

# LSU Northeast Research Station

## PREEMERGENCE WATERHEMP CONTROL COMPARED TO VALOR APPLIED PRE

### GENERAL TRIAL INFORMATION

Study Director: VALENT  
Investigator: Donnie Miller  
TRIAL LOCATION: ALEXANDRIA, LA

### CROP AND WEED DESCRIPTION

Weed Code Common Name Scientific Name  
1. AMAPA Amaranth, Palmer Amaranthus palmeri

Crop 1: GLXMA SOYBEAN  
Variety: DP 4724 RR  
Planting Date: 15/Apr/2008

### SITE AND DESIGN

Plot Width, Unit: 6.67 FT  
Plot Length, Unit: 40 FT  
Reps: 4  
Study Design: RANDOMIZED COMPLETE BLOCK

### SOIL DESCRIPTION

% Sand: 14 % OM: 1.78  
% Silt: 54 pH: 7.8  
% Clay: 32 CEC: 14.4  
Texture: NORWOOD SILT LOAM

### APPLICATION DESCRIPTION

	A	B
Application Date:	15/Apr/2008	7/May/2008
Time of Day:	2:00 PM	11:45 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PREPRE	POSPOS
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	66 F	77 F
% Relative Humidity:	27	69
Wind Velocity, Unit:	3.7 MPH	12.8 MPH
Dew Presence (Y/N):	N	N
Water Hardness:	N	N
Soil Temp., Unit:	81 F	74 F
Soil Moisture:		MOIST
% Cloud Cover:	45	100

### CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA N/A	GLXMA 2-3TRIFOL

### WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	AMAPA N/A	AMAPA 1"

### APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TRACTOR	CO2 BCPCK
Operating Pressure:	26 PSI	34 psi
Nozzle Type:	FF	DG
Nozzle Size:	11003	11002
Nozzle Spacing, Unit:	20 "	20 IN
Nozzles/Row:	2	2
Ground Speed, Unit:	3.5 MPH	3.2 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	15 GPA	15 GPA

# LSU Northeast Research Station

Weed Code		IPOLA	ACCOS	AMAPA	ECHCG	PANRA	SORHA		IPOLA	ACCOS	AMAPA
Crop Code		GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Rating Data Type		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	INJURY	CONTROL	CONTROL	CONTROL
Rating Unit		%	%	%	%	%	%	%	%	%	%
Rating Date		5/Jun/2008	5/Jun/2008	5/Jun/2008	5/Jun/2008	5/Jun/2008	5/Jun/2008	5/Jun/2008	11/Jun/2008	11/Jun/2008	11/Jun/2008
Trt-Eval Interval		28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	35 DAT	35 DAT	35 DAT
Trt Treatment											
No. Name	Rate Unit Appl Code	1	2	3	4	5	6	7	8	9	10
1 VALOR SX	0.078 lb ai/a A	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 a	93.33 a	95.00 a	68.33 b
2 VALOR SX	0.078 lb ai/a A	65.00 b	63.33 b	63.33 b	68.33 b	68.33 b	65.00 b	0.00 a	90.00 a	88.33 b	85.00 b
ROUNDUP ORIGINAL MAX	1.0 lb ai/a B										
AMMONIUM SULFATE	2.5 lb ai/a B										
3 VALOR SX	0.078 lb ai/a A	65.00 b	86.67 a	93.00 a	90.00 a	90.00 a	86.67 a	0.00 a	90.00 a	96.67 a	96.67 a
V-10206	0.053 lb ai/a B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a B										
AMMONIUM SULFATE	2.5 lb ai/a B										
4 VALOR SX	0.078 lb ai/a A	73.33 ab	81.67 a	97.00 a	89.00 a	89.00 a	82.33 a	0.00 a	96.67 a	96.67 a	100.00 a
V-10206	0.080 lb ai/a B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a B										
AMMONIUM SULFATE	2.5 lb ai/a B										
5 VALOR SX	0.078 lb ai/a A	78.33 a	87.33 a	92.00 a	87.33 a	87.33 a	87.33 a	0.00 a	95.00 a	96.67 a	100.00 a
V-10206	0.106 lb ai/a B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a B										
AMMONIUM SULFATE	2.5 lb ai/a B										
6 VALOR SX	0.078 lb ai/a A	76.67 ab	85.00 a	94.67 a	91.33 a	91.33 a	91.33 a	0.00 a	95.00 a	98.33 a	98.33 a
V-10206	0.133 lb ai/a B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a B										
AMMONIUM SULFATE	2.5 lb ai/a B										
7 NONTREATED		0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 c	0.00 a	0.00 b	0.00 c	0.00 c
LSD (P=.05)		13.285	10.951	8.522	8.781	8.781	13.429	0.000	10.691	5.715	6.670
Standard Deviation		7.303	6.155	4.790	4.935	4.935	7.548	0.000	6.009	3.212	3.750
CV		14.27	10.67	7.62	8.11	8.11	12.8	0.0	7.51	3.93	4.70
Grand Mean		51.19	57.71	62.86	60.86	60.86	58.95	0.0	80.0	81.67	78.33
Bartlett's X2		0.829	5.226	4.748	3.594	3.594	3.962	0.0	3.004	2.023	1.550
P(Bartlett's X2)		0.935	0.265	0.191	0.464	0.464	0.411	.	0.699	0.846	0.464
Replicate F		1.094	4.988	1.220	1.308	1.308	1.746	0.000	2.769	2.885	1.094
Replicate Prob(F)		0.3719	0.0265	0.3293	0.3063	0.3063	0.2160	1.0000	0.1026	0.0949	0.3640
Treatment F		70.298	128.365	257.965	220.350	220.350	89.126	0.000	103.923	380.154	282.365
Treatment Prob(F)		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code	ECHCG	PANRA	SORHA	AMAPA	ECHCG	SORHA	IPOLA	CUMMD				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA				
Rating Data Type	CONTROL	CONTROL	CONTROL	INJURY	CONTROL	CONTROL	CONTROL	CONTROL				
Rating Unit	%	%	%	%	%	%	%	%				
Rating Date	11/Jun/2008	11/Jun/2008	11/Jun/2008	11/Jun/2008	18/Jun/2008	18/Jun/2008	18/Jun/2008	18/Jun/2008				
Trt-Eval Interval	35 DAT	35 DAT	35 DAT	35 DAT	42 DAT	42 DAT	42 DAT	42 DAT				
Trt Treatment	Rate	Unit	Appl Code	11	12	13	14	15	16	17	18	19
No. Name	Rate	Unit	Code	11	12	13	14	15	16	17	18	19
1 VALOR SX	0.078 lb ai/a	A		75.00 b	90.00 bc	53.33 b	0.00 a	66.67 c	75.00 b	43.33 b	86.67 ab	93.33 a
2 VALOR SX	0.078 lb ai/a	A		85.00 ab	86.67 c	78.33 a	0.00 a	83.33 b	80.00 b	73.33 a	85.00 b	91.67 a
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
3 VALOR SX	0.078 lb ai/a	A		93.33 a	95.00 ab	86.67 a	0.00 a	96.67 a	93.33 a	80.00 a	91.67 ab	93.33 a
V-10206	0.053 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
4 VALOR SX	0.078 lb ai/a	A		95.00 a	96.67 a	83.33 a	0.00 a	95.00 a	93.33 a	80.00 a	88.33 ab	91.67 a
V-10206	0.080 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
5 VALOR SX	0.078 lb ai/a	A		95.00 a	96.67 a	85.00 a	0.00 a	96.67 a	95.00 a	83.33 a	90.00 ab	95.00 a
V-10206	0.106 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
6 VALOR SX	0.078 lb ai/a	A		95.00 a	96.67 a	90.00 a	0.00 a	96.67 a	95.00 a	86.67 a	93.33 a	95.00 a
V-10206	0.133 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
7 NONTREATED				0.00 c	0.00 d	0.00 c	0.00 a	0.00 d	0.00 c	0.00 c	0.00 c	0.00 b
LSD (P=.05)				12.580	6.290	20.220	0.000	9.174	10.118	21.747	7.176	7.176
Standard Deviation				7.071	3.536	11.365	0.000	5.156	5.687	12.223	4.034	4.034
CV				9.19	4.41	16.69	0.0	6.75	7.49	19.16	5.28	5.04
Grand Mean				76.9	80.24	68.1	0.0	76.43	75.95	63.81	76.43	80.0
Bartlett's X2				4.342	3.111	7.44	0.0	6.231	6.14	4.481	3.111	1.627
P(Bartlett's X2)				0.362	0.539	0.19	.	0.183	0.105	0.482	0.539	0.804
Replicate F				0.667	2.667	0.258	0.000	1.209	0.699	0.414	0.659	0.659
Replicate Prob(F)				0.5314	0.1101	0.7767	1.0000	0.3324	0.5161	0.6699	0.5353	0.5353
Treatment F				72.357	304.095	24.396	0.000	142.134	110.012	20.112	210.927	229.805
Treatment Prob(F)				0.0001	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001

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Weed Code		PANRA	ACCOS	AMAPA	ECHCG	SORHA	IPOLA	CUMMD	ACCOS	AMAPA		
Crop Code		GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA		
Rating Data Type		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit		%	%	%	%	%	%	%	%	%		
Rating Date		18/Jun/2008	18/Jun/2008	25/Jun/2008	25/Jun/2008	25/Jun/2008	25/Jun/2008	25/Jun/2008	25/Jun/2008	2/Jul/2008		
Trt-Eval Interval		42 DAT	42 DAT	49 DAT	49 DAT	49 DAT	49 DAT	49 DAT	49 DAT	56 DAT		
Trt Treatment	Rate	Unit	Appl Code	20	21	22	23	24	25	26	27	28
No. Name	Rate	Unit	Appl Code	20	21	22	23	24	25	26	27	28
1 VALOR SX	0.078 lb ai/a	A		86.67 b	91.67 ab	78.33 c	61.67 b	55.00 b	88.33 a	90.00 c	91.67 bc	65.00 b
2 VALOR SX	0.078 lb ai/a	A		85.00 b	86.67 b	86.67 bc	78.33 ab	68.33 ab	90.00 a	93.33 bc	88.33 c	76.67 b
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
3 VALOR SX	0.078 lb ai/a	A		93.33 a	91.67 ab	96.67 ab	91.67 a	76.67 ab	95.00 a	96.67 ab	95.00 ab	96.67 a
V-10206	0.053 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
4 VALOR SX	0.078 lb ai/a	A		90.00 ab	88.33 ab	100.00 a	95.00 a	75.00 ab	98.33 a	95.00 b	96.67 a	100.00 a
V-10206	0.080 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
5 VALOR SX	0.078 lb ai/a	A		93.33 a	93.33 a	100.00 a	95.00 a	78.33 ab	93.33 a	100.00 a	98.33 a	98.33 a
V-10206	0.106 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
6 VALOR SX	0.078 lb ai/a	A		95.00 a	91.67 ab	98.33 a	93.33 a	83.33 a	91.67 a	100.00 a	96.67 a	95.00 a
V-10206	0.133 lb ai/a	B										
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B										
AMMONIUM SULFATE	2.5 lb ai/a	B										
7 NONTREATED				0.00 c	0.00 c	0.00 d	0.00 c	0.00 c	0.00 b	0.00 d	0.00 d	0.00 c
LSD (P=.05)				5.074	6.389	11.593	20.329	27.996	10.454	4.688	4.412	16.047
Standard Deviation				2.852	3.591	6.516	11.426	15.736	5.876	2.635	2.480	9.019
CV				3.67	4.63	8.15	15.53	25.23	7.39	3.21	3.06	11.88
Grand Mean				77.62	77.62	80.0	73.57	62.38	79.52	82.14	80.95	75.95
Bartlett's X2				1.516	2.434	3.514	11.359	1.912	1.994	1.056	0.0	9.367
P(Bartlett's X2)				0.911	0.786	0.319	0.023*	0.861	0.737	0.788	1.00	0.053
Replicate F				6.293	1.754	0.084	0.766	1.303	0.034	3.600	0.774	1.068
Replicate Prob(F)				0.0135	0.2147	0.9199	0.4863	0.3076	0.9662	0.0596	0.4828	0.3741
Treatment F				437.024	273.723	92.570	27.626	10.173	107.793	572.286	627.226	47.698
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0004	0.0001	0.0001	0.0001	0.0001

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# LSU Northeast Research Station

Weed Code	ECHCG	SORHA	IPOLA	CUMMD	ACCOS	AMAPA	ECHCG	SORHA	IPOLA	CUMMD			
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA			
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL			
Rating Unit	%	%	%	%	%	%	%	%	%	%			
Rating Date	2/Jul/2008	2/Jul/2008	2/Jul/2008	2/Jul/2008	2/Jul/2008	9/Jul/2008	9/Jul/2008	9/Jul/2008	9/Jul/2008	9/Jul/2008			
Trt-Eval Interval	56 DAT	56 DAT	56 DAT	56 DAT	56 DAT	63 DAT	63 DAT	63 DAT	63 DAT	63 DAT			
Trt Treatment	Rate	Unit	Appl Code	29	30	31	32	33	34	35	36	37	38
1 VALOR SX	0.078 lb ai/a	A		73.33 b	40.00 b	88.33 a	95.00 b	83.33 b	71.67 c	78.33 c	41.67 b	95.00 a	98.33 a
2 VALOR SX	0.078 lb ai/a	A		78.33 b	66.67 ab	91.67 a	100.00 a	83.33 b	83.33 bc	83.33 bc	61.67 ab	90.00 a	98.33 a
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B											
AMMONIUM SULFATE	2.5 lb ai/a	B											
3 VALOR SX	0.078 lb ai/a	A		93.33 a	81.67 a	86.67 a	96.67 ab	85.00 ab	98.33 ab	91.67 ab	71.67 a	93.33 a	100.00 a
V-10206	0.053 lb ai/a	B											
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B											
AMMONIUM SULFATE	2.5 lb ai/a	B											
4 VALOR SX	0.078 lb ai/a	A		90.00 a	68.33 ab	91.67 a	95.00 b	85.00 ab	100.00 a	90.00 ab	76.67 a	93.33 a	95.00 a
V-10206	0.080 lb ai/a	B											
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B											
AMMONIUM SULFATE	2.5 lb ai/a	B											
5 VALOR SX	0.078 lb ai/a	A		90.00 a	73.33 a	91.67 a	96.67 ab	90.00 a	96.67 ab	95.00 a	70.00 ab	95.00 a	96.67 a
V-10206	0.106 lb ai/a	B											
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B											
AMMONIUM SULFATE	2.5 lb ai/a	B											
6 VALOR SX	0.078 lb ai/a	A		93.33 a	83.33 a	93.33 a	98.33 ab	90.00 a	98.33 ab	91.67 ab	81.67 a	96.67 a	100.00 a
V-10206	0.133 lb ai/a	B											
ROUNDUP ORIGINAL MAX	1.0 lb ai/a	B											
AMMONIUM SULFATE	2.5 lb ai/a	B											
7 NONTREATED				0.00 c	0.00 c	0.00 b	0.00 c	0.00 c	0.00 d	0.00 d	0.00 c	0.00 b	0.00 b
LSD (P=.05)				8.462	29.194	8.535	4.688	5.715	15.182	8.717	28.475	6.954	5.257
Standard Deviation				4.756	16.409	4.797	2.635	3.212	8.533	4.900	16.005	3.909	2.955
CV				6.42	27.79	6.18	3.17	4.35	10.89	6.47	27.78	4.86	3.52
Grand Mean				74.05	59.05	77.62	83.1	73.81	78.33	75.71	57.62	80.48	84.05
Bartlett's X2				5.84	1.122	2.479	0.961	1.056	8.108	2.675	3.452	4.034	1.393
P(Bartlett's X2)				0.322	0.952	0.78	0.811	0.788	0.088	0.614	0.631	0.258	0.707
Replicate F				5.421	0.562	1.603	1.200	0.462	0.409	5.802	0.897	0.545	2.591
Replicate Prob(F)				0.0210	0.5846	0.2415	0.3349	0.6410	0.6734	0.0173	0.4335	0.5933	0.1161
Treatment F				149.316	9.841	153.379	581.371	310.346	53.635	143.339	9.531	248.130	473.091
Treatment Prob(F)				0.0001	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0006	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# LSU Northeast Research Station

Weed Code ACCOS  
 Crop Code GLXMA  
 Rating Data Type CONTROL  
 Rating Unit %  
 Rating Date 9/Jul/2008  
 Trt-Eval Interval 63 DAT

Trt No.	Treatment Name	Rate	Unit	Appl Code	39
1	VALOR SX	0.078	lb ai/a	A	85.00 b
2	VALOR SX	0.078	lb ai/a	A	85.00 b
	ROUNDUP ORIGINAL MAX	1.0	lb ai/a	B	
	AMMONIUM SULFATE	2.5	lb ai/a	B	
3	VALOR SX	0.078	lb ai/a	A	88.33 ab
	V-10206	0.053	lb ai/a	B	
	ROUNDUP ORIGINAL MAX	1.0	lb ai/a	B	
	AMMONIUM SULFATE	2.5	lb ai/a	B	
4	VALOR SX	0.078	lb ai/a	A	90.00 ab
	V-10206	0.080	lb ai/a	B	
	ROUNDUP ORIGINAL MAX	1.0	lb ai/a	B	
	AMMONIUM SULFATE	2.5	lb ai/a	B	
5	VALOR SX	0.078	lb ai/a	A	93.33 ab
	V-10206	0.106	lb ai/a	B	
	ROUNDUP ORIGINAL MAX	1.0	lb ai/a	B	
	AMMONIUM SULFATE	2.5	lb ai/a	B	
6	VALOR SX	0.078	lb ai/a	A	95.00 a
	V-10206	0.133	lb ai/a	B	
	ROUNDUP ORIGINAL MAX	1.0	lb ai/a	B	
	AMMONIUM SULFATE	2.5	lb ai/a	B	
7	NONTREATED				0.00 c
LSD (P=.05)					9.543
Standard Deviation					5.364
CV					7.0
Grand Mean					76.67
Bartlett's X2					2.803
P(Bartlett's X2)					0.591
Replicate F					0.662
Replicate Prob(F)					0.5336
Treatment F					120.690
Treatment Prob(F)					0.0001

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