomized complete block design with three replicates per treatment.

No corn injury observed at June 7 or 14 to PRE treatments. POST treatments were applied later than normal due to a heavy rain that delayed application. At June 19, there was no corn injury and all treatments controlled wild mustard, redroot pigweed, and common lambsquarters. At June 23, more than 3 inches of rainfall occurred resulting in standing water for a few days which stunted the corn temporarily. At July 3 (28 DAT), weeds mentioned previously were controlled and corn in some areas of the study was visibly stunted. No additional injury occurred from any herbicide treatment. An additional 2 inches of rainfall occurred on July 10. Weeds mentioned previously were controlled at July 17 and 31. No yield to be taken due to corn stunting from excess water. A12854 alone or with nicosulfuron was more efficacious than other treatments. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Mesotrione premixes in corn (Zollinger and Ries).

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Treatment ¹	Rate	June 19		July 5		July 17		July 31	
		SETLU	XANST	SETLU	XANST	SETLU	XANST	SETLU	XANST
	(lb/A)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<u>PRE</u>									
A12854	0.166&1.66&0.62	99	90	99	92	99	95	99	87
A12854	0.2&2&0.75	99	88	99	96	99	94	98	80
A12909	0.167&1.67	75	70	75	68	80	67	82	65
A12909	0.2&2	72	75	80	77	78	72	73	58
Isoxaflutole+atrazine	0.094+0.5	85	70	90	77	92	85	92	82
Acetochlor+	2+	82	68	91	78	92	67	92	55
flumetsulam&clopyralid	0.035&0.094								
<u>EPOST</u>									
Nicosulfuron+	0.0155+	99	92	99	96	99	95	99	87
A12854	0.166&1.66&0.62								
Nicosulfuron+A12854	0.0155&0.2&2&0.75	99	93	99	98	99	96	99	94
Nicosulfuron+A12909	0.0155+0.167&1.67	99	72	99	75	99	73	96	60
Nicosulfuron+A12909	0.0155+0.2&2	99	78	99	78	99	77	99	73
AE F130360 01+	0.0547+	78	75	67	58	62	47	55	33
mesotrione+MSO+28-0-0	0.094								
Untreated		0	0	0	0	0	0	0	0
LSD (0.05)		2	5	7	8	10	13	10	22

¹A12854 = mesotrione & s-metolachlor & atrazine; A12909 = mesotrione & s-metolachlor; MSO = methylated seed oil = Scoil at 1.5pt/A; 28-0-0 = urea ammonium nitrate at 1.5qt/A.