

Weed control in corn with metolachlor & atrazine and tank mixtures. Young, Julie M., Bryan G. Young, Joseph L. Matthews and Ronald F. Krausz. This study was designed to evaluate the efficacy of metolachlor & atrazine alone and tank mixed with mesotrione vs. s-metolachlor & atrazine or s-metolachlor & atrazine & mesotrione. The study was conducted on an Ebbert silt loam with 2.7% organic matter and pH 6.2 at the Belleville Research Center. Fertilizer applied was 150, 50, and 100 lb/A of N, P₂O₅, and K₂O, respectively, to an area that had been cropped to soybean in 2003. Dekalb 'DKC 60-17 RR' corn was planted 1.5 inch deep at 28000 seeds per acre into a reduced-till seedbed on May 11, 2004. Plots consisted of four rows with 30 inch row spacing, 30 ft long arranged in a randomized complete block design with 4 replications. The herbicides were broadcast applied with a CO₂ pressurized sprayer using 8003 flat fan tips at 40 PSI and 20 GPA water. Monthly rainfall in inches was 1.3, 8.7, 2.8, 6.6, and 5.2 in April, May, June, July and August, respectively. Weed populations per 0.25 M² in the nontreated plots, mid-season, were: 36 giant foxtail; 4 common cocklebur; 6 velvetleaf; 1 common ragweed; and 2 ivyleaf morningglory. Applications were preemergence (PRE). Total rainfall for the 7 days following the PRE application was 2.0 inches. Application information is listed below.

Date	May-12-04
Treatment	PRE
Air temperature (F)	70
Relative humidity (%)	70

No corn injury was observed from any herbicide treatment. All herbicide treatments provided complete control of giant foxtail. Metolachlor & atrazine(283) alone or tank mixed with atrazine, mesotrione, or atrazine plus mesotrione controlled at least 96% of common ragweed and 91% of morningglory species at 42 days after emergence (DAE). Common cocklebur control from metolachlor & atrazine(283) alone or tank mixed with atrazine was less than 70% at 42 DAE. Tank mixing mesotrione with metolachlor & atrazine(283) tended to increase control of common cocklebur and velvetleaf. (Dept. of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale).

Table. Weed control in corn with metolachlor & atrazine and tank mixtures. (Young, Young, Matthews and Krausz)

Treatment ^a	Application		Corn injury ^b	Control, days after days after emergence ^c														
				SETFA			XANST			ABUTH			AMBEL			IPOHE		
	Rate	Time	14 DAE	14	28	42	14	28	42	14	28	42	14	28	42	14	28	42
(lb/A)		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Nontreated			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-metolachlor & atrazine & benoxacor(B2M)	0.78 & 1.0	PRE	0	99	99	99	82	75	52	90	80	87	98	94	97	96	91	92
S-meto & atra & beco(B2M)	1.17 & 1.51	PRE	0	99	99	99	85	81	59	91	85	86	99	95	96	98	93	94
S-meto & atra & beco(B2M)	1.32 & 1.7	PRE	0	99	99	99	85	80	58	92	87	90	99	94	95	98	93	92
S-meto & atra & beco(B2M)	1.56 & 2.0	PRE	0	99	99	99	91	88	68	94	88	89	99	96	96	99	96	95
Meto & atra(283) + atra	0.78 & 0.65 + 0.35	PRE	0	99	99	99	85	79	51	92	77	73	99	97	96	96	90	91
Meto & atra(283) + atra	1.17 & 0.98 + 0.54	PRE	0	99	99	99	84	80	56	91	83	86	99	96	97	97	90	94
Meto & atra(283) + atra	1.33 & 1.1 + 0.6	PRE	0	99	99	98	84	77	43	94	83	85	99	95	96	97	94	95
Meto & atra(283) + atra	1.56 & 1.3 + 0.7	PRE	0	99	99	99	88	84	58	94	86	79	99	97	97	98	91	95
Meto & atra(283)	1.76 & 1.46	PRE	0	99	99	99	86	85	68	95	88	90	99	94	97	98	92	93
Meto & atra(283)	2.0 & 1.66	PRE	0	99	99	99	87	85	56	96	83	84	99	95	96	99	92	95
Meto & atra(283)	2.35 & 1.95	PRE	0	99	99	99	91	89	63	99	90	90	99	98	96	99	93	94
Meto & beco(PAR) + atra	0.78+1.0	PRE	0	99	99	99	86	80	61	91	76	85	99	96	97	98	90	91
Meto & beco(PAR) + atra	1.17+1.5	PRE	0	99	99	99	84	77	51	93	84	81	99	89	95	97	88	91
Meto & beco(PAR) + atra	1.56+2.0	PRE	0	99	99	99	92	89	73	93	81	80	99	95	97	98	92	93
Meto & beco(PAR) + atra	1.76+1.46	PRE	0	99	99	99	89	85	64	94	81	85	99	94	94	98	93	90
Meto & beco(PAR) + atra	1.95+1.66	PRE	0	99	99	99	91	88	70	91	79	80	99	95	96	99	94	93
Meto & beco(PAR) + atra	2.34+1.95	PRE	0	99	99	99	91	87	69	96	88	91	99	96	96	98	89	94
Meto & atra(283) + mesotrione + atra	1.17 & 0.98 + 0.15 + 0.54	PRE	0	99	99	98	93	96	86	99	99	99	99	99	97	99	96	95
Meto & atra(283) + meso + atra	1.47 & 1.22 + 0.15 + 0.78	PRE	0	99	99	99	90	89	71	98	94	91	99	97	98	98	94	94
Meto & atra(283) + meso	1.76 & 1.46 + 0.15	PRE	0	99	99	99	94	93	87	99	99	99	99	99	97	99	96	94
Meto & atra(283) + meso	1.95 & 1.63 + 0.15	PRE	0	99	99	99	91	91	82	99	99	98	99	99	98	97	94	94
Meto & atra(283) + meso	2.35 & 1.95 + 0.15	PRE	0	99	99	99	95	94	91	99	99	99	99	99	99	99	97	95
S-meto & atra & meso & beco(LUM)	1.67 & 0.624 & 0.166	PRE	0	99	99	99	96	97	93	99	98	99	99	99	98	98	98	96
S-meto & atra & meso & beco(LUM)	2.0 & 0.75 & 0.2	PRE	0	99	99	99	96	98	95	99	99	99	99	99	99	99	98	97
S-meto & atra & meso & beco(LEX)	1.31 & 1.31 & 0.167	PRE	0	99	99	99	96	97	93	99	99	99	99	98	97	99	97	96
S-meto & atra & meso & beco(LEX)	1.52 & 1.52 & 0.194	PRE	0	99	99	99	96	98	94	99	99	99	99	99	99	99	97	95
LSD			0	0	0	1	6	6	12	7	10	12	1	5	4	2	5	3
P			1.0	1.0	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

^a(B2M) = Bicep II Magnum. (283) = MANA283. (PAR) = Parallel. (LUM) = Lumax. (LEX) = Lexar.

^bCorn was also evaluated at 28, 42, and 56 days after emergence with no observable injury at any time. DAE = Days after emergence.

^cWeed control was also evaluated at 56 days after emergence with no change from 42 days after emergence.