

University of Nebraska

Weed control sorghum II

Trial ID: L0752
Location: Havelock

Study Dir.: Kevin Horky
Investigator: Dr. Mark Bernards

GENERAL TRIAL INFORMATION

Study Director: Kevin Horky **Title:** Research Technician
Affiliation: University of Nebraska Lincoln
Postal Code: 68583
Investigator: Dr. Mark Bernards **Title:** Ext. Weed Specialist
Affiliation: University of Nebraska Lincoln
Postal Code: 68583

TRIAL LOCATION

City: Lincoln
State/Prov.: NE
Postal Code: 68583

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ABUTH	Velvetleaf	Abutilon theophrasti
2.	AMAPA	Amaranth, Palmer	Amaranthus palmeri
3.	HELAN	Common sunflower	Helianthus annuus
4.	SETVI	Green foxtail	Setaria viridis

Crop 1: SORVU SORGHUM **Variety:** DK 53
Planting Date: 5/Jun/2007 **Planting Method:** planted
Rate: 61000 seeds/acre **Depth:** 1 in
Row Spacing: 30 in **Seed Bed:** medium
Soil Temperature: 14 C **Soil Moisture:** good **Emergence Date:** 11/Jun/2007

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 30 FT **Reps:** 3
Site Type: field
Tillage Type: conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

MAINTENANCE

Field Prep./Maintenance: Anhydrous Ammonia was applied at rate of 120 lbs nitrogen/ acre. Field was then disked once and field cultivated once.

SOIL DESCRIPTION

% Sand: 6 **% OM:** 3.0 **Texture:** Silty clay loam
% Silt: 65 **pH:** 6.6 **Soil Name:** Sharpesburg
% Clay: 29 **CEC:** 31 **Fert. Level:** good

APPLICATION DESCRIPTION

	A
Application Date:	21/Jun/2007
Time of Day:	10:30 AM
Application Method:	Spray
Application Timing:	epost
Applic. Placement:	BROFOL
Air Temp., Unit:	86 F
% Relative Humidity:	52
Wind Velocity, Unit:	7.5 mph
Dew Presence (Y/N):	n
Soil Moisture:	good
% Cloud Cover:	2

University of Nebraska

CROP STAGE AT EACH APPLICATION

A	
Crop 1 Code, Stage:	SORVU
Stage Scale:	V2
Height, Unit:	4 in

WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	ABUTH
Stage Scale:	2 in
Density, Unit:	5 m2
Weed 2 Code, Stage:	AMAPA
Stage Scale:	2 in
Density, Unit:	5 m2
Weed 3 Code, Stage:	HELAN
Stage Scale:	3 in
Density, Unit:	5 m2
Weed 4 Code, Stage:	SETVI
Stage Scale:	2 in
Density, Unit:	5 m2

APPLICATION EQUIPMENT

A	
Appl. Equipment:	IH cub
Operating Pressure:	30
Nozzle Type:	Turbo Tee
Nozzle Size:	110015
Nozzle Spacing, Unit:	15 in
Nozzles/Row:	2
Boom Length, Unit:	10 ft
Boom Height, Unit:	18 in
Ground Speed, Unit:	3 mph
Carrier:	water
Spray Volume, Unit:	15 gpa
Propellant:	air

Trial Comments

Gowan Protocol 07-01-1

Data Requested

Weed control 14, 28 DAT

Crop Injury 14, 28 DAT

Yield

University of Nebraska

Weed control sorghum II

Trial ID: L0752

Study Dir.: Kevin Horky

Location: Havelock

Investigator: Dr. Mark Bernards

Weed Code	ABUTH SORVU	AMAPA SORVU	HELAN SORVU	SETVI SORVU	SORVU PHYGEN	ABUTH SORVU	AMAPA SORVU					
Crop Code	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL					
Rating Data Type	%	%	%	%	%	%	%					
Rating Unit												
Rating Date	5/Jul/2007	5/Jul/2007	5/Jul/2007	5/Jul/2007	5/Jul/2007	18/Jul/2007	18/Jul/2007					
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	27 DA-A	27 DA-A					
ARM Action Codes												
# Subsamples, Dec.												
Trt No.	Treatment Name	Rate	Grow Unit	Stg	Plot	1	2	3	4	5	6	7
1	Permit	0.67 oz/a	epost	101		99	65	99	40	0	99	90
	COC	1 % v/v	epost	204		99	99	99	40	0	99	99
	AMS	2.5 lb/a	epost	306		99	99	99	40	0	99	90
			Mean =			99	88	99	40	0	99	93
2	Permit	0.67 oz/a	epost	102		90	99	99	40	0	90	90
	Aatrex	1 lb ai/a	epost	206		85	99	99	40	0	70	95
	COC	1 % v/v	epost	303		85	60	99	40	0	80	95
	AMS	2.5 lb/a	epost									
			Mean =			87	86	99	40	0	80	93
3	Permit	0.5 oz/a	epost	103		90	99	99	45	0	95	95
	Aatrex	1 lb ai/a	epost	205		80	99	99	50	0	85	95
	COC	1 % v/v	epost	304		90	99	99	40	0	90	95
	AMS	2.5 lb/a	epost									
			Mean =			87	99	99	45	0	90	95
4	Yukon	4 oz/a	epost	104		99	99	99	45	0	99	99
	COC	1 % v/v	epost	201		95	70	99	40	0	99	99
	AMS	2.5 lb/a	epost	302		99	99	99	30	0	99	99
			Mean =			98	89	99	38	0	99	99
5	Peak	0.5 oz/a	epost	105		90	99	99	40	0	90	90
	Aatrex	1 lb ai/a	epost	203		85	90	99	40	0	90	95
	COC	1 % v/v	epost	301		95	99	99	40	0	99	95
	AMS	2.5 lb/a	epost									
			Mean =			90	96	99	40	0	93	93
6	check			106		0	0	0	0	0	0	0
				202		0	0	0	0	0	0	0
				305		0	0	0	0	0	0	0
			Mean =			0	0	0	0	0	0	0

University of Nebraska

Weed Code					HELAN	SETVI					
Crop Code					SORVU	SORVU	SORVU	SORVU	SORVU	SORVU	SORVU
Rating Data Type					CONTROL	CONTROL	PHYGEN	YIELD	MOICON	YIELD	
Rating Unit					%	%	%	LB	%	bu/ac	
Rating Date					18/Jul/2007	18/Jul/2007	18/Jul/2007	1/Nov/2007	1/Nov/2007	1/Nov/2007	
Trt-Eval Interval					27 DA-A	27 DA-A	27 DA-A				
ARM Action Codes											TY1
# Subsamples, Dec.											1
Trt No.	Treatment Name	Rate	Grow Unit	Plot	8	9	10	11	12	13	
1	Permit	0.67 oz/a	epost	101	99	40	0	24	16	61.6	
	COC	1 % v/v	epost	204	99	30	0	29	16	74.3	
	AMS	2.5 lb/a	epost	306	99	50	0	22	16	56.3	
	Mean =				99	40	0	25	16	64.1	
2	Permit	0.67 oz/a	epost	102	99	40	0	17	16	43.5	
	Aatrex	1 lb ai/a	epost	206	99	50	0	27	15	69.5	
	COC	1 % v/v	epost	303	99	40	0	26	16	65.7	
	AMS	2.5 lb/a	epost								
	Mean =				99	43	0	23	16	59.5	
3	Permit	0.5 oz/a	epost	103	99	40	0	24	15	59.9	
	Aatrex	1 lb ai/a	epost	205	99	50	0	24	15	61.5	
	COC	1 % v/v	epost	304	99	30	0	21	15	53.3	
	AMS	2.5 lb/a	epost								
	Mean =				99	40	0	23	15	58.3	
4	Yukon	4 oz/a	epost	104	99	40	0	28	16	70.2	
	COC	1 % v/v	epost	201	99	40	0	31	17	78.4	
	AMS	2.5 lb/a	epost	302	99	20	0	24	17	61.0	
	Mean =				99	33	0	28	16	69.9	
5	Peak	0.5 oz/a	epost	105	99	20	0	19	15	49.2	
	Aatrex	1 lb ai/a	epost	203	99	40	0	27	16	68.5	
	COC	1 % v/v	epost	301	99	40	0	25	17	63.5	
	AMS	2.5 lb/a	epost								
	Mean =				99	33	0	24	16	60.4	
6	check			106	0	0	0	4	16	10.7	
				202	0	0	0	3	18	7.7	
				305	0	0	0	4	16	9.6	
	Mean =				0	0	0	4	17	9.3	

Column 13: TY1 = 2.592857*[11]*(100-[12])/86

University of Nebraska

Weed control sorghum II

Trial ID: L0752

Study Dir.: Kevin Horky

Location: Havelock

Investigator: Dr. Mark Bernards

Weed Code	ABUTH SORVU	AMAPA SORVU	HELAN SORVU	SETVI SORVU	SORVU PHYGEN	ABUTH SORVU	AMAPA SORVU				
Crop Code	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN	CONTROL	CONTROL				
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	PHYGEN	CONTROL	CONTROL				
Rating Unit	%	%	%	%	%	%	%				
Rating Date	5/Jul/2007	5/Jul/2007	5/Jul/2007	5/Jul/2007	5/Jul/2007	18/Jul/2007	18/Jul/2007				
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	27 DA-A	27 DA-A				
ARM Action Codes											
# Subsamples, Dec.											
Trt No.	Treatment Name	Rate	Grow Unit	Stg	1	2	3	4	5	6	7
1	Permit	0.67 oz/a	epost		99 a	88 a	99 a	40 a	0 a	99 a	93 a
	COC	1 % v/v	epost								
	AMS	2.5 lb/a	epost								
2	Permit	0.67 oz/a	epost		87 b	86 a	99 a	40 a	0 a	80 b	93 a
	Aatrex	1 lb ai/a	epost								
	COC	1 % v/v	epost								
	AMS	2.5 lb/a	epost								
3	Permit	0.5 oz/a	epost		87 b	99 a	99 a	45 a	0 a	90 a	95 a
	Aatrex	1 lb ai/a	epost								
	COC	1 % v/v	epost								
	AMS	2.5 lb/a	epost								
4	Yukon	4 oz/a	epost		98 a	89 a	99 a	38 a	0 a	99 a	99 a
	COC	1 % v/v	epost								
	AMS	2.5 lb/a	epost								
5	Peak	0.5 oz/a	epost		90 b	96 a	99 a	40 a	0 a	93 a	93 a
	Aatrex	1 lb ai/a	epost								
	COC	1 % v/v	epost								
	AMS	2.5 lb/a	epost								
6	check				0 c	0 b	0 b	0 b	0 a	0 c	0 b
LSD (P=.05)					5.1	28.2	0.0	6.4	0.0	8.5	4.4
Standard Deviation					2.8	15.5	0.0	3.5	0.0	4.7	2.4
CV					3.69	20.28	0.0	10.32	0.0	6.1	3.03
Grand Mean					76.67	76.33	82.5	33.89	0.0	76.83	78.94
Bartlett's X2					1.887	3.078	0.0	0.335	0.0	1.221	0.926
P(Bartlett's X2)					0.596	0.38	.	0.563	.	0.543	0.629
Replicate F					4.000	0.005	0.000	1.818	0.000	1.909	2.631
Replicate Prob(F)					0.0529	0.9951	1.0000	0.2121	1.0000	0.1985	0.1208
Treatment F					539.650	17.818	0.000	68.909	0.000	199.932	786.814
Treatment Prob(F)					0.0001	0.0001	1.0000	0.0001	1.0000	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

University of Nebraska

Weed Code	HELAN SORVU CONTROL	SETVI SORVU CONTROL	SORVU PHYGEN	SORVU YIELD LB	SORVU MOICON	SORVU YIELD bu/ac				
Crop Code										
Rating Data Type										
Rating Unit	%	%	%	LB	%	bu/ac				
Rating Date	18/Jul/2007	18/Jul/2007	18/Jul/2007	1/Nov/2007	1/Nov/2007	1/Nov/2007				
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A							
ARM Action Codes						TY1				
# Subsamples, Dec.						1				
Trt No.	Treatment Name	Rate	Unit	Grow Stg	8	9	10	11	12	13
1	Permit	0.67	oz/a	epost	99 a	40 a	0 a	25 a	16 a	64.1 a
	COC	1	% v/v	epost						
	AMS	2.5	lb/a	epost						
2	Permit	0.67	oz/a	epost	99 a	43 a	0 a	23 a	16 a	59.5 a
	Aatrex	1	lb ai/a	epost						
	COC	1	% v/v	epost						
	AMS	2.5	lb/a	epost						
3	Permit	0.5	oz/a	epost	99 a	40 a	0 a	23 a	15 a	58.3 a
	Aatrex	1	lb ai/a	epost						
	COC	1	% v/v	epost						
	AMS	2.5	lb/a	epost						
4	Yukon	4	oz/a	epost	99 a	33 a	0 a	28 a	16 a	69.9 a
	COC	1	% v/v	epost						
	AMS	2.5	lb/a	epost						
5	Peak	0.5	oz/a	epost	99 a	33 a	0 a	24 a	16 a	60.4 a
	Aatrex	1	lb ai/a	epost						
	COC	1	% v/v	epost						
	AMS	2.5	lb/a	epost						
6	check				0 b	0 b	0 a	4 b	17 a	9.3 b
LSD (P=.05)		0.0			0.0	17.3	0.0	5.4	1.4	13.78
Standard Deviation		0.0			0.0	9.5	0.0	3.0	0.8	7.58
CV		0.0			0.0	29.96	0.0	14.0	4.74	14.14
Grand Mean		82.5			82.5	31.67	0.0	21.12	15.98	53.57
Bartlett's X2		0.0			0.0	0.923	0.0	6.792	9.964	6.598
P(Bartlett's X2)		.			.	0.921	.	0.237	0.076	0.252
Replicate F		0.000			0.000	0.556	0.000	3.379	0.369	3.357
Replicate Prob(F)		1.0000			1.0000	0.5905	1.0000	0.0756	0.7008	0.0767
Treatment F		0.000			0.000	8.556	0.000	26.047	1.319	25.495
Treatment Prob(F)		1.0000			1.0000	0.0022	1.0000	0.0001	0.3307	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Column 13: TY1 = 2.592857*[11]*(100-[12])/86