

LSU Northeast Research Station

Evaluation of Harmony Extra, Harmony GT and Express for weed control in rice

Trial ID: SJ05R018
Location:Study Dir.:
Investigator: Bill Williams**GENERAL TRIAL INFORMATION****Investigator:** Bill Williams**Conducted Under GLP (Y/N):** N**Conducted Under GEP (Y/N):** N

Conclusions: The primary objective of this study was to evaluate the potential of using Harmony Extra and/or its components for preplant weed control in drill seeded rice. The late planting and subsequent severe blackbird damage resulted in an uneven stand making stand and yield data of little value. Treatments were applied preemergence and at the 1-2 lf rice stage to dry soil followed immediately by a flush to maximize injury. Injury symptoms were transient and lasted no longer than 21 days after the 1-2 lf application. While the data is severely limited, it does suggest that high rates of Harmony Extra can injure rice if applied too close to planting. The Express component of Harmony Extra appeared to cause more injury than the Harmony GT, but did not account for all the injury observed with Harmony Extra. It is worth noting that injury from 0.5 oz/a Harmony Extra was minimal when applied preemergence, but severe when applied postemergence.

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1.	ECHCG Barnyardgrass, common	Echinochloa crus-galli
2.	CYPES Nutsedge, yellow	Cyperus esculentus
3.	CYPCP Annual sedge	Cyperus compressus
4.	SEBEX Coffeebean	Sesbania exaltata

Crop 1: ORYSA RICE**Variety:** Cocodrie**Planting Date:** 6/7/05**Planting Method:** DRILLED**Rate:** 90 LB/A**Depth:** 0.25 "**Row Spacing:** 8 "**Spacing Within Row:** 5 "**Seed Bed:** MEDIUM**Soil Moisture:** Dry**Emergence Date:** 6/13/05**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: 25.2	% OM: 2.07	Texture: Clay
% Silt: 32.8	pH: 7.87	Soil Name: Sharkey clay
% Clay: 42	CEC: 21.9	Fert. Level: EXCELLENT

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MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	6/9/05				Flush	0	n/a
2.	6/15/05				Flush	0	n/a
3.	6/18/05	11:00 A	0.42	in	Rainfall	0	n/a
4.	6/29/05				Flush	0	n/a
5.	7/3/05	6:00 PM	0.06	in	Rainfall	0	n/a
6.	7/5/05				300 lb Urea fb Permanent flood	0	n/a
7.	7/6/05	1:30 PM	1.6	in	Rainfall	0	n/a
8.	7/8/05	1:45 PM	0.93	in	Rainfall	0	n/a
9.	7/10/05	1:00 PM	0.04	in	Rainfall	0	n/a
10.	7/14/05	2:00 PM	0.44	in	Rainfall	0	n/a
11.	7/16/05	10:00 P	0.04	in	Rainfall	0	n/a
12.	7/17/05	1:00 PM	0.25	in	Rainfall	0	n/a
13.	7/18/05	7:00 PM	0.05	in	Rainfall	0	n/a
14.	7/22/05	2:30 PM	0.15	in	Rainfall	0	n/a
15.	8/4/05	3:30 PM	0.27	in	Rainfall	0	n/a
16.	8/5/05	8:00 PM	0.45	in	Rainfall	0	n/a
17.	8/6/05	6:00 PM	0.25	in	Rainfall	0	n/a
18.	8/16/05	6:00 PM	1.31	in	Rainfall	0	n/a
19.	8/22/05	9:00 PM	0.05	in	Rainfall	0	n/a

Overall Moisture Conditions: Dry

Closest Weather Station: Northeast Research Station

Distance: 0.25 **Unit:** mi

APPLICATION DESCRIPTION

	A	B	C
Application Date:	6/8/05	6/15/05	6/28/05
Time of Day:	2:00	11:00	10:00
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	1-2 lf	POST
Applic. Placement:	BROSIOI	BROFOL	BROFOL
Air Temp., Unit:	84 F	96 F	94 F
% Relative Humidity:	66	54	64
Wind Velocity, Unit:	6 W	0 n/a	3 S
Soil Temp., Unit:	86 F	94 F	92 F
Soil Moisture:	Dry	Wet	Wet
% Cloud Cover:	90	0	40

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ORYSA n/a	ORYSA 1-2 lf	ORYSA 4-5 lf
Stage Scale:	n/a	1 in	4-6 in

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	ECHCG n/a	ECHCG 1-2 lf	ECHCG 4-5 lf
Stage Scale:	n/a	1-2 in	3-4 in
Weed 2 Code, Stage:	CYPES n/a	CYPES 5-6 lf	CYPES n/a
Stage Scale:	n/a	4-6 in	8-10 in
Weed 3 Code, Stage:	CYPCP n/a	CYPCP 1-2 lf	CYPCP n/a
Stage Scale:	n/a	1 in	2-4 in
Weed 4 Code, Stage:	SEBEX n/a	SEBEX 1-2 lf	SEBEX n/a
Stage Scale:	n/a	1-2 in	6-8 in

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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 "	20 "	20 "
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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				ECHCG	ECHCG	CYPES	CYPES	CYPCP						
				PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P						
				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL						
				%	%	%	%	%						
				7/27/05	8/10/05	7/27/05	8/10/05	7/27/05						
				49 DA-A	63 DA-A	49 DA-A	63 DA-A	49 DA-A						
Trt	Treatment	Rate	Unit	Grow										
No.	Name	Rate	Unit	Stg	1	2	3	4	5					
1	Command	1.3	PT/A	PRE	90	abc	90	abc	93	a	93	a	93	ab
	Arrosolo	5	QT/A	POST										
2	Command	1.3	PT/A	PRE	95	a	95	a	93	a	93	a	88	bc
	Harmony Extra	0.5	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
3	Command	1.3	PT/A	PRE	95	a	95	a	90	ab	90	a	93	ab
	Harmony Extra	1.0	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
4	Command	1.3	PT/A	PRE	93	ab	93	ab	92	a	92	a	93	ab
	Harmony Extra	2.0	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
5	Command	1.3	PT/A	PRE	93	ab	93	ab	90	ab	90	a	95	a
	Harmony GT	0.33	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
6	Command	1.3	PT/A	PRE	90	abc	90	abc	95	a	95	a	95	a
	Harmony GT	0.66	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
7	Command	1.3	PT/A	PRE	88	a-d	88	a-d	95	a	95	a	95	a
	Harmony GT	1.33	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
8	Command	1.3	PT/A	PRE	93	ab	93	ab	90	ab	90	a	93	ab
	Express	0.166	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
9	Command	1.3	PT/A	PRE	92	abc	92	abc	93	a	93	a	95	a
	Express	0.333	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
10	Command	1.3	PT/A	PRE	92	abc	92	abc	93	a	93	a	95	a
	Express	0.666	OZ/A	PRE										
	Arrosolo	5	QT/A	POST										
11	Command	1.3	PT/A	PRE	87	bcd	87	bcd	78	c	78	a	87	c
	Harmony Extra	0.5	OZ/A	PRE										
12	Command	1.3	PT/A	PRE	57	e	57	e	82	bc	87	a	77	d
	Harmony GT	0.33	OZ/A	PRE										

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Weed Code	ECHCG	ECHCG	CYPES	CYPES	CYPCP
Crop Code	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P
Part Rated	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Data Type	%	%	%	%	%
Rating Unit	7/27/05	8/10/05	7/27/05	8/10/05	7/27/05
Rating Date	49 DA-A	63 DA-A	49 DA-A	63 DA-A	49 DA-A
Trt-Eval Interval					
Trt Treatment	Rate	Grow			
No. Name	Rate Unit	Stg	1	2	3
13 Command	1.3 PT/A	PRE	85	cd 85	cd 87
Express	0.166 OZ/A	PRE			abc 87
14 Command	1.3 PT/A	PRE	82	d 82	d 93
Harmony Extra	0.5 OZ/A	1-2 lf			a 93
NIS	0.25 % V/V	1-2 lf			a 93
Arrosolo	5 QT/A	POST			ab
15 Command	1.3 PT/A	PRE	92	abc 92	abc 95
Harmony Extra	1 OZ/A	1-2 lf			a 95
NIS	0.25 % V/V	1-2 lf			a 95
Arrosolo	5 QT/A	POST			a 92
16 Command	1.3 PT/A	PRE	93	ab 93	ab 95
Harmony GT	0.33 OZ/A	1-2 lf			a 95
NIS	0.25 % V/V	1-2 lf			a 95
Arrosolo	5 QT/A	POST			a
17 Command	1.3 PT/A	PRE	87	bcd 87	bcd 95
Harmony GT	0.66 OZ/A	1-2 lf			a 95
NIS	0.25 % V/V	1-2 lf			a 95
Arrosolo	5 QT/A	POST			a
18 Command	1.3 PT/A	PRE	90	abc 90	abc 95
Express	0.166 OZ/A	1-2 lf			a 95
NIS	0.25 % V/V	1-2 lf			a 93
Arrosolo	5 QT/A	POST			ab
19 Command	1.3 PT/A	PRE	88	a-d 88	a-d 90
Express	0.333 OZ/A	1-2 lf			ab 90
NIS	0.25 % V/V	1-2 lf			a 93
Arrosolo	5 QT/A	POST			ab
20 Command	1.3 PT/A	PRE	92	abc 92	abc 88
Arrosolo	5 QT/A	POST			ab 88
LSD (P=.05)			8.0	8.0	9.0
Bartlett's X2			12.538	12.538	18.768
P(Bartlett's X2)			0.767	0.767	0.13
					9.1
					16.883
					7.512
					0.205
					0.822

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				CYPCP	SEBEX	SEBEX		ORYSA	ORYSA
Crop Code				PLATOT P	PLATOT P	PLATOT P	PLATOT C	PLATOT C	PLATOT C
Part Rated				CONTROL	CONTROL	CONTROL	PHYSTU	PHYSTU	PHYSTU
Rating Data Type				CONTROL	CONTROL	CONTROL	PHYSTU	PHYSTU	PHYSTU
Rating Unit				%	%	%	%	%	%
Rating Date				8/10/05	7/27/05	8/10/05	6/24/05	6/30/05	6/30/05
Trt-Eval Interval				63 DA-A	49 DA-A	63 DA-A	9 DA-B	15 DA-B	15 DA-B
Trt	Treatment	Rate	Grow						
No.	Name	Rate	Unit	Stg	6	7	8	9	10
14	Command	1.3	PT/A	PRE	93	ab 93	ab 93	ab 43	a 43
	Harmony Extra	0.5	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
15	Command	1.3	PT/A	PRE	92	abc 92	abc 92	abc 40	a 23
	Harmony Extra	1	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
16	Command	1.3	PT/A	PRE	95	a 93	ab 93	ab 33	a 8
	Harmony GT	0.33	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
17	Command	1.3	PT/A	PRE	95	a 95	a 95	a 20	a 10
	Harmony GT	0.66	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
18	Command	1.3	PT/A	PRE	93	ab 95	a 95	a 13	a 0
	Express	0.166	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
19	Command	1.3	PT/A	PRE	93	ab 95	a 95	a 33	a 0
	Express	0.333	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
20	Command	1.3	PT/A	PRE	92	abc 95	a 95	a 13	a 0
	Arrosolo	5	QT/A	POST					
LSD (P=.05)					6.4	7.0	6.7	31.2	18.6
Bartlett's X2					7.512	9.365	10.374	17.602	17.347
P(Bartlett's X2)					0.822	0.498	0.408	0.348	0.098

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Weed Code									
Crop Code					ORYSA	ORYSA	ORYSA		
Part Rated					PLATOT C	STAND C	STAND C		
Rating Data Type					PHYSTU	REDUCTION	REDUCTION		
Rating Unit					%	%	%		
Rating Date					7/6/05	7/27/05	8/10/05		
Trt-Eval Interval					21 DA-B	42 DA-B	56 DA-B		

Trt No.	Treatment Name	Rate	Unit	Grow Stg	11	12	13		
1	Command Arrosolo	1.3	PT/A	PRE	0	c	8	a	8
	Arrosolo	5	QT/A	POST					a
2	Command Arrosolo	1.3	PT/A	PRE	0	c	22	a	22
	Harmony Extra Arrosolo	0.5	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
3	Command Arrosolo	1.3	PT/A	PRE	3	bc	30	a	30
	Harmony Extra Arrosolo	1.0	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
4	Command Arrosolo	1.3	PT/A	PRE	0	c	20	a	20
	Harmony Extra Arrosolo	2.0	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
5	Command Arrosolo	1.3	PT/A	PRE	0	c	28	a	28
	Harmony GT Arrosolo	0.33	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
6	Command Arrosolo	1.3	PT/A	PRE	0	c	23	a	23
	Harmony GT Arrosolo	0.66	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
7	Command Arrosolo	1.3	PT/A	PRE	0	c	50	a	50
	Harmony GT Arrosolo	1.33	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
8	Command Arrosolo	1.3	PT/A	PRE	2	c	32	a	32
	Express Arrosolo	0.166	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
9	Command Arrosolo	1.3	PT/A	PRE	0	c	55	a	55
	Express Arrosolo	0.333	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
10	Command Arrosolo	1.3	PT/A	PRE	3	bc	25	a	25
	Express Arrosolo	0.666	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
11	Command Arrosolo	1.3	PT/A	PRE	0	c	13	a	13
	Harmony Extra Arrosolo	0.5	OZ/A	PRE					a
12	Command Arrosolo	1.3	PT/A	PRE	10	abc	13	a	13
	Harmony GT Arrosolo	0.33	OZ/A	PRE					a
	Arrosolo	5	QT/A	POST					
13	Command Arrosolo	1.3	PT/A	PRE	0	c	15	a	15
	Express Arrosolo	0.166	OZ/A	PRE					a

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Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	ORYSA PLATOT C	ORYSA STAND C	ORYSA STAND C
							PHYSTU	REDUCTION	REDUCTION
							%	%	%
							7/6/05	7/27/05	8/10/05
							21 DA-B	42 DA-B	56 DA-B
Trt	Treatment	Rate	Grow						
No.	Name	Rate	Unit	Stg	11	12	13		
14	Command	1.3	PT/A	PRE	17	a	62	a	62
	Harmony Extra	0.5	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
15	Command	1.3	PT/A	PRE	13	ab	47	a	47
	Harmony Extra	1	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
16	Command	1.3	PT/A	PRE	7	abc	32	a	32
	Harmony GT	0.33	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
17	Command	1.3	PT/A	PRE	3	bc	30	a	30
	Harmony GT	0.66	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
18	Command	1.3	PT/A	PRE	3	bc	13	a	13
	Express	0.166	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
19	Command	1.3	PT/A	PRE	7	abc	27	a	27
	Express	0.333	OZ/A	1-2 lf					
	NIS	0.25	% V/V	1-2 lf					
	Arrosolo	5	QT/A	POST					
20	Command	1.3	PT/A	PRE	0	c	48	a	48
	Arrosolo	5	QT/A	POST					
LSD (P=.05)					10.1		34.6		34.6
Bartlett's X2					9.614		16.805		16.805
P(Bartlett's X2)					0.383		0.603		0.603

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.