

Evaluation of weed control programs in grain sorghum. Horky, Kevin T. and Alex R. Martin. A field study was conducted to evaluate the efficacy of weed control programs in grain sorghum. A randomized complete block design with three replications per treatment was utilized. The study was conducted on a Sharpsburg silty clay loam with 3.1% organic matter and a pH of 6.6. Individual plots consisted of six 30-inch rows, each 30 feet long. 'Dekalb DK53' grain sorghum was planted May 19 at a rate of 9 pounds per acre. Treatments were applied with a tractor-mounted sprayer traveling 3.0 mph. POST treatments were applied 27 days after planting. Application, crop, weed, and environmental data are presented below:

Date	May 19	June 15
Treatment	PRE	POST
Sprayer		
gpa	15	15
psi	30	30
Temperature (°C)		
air	24	29
soil (4 inch)	15	19
Soil Moisture	adequate	adequate
Wind (mph)	4	7
Sky (% cloudy)	5	5
Relative humidity (%)	39	25
Precip. After appl. (inches)		
week 1	0.1	0.06
week 2	1.42	1.55
Sorghum		
stage	--	V4
height (cm)	--	25
Velvetleaf		
height (cm)	--	13
infestation (m2)	--	6
Common sunflower		
height (cm)	--	17
infestation (m2)	--	5
Palmer amaranth		
height (cm)	--	13
infestation (m2)	--	5
Green foxtail		
height (cm)	--	8
infestation (m2)	--	4

Summary comments: Limited rainfall reduced performance of PRE treatments. Annual grass control with POST only treatments was fair. Results of the study are summarized in the following table. (Dept. of Agronomy and Horticulture, University of Nebraska-Lincoln)

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Treatment	Application		-----ABUTH-----			-----HELAN-----			-----AMAPA-----			---SETVI---		-----SORVU-----		
	Rate	Timing	6/15	7/1	7/15	6/15	7/1	7/15	6/15	7/1	7/15	6/15	7/15	INJURY 7/1	YIELD 10/17	
	(lb/a)		-----% Weed Control-----												% Chlorosis	(bu/ac)
S-metolachlor& atrazine& benoxacor	1.26 1.63	PRE	60	71	71	75	74	73	85	80	79	87	79	0	60	
S-metolachlor& atrazine& benoxacor/ handweed	1.26 1.63	PRE/ POST	99	99	99	99	99	99	99	99	99	99	99	0	85	
Dimethenamid-P& atrazine	0.72 1.4	PRE	67	77	77	80	78	78	87	82	78	85	78	0	68	
Acetochlor& atrazine& MON 4660	1.78 1.44	PRE	68	70	70	73	73	73	87	82	82	87	78	0	42	
S-metolachlor& atrazine& benoxacor	1.26 1.63	POST	0	65	60	0	83	83	0	85	82	0	80	0	84	
S-metolachlor& atrazine& mesotrione& benoxacor	1.68 0.63 0.168	PRE	95	75	75	76	75	75	95	91	90	95	90	0	75	
Atrazine+ COC ¹	1.2 1.25% v/v	POST	0	85	80	0	73	72	0	88	85	0	58	0	79	
Atrazine+ COC	2 1.25% v/v	POST	0	83	82	0	88	87	0	95	90	0	63	0	84	
Quinclorac+ atrazine+ COC	0.25 0.75 1.25% v/v	POST	0	77	77	0	68	68	0	83	80	0	67	0	89	
Quinclorac+ atrazine+ COC	0.38 0.75 1.25% v/v	POST	0	72	70	0	72	72	0	85	80	0	70	0	91	
Mesotrione+ atrazine+ COC	0.03 0.5 1.25% v/v	POST	0	93	92	0	95	92	0	95	90	0	73	8	83	
LSD (P=.05)			6	16	15	15	17	16	3	5	6	4	7	1	23	

¹COC = 'Prime Oil' by Agrilience