S-metolachlor&atrazine&glyphosate premix for weed control in corn. Wanatah, IN, 2003. Dewell, Reece A., William G. Johnson, Jeff W. Barnes, J. Earl Creech, Vince Davis, and Eric Ott. A field study was conducted to evaluate weed control in corn with Syngenta's s-metolachlor&atrazine&glyphosate premix and compare results with other glyphosate treatments. The study was conducted at the Pinney Purdue Agricultural Center near Wanatah, IN, on a Tracey sand soil with 2.1% organic matter. Treatments were arranged in a randomized complete block with four replications. Individual plot dimensions were 10 by 45 feet. Dekalb 60-17 glyphosate-resistant corn was planted 1.5 inches deep into a conventional-till seedbed on May 7 in 30-inch rows, at a population of 30,800 seeds/acre. Preemergence and early postemergence (EPOST) herbicide treatments were applied with a CO_2 backback sprayer delivering 20 gpa and equipped with XR8003 flat fan nozzles. Application dates, weed growth stage, and weather data are listed below:

Date	May 13	May 30
Treatment	Preemergence	EPOST
Temperature		
Air (F)	81	72
Soil (C)	19	16
Soil moisture	wet	moist
Wind (mph)	6 to 7	1 to 2
Sky cover (%)	0	100
Relative humidity (%)	31	54
Precipitation		
Prior week (inch)	3.14	0.42
Week 1 (inch)	0.6	0.89
Week 2 (inch)	0.02	0.35
Corn (inch)	na	3 to 4
Giant ragweed	0.5 to 1 inch	2
Velvetleaf	na	0.75
Common lambsquarters	na	0.5
Giant foxtail	na	0.5

Crop injury with the preemergence treatments was enhanced due to cool growing conditions early in the season. The predominant weed at this location was giant ragweed. The epost treatment with the high rate of s-metolachlor + atrazine + glyphosate was the only combination that still provided >90% giant ragweed control late in the season. Residual control with the preemergence applications did not extend past the 30 DAT rating date. All combination treatments containing residual herbicides provided good season long control of common lambsquarters and fall panicum compared to the glyphosate(WMAX) treatments. Velvetleaf control was similar with all the combination treatments, regardless of application timing. Cool growing conditions early in the season resulted in delayed weed emergence and favored the residual effects of the combination treatments. (Dept. Botany and Plant Pathology, Purdue University, West Lafayette, IN).

Table. S-metolachlor&atrazine&glyphosate premix for weed control in corn. Wanatah, IN, 2003. (Dewell, Johnson, Barnes, Creech, Davis, and Ott).[a]

			Injury					AMBTR				ABUTH			CHEAL			PANDI[b]			
Treatment	Rate	Appl. Time	5/22	5/30	6/6	6/12	7/10	6/6	6/12	7/10	8/7[c]	6/6	6/12	7/10	6/6	6/12	7/10	6/6	6/12	7/10	8/7[c]
	(lb/A)		%																		
S-metolachlor&atrazine&glyphosate[d] +AMS	1.3&1.6&0.56 +2.5	PRE	5	4	0	0	0	91	83	35	52	97	91	85	100	100	100	100	100	100	98
S-metolachlor&atrazine&glyphosate[d] +AMS	1.6&2.0&0.7 +2.5	PRE	12	9	0	0	0	94	85	40	35	100	95	97	98	100	90	100	100	100	100
Acetochlor&atrazine&glyphosate[e] +AMS	2.0&1.5&0.56 +2.5	PRE	17	16	11	7	6	97	92	65	58	100	98	81	100	100	100	100	100	98	93
Glyphosate(WMAX)[f]+AMS	0.77+2.5	PRE	1	0	0	0	0	58	8	0	0	56	8	0	75	8	0	49	5	0	0
S-metolachlor&atrazine&glyphosate[d]	1.1&1.3&0.47	EPOST	0	0	0	0	0	72	82	69	69	75	94	74	88	100	100	93	100	93	93
S-metolachlor&atrazine&glyphosate[d]	1.3&1.6&0.56	EPOST	5	3	0	0	0	80	89	84	90	90	100	85	84	100	100	100	100	96	95
Acetochlor&atrazine&glyphosate[e]	2.0&1.5&0.56	EPOST	0	0	0	0	0	65	85	83	75	81	96	90	83	100	100	94	100	95	92
Glyphosate(WMAX)[f]+AMS	0.77+2.5	EPOST	0	0	0	0	3	85	76	33	43	97	86	66	90	90	70	98	98	72	69
Glyphosate(WMAX)[f]+AMS/ Glyphosate(WMAX)[f]+AMS	0.77+2.5/ 0.56+2.5	PRE/ EPOST	0	0	0	0	0	89	85	45	30	94	95	68	100	100	63	99	100	76	51
Untreated Check			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.05)			8	7	7	6	6	21	11	24	32	22	8	24	18	6	16	19	3	15	24

[a] Rating dates: 5/22 = 9 DAT - pre (days after treatment), 5/30 = 17 DAT - pre, 6/6 = 24 DAT – pre / 7 DAT - epost, 6/12 = 30 DAT – pre / 13 DAT – epost, and 7/10 = 58 DAT – pre / 41 DAT – epost, and 8/7 = 86 DAT – pre / 69 DAT – epost.

[b] Initial grass specie at the time of application was SETFA, but the dominant grass species later in the season was PANDI.

[c] At this late rating date, the AMBTR was 9 to 10 feet tall, and had suppressed most of the other weed species. Therefore, ratings for ABUTH and CHEAL were not collected.

[d] S-metolachlor&atrazine&glyphosate = Expert from Syngenta

[e] Acetochlor&atrazine&glyphosate = Field Master from Monsanto

[f] Glyphosate(WMAX) = Roundup Weathermax from Monsanto