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Field Evaluation of Herbicides on Rice 2004

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Brian V. Ottis Ronald E. Talbert Andrew T. Ellis

FIELD EVALUATION



OF HERBICIDES ON RICE

2004

ARKANSAS AGRICULTURAL EXPERIMENT STATION

Division of Agriculture

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FIELD EVALUATION OF HERBICIDES ON RICE - 2004 -

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SUMMARY

Herbicide evaluation studies on rice were conducted in 2004 at the Rice Research and Extension Center near Stuttgart, AR, in an effort to evaluate new herbicides, herbicide mixtures, and their application timings for weed control and crop tolerance. Results of these studies, in part, provide useful information to producers, fellow researchers, and the Crop Protection Industry for the potential use of new herbicide programs for successful rice production in Arkansas.

INTRODUCTION

The Field Evaluation of Herbicides on Rice, 2004, contains results from herbicide research studies conducted on rice. These studies were funded in part by check-off funds from the Arkansas Rice Research and Promotion Board, BASF Corporation, Dow AgroSciences, and Isagro Ricerco. This publication can be found online at: <http://www.uark.edu/depts/agripub/Publications/researchseries/>.

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University of Arkansas

Newpath in a Conventional and Stale Seedbed Culture System

Trial ID: STUT 0401
Location: Stuttgart, Ark.

Study Dir.: Ottis, Talbert, Ellis
Investigator: Weed Science

GENERAL TRIAL INFORMATION

Study Director: Ottis, Talbert, Ellis
Investigator: Weed Science

TRIAL LOCATION

City: Stuttgart, Ark.

Trial Status: Completed
Initiation Date: 4-30-04

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective:

- 1) Evaluate barnyardgrass control with Newpath for optimum control based upon barnyardgrass growth stage on silt loam soils.
- 2) Evaluate crop tolerance at each application timing based upon growth stage of rice on silt loam soils.
- 3) Compare barnyardgrass control in a conventional seed production system to that of a stale-seedbed production system.

Conclusions:

As in previous years' evaluations of timings of imazethapyr (Newpath) for weed control in imidazolinone-tolerant rice, weed control was excellent following application. Weed control among minimum-tillage treatments was less than that of conventional-tillage plots because a burndown application of paraquat was not applied as in previous years. Hence, emerged weeds were especially large in plots treated with late postemergence applications of imazethapyr. However, by midseason, weed control was similar among imazethapyr treatments, indicating that control of large weeds is possible with imazethapyr if irrigated properly after application. Yield was not taken due to extensive blackbird damage to maturing rice.

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. ECHCG	Barnyardgrass	<i>Echinochloa crus-galli</i>
2. BRAPP	Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>

Crop 1:	ORYSI RICE, PADDY (DRY-SEEDED+IRR)	Variety: CL161
Planting Date:	5-23-04	Planting Method: DRILLED
Rate:	90 LB/A	Depth: 1 IN
Row Spacing:	7 IN	Seed Bed: SMOOTH/TRASHY
	Emergence Date: 5-28-04	

SITE AND DESIGN

Plot Width, Unit: 5 FT **Plot Length, Unit:** 15 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONV./STALE SEEDBED **Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW	GLYPHOSATE	

MAINTENANCE

Field Prep./Maintenance: Fall tillage followed by land plane to even out. Burndown herbicide treatments applied April 30. Stinkgrass and *Poa annua* were main weeds present in study area.

Conv. till plots were also burned down with glyphosate. On May 10, conv. till plots were power-tilled to a depth of two inches. PPI applications were made May 22 and immediately incorporated with a power tiller to a depth of 2".

SOIL DESCRIPTION

% Sand: 8 **% OM:** 0.94 **Texture:** SILT LOAM
% Silt: 75 **pH:** 5.8 **Soil Name:** DEWITT
% Clay: 16 **CEC:** 14.3 **Fert. Level:** ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5-1-04		0.55	IN	RAIN		
2.	5-2-04		0.1	IN	RAIN		
3.	5-3-04		0.05	IN	RAIN		
4.	5-10-04		0.02	IN	RAIN		
5.	5-11-04		0.13	IN	RAIN		
6.	5-12-04		1	IN	RAIN		
7.	5-13-04		0.18	IN	RAIN		
8.	5-14-04		2.4	IN	RAIN		
9.	5-15-04		0.05	IN	RAIN		
10.	5-16-04		0.03	IN	RAIN		
11.	5-17-04		0.12	IN	RAIN		
12.	5-18-04		0.05	IN	RAIN		
13.	5-26-04				FLUSH		
14.	5-28-04		0.45	IN	RAIN		
15.	5-29-04		0.35	IN	RAIN		
16.	5-31-04		1	IN	RAIN		
17.	6-3-04		1.2	IN	RAIN		
18.	6-6-04		0.03	IN	RAIN		
19.	6-9-04				FLUSH		
20.	6-16-04		0.27	IN	RAIN		
21.	6-17-04		0.05	IN	RAIN		
22.	6-22-04		2.5	IN	RAIN		
23.	6-23-04		1	IN	RAIN		
24.	6-25-04		0.1	IN	RAIN		
25.	6-28-04		0.9	IN	RAIN		
26.	6-28-04				FLOOD		
27.	6-29-04		0.03	IN	RAIN		
28.	6-30-04		0.3	IN	RAIN		
29.	7-1-04		0.21	IN	RAIN		
30.	7-2-04		0.13	IN	RAIN		
31.	7-3-04		0.45	IN	RAIN		
32.	7-5-04		0.3	IN	RAIN		
33.	7-9-04		0.15	IN	RAIN		
34.	7-17-04		0.13	IN	RAIN		
35.	7-18-04		0.03	IN	RAIN		
36.	7-25-04		0.02	IN	RAIN		
37.	7-26-04		0.08	IN	RAIN		
38.	7-30-04		0.08	IN	RAIN		
39.	7-31-04		2	IN	RAIN		
40.	8-5-04		0.87	IN	RAIN		
41.	8-12-04		0.05	IN	RAIN		
42.	8-20-04		0.25	IN	RAIN		
43.	8-23-04		0.01	IN	RAIN		
44.	8-24-04		0.6	IN	RAIN		
45.	8-25-04		0.3	IN	RAIN		
46.	8-29-04		0.08	IN	RAIN		
47.	8-30-04		0.03	IN	RAIN		
48.	9-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B	C	D	E	F
Application Date:	4-30-04	5-22-04	5-23-04	5-8-04	6-14-04	6-22-04
Time of Day:	7:30 AM	9:00 PM	10:00 PM	5:30 PM	5:00 PM	7:52 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	23-DPP	PPI	PRE	2 LEAF	4 LEAF	5-6 LEAF
Applic. Placement:	BROSOI	BROSOI	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	71 F	78 F	79 F	88 F	90 F	74 F
% Relative Humidity:	100	35	99	71	53	100
Wind Velocity, Unit:	3 S	3 S	2 S	1.6 S	2 S	2 S
Dew Presence (Y/N):	Y	N	N	N	N	Y
Water Hardness:	N/A	N/A	N/A	N/A	N/A	N/A
Soil Temp., Unit:	68 F	90 F	80 F	88 F	90 F	71 F
Soil Moisture:	WET	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	WET
% Cloud Cover:	100	50	15	100	98	90

	G
Application Date:	6-29-04
Time of Day:	2:00 PM
Application Method:	SPRAY
Application Timing:	7 LEAF
Applic. Placement:	BROFOL
Air Temp., Unit:	84 F
% Relative Humidity:	98
Wind Velocity, Unit:	2.5 NE
Dew Presence (Y/N):	N
Water Hardness:	N/A
Soil Temp., Unit:	86 F
Soil Moisture:	WET
% Cloud Cover:	65

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E	F	G
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Stage Scale:	23-DPP	PPI	PRE	2 LEAF	4 LF	5-6 LF	7 LF
Height, Unit:				2 IN	6 IN	8 IN	12 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E	F	G
Weed 1 Code, Stage:	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG
Stage Scale:	23-DPP	PPI	PRE	2 LF	3 LF	4 LF	6 LF
Weed 2 Code, Stage:	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP
Stage Scale:	23-DPP	PPI	PRE	2 LF	3 LF	4 LF	6 LF

APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	CO2 BKPCK	CO2 BKPCK	CO2 BKPCK	CO2 BKPCK	CO2 BKPCK
Operating Pressure:	23 PSI	23 PSI	23 PSI	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	110015 DG	110015 DG	80015 DG	80015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN	40 IN	40 IN	40 IN
Boom Height, Unit:	15 IN	15 IN	15 IN	15 IN	15 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH	3 MPH
Incorporation Equip.:		POWER TIL			
Hours to Incorp.:		0.5			
Incorp. Depth, Unit:		2 IN			
Carrier:	WATER	WATER	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	10 GPA	10 GPA

	F	G
Appl. Equipment:	CO2 BKPCK	CO2 BKPCK
Operating Pressure:	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	80015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN
Boom Height, Unit:	15 IN	15 IN
Ground Speed, Unit:	3 MPH	3 MPH
Incorporation Equip.:		
Hours to Incorp.:		
Incorp. Depth, Unit:		
Carrier:	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA

University of Arkansas

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Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Weed Science

Weed Code	ECHCG	ECHCG	ECHCG	BRAPP
Crop Code				
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-14-04	6-28-04	7-14-04	6-14-04
Trt Treatment	Rate	Rate	Grow	
No. Name	Unit	Stg		
1 UTC STALE SEEDBED ^a				0
2 UTC CONVNTIONAL TILL				0
3 Glyphosate				94
3 (Roundup UltraMax)	1.0	lb ai/a	23-DPP	73
3 Imazethapyr				98
3 (Newpath)	0.0625	lb ai/a	23-DPP	
3 Imazethapyr	0.0625	lb ai/a	2 LEAF	
3 NIS ^b	0.25	% v/v	2 LEAF	
4 Imazethapyr	0.0625	lb ai/a	PPI	100
4 Imazethapyr	0.0625	lb ai/a	2 LEAF	100
4 NIS	0.25	% v/v	2 LEAF	98
5 Glyphosate	1.0	lb ai/a	23-DPP	95
5 Imazethapyr	0.0625	lb ai/a	23-DPP	58
5 Imazethapyr	0.0625	lb ai/a	4 LEAF	98
5 NIS	0.25	% v/v	4 LEAF	95
6 Imazethapyr	0.0625	lb ai/a	PPI	100
6 Imazethapyr	0.0625	lb ai/a	4 LEAF	100
6 NIS	0.25	% v/v	4 LEAF	98
7 Glyphosate	1.0	lb ai/a	23-DPP	59
7 Imazethapyr	0.0625	lb ai/a	23-DPP	23
7 Imazethapyr	0.0625	lb ai/a	5-6 LEAF	98
7 NIS	0.25	% v/v	5-6 LEAF	61
8 Imazethapyr	0.0625	lb ai/a	PPI	99
8 Imazethapyr	0.0625	lb ai/a	5-6 LEAF	75
8 NIS	0.25	% v/v	5-6 LEAF	98
9 Glyphosate	1.0	lb ai/a	23-DPP	86
9 Imazethapyr	0.0625	lb ai/a	23-DPP	39
9 Imazethapyr	0.0625	lb ai/a	7 LEAF	98
9 NIS	0.25	% v/v	7 LEAF	91
LSD (P=.05)				13
				30
				0
				14

^a Treatments: odd are stale seedbed; even are conventional-tillage.

^b NIS; Latron AG-98 non-ionic surfactant

University of Arkansas

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Trial ID: STUT 0401
Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Weed Science

Weed Code	ECHCG	ECHCG	ECHCG	BRAPP		
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date	6-14-04	6-28-04	7-14-04	6-14-04		
Trt Treatment	Rate	Rate	Rate	Rate		
No. Name	Unit	Unit	Unit	Unit		
	Stg	Stg	Stg	Stg		
10 Imazethapyr	0.0625 lb ai/a	PPI	100	82	98	100
10 Imazethapyr	0.0625 lb ai/a	7 LEAF				
10 NIS	0.25 % v/v	7 LEAF				
11 Glyphosate	1.0 lb ai/a	23-DPP	93	94	98	94
11 Imazethapyr	0.0625 lb ai/a	PRE				
11 Imazethapyr	0.0625 lb ai/a	2 LEAF				
11 NIS	0.25 % v/v	2 LEAF				
12 Imazethapyr	0.0625 lb ai/a	PRE	100	97	98	100
12 Imazethapyr	0.0625 lb ai/a	2 LEAF				
12 NIS	0.25 % v/v	2 LEAF				
13 Glyphosate	1.0 lb ai/a	23-DPP	94	88	98	99
13 Imazethapyr	0.0625 lb ai/a	PRE				
13 Imazethapyr	0.0625 lb ai/a	4 LEAF				
13 NIS	0.25 % v/v	4 LEAF				
14 Imazethapyr	0.0625 lb ai/a	PRE	100	100	98	100
14 Imazethapyr	0.0625 lb ai/a	4 LEAF				
14 NIS	0.25 % v/v	4 LEAF				
15 Glyphosate	1.0 lb ai/a	23-DPP	99	93	98	100
15 Imazethapyr	0.0625 lb ai/a	PRE				
15 Imazethapyr	0.0625 lb ai/a	5-6 LEAF				
15 NIS	0.25 % v/v	5-6 LEAF				
16 Imazethapyr	0.0625 lb ai/a	PRE	100	97	98	100
16 Imazethapyr	0.0625 lb ai/a	5-6 LEAF				
16 NIS	0.25 % v/v	5-6 LEAF				
17 Glyphosate	1.0 lb ai/a	23-DPP	99	53	98	99
17 Imazethapyr	0.0625 lb ai/a	PRE				
17 Imazethapyr	0.0625 lb ai/a	7 LEAF				
17 NIS	0.25 % v/v	7 LEAF				
18 Imazethapyr	0.0625 lb ai/a	PRE	100	84	98	100
18 Imazethapyr	0.0625 lb ai/a	7 LEAF				
18 NIS	0.25 % v/v	7 LEAF				
LSD (P=.05)			13	30	0	14

^a Treatments: odd are stale seedbed; even are conventional-tillage.

^b NIS; Latron AG-98 non-ionic surfactant

University of Arkansas

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Trial ID: STUT 0401
Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Weed Science

Weed Code	ECHCG	ECHCG	ECHCG	BRAPP
Crop Code				
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-14-04	6-28-04	7-14-04	6-14-04

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	ECHCG 6-14-04	ECHCG 6-28-04	ECHCG 7-14-04	BRAPP 6-14-04
19	Glyphosate	1.0	lb ai/a	23-DPP	91	81	98	94
19	Imazethapyr	0.0625	lb ai/a	2 LEAF				
19	NIS	0.25	% v/v	2 LEAF				
19	Imazethapyr	0.0625	lb ai/a	4 LEAF				
19	NIS	0.25	% v/v	4 LEAF				
20	Imazethapyr	0.0625	lb ai/a	2 LEAF	100	100	98	100
20	NIS	0.25	% v/v	2 LEAF				
20	Imazethapyr	0.0625	lb ai/a	4 LEAF				
20	NIS	0.25	% v/v	4 LEAF				
21	Glyphosate	1.0	lb ai/a	23-DPP	83	73	98	81
21	Imazethapyr	0.0625	lb ai/a	2 LEAF				
21	NIS	0.25	% v/v	2 LEAF				
21	Imazethapyr	0.0625	lb ai/a	5-6 LEAF				
21	NIS	0.25	% v/v	5-6 LEAF				
22	Imazethapyr	0.0625	lb ai/a	2 LEAF	100	100	98	100
22	NIS	0.25	% v/v	2 LEAF				
22	Imazethapyr	0.0625	lb ai/a	5-6 LEAF				
22	NIS	0.25	% v/v	5-6 LEAF				
23	Glyphosate	1.0	lb ai/a	23-DPP	88	75	98	88
23	Imazethapyr	0.0625	lb ai/a	2 LEAF				
23	NIS	0.25	% v/v	2 LEAF				
23	Imazethapyr	0.0625	lb ai/a	7 LEAF				
23	NIS	0.25	% v/v	7 LEAF				
24	Imazethapyr	0.0625	lb ai/a	2 LEAF	100	98	98	100
24	NIS	0.25	% v/v	2 LEAF				
24	Imazethapyr	0.0625	lb ai/a	7 LEAF				
24	NIS	0.25	% v/v	7 LEAF				

LSD (P=.05)

13

30

0

14

^a Treatments: odd are stale seedbed; even are conventional-tillage.

^b NIS; Latron AG-98 non-ionic surfactant

University of Arkansas

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Trial ID: STUT 0401
Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Weed Science

Weed Code	BRAPP	BRAPP
Crop Code		
Part Rated		
Rating Data Type	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT
Rating Date	6-28-04	7-14-04

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg		
1	UTC STALE SEEDBED				0	0
2	UTC CONVNTIONAL TILL				0	0
3	Glyphosate				87	98
3	(Roundup UltraMax)	1.0	lb ai/a	23-DPP		
3	Imazethapyr					
3	(Newpath)	0.0625	lb ai/a	23-DPP		
3	Imazethapyr	0.0625	lb ai/a	2 LEAF		
3	NIS	0.25	% v/v	2 LEAF		
4	Imazethapyr	0.0625	lb ai/a	PPI	100	98
4	Imazethapyr	0.0625	lb ai/a	2 LEAF		
4	NIS	0.25	% v/v	2 LEAF		
5	Glyphosate	1.0	lb ai/a	23-DPP	100	96
5	Imazethapyr	0.0625	lb ai/a	23-DPP		
5	Imazethapyr	0.0625	lb ai/a	4 LEAF		
5	NIS	0.25	% v/v	4 LEAF		
6	Imazethapyr	0.0625	lb ai/a	PPI	100	98
6	Imazethapyr	0.0625	lb ai/a	4 LEAF		
6	NIS	0.25	% v/v	4 LEAF		
7	Glyphosate	1.0	lb ai/a	23-DPP	50	98
7	Imazethapyr	0.0625	lb ai/a	23-DPP		
7	Imazethapyr	0.0625	lb ai/a	5-6 LEAF		
7	NIS	0.25	% v/v	5-6 LEAF		
8	Imazethapyr	0.0625	lb ai/a	PPI	70	98
8	Imazethapyr	0.0625	lb ai/a	5-6 LEAF		
8	NIS	0.25	% v/v	5-6 LEAF		
9	Glyphosate	1.0	lb ai/a	23-DPP	38	98
9	Imazethapyr	0.0625	lb ai/a	23-DPP		
9	Imazethapyr	0.0625	lb ai/a	7 LEAF		
9	NIS	0.25	% v/v	7 LEAF		

LSD (P=.05) 30 1

^a Treatments: odd are stale seedbed; even are conventional-tillage.

^b NIS; Latron AG-98 non-ionic surfactant

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Crop Code			
Part Rated			
Rating Data Type		CONTROL	CONTROL
Rating Unit		PERCENT	PERCENT
Rating Date		6-28-04	7-14-04

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg		
10	Imazethapyr	0.0625	lb ai/a	PPI	96	98
10	Imazethapyr	0.0625	lb ai/a	7 LEAF		
10	NIS	0.25	% v/v	7 LEAF		
11	Glyphosate	1.0	lb ai/a	23-DPP	96	98
11	Imazethapyr	0.0625	lb ai/a	PRE		
11	Imazethapyr	0.0625	lb ai/a	2 LEAF		
11	NIS	0.25	% v/v	2 LEAF		
12	Imazethapyr	0.0625	lb ai/a	PRE	100	98
12	Imazethapyr	0.0625	lb ai/a	2 LEAF		
12	NIS	0.25	% v/v	2 LEAF		
13	Glyphosate	1.0	lb ai/a	23-DPP	100	98
13	Imazethapyr	0.0625	lb ai/a	PRE		
13	Imazethapyr	0.0625	lb ai/a	4 LEAF		
13	NIS	0.25	% v/v	4 LEAF		
14	Imazethapyr	0.0625	lb ai/a	PRE	100	98
14	Imazethapyr	0.0625	lb ai/a	4 LEAF		
14	NIS	0.25	% v/v	4 LEAF		
15	Glyphosate	1.0	lb ai/a	23-DPP	100	98
15	Imazethapyr	0.0625	lb ai/a	PRE		
15	Imazethapyr	0.0625	lb ai/a	5-6 LEAF		
15	NIS	0.25	% v/v	5-6 LEAF		
16	Imazethapyr	0.0625	lb ai/a	PRE	100	98
16	Imazethapyr	0.0625	lb ai/a	5-6 LEAF		
16	NIS	0.25	% v/v	5-6 LEAF		
17	Glyphosate	1.0	lb ai/a	23-DPP	83	98
17	Imazethapyr	0.0625	lb ai/a	PRE		
17	Imazethapyr	0.0625	lb ai/a	7 LEAF		
17	NIS	0.25	% v/v	7 LEAF		
18	Imazethapyr	0.0625	lb ai/a	PRE	91	98
18	Imazethapyr	0.0625	lb ai/a	7 LEAF		
18	NIS	0.25	% v/v	7 LEAF		

LSD (P=.05)

30

1

^a Treatments: odd are stale seedbed; even are conventional-tillage.

^b NIS; Latron AG-98 non-ionic surfactant

University of Arkansas

Newpath in a Conventional and Stale Seedbed Culture System

Trial ID: STUT 0401
Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Weed Science

Weed Code				BRAPP	BRAPP	
Crop Code						
Part Rated						
Rating Data Type				CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	
Rating Date				6-28-04	7-14-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg		
19	Glyphosate	1.0	lb ai/a	23-DPP	93	98
19	Imazethapyr	0.0625	lb ai/a	2 LEAF		
19	NIS	0.25	% v/v	2 LEAF		
19	Imazethapyr	0.0625	lb ai/a	4 LEAF		
19	NIS	0.25	% v/v	4 LEAF		
20	Imazethapyr	0.0625	lb ai/a	2 LEAF	100	98
20	NIS	0.25	% v/v	2 LEAF		
20	Imazethapyr	0.0625	lb ai/a	4 LEAF		
20	NIS	0.25	% v/v	4 LEAF		
21	Glyphosate	1.0	lb ai/a	23-DPP	91	98
21	Imazethapyr	0.0625	lb ai/a	2 LEAF		
21	NIS	0.25	% v/v	2 LEAF		
21	Imazethapyr	0.0625	lb ai/a	5-6 LEAF		
21	NIS	0.25	% v/v	5-6 LEAF		
22	Imazethapyr	0.0625	lb ai/a	2 LEAF	100	98
22	NIS	0.25	% v/v	2 LEAF		
22	Imazethapyr	0.0625	lb ai/a	5-6 LEAF		
22	NIS	0.25	% v/v	5-6 LEAF		
23	Glyphosate	1.0	lb ai/a	23-DPP	96	98
23	Imazethapyr	0.0625	lb ai/a	2 LEAF		
23	NIS	0.25	% v/v	2 LEAF		
23	Imazethapyr	0.0625	lb ai/a	7 LEAF		
23	NIS	0.25	% v/v	7 LEAF		
24	Imazethapyr	0.0625	lb ai/a	2 LEAF	100	98
24	NIS	0.25	% v/v	2 LEAF		
24	Imazethapyr	0.0625	lb ai/a	7 LEAF		
24	NIS	0.25	% v/v	7 LEAF		
LSD (P=.05)					30	1

^a Treatments: odd are stale seedbed; even are conventional-tillage.

^b NIS; Latron AG-98 non-ionic surfactant

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Talbert, Ottis, Ellis
Affiliation: University of Arkansas
Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart, Ark. **Trial Status:** Completed
Initiation Date: 5-10-04

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

Objective: To evaluate imazethapyr (Newpath) tank mixtures for broadleaf weed control in rice

Conclusions: This test evaluated the control of barnyardgrass (ECHCG), broadleaf signalgrass (BRAPP), pitted morningglory (IPOLA), northern jointvetch (AESVI), and hemp sesbania (SEBEX) with imazethapyr tank mixtures. Very little rice injury was observed with 2-lf applications of imazethapyr tank-mixed with carfentrazone-ethyl (10-15% injury) and triclopyr (10%) 8 days after treatment (DAT). No rice injury was observed 8 DAT of 2-3 lf applications. ECHCG and BRAPP control 3 weeks after treatment (WAT) was > 98% with all treatments. All treatments controlled IPOLA at least 88% 8 DAT. There was a significant increase in control (>90%) of SEBEX and AESVI when a tank-mix partner was included with imazethapyr 3 WAT. Increased SEBEX and AESVI control with Newpath alone was due to a hailstorm that damaged the weeds early in the season. There were no yield differences, with all herbicide treatments yielding higher than the untreated check.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ECHCG	Barnyardgrass	<i>Echinochloa crus-galli</i>
2.	BRAPP	Broadleaf signalgrass	<i>Brachiaria platyphylla</i>
3.	IPOLA	Pitted morningglory	<i>Ipomoea lacunosa</i>
4.	SEBEX	Hemp sesbania	<i>Sesbania exaltata</i>
5.	AESVI	Northern jointvetch	<i>Aeschynomene virginica</i>

Crop 1: ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** CL161
Planting Date: 5-10-04 **Planting Method:** DRILLED
Rate: 90 LB/A **Depth:** 0.75 IN **Row Spacing:** 7 IN
Seed Bed: SMOOTH **Emergence Date:** 5-16-04

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 8 **% OM:** 0.94 **Texture:** SILT LOAM
% Silt: 75 **pH:** 5.8 **Soil Name:** DEWITT
% Clay: 16 **CEC:** 14.3 **Fert. Level:** ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5-1-04		0.55	IN	RAIN		
2.	5-2-04		0.1	IN	RAIN		
3.	5-3-04		0.05	IN	RAIN		
4.	5-10-04		0.02	IN	RAIN		
5.	5-11-04		0.13	IN	RAIN		
6.	5-12-04		1	IN	RAIN		
7.	5-13-04		0.18	IN	RAIN		
8.	5-14-04		2.4	IN	RAIN		
9.	5-15-04		0.05	IN	RAIN		
10.	5-16-04		0.03	IN	RAIN		
11.	5-17-04		0.12	IN	RAIN		
12.	5-18-04		0.05	IN	RAIN		
13.	5-24-04				FLUSH		
14.	5-28-04		0.45	IN	RAIN		
15.	5-29-04		0.35	IN	RAIN		
16.	5-31-04		1	IN	RAIN		
17.	6-3-04		1.2	IN	RAIN		
18.	6-6-04		0.03	IN	RAIN		
19.	6-9-04				FLUSH		
20.	6-15-04				FLOOD		
21.	6-16-04		0.27	IN	RAIN		
22.	6-17-04		0.05	IN	RAIN		
23.	6-22-04		2.5	IN	RAIN		
24.	6-23-04		1	IN	RAIN		
25.	6-25-04		0.1	IN	RAIN		
26.	6-28-04		0.9	IN	RAIN		
27.	6-29-04		0.03	IN	RAIN		
28.	6-30-04		0.3	IN	RAIN		
29.	7-1-04		0.21	IN	RAIN		
30.	7-2-04		0.13	IN	RAIN		
31.	7-3-04		0.45	IN	RAIN		
32.	7-5-04		0.3	IN	RAIN		
33.	7-9-04		0.15	IN	RAIN		
34.	7-17-04		0.13	IN	RAIN		
35.	7-18-04		0.03	IN	RAIN		
36.	7-25-04		0.02	IN	RAIN		
37.	7-26-04		0.08	IN	RAIN		
38.	7-30-04		0.08	IN	RAIN		
39.	7-31-04		2	IN	RAIN		
40.	8-5-04		0.87	IN	RAIN		
41.	8-12-04		0.05	IN	RAIN		
42.	8-20-04		0.25	IN	RAIN		
43.	8-23-04		0.01	IN	RAIN		
44.	8-24-04		0.6	IN	RAIN		
45.	8-25-04		0.3	IN	RAIN		
46.	8-29-04		0.08	IN	RAIN		
47.	8-30-04		0.03	IN	RAIN		
48.	9-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B
Application Date:	5-18-04	5-31-04
Time of Day:	4:45 PM	8:15 PM
Application Method:	SPRAY	SPRAY
Application Timing:	SPIKING	2-3 LF
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	83 F	78 F
% Relative Humidity:	63	96
Wind Velocity, Unit:	3 S	0.6 S
Dew Presence (Y/N):	N	N
Water Hardness:	N/A	N/A
Soil Temp., Unit:	80 F	80 F
Soil Moisture:	WET	WET
% Cloud Cover:	25	5

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ORYSI	ORYSI
Stage Scale:	PRE	2-3 LF
Height, Unit:		4 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	ECHCG	ECHCG
Stage Scale:	PRE	2-LF
Weed 2 Code, Stage:	BRAPP	BRAPP
Stage Scale:	PRE	2-LF
Weed 3 Code, Stage:	IPOLA	IPOLA
Stage Scale:	PRE	2-3 LF
Weed 4 Code, Stage:	SEBEX	SEBEX
Stage Scale:	PRE	2-3 LF
Weed 5 Code, Stage:	AESVI	AESVI
Stage Scale:	PRE	2-LF

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO2 BKPCK	CO2 BKPCK
Operating Pressure:	23	23
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	110015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN
Boom Height, Unit:	15 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code					ORYSI	ORYSI	ECHCG	ECHCG
Crop Code								
Part Rated								
Rating Data Type					INJURY	INJURY	CONTROL	CONTROL
Rating Unit					PERCENT	PERCENT	PERCENT	PERCENT
Rating Date					6-8-04	6-14-04	6-8-04	6-28-04
Trt Treatment	Rate	Unit	Grow					
No. Name			Stg					
1	Untreated Check				0	0	0	0
2	Imazethapyr	0.0625	lb ai/a	DPRE	0	0	98	100
2	NIS	0.25	% v/v	DPRE				
2	Imazethapyr	0.0625	lb ai/a	2-3 lf				
2	NIS	0.25	% v/v	2-3 lf				
3	Imazethapyr	0.0625	lb ai/a	DPRE	10	1	98	100
3	NIS	0.25	% v/v	DPRE				
3	Imazethapyr	0.0625	lb ai/a	2-3 lf				
3	Carfentrazone-ethyl							
3	(Aim)	0.025	lb ai/a	2-3 lf				
3	NIS	0.25	% v/v	2-3 lf				
4	Imazethapyr	0.0625	lb ai/a	DPRE	15	3	98	100
4	NIS	0.25	% v/v	DPRE				
4	Imazethapyr	0.0625	lb ai/a	2-3 lf				
4	Carfentrazone-ethyl	0.05	lb ai/a	2-3 lf				
4	NIS	0.25	% v/v	2-3 lf				
5	Imazethapyr	0.0625	lb ai/a	DPRE	10	0	98	100
5	Carfentrazone-ethyl	0.025	lb ai/a	DPRE				
5	NIS	0.25	% v/v	DPRE				
5	Imazethapyr	0.0625	lb ai/a	2-3 lf				
5	Carfentrazone-ethyl	0.025	lb ai/a	2-3 lf				
5	NIS	0.25	% v/v	2-3 lf				
6	Imazethapyr	0.0625	lb ai/a	DPRE	3	0	98	100
6	NIS	0.25	% v/v	DPRE				
6	Imazethapyr	0.0625	lb ai/a	2-3 lf				
6	Halosulfuron							
6	(Permit)	0.0313	lb ai/a	2-3 lf				
6	NIS	0.25	% v/v	2-3 lf				
7	Imazethapyr	0.0625	lb ai/a	DPRE	0	0	98	100
7	NIS	0.25	% v/v	DPRE				
7	Imazethapyr	0.0625	lb ai/a	2-3 lf				
7	Halosulfuron	0.0625	lb ai/a	2-3 lf				
7	NIS	0.25	% v/v	2-3 lf				
LSD (P=.05)					3	2	NS	NS

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ORYSI	ECHCG	ECHCG
						INJURY PERCENT	INJURY PERCENT	CONTROL PERCENT	CONTROL PERCENT
						6-8-04	6-14-04	6-8-04	6-28-04
Trt No.	Treatment Name	Rate	Unit	Grow Stg					
8	Imazethapyr	0.0625	lb ai/a	DPRE	1	0	98	100	
8	Halosulfuron	0.0313	lb ai/a	DPRE					
8	NIS	0.25	% v/v	DPRE					
8	Imazethapyr	0.0625	lb ai/a	2-3 lf					
8	Halosulfuron	0.0313	lb ai/a	2-3 lf					
8	NIS	0.25	% v/v	2-3 lf					
9	Imazethapyr	0.0625	lb ai/a	DPRE	1	0	98	100	
9	NIS	0.25	% v/v	DPRE					
9	Imazethapyr	0.0625	lb ai/a	2-3 lf					
9	Bensulfuron (Londax)	0.0375	lb ai/a	2-3 lf					
9	NIS	0.25	% v/v	2-3 lf					
10	Imazethapyr	0.0625	lb ai/a	DPRE	10	1	98	100	
10	NIS	0.25	% v/v	DPRE					
10	Imazethapyr	0.0625	lb ai/a	2-3 lf					
10	Triclopyr (Grandstand)	0.375	lb ai/a	2-3 lf					
10	NIS	0.25	% v/v	2-3 lf					
11	Imazethapyr	0.0625	lb ai/a	DPRE	1	0	98	100	
11	NIS	0.25	% v/v	DPRE					
11	Imazethapyr	0.0625	lb ai/a	2-3 lf					
11	Propanil (Stam)	4	lb ai/a	2-3 lf					
11	NIS	0.25	% v/v	2-3 lf					
12	Imazethapyr	0.0625	lb ai/a	DPRE	0	0	98	100	
12	NIS	0.25	% v/v	DPRE					
12	Imazethapyr	0.0625	lb ai/a	2-3 lf					
12	Bispyribac-sodium (Regiment)	0.025	lb ai/a	2-3 lf					
12	NIS	0.125	% v/v	2-3 lf					
LSD (P=.05)						3	2	NS	NS

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				BRAPP	BRAPP	IPOLA	IPOLA	
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				6-8-04	6-28-04	6-8-04	6-28-04	
Trt	Treatment	Rate	Rate Unit	Grow Stg				
No.	Name							
1	Untreated Check				0	0	0	0
2	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	89	100
2	NIS	0.25	% v/v	DPRE				
2	Imazethapyr	0.0625	lb ai/a	2-3 lf				
2	NIS	0.25	% v/v	2-3 lf				
3	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	99	100
3	NIS	0.25	% v/v	DPRE				
3	Imazethapyr	0.0625	lb ai/a	2-3 lf				
3	Carfentrazone-ethyl							
3	(Aim)	0.025	lb ai/a	2-3 lf				
3	NIS	0.25	% v/v	2-3 lf				
4	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	98	100
4	NIS	0.25	% v/v	DPRE				
4	Imazethapyr	0.0625	lb ai/a	2-3 lf				
4	Carfentrazone-ethyl	0.05	lb ai/a	2-3 lf				
4	NIS	0.25	% v/v	2-3 lf				
5	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	98	100
5	Carfentrazone-ethyl	0.025	lb ai/a	DPRE				
5	NIS	0.25	% v/v	DPRE				
5	Imazethapyr	0.0625	lb ai/a	2-3 lf				
5	Carfentrazone-ethyl	0.025	lb ai/a	2-3 lf				
5	NIS	0.25	% v/v	2-3 lf				
6	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	92	100
6	NIS	0.25	% v/v	DPRE				
6	Imazethapyr	0.0625	lb ai/a	2-3 lf				
6	Halosulfuron							
6	(Permit)	0.0313	lb ai/a	2-3 lf				
6	NIS	0.25	% v/v	2-3 lf				
7	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	91	100
7	NIS	0.25	% v/v	DPRE				
7	Imazethapyr	0.0625	lb ai/a	2-3 lf				
7	Halosulfuron	0.0625	lb ai/a	2-3 lf				
7	NIS	0.25	% v/v	2-3 lf				
LSD (P=.05)					NS	NS	NS	NS

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

				BRAPP	BRAPP	IPOLA	IPOLA	
Weed Code				CONTROL	CONTROL	CONTROL	CONTROL	
Crop Code				PERCENT	PERCENT	PERCENT	PERCENT	
Part Rated				6-8-04	6-28-04	6-8-04	6-28-04	
Rating Data Type								
Rating Unit								
Rating Date								
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
8	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	96	100
8	Halosulfuron	0.0313	lb ai/a	DPRE				
8	NIS	0.25	% v/v	DPRE				
8	Imazethapyr	0.0625	lb ai/a	2-3 lf				
8	Halosulfuron	0.0313	lb ai/a	2-3 lf				
8	NIS	0.25	% v/v	2-3 lf				
9	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	88	100
9	NIS	0.25	% v/v	DPRE				
9	Imazethapyr	0.0625	lb ai/a	2-3 lf				
9	Bensulfuron							
9	(Londax)	0.0375	lb ai/a	2-3 lf				
9	NIS	0.25	% v/v	2-3 lf				
10	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	98	100
10	NIS	0.25	% v/v	DPRE				
10	Imazethapyr	0.0625	lb ai/a	2-3 lf				
10	Triclopyr	0.375	lb ai/a	2-3 lf				
10	(Grandstand)							
10	NIS	0.25	% v/v	2-3 lf				
11	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	95	100
11	NIS	0.25	% v/v	DPRE				
11	Imazethapyr	0.0625	lb ai/a	2-3 lf				
11	Propanil	4	lb ai/a	2-3 lf				
11	(Stam)							
11	NIS	0.25	% v/v	2-3 lf				
12	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	91	100
12	NIS	0.25	% v/v	DPRE				
12	Imazethapyr	0.0625	lb ai/a	2-3 lf				
12	Bispyribac-sodium	0.025	lb ai/a	2-3 lf				
12	(Regiment)							
12	NIS	0.125	% v/v	2-3 lf				
LSD (P=.05)					NS	NS	NS	NS

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				AESVI	AESVI	SEBEX	SEBEX	ORYSI	
Crop Code									
Part Rated									
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				6-8-04	6-28-04	6-8-04	6-28-04	9-30-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated Check				0	0	0	0	3529
2	Imazethapyr	0.0625	lb ai/a	DPRE	79	33	90	100	7318
2	NIS	0.25	% v/v	DPRE					
2	Imazethapyr	0.0625	lb ai/a	2-3 lf					
2	NIS	0.25	% v/v	2-3 lf					
3	Imazethapyr	0.0625	lb ai/a	DPRE	93	76	99	100	6947
3	NIS	0.25	% v/v	DPRE					
3	Imazethapyr	0.0625	lb ai/a	2-3 lf					
3	Carfentrazone-ethyl (Aim)	0.025	lb ai/a	2-3 lf					
3	NIS	0.25	% v/v	2-3 lf					
4	Imazethapyr	0.0625	lb ai/a	DPRE	92	55	98	100	7661
4	NIS	0.25	% v/v	DPRE					
4	Imazethapyr	0.0625	lb ai/a	2-3 lf					
4	Carfentrazone-ethyl	0.05	lb ai/a	2-3 lf					
4	NIS	0.25	% v/v	2-3 lf					
5	Imazethapyr	0.0625	lb ai/a	DPRE	95	78	98	100	7484
5	Carfentrazone-ethyl	0.025	lb ai/a	DPRE					
5	NIS	0.25	% v/v	DPRE					
5	Imazethapyr	0.0625	lb ai/a	2-3 lf					
5	Carfentrazone-ethyl	0.025	lb ai/a	2-3 lf					
5	NIS	0.25	% v/v	2-3 lf					
6	Imazethapyr	0.0625	lb ai/a	DPRE	93	100	97	100	6894
6	NIS	0.25	% v/v	DPRE					
6	Imazethapyr	0.0625	lb ai/a	2-3 lf					
6	Halosulfuron (Permit)	0.0313	lb ai/a	2-3 lf					
6	NIS	0.25	% v/v	2-3 lf					
7	Imazethapyr	0.0625	lb ai/a	DPRE	93	100	93	100	7036
7	NIS	0.25	% v/v	DPRE					
7	Imazethapyr	0.0625	lb ai/a	2-3 lf					
7	Halosulfuron	0.0625	lb ai/a	2-3 lf					
7	NIS	0.25	% v/v	2-3 lf					
LSD (P=.05)					7	39	8	NS	1580

University of Arkansas

Newpath Tank Mixtures for Broadleaf Weed Control in CLEARFIELD* Rice

Trial ID: STUT 0402
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				AESVI	AESVI	SEBEX	SEBEX	ORYSI	
Crop Code									
Part Rated									
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				6-8-04	6-28-04	6-8-04	6-28-04	9-30-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
8	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	98	100	7097
8	Halosulfuron	0.0313	lb ai/a	DPRE					
8	NIS	0.25	% v/v	DPRE					
8	Imazethapyr	0.0625	lb ai/a	2-3 lf					
8	Halosulfuron	0.0313	lb ai/a	2-3 lf					
8	NIS	0.25	% v/v	2-3 lf					
9	Imazethapyr	0.0625	lb ai/a	DPRE	84	100	92	100	6437
9	NIS	0.25	% v/v	DPRE					
9	Imazethapyr	0.0625	lb ai/a	2-3 lf					
9	Bensulfuron								
9	(Londax)	0.0375	lb ai/a	2-3 lf					
9	NIS	0.25	% v/v	2-3 lf					
10	Imazethapyr	0.0625	lb ai/a	DPRE	95	100	98	100	6128
10	NIS	0.25	% v/v	DPRE					
10	Imazethapyr	0.0625	lb ai/a	2-3 lf					
10	Triclopyr	0.375	lb ai/a	2-3 lf					
10	(Grandstand)								
10	NIS	0.25	% v/v	2-3 lf					
11	Imazethapyr	0.0625	lb ai/a	DPRE	98	100	98	100	7100
11	NIS	0.25	% v/v	DPRE					
11	Imazethapyr	0.0625	lb ai/a	2-3 lf					
11	Propanil	4	lb ai/a	2-3 lf					
11	(Stam)								
11	NIS	0.25	% v/v	2-3 lf					
12	Imazethapyr	0.0625	lb ai/a	DPRE	97	100	98	100	7717
12	NIS	0.25	% v/v	DPRE					
12	Imazethapyr	0.0625	lb ai/a	2-3 lf					
12	Bispyribac-sodium	0.025	lb ai/a	2-3 lf					
12	(Regiment)								
12	NIS	0.125	% v/v	2-3 lf					
LSD (P=.05)					7	39	8	NS	1580

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Ottis, Ellis, Talbert
Affiliation: University of Arkansas
Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart
State/Prov.: Ark.
Trial Status: Completed
Initiation Date: 5-23-04

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

Objective: To evaluate conventional herbicide programs in stale-seedbed versus conventional-tillage systems.

Conclusions: This trial evaluated conventional herbicide treatments on stale-seedbed and conventional-tillage systems. There was significantly more chlorosis from clomazone treatments in conventional seedbed as compared to a stale seedbed when applied preemergence (PRE) or delayed-preemergence (DPRE). Because the preplant burndown was applied 23 days before planting, there was a need for an additional at-planting burndown with many of the at-planting treatments, except where clomazone at 0.4 or 0.8 lb/A or quinclorac at 0.25 lb/A was applied with the early burndown, quinclorac + pendimethalin was applied DPRE, or the early postemergence treatment of clomazone plus propanil. Propanil + quinclorac, propanil + pendimethalin, and propanil + quinclorac + pendimethalin early postemergence did not adequately control propanil-resistant barnyardgrass, but did control broadleaf signalgrass. There was excellent control from early postemergence applications of propanil + clomazone; however, early postemergence applications of propanil + quinclorac or propanil alone were not effective in the stale seedbed tillage system. Plots were not harvested because random blackbird feeding on the panicles destroyed much of the seed prior to maturity.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ECHCG	Barnyardgrass	<i>Echinochloa crus-galli</i>
2.	BRAPP	Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>

Crop 1:	ORYSI RICE, PADDY (DRY-SEEDED+IRR)	Variety:	CL161
Planting Date:	5-23-04	Planting Method:	DRILLED
Rate:	90 LB/A	Depth:	0.75 IN
Row Spacing:	7 IN	Soil Moisture:	ADEQUATE
		Seed Bed:	SMOOTH/TRASHY
		Emergence Date:	5-28-04

SITE AND DESIGN

Plot Width, Unit:	6 FT	Plot Length, Unit:	16 FT	Reps:	4
Site Type:	FIELD				
Tillage Type:	CONV./STALE SEEDBED	Study Design:	RANDOMIZED COMPLETE BLOCK		

	Previous Crops	Previous Pesticides	Year
1.	FALLOW	GLYPHOSATE	

SOIL DESCRIPTION

% Sand:	8	% OM:	0.94	Texture:	SILT LOAM
% Silt:	75	pH:	5.8	Soil Name:	DEWITT
% Clay:	16	CEC:	14.3	Fert. Level:	ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5-1-04		0.55	IN	RAIN		
2.	5-2-04		0.1	IN	RAIN		
3.	5-3-04		0.05	IN	RAIN		
4.	5-10-04		0.02	IN	RAIN		
5.	5-11-04		0.13	IN	RAIN		
6.	5-12-04		1	IN	RAIN		
7.	5-13-04		0.18	IN	RAIN		
8.	5-14-04		2.4	IN	RAIN		
9.	5-15-04		0.05	IN	RAIN		
10.	5-16-04		0.03	IN	RAIN		
11.	5-17-04		0.12	IN	RAIN		
12.	5-18-04		0.05	IN	RAIN		
13.	5-26-04				FLUSH		
14.	5-28-04		0.45	IN	RAIN		
15.	5-29-04		0.35	IN	RAIN		
16.	5-31-04		1	IN	RAIN		
17.	6-3-04		1.2	IN	RAIN		
18.	6-6-04		0.03	IN	RAIN		
19.	6-9-04				FLUSH		
20.	6-16-04		0.27	IN	RAIN		
21.	6-17-04		0.05	IN	RAIN		
22.	6-22-04		2.5	IN	RAIN		
23.	6-23-04		1	IN	RAIN		
24.	6-25-04		0.1	IN	RAIN		
25.	6-28-04		0.9	IN	RAIN		
26.	6-28-04				FLOOD		
27.	6-29-04		0.03	IN	RAIN		
28.	6-30-04		0.3	IN	RAIN		
29.	7-1-04		0.21	IN	RAIN		
30.	7-2-04		0.13	IN	RAIN		
31.	7-3-04		0.45	IN	RAIN		
32.	7-5-04		0.3	IN	RAIN		
33.	7-9-04		0.15	IN	RAIN		
34.	7-17-04		0.13	IN	RAIN		
35.	7-18-04		0.03	IN	RAIN		
36.	7-25-04		0.02	IN	RAIN		
37.	7-26-04		0.08	IN	RAIN		
38.	7-30-04		0.08	IN	RAIN		
39.	7-31-04		2	IN	RAIN		
40.	8-5-04		0.87	IN	RAIN		
41.	8-12-04		0.05	IN	RAIN		
42.	8-20-04		0.25	IN	RAIN		
43.	8-23-04		0.01	IN	RAIN		
44.	8-24-04		0.6	IN	RAIN		
45.	8-25-04		0.3	IN	RAIN		
46.	8-29-04		0.08	IN	RAIN		
47.	8-30-04		0.03	IN	RAIN		
48.	9-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	4-30-04	5-23-04	5-31-04	6-14-04	6-28-04
Time of Day:	7:30 AM	10:00 PM	8:16 PM	5:00 PM	2:00 PM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	23-DPP	PRE	DPRE	EPOST	PREFLD
Applic. Placement:	BROSO/FO	BROSO/FO	BROSO/FO	BROFOL	BROFOL
Air Temp., Unit:	71 F	79 F	78 F	90 F	88 F
% Relative Humidity:	100	99	96	53	98
Wind Velocity, Unit:	3 S	2 S	0.6 S	2 S	2.5 NE
Dew Presence (Y/N):	Y	N	N	N	N
Water Hardness:	N/A	N/A	N/A	N/A	N/A
Soil Temp., Unit:	68 F	80 F	80 F	90 F	86 F
Soil Moisture:	WET	ADEQUATE	WET	ADEQUATE	WET
% Cloud Cover:	100	15	5	98	65

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Stage Scale:	23-DPP	PRE	DPRE	EPOST	PREFLD
Height, Unit:				8 IN	12 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG
Stage Scale:	23-DPP	PRE	DPRE	3-4 LF	4-5 LF
Weed 2 Code, Stage:	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP
Stage Scale:	23-DPP	PRE	DPRE	3-4 LF	4-5 LF

APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	CO2 BKPCK	CO2 BKPCK	CO2 BKPCK	CO2 BKPCK	CO2 BKPCK
Operating Pressure:	23 PSI	23 PSI	23 PSI	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	11015 DG	11015 DG	80015 DG	80015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN	40 IN	40 IN	40 IN
Boom Height, Unit:	15 IN	15 IN	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	10 GPA	10 GPA

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code				ORYSI	ORYSI	ORYSI	ECHCG	
Crop Code								
Part Rated								
Rating Data Type				BLEACH	INJURY	INJURY	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				6-8-04	6-8-04	7-14-04	6-8-04	
Trt No.	Treatment Name	Rate	Unit	Grow Stg				
1	Stale Seedbed Untreated				0	0	0	0
2	Conv. till Untreated				0	0	0	0
3	Glyphosate	1	lb ai/a	23-DPP	0	0	5	96
3	(Roundup UltraMax)							
3	Clomazone	0.4	lb ai/a	23-DPP				
3	(Command)							
3	Propanil	3	lb ai/a	EPOST				
3	(Stam)							
3	Propanil + bensulfuron	3	lb ai/a	PREFLD				
3	(Duet)							
4	Clomazone	0.4	lb ai/a	PRE	4	4	0	98
4	Propanil	3	lb ai/a	EPOST				
4	Propanil + bensulfuron	3	lb ai/a	PREFLD				
5	Glyphosate	1	lb ai/a	23-DPP	0	0	1	96
5	Clomazone	0.8	lb ai/a	23-DPP				
5	Propanil	3	lb ai/a	EPOST				
5	Propanil + bensulfuron	3	lb ai/a	PREFLD				
6	Clomazone	0.8	lb ai/a	PRE	23	11	3	99
6	Propanil	3	lb ai/a	EPOST				
6	Propanil + bensulfuron	3	lb ai/a	PREFLD				
7	Glyphosate	1	lb ai/a	23-DPP	0	0	5	65
7	Quinclorac	0.25	lb ai/a	23-DPP				
7	(Facet)							
7	Propanil	3	lb ai/a	EPOST				
7	Propanil + bensulfuron	3	lb ai/a	PREFLD				
8	Quinclorac	0.25	lb ai/a	PRE	0	3	0	97
8	Propanil	3	lb ai/a	EPOST				
8	Propanil + bensulfuron	3	lb ai/a	PREFLD				
9	Glyphosate	1	lb ai/a	23-DPP	16	6	0	53
9	Clomazone	0.4	lb ai/a	DPRE				
9	Propanil	3	lb ai/a	EPOST				
9	Propanil + bensulfuron	3	lb ai/a	PREFLD				
LSD (P=.05)					8	6	6	23

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code					ORYSI			ECHCG
Crop Code					ORYSI	ORYSI	ORYSI	
Part Rated					BLEACH	INJURY	INJURY	CONTROL
Rating Data Type					PERCENT	PERCENT	PERCENT	PERCENT
Rating Unit					6-8-04	6-8-04	7-14-04	6-8-04
Rating Date								
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
10	Clomazone	0.4	lb ai/a	DPRE	13	4	0	98
10	Propanil	3	lb ai/a	EPOST				
10	Propanil + bensulfuron	3	lb ai/a	PREFLD				
11	Glyphosate	1	lb ai/a	23-DPP	26	10	5	66
11	Clomazone	0.8	lb ai/a	DPRE				
11	Propanil	3	lb ai/a	EPOST				
11	Propanil + bensulfuron	3	lb ai/a	PREFLD				
12	Clomazone	0.8	lb ai/a	DPRE	50	21	0	99
12	Propanil	3	lb ai/a	EPOST				
12	Propanil + bensulfuron	3	lb ai/a	PREFLD				
13	Glyphosate	1	lb ai/a	23-DPP	0	6	0	25
13	Pendimethalin (Prowl)	1	lb ai/a	DPRE				
13	Propanil	3	lb ai/a	EPOST				
13	Propanil + bensulfuron	3	lb ai/a	PREFLD				
14	Pendimethalin	1	lb ai/a	DPRE	0	1	0	90
14	Propanil	3	lb ai/a	EPOST				
14	Propanil + bensulfuron	3	lb ai/a	PREFLD				
15	Glyphosate	1	lb ai/a	23-DPP	0	0	3	76
15	Quinclorac	0.25	lb ai/a	DPRE				
15	Propanil + bensulfuron	3	lb ai/a	PREFLD				
16	Quinclorac	0.25	lb ai/a	DPRE	0	4	10	86
16	Propanil + bensulfuron	3	lb ai/a	PREFLD				
17	Glyphosate	1	lb ai/a	23-DPP	0	0	8	86
17	Pendimethalin	1	lb ai/a	DPRE				
17	Quinclorac	0.25	lb ai/a	DPRE				
17	Propanil + bensulfuron	3	lb ai/a	PREFLD				
18	Pendimethalin	1	lb ai/a	DPRE	0	1	1	96
18	Quinclorac	0.25	lb ai/a	DPRE				
18	Propanil + bensulfuron	3	lb ai/a	PREFLD				
LSD (P=.05)					8	6	6	23

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ORYSI	ORYSI	ECHCG
						BLEACH PERCENT 6-8-04	INJURY PERCENT 6-8-04	INJURY PERCENT 7-14-04	CONTROL PERCENT 6-8-04
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
19	Glyphosate	1	lb ai/a	23-DPP	0	0	10	46	
19	Clomazone	0.4	lb ai/a	EPOST					
19	Propanil	3	lb ai/a	EPOST					
19	Propanil + bensulfuron	3	lb ai/a	PREFLD					
20	Clomazone	0.4	lb ai/a	EPOST	1	0	4	90	
20	Propanil	3	lb ai/a	EPOST					
20	Propanil + bensulfuron	3	lb ai/a	PREFLD					
21	Glyphosate	1	lb ai/a	23-DPP	0	0	36	58	
21	Clomazone	0.8	lb ai/a	EPOST					
21	Propanil	3	lb ai/a	EPOST					
21	Propanil + bensulfuron	3	lb ai/a	PREFLD					
22	Clomazone	0.8	lb ai/a	EPOST	0	0	10	90	
22	Propanil	3	lb ai/a	EPOST					
22	Propanil + bensulfuron	3	lb ai/a	PREFLD					
23	Glyphosate	1	lb ai/a	23-DPP	0	0	3	39	
23	Pendimethalin	1	lb ai/a	EPOST					
23	Propanil	3	lb ai/a	EPOST					
23	Propanil + bensulfuron	3	lb ai/a	PREFLD					
24	Pendimethalin	1	lb ai/a	EPOST	0	4	0	95	
24	Propanil	3	lb ai/a	EPOST					
24	Propanil + bensulfuron	3	lb ai/a	PREFLD					
25	Glyphosate	1	lb ai/a	23-DPP	0	0	3	23	
25	Quinclorac	0.25	lb ai/a	EPOST					
25	Propanil	3	lb ai/a	EPOST					
25	Propanil + bensulfuron	3	lb ai/a	PREFLD					
26	Quinclorac	0.25	lb ai/a	EPOST	0	0	0	75	
26	Propanil	3	lb ai/a	EPOST					
26	Propanil + bensulfuron	3	lb ai/a	PREFLD					
27	Glyphosate	1	lb ai/a	23-DPP	0	0	4	58	
27	Quinclorac	0.19	lb ai/a	EPOST					
27	Pendimethalin	1	lb ai/a	EPOST					
27	Propanil	3	lb ai/a	EPOST					
27	Propanil + bensulfuron	3	lb ai/a	PREFLD					
LSD (P=.05)					8	6	6	23	

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code				ORYSI	ORYSI	ORYSI	ECHCG	
Crop Code								
Part Rated								
Rating Data Type				BLEACH	INJURY	INJURY	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				6-8-04	6-8-04	7-14-04	6-8-04	
Trt No.	Treatment Name	Rate	Unit	Grow Stg				
28	Quinclorac	0.19	lb ai/a	EPOST	0	1	0	95
28	Pendimethalin	1	lb ai/a	EPOST				
28	Propanil	3	lb ai/a	EPOST				
28	Propanil + bensulfuron	3	lb ai/a	PREFLD				
LSD (P=.05)					8	6	6	23

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code				ECHCG	BRAPP	BRAPP	
Crop Code							
Part Rated							
Rating Data Type				CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	
Rating Date				7-14-04	6-8-04	7-14-04	
Trt	Treatment	Rate	Rate Unit	Grow Stg			
No.	Name						
1	Stale Seedbed Untreated				0	0	0
2	Conv. till Untreated				0	0	0
3	Glyphosate	1	lb ai/a	23-DPP	95	95	98
3	(Roundup UltraMax)						
3	Clomazone	0.4	lb ai/a	23-DPP			
3	(Command)						
3	Propanil	3	lb ai/a	EPOST			
3	(Stam)						
3	Propanil + bensulfuron	3	lb ai/a	PREFLD			
3	(Duet)						
4	Clomazone	0.4	lb ai/a	PRE	97	97	98
4	Propanil	3	lb ai/a	EPOST			
4	Propanil + bensulfuron	3	lb ai/a	PREFLD			
5	Glyphosate	1	lb ai/a	23-DPP	98	96	98
5	Clomazone	0.8	lb ai/a	23-DPP			
5	Propanil	3	lb ai/a	EPOST			
5	Propanil + bensulfuron	3	lb ai/a	PREFLD			
6	Clomazone	0.8	lb ai/a	PRE	98	99	98
6	Propanil	3	lb ai/a	EPOST			
6	Propanil + bensulfuron	3	lb ai/a	PREFLD			
7	Glyphosate	1	lb ai/a	23-DPP	87	87	98
7	Quinclorac	0.25	lb ai/a	23-DPP			
7	(Facet)						
7	Propanil	3	lb ai/a	EPOST			
7	Propanil + bensulfuron	3	lb ai/a	PREFLD			
8	Quinclorac	0.25	lb ai/a	PRE	98	97	98
8	Propanil	3	lb ai/a	EPOST			
8	Propanil + bensulfuron	3	lb ai/a	PREFLD			
9	Glyphosate	1	lb ai/a	23-DPP	58	44	98
9	Clomazone	0.4	lb ai/a	DPRE			
9	Propanil	3	lb ai/a	EPOST			
9	Propanil + bensulfuron	3	lb ai/a	PREFLD			
LSD (P=.05)					13	21	1

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code				ECHCG	BRAPP	BRAPP
Crop Code						
Part Rated						
Rating Data Type				CONTROL	CONTROL	CONTROL
Rating Unit				PERCENT	PERCENT	PERCENT
Rating Date				7-14-04	6-8-04	7-14-04
Trt	Treatment	Rate	Rate	Grow		
No.	Name		Unit	Stg		
10	Clomazone	0.4	lb ai/a	DPRE	98	99
10	Propanil	3	lb ai/a	EPOST		
10	Propanil + bensulfuron	3	lb ai/a	PREFLD		
11	Glyphosate	1	lb ai/a	23-DPP	69	61
11	Clomazone	0.8	lb ai/a	DPRE		
11	Propanil	3	lb ai/a	EPOST		
11	Propanil + bensulfuron	3	lb ai/a	PREFLD		
12	Clomazone	0.8	lb ai/a	DPRE	98	99
12	Propanil	3	lb ai/a	EPOST		
12	Propanil + bensulfuron	3	lb ai/a	PREFLD		
13	Glyphosate	1	lb ai/a	23-DPP	28	25
13	Pendimethalin	1	lb ai/a	DPRE		
13	(Prowl)					
13	Propanil	3	lb ai/a	EPOST		
13	Propanil + bensulfuron	3	lb ai/a	PREFLD		
14	Pendimethalin	1	lb ai/a	DPRE	98	90
14	Propanil	3	lb ai/a	EPOST		
14	Propanil + bensulfuron	3	lb ai/a	PREFLD		
15	Glyphosate	1	lb ai/a	23-DPP	76	76
15	Quinclorac	0.25	lb ai/a	DPRE		
15	Propanil + bensulfuron	3	lb ai/a	PREFLD		
16	Quinclorac	0.25	lb ai/a	DPRE	96	86
16	Propanil + bensulfuron	3	lb ai/a	PREFLD		
17	Glyphosate	1	lb ai/a	23-DPP	93	83
17	Pendimethalin	1	lb ai/a	DPRE		
17	Quinclorac	0.25	lb ai/a	DPRE		
17	Propanil + bensulfuron	3	lb ai/a	PREFLD		
18	Pendimethalin	1	lb ai/a	DPRE	98	96
18	Quinclorac	0.25	lb ai/a	DPRE		
18	Propanil + bensulfuron	3	lb ai/a	PREFLD		
LSD (P=.05)					13	21
						1

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

Weed Code				ECHCG	BRAPP	BRAPP
Crop Code						
Part Rated						
Rating Data Type				CONTROL	CONTROL	CONTROL
Rating Unit				PERCENT	PERCENT	PERCENT
Rating Date				7-14-04	6-8-04	7-14-04
Trt	Treatment	Rate	Rate Unit	Grow Stg		
No.	Name					
19	Glyphosate	1	lb ai/a	23-DPP	86	45
19	Clomazone	0.4	lb ai/a	EPOST		98
19	Propanil	3	lb ai/a	EPOST		
19	Propanil + bensulfuron	3	lb ai/a	PREFLD		
20	Clomazone	0.4	lb ai/a	EPOST	98	92
20	Propanil	3	lb ai/a	EPOST		
20	Propanil + bensulfuron	3	lb ai/a	PREFLD		
21	Glyphosate	1	lb ai/a	23-DPP	81	51
21	Clomazone	0.8	lb ai/a	EPOST		
21	Propanil	3	lb ai/a	EPOST		
21	Propanil + bensulfuron	3	lb ai/a	PREFLD		98
22	Clomazone	0.8	lb ai/a	EPOST	98	89
22	Propanil	3	lb ai/a	EPOST		
22	Propanil + bensulfuron	3	lb ai/a	PREFLD		
23	Glyphosate	1	lb ai/a	23-DPP	55	51
23	Pendimethalin	1	lb ai/a	EPOST		
23	Propanil	3	lb ai/a	EPOST		
23	Propanil + bensulfuron	3	lb ai/a	PREFLD		98
24	Pendimethalin	1	lb ai/a	EPOST	98	95
24	Propanil	3	lb ai/a	EPOST		
24	Propanil + bensulfuron	3	lb ai/a	PREFLD		
25	Glyphosate	1	lb ai/a	23-DPP	55	23
25	Quinclorac	0.25	lb ai/a	EPOST		
25	Propanil	3	lb ai/a	EPOST		
25	Propanil + bensulfuron	3	lb ai/a	PREFLD		98
26	Quinclorac	0.25	lb ai/a	EPOST	98	75
26	Propanil	3	lb ai/a	EPOST		
26	Propanil + bensulfuron	3	lb ai/a	PREFLD		
27	Glyphosate	1	lb ai/a	23-DPP	64	56
27	Quinclorac	0.19	lb ai/a	EPOST		
27	Pendimethalin	1	lb ai/a	EPOST		
27	Propanil	3	lb ai/a	EPOST		
27	Propanil + bensulfuron	3	lb ai/a	PREFLD		98
LSD (P=.05)					13	21
						1

University of Arkansas

Evaluation of Conventional Herbicide Programs in Two Tillage Systems

Trial ID: STUT 0403
Location: Stuttgart

Study Dir.: Ottis, Ellis, Talbert
Investigator: Ron Talbert

				ECHCG	BRAPP	BRAPP	
				CONTROL	CONTROL	CONTROL	
				PERCENT	PERCENT	PERCENT	
				7-14-04	6-8-04	7-14-04	
Trt	Treatment	Rate	Grow				
No.	Name	Rate	Unit	Stg			
28	Quinclorac	0.19	lb ai/a	EPOST	98	97	98
28	Pendimethalin	1	lb ai/a	EPOST			
28	Propanil	3	lb ai/a	EPOST			
28	Propanil + bensulfuron	3	lb ai/a	PREFLD			
LSD (P=.05)					13	21	1

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404

Study Dir.: Talbert, Ottis, Ellis

Location: Stuttgart, Ark.

Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Talbert, Ottis, Ellis

Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart

Trial Status: Completed

State/Prov.: Ark.

Initiation Date: 5-10-04

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: To determine the potential fit for penoxsulam (Grasp) in a rice herbicide program.

Conclusions: Slight bleaching was observed following preemergence applications of clomazone; however, by the time the flood was applied, bleaching was not evident. Barnyardgrass control was excellent when applications were made early. Propanil applied at the 1-3 lf stage did not provide good barnyardgrass control, and when this application was followed by a postflood application of penoxsulam, control increased to 88%. Clomazone applied alone did not provide good broadleaf weed control. When penoxsulam was applied following clomazone preemergence, control of SEBEX, AESVI, and IPOLA was improved, but was less than treatments of quinclorac. A hailstorm early in the season severely damaged the broadleaf weed population; therefore, ratings for these weeds were quite variable due to a limited surviving population. Yields were similar for all treatments, producing higher yields than the untreated check.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ECHCG	Barnyardgrass	<i>Echinochloa crus-galli</i>
2.	BRAPP	Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
3.	SEBEX	Sesbania, hemp	<i>Sesbania exaltata</i>
4.	AESVI	Northern jointvetch	<i>Aeschynomene virginica</i>
5.	LEPPA	Sprangletop, Amazon	<i>Leptochloa panicoides</i>
6.	IPOLA	Morningglory, pitted	<i>Ipomoea lacunosa</i>

Crop 1: ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS
Planting Date: 5-10-04 **Planting Method:** DRILLED
Rate: 90 LB/A **Depth:** 0.75 IN
Row Spacing: 7 IN **Seed Bed:** SMOOTH **Emergence Date:** 5-16-04

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	FALLOW	GLYPHOSATE	2003

MAINTENANCE

Field Prep./Maintenance: Study area was tilled in the fall and land-planed. Prior to planting, study area was cultivated in two directions. Following planting, study area was rolled with a 7 ft roller.

Applications of halosulfuron were omitted due to a lack of nutsedge in the study area; however, triclopyr was applied to maintain broadleaf weed control.

SOIL DESCRIPTION

% Sand: 8	% OM: 0.94	Texture: SILT LOAM
% Silt: 75	pH: 5.8	Soil Name: DEWITT
% Clay: 16	CEC: 14.3	Fert. Level: ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5-1-04		0.55	IN	RAIN		
2.	5-2-04		0.1	IN	RAIN		
3.	5-3-04		0.05	IN	RAIN		
4.	5-10-04		0.02	IN	RAIN		
5.	5-11-04		0.13	IN	RAIN		
6.	5-12-04		1	IN	RAIN		
7.	5-13-04		0.18	IN	RAIN		
8.	5-14-04		2.4	IN	RAIN		
9.	5-15-04		0.05	IN	RAIN		
10.	5-16-04		0.03	IN	RAIN		
11.	5-17-04		0.12	IN	RAIN		
12.	5-18-04		0.05	IN	RAIN		
13.	5-24-04				FLUSH		
14.	5-28-04		0.45	IN	RAIN		
15.	5-29-04		0.35	IN	RAIN		
16.	5-31-04		1	IN	RAIN		
17.	6-3-04		1.2	IN	RAIN		
18.	6-6-04		0.03	IN	RAIN		
19.	6-9-04				FLUSH		
20.	6-15-04				FLOOD		
21.	6-16-04		0.27	IN	RAIN		
22.	6-17-04		0.05	IN	RAIN		
23.	6-22-04		2.5	IN	RAIN		
24.	6-23-04		1	IN	RAIN		
25.	6-25-04		0.1	IN	RAIN		
26.	6-28-04		0.9	IN	RAIN		
27.	6-29-04		0.03	IN	RAIN		
28.	6-30-04		0.3	IN	RAIN		
29.	7-1-04		0.21	IN	RAIN		
30.	7-2-04		0.13	IN	RAIN		
31.	7-3-04		0.45	IN	RAIN		
32.	7-5-04		0.3	IN	RAIN		
33.	7-9-04		0.15	IN	RAIN		
34.	7-17-04		0.13	IN	RAIN		
35.	7-18-04		0.03	IN	RAIN		
36.	7-25-04		0.02	IN	RAIN		
37.	7-26-04		0.08	IN	RAIN		
38.	7-30-04		0.08	IN	RAIN		
39.	7-31-04		2	IN	RAIN		
40.	8-5-04		0.87	IN	RAIN		
41.	8-12-04		0.05	IN	RAIN		
42.	8-20-04		0.25	IN	RAIN		
43.	8-23-04		0.01	IN	RAIN		
44.	8-24-04		0.6	IN	RAIN		
45.	8-25-04		0.3	IN	RAIN		
46.	8-29-04		0.08	IN	RAIN		
47.	8-30-04		0.03	IN	RAIN		

48. 9-24-04 0.02 IN RAIN
 Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	5-12-04	5-23-04	6-8-04	6-22-04
Time of Day:	6:00 AM	10:00 PM	5:33 PM	7:50 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	1-3 LF	4 LF	POFLD1WK
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	74 F	79 F	88 F	74 F
% Relative Humidity:	100	99	71	100
Wind Velocity, Unit:	3 S	2 S	2 S	2 S
Dew Presence (Y/N):	N	N	N	Y
Water Hardness:	N/A	N/A	N/A	N/A
Soil Temp., Unit:	70 F	80 F	88 F	71 F
Soil Moisture:	MOIST	ADEQUATE	ADEQUATE	FLOOD
% Cloud Cover:	90	15	100	90

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI	ORYSI
Stage Scale:	PRE	2 LF	4 LF	3-4 TILLE
Height, Unit:		4 IN	8 IN	24 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	ECHCG	ECHCG	ECHCG	ECHCG
Stage Scale:	PRE	1-2 LF	3-4 LF	4LF-4TILL
Weed 2 Code, Stage:	BRAPP	BRAPP	BRAPP	BRAPP
Stage Scale:	PRE	1-2 LF	3 LF	4LF-2TILL
Weed 3 Code, Stage:	SEBEX	SEBEX	SEBEX	SEBEX
Stage Scale:	PRE	2 LF	4-5 LF	5 LF
Weed 4 Code, Stage:	AESVI	AESVI	AESVI	AESVI
Stage Scale:	PRE	2 LF	3-4 LF	6 LF
Weed 5 Code, Stage:	LEPPA	LEPPA	LEPPA	LEPPA
Stage Scale:	PRE	N/A	N/A	N/A
Weed 6 Code, Stage:	IPOLA	IPOLA	IPOLA	IPOLA
Stage Scale:	PRE	1 LF	2-4 LF	6-9 LF

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	C02 BKPCK	C02 BKPCK	C02 BKPCK	C02 BKPCK
Operating Pressure:	23 PSI	23 PSI	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	110015 DG	110015 DG	80015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN	40 IN	40 IN
Boom Height, Unit:	15 IN	15 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	10 GPA

Trt No Treatment Application Comment

8 Applications were not made to treatment 8, therefore weed control data are not shown.

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ECHCG	ECHCG	BRAPP
Trt No.	Treatment Name	Rate	Unit	Grow Stg		BLEACH PERCENT 5-31-04	CONTROL PERCENT 5-31-04	CONTROL PERCENT 6-22-04	CONTROL PERCENT 5-31-04
1	Untreated Check					0	0	0	0
2	Clomazone	0.35	lb ai/a	PRE		8	98	100	99
2	(Command)								
3	Penoxsulam	0.031	lb ai/a	1-3 LF		0	94	99	50
3	(Grasp)								
3	COC	2.5	% v/v	1-3 LF					
4	Clomazone	0.35	lb ai/a	1-3 LF		0	96	100	68
4	Penoxsulam	0.031	lb ai/a	1-3 LF					
4	COC	2.5	% v/v	1-3 LF					
5	Clomazone	0.35	lb ai/a	1-3 LF		5	90	100	56
5	Penoxsulam	0.031	lb ai/a	1-3 LF					
5	COC	2.5	% v/v	1-3 LF					
5	Triclopyr	0.25	lb ai/a	4 LF					
5	(Grandstand)								
5	Halosulfuron	0.047	lb ai/a	4 LF					
5	(Permit)								
5	COC	1.25	% v/v	4 LF					
6	Quinclorac	0.38	lb ai/a	1-3 LF		0	90	100	98
6	(Facet)								
6	Penoxsulam	0.031	lb ai/a	1-3 LF					
6	COC	2.5	% v/v	1-3 LF					
7	Quinclorac	0.38	% v/v	1-3 LF		0	85	100	89
7	Penoxsulam	0.031	lb ai/a	1-3 LF					
7	COC	2.5	% v/v	1-3 LF					
7	Triclopyr	0.25	lb ai/a	4 LF					
7	Halosulfuron	0.047	lb ai/a	4 LF					
7	COC	1.25	% v/v	4 LF					
9	Clomazone	0.35	lb ai/a	PRE		0	100	100	94
9	Penoxsulam	0.031	lb ai/a	1-3 LF					
9	COC	2.5	% v/v	1-3 LF					
LSD (P=.05)						10	2	6	15

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ECHCG	ECHCG	BRAPP
Trt	Treatment	Rate	Unit	Grow		BLEACH	CONTROL	CONTROL	CONTROL
No.	Name	Rate	Unit	Stg		PERCENT	PERCENT	PERCENT	PERCENT
						5-31-04	5-31-04	6-22-04	5-31-04
10	Clomazone	0.35	lb ai/a	PRE	8	98	100	99	
10	Triclopyr	0.125	lb ai/a	4 LF					
10	Halosulfuron	0.023	lb ai/a	4 LF					
10	COC	2.5	% v/v	4 LF					
11	Clomazone	0.35	lb ai/a	PRE	11	100	100	99	
11	Penoxsulam	0.031	lb ai/a	4 LF					
11	Triclopyr	0.125	lb ai/a	4 LF					
11	Halosulfuron	0.023	lb ai/a	4 LF					
11	COC	2.5	% v/v	4 LF					
12	Clomazone	0.35	lb ai/a	PRE	11	100	100	100	
12	Penoxsulam	0.031	lb ai/a	4 LF					
12	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	4 LF					
12	COC	2.5	% v/v	4 LF					
13	Clomazone	0.35	lb ai/a	PRE	5	100	100	100	
13	Penoxsulam	0.031	lb ai/a	4 LF					
13	Cyhalofop-butyl	0.25	lb ai/a	1WKPOFLD					
13	COC	2.5	% v/v	1WKPOFLD					
13	Triclopyr	0.125	lb ai/a	4 LF					
13	Halosulfuron	0.023	lb ai/a	4 LF					
13	COC	2.5	% v/v	4 LF					
14	Clomazone	0.35	lb ai/a	PRE	19	100	100	99	
14	Penoxsulam	0.031	lb ai/a	4 LF					
14	Triclopyr	0.125	lb ai/a	4 LF					
14	Halosulfuron	0.023	lb ai/a	4 LF					
14	COC	2.5	% v/v	4 LF					
14	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD					
14	COC	2.5	% v/v	1WKPOFLD					
15	Propanil (Stam)	3	lb ai/a	1-3 LF	0	29	9	100	
15	Penoxsulam	0.036	lb ai/a	1WKPOFLD					
15	COC	2.5	% v/v	1WKPOFLD					
LSD (P=.05)						10	2	6	15

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				ECHCG	ECHCG	BRAPP		
Crop Code			ORYSI					
Part Rated								
Rating Data Type			BLEACH	CONTROL	CONTROL	CONTROL		
Rating Unit			PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date			5-31-04	5-31-04	6-22-04	5-31-04		
Trt No.	Treatment Name	Rate	Unit	Grow Stg				
16	Propanil	3	lb ai/a	1-3 LF	0	39	6	94
16	Penoxsulam	0.036	lb ai/a	1WKPOFLD				
16	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
16	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					10	2	6	15

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

				BRAPP	IPOLA	IPOLA	AESVI	
Weed Code	Crop Code	Part Rated	Rating Data Type	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT	
Rating Unit	Rating Date			6-22-04	5-31-04	6-8-04	5-31-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
1	Untreated Check				0	0	0	
2	Clomazone	0.35	lb ai/a	PRE	98	91	69	
2	(Command)						58	
3	Penoxsulam	0.031	lb ai/a	1-3 LF	0	78	74	
3	(Grasp)						94	
3	COC	2.5	% v/v	1-3 LF				
4	Clomazone	0.35	lb ai/a	1-3 LF	3	80	38	
4	Penoxsulam	0.031	lb ai/a	1-3 LF			98	
4	COC	2.5	% v/v	1-3 LF				
5	Clomazone	0.35	lb ai/a	1-3 LF	13	70	61	
5	Penoxsulam	0.031	lb ai/a	1-3 LF			93	
5	COC	2.5	% v/v	1-3 LF				
5	Triclopyr	0.25	lb ai/a	4 LF				
5	(Grandstand)							
5	Halosulfuron	0.047	lb ai/a	4 LF				
5	(Permit)							
5	COC	1.25	% v/v	4 LF				
6	Quinclorac	0.38	lb ai/a	1-3 LF	9	93	91	
6	(Facet)						96	
6	Penoxsulam	0.031	lb ai/a	1-3 LF				
6	COC	2.5	% v/v	1-3 LF				
7	Quinclorac	0.38	% v/v	1-3 LF	53	90	95	
7	Penoxsulam	0.031	lb ai/a	1-3 LF			93	
7	COC	2.5	% v/v	1-3 LF				
7	Triclopyr	0.25	lb ai/a	4 LF				
7	Halosulfuron	0.047	lb ai/a	4 LF				
7	COC	1.25	% v/v	4 LF				
9	Clomazone	0.35	lb ai/a	PRE	96	95	100	
9	Penoxsulam	0.031	lb ai/a	1-3 LF			100	
9	COC	2.5	% v/v	1-3 LF				
LSD (P=.05)					9	13	28	31

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				BRAPP	IPOLA	IPOLA	AESVI	
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				6-22-04	5-31-04	6-8-04	5-31-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
10	Clomazone	0.35	lb ai/a	PRE	98	94	69	
10	Triclopyr	0.125	lb ai/a	4 LF				
10	Halosulfuron	0.023	lb ai/a	4 LF				
10	COC	2.5	% v/v	4 LF				
11	Clomazone	0.35	lb ai/a	PRE	100	89	86	
11	Penoxsulam	0.031	lb ai/a	4 LF				
11	Triclopyr	0.125	lb ai/a	4 LF				
11	Halosulfuron	0.023	lb ai/a	4 LF				
11	COC	2.5	% v/v	4 LF				
12	Clomazone	0.35	lb ai/a	PRE	100	91	73	
12	Penoxsulam	0.031	lb ai/a	4 LF				
12	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	4 LF				
12	COC	2.5	% v/v	4 LF				
13	Clomazone	0.35	lb ai/a	PRE	100	88	91	
13	Penoxsulam	0.031	lb ai/a	4 LF				
13	Cyhalofop-butyl	0.25	lb ai/a	1WKPOFLD				
13	COC	2.5	% v/v	1WKPOFLD				
13	Triclopyr	0.125	lb ai/a	4 LF				
13	Halosulfuron	0.023	lb ai/a	4 LF				
13	COC	2.5	% v/v	4 LF				
14	Clomazone	0.35	lb ai/a	PRE	100	89	81	
14	Penoxsulam	0.031	lb ai/a	4 LF				
14	Triclopyr	0.125	lb ai/a	4 LF				
14	Halosulfuron	0.023	lb ai/a	4 LF				
14	COC	2.5	% v/v	4 LF				
14	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
14	COC	2.5	% v/v	1WKPOFLD				
15	Propanil (Stam)	3	lb ai/a	1-3 LF	100	94	68	
15	Penoxsulam	0.036	lb ai/a	1WKPOFLD				
15	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					9	13	28	31

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
 Investigator: Ron Talbert

				BRAPP	IPOLA	IPOLA	AESVI	
				CONTROL	CONTROL	CONTROL	CONTROL	
				PERCENT	PERCENT	PERCENT	PERCENT	
				6-22-04	5-31-04	6-8-04	5-31-04	
Trt	Treatment	Rate	Grow					
No.	Name	Rate	Unit	Stg				
16	Propanil	3	lb ai/a	1-3 LF	25	84	93	99
16	Penoxsulam	0.036	lb ai/a	1WKPOFLD				
16	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
16	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					9	13	28	31

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				AESVI	SEBEX	SEBEX	ORYSI	
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				6-22-04	5-31-04	6-22-04	9-30-04	
Trt	Treatment	Rate	Rate					
No.	Name		Unit	Grow				
				Stg				
1	Untreated Check				0	0	0	4328.2
2	Clomazone	0.35	lb ai/a	PRE	30	56	99	9772.4
2	(Command)							
3	Penoxsulam	0.031	lb ai/a	1-3 LF	84	94	100	9987.1
3	(Grasp)							
3	COC	2.5	% v/v	1-3 LF				
4	Clomazone	0.35	lb ai/a	1-3 LF	88	86	100	9900.9
4	Penoxsulam	0.031	lb ai/a	1-3 LF				
4	COC	2.5	% v/v	1-3 LF				
5	Clomazone	0.35	lb ai/a	1-3 LF	100	89	100	9944.7
5	Penoxsulam	0.031	lb ai/a	1-3 LF				
5	COC	2.5	% v/v	1-3 LF				
5	Triclopyr	0.25	lb ai/a	4 LF				
5	(Grandstand)							
5	Halosulfuron	0.047	lb ai/a	4 LF				
5	(Permit)							
5	COC	1.25	% v/v	4 LF				
6	Quinclorac	0.38	lb ai/a	1-3 LF	100	99	100	9895.9
6	(Facet)							
6	Penoxsulam	0.031	lb ai/a	1-3 LF				
6	COC	2.5	% v/v	1-3 LF				
7	Quinclorac	0.38	% v/v	1-3 LF	100	99	100	10389.5
7	Penoxsulam	0.031	lb ai/a	1-3 LF				
7	COC	2.5	% v/v	1-3 LF				
7	Triclopyr	0.25	lb ai/a	4 LF				
7	Halosulfuron	0.047	lb ai/a	4 LF				
7	COC	1.25	% v/v	4 LF				
9	Clomazone	0.35	lb ai/a	PRE	100	100	100	11520.2
9	Penoxsulam	0.031	lb ai/a	1-3 LF				
9	COC	2.5	% v/v	1-3 LF				
LSD (P=.05)					14	27	1	1813

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				AESVI	SEBEX	SEBEX	ORYSI	
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				6-22-04	5-31-04	6-22-04	9-30-04	
Trt	Treatment	Rate	Rate	Grow				
No.	Name		Unit	Stg				
10	Clomazone	0.35	lb ai/a	PRE	100	86	100	8763.3
10	Triclopyr	0.125	lb ai/a	4 LF				
10	Halosulfuron	0.023	lb ai/a	4 LF				
10	COC	2.5	% v/v	4 LF				
11	Clomazone	0.35	lb ai/a	PRE	100	70	100	10324.4
11	Penoxsulam	0.031	lb ai/a	4 LF				
11	Triclopyr	0.125	lb ai/a	4 LF				
11	Halosulfuron	0.023	lb ai/a	4 LF				
11	COC	2.5	% v/v	4 LF				
12	Clomazone	0.35	lb ai/a	PRE	100	59	100	9074.1
12	Penoxsulam	0.031	lb ai/a	4 LF				
12	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	4 LF				
12	COC	2.5	% v/v	4 LF				
13	Clomazone	0.35	lb ai/a	PRE	100	69	100	9874.4
13	Penoxsulam	0.031	lb ai/a	4 LF				
13	Cyhalofop-butyl	0.25	lb ai/a	1WKPOFLD				
13	COC	2.5	% v/v	1WKPOFLD				
13	Triclopyr	0.125	lb ai/a	4 LF				
13	Halosulfuron	0.023	lb ai/a	4 LF				
13	COC	2.5	% v/v	4 LF				
14	Clomazone	0.35	lb ai/a	PRE	100	64	100	10515.3
14	Penoxsulam	0.031	lb ai/a	4 LF				
14	Triclopyr	0.125	lb ai/a	4 LF				
14	Halosulfuron	0.023	lb ai/a	4 LF				
14	COC	2.5	% v/v	4 LF				
14	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
14	COC	2.5	% v/v	1WKPOFLD				
15	Propanil (Stam)	3	lb ai/a	1-3 LF	100	100	100	9896.6
15	Penoxsulam	0.036	lb ai/a	1WKPOFLD				
15	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					14	27	1	1813

University of Arkansas

Herbicide Programs with Grasp

Trial ID: STUT 0404
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				AESVI	SEBEX	SEBEX	ORYSI	
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				6-22-04	5-31-04	6-22-04	9-30-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
16	Propanil	3	lb ai/a	1-3 LF	100	100	9903.1	
16	Penoxsulam	0.036	lb ai/a	1WKPOFLD				
16	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
16	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					14	27	1	1813

University of Arkansas

Evaluation of Grasp in the CLEARFIELD* Rice System

Trial ID: STUT 0405
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Talbert, Ottis, Ellis
Investigator: Ron Talbert
Affiliation: University of Arkansas

TRIAL LOCATION

City: Stuttgart
State/Prov.: Ark.
Trial Status: Completed
Initiation Date: 5-10-04

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

Objective: To evaluate the fit of penoxsulam (Grasp) in the CLEARFIELD* rice production system.

Conclusions: The study examined the potential of penoxsulam as part of a broadleaf weed control program in the CLEARFIELD* rice system. Pitted morningglory control was excellent with imazethapyr; however, imazethapyr alone is not effective on leguminous weeds such as hemp sesbania and northern jointvetch. Penoxsulam applied the early or late postemergence imazethapyr applications were effective on northern jointvetch. Due to a hailstorm early in the season, broadleaf weed control was highly variable, and most likely not due to the effects of imazethapyr. Hemp sesbania was particularly affected by the hailstorm. Yields among treatments were not different, probably due to the excellent barnyardgrass and broadleaf signalgrass control with imazethapyr applications.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ECHCG	Barnyardgrass	<i>Echinochloa crus-galli</i>
2.	BRAPP	Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
3.	SEBEX	Sesbania, hemp	<i>Sesbania exaltata</i>
4.	AESVI	Northern jointvetch	<i>Aeschynomene virginica</i>
5.	IPOLA	Morningglory, pitted	<i>Ipomoea lacunosa</i>
6.	LEPPA	Sprangletop, Amazon	<i>Leptochloa panicoides</i>

Crop 1: ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** CL161
Planting Date: 5-10-04 **Planting Method:** DRILLED
Rate: 90 LB/A **Depth:** 0.75 IN
Row Spacing: 7 IN **Seed Bed:** SMOOTH **Emergence Date:** 5-16-04

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

		Previous Crops	Previous Pesticides	Year
1.	FALLOW	GLYPHOSATE		2003

MAINTENANCE

Field Prep./Maintenance: Study area was tilled in the fall and land-planed. Prior to planting, study area was field cultivated. Following planting, study area was rolled with a 7 ft roller.

SOIL DESCRIPTION

% Sand: 8	% OM: 0.94	Texture: SILT LOAM
% Silt: 75	pH: 5.8	Soil Name: DEWITT
% Clay: 16	CEC: 14.3	Fert. Level: ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5-1-04		0.55	IN	RAIN		
2.	5-2-04		0.1	IN	RAIN		
3.	5-3-04		0.05	IN	RAIN		
4.	5-10-04		0.02	IN	RAIN		
5.	5-11-04		0.13	IN	RAIN		
6.	5-12-04		1	IN	RAIN		
7.	5-13-04		0.18	IN	RAIN		
8.	5-14-04		2.4	IN	RAIN		
9.	5-15-04		0.05	IN	RAIN		
10.	5-16-04		0.03	IN	RAIN		
11.	5-17-04		0.12	IN	RAIN		
12.	5-18-04		0.05	IN	RAIN		
13.	5-24-04				FLUSH		
14.	5-28-04		0.45	IN	RAIN		
15.	5-29-04		0.35	IN	RAIN		
16.	5-31-04		1	IN	RAIN		
17.	6-3-04		1.2	IN	RAIN		
18.	6-6-04		0.03	IN	RAIN		
19.	6-9-04				FLUSH		
20.	6-15-04				FLOOD		
21.	6-16-04		0.27	IN	RAIN		
22.	6-17-04		0.05	IN	RAIN		
23.	6-22-04		2.5	IN	RAIN		
24.	6-23-04		1	IN	RAIN		
25.	6-25-04		0.1	IN	RAIN		
26.	6-28-04		0.9	IN	RAIN		
27.	6-29-04		0.03	IN	RAIN		
28.	6-30-04		0.3	IN	RAIN		
29.	7-1-04		0.21	IN	RAIN		
30.	7-2-04		0.13	IN	RAIN		
31.	7-3-04		0.45	IN	RAIN		
32.	7-5-04		0.3	IN	RAIN		
33.	7-9-04		0.15	IN	RAIN		
34.	7-17-04		0.13	IN	RAIN		
35.	7-18-04		0.03	IN	RAIN		
36.	7-25-04		0.02	IN	RAIN		
37.	7-26-04		0.08	IN	RAIN		
38.	7-30-04		0.08	IN	RAIN		
39.	7-31-04		2	IN	RAIN		
40.	8-5-04		0.87	IN	RAIN		
41.	8-12-04		0.05	IN	RAIN		
42.	8-20-04		0.25	IN	RAIN		
43.	8-23-04		0.01	IN	RAIN		
44.	8-24-04		0.6	IN	RAIN		
45.	8-25-04		0.3	IN	RAIN		
46.	8-29-04		0.08	IN	RAIN		
47.	8-30-04		0.03	IN	RAIN		
48.	9-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B	C
Application Date:	5-23-04	6-8-04	6-22-04
Time of Day:	10:00 PM	5:33 PM	7:52 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	1-3 LF	4-LF	POFLD1WK
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	79 F	88 F	74 F
% Relative Humidity:	99	71	100
Wind Velocity, Unit:	2 S	2 S	2 S
Dew Presence (Y/N):	N	N	Y
Water Hardness:	N/A	N/A	N/A
Soil Temp., Unit:	80 F	88 F	71 F
Soil Moisture:	ADEQUATE	ADEQUATE	FLOOD
% Cloud Cover:	15	100	90

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI
Stage Scale:	1-3 LF	4 LF	POFLD1WK
Height, Unit:	4 IN	8 IN	24 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	ECHCG	ECHCG	ECHCG
Stage Scale:	1-2 LF	3-4 LF	4LF-4TILL
Weed 2 Code, Stage:	BRAPP	BRAPP	BRAPP
Stage Scale:	1-2 LF	3 LF	4LF-2TILL
Weed 3 Code, Stage:	SEBEX	SEBEX	SEBEX
Stage Scale:	2 LF	4-5 LF	5 LF
Weed 4 Code, Stage:	AESVI	AESVI	AESVI
Stage Scale:	2 LF	3-4 LF	6 LF
Weed 5 Code, Stage:	IPOLA	IPOLA	IPOLA
Stage Scale:	1 LF	2-4 LF	6-9 LF
Weed 6 Code, Stage:	LEPPA	LEPPA	LEPPA
Stage Scale:	N/A	N/A	N/A

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	C02 BKPCK	C02 BKPCK	C02 BKPCK
Operating Pressure:	23 PSI	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	110015 DG	80015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN	40 IN
Boom Height, Unit:	15 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA

University of Arkansas

Evaluation of Grasp in the CLEARFIELD* rice system

Trial ID: STUT 0405
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ECHCG	ECHCG	BRAPP
						INJURY PERCENT	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT
						5-31-04	5-31-04	6-22-04	5-31-04

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	INJURY PERCENT	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT
1	Untreated check				0	0	0	0
2	Imazethapyr (Newpath)	0.063	lb ai/a	1-3 LF	0	68	100	25
2	COC	1.25	% v/v	1-3 LF				
2	Imazethapyr	0.063	lb ai/a	4 LF				
2	COC	1.25	% v/v	4 LF				
3	Imazethapyr	0.063	lb ai/a	1-3 LF	0	54	100	14
3	Penoxsulam (Grasp)	0.031	lb ai/a	1-3 LF				
3	COC	1.25	% v/v	1-3 LF				
3	Imazethapyr	0.063	lb ai/a	4 LF				
3	COC	1.25	% v/v	4 LF				
4	Imazethapyr	0.063	lb ai/a	1-3 LF	0	66	100	11
4	COC	1.25	% v/v	1-3 LF				
4	Imazethapyr	0.063	lb ai/a	4 LF				
4	Penoxsulam	0.031	lb ai/a	4 LF				
4	COC	1.25	% v/v	4 LF				
5	Imazethapyr	0.063	lb ai/a	1-3 LF	0	54	100	10
5	COC	1.25	% v/v	1-3 LF				
5	Imazethapyr	0.063	lb ai/a	4 LF				
5	Penoxsulam	0.031	lb ai/a	4 LF				
5	COC	1.25	% v/v	4 LF				
5	Cyhalofop-butyl (Clincher)	0.28	lb ai/a	1WKPOFLD				
5	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					NS	NS	NS	12

University of Arkansas

Evaluation of Grasp in the CLEARFIELD* rice system

Trial ID: STUT 0405
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code	BRAPP	IPOLA	IPOLA	AESVI
Crop Code				
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-22-04	5-31-04	6-22-04	6-8-04

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	BRAPP	IPOLA	IPOLA	AESVI
1	Untreated check				0	0	0	0
2	Imazethapyr	0.063	lb ai/a	1-3 LF	100	25	100	58
2	(Newpath)							
2	COC	1.25	% v/v	1-3 LF				
2	Imazethapyr	0.063	lb ai/a	4 LF				
2	COC	1.25	% v/v	4 LF				
3	Imazethapyr	0.063	lb ai/a	1-3 LF	100	28	100	76
3	Penoxsulam	0.031	lb ai/a	1-3 LF				
3	(Grasp)							
3	COC	1.25	% v/v	1-3 LF				
3	Imazethapyr	0.063	lb ai/a	4 LF				
3	COC	1.25	% v/v	4 LF				
4	Imazethapyr	0.063	lb ai/a	1-3 LF	100	25	100	41
4	COC	1.25	% v/v	1-3 LF				
4	Imazethapyr	0.063	lb ai/a	4 LF				
4	Penoxsulam	0.031	lb ai/a	4 LF				
4	COC	1.25	% v/v	4 LF				
5	Imazethapyr	0.063	lb ai/a	1-3 LF	100	9	98	30
5	COC	1.25	% v/v	1-3 LF				
5	Imazethapyr	0.063	lb ai/a	4 LF				
5	Penoxsulam	0.031	lb ai/a	4 LF				
5	COC	1.25	% v/v	4 LF				
5	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
5	(Clincher)							
5	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					NS	21	3	26

University of Arkansas

Evaluation of Grasp in the CLEARFIELD* rice system

Trial ID: STUT 0405
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				AESVI	SEBEX	SEBEX	ORYSI	
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				7-21-04	5-31-04	6-22-04	9-30-04	
Trt	Treatment	Rate	Unit	Grow				
No.	Name			Stg				
1	Untreated check				0	0	0	5523
2	Imazethapyr	0.063	lb ai/a	1-3 LF	3	38	19	8682
2	(Newpath)							
2	COC	1.25	% v/v	1-3 LF				
2	Imazethapyr	0.063	lb ai/a	4 LF				
2	COC	1.25	% v/v	4 LF				
3	Imazethapyr	0.063	lb ai/a	1-3 LF	98	59	86	8771
3	Penoxsulam	0.031	lb ai/a	1-3 LF				
3	(Grasp)							
3	COC	1.25	% v/v	1-3 LF				
3	Imazethapyr	0.063	lb ai/a	4 LF				
3	COC	1.25	% v/v	4 LF				
4	Imazethapyr	0.063	lb ai/a	1-3 LF	97	11	80	8026
4	COC	1.25	% v/v	1-3 LF				
4	Imazethapyr	0.063	lb ai/a	4 LF				
4	Penoxsulam	0.031	lb ai/a	4 LF				
4	COC	1.25	% v/v	4 LF				
5	Imazethapyr	0.063	lb ai/a	1-3 LF	88	14	83	9118
5	COC	1.25	% v/v	1-3 LF				
5	Imazethapyr	0.063	lb ai/a	4 LF				
5	Penoxsulam	0.031	lb ai/a	4 LF				
5	COC	1.25	% v/v	4 LF				
5	Cyhalofop-butyl	0.28	lb ai/a	1WKPOFLD				
5	(Clincher)							
5	COC	2.5	% v/v	1WKPOFLD				
LSD (P=.05)					15	21	23	1658

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Talbert, Ottis, Ellis
Affiliation: University of Arkansas
Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart
State/Prov.: Ark.
Trial Status: Completed
Initiation Date: May-10-04

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

Objective: To evaluate the potential of IR5878 in a weed control program

Conclusions: Initially, there was stunting in many plots due to standing water, but there were no treatment effects on injury. Slight bleaching was observed from 1-2 LF applications of clomazone. Weed control as a result of 1-2 LF applications was at least 90% for all weeds evaluated 2 wk after treatment (WAT). One wk after flood (WAF) barnyardgrass control was higher when clomazone was applied PRE rather than at 1-2 LF rice. Late-season evaluations indicated at least 90% barnyardgrass and broadleaf signalgrass control with all applications. Pitted morningglory control was at least 88% as a result of 1-2 LF applications. Ratings following application of the flood indicated excellent pitted morningglory control with all treatments. One WAF, northern jointvetch control was slightly higher when IR5878 was included with propanil + bensulfuron as opposed to IR5878 + propanil. Hemp sesbania control was slightly better with PREFLD tank mixtures than 1-2 LF applications 1 WAF. Late-season ratings indicated excellent hemp sesbania control with all treatments. A hail storm with high winds on June 3 affected broadleaf weed populations by destroying the terminal buds. Weed control ratings may be an indication of this damage. Rice yields were excellent, with minor differences among treatments, and did not appear to be affected by early-season hail damage.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ECHCG	Barnyardgrass, common	<i>Echinochloa crus-galli</i>
2.	BRAPP	Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
3.	SEBEX	Sesbania, hemp	<i>Sesbania exaltata</i>
4.	AESVI	Northern jointvetch	<i>Aeschynomene virginica</i>
5.	IPOLA	Morningglory, pitted	<i>Ipomoea lacunosa</i>
6.	HETLI	Ducksalad	<i>Heteranthera limosa</i>

Crop 1: ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS
Planting Date: May-10-04 **Planting Method:** DRILLED
Rate: 90 LB/A **Depth:** 0.75 IN
Row Spacing: 7 IN **Seed Bed:** SMOOTH **Emergence Date:** May-16-04

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 8	% OM: 0.94	Texture: SILT LOAM
% Silt: 75	pH: 5.8	Soil Name: DEWITT SILT LOAM
% Clay: 16	CEC: 14.3	Fert. Level: ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	May-1-04		0.55	IN	RAIN		
2.	May-2-04		0.1	IN	RAIN		
3.	May-3-04		0.05	IN	RAIN		
4.	May-10-04		0.02	IN	RAIN		
5.	May-11-04		0.13	IN	RAIN		
6.	May-12-04		1	IN	RAIN		
7.	May-13-04		0.18	IN	RAIN		
8.	May-14-04		2.4	IN	RAIN		
9.	May-15-04		0.05	IN	RAIN		
10.	May-16-04		0.03	IN	RAIN		
11.	May-17-04		0.12	IN	RAIN		
12.	May-18-04		0.05	IN	RAIN		
13.	May-24-04				FLUSH		
14.	May-28-04		0.45	IN	RAIN		
15.	May-29-04		0.35	IN	RAIN		
16.	May-31-04		1	IN	RAIN		
17.	Jun-3-04		1.2	IN	RAIN		
18.	Jun-6-04		0.03	IN	RAIN		
19.	Jun-9-04				FLUSH		
20.	Jun-15-04				FLOOD		
21.	Jun-16-04		0.27	IN	RAIN		
22.	Jun-17-04		0.05	IN	RAIN		
23.	Jun-22-04		2.5	IN	RAIN		
24.	Jun-23-04		1	IN	RAIN		
25.	Jun-25-04		0.1	IN	RAIN		
26.	Jun-28-04		0.9	IN	RAIN		
27.	Jun-29-04		0.03	IN	RAIN		
28.	Jun-30-04		0.3	IN	RAIN		
29.	Jul-1-04		0.21	IN	RAIN		
30.	Jul-2-04		0.13	IN	RAIN		
31.	Jul-3-04		0.45	IN	RAIN		
32.	Jul-5-04		0.3	IN	RAIN		
33.	Jul-9-04		0.15	IN	RAIN		
34.	Jul-17-04		0.13	IN	RAIN		
35.	Jul-18-04		0.03	IN	RAIN		
36.	Jul-25-04		0.02	IN	RAIN		
37.	Jul-26-04		0.08	IN	RAIN		
38.	Jul-30-04		0.08	IN	RAIN		
39.	Jul-31-04		2	IN	RAIN		
40.	Aug-5-04		0.87	IN	RAIN		
41.	Aug-12-04		0.05	IN	RAIN		
42.	Aug-20-04		0.25	IN	RAIN		
43.	Aug-23-04		0.01	IN	RAIN		
44.	Aug-24-04		0.6	IN	RAIN		
45.	Aug-25-04		0.3	IN	RAIN		
46.	Aug-29-04		0.08	IN	RAIN		
47.	Aug-30-04		0.03	IN	RAIN		
48.	Sep-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-12-04	May-23-04	Jun-14-04
Time of Day:	6:00 AM	10:00 PM	5:00 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	1-2 LF	PREFLD
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	74 F	79 F	90 F
% Relative Humidity:	100	99	53
Wind Velocity, Unit:	3 S	2 S	2 S
Dew Presence (Y/N):	N	N	N
Water Hardness:	N/A	N/A	N/A
Soil Temp., Unit:	70 F	80 F	90 F
Soil Moisture:	MOIST	ADEQUATE	ADEQUATE
% Cloud Cover:	90	15	98

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI
Stage Scale:	PRE	1-2 LF	PREFLD
Height, Unit:		6 IN	14 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	ECHCG	ECHCG	ECHCG
Stage Scale:	PRE	1-2 LF	3-7 LF
Weed 2 Code, Stage:	BRAPP	BRAPP	BRAPP
Stage Scale:	PRE	1-2 LF	3-7 LF
Weed 3 Code, Stage:	SEBEX	SEBEX	SEBEX
Stage Scale:	PRE	3 LF	8 LF
Weed 4 Code, Stage:	AESVI	AESVI	AESVI
Stage Scale:	PRE	3 LF	9 LF
Weed 5 Code, Stage:	IPOLA	IPOLA	IPOLA
Stage Scale:	PRE	1 LF	10 LF
Weed 6 Code, Stage:	HETLI	HETLI	HETLI
Stage Scale:	PRE	N/A	N/A

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	BCKPK	BCKPK	BCKPK
Operating Pressure:	23 PSI	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	110015DG	110015DG	110015DG
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN	40 IN
Boom Height, Unit:	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA
Propellant:	CO2	CO2	CO2

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code					ORYSI	ORYSI	ECHCG	ECHCG	BRAPP
Crop Code									
Part Rated									
Rating Data Type					INJURY	BLEACH	CONTROL	CONTROL	CONTROL
Rating Unit					PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date					Jun-21-04	Jun-8-04	Jun-8-04	Jul-14-04	Jun-8-04
Trt Treatment	Rate	Rate	Grow						
No. Name		Unit	Stg						
1 Untreated check				0	0	0	0	0	0
2 Clomazone	0.3	lb ai/a	1-2 LF	0	4	94	91	90	
2 (Command)									
2 IR5878	0.5	oz/a	1-2 LF						
2 NIS	0.2	% v/v	1-2 LF						
3 Clomazone	0.3	lb ai/a	1-2 LF	1	4	96	94	92	
3 IR5878	1	oz/a	1-2 LF						
3 NIS	0.2	% v/v	1-2 LF						
4 Clomazone	0.3	lb ai/a	1-2 LF	3	4	95	93	91	
4 IR5878	2	oz/a	1-2 LF						
4 NIS	0.2	% v/v	1-2 LF						
5 Clomazone	0.3	lb ai/a	PRE	4			98		
5 IR5878	0.5	oz/a	PREFLD						
5 Propanil	4	qt/a	PREFLD						
5 (SuperWham)									
5 NIS	0.2	% v/v	PREFLD						
6 Clomazone	0.3	lb ai/a	PRE	5			98		
6 IR5878	1	oz/a	PREFLD						
6 Propanil	4	qt/a	PREFLD						
6 NIS	0.2	% v/v	PREFLD						
7 Clomazone	0.3	lb ai/a	PRE	5			96		
7 IR5878	2	oz/a	PREFLD						
7 Propanil	4	qt/a	PREFLD						
7 NIS	0.2	% v/v	PREFLD						
8 Clomazone	0.3	lb ai/a	PRE	3			96		
8 IR5878	0.5	oz/a	PREFLD						
8 Propanil + bensulfuron	4	qt/a	PREFLD						
8 (Duet)									
8 NIS	0.2	% v/v	PREFLD						
9 Clomazone	0.3	lb ai/a	PRE	4			96		
9 IR5878	1	oz/a	PREFLD						
9 Propanil + bensulfuron	4	qt/a	PREFLD						
9 NIS	0.2	% v/v	PREFLD						
LSD (P=.05)				5	4	6	6	8	

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code					ECHCG	ECHCG	BRAPP	
Crop Code				ORYSI	ORYSI			
Part Rated								
Rating Data Type				INJURY	BLEACH	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				Jun-21-04	Jun-8-04	Jun-8-04	Jul-14-04	
Trt Treatment	Rate	Rate	Grow					
No. Name		Unit	Stg					
10 Clomazone	0.3	lb ai/a	PRE	4			96	
10 IR5878	2	oz/a	PREFLD					
10 Propanil + bensulfuron	4	qt/a	PREFLD					
10 NIS	0.2	% v/v	PREFLD					
11 Clomazone	0.3	lb ai/a	PRE	4			99	
12 Clomazone	0.3	lb ai/a	1-2 LF	3	4	97	96	
12 Halosulfuron	0.063	lb ai/a	1-2 LF				98	
12 (Permit)								
12 NIS	0.2	% v/v	1-2 LF					
13 Clomazone	0.3	lb ai/a	PRE	5			98	
13 Halosulfuron	0.063	lb ai/a	PREFLD					
13 Propanil	4	qt/a	PREFLD					
13 NIS	0.2	% v/v	PREFLD					
LSD (P=.05)				5	4	6	6	8

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				BRAPP	IPOLA	IPOLA	AESVI	AESVI	
Crop Code									
Part Rated									
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				Jul-14-04	Jun-8-04	Jul-14-04	Jun-8-04	Jul-14-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated check				0	0	0	0	
2	Clomazone	0.3	lb ai/a	1-2 LF	100	90	100	90	
2	(Command)								
2	IR5878	0.5	oz/a	1-2 LF					
2	NIS	0.2	% v/v	1-2 LF					
3	Clomazone	0.3	lb ai/a	1-2 LF	99	88	100	92	
3	IR5878	1	oz/a	1-2 LF					
3	NIS	0.2	% v/v	1-2 LF					
4	Clomazone	0.3	lb ai/a	1-2 LF	100	92	100	93	
4	IR5878	2	oz/a	1-2 LF					
4	NIS	0.2	% v/v	1-2 LF					
5	Clomazone	0.3	lb ai/a	PRE	100		100	100	
5	IR5878	0.5	oz/a	PREFLD					
5	Propanil	4	qt/a	PREFLD					
5	(SuperWham)								
5	NIS	0.2	% v/v	PREFLD					
6	Clomazone	0.3	lb ai/a	PRE	100		100	100	
6	IR5878	1	oz/a	PREFLD					
6	Propanil	4	qt/a	PREFLD					
6	NIS	0.2	% v/v	PREFLD					
7	Clomazone	0.3	lb ai/a	PRE	99		100	100	
7	IR5878	2	oz/a	PREFLD					
7	Propanil	4	qt/a	PREFLD					
7	NIS	0.2	% v/v	PREFLD					
8	Clomazone	0.3	lb ai/a	PRE	100		100	100	
8	IR5878	0.5	oz/a	PREFLD					
8	Propanil + bensulfuron	4	qt/a	PREFLD					
8	(Duet)								
8	NIS	0.2	% v/v	PREFLD					
9	Clomazone	0.3	lb ai/a	PRE	100		100	100	
9	IR5878	1	oz/a	PREFLD					
9	Propanil + bensulfuron	4	qt/a	PREFLD					
9	NIS	0.2	% v/v	PREFLD					
LSD (P=.05)					1	12	NS	10	3

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				BRAPP	IPOLA	IPOLA	AESVI	AESVI	
Crop Code									
Part Rated									
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				Jul-14-04	Jun-8-04	Jul-14-04	Jun-8-04	Jul-14-04	
Trt	Treatment	Rate	Grow						
No.	Name	Rate	Unit	Stg					
10	Clomazone	0.3	lb ai/a	PRE	100		100	100	
10	IR5878	2	oz/a	PREFLD					
10	Propanil + bensulfuron	4	qt/a	PREFLD					
10	NIS	0.2	% v/v	PREFLD					
11	Clomazone	0.3	lb ai/a	PRE	100		100	97	
12	Clomazone	0.3	lb ai/a	1-2 LF	100	95	100	100	
12	Halosulfuron	0.063	lb ai/a	1-2 LF					
12	(Permit)								
12	NIS	0.2	% v/v	1-2 LF					
13	Clomazone	0.3	lb ai/a	PRE	100		100	100	
13	Halosulfuron	0.063	lb ai/a	PREFLD					
13	Propanil	4	qt/a	PREFLD					
13	NIS	0.2	% v/v	PREFLD					
LSD (P=.05)					1	12	NS	10	3

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				SEBEX	SEBEX	
Crop Code						ORYSI
Part Rated						
Rating Data Type				CONTROL	CONTROL	YIELD
Rating Unit				PERCENT	PERCENT	KG/HA
Rating Date				Jun-8-04	Jul-14-04	Sep-30-04
Trt Treatment	Rate	Rate	Grow			
No. Name		Unit	Stg			
1 Untreated check				0	0	4960
2 Clomazone	0.3	lb ai/a	1-2 LF	94	100	9002
2 (Command)						
2 IR5878	0.5	oz/a	1-2 LF			
2 NIS	0.2	% v/v	1-2 LF			
3 Clomazone	0.3	lb ai/a	1-2 LF	95	100	8827
3 IR5878	1	oz/a	1-2 LF			
3 NIS	0.2	% v/v	1-2 LF			
4 Clomazone	0.3	lb ai/a	1-2 LF	97	100	8889
4 IR5878	2	oz/a	1-2 LF			
4 NIS	0.2	% v/v	1-2 LF			
5 Clomazone	0.3	lb ai/a	PRE		100	9241
5 IR5878	0.5	oz/a	PREFLD			
5 Propanil	4	qt/a	PREFLD			
5 (SuperWham)						
5 NIS	0.2	% v/v	PREFLD			
6 Clomazone	0.3	lb ai/a	PRE		100	9948
6 IR5878	1	oz/a	PREFLD			
6 Propanil	4	qt/a	PREFLD			
6 NIS	0.2	% v/v	PREFLD			
7 Clomazone	0.3	lb ai/a	PRE		100	9010
7 IR5878	2	oz/a	PREFLD			
7 Propanil	4	qt/a	PREFLD			
7 NIS	0.2	% v/v	PREFLD			
8 Clomazone	0.3	lb ai/a	PRE		100	9362
8 IR5878	0.5	oz/a	PREFLD			
8 Propanil + bensulfuron	4	qt/a	PREFLD			
8 (Duet)						
8 NIS	0.2	% v/v	PREFLD			
9 Clomazone	0.3	lb ai/a	PRE		100	8962
9 IR5878	1	oz/a	PREFLD			
9 Propanil + bensulfuron	4	qt/a	PREFLD			
9 NIS	0.2	% v/v	PREFLD			
LSD (P=.05)				5	2	1368

University of Arkansas

Evaluation of IR5878 in a Conventional Rice Weed Control Program

Trial ID: STUT 0406
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				SEBEX	SEBEX		
Crop Code						ORYSI	
Part Rated							
Rating Data Type				CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	KG/HA	
Rating Date				Jun-8-04	Jul-14-04	Sep-30-04	
Trt	Treatment	Rate	Rate	Grow			
No.	Name		Unit	Stg			
10	Clomazone	0.3	lb ai/a	PRE	100	9898	
10	IR5878	2	oz/a	PREFLD			
10	Propanil + bensulfuron	4	qt/a	PREFLD			
10	NIS	0.2	% v/v	PREFLD			
11	Clomazone	0.3	lb ai/a	PRE	97	8941	
12	Clomazone	0.3	lb ai/a	1-2 LF	100	8202	
12	Halosulfuron	0.063	lb ai/a	1-2 LF			
12	(Permit)						
12	NIS	0.2	% v/v	1-2 LF			
13	Clomazone	0.3	lb ai/a	PRE	100	9517	
13	Halosulfuron	0.063	lb ai/a	PREFLD			
13	Propanil	4	qt/a	PREFLD			
13	NIS	0.2	% v/v	PREFLD			
LSD (P=.05)					5	2	1368

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407

Study Dir.: Talbert, Ottis, Ellis

Location: Stuttgart, Ark.

Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Talbert, Ottis, Ellis
Affiliation: University of Arkansas
Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart
State/Prov.: Ark.
Trial Status: Completed
Initiation Date: May-10-04

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

Objective: To evaluate the potential of IR5878 in the CLEARFIELD rice system

Conclusions: Early season rice injury in some plots was the result of excessive standing water; however, injury was minimal. Grass control was excellent with all treatments as a result of sequential imazethapyr applications. A single imazethapyr application provided moderate control of pitted morningglory 1 wk after flood (WAF). Control of pitted morningglory was excellent with all other applications at both rating intervals. Northern jointvetch control 1 WAF was excellent when IR5878 at one and two oz/A was included with propanil PREFLD. Late-season ratings for northern jointvetch indicated excellent control with all treatments having a sequential application of imazethapyr, except when IR5878 (1 oz/A) + propanil (4 lb/A) + bensulfuron (0.5 oz/A) was applied PREFLD. Hemp sesbania control was slightly better than northern jointvetch at the early rating; however a hailstorm June 3 accompanied with high winds injured broadleaf weeds, and ratings may be somewhat higher as a result of injury from hail damage.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ECHCG	Barnyardgrass, common	<i>Echinochloa crus-galli</i>
2.	BRAPP	Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
3.	SEBEX	Sesbania, hemp	<i>Sesbania exaltata</i>
4.	AESVI	Northern jointvetch	<i>Aeschynomene virginica</i>
5.	IPOLA	Morningglory, pitted	<i>Ipomoea lacunosa</i>

Crop 1: ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** CL161
Planting Date: May-10-04 **Planting Method:** DRILLED
Rate: 90 LB/A **Depth:** 0.75 IN
Row Spacing: 7 IN **Seed Bed:** SMOOTH **Emergence Date:** May-16-04

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 8 **% OM:** 0.94 **Texture:** SILT LOAM
% Silt: 75 **pH:** 5.8 **Soil Name:** DEWITT
% Clay: 16 **CEC:** 14.3 **Fert. Level:** ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	May-1-04		0.55	IN	RAIN		
2.	May-2-04		0.1	IN	RAIN		
3.	May-3-04		0.05	IN	RAIN		
4.	May-10-04		0.02	IN	RAIN		
5.	May-11-04		0.13	IN	RAIN		
6.	May-12-04		1	IN	RAIN		
7.	May-13-04		0.18	IN	RAIN		
8.	May-14-04		2.4	IN	RAIN		
9.	May-15-04		0.05	IN	RAIN		
10.	May-16-04		0.03	IN	RAIN		
11.	May-17-04		0.12	IN	RAIN		
12.	May-18-04		0.05	IN	RAIN		
13.	May-24-04				FLUSH		
14.	May-28-04		0.45	IN	RAIN		
15.	May-29-04		0.35	IN	RAIN		
16.	May-31-04		1	IN	RAIN		
17.	Jun-3-04		1.2	IN	RAIN		
18.	Jun-6-04		0.03	IN	RAIN		
19.	Jun-9-04				FLUSH		
20.	Jun-15-04				FLOOD		
21.	Jun-16-04		0.27	IN	RAIN		
22.	Jun-17-04		0.05	IN	RAIN		
23.	Jun-22-04		2.5	IN	RAIN		
24.	Jun-23-04		1	IN	RAIN		
25.	Jun-25-04		0.1	IN	RAIN		
26.	Jun-28-04		0.9	IN	RAIN		
27.	Jun-29-04		0.03	IN	RAIN		
28.	Jun-30-04		0.3	IN	RAIN		
29.	Jul-1-04		0.21	IN	RAIN		
30.	Jul-2-04		0.13	IN	RAIN		
31.	Jul-3-04		0.45	IN	RAIN		
32.	Jul-5-04		0.3	IN	RAIN		
33.	Jul-9-04		0.15	IN	RAIN		
34.	Jul-17-04		0.13	IN	RAIN		
35.	Jul-18-04		0.03	IN	RAIN		
36.	Jul-25-04		0.02	IN	RAIN		
37.	Jul-26-04		0.08	IN	RAIN		
38.	Jul-30-04		0.08	IN	RAIN		
39.	Jul-31-04		2	IN	RAIN		
40.	Aug-5-04		0.87	IN	RAIN		
41.	Aug-12-04		0.05	IN	RAIN		
42.	Aug-20-04		0.25	IN	RAIN		
43.	Aug-23-04		0.01	IN	RAIN		
44.	Aug-24-04		0.6	IN	RAIN		
45.	Aug-25-04		0.3	IN	RAIN		
46.	Aug-29-04		0.08	IN	RAIN		
47.	Aug-30-04		0.03	IN	RAIN		
48.	Sep-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET

APPLICATION DESCRIPTION

	A	B
Application Date:	May-12-04	Jun-14-04
Time of Day:	6:00 AM	5:00 PM
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	PREFLD
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	74 F	90 F
% Relative Humidity:	100	53
Wind Velocity, Unit:	3 S	1.8 SW
Dew Presence (Y/N):	N	N
Water Hardness:	N/A	N/A
Soil Temp., Unit:	70 F	90 F
Soil Moisture:	MOIST	ADEQUATE
% Cloud Cover:	90	98

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ORYSI	ORYSI
Stage Scale:	PRE	PREFLD
Height, Unit:		14 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	ECHCG	ECHCG
Stage Scale:	PRE	2-7 LF
Weed 2 Code, Stage:	BRAPP	BRAPP
Stage Scale:	PRE	3-7 LF
Weed 3 Code, Stage:	SEBEX	SEBEX
Stage Scale:	PRE	7 LF
Weed 4 Code, Stage:	AESVI	AESVI
Stage Scale:	PRE	10 LF
Weed 5 Code, Stage:	IPOLA	IPOLA
Stage Scale:	PRE	3-5 IN

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	BCKPK	BCKPK
Operating Pressure:	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	110015DG	110015DG
Nozzle Spacing, Unit:	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN
Boom Height, Unit:	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA
Propellant:	CO2	CO2

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code					ECHCG	ECHCG	BRAPP	BRAPP	
Crop Code				ORYSI					
Part Rated									
Rating Data Type				INJURY	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				Jun-21-04	Jun-21-04	Jul-14-04	Jun-21-04	Jul-14-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated check				0	0	0	0	
2	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	4	100	98	100	
3	Imazethapyr NIS	0.063 0.2	lb ai/a % v/v	PREFLD PREFLD	0	100	100	100	
4	Imazethapyr	0.063	lb ai/a	PRE	0	100	100	100	
4	Imazethapyr	0.063	lb ai/a	PREFLD					
4	NIS	0.2	% v/v	PREFLD					
5	Imazethapyr	0.063	lb ai/a	PRE	5	100	100	100	
5	Imazethapyr	0.063	lb ai/a	PREFLD					
5	IR5878	0.067	lb ai/a	PREFLD					
5	NIS	0.2	% v/v	PREFLD					
6	Imazethapyr	0.063	lb ai/a	PRE	6	100	100	100	
6	Imazethapyr	0.063	lb ai/a	PREFLD					
6	Halosulfuron (Permit)	0.063	lb ai/a	PREFLD					
6	NIS	0.2	% v/v	PREFLD					
7	Imazethapyr	0.063	lb ai/a	PRE	0	100	100	100	
7	Imazethapyr	0.063	lb ai/a	PREFLD					
7	Propanil + bensulfuron (Duet)	4	qt/a	PREFLD					
7	NIS	0.2	% v/v	PREFLD					
8	Imazethapyr	0.063	lb ai/a	PRE	3	88	98	88	
8	Imazethapyr	0.063	lb ai/a	PREFLD					
8	Propanil (SuperWham)	4	qt/a	PREFLD					
8	NIS	0.2	% v/v	PREFLD					
9	Imazethapyr	0.063	lb ai/a	PRE	3	100	100	97	
9	Imazethapyr	0.063	lb ai/a	PREFLD					
9	IR5878	0.5	oz/a	PREFLD					
9	Propanil	4	qt/a	PREFLD					
9	NIS	0.2	% v/v	PREFLD					
LSD (P=.05)					4	10	3	10	NS

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				ECHCG	ECHCG	BRAPP	BRAPP	
Crop Code			ORYSI					
Part Rated								
Rating Data Type			INJURY	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit			PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date			Jun-21-04	Jun-21-04	Jul-14-04	Jun-21-04	Jul-14-04	
Trt Treatment	Rate	Rate	Grow					
No. Name		Unit	Stg					
10 Imazethapyr	0.063	lb ai/a	PRE	6	100	100	98	100
10 Imazethapyr	0.063	lb ai/a	PREFLD					
10 IR5878	1	oz/a	PREFLD					
10 Propanil	4	qt/a	PREFLD					
10 NIS	0.2	% v/v	PREFLD					
11 Imazethapyr	0.063	lb ai/a	PRE	3	100	100	100	100
11 Imazethapyr	0.063	lb ai/a	PREFLD					
11 IR5878	2	oz/a	PREFLD					
11 Propanil	4	qt/a	PREFLD					
11 NIS	0.2	% v/v	PREFLD					
12 Imazethapyr	0.063	lb ai/a	PRE	1	100	100	98	100
12 Imazethapyr	0.063	lb ai/a	PREFLD					
12 IR5878	0.5	oz/a	PREFLD					
12 Propanil + bensulfuron	4	qt/a	PREFLD					
12 NIS	0.2	% v/v	PREFLD					
13 Imazethapyr	0.063	lb ai/a	PRE	3	100	100	100	100
13 Imazethapyr	0.063	lb ai/a	PREFLD					
13 IR5878	1	oz/a	PREFLD					
13 Propanil + bensulfuron	4	qt/a	PREFLD					
13 NIS	0.2	% v/v	PREFLD					
14 Imazethapyr	0.063	lb ai/a	PRE	0	100	100	100	100
14 Imazethapyr	0.063	lb ai/a	PREFLD					
14 IR5878	2	oz/a	PREFLD					
14 Propanil + bensulfuron	4	qt/a	PREFLD					
14 NIS	0.2	% v/v	PREFLD					
LSD (P=.05)				4	10	3	10	NS

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				IPOLA	IPOLA	AESVI	AESVI	SEBEX	
Crop Code									
Part Rated									
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				Jun-21-04	Jul-14-04	Jun-21-04	Jul-14-04	Jun-21-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated check				0	0	0	0	
2	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	75	100	8	55	33
3	Imazethapyr NIS	0.063 0.2	lb ai/a % v/v	PREFLD PREFLD	100	100	35	100	88
4	Imazethapyr	0.063	lb ai/a	PRE	100	100	15	96	70
4	Imazethapyr NIS	0.063 0.2	lb ai/a % v/v	PREFLD PREFLD					
5	Imazethapyr	0.063	lb ai/a	PRE	100	100	63	100	75
5	Imazethapyr	0.063	lb ai/a	PREFLD					
5	IR5878	0.067	lb ai/a	PREFLD					
5	NIS	0.2	% v/v	PREFLD					
6	Imazethapyr	0.063	lb ai/a	PRE	100	100	50	100	56
6	Imazethapyr	0.063	lb ai/a	PREFLD					
6	Halosulfuron (Permit)	0.063	lb ai/a	PREFLD					
6	NIS	0.2	% v/v	PREFLD					
7	Imazethapyr	0.063	lb ai/a	PRE	100	100	81	100	100
7	Imazethapyr	0.063	lb ai/a	PREFLD					
7	Propanil + bensulfuron (Duet)	4	qt/a	PREFLD					
7	NIS	0.2	% v/v	PREFLD					
8	Imazethapyr	0.063	lb ai/a	PRE	88	100	70	100	88
8	Imazethapyr	0.063	lb ai/a	PREFLD					
8	Propanil (SuperWham)	4	qt/a	PREFLD					
8	NIS	0.2	% v/v	PREFLD					
9	Imazethapyr	0.063	lb ai/a	PRE	100	100	77	100	100
9	Imazethapyr	0.063	lb ai/a	PREFLD					
9	IR5878	0.5	oz/a	PREFLD					
9	Propanil	4	qt/a	PREFLD					
9	NIS	0.2	% v/v	PREFLD					
LSD (P=.05)					21	NS	34	25	39

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

Weed Code				IPOLA	IPOLA	AESVI	AESVI	SEBEX
Crop Code								
Part Rated								
Rating Data Type				CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date				Jun-21-04	Jul-14-04	Jun-21-04	Jul-14-04	Jun-21-04
Trt Treatment	Rate	Rate	Grow					
No. Name		Unit	Stg					
10 Imazethapyr	0.063	lb ai/a	PRE	100	100	98	100	100
10 Imazethapyr	0.063	lb ai/a	PREFLD					
10 IR5878	1	oz/a	PREFLD					
10 Propanil	4	qt/a	PREFLD					
10 NIS	0.2	% v/v	PREFLD					
11 Imazethapyr	0.063	lb ai/a	PRE	100	100	100	100	100
11 Imazethapyr	0.063	lb ai/a	PREFLD					
11 IR5878	2	oz/a	PREFLD					
11 Propanil	4	qt/a	PREFLD					
11 NIS	0.2	% v/v	PREFLD					
12 Imazethapyr	0.063	lb ai/a	PRE	100	100	75	100	100
12 Imazethapyr	0.063	lb ai/a	PREFLD					
12 IR5878	0.5	oz/a	PREFLD					
12 Propanil + bensulfuron	4	qt/a	PREFLD					
12 NIS	0.2	% v/v	PREFLD					
13 Imazethapyr	0.063	lb ai/a	PRE	100	100	75	78	75
13 Imazethapyr	0.063	lb ai/a	PREFLD					
13 IR5878	1	oz/a	PREFLD					
13 Propanil + bensulfuron	4	qt/a	PREFLD					
13 NIS	0.2	% v/v	PREFLD					
14 Imazethapyr	0.063	lb ai/a	PRE	100	100	81	100	88
14 Imazethapyr	0.063	lb ai/a	PREFLD					
14 IR5878	2	oz/a	PREFLD					
14 Propanil + bensulfuron	4	qt/a	PREFLD					
14 NIS	0.2	% v/v	PREFLD					
LSD (P=.05)				21	NS	34	25	39

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

				SEBEX		
					ORYSI	
				CONTROL	YIELD	
				PERCENT	KG/HA	
				Jul-14-04	Sep-30-04	
Trt	Treatment	Rate	Rate	Grow		
No.	Name		Unit	Stg		
1	Untreated check				0	3632
2	Imazethapyr	0.063	lb ai/a	PRE	95	7642
2	(Newpath)					
3	Imazethapyr	0.063	lb ai/a	PREFLD	100	7994
3	NIS	0.2	% v/v	PREFLD		
4	Imazethapyr	0.063	lb ai/a	PRE	98	8209
4	Imazethapyr	0.063	lb ai/a	PREFLD		
4	NIS	0.2	% v/v	PREFLD		
5	Imazethapyr	0.063	lb ai/a	PRE	100	8711
5	Imazethapyr	0.063	lb ai/a	PREFLD		
5	IR5878	0.067	lb ai/a	PREFLD		
5	NIS	0.2	% v/v	PREFLD		
6	Imazethapyr	0.063	lb ai/a	PRE	100	8052
6	Imazethapyr	0.063	lb ai/a	PREFLD		
6	Halosulfuron	0.063	lb ai/a	PREFLD		
6	(Permit)					
6	NIS	0.2	% v/v	PREFLD		
7	Imazethapyr	0.063	lb ai/a	PRE	100	8419
7	Imazethapyr	0.063	lb ai/a	PREFLD		
7	Propanil + bensulfuron	4	qt/a	PREFLD		
7	(Duet)					
7	NIS	0.2	% v/v	PREFLD		
8	Imazethapyr	0.063	lb ai/a	PRE	100	8448
8	Imazethapyr	0.063	lb ai/a	PREFLD		
8	Propanil	4	qt/a	PREFLD		
8	(SuperWham)					
8	NIS	0.2	% v/v	PREFLD		
9	Imazethapyr	0.063	lb ai/a	PRE	100	8047
9	Imazethapyr	0.063	lb ai/a	PREFLD		
9	IR5878	0.5	oz/a	PREFLD		
9	Propanil	4	qt/a	PREFLD		
9	NIS	0.2	% v/v	PREFLD		
LSD (P=.05)					4	1059

University of Arkansas

Evaluation of IR5878 in the CLEARFIELD* Rice System

Trial ID: STUT 0407
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Ellis
Investigator: Ron Talbert

			SEBEX		ORYSI	
			CONTROL		YIELD	
			PERCENT		KG/HA	
			Jul-14-04		Sep-30-04	
Trt	Treatment	Rate	Rate	Grow		
No.	Name		Unit	Stg		
10	Imazethapyr	0.063	lb ai/a	PRE	100	8570
10	Imazethapyr	0.063	lb ai/a	PREFLD		
10	IR5878	1	oz/a	PREFLD		
10	Propanil	4	qt/a	PREFLD		
10	NIS	0.2	% v/v	PREFLD		
11	Imazethapyr	0.063	lb ai/a	PRE	100	8235
11	Imazethapyr	0.063	lb ai/a	PREFLD		
11	IR5878	2	oz/a	PREFLD		
11	Propanil	4	qt/a	PREFLD		
11	NIS	0.2	% v/v	PREFLD		
12	Imazethapyr	0.063	lb ai/a	PRE	100	8219
12	Imazethapyr	0.063	lb ai/a	PREFLD		
12	IR5878	0.5	oz/a	PREFLD		
12	Propanil + bensulfuron	4	qt/a	PREFLD		
12	NIS	0.2	% v/v	PREFLD		
13	Imazethapyr	0.063	lb ai/a	PRE	100	8061
13	Imazethapyr	0.063	lb ai/a	PREFLD		
13	IR5878	1	oz/a	PREFLD		
13	Propanil + bensulfuron	4	qt/a	PREFLD		
13	NIS	0.2	% v/v	PREFLD		
14	Imazethapyr	0.063	lb ai/a	PRE	100	8271
14	Imazethapyr	0.063	lb ai/a	PREFLD		
14	IR5878	2	oz/a	PREFLD		
14	Propanil + bensulfuron	4	qt/a	PREFLD		
14	NIS	0.2	% v/v	PREFLD		
LSD (P=.05)					4	1059

University of Arkansas

Evaluation of Potential Rice-root Pruning as a Result of Applications of Grasp

Trial ID: STUT 0415
Location: Stuttgart

Study Dir.: Ottis, Talbert, Ellis
Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Ottis, Talbert, Ellis
Affiliation: University of Arkansas
Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart **Trial Status:** Completed
State: Ark. **Initiation Date:** May-22-04

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

Objective: To evaluate the effect of penoxsulam (Grasp) application timing on root pruning in rice.

Conclusions: Results of this study confirmed that early-season root pruning as a result of penoxsulam applications do not result in yield loss. Root pruning appeared to be most severe 2 wk after flood (WAF); however, by 3 WAF there was no root pruning evident in any treatment. Root pruning was not dependent on penoxsulam rate. The 4-5 lf application of penoxsulam resulted in the highest numerical pruning, but was not different from other timings 2 WAF. Root pruning appears to be transient and does not have long-term effects on yield.

Crop 1: ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** WELLS
Planting Date: May-22-04 **Planting Method:** DRILLED
Rate: 90 LB/A **Depth:** 0.75 IN
Row Spacing: 7 IN **Seed Bed:** MEDIUM **Emergence Date:** May-27-04

SITE AND DESIGN

Plot Width, Unit: 5 FT **Plot Length, Unit:** 16 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** FACTORIAL

Trial Initiation Comments: Following planting, and blanket application of clomazone (Command) at 0.35 lb/A was applied for grass weed control.

Previous Crops	Previous Pesticides	Year
1. FALLOW		

MAINTENANCE

Field Prep./Maintenance:

Prior to flood, triclopyr at 0.25 lb/A + halosulfuron at 0.047 lb/A + COC was applied for broadleaf weed control. Three d after flood, cyhalofop-butyl at 0.25 lb/A + COC was applied for grass control

Root pruning evaluations taken 1 wk after flood were made by slowly pulling a plant from the untreated plots within each replication. Then, single plants from treated plots were pulled and compared visually by estimating the percentage of root mass reduction among single plants in the treated plots compared to the untreated plant.

Later ratings were made by sampling 2 plants from each plot compared to an untreated check. Therefore, an average of these ratings was calculated for the best representation of root pruning following penoxsulam applications.

SOIL DESCRIPTION

% Sand: 8	% OM: 0.94	Texture: SILT LOAM
% Silt: 75	pH: 5.8	Soil Name: DEWITT
% Clay: 16	CEC: 14.3	Fert. Level: ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	May-1-04		0.55	IN	RAIN		
2.	May-2-04		0.1	IN	RAIN		
3.	May-3-04		0.05	IN	RAIN		
4.	May-10-04		0.02	IN	RAIN		
5.	May-11-04		0.13	IN	RAIN		
6.	May-12-04		1	IN	RAIN		
7.	May-13-04		0.18	IN	RAIN		
8.	May-14-04		2.4	IN	RAIN		
9.	May-15-04		0.05	IN	RAIN		
10.	May-16-04		0.03	IN	RAIN		
11.	May-17-04		0.12	IN	RAIN		
12.	May-18-04		0.05	IN	RAIN		
13.	May-26-04				FLUSH		
14.	May-28-04		0.45	IN	RAIN		
15.	May-29-04		0.35	IN	RAIN		
16.	May-31-04		1	IN	RAIN		
17.	Jun-3-04		1.2	IN	RAIN		
18.	Jun-6-04		0.03	IN	RAIN		
19.	Jun-9-04				FLUSH		
20.	Jun-16-04		0.27	IN	RAIN		
21.	Jun-17-04		0.05	IN	RAIN		
22.	Jun-22-04		2.5	IN	RAIN		
23.	Jun-23-04		1	IN	RAIN		
24.	Jun-25-04		0.1	IN	RAIN		
25.	Jun-28-04		0.9	IN	RAIN		
26.	Jun-28-04				FLOOD		
27.	Jun-29-04		0.03	IN	RAIN		
28.	Jun-30-04		0.3	IN	RAIN		
29.	Jul-1-04		0.21	IN	RAIN		
30.	Jul-2-04		0.13	IN	RAIN		
31.	Jul-3-04		0.45	IN	RAIN		
32.	Jul-5-04		0.3	IN	RAIN		
33.	Jul-9-04		0.15	IN	RAIN		
34.	Jul-17-04		0.13	IN	RAIN		
35.	Jul-18-04		0.03	IN	RAIN		
36.	Jul-25-04		0.02	IN	RAIN		
37.	Jul-26-04		0.08	IN	RAIN		
38.	Jul-30-04		0.08	IN	RAIN		
39.	Jul-31-04		2	IN	RAIN		
40.	Aug-5-04		0.87	IN	RAIN		
41.	Aug-12-04		0.05	IN	RAIN		
42.	Aug-20-04		0.25	IN	RAIN		
43.	Aug-23-04		0.01	IN	RAIN		
44.	Aug-24-04		0.6	IN	RAIN		
45.	Aug-25-04		0.3	IN	RAIN		
46.	Aug-29-04		0.08	IN	RAIN		
47.	Aug-30-04		0.03	IN	RAIN		
48.	Sep-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Jun-8-04	Jun-22-04	Jul-5-04	Jul-27-04
Time of Day:	5:33 PM	7:52 AM	2:00 PM	3:30 PM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	1-2 LF	4-5 LF	POFLD1WK	PI
Applic. Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	88 F	74 F	90 F	86 F
% Relative Humidity:	71	100	100	50
Wind Velocity, Unit:	2 S	2 S	3 SW	3 S
Dew Presence (Y/N):	N	Y	N	N
Water Hardness:	N/A	N/A	N/A	N/A
Soil Temp., Unit:	88 F	71 F	90 F	84 F
Soil Moisture:	ADEQUATE	WET	FLOOD	FLOOD
% Cloud Cover:	100	90	40	25

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI	ORYSI
Stage Scale:	1-2 LF	4-5 LF		
Height, Unit:	2 IN	8 IN	24 IN	38 IN

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	C02 BKPCK	C02 BKPCK	C02 BKPCK	C02 BKPCK
Operating Pressure:	23 PSI	23 PSI	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	110015 DG	80015 DG	80015 DG	80015 DG
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN	40 IN	40 IN
Boom Height, Unit:	15 IN	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	10 GPA

University of Arkansas

Evaluation of Potential Rice-root Pruning as a Result of Applications of Grasp

Trial ID: STUT 0415
Location: Stuttgart

Study Dir.: Ottis, Talbert, Ellis
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ORYSI	ORYSI	ORYSI
						RT PRUNING PERCENT Jul-6-04	RT PRUNING PERCENT Jul-14-04	RT PRUNING PERCENT Jul-21-04	YIELD KG/HA Sep-30-04
Trt	Treatment	Rate	Rate Unit	Grow Stg					
1	Penoxsulam	0.031	lb ai/a			25	38	0	5100
1	(Grasp)								
1	COC	2.5	% v/v						
1	1-2 Leaf Timing			1-2 LF					
2	Penoxsulam	0.031	lb ai/a			31	58	0	5468
2	COC	2.5	% v/v						
2	4-5 Leaf Timing			4-5 LF					
3	Penoxsulam	0.031	lb ai/a			0	37	0	5258
3	COC	2.5	% v/v						
3	Postflood 1 wk			PFLD1WK					
4	Penoxsulam	0.031	lb ai/a			0	0	0	5609
4	COC	2.5	% v/v						
4	Panicle Initiation			PI					
5	Penoxsulam	0.063	lb ai/a			26	41	0	5334
5	COC	2.5	% v/v						
5	1-2 Leaf Timing			1-2 LF					
6	Penoxsulam	0.063	lb ai/a			20	52	0	5525
6	COC	2.5	% v/v						
6	4-5 Leaf Timing			4-5 LF					
7	Penoxsulam	0.063	lb ai/a			0	44	0	5356
7	COC	2.5	% v/v						
7	Postflood 1 wk			PFLD1WK					
8	Penoxsulam	0.063	lb ai/a			0	0	0	5416
8	COC	2.5	% v/v						
8	Panicle Initiation			PI					
9	Untreated A					0	0	0	5560
10	Untreated B					0	0	0	5312
LSD (P=.05)						14	22	NS	NS

University of Arkansas

Evaluation of Cultivar Tolerance to Grasp

Trial ID: STUT 0416
Location: Stuttgart, Ark.

Study Dir.: Ottis, Talbert, Ellis
Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Ottis, Talbert, Ellis
Affiliation: University of Arkansas
Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart
State/Prov.: Ark.
Trial Status: Completed
Initiation Date: May-22-04

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

Objective: To evaluate potential differences in rice cultivar susceptibility to root pruning as a result of penoxsulam (Grasp) applied prior to flood.

Conclusions: This study evaluated differences in cultivar tolerance to 4-5 lf applications of penoxsulam. Previous work showed that rice tends to be most susceptible to root pruning when penoxsulam is applied at the 4-5 lf stage. XL8 (hybrid) showed the most tolerance to penoxsulam root injury. Cocodrie showed the most injury, with Bengal and Wells showing slightly less. Wells was the most sensitive to the rate increase, with root pruning increasing from 38 to 63% 2 wk after flood (WAF). By 3 WAF, no root pruning was evident with any cultivar. Wells produced the lowest overall yield, but no cultivar showed any yield reduction compared to its untreated check.

Crop 1-3:	ORYSI RICE, PADDY (DRY-SEEDED+IRR)	Variety:	Wells, Cocodrie, Bengal
Planting Date:	May-22-04	Planting Method:	DRILLED
Rate:	90 LB/A	Depth:	0.75 IN
		Row Spacing:	7 IN
		Seed Bed:	MEDIUM
Crop 4:	ORYSI RICE, PADDY (DRY-SEEDED+IRR)	Variety:	XL8
Planting Date:	May-22-04	Planting Method:	DRILLED
Rate:	30 LB/A	Depth:	0.75 IN
		Row Spacing:	7 IN
		Seed Bed:	MEDIUM

SITE AND DESIGN

Plot Width, Unit: 5 FT **Plot Length, Unit:** 16 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL **Study Design:** FACTORIAL

Trial Initiation Comments: Following planting, a blanket PRE application of clomazone (Command) at a rate of 0.35 lb/A was applied for grass control.

MAINTENANCE

Field Prep./Maintenance: Prior to flood, triclopyr at 0.25 lb/A + halosulfuron at 0.047 lb/A + COC was applied for broadleaf control. Five d after flood, cyhalofop-butyl at 0.25 lb/A + COC was applied for grass control.

Root pruning evaluations taken 1 WAF were made by slowly pulling a plant from the untreated plots within each replication. Then, single plants from treated plots were pulled and compared visually by estimating the percentage of root mass reduction among single plants in treated plots compared to the control plant.

Later ratings were made by sampling 2 plants from each plot compared to an untreated check. Therefore, an average of these ratings were calculated for the best representation of root pruning following penoxsulam applications.

SOIL DESCRIPTION

% Sand: 8	% OM: 0.94	Texture: SILT LOAM
% Silt: 75	pH: 5.8	Soil Name: DEWITT
% Clay: 16	CEC: 14.3	Fert. Level: ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	May-1-04		0.55	IN	RAIN		
2.	May-2-04		0.1	IN	RAIN		
3.	May-3-04		0.05	IN	RAIN		
4.	May-10-04		0.02	IN	RAIN		
5.	May-11-04		0.13	IN	RAIN		
6.	May-12-04		1	IN	RAIN		
7.	May-13-04		0.18	IN	RAIN		
8.	May-14-04		2.4	IN	RAIN		
9.	May-15-04		0.05	IN	RAIN		
10.	May-16-04		0.03	IN	RAIN		
11.	May-17-04		0.12	IN	RAIN		
12.	May-18-04		0.05	IN	RAIN		
13.	May-26-04				FLUSH		
14.	May-28-04		0.45	IN	RAIN		
15.	May-29-04		0.35	IN	RAIN		
16.	May-31-04		1	IN	RAIN		
17.	Jun-3-04		1.2	IN	RAIN		
18.	Jun-6-04		0.03	IN	RAIN		
19.	Jun-9-04				FLUSH		
20.	Jun-16-04		0.27	IN	RAIN		
21.	Jun-17-04		0.05	IN	RAIN		
22.	Jun-22-04		2.5	IN	RAIN		
23.	Jun-23-04		1	IN	RAIN		
24.	Jun-25-04		0.1	IN	RAIN		
25.	Jun-28-04		0.9	IN	RAIN		
26.	Jun-28-04				FLOOD		
27.	Jun-29-04		0.03	IN	RAIN		
28.	Jun-30-04		0.3	IN	RAIN		
29.	Jul-1-04		0.21	IN	RAIN		
30.	Jul-2-04		0.13	IN	RAIN		
31.	Jul-3-04		0.45	IN	RAIN		
32.	Jul-5-04		0.3	IN	RAIN		
33.	Jul-9-04		0.15	IN	RAIN		
34.	Jul-17-04		0.13	IN	RAIN		
35.	Jul-18-04		0.03	IN	RAIN		
36.	Jul-25-04		0.02	IN	RAIN		
37.	Jul-26-04		0.08	IN	RAIN		
38.	Jul-30-04		0.08	IN	RAIN		
39.	Jul-31-04		2	IN	RAIN		
40.	Aug-5-04		0.87	IN	RAIN		
41.	Aug-12-04		0.05	IN	RAIN		
42.	Aug-20-04		0.25	IN	RAIN		
43.	Aug-23-04		0.01	IN	RAIN		
44.	Aug-24-04		0.6	IN	RAIN		
45.	Aug-25-04		0.3	IN	RAIN		
46.	Aug-29-04		0.08	IN	RAIN		
47.	Aug-30-04		0.03	IN	RAIN		
48.	Sep-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

A
Application Date: Jun-22-04
Time of Day: 7:50 AM
Application Method: SPRAY
Application Timing: 4-5 LF
Applic. Placement: BROFOL
Air Temp., Unit: 74 F
% Relative Humidity: 100
Wind Velocity, Unit: 2 MPH
Dew Presence (Y/N): Y
Water Hardness: N/A
Soil Temp., Unit: 71 F
Soil Moisture: WET
% Cloud Cover: 90

CROP STAGE AT EACH APPLICATION

A
Crop 1 Code, Stage: ORYSI
Stage Scale: 4-5 LF
Crop 2 Code, Stage: ORYSI
Stage Scale: 4-5 LF
Crop 3 Code, Stage: ORYSI
Stage Scale: 4-5 LF
Crop 4 Code, Stage: ORYSI
Stage Scale: 4-5 LF

APPLICATION EQUIPMENT

A
Appl. Equipment: CO2 BKPCK
Operating Pressure: 23 PSI
Nozzle Type: FLAT FAN
Nozzle Size: 80015 DG
Nozzle Spacing, Unit: 20 IN
Boom Length, Unit: 40 IN
Boom Height, Unit: 17 IN
Ground Speed, Unit: 3 MPH
Carrier: WATER
Spray Volume, Unit: 10 GPA

University of Arkansas

Evaluation of Cultivar Tolerance to Grasp

Trial ID: STUT 0416
Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Ron Talbert

Weed Code	Crop Code	Part Rated	Rating Data Type	Rating Unit	Rating Date	ORYSI	ORYSI	ORYSI	ORYSI
Trt	Treatment	Rate	Rate Unit	Grow Stg		RT PRUNING PERCENT Jul-6-04	RT PRUNING PERCENT Jul-14-04	RT PRUNING PERCENT Jul-21-04	YIELD KG/HA Sep-30-04
1	Untreated Check					0	0	0	5848
1	Wells								
2	Untreated Check					0	0	0	6130
2	Cocodrie								
3	Untreated Check					0	0	0	6366
3	XL8								
4	Untreated Check					0	0	0	6305
4	Bengal								
5	Penoxsulam	0.031	lb ai/a	4-5 LF		29	38	0	5503
5	(Grasp)								
5	COC	2.5	% v/v	4-5 LF					
5	Wells								
6	Penoxsulam	0.031	lb ai/a	4-5 LF		25	65	0	6414
6	COC	2.5	% v/v	4-5 LF					
6	Cocodrie								
7	Penoxsulam	0.031	lb ai/a	4-5 LF		18	4	0	6447
7	COC	2.5	% v/v	4-5 LF					
7	XL8								
8	Penoxsulam	0.031	lb ai/a	4-5 LF		13	53	0	6807
8	COC	2.5	% v/v	4-5 LF					
8	Bengal								
9	Penoxsulam	0.063	lb ai/a	4-5 LF		30	63	0	5559
9	COC	2.5	% v/v	4-5 LF					
9	Wells								
10	Penoxsulam	0.063	lb ai/a	4-5 LF		51	77	0	7089
10	COC	2.5	% v/v	4-5 LF					
10	Cocodrie								
11	Penoxsulam	0.063	lb ai/a	4-5 LF		28	7	0	6683
11	COC	2.5	% v/v	4-5 LF					
11	XL8								

University of Arkansas

Evaluation of Cultivar Tolerance to Grasp

Trial ID: STUT 0416
Location: Stuttgart, AR

Study Dir.: Ottis, Talbert, Ellis
Investigator: Ron Talbert

Weed Code				ORYSI	ORYSI	ORYSI	ORYSI	
Crop Code								
Part Rated								
Rating Data Type				RT PRUNING	RT PRUNING	RT PRUNING	YIELD	
Rating Unit				PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date				Jul-6-04	Jul-14-04	Jul-21-04	Sep-30-04	
Trt	Treatment	Rate	Grow					
No.	Name	Rate	Unit	Stg				
12	Penoxsulam	0.063	lb ai/a	4-5 LF	30	63	0	6762
12	COC	2.5	% v/v	4-5 LF				
12	Bengal							
LSD (P=.05)					20	14	NS	536

University of Arkansas

Evaluation of Potential Allelopathic Properties of Several Rice Cultivars

Trial ID: STUT 0417

Study Dir.: Talbert, Gealy, Ottis, Black

Location: Stuttgart, Ark.

Investigator: Ron Talbert

GENERAL TRIAL INFORMATION

Study Director: Talbert, Gealy, Ottis, Black, Ellis

Affiliation: University of Arkansas in cooperation with the USDA

Investigator: Ron Talbert

TRIAL LOCATION

City: Stuttgart

Trial Status: Completed

State/Prov.: Ark.

Initiation Date: May-22-04

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: To evaluate potential allelopathic properties of several rice cultivars and hybrids.

Conclusions: There were no significant differences among cultivars at the first rating evaluation. However, at the second evaluation, the main effect of cultivar was significant. PI312777, a known weed-suppressive cultivar, along with 4593 showed the best overall weed control, indicating that 4593 may have allelopathic properties similar to PI312777. Yields were different among the cultivars, but there was not a cultivar by herbicide treatment interaction. Further analysis is needed to determine if other rice accessions may possibly exhibit allelopathic properties.

SITE AND DESIGN

Plot Width, Unit: 6 FT

Plot Length, Unit: 15 FT

Reps: 4

Site Type: FIELD

Tillage Type: CONVENTIONAL

Study Design: FACTORIAL

MAINTENANCE

Field Prep./Maintenance: Entire study area was sprayed 1 wk postflood with Grandstand + Permit for broadleaf and nutsedge control.

SOIL DESCRIPTION

% Sand: 8

% OM: 0.94

Texture: SILT LOAM

% Silt: 75

pH: 5.8

Soil Name: DEWITT

% Clay: 16

CEC: 14.3

Fert. Level: ADEQUATE

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	May-1-04		0.55	IN	RAIN		
2.	May-2-04		0.1	IN	RAIN		
3.	May-3-04		0.05	IN	RAIN		
4.	May-10-04		0.02	IN	RAIN		
5.	May-11-04		0.13	IN	RAIN		
6.	May-12-04		1	IN	RAIN		
7.	May-13-04		0.18	IN	RAIN		
8.	May-14-04		2.4	IN	RAIN		
9.	May-15-04		0.05	IN	RAIN		
10.	May-16-04		0.03	IN	RAIN		
11.	May-17-04		0.12	IN	RAIN		
12.	May-18-04		0.05	IN	RAIN		
13.	May-26-04				FLUSH		
14.	May-28-04		0.45	IN	RAIN		
15.	May-29-04		0.35	IN	RAIN		
16.	May-31-04		1	IN	RAIN		
17.	Jun-3-04		1.2	IN	RAIN		
18.	Jun-6-04		0.03	IN	RAIN		
19.	Jun-9-04				FLUSH		
20.	Jun-16-04		0.27	IN	RAIN		
21.	Jun-17-04		0.05	IN	RAIN		
22.	Jun-22-04		2.5	IN	RAIN		
23.	Jun-23-04		1	IN	RAIN		
24.	Jun-25-04		0.1	IN	RAIN		
25.	Jun-28-04		0.9	IN	RAIN		
26.	Jun-28-04				FLOOD		
27.	Jun-29-04		0.03	IN	RAIN		
28.	Jun-30-04		0.3	IN	RAIN		
29.	Jul-1-04		0.21	IN	RAIN		
30.	Jul-2-04		0.13	IN	RAIN		
31.	Jul-3-04		0.45	IN	RAIN		
32.	Jul-5-04		0.3	IN	RAIN		
33.	Jul-9-04		0.15	IN	RAIN		
34.	Jul-17-04		0.13	IN	RAIN		
35.	Jul-18-04		0.03	IN	RAIN		
36.	Jul-25-04		0.02	IN	RAIN		
37.	Jul-26-04		0.08	IN	RAIN		
38.	Jul-30-04		0.08	IN	RAIN		
39.	Jul-31-04		2	IN	RAIN		
40.	Aug-5-04		0.87	IN	RAIN		
41.	Aug-12-04		0.05	IN	RAIN		
42.	Aug-20-04		0.25	IN	RAIN		
43.	Aug-23-04		0.01	IN	RAIN		
44.	Aug-24-04		0.6	IN	RAIN		
45.	Aug-25-04		0.3	IN	RAIN		
46.	Aug-29-04		0.08	IN	RAIN		
47.	Aug-30-04		0.03	IN	RAIN		
48.	Sep-24-04		0.02	IN	RAIN		

Overall Moisture Conditions: WET-WET-DRY

APPLICATION DESCRIPTION

	A	B
Application Date:	May-31-04	Jun-28-04
Time of Day:	8:16 PM	2:00 PM
Application Method:	SPRAY	SPRAY
Application Timing:	DPRE	PREFLD
Applic. Placement:	BROSOIL	BROFOLIAR
Air Temp., Unit:	78 F	85 F
% Relative Humidity:	96	98
Wind Velocity, Unit:	0.6 MPH	2.5 MPH
Dew Presence (Y/N):	N	N
Water Hardness:	N/A	N/A
Soil Temp., Unit:	80 F	86 F
Soil Moisture:	WET	WET
% Cloud Cover:	5	65

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	C02 BKPCK	C02 BKPCK
Operating Pressure:	23 PSI	23 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	110015 DG	110015 DG
Nozzle Spacing, Unit:	20 IN	20 IN
Boom Length, Unit:	40 IN	40 IN
Boom Height, Unit:	15 IN	15 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA

University of Arkansas

Evaluation of Potential Allelopathic Properties of Several Rice Cultivars

Trial ID: STUT 0417
Location: Stuttgart, AR

Study Dir.: Talbert, Gealy, Ottis, Black
Investigator: Ron Talbert

Weed Code				ECHCG	ECHCG	ORYSI
Crop Code						
Part Rated						
Rating Data Type				CONTROL	CONTROL	YIELD
Rating Unit				PERCENT	PERCENT	KG/HA
Rating Date				Jun-22-04	Jul-5-04	Sep-30-04
Trt Treatment	Rate	Rate	Grow			
No. Name		Unit	Stg			
TABLE OF R MEANS						
Replicate 1				77	77	5952
Replicate 2				80	80	5288
Replicate 3				78	71	5442
Replicate 4				75	72	5132
TABLE OF A MEANS						
1 PI 312777				80	85	3899
2 Saber				79	71	4813
3 Rexmont				78	77	4271
4 Drew				72	66	4815
5 XL8 (14 seed/sq ft)				74	78	6543
6 XL8 (30 seed/sq ft)				81	83	6879
7 Francis				79	76	6551
8 4593				82	84	5515
9 XP710 (14 seed/sq ft)				73	68	7026
10 STg 96L-26-093				77	68	5202
11 L-30-117				82	68	4478
TABLE OF B MEANS						
1 Untreated check				45	35	4972
2 Thiobencarb	2	lb ai/a	DPRE	92	90	5607
3 Clomazone	0.4	lb ai/a	DPRE	96	99	5782
3 Propanil	3	lb ai/a	PREFLD			
3 Halosulfuron	1	oz/a	PREFLD			
TABLE OF AB MEANS						

University of Arkansas

Evaluation of Potential Allelopathic Properties of Several Rice Cultivars

Trial ID: STUT 0417
Location: Stuttgart, AR

Study Dir.: Talbert, Gealy, Ottis, Black
Investigator: Ron Talbert

Weed Code				ECHCG	ECHCG	ORYSI	
Crop Code							
Part Rated							
Rating Data Type				CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	KG/HA	
Rating Date				Jun-22-04	Jul-5-04	Sep-30-04	
Trt	Treatment	Rate	Rate	Grow			
No.	Name		Unit	Stg			
1	PI 312777				48	59	3563
1	Untreated check						
2	Saber				43	26	4009
1	Untreated check						
3	Rexmont				43	43	3039
1	Untreated check						
4	Drew				38	18	4097
1	Untreated check						
5	XL8 (14 seed/sq ft)				43	43	6300
1	Untreated check						
6	XL8 (30 seed/sq ft)				45	54	6644
1	Untreated check						
7	Francis				45	35	6342
1	Untreated check						
8	4593				53	58	5726
1	Untreated check						
9	XP710 (14 seed/sq ft)				40	16	6752
1	Untreated check						
10	STg 96L-26-093				45	20	4246
1	Untreated check						
11	L-30-117				53	19	3973
1	Untreated check						
1	PI 312777				95	95	4067
2	Thiobencarb	2	lb ai/a	DPRE			
2	Saber				100	93	5138
2	Thiobencarb	2	lb ai/a	DPRE			
3	Rexmont				93	90	4789
2	Thiobencarb	2	lb ai/a	DPRE			
4	Drew				84	83	5036
2	Thiobencarb	2	lb ai/a	DPRE			

University of Arkansas

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Trial ID: STUT 0417
Location: Stuttgart, AR

Study Dir.: Talbert, Gealy, Ottis, Black
Investigator: Ron Talbert

Weed Code				ECHCG	ECHCG	ORYSI	
Crop Code							
Part Rated							
Rating Data Type				CONTROL	CONTROL	YIELD	
Rating Unit				PERCENT	PERCENT	KG/HA	
Rating Date				Jun-22-04	Jul-5-04	Sep-30-04	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg			
5	XL8 (14 seed/sq ft)				81	90	6299
2	Thiobencarb	2	lb ai/a	DPRE			
6	XL8 (30 seed/sq ft)				98	94	6765
2	Thiobencarb	2	lb ai/a	DPRE			
7	Francis				93	93	6982
2	Thiobencarb	2	lb ai/a	DPRE			
8	4593				96	94	5471
2	Thiobencarb	2	lb ai/a	DPRE			
9	XP710 (14 seed/sq ft)				94	91	6921
2	Thiobencarb	2	lb ai/a	DPRE			
10	STg 96L-26-093				85	83	5827
2	Thiobencarb	2	lb ai/a	DPRE			
11	L-30-117				95	88	4380
2	Thiobencarb	2	lb ai/a	DPRE			
1	PI 312777				96	100	4065
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
2	Saber				94	95	5290
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
3	Rexmont				98	99	4984
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
4	Drew				95	99	5311
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			

University of Arkansas

Evaluation of Potential Allelopathic Properties of Several Rice Cultivars

Trial ID: STUT 0417
Location: Stuttgart, AR

Study Dir.: Talbert, Gealy, Ottis, Black
Investigator: Ron Talbert

Trt	Treatment	Rate	Unit	Grow Stg	ECHCG CONTROL PERCENT Jun-22-04	ECHCG CONTROL PERCENT Jul-5-04	ORYSI YIELD KG/HA Sep-30-04
5	XL8 (14 seed/sq ft)				99	100	7029
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
6	XL8 (30 seed/sq ft)				100	100	7228
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
7	Francis				99	100	6328
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
8	4593				98	100	5349
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
9	XP710 (14 seed/sq ft)				86	95	7406
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
10	STg 96L-26-093				100	100	5531
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			
11	L-30-117				98	99	5081
3	Clomazone	0.4	lb ai/a	DPRE			
3	Propanil	3	lb ai/a	PREFLD			
3	Halosulfuron	1	oz/a	PREFLD			

University of Arkansas

Evaluation of Potential Allelopathic Properties of Several Rice Cultivars

Trial ID: STUT 0417

Study Dir.: Talbert, Gealy, Ottis, Black

Location: Stuttgart, AR

Investigator: Ron Talbert

Complete factorial AOV for ECHCG control on Jun-22-04

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F	Prob(F)	LSD (.05)
Total	131	85665.719697				
R	3	449.053030	149.684343	1.593	0.2006	5
A	10	1376.136364	137.613636	1.329	0.2606	8
RA	30	3107.196970	103.573232	1.102	0.3661	16
B	2	72273.106061	36136.553030	173.719	0.0001	8
RB	6	1248.106061	208.017677	2.213	0.0539	8
AB	20	1572.727273	78.636364	0.837	0.6615	14
RAB	60	5639.393939	93.989899			

Complete factorial AOV for ECHCG control on Jul-5-04

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F	Prob(F)	LSD (.05)
Total	131	133065.719697				
R	3	1674.810606	558.270202	4.559	0.0061	5
A	10	5792.803030	579.280303	4.223	0.0010	10
RA	30	4114.772727	137.159091	1.120	0.3469	18
B	2	104065.151515	52032.575758	79.158	0.0001	13
RB	6	3943.939394	657.323232	5.368	0.0002	9
AB	20	6126.515152	306.325758	2.501	0.0033	16
RAB	60	7347.727273	122.462121			

Complete factorial AOV for ORYSI yield on Sep-30-04

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F	Prob(F)	LSD (.05)
Total	131	268821663.992051				
R	3	12511411.575915	4170470.525305	6.235	0.0009	402.7
A	10	150587415.424197	15058741.542420	13.669	0.0001	875.0
RA	30	33050509.456856	1101683.648562	1.647	0.0504	1335.5
B	2	15987828.950332	7993914.475166	16.836	0.0035	359.5
RB	6	2848879.748678	474813.291446	0.710	0.6429	697.4
AB	20	13705331.226733	685266.561337	1.025	0.4494	1156.6
RAB	60	40130287.609342	668838.126822			

Appendix

Abbreviations

BCKPK – Backpack sprayer
BLEACH – Plant bleaching
BROFOL – Broadcast, foliar-applied
BROSOI – Broadcast, soil-applied
COC – Crop oil concentrate
DAT – Days after treatment
DPRE – Delayed preemergence
DPP – Days prior to planting
KG/HA – kilograms per hectare
LB AI/A – Pounds of active ingredient per acre
LPOST – Late postemergence
NIS – Non-ionic surfactant
PPI – Preplant incorporated
POFLD - Postflood
POST – Postemergence
PRE – Preemergence
PREFLD – Preflood
WAF – Weeks after flood

Bayer Codes

AESVI – northern jointvetch [*Aeschynomene virginica*]
BRAPP – broadleaf signalgrass [*Brachiaria platyphylla*]
ECHCG – barnyardgrass [*Echinochloa crus-galli*]
IPOLA – pitted morningglory [*Ipomoea lacunosa*]
LEPPA – Amazon sprangletop [*Leptochloa panicoides*]
ORYSI – rice, dry-seeded + irrigated [*Oryza sativa*]
SEBEX – hemp sesbania [*Sesbania exaltata*]

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