

Evaluation of grass control in no-till corn. Krausz, Ronald F. and Bryan G. Young. This study was designed to compare several grass herbicides applied early preplant, preemergence and postemergence in no-till corn. The study was conducted on a Weir silt loam with 1.5% organic matter and pH 6.4 at the Belleville Research Center. Fertilizer applied was 150, 50 and 150 lb/A N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O, respectively, to an area that had been cropped to soybean in 2001. Pioneer brand '33P69LL' glufosinate-resistant field corn was planted 1.5 inch deep at 28 000 seed/A into a no-till seedbed on May-27. Plots consisted of four rows with 30 inch row spacing, 28 ft long arranged in a randomized complete block design with 3 replications. The herbicides were broadcast applied with a CO<sub>2</sub> pressurized sprayer using 8002 flat fan tips at 40 PSI in 20 GPA water. Application timings were early preplant 30 or 15 days prior to planned planting date (EPP30 and EPP15, respectively), preemergence (PRE), 3 inch corn (3"CORN), 2 inch grass (2"GRASS) and 3 inch broadleaf weeds following EPP30, EPP15, PRE, and 3"CORN or 2"GRASS (3"BL-1 3"BL-2 3"BL-3 and 3"BL-4, respectively). Monthly rainfall in inches was 4.9, 6.6, 1.7, 3.7 and 3.6 in April, May, June, July and August, respectively. Weed population per 0.25 m<sup>2</sup> in the nontreated plots, mid-season, was >50 giant foxtail and fall panicum.

Application information is listed below.

Date	Apr-11-02	Apr-26-02	May-29-02	Jun-6-02	Jun-10-02	May-29-02	Jun-6-02	Jun-17-02	Jun-17-02
Treatment	EPP30	EPP15	PRE	3"CORN	2"GRASS	3"BL-1	3"BL-2	3"BL-3	3"BL-4
Air temperature (F)	72	56	76	64	86	76	64	82	82
Relative humidity (%)	38	32	84	80	98	84	80	30	30
Soil moisture	wet	wet	normal	normal	normal	normal	normal	normal	normal
corn, field									
leaf no.				V1	V3-V4		V1	V5	V5
height (inch)				1-3	6-10		1-3	10-12	10-12
foxtail, giant									
leaf no.		1-2	2-4	2-4	2-4	2-4	2-4	3-5	3-5
height (inch)		0-1	2-6	2-4	2-6	2-6	2-4	2-5	2-5
panicum, fall									
leaf no.					2-4			3-5	3-5
height (inch)					2-6			2-5	2-5

Grass herbicides applied EPP30 and EPP15 provided poor control of either giant foxtail or fall panicum 42 days after planting. Acetochlor&dichlormid and acetochlor&MON 4660 applied PRE controlled giant foxtail and fall panicum 92 to 94%. Nicosulfuron&rimsulfuron and rimsulfuron&thifensulfuron applied at 2 inch grass controlled giant foxtail and fall panicum 90 to 95%. Grain yield was poor due to an abnormally hot, dry growing season. (Dept. of Plant, Soil and General Agriculture, Southern Illinois University, Carbondale).

Table. Evaluation of grass control in no-till corn. (Krausz and Young)

Treatment <sup>a</sup>	Application		Corn yield bu/A	Contol <sup>b</sup>						Corn injury days after planting	
				SETFA			PANDI				
				30 days after	days after planting		days after planting				
				EPP30	21	42	21	42	21	42	
	Rate (lb/A)	Time		%	%	%	%	%	%	%	
Nontreated			0	0	27	27	53	53	0	0	
Glyphosate+s-metolachlor&CGA-154281	0.75+1.27	EPP30	16	98	77	60	67	0	0	0	
Glyphosate+acetochlor&dichlormid	0.75+1.8	EPP30	12	97	25	25	52	27	0	0	
Glyphosate+acetochlor&MON 4660	0.75+1.8	EPP30	10	93	30	30	52	27	0	0	
Glyphosate+acetochlor	0.75+1.8	EPP30	23	100	30	30	52	27	0	0	
Glyphosate+dimethenamid-P	0.75+0.75	EPP30	6	95	25	0	52	27	0	0	
Glyphosate+flufenacet&metribuzin	0.75+0.576&0.144	EPP30	22	100	42	0	68	27	0	0	
Glyphosate+flufenacet	0.75+0.6	EPP30	10	100	25	0	82	57	0	0	
Glyphosate+rimsulfuron&thifensulfuron	0.75+0.021&0.01	EPP30	32	100	25	0	87	87	0	0	
Glyphosate+isoxaflutole	0.75+0.094	EPP30	28	100	60	60	80	30	0	0	
Glyphosate+simazine	0.75+1.0	EPP30	12	97	0	0	27	27	0	0	
Glyphosate+s-metolachlor&CGA-154281	0.75+1.27	EPP15	33	100	57	47	80	45	0	0	
Glyphosate+acetochlor&dichlormid	0.75+1.8	EPP15	36	100	75	0	75	0	0	0	
Glyphosate+acetochlor&MON 4660	0.75+1.8	EPP15	18	98	0	0	77	52	0	0	
Glyphosate+acetochlor	0.75+1.8	EPP15	57	100	80	0	80	0	0	0	
Glyphosate+dimethenamid-P	0.75+0.75	EPP15	12	100	25	0	52	27	0	0	
Glyphosate+flufenacet&metribuzin	0.75+0.576&0.144	EPP15	21	100	90	90	67	0	0	0	
Glyphosate+flufenacet	0.75+0.6	EPP15	19	100	50	0	77	27	0	0	
Glyphosate+rimsulfuron&thifensulfuron	0.75+0.021&0.01	EPP15	42	100	77	17	82	30	0	0	
Glyphosate+isoxaflutole	0.75+0.094	EPP15	17	97	55	0	77	27	0	0	
Glyphosate+simazine	0.75+1.0	EPP15	10	99	0	0	60	60	0	0	
Glyphosate+s-metolachlor&CGA-154281	0.75+1.27	PRE	110		92	73	97	93	0	0	
Glyphosate+acetochlor&dichlormid	0.75+1.8	PRE	86		98	92	96	92	0	0	
Glyphosate+acetochlor&MON 4660	0.75+1.8	PRE	135		98	93	96	94	0	0	
Glyphosate+acetochlor	0.75+1.8	PRE	86		98	95	90	73	0	0	
Glyphosate+dimethenamid-P	0.75+0.75	PRE	70		93	88	89	85	0	0	
Glyphosate+flufenacet&metribuzin	0.75+0.576&0.144	PRE	95		97	95	97	88	0	0	
Glyphosate+flufenacet	0.75+0.6	PRE	57		93	88	90	75	0	0	
Glyphosate+rimsulfuron&thifensulfuron	0.75+0.021&0.01	PRE	91		90	82	98	96	0	0	
Glyphosate+isoxaflutole	0.75+0.094	PRE	82		83	78	98	95	0	0	
Glyphosate+simazine	0.75+1.0	PRE	111		30	28	94	91	0	0	
Glyphosate/s-metolachlor&CGA-154281	0.75/1.27	PRE/3"CORN	73		90	53	90	53	0	0	
Glyphosate/acetochlor&dichlormid	0.75/1.8	PRE/3"CORN	64		82	33	87	63	0	0	
Glyphosate/acetochlor&MON 4660	0.75/1.8	PRE/3"CORN	93		78	17	88	77	0	0	
Glyphosate/acetochlor	0.75/1.8	PRE/3"CORN	60		83	33	83	55	0	0	
Glyphosate/dimethenamid-P	0.75/0.75	PRE/3"CORN	64		89	49	82	42	0	0	
Glyphosate/flufenacet	0.75/0.6	PRE/3"CORN	68		92	88	94	87	0	0	
Glyphosate/nicosulfuron&rimsulfuron	0.75/0.023&0.012	PRE/2"GRASS	58		100	95	100	93	0	0	
Glyphosate/simazine	0.75/1.0	PRE/3"CORN	63		68	42	87	85	0	0	
Glyphosate/rimsulfuron&thifensulfuron	0.75/0.011&0.0053	PRE/2"GRASS	53		100	90	100	90	0	0	
LSD			47	5	41	43	35	48	0	0	
P			0.01	0.01	0.01	0.01	0.01	0.01	1.0	1.0	

<sup>a</sup>All treatments, except the nontreated, recieved a blanket application of mesotrione + COC + 28%N at 0.094 lb/A + 1.0 + 2.5% v/v postemergence at 3-4 ich broadleaf weeds..

<sup>b</sup>Ratings at 30 days after EPP30 application were also 15 days after EPP15 application.

Ratings at 21 DAP were also 67, 52, 19, 11, and 7 days after EPP30, EPP15, PRE, 3"CORN, and 2"GRASS applications, respectively.

Ratings at 42 DAP were also 88, 73, 40, 32, and 28 days after EPP30, EPP15, PRE, 3"CORN, and 2"GRASS applications, respectively.

Non-zero weed control ratings in the nontreated plots reflect competition among weeds.