

LSU Northeast Research Station

Newpath plus Prowl combinations for controlling red rice.

Trial ID: MR06R103
Location:

Study Dir.:
Investigator: Bill Williams

GENERAL TRIAL INFORMATION

Investigator: Bill Williams

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The objective of this study is to evaluate herbicides that can be tank mixed with Newpath to control annual grasses escaping control from earlier Newpath applications. Herbicides other than Newpath were used at select timings to ensure the presence of certain annual grasses.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	LEFPA	Tighthead sprangletop	Leptochloa panicoides
2.	SEBEX	Hemp sesbania	Sesbania exaltata
3.	ECHCG	Common barnyardgrass	Echinochloa crus-galli
4.	ECLAL	Eclipta	Eclipta alba
5.	ORYRU	Wild red rice	Oryza rufipogon
6.	DIGSA	Large crabgrass	Digitaria sanguinalis
7.	CYPFCP	Annual sedge	Cyperus compressus
8.	CYPES	Yellow nutsedge	Cyperus esculentus
9.	ALRPH	Alligatorweed	Alternanthera philoxeroides

Crop 1: ORYSA RICE

Variety: CL 131

Planting Date: 6/1/06

Planting Method: DRILLED

Rate: 90 LB/A

Depth: 0.25 IN

Row Spacing: 8 IN

Spacing Within Row: 5 IN

Seed Bed: MEDIUM

Soil Moisture: DRY

SITE AND DESIGN

Plot Width, Unit: 6.67 FT **Plot Length, Unit:** 15 FT **Reps:** 3

Site Type: RICE PADDY

Tillage Type: CONVENTIONAL-TILL

Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 14

% OM: 1.3

Texture: Silt loam

% Silt: 70

pH: 5.8

Soil Name: gigger silt loam

% Clay: 16

CEC: 5.8

Fert. Level: EXCELLENT

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MOISTURE CONDITIONS

	Date	Amount	Unit	Type	Unit
1.	6/8/06			Flush	
2.	6/13/06			Flush	A
3.	6/17/06	0.05	IN	RAIN	A
4.	6/18/06	0.01	IN	RAIN	A
5.	6/19/06	0.03	IN	RAIN	A
6.	6/21/06	0.01	IN	RAIN	A
7.	6/23/06	0.22	IN	RAIN	A
8.	6/24/06	0.01	IN	RAIN	A
9.	7/2/06	0.01	IN	RAIN	A
10.	7/3/06			Fertilize	A
11.	7/3/06	0.34	IN	RAIN	A
12.	7/4/06	0.38	IN	RAIN	A
13.	7/5/06			Flood	A
14.	7/5/06	0.33	IN	RAIN	A
15.	7/6/06	0.06	IN	RAIN	A
16.	7/7/06	0.01	IN	RAIN	A
17.	7/16/06	0.07	IN	RAIN	A
18.	7/19/06	1.25	IN	RAIN	A
19.	7/20/06	0.01	IN	RAIN	A
20.	7/22/06	1.37	IN	RAIN	A
21.	7/23/06	0.01	IN	RAIN	A
22.	7/26/06	0.14	IN	RAIN	A
23.	7/27/06	0.24	IN	RAIN	A
24.	7/28/06	0.01	IN	RAIN	A

Overall Moisture Conditions: Dry

Closest Weather Station: Macon Ridge Research Station Distance: 0.25 Unit: MI

APPLICATION DESCRIPTION

	A	B	C
Application Date:	6/10/06	6/20/06	7/14/06
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	1-2 LF	10 DPP	POTF
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	94 F	93 F	88 F
% Relative Humidity:	63	66	34
Wind Velocity, Unit:	2 S	3 S	7 N
Soil Temp., Unit:	67 F	82 F	86 F
Soil Moisture:	DRY	DRY	DRY
% Cloud Cover:	30	20	0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ORYSA	ORYSA	ORYSA
Stage Scale:	1-2 LF	3-4 LF	1-2 T
Height, Unit:	1 IN	3 IN	12 IN

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WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	LEFPA	LEFPA	LEFPA
Stage Scale:	NA	NA	3LF 3TILL
Density, Unit:			2-8 IN
Weed 2 Code, Stage:	SEBEX	SEBEX	SEBEX
Stage Scale:	NA	NA	
Density, Unit:			6 IN
Weed 3 Code, Stage:	ECHCG	ECHCG	ECHCG
Stage Scale:	NA	NA	3 LF
Density, Unit:			1 IN
Weed 4 Code, Stage:	ECLAL	ECLAL	ECLAL
Stage Scale:	NA	NA	
Density, Unit:			2-4 IN
Weed 5 Code, Stage:	ORYRU	ORYRU	ORYRU
Stage Scale:	2-3 LF	4-5 lf	2TILL
Density, Unit:			10 IN
Weed 6 Code, Stage:	DIGSA	DIGSA	DIGSA
Stage Scale:	NA	NA	3 LF
Density, Unit:			1 IN
Weed 7 Code, Stage:	CYPCP	CYPCP	CYPCP
Stage Scale:	NA	NA	
Density, Unit:			4-5 IN
Weed 8 Code, Stage:	CYPES	CYPES	CYPES
Stage Scale:	NA	NA	
Density, Unit:			11 IN
Weed 9 Code, Stage:	ALRPH	ALRPH	ALRPH
Stage Scale:	NA	NA	15" RUN

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	Backpack	Backpack	Backpack
Operating Pressure:	31	31	31
Nozzle Type:	Greenleaf	Greenleaf	Greenleaf
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN
Nozzles/Row:	4	4	4
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA
Propellant:	CO2	CO2	CO2

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Newpath plus Prowl combination for controlling red rice.

Trial ID: MR06R111

Study Dir.:

Location:

Investigator: Bill Williams

Weed Code	ORYSA	ORYSA	ORYSA	ORYSA	ORYSA	LEFPA	LEFPA	LEFPA	LEFPA
Crop Code	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P
Part Rated	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Data Type									
Rating Unit	%	%	%	%	%	%	%	%	%
Rating Date	6/20/06	6/27/06	7/20/06	7/25/06	10/3/06	6/20/06	6/27/06	7/3/06	7/20/06
Trt-Eval Interval	10 DA-A	7 DA-B	23 DA-C	28 DA-C	98 DA-C	10 DA-A	7 DA-B	6 DA-C	23 DA-C
ARM Action Codes									
# Subsamples, Dec.									
Trt Treatment									
No. Name	1	2	3	4	5	6	7	8	9
Rate									
Unit									
1 nontreated	0.0 d	0.0 c	0.0 c	0.0 c	0.0 d	0.0 c	0.0 c	0.0 c	0.0 c
2 Newpath COC	80.0 c	80.0 b	76.7 b	66.7 b	56.7 c	90.0 b	90.0 b	90.0 b	53.3 b
3 Newpath Prowl H20 COC	93.3 a	93.3 a	91.7 a	95.0 a	83.3 b	95.0 a	93.3 a	95.0 a	91.7 a
4 Newpath Prowl H20 COC	93.3 a	95.0 a	93.3 a	95.0 a	85.0 b	95.0 a	95.0 a	95.0 a	91.7 a
5 Newpath Prowl H20 COC	95.0 a	95.0 a	93.3 a	95.0 a	91.7 a	95.0 a	95.0 a	95.0 a	93.3 a
6 Newpath Prowl H20 COC	95.0 a	95.0 a	93.3 a	95.0 a	91.7 a	95.0 a	95.0 a	95.0 a	95.0 a
7 Newpath Prowl H20 COC	80.0 c	95.0 a	93.3 a	95.0 a	91.7 a	95.0 a	95.0 a	95.0 a	91.7 a
8 Newpath COC Newpath COC	90.0 b	95.0 a	93.3 a	95.0 a	95.0 a	90.0 b	95.0 a	95.0 a	88.3 a
9 Newpath Prowl H20 COC Newpath COC	95.0 a	95.0 a	96.3 a	96.3 a	95.0 a	95.0 a	95.0 a	95.0 a	93.0 a
10 Newpath Prowl H20 COC Newpath COC	95.0 a	95.0 a	96.3 a	97.7 a	95.0 a	95.0 a	95.0 a	95.0 a	93.3 a
11 Newpath Prowl H20 COC Newpath COC	95.0 a	95.0 a	94.7 a	95.0 a	95.0 a	95.0 a	95.0 a	95.0 a	94.7 a
12 Newpath Prowl H20 COC Newpath COC	95.0 a	95.0 a	94.7 a	97.7 a	95.0 a	95.0 a	95.0 a	95.0 a	94.7 a
13 Newpath Prowl H20 COC Newpath COC	95.0 a	95.0 a	94.7 a	96.3 a	95.0 a	95.0 a	95.0 a	95.0 a	94.7 a

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Weed Code	ORYSA	ORYSA	ORYSA	ORYSA	ORYSA	LEFPA	LEFPA	LEFPA	LEFPA			
Crop Code	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P			
Part Rated	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL			
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL			
Rating Unit	%	%	%	%	%	%	%	%	%			
Rating Date	6/20/06	6/27/06	7/20/06	7/25/06	10/3/06	6/20/06	6/27/06	7/3/06	7/20/06			
Trt-Eval Interval	10 DA-A	7 DA-B	23 DA-C	28 DA-C	98 DA-C	10 DA-A	7 DA-B	6 DA-C	23 DA-C			
ARM Action Codes												
# Subsamples, Dec.												
Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6	7	8	9
14	Newpath	4	oz/a	80.0 c	95.0 a	96.3 a	95.0 a	95.0 a	90.0 b	95.0 a	95.0 a	94.7 a
	COC	1	% v/v									
	Newpath	4	oz/a									
	COC	1	% v/v									
	Beyond	5	oz/a									
	COC	1	% v/v									
LSD (P=.05)		1.76		1.30	5.31	3.02	4.54	0.00	1.30	0.00	4.99	
Standard Deviation		1.05		0.77	3.16	1.80	2.71	0.00	0.77	0.00	2.97	
CV		1.24		0.89	3.66	2.07	3.25	0.0	0.88	0.0	3.56	
Bartlett's X2		0.0		0.0	4.976	3.323	2.268	0.0	0.0	0.0	2.938	
P(Bartlett's X2)		1.00		.	0.959	0.505	0.811	.	.	.	0.992	
Replicate F		2.167		1.000	5.557	3.921	2.925	0.000	1.000	0.000	8.689	
Replicate Prob(F)		0.1348		0.3816	0.0098	0.0325	0.0715	1.0000	0.3816	1.0000	0.0013	
Treatment F		1713.375		3241.923	192.446	635.388	277.806	0.000	3223.462	0.000	235.556	
Treatment Prob(F)		0.0001		0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	1.0000	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.

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Weed Code		LEFPA	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG	ORYSA	ORYSA
Crop Code								VIGOR C	VIGOR C
Part Rated		PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	REDUCTION	REDUCTION
Rating Data Type		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	%	%
Rating Unit		%	%	%	%	%	%		
Rating Date		7/25/06	6/20/06	6/27/06	7/3/06	7/20/06	7/25/06	6/15/06	6/22/06
Trt-Eval Interval		28 DA-C	10 DA-A	7 DA-B	6 DA-C	23 DA-C	28 DA-C	5 DA-A	12 DA-A
ARM Action Codes									
# Subsamples, Dec.									
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit
1	nontreated		0.0 d	0.0 c	0.0 c	0.0 c	0.0 c	0.0 a	0.0 a
2	Newpath COC	4 oz/a 1 % v/v	46.7 c	90.0 b	86.7 b	83.3 b	81.7 b	63.3 b	0.0 a
3	Newpath Prowl H20 COC	4 oz/a 0.75 lb ai/a 1 % v/v	83.3 b	95.0 a	95.0 a	91.7 a	93.3 a	93.3 a	0.0 a
4	Newpath Prowl H20 COC	4 oz/a 1.0 lb ai/a 1 % v/v	91.7 ab	95.0 a	95.0 a	91.7 a	91.7 a	91.7 a	0.0 a
5	Newpath Prowl H20 COC	4 oz/a 1.25 lb ai/a 1 % v/v	86.7 ab	95.0 a	95.0 a	91.7 a	90.0 a	93.3 a	0.0 a
6	Newpath Prowl H20 COC	4 oz/a 1.5 lb ai/a 1 % v/v	95.0 ab	95.0 a	95.0 a	91.7 a	95.0 a	90.0 a	0.0 a
7	Newpath Prowl H20 COC	4 oz/a 2.0 lb ai/a 1 % v/v	91.7 ab	95.0 a	91.7 ab	90.0 a	93.3 a	93.3 a	0.0 a
8	Newpath COC Newpath COC	4 oz/a 1 % v/v 4 oz/a 1 % v/v	83.3 b	90.0 b	91.7 ab	90.0 a	91.7 a	93.3 a	0.0 a
9	Newpath Prowl H20 COC Newpath COC	4 oz/a 0.75 lb ai/a 1 % v/v 4 oz/a 1 % v/v	93.0 ab	95.0 a	91.7 ab	90.0 a	96.3 a	96.3 a	0.0 a
10	Newpath Prowl H20 COC Newpath COC	4 oz/a 1.0 lb ai/a 1 % v/v 4 oz/a 1 % v/v	96.0 ab	95.0 a	95.0 a	91.7 a	94.7 a	97.7 a	0.0 a
11	Newpath Prowl H20 COC Newpath COC	4 oz/a 1.25 lb ai/a 1 % v/v 4 oz/a 1 % v/v	93.3 ab	95.0 a	95.0 a	91.7 a	94.7 a	90.0 a	0.0 a
12	Newpath Prowl H20 COC Newpath COC	4 oz/a 1.5 lb ai/a 1 % v/v 4 oz/a 1 % v/v	97.7 a	95.0 a	91.7 ab	90.0 a	94.7 a	97.7 a	0.0 a
13	Newpath Prowl H20 COC Newpath COC	4 oz/a 2.0 lb ai/a 1 % v/v 4 oz/a 1 % v/v	96.3 ab	95.0 a	91.7 ab	91.7 a	94.7 a	96.3 a	0.0 a

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Weed Code	LEFPA	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG	ORYSA	ORYSA			
Crop Code	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	VIGOR C	VIGOR C			
Part Rated	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	REDUCTION	REDUCTION			
Rating Data Type											
Rating Unit	%	%	%	%	%	%	%	%			
Rating Date	7/25/06	6/20/06	6/27/06	7/3/06	7/20/06	7/25/06	6/15/06	6/22/06			
Trt-Eval Interval	28 DA-C	10 DA-A	7 DA-B	6 DA-C	23 DA-C	28 DA-C	5 DA-A	12 DA-A			
ARM Action Codes											
# Subsamples, Dec.											
Trt No.	Treatment Name	Rate	Unit	10	11	12	13	14	15	16	17
14	Newpath	4	oz/a	93.3 ab	90.0 b	95.0 a	91.7 a	94.7 a	91.7 a	0.0 a	0.0 a
	COC	1	% v/v								
	Newpath	4	oz/a								
	COC	1	% v/v								
	Beyond	5	oz/a								
	COC	1	% v/v								
LSD (P=.05)		7.76		0.00	4.66	3.87	5.25	5.74	0.00	0.00	0.00
Standard Deviation		4.62		0.00	2.77	2.30	3.13	3.42	0.00	0.00	0.00
CV		5.64		0.0	3.21	2.74	3.63	4.03	0.0	0.0	0.0
Bartlett's X2		7.345		0.0	2.593	2.175	5.84	6.412	0.0	0.0	0.0
P(Bartlett's X2)		0.77		.	0.762	0.975	0.884	0.894	.	.	.
Replicate F		0.164		0.000	0.000	5.828	12.411	4.518	0.000	0.000	0.000
Replicate Prob(F)		0.8498		1.0000	1.0000	0.0081	0.0002	0.0207	1.0000	1.0000	1.0000
Treatment F		101.267		0.000	243.643	333.276	192.561	171.620	0.000	0.000	0.000
Treatment Prob(F)		0.0001		1.0000	0.0001	0.0001	0.0001	0.0001	1.0000	1.0000	1.0000

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.

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Weed Code				ORYSA	ORYSA	ORYSA	ORYSA
Crop Code				VIGOR C	STAND C	GRAIN C	GRAIN C
Part Rated				REDUCTION	REDUCTION	YIELD	YIELD
Rating Data Type				%	%	lb/plt	BU
Rating Unit							
Rating Date				7/20/06	7/20/06	10/3/06	10/3/06
Trt-Eval Interval				23 DA-C	23 DA-C		
ARM Action Codes							TY1
# Subsamples, Dec.							0
Trt No.	Treatment Name	Rate	Unit	18	19	20	21
1	nontreated			0.0 a	0.0 a	1.03 f	16 f
2	Newpath COC	4 oz/a 1 % v/v		0.0 a	0.0 a	4.70 e	71 e
3	Newpath Prowl H20 COC	4 oz/a 0.75 lb ai/a 1 % v/v		0.0 a	0.0 a	8.50 cd	128 cd
4	Newpath Prowl H20 COC	4 oz/a 1.0 lb ai/a 1 % v/v		0.0 a	0.0 a	8.80 cd	132 cd
5	Newpath Prowl H20 COC	4 oz/a 1.25 lb ai/a 1 % v/v		3.3 a	0.0 a	8.40 cd	126 cd
6	Newpath Prowl H20 COC	4 oz/a 1.5 lb ai/a 1 % v/v		0.0 a	0.0 a	8.83 cd	133 cd
7	Newpath Prowl H20 COC	4 oz/a 2.0 lb ai/a 1 % v/v		0.0 a	0.0 a	9.43 bc	142 bc
8	Newpath COC Newpath COC	4 oz/a 1 % v/v 4 oz/a 1 % v/v		0.0 a	0.0 a	7.93 d	119 d
9	Newpath Prowl H20 COC Newpath COC	4 oz/a 0.75 lb ai/a 1 % v/v 4 oz/a 1 % v/v		0.0 a	0.0 a	9.97 ab	150 ab
10	Newpath Prowl H20 COC Newpath COC	4 oz/a 1.0 lb ai/a 1 % v/v 4 oz/a 1 % v/v		0.0 a	0.0 a	10.80 a	162 a
11	Newpath Prowl H20 COC Newpath COC	4 oz/a 1.25 lb ai/a 1 % v/v 4 oz/a 1 % v/v		0.0 a	0.0 a	10.60 a	159 a
12	Newpath Prowl H20 COC Newpath COC	4 oz/a 1.5 lb ai/a 1 % v/v 4 oz/a 1 % v/v		3.3 a	0.0 a	11.00 a	165 a
13	Newpath Prowl H20 COC Newpath COC	4 oz/a 2.0 lb ai/a 1 % v/v 4 oz/a 1 % v/v		0.0 a	0.0 a	10.90 a	164 a

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Weed Code		ORYSA	ORYSA	ORYSA	ORYSA
Crop Code		VIGOR C	STAND C	GRAIN C	GRAIN C
Part Rated		REDUCTION	REDUCTION	YIELD	YIELD
Rating Data Type		%	%	lb/plt	BU
Rating Unit					
Rating Date		7/20/06	7/20/06	10/3/06	10/3/06
Trt-Eval Interval		23 DA-C	23 DA-C		
ARM Action Codes					TY1
# Subsamples, Dec.					0
Trt Treatment	Rate				
No. Name	Unit	18	19	20	21
14 Newpath	4 oz/a	0.0 a	0.0 a	8.33 cd	125 cd
COC	1 % v/v				
Newpath	4 oz/a				
COC	1 % v/v				
Beyond	5 oz/a				
COC	1 % v/v				
LSD (P=.05)		3.52	0.00	0.856	12.9
Standard Deviation		2.10	0.00	0.510	7.7
CV		440.28	0.0	5.99	5.99
Bartlett's X2		0.0	0.0	15.28	15.281
P(Bartlett's X2)		1.00	.	0.29	0.29
Replicate F		2.167	0.000	0.505	0.506
Replicate Prob(F)		0.1348	1.0000	0.6094	0.6088
Treatment F		1.000	0.000	84.774	84.782
Treatment Prob(F)		0.4786	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.

ARM Action Codes

TY1 = 15.03333*[C20]