

One pass, two pass, and total POST programs in corn. Waltz, Aaron L., Alex R. Martin, and Jess J. Spotanski. A field study was conducted to evaluate pre, sequential pre/post, and postemergent weed control in conventionally-tilled field corn. A randomized complete block design with three replications per treatment was utilized. The study was conducted on a Kennebec silt loam with 2.4% organic matter and a pH of 6.9. Seedbed preparation consisted of disking one week prior to planting and one field cultivation the day of planting. Individual plots consisted of six 30-inch rows, each 30 feet long. 'Asgrow RX730YG' corn was planted May 14 at a population of 20,300 seeds/acre. Treatments were applied with a tractor-mounted sprayer traveling 2.5 mph. Application, crop, weed, and environmental data are presented below:

Date	May 15	June 4	June 12
Treatment	PRE	EPOST	POST
Sprayer			
gpa	20	20	20
psi	40	40	40
Temperature (°F)			
Air	66	74	83
Soil (4 inch)	62	70	84
Soil Moisture	Adequate	Adequate	Dry
Wind (mph)	17	8	4
Sky (% cloudy)	70	40	100
Relative Humidity (%)	57	46	59
Precip. after appl.			
Week 1 (inch)	0.24	0.08	0.0
Week 2 (inch)	2.36	0.0	0.0
Corn			
Leaf no.	--	2	5
Height (inch)	--	6	12
Common sunflower			
Leaf no.	--	2-3	3-7
Height (inch)	--	0.5-2	5-9
Infestation (m ²)	--	10	3
Velvetleaf			
Leaf no.	--	2-4	4-7
Height (inch)	--	0.5-1.5	2-10
Infestation (m ²)	--	35	25
Annual grasses			
Leaf no.	--	1-2	3-5
Height (inch)	--	0.5-2	3-6
Infestation (m ²)	--	5	2
Pigweed species			
Leaf no.	--	2-10	many
Height (inch)	--	1-2	4-10
Infestation (m ²)	--	10	25

Summary comments: Precipitation was good until early June, then conditions were very dry. Grass species include green and giant foxtail with some fall panicum and large crabgrass. Pigweed species include mostly Palmer amaranth, with some redroot pigweed and common waterhemp. PRE only treatments did not give adequate season-long control of common sunflower and velvetleaf. Generally, the EPOST, POST, and two pass treatments gave satisfactory weed control, even in the dry conditions. Results of the study are summarized in the following table (Dept. of Agronomy and Horticulture, University of Nebraska-Lincoln).

Table. One pass, two pass, and total POST programs in corn (Waltz, Martin, and Spotanski).

Treatment	Application		----HELAN----			----ABUTH----			----GGGAN ^a ----			----AMASS ^b ----		
	Rate	Timing	6/26	7/11	8/8	6/26	7/11	8/8	6/26	7/11	8/8	6/26	7/11	8/8
	(lb/A)		-----% weed control-----											
S-metolachlor&CGA-154281& atrazine	1.26 1.63	PRE	70	53	10	53	30	10	98	98	98	98	95	95
S-metolachlor&CGA-154281& atrazine+ mesotrione	1.26 1.63 0.188	PRE	73	72	52	87	73	50	96	96	90	97	95	95
Acetochlor& atrazine	2.03 1.01	PRE	75	55	38	57	40	7	96	94	94	97	97	97
Dimethenamid-P& atrazine	0.85 1.65	PRE	67	33	7	37	30	7	95	95	95	97	93	93
S-metolachlor&CGA-154281& atrazine+ flumetsulam& clopyralid	1.26 1.63 0.035 0.113	PRE	93	90	57	73	60	30	87	83	80	98	98	93
S-metolachlor&CGA-154281& atrazine+ isoxaflutole	1.26 1.63 0.047	PRE	73	53	23	65	43	20	92	87	87	97	95	95
S-metolachlor&CGA-154281& atrazine/ mesotrione+ COC ^c + 28% ^d	1.26 1.63 0.09 1.0% 2.5%	PRE/ POST	100	98	97	98	98	98	97	93	93	98	98	98
S-metolachlor&CGA-154281& atrazine/ mesotrione+ atrazine+ COC+ 28%	1.26 1.63 0.09 0.25 1.0% 2.5%	PRE/ POST	100	100	100	98	98	97	99	99	93	100	100	100
S-metolachlor&CGA-154281& atrazine+ mesotrione	1.26 1.63 0.09	EPOST	100	100	100	100	100	98	93	87	85	100	100	98
S-metolachlor&CGA-154281& atrazine/ primisulfuron& CGA-152005+ COC+ 28%	1.26 1.63 0.027 0.009 1.0% 2.5%	PRE/ POST	100	100	100	100	96	96	100	100	98	100	98	98
Dimethenamid& atrazine/ nicosulfuron& rimsulfuron+ mesotrione+ COC+ 28%	0.58 0.67 0.023 0.012 0.09 1.0% 2.5%	PRE/ POST	100	100	100	100	100	100	100	100	100	100	100	98
Dimethenamid-P/ dicamba& atrazine	0.7 0.41 0.79	PRE/ EPOST	100	100	100	77	67	63	97	96	91	98	98	97

(continued)

Table. One pass, two pass, and total POST programs in corn (Waltz, Martin, and Spotanski), continued.

Treatment	Application		----HELAN----			----ABUTH----			----GGGAN ^a ----			----AMASS ^b ----		
	Rate	Timing	6/26	7/11	8/8	6/26	7/11	8/8	6/26	7/11	8/8	6/26	7/11	8/8
	(lb/A)		-----% weed control-----											
Dimethenamid-P& atrazine/ dicamba& SAN 1269H+ NIS ^e + 28%	0.85 1.65 0.125 0.05 0.25% 1.25%	PRE/ POST	100	100	100	85	83	83	100	97	93	100	100	98
Acetochlor&dichlormid/ flumetsulam& clopyralid+ NIS+ 28%	1.6 0.035 0.113 0.25% 2.5%	PRE/ POST	100	100	100	98	92	92	100	100	95	97	97	97
Nicosulfuron& rimsulfuron+ mesotrione+ atrazine+ COC+ 28%	0.023 0.012 0.09 0.25 1.0% 2.5%	POST	100	98	98	100	100	100	100	95	92	93	85	83
Mesotrione+ nicosulfuron+ atrazine+ COC+ 28%	0.09 0.023 0.25 1.0% 2.5%	POST	100	98	97	100	100	98	98	95	93	95	90	88
Nicosulfuron& rimsulfuron+ flumetsulam& clopyralid+ atrazine+ COC+ 28%	0.023 0.012 0.035 0.113 0.5 1.0% 2.5%	POST	100	100	97	97	85	77	100	100	97	90	70	67
Flumetsulam& clopyralid& nicosulfuron& rimsulfuron+ atrazine+ COC+ 28%	0.03 0.098 0.012 0.012 0.5 1.0% 2.5%	POST	100	98	95	95	73	73	100	100	100	92	70	77
Check			0	0	0	0	0	0	0	0	0	0	0	0
LSD (P=.05)			14	19	27	12	18	14	5	7	8	4	6	7

^aGGGAN = green and giant foxtail, with some fall panicum and large crabgrass^bAMASS = mostly Palmer amaranth, with little common waterhemp and redroot pigweed^cCOC = 'Prime Oil' by Agrilience^d28% = 'Class' by Agrilience^eNIS = 'Preference' by Agrilience