

## Huskie in Grain Sorghum (S0951)

Competition from weeds both early season and at grain fill can reduce the yield potential in sorghum. There are a limited number of herbicide choices available for weed control in grain sorghum. A field study was initiated near Clay Center, Nebraska to investigate weed control efficacy, crop safety, and yield aspects of Huskie herbicide applied on grain sorghum. The experimental design was a randomized complete block with four replications. Plots were 10 feet wide and 30 feet long and were located on a silt loam soil with an organic matter content of 2.5% and pH of 6.5. Sorghum, 'NC+ 7R-83' was planted at 113,700 seeds/A on May 19 and emerged on May 26. Herbicide treatments were made at three different timings, PRE, EPOST and MPOST following planting. Trial area was disked and field cultivated prior to the PRE application. Herbicides were applied with a tractor-mounted sprayer calibrated to deliver 15 gallons of water per acre at 30 PSI. PRE treatments were applied using Turbo Teejet 110015 flat spray nozzles and POST treatments were applied with AIXR 110015 flat spray nozzles. The environmental conditions at the time of spraying are given in Table 1. Rainfall in the amount of 0.62 inch was received 13 days after PRE application. Rainfall received 10 days before and 10 days after herbicide applications is listed in Table 2. Plots received 12.7 inches of rain and 8.25 inches of irrigation water applied by lateral-move overhead sprinklers during season.

Major weeds consisted of green foxtail (SETVI), velvetleaf (ABUTH), common waterhemp (AMATA), common lambsquarter (CHEAL) present at 9, 2, 40, and 3 plants per FT<sup>2</sup>.

There was some necrosis and/or temporary bleaching following application of Huskie+Atrazine. The necrosis occurred when Huskie was applied without a growth regulator. 2,4-D caused some leaning 10 DAT. Dicamba caused some leaf deformity 4 DAT. Data is not shown for crop phytotoxicity.

Huskie+Atrazine was very effective at controlling ABUTH, AMATA, and CHEAL at both timings and both rates tested.

Huskie increased control of ABUTH and AMATA. Buctril+Atrazine was very effective on CHEAL in the absence of Huskie, but had inadequate velvetleaf control.

Grain sorghum yield in the untreated plots averaged 36.0 bu/A, while in the weed control treatment plots sorghum yield averaged 144.2 bu/A. Sorghum yield in the PRE followed by Huskie EPOST treatments averaged 149.3 bu/A. and 151.3 bu/A in the PRE followed by Huskie MPOST. Sorghum yield in the PRE followed by Buctril+atrazine treatment plots averaged 113.6 bu/A.

Weed control evaluations and yields are shown in Table 3.

Table 1. Environmental conditions at the Time of Herbicide Application.

Appl. Date	Air Temperature (F)	Humidity (%)	Wind Speed & direction (mph)	Time of day	Application Timing	Weed and Crop Heights (inches)				
						SETVI	ABUTH	AMATA	CHEAL	Sorghum
May 20	70	42	14 S	9:19 am	PRE	NA	NA	NA	NA	NA
June 15	79	61	5 E	4:18 pm	EPOST	3.0	3.0	3.0	3.0	6.0
June 22	87	69	6 N	8:15 pm	MPOST	13.0	13.5	13.5	12.5	18.0

Table 2. Rainfall received 10 days before and after herbicide application.

Appl. Date (May 20)	Amount (in)		Appl. Date (June 15)	Amount (in)		Appl. Date (June 22)	Amount (in)
May 13	0.03		June 5	0.16		June 12	0.30
May 15	0.03		June 6	0.52		June 14	0.11
May 23	0.17		June 9	0.16		June 15	2.41
May 26	0.17		June 10	0.06		June 19	0.14
			June 12	0.30		June 20	0.07
			June 14	0.11		June 24	0.23
			June 15	2.41		June 26	0.10
			June 19	0.14			
			June 20	0.07			
			June 24	0.23			





Table 3. (cont) Huskie for Sorghum (S0951)

					SETVI	ABUTH	AMATA	CHEAL	SETVI	ABUTH	AMATA	CHEAL	SORVU
Rating Date					7/16/2009	7/16/2009	7/16/2009	7/16/2009	10/15/2009	10/15/2009	10/15/2009	10/15/2009	11/20/2009
Rating Type					CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	YIELD
Rating Unit					%	%	%	%	%	%	%	%	bu/A
Trt	Treatment	Rate	Growth										
No.	Name	Rate	Unit	Stage									
12	Dual II Magnum	1	PT/A	PRE	91	100	100	100	96	100	100	100	149.8
12	HUSKIE	13	OZ/A	EPOST									
12	AMS	8.5	LB AI/100 GAL	EPOST									
13	Dual II Magnum	1	PT/A	PRE	90	99	100	100	96	99	100	100	158.9
13	HUSKIE	13	OZ/A	MPOST									
13	AMS	8.5	LB AI/100 GAL	MPOST									
LSD (P=.05)					8.7	19.1	3.5	1.2	2.8	14.7	1.8	1	15.51