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## Field Evaluation of Herbicides on Rice 2003

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Ronald E. Talbert Brian V. Ottis Mayank S. Malik Andrew T. Ellis

# *FIELD EVALUATION*



## *OF HERBICIDES ON RICE*

### **2003**

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ARKANSAS AGRICULTURAL EXPERIMENT STATION

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**FIELD EVALUATION OF HERBICIDES  
ON RICE  
- 2003 -**

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## **SUMMARY**

Herbicide evaluation studies on rice were conducted in 2003 at the Rice Research and Extension Center near Stuttgart, Ark., in an effort to evaluate new herbicides, herbicide mixtures, and their application timings for weed control efficacy 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, 2003, 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, Dow AgroSciences, FMC Corporation, Isagro Ricerco, and RiceCo. This publication can be found online at: <http://www.uark.edu/depts/agripub/Publications/researchseries/>.

## ACKNOWLEDGMENTS

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# University of Arkansas

## Comparison of Herbicide Programs in Conventional Versus Intermittent Irrigation Programs

Trial ID: STUT 0302

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik  
**Affiliation:** University of Arkansas  
**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart  
**State/Prov.:** Ark.  
**Trial Status:** Completed  
**Initiation Date:** 5-13-03

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

**Objective:** To compare several weed control programs in conventional and intermittent flood irrigation programs

**Conclusions:** The purpose of this study was to evaluate several herbicide programs in conventional and intermittent flood-irrigation programs. The main plot of the flood program consisted of a treatment of conventional flood and intermittent flood. The intermittent flood was managed by initially flooding plots on 6-25-03 and then allowing the water to dissipate until soil moisture levels reached 40%. At that time, plots were re-flooded, and the cycle repeated.

There was considerable rice bleaching when clomazone (Command) was applied PRE at 0.6 lb ai/a. Barnyardgrass and broadleaf signalgrass control was good with most treatments, with the exception of DPRE applications of thiobencarb (Bolero) and POST applications of propanil. Poor barnyardgrass control with propanil treatments was likely due to the large natural population of propanil-resistant barnyardgrass in the study area. Rice yields varied extensively due to lodging late in the season in many plots. Lodging was not due to differences in irrigation programs and was more likely due to probable fertilizer overlap from adjacent studies. Overall, the main effect of the irrigation program did not cause differences in weed control or yields.

### CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. NECHCG	NATURAL BARNYARDGRASS	<i>Echinochloa crus-galli</i>
2. BRAPP	BROADLEAF SIGNALGRASS	<i>Brachiaria platyphylla</i>

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS  
**Planting Date:** 5-13-03      **Planting Method:** DRILLED  
**Rate:** 70 LB/A      **Depth:** 0.75 IN  
**Row Spacing:** 7 IN  
**Soil Moisture:** ADEQUATE      **Emergence Date:** 5-19-03

### SITE AND DESIGN

**Plot Width, Unit:** 6 FT      **Plot Length, Unit:** 15 FT      **Reps:** 4  
**Site Type:** FIELD  
**Tillage Type:** CONVENTIONAL      **Study Design:** SPLIT-PLOT

Previous Crops	Previous Pesticides	Year
1. FALLOW		

### 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
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-2-03				RE-FLOOD INTERMITTENT PLOTS
26.	7-11-03		0.08	IN	RAINFALL
27.	7-12-03		0.05	IN	RAINFALL
28.	7-18-03		0.10	IN	RAINFALL
29.	7-19-03		0.6	IN	RAINFALL
30.	7-28-03		0.75	IN	RAINFALL
31.	7-31-03		0.2	IN	RAINFALL
32.	8-4-03		0.3	IN	RAINFALL
33.	8-6-03		0.2	IN	RAINFALL
34.	8-12-03				RE-FLOOD INTERMITTENT PLOTS
35.	8-13-03		0.5	IN	RAINFALL
36.	8-14-03		0.55	IN	RAINFALL
37.	8-24-03		0.1	IN	RAINFALL
38.	8-30-03		0.02	IN	RAINFALL
39.	9-1-03		0.05	IN	RAINFALL
40.	9-2-03		0.08	IN	RAINFALL
41.	9-3-03		0.3	IN	RAINFALL
42.	9-4-03		0.08	IN	RAINFALL
43.	9-13-03		1.15	IN	RAINFALL
44.	9-22-03		0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B	C
<b>Application Date:</b>	5-19-03	6-9-03	6-24-03
<b>Time of Day:</b>	8:00 am	5:15 PM	7:45 PM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	DPRE	2-LF	PREFLD
<b>Applic. Placement:</b>	BROSOI	BROFOL	BROFOL
<b>Air Temp., Unit:</b>	75 F	88 F	88 F
<b>% Relative Humidity:</b>	65	38	64
<b>Wind Velocity, Unit:</b>	0	2 SW	1.5 SE
<b>Dew Presence (Y/N):</b>	N	N	N
<b>Water Hardness:</b>	N	N	N
<b>Soil Temp., Unit:</b>	75 F	88 F	90 F
<b>Soil Moisture:</b>	WET	ADEQUATE	ADEQUATE
<b>% Cloud Cover:</b>	25	0	20

### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	DPRE	2-LF	PREFLD
<b>Height, Unit:</b>		3 IN	12 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC	NECHC
<b>Stage Scale:</b>	PRE	2-LF	3-4 LF
<b>Weed 2 Code, Stage:</b>	BRAPP	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	2-LF	3-4 LF

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	TT 11002	TT 11002
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE	NONE
<b>Carrier:</b>	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N

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Investigator: Weed Science

Weed Code					NECHCG
Crop Code		ORYSI	ORYSI	ORYSI	ORYSI
Part Rated					
Rating Data Type		INJURY	INJURY	BLEACH	BLEACH CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-16-03	6-30-03	6-16-03	6-30-03 6-16-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	INJURY PERCENT 6-16-03	INJURY PERCENT 6-30-03	BLEACH PERCENT 6-16-03	BLEACH PERCENT 6-30-03	CONTROL PERCENT 6-16-03
1	Permanent Flood Untreated check				0	0	0	0	0
2	Permanent Flood Thiobencarb (Bolero)	4 lb ai/a	DPRE		0	1	1	0	75
	Bispyribac-sodium (Regiment)	9 g ai/a	PREFLD						
	NIS	0.125 % v/v	PREFLD						
3	Permanent Flood Clomazone (Command)	0.3 lb ai/a	DPRE		5	4	3	0	100
4	Permanent Flood Clomazone	0.6 lb ai/a	DPRE		14	10	35	6	100
5	Permanent Flood Quinclorac (Facet)	0.375 lb ai/a	DPRE		10	8	0	0	100
6	Permanent Flood Pendimethalin (Prowl)	1 lb ai/a	DPRE		0	0	0	0	93
7	Permanent Flood Propanil	3 lb ai/a	2-3 LF		0	4	0	0	98
	Clomazone	0.3 lb ai/a	2-3 LF						
8	Permanent Flood Propanil	3 lb ai/a	2-3 LF		4	4	5	9	100
	Clomazone	0.6 lb ai/a	2-3 LF						
9	Permanent Flood Propanil	3 lb ai/a	2-3 LF		0	4	0	0	90
	Pendimethalin	1 lb ai/a	2-3 LF						
10	Permanent Flood Quinclorac	0.1875 lb ai/a	2-3 LF		3	4	0	0	96
	Pendimethalin	1 lb ai/a	2-3 LF						
	COC	1 % v/v	2-3 LF						
11	Permanent Flood Propanil	3 lb ai/a	2-3 LF		0	0	0	0	89

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Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code						NECHCG					
Crop Code											
Part Rated											
Rating Data Type											
Rating Unit											
Rating Date											
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	ORYSI 6-16-03	ORYSI 6-30-03	ORYSI 6-16-03	ORYSI 6-30-03	BLEACH PERCENT 6-16-03	BLEACH PERCENT 6-30-03	CONTROL PERCENT 6-16-03
12	Permanent Flood Propanil	3 lb ai/a		PREFLD	0	3	0	0			88
13	Permanent Flood Cyhalofop-butyl (Clincher) COC Propanil	0.25 lb ai/a 1 % v/v 4 lb ai/a		2-3 LF 2-3 LF PREFLD	0	3	0	0			98
14	Permanent Flood Propanil Quinclorac	3 lb ai/a 0.375 lb ai/a		2-3 LF 2-3 LF	3	3	0	0			99
15	Permanent Flood Cyhalofop-butyl Clomazone COC	0.25 lb ai/a 0.3 lb ai/a 1 % v/v		2-3 LF 2-3 LF 2-3 LF	5	3	1	3			96
16	Permanent Flood Fenoxaprop+safener (Ricestar) Clomazone COC	17 oz/a 0.3 lb ai/a 1 % v/v		2-3 LF 2-3 LF 2-3 LF	0	1	0	3			100
17	40 % Flood Untreated check				0	0	0	0			0
18	40 % Flood Thiobencarb Bispyribac-sodium Kinetic	4 lb ai/a 9 g ai/a 0.125 % v/v		DPRE PREFLD PREFLD	0	0	1	1			75
19	40 % Flood Clomazone	0.3 lb ai/a		DPRE	3	0	3	0			100
20	40 % Flood Clomazone	0.6 lb ai/a		DPRE	21	6	25	4			100
21	40 % Flood Quinclorac	0.375 lb ai/a		DPRE	8	1	0	0			100
22	40 % Flood Pendimethalin	1 lb ai/a		DPRE	0	1	0	0			99
23	40 % Flood Propanil Clomazone	3 lb ai/a 0.3 lb ai/a		2-3 LF 2-3 LF	5	1	0	0			98

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Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code					NECHCG
Crop Code		ORYSI	ORYSI	ORYSI	ORYSI
Part Rated					
Rating Data Type		INJURY	INJURY	BLEACH	BLEACH CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-16-03	6-30-03	6-16-03	6-30-03 6-16-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	6-16-03	6-30-03	6-16-03	6-30-03	6-16-03
24	40 % Flood				6	6	14	14	98
	Propanil	3 lb ai/a		2-3 LF					
	Clomazone	0.6 lb ai/a		2-3 LF					
25	40 % Flood				0	4	0	4	83
	Propanil	3 lb ai/a		2-3 LF					
	Pendimethalin	1 lb ai/a		2-3 LF					
26	40 % Flood				4	3	0	0	96
	Quinclorac	0.1875 lb ai/a		2-3 LF					
	Pendimethalin	1 lb ai/a		2-3 LF					
	COC	1 % v/v		2-3 LF					
27	40 % Flood				1	5	0	0	95
	Propanil	3 lb ai/a		2-3 LF					
28	40 % Flood				0	3	0	0	50
	Propanil	3 lb ai/a		PREFLD					
29	40 % Flood				0	3	0	0	100
	Cyhalofop-butyl	0.25 lb ai/a		2-3 LF					
	COC	1 % v/v		2-3 LF					
	Propanil	4 lb ai/a		PREFLD					
30	40 % Flood				0	4	0	0	87
	Propanil	3 lb ai/a		2-3 LF					
	Quinclorac	0.375 lb ai/a		2-3 LF					
31	40 % Flood				3	3	8	5	98
	Cyhalofop-butyl	0.25 lb ai/a		2-3 LF					
	Clomazone	0.3 lb ai/a		2-3 LF					
	COC	1 % v/v		2-3 LF					
32	40 % Flood				3	1	1	3	100
	Fenoxaprop+safener	17 oz/a		2-3 LF					
	Clomazone	0.3 lb ai/a		2-3 LF					
	COC	1 % v/v		2-3 LF					
LSD (P=.05)					8.6	5.6	7.6	4.7	24.1

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Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	NECHCG	BRAPP	BRAPP	ORYSI
Crop Code				
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-16-03	6-16-03	7-16-03	9-25-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
1	Permanent Flood Untreated check				0	0	0	5741
2	Permanent Flood Thiobencarb (Bolero)	4 lb ai/a	DPRE		98	89	66	6445
	Bispyribac-sodium (Regiment)	9 g ai/a	PREFLD					
	NIS	0.125 % v/v	PREFLD					
3	Permanent Flood Clomazone (Command)	0.3 lb ai/a	DPRE		93	100	90	6218
4	Permanent Flood Clomazone	0.6 lb ai/a	DPRE		96	100	98	6463
5	Permanent Flood Quinclorac (Facet)	0.375 lb ai/a	DPRE		100	100	99	6344
6	Permanent Flood Pendimethalin (Prowl)	1 lb ai/a	DPRE		94	90	87	6322
7	Permanent Flood Propanil	3 lb ai/a	2-3 LF		84	99	97	8108
	Clomazone	0.3 lb ai/a	2-3 LF					
8	Permanent Flood Propanil	3 lb ai/a	2-3 LF		89	100	97	5929
	Clomazone	0.6 lb ai/a	2-3 LF					
9	Permanent Flood Propanil	3 lb ai/a	2-3 LF		68	94	86	7326
	Pendimethalin	1 lb ai/a	2-3 LF					
10	Permanent Flood Quinclorac	0.1875 lb ai/a	2-3 LF		100	88	100	7473
	Pendimethalin	1 lb ai/a	2-3 LF					
	COC	1 % v/v	2-3 LF					
11	Permanent Flood Propanil	3 lb ai/a	2-3 LF		60	98	92	6357

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Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	NECHCG	BRAPP	BRAPP	ORYSI
Crop Code				
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-16-03	6-16-03	7-16-03	9-25-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
12	Permanent Flood Propanil	3 lb ai/a	PREFLD		83	83	89	5875
13	Permanent Flood Cyhalofop-butyl (Clincher) COC Propanil	0.25 lb ai/a 1 % v/v 4 lb ai/a	2-3 LF 2-3 LF PREFLD		100	96	100	5765
14	Permanent Flood Propanil Quinclorac	3 lb ai/a 0.375 lb ai/a	2-3 LF 2-3 LF		100	98	98	6400
15	Permanent Flood Cyhalofop-butyl Clomazone COC	0.25 lb ai/a 0.3 lb ai/a 1 % v/v	2-3 LF 2-3 LF 2-3 LF		100	96	100	7960
16	Permanent Flood Fenoxaprop+safener (Ricestar) Clomazone COC	17 oz/a 0.3 lb ai/a 1 % v/v	2-3 LF 2-3 LF 2-3 LF		100	100	100	7167
17	40 % Flood Untreated check				0	0	5	5516
18	40 % Flood Thiobencarb Bispyribac-sodium Kinetic	4 lb ai/a 9 g ai/a 0.125 % v/v	DPRE PREFLD PREFLD		100	80	54	8197
19	40 % Flood Clomazone	0.3 lb ai/a	DPRE		83	100	100	6158
20	40 % Flood Clomazone	0.6 lb ai/a	DPRE		100	100	100	7156
21	40 % Flood Quinclorac	0.375 lb ai/a	DPRE		100	100	100	7632
22	40 % Flood Pendimethalin	1 lb ai/a	DPRE		100	96	80	6744
23	40 % Flood Propanil Clomazone	3 lb ai/a 0.3 lb ai/a	2-3 LF 2-3 LF		83	100	95	9130



# University of Arkansas

## Comparison of Herbicide Programs in Conventional Versus Intermittent Irrigation Programs

Trial ID: STUT 0302  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	NECHCG	BRAPP	BRAPP	ORYSI
Crop Code				
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-16-03	6-16-03	7-16-03	9-25-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
24	40 % Flood				100	99	100	6546
	Propanil	3 lb ai/a		2-3 LF				
	Clomazone	0.6 lb ai/a		2-3 LF				
25	40 % Flood				64	84	100	7574
	Propanil	3 lb ai/a		2-3 LF				
	Pendimethalin	1 lb ai/a		2-3 LF				
26	40 % Flood				100	91	100	6073
	Quinclorac	0.1875 lb ai/a		2-3 LF				
	Pendimethalin	1 lb ai/a		2-3 LF				
	COC	1 % v/v		2-3 LF				
27	40 % Flood				64	95	69	5930
	Propanil	3 lb ai/a		2-3 LF				
28	40 % Flood				41	48	28	4558
	Propanil	3 lb ai/a		PREFLD				
29	40 % Flood				100	99	100	7212
	Cyhalofop-butyl	0.25 lb ai/a		2-3 LF				
	COC	1 % v/v		2-3 LF				
	Propanil	4 lb ai/a		PREFLD				
30	40 % Flood				85	88	80	5550
	Propanil	3 lb ai/a		2-3 LF				
	Quinclorac	0.375 lb ai/a		2-3 LF				
31	40 % Flood				100	96	100	5694
	Cyhalofop-butyl	0.25 lb ai/a		2-3 LF				
	Clomazone	0.3 lb ai/a		2-3 LF				
	COC	1 % v/v		2-3 LF				
32	40 % Flood				100	98	100	8406
	Fenoxaprop+safener	17 oz/a		2-3 LF				
	Clomazone	0.3 lb ai/a		2-3 LF				
	COC	1 % v/v		2-3 LF				
LSD (P=.05)					24.1	17.7	23.0	2494.2

# University of Arkansas

## Evaluation of Aim for Rice Weed Control

Trial ID: STUT 0303

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**Trial Status:** Completed

**State/Prov.:** Ark.

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

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

**Objective:** To evaluate carfentrazone-ethyl (Aim) applied pre-flood (PREFLD) for broadleaf weed control in rice

**Conclusions:** The purpose of the study was to evaluate the performance of carfentrazone-ethyl alone and tank-mixed with each of the following: bentazon (Basagran), acifluorfen + bentazon (Storm), triclopyr (Grandstand), bispyribac-sodium (Regiment), bensulfuron (Londax), propanil (Stam), and halosulfuron (Permit) applied pre-flood (PREFLD). Carfentrazone-ethyl was also tank-mixed with 2,4-D amine (Savage) applied one week after flood establishment (POFLD1WK). A blanket treatment of clomazone (Command) was applied pre-emergence (PRE) for control of natural infestations of grass weeds. The weeds evaluated in the study were barnyardgrass, hemp sesbania, pitted morningglory, and northern jointvetch. There was no significant rice injury from the treatments. Barnyardgrass control ranged from excellent to moderate from early season to late season with all treatments except for clomazone followed by carfentrazone-ethyl + bispyribac-sodium and 2,4-D amine where control remained excellent. Hemp sesbania control was excellent with all treatments throughout the duration of the study except for carfentrazone-ethyl tank mixtures with bispyribac-sodium, bensulfuron, or triclopyr. Hemp sesbania control with bensulfuron mixtures was moderate, while control with bispyribac-sodium and triclopyr was poor. This may be due to an antagonistic effect when mixing these herbicides. Pitted morningglory was controlled by all treatments throughout the duration of the study, but control was moderate with carfentrazone-ethyl + propanil. Excellent control of pitted morningglory was influenced by the addition of the flood. All treatments for northern jointvetch produced moderate to good control at the early rating time. Carfentrazone-ethyl tank-mixed with bispyribac-sodium, halosulfuron, 2,4-D amine, or propanil provided good control late in the season. There were no significant differences in rice yields among treatments.

### CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2. SEBEX	SESBANIA, HEMP	<i>Sesbania exaltata</i> (RAF.) CORY/RYDB.
3. AESVI	JOINTVETCH, NORTHERN	<i>Aeschynomene virginica</i> (L.) B.S.P.
4. IPOLA	MORNINGGLORY, PITTED	<i>Ipomoea lacunosa</i>

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS

**Planting Date:** 5-13-03 **Planting Method:** DRILLED

**Rate:** 70 LB/A **Depth:** 0.75 IN

**Row Spacing:** 7 IN **Seed Bed:** SMOOTH

**Soil Temperature:** 70 F **Soil Moisture:** NORMAL **Emergence Date:** 5-20-03

### SITE AND DESIGN

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

	Previous Crops	Previous Pesticides	Year
1.	FALLOW		2002

### 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
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL

### APPLICATION DESCRIPTION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Application Date:</b>	5-14-03	6-24-03	6-30-03
<b>Time of Day:</b>	1:00 pm	7:45 pm	7:30 pm
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	PREFLD	POFLD 1WK
<b>Applic. Placement:</b>	BROSOI	FOLIAR	FOLIAR
<b>Air Temp., Unit:</b>	72 F	88 F	84 F
<b>% Relative Humidity:</b>	98	64	
<b>Wind Velocity, Unit:</b>	2 MPH	1.5 MPH	2 MPH
<b>Dew Presence (Y/N):</b>	N	N	N
<b>Water Hardness:</b>	N	N	N
<b>Soil Temp., Unit:</b>	70 F	90 F	91
<b>Soil Moisture:</b>	MOIST	ADEQUATE	FLOOD
<b>% Cloud Cover:</b>	90	20	75

### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	2-TILLER	4-TILLER
<b>Height, Unit:</b>		14 IN	18 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC	NECHC
<b>Stage Scale:</b>	PRE	3-4 LF	6-LF
<b>Density, Unit:</b>		1 M2	1 M2
<b>Weed 2 Code, Stage:</b>	SEBEX	SEBEX	SEBEX
<b>Stage Scale:</b>	PRE	5 LF	7 LF
<b>Density, Unit:</b>		3 ROWFT	3 ROWFT
<b>Weed 3 Code, Stage:</b>	AESVI	AESVI	AESVI
<b>Stage Scale:</b>	PRE	5 LF	7 LF
<b>Density, Unit:</b>		3 ROWFT	3 ROWFT
<b>Weed 4 Code, Stage:</b>	IPOLA	IPOLA	IPOLA
<b>Stage Scale:</b>	PRE	4 LF	6 LF
<b>Density, Unit:</b>		2 ROWFT	2 ROWFT

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	TT 110015	TT 110015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	15 IN	15 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE	NONE
<b>Carrier:</b>	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N

# University of Arkansas

## Evaluation of Aim for Rice Weed Control

Trial ID: STUT 0303  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	NECHCG	NECHCG	SEBEX	SEBEX	IPOLA
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-30-03	7-9-03	6-30-03	7-9-03	6-30-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated Check				0	0	0	0	0
2	Clomazone (Command)	0.4	lb ai/a	PRE	94	91	96	100	100
	Carfentrazone-ethyl (Aim)	0.025	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
3	Clomazone	0.4	lb ai/a	PRE	85	84	99	100	98
	Carfentrazone-ethyl	0.0375	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
4	Clomazone	0.4	lb ai/a	PRE	93	89	99	100	98
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Bentazon (Basagran)	0.75	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
5	Clomazone	0.4	lb ai/a	PRE	89	84	100	100	95
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Bentazon+acifourfen (Storm)	0.25	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
6	Clomazone	0.4	lb ai/a	PRE	94	89	88	59	96
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Triclopyr (Grandstand)	0.025	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
7	Clomazone	0.4	lb ai/a	PRE	98	98	84	78	98
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Bispyribac-sodium (Regiment)	0.0375	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
8	Clomazone	0.4	lb ai/a	PRE	88	86	90	89	96
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Bensulfuron (Londax)	0.0375	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
9	Clomazone	0.4	lb ai/a	PRE	86	88	99	100	70
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Propanil	4	lb ai/a	PREFLD					

# University of Arkansas

## Evaluation of Aim for Rice Weed Control

Trial ID: STUT 0303  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code	NECHCG	NECHCG	SEBEX	SEBEX	IPOLA
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-30-03	7-9-03	6-30-03	7-9-03	6-30-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg					
10	Clomazone	0.4	lb ai/a	PRE	93	88	98	99	99
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD					
	Halosulfuron (Permit)	0.0375	lb ai/a	PREFLD					
	NIS	0.25	% v/v	PREFLD					
11	Clomazone	0.4	lb ai/a	PRE	98	92	5	100	5
	Carfentrazone-ethyl	0.025	lb ai/a	POFLD1WK					
	2,4-D (Savage)	0.25	lb ai/a	POFLD1WK					
LSD (P=.05)					6.2	7.2	5.1	16.2	17.6

# University of Arkansas

## Evaluation of Aim for Rice Weed Control

Trial ID: STUT 0303  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code			IPOLA	AESVI	AESVI	ORYSI		
Crop Code								
Part Rated								
Rating Data Type			CONTROL	CONTROL	CONTROL	YIELD		
Rating Unit			PERCENT	PERCENT	PERCENT	KG/HA		
Rating Date			7-9-03	6-30-03	7-9-03	9-25-03		
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg				
1	Untreated Check				0	0	0	2589
2	Clomazone (Command)	0.4	lb ai/a	PRE	100	70	18	5832
	Carfentrazone-ethyl (Aim)	0.025	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
3	Clomazone	0.4	lb ai/a	PRE	100	88	63	3693
	Carfentrazone-ethyl	0.0375	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
4	Clomazone	0.4	lb ai/a	PRE	100	90	58	5455
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Bentazon (Basagran)	0.75	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
5	Clomazone	0.4	lb ai/a	PRE	99	83	63	4993
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Bentazon+acifourfen (Storm)	0.25	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
6	Clomazone	0.4	lb ai/a	PRE	100	81	35	6136
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Triclopyr (Grandstand)	0.025	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
7	Clomazone	0.4	lb ai/a	PRE	100	89	100	6673
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Bispyribac-sodium (Regiment)	0.0375	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
8	Clomazone	0.4	lb ai/a	PRE	100	80	53	5738
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Bensulfuron (Londax)	0.0375	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
9	Clomazone	0.4	lb ai/a	PRE	88	91	85	6689
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Propanil	4	lb ai/a	PREFLD				

# University of Arkansas

## Evaluation of Aim for Rice Weed Control

Trial ID: STUT 0303  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code	IPOLA	AESVI	AESVI	
Crop Code				ORYSI
Part Rated				
Rating Data Type	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-9-03	6-30-03	7-9-03	9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg				
10	Clomazone	0.4	lb ai/a	PRE	98	89	100	6520
	Carfentrazone-ethyl	0.025	lb ai/a	PREFLD				
	Halosulfuron (Permit)	0.0375	lb ai/a	PREFLD				
	NIS	0.25	% v/v	PREFLD				
11	Clomazone	0.4	lb ai/a	PRE	100	5	100	7260
	Carfentrazone-ethyl	0.025	lb ai/a	POFLD1WK				
	2,4-D (Savage)	0.25	lb ai/a	POFLD1WK				
LSD (P=.05)					11.0	11.0	31.2	2381.0



# University of Arkansas

## Envoke for Rice Weed Control

Trial ID: STUT 0304

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**Trial Status:** Completed

**State/Prov.:** Ark.

**Initiation Date:** 5-5-03

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

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

**Objective:** To evaluate the safety and efficacy of trifloxysulfuron (Envoke) for use in imidazolinone-tolerant rice

**Conclusions:** Trifloxysulfuron (Envoke) is a new sulfonyleurea herbicide for weed control in cotton. Researchers have been interested in its potential for use in imidazolinone-tolerant rice. A study was established to evaluate the safety and efficacy of trifloxysulfuron for use in imidazolinone-tolerant rice. Results of the study indicated that preemergence (PRE) applications of Envoke reduced rice stand up to 70% when applied at 0.042 lb ai/A. However, when applied postemergence (POST) to rice, stand reduction was less than 15%, but biomass reduction and crop injury were above 45% two to three weeks after treatment. Broadleaf weed and red rice control are excellent with POST applications of trifloxysulfuron and are comparable to current standards such as quinclorac (Facet) and propanil. Barnyardgrass control was greater than 90% when trifloxysulfuron was applied PRE or POST, and trifloxysulfuron provided good residual activity on grassy weeds.

Trifloxysulfuron has good PRE and POST activity on a broad spectrum of weeds in rice; however, until a cultivar is developed with tolerance, it will not be safe for use.

### 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. ORYSA	RICE, RED	<i>Oryza sativa</i>

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** CL161

**Planting Date:** 5-5-03 **Planting Method:** DRILLED

**Rate:** 90 kg/ha **Depth:** 1 IN

**Row Spacing:** 7 IN **Seed Bed:** VERY FINE

**Soil Temperature:** 75 F **Soil Moisture:** DRY **Emergence Date:** 5-10-03

### SITE AND DESIGN

**Plot Width, Unit:** 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4

**Site Type:** RICE PADDY

**Tillage Type:** CONVENTIONAL-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW		

### MAINTENANCE

**Field Prep./Maintenance:** The field was plowed in the fall and cultivated in the spring. Prior to planting, the plot area was roto-tilled to a 4" depth.

**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:** GOOD

**MOISTURE CONDITIONS**

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5-5-03		0.1	IN	RAINFALL		
2.	5-6-03		0.26	IN	RAINFALL		
3.	5-7-03		1.5	IN	RAINFALL		
4.	5-11-03		1.05	IN	RAINFALL		
5.	5-14-03		0.25	IN	RAINFALL		
6.	5-15-03		0.1	IN	RAINFALL		
7.	5-17-03		1.1	IN	RAINFALL		
8.	5-18-03		0.1	IN	RAINFALL		
9.	5-25-03		0.05	IN	RAINFALL		
10.	6-2-03		0.05	IN	RAINFALL		
11.	6-3-03		0.85	IN	RAINFALL		
12.	6-5-03		0.05	IN	RAINFALL		
13.	6-6-03		0.07	IN	RAINFALL		
14.	6-7-03		0.45	IN	RAINFALL		
15.	6-11-03		0.07	IN	RAINFALL		
16.	6-12-03		1.2	IN	RAINFALL		
17.	6-13-03		0.1	IN	RAINFALL		
18.	6-15-03		0.15	IN	RAINFALL		
19.	6-17-03		0.16	IN	RAINFALL		
20.	6-18-03		0.9	IN	RAINFALL		
21.	6-19-03		0.55	IN	RAINFALL		
22.	6-26-03		0.9	IN	RAINFALL		
23.	6-27-03		0.95	IN	RAINFALL		
24.	6-29-03				FLOOD		

**APPLICATION DESCRIPTION**

	A	B	C
<b>Application Date:</b>	5-5-03	5-8-03	5-26-03
<b>Time of Day:</b>	5:30 pm	6:30 am	7:30 am
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	DPRE	3-4 LF
<b>Applic. Placement:</b>	BROSOI	BROSOI	FOLIAR
<b>Air Temp., Unit:</b>	77 F	65 F	66 F
<b>% Relative Humidity:</b>	80	92	55
<b>Wind Velocity, Unit:</b>	5 mph	0 mph	1.5 mph
<b>Dew Presence (Y/N):</b>	N	N	N
<b>Water Hardness:</b>	N/A	N/A	N/A
<b>Soil Temp., Unit:</b>	88 F	78 F	70 F
<b>Soil Moisture:</b>	DRY	ADEQUATE	ADEQUATE
<b>% Cloud Cover:</b>	95	85	45

**CROP STAGE AT EACH APPLICATION**

	A	B	C
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	DPRE	3-4 LF
<b>Height, Unit:</b>			8 IN

**WEED STAGE AT EACH APPLICATION**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Weed 1 Code, Stage:</b>	ECHCG	ECHCG	ECHCG
<b>Stage Scale:</b>	PRE	DPRE	2-3 LF
<b>Density, Unit:</b>			5 FT2
<b>Weed 2 Code, Stage:</b>	BRAPP	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	DPRE	2-3 LF
<b>Density, Unit:</b>			10 FT2
<b>Weed 3 Code, Stage:</b>	SEBEX	SEBEX	SEBEX
<b>Stage Scale:</b>	PRE	DPRE	2-3 LF
<b>Density, Unit:</b>			1 FT2
<b>Weed 4 Code, Stage:</b>	ORYSA	ORYSA	ORYSA

**APPLICATION EQUIPMENT**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	CO2 BCKPK	CO2 BCKPK	CO2 BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	TT110015	TT110015	DG80015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN
<b>Boom Height, Unit:</b>	15 IN	15 IN	15 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N

# University of Arkansas

## Envoke for Rice Weed Control

Trial ID: STUT 0304  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code						
Crop Code		ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Part Rated						
Rating Data Type		STAND RE	STAND RE	STAND RE	BIOMASS	BIOMASS
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		5-19-03	6-9-03	6-24-03	6-2-03	6-24-03
						BLEACH
						PERCENT
						5-19-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	STAND RE PERCENT 5-19-03	STAND RE PERCENT 6-9-03	STAND RE PERCENT 6-24-03	BIOMASS PERCENT 6-2-03	BIOMASS PERCENT 6-24-03	BLEACH PERCENT 5-19-03
1	Untreated Check				0	0	0	0	0	0
2	Trifloxysulfuron (Envoke)	0.0282	lb ai/a	PRE	51	18	21	80	55	0
3	Trifloxysulfuron	0.0423	lb ai/a	PRE	60	59	74	90	74	0
4	Clomazone (Command)	0.5	lb ai/a	PRE	0	50	50	50	20	81
5	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	0	0	0	0	0	0
	Imazethapyr NIS	0.063	lb ai/a	3-4 If						
		0.25	% v/v	3-4 If						
6	Trifloxysulfuron	0.0282	lb ai/a	DPRE	9	4	0	45	6	0
7	Quinclorac (Facet)	0.5	lb ai/a	DPRE	0	0	0	1	3	0
8	Pendimethalin	1.0	lb ai/a	DPRE	0	0	0	1	3	0
9	Trifloxysulfuron	0.0423	lb ai/a	DPRE	6	14	6	74	59	0
10	Trifloxysulfuron NIS	0.0282	lb ai/a	3-4 If	0	0	0	5	75	0
		0.25	% v/v	3-4 If						
11	Trifloxysulfuron NIS	0.0423	lb ai/a	3-4 If	0	0	13	5	79	0
		0.25	% v/v	3-4 If						
12	Quinclorac COC	0.25	lb ai/a	3-4 If	0	0	0	3	0	0
		1	% v/v	3-4 If						
13	Propanil COC (if needed)	3	lb ai/a	3-4 If	0	1	0	4	0	0
		1	% v/v	3-4 If						
14	Pretilachlor (A9366A)	0.624	lb ai/a	PRE	3	0	0	5	1	0
15	Pretilachlor	0.624	lb ai/a	DPRE	0	0	15	5	0	0
LSD (P=.05)					3.6	6.7	14.4	4.6	8.8	0.9

# University of Arkansas

## Envoke for Rice Weed Control

Trial ID: STUT 0304  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	SEBEX	SEBEX	SEBEX
Crop Code	ORYSI	ORYSI	ORYSI	SEBEX	SEBEX	SEBEX
Part Rated	ORYSI	ORYSI	ORYSI	SEBEX	SEBEX	SEBEX
Rating Data Type	BLEACH	INJURY	INJURY	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-24-03	6-9-03	6-24-03	5-19-03	6-9-03	6-24-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	ORYSI 6-24-03	ORYSI 6-9-03	ORYSI 6-24-03	SEBEX 5-19-03	SEBEX 6-9-03	SEBEX 6-24-03
1	Untreated Check				0	0	0	0	0	0
2	Trifloxysulfuron (Envoke)	0.0282	lb ai/a	PRE	0	83	53	71	96	80
3	Trifloxysulfuron	0.0423	lb ai/a	PRE	0	91	76	74	99	87
4	Clomazone (Command)	0.5	lb ai/a	PRE	8	50	24	0	0	0
5	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	0	0	0	3	0	0
	Imazethapyr NIS	0.063	lb ai/a	3-4 lf						
		0.25	% v/v	3-4 lf						
6	Trifloxysulfuron	0.0282	lb ai/a	DPRE	0	29	6	70	99	88
7	Quinclorac (Facet)	0.5	lb ai/a	DPRE	0	0	5	75	100	87
8	Pendimethalin	1.0	lb ai/a	DPRE	0	3	3	0	8	60
9	Trifloxysulfuron	0.0423	lb ai/a	DPRE	0	74	39	80	100	94
10	Trifloxysulfuron NIS	0.0282	lb ai/a	3-4 lf	0	55	76	0	100	96
		0.25	% v/v	3-4 lf						
11	Trifloxysulfuron NIS	0.0423	lb ai/a	3-4 lf	3	50	79	0	100	99
		0.25	% v/v	3-4 lf						
12	Quinclorac COC	0.25	lb ai/a	3-4 lf	0	0	0	0	99	86
		1	% v/v	3-4 lf						
13	Propanil COC (if needed)	3	lb ai/a	3-4 lf	0	0	0	0	100	95
		1	% v/v	3-4 lf						
14	Pretilachlor (A9366A)	0.624	lb ai/a	PRE	0	13	1	9	10	19
15	Pretilachlor	0.624	lb ai/a	DPRE	0	13	0	19	30	20
LSD (P=.05)					2.7	6.3	7.6	6.5	9.0	16.6

# University of Arkansas

## Envoke for Rice Weed Control

Trial ID: STUT 0304  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ECHCG	BRAPP	BRAPP	ORYSA	ORYSA
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-2-03	6-9-03	6-24-03	6-9-03	6-24-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated Check				0	0	0	0	0
2	Trifloxysulfuron (Envoke)	0.0282	lb ai/a	PRE	93	92	95	88	80
3	Trifloxysulfuron	0.0423	lb ai/a	PRE	95	96	97	95	89
4	Clomazone (Command)	0.5	lb ai/a	PRE	95	80	65	3	0
5	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	100	96	100	100	100
	Imazethapyr NIS	0.063	lb ai/a	3-4 lf					
		0.25	% v/v	3-4 lf					
6	Trifloxysulfuron	0.0282	lb ai/a	DPRE	88	90	93	61	48
7	Quinclorac (Facet)	0.5	lb ai/a	DPRE	95	87	98	0	0
8	Pendimethalin	1.0	lb ai/a	DPRE	69	58	38	0	3
9	Trifloxysulfuron	0.0423	lb ai/a	DPRE	95	95	99	95	83
10	Trifloxysulfuron NIS	0.0282	lb ai/a	3-4 lf	60	79	99	66	99
		0.25	% v/v	3-4 lf					
11	Trifloxysulfuron NIS	0.0423	lb ai/a	3-4 lf	70	78	94	60	98
		0.25	% v/v	3-4 lf					
12	Quinclorac COC	0.25	lb ai/a	3-4 lf	24	77	33	0	0
		1	% v/v	3-4 lf					
13	Propanil COC (if needed)	3	lb ai/a	3-4 lf	76	90	97	0	0
		1	% v/v	3-4 lf					
14	Pretilachlor (A9366A)	0.624	lb ai/a	PRE	81	43	44	3	3
15	Pretilachlor	0.624	lb ai/a	DPRE	25	53	41	5	5
LSD (P=.05)					14.0	13.5	12.6	16.3	13.6

# University of Arkansas

## Evaluation of Herbicide Programs Under No-flush Conditions

Trial ID: STUT 0305  
Location: Stuttgart, Ark.

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

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Malik  
**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart      **Trial Status:** Completed  
**State/Prov.:** Ark.

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

**Objective:** To evaluate herbicide efficacy in a no-flush situation

**Conclusions:** This study was established to evaluate preemergence (PRE) and delayed preemergence (DPRE) applications of residual rice herbicides in a no-flush situation. The purpose of the study was to simulate a common situation in production fields where farmers do not flush following PRE and DPRE herbicide applications. All PRE and DPRE applications provided excellent grassy weed control because herbicides were activated on 6-3-03 with a 0.85 in. rainfall, with a rainfall interval of 7 DAT of PRE and 5 DAT of DPRE treatments; weed control was similar with all treatments.

### 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:** FRANCIS  
**Planting Date:** 5-26-03      **Planting Method:** DRILLED  
**Rate:** 70 LB/A      **Depth:** 0.75 IN  
**Row Spacing:** 7 IN  
**Soil Moisture:** ADEQUATE      **Emergence Date:** 6-1-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 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		

### SOIL DESCRIPTION

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

## MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL
35.	8-24-03		0.1	IN	RAINFALL
36.	8-30-03		0.02	IN	RAINFALL
37.	9-1-03		0.05	IN	RAINFALL
38.	9-2-03		0.08	IN	RAINFALL
39.	9-3-03		0.3	IN	RAINFALL
40.	9-4-03		0.08	IN	RAINFALL
41.	9-13-03		1.15	IN	RAINFALL
42.	9-22-03		0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B	C	D	E
<b>Application Date:</b>	5-27-03	5-29-03	6-9-03	6-30-03	7-10-03
<b>Time of Day:</b>	8:00 AM	7:30 AM	5:15 PM	7:30 PM	6:00 AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	DPRE	2-LF	PREFLD	POFLD 1WK
<b>Applic. Placement:</b>	BROSOI	BROSOI	BROFOL	BROFOL	BROFOL
<b>Air Temp., Unit:</b>	65 F	66 F	88 F	84 F	78 F
<b>% Relative Humidity:</b>	60	55	38	86	100
<b>Wind Velocity, Unit:</b>	1 SE	1.5 SE	2 SW	2 SE	3 NW
<b>Dew Presence (Y/N):</b>	N	N	N	N	N
<b>Water Hardness:</b>	N	N	N	N	N
<b>Soil Temp., Unit:</b>	69 F	70 F	88 F	91 F	80 F
<b>Soil Moisture:</b>	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	FLOOD
<b>% Cloud Cover:</b>	25	45	0	75	75



### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	DPRE	2-LF	PREFLD	POFLD 1WK
<b>Height, Unit:</b>			3 IN	12 IN	15 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Weed 1 Code, Stage:</b>	ECHCG	ECHCG	ECHCG	ECHCG	ECHCG
<b>Stage Scale:</b>	PRE	DPRE	2-lf	4-lf	2-3 til
<b>Weed 2 Code, Stage:</b>	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	DPRE	2-lf	4-lf	2-3 til

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	TT 11002	TT 11002	TT 11002	TT 11002
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN	17 IN	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH	3 MPH	2 MPH
<b>Incorporation Equip.:</b>	NONE	NONE	NONE	NONE	NONE
<b>Carrier:</b>	WATER	WATER	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N	N	N

# University of Arkansas

## Evaluation of Herbicides Under No-flush Conditions

Trial ID: STUT 0305  
 Location: Suttgart, AR

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

Weed Code			ECHCG	ECHCG	ECHCG
Crop Code		ORYSI	ORYSI		
Part Rated					
Rating Data Type		INJURY	BLEACH	CONTROL	CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-16-03	6-16-03	6-16-03	6-30-03
					7-22-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	0	5	100	99	100
1	Untreated				0	0	0	0	0
2	Clomazone (Command)	0.3	lb ai/a	PRE	0	5	99	99	95
	Triclopyr (if needed) (Grandstand)	0.375	lb ai/a	PREFL					
3	Pendimethalin (Prowl)	1	lb ai/a	DPRE	0	0	100	99	100
	Quinclorac (Facet)	0.25	lb ai/a	DPRE					
4	Propanil Thiobencarb (Bolero)	4	lb ai/a	2-lf	0	0	100	99	100
	Quinclorac	0.25	lb ai/a	2-lf					
5	Quinclorac COC	0.33	lb ai/a	2-lf	0	0	99	100	99
		2.5	% v/v	2-lf					
6	Propanil Quinclorac COC	4	lb ai/a	2-lf	0	0	99	100	100
		0.33	lb ai/a	2-lf					
		2.5	% v/v	2-lf					
7	Clomazone Quinclorac	0.3	lb ai/a	2-lf	0	0	90	95	98
		0.25	lb ai/a	2-lf					
8	Clomazone Clomazone	0.2	lb ai/a	PRE	0	9	99	95	98
		0.2	lb ai/a	2-lf					
9	Propanil	4	lb ai/a	2-lf	5	0	99	95	94
10	Propanil Clomazone	4	lb ai/a	2-lf	0	5	99	99	99
		0.3	lb ai/a	2-lf					
11	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	2-lf	0	1	100	99	100
	Clomazone	0.3	lb ai/a	2-lf					
12	Pendimethalin Quinclorac	1	lb ai/a	2-lf	0	0	96	99	100
		0.25	lb ai/a	2-lf					
13	Cyhalofop-butyl COC	0.15	lb ai/a	2-lf	0	0	99	95	100
		2.5	% v/v	2-lf					
	Cyhalofop-butyl COC	0.15	lb ai/a	PFLD1WK					
		2.5	% v/v	PFLD1WK					

# University of Arkansas

## Evaluation of Herbicides Under No-flush Conditions

Trial ID: STUT 0305  
 Location: Suttgart, AR

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

Weed Code			ECHCG	ECHCG	ECHCG
Crop Code		ORYSI	ORYSI		
Part Rated					
Rating Data Type		INJURY	BLEACH	CONTROL	CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-16-03	6-16-03	6-16-03	6-30-03
					7-22-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	INJURY PERCENT	BLEACH PERCENT	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT
					6-16-03	6-16-03	6-16-03	6-30-03	7-22-03
14	Cyhalofop-butyl	0.15	lb ai/a	2-lf	0	0	99	99	100
	Quinclorac	0.25	lb ai/a	2-lf					
	COC	2.5	% v/v	2-lf					
	Cyhalofop-butyl	0.15	lb ai/a	PFLD1WK					
	COC	2.5	% v/v	PFLD1WK					
15	Fenoxaprop (Ricestar)	13	oz/a	2-lf	0	0	99	99	99
	COC	1	% v/v	2-lf					
	Fenoxaprop	17	oz/a	PFLD1WK					
	COC	1	% v/v	PFLD1WK					
16	Fenoxaprop	13	oz/a	2-lf	0	0	99	99	100
	Quinclorac	0.25	lb ai/a	2-lf					
	COC	1	% v/v	2-lf					
	Fenoxaprop	17	oz/a	PFLD1WK					
	COC	1	% v/v	PFLD1WK					
17	Propanil + molinate (Arrosolo)	3	qt/a	2-lf	0	0	99	100	100
	Propanil + molinate	4	qt/a	PREFLD					
18	Propanil	4	lb ai/a	2-lf	0	0	100	98	95
	Propanil	4	lb ai/a	PREFLD					
19	Clomazone	0.5	lb ai/a	PRE	0	16	100	97	100
20	Clomazone	0.2	lb ai/a	PRE	0	5	100	99	100
	Clomazone	0.2	lb ai/a	2-lf					
	Quinclorac	0.188	lb ai/a	2-lf					
	COC	1	% v/v	2-lf					
21	Clomazone	0.4	lb ai/a	2-lf	0	5	99	96	98
	COC	1	% v/v	2-lf					
LSD (P=.05)					0.0	2.6	0.7	1.2	2.6

# University of Arkansas

## Evaluation of Herbicides Under No-flush Conditions

Trial ID: STUT 0305  
 Location: Suttgart, AR

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

Weed Code	BRAPP	BRAPP	BRAPP
Crop Code			
Part Rated			
Rating Data Type	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT
Rating Date	6-16-03	6-30-03	7-22-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg			
1	Untreated				0	0	0
2	Clomazone (Command)	0.3	lb ai/a	PRE	98	99	100
	Triclopyr (if needed) (Grandstand)	0.375	lb ai/a	PREFL			
3	Pendimethalin (Prowl)	1	lb ai/a	DPRE	100	99	100
	Quinclorac (Facet)	0.25	lb ai/a	DPRE			
4	Propanil Thiobencarb (Bolero)	4	lb ai/a	2-lf	100	99	100
	Quinclorac	0.25	lb ai/a	2-lf			
5	Quinclorac COC	0.33	lb ai/a	2-lf	94	99	99
		2.5	% v/v	2-lf			
6	Propanil Quinclorac COC	4	lb ai/a	2-lf	98	100	100
		0.33	lb ai/a	2-lf			
		2.5	% v/v	2-lf			
7	Clomazone Quinclorac	0.3	lb ai/a	2-lf	85	95	96
		0.25	lb ai/a	2-lf			
8	Clomazone Clomazone	0.2	lb ai/a	PRE	98	95	100
		0.2	lb ai/a	2-lf			
9	Propanil	4	lb ai/a	2-lf	97	95	96
10	Propanil Clomazone	4	lb ai/a	2-lf	99	99	100
		0.3	lb ai/a	2-lf			
11	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	2-lf	100	99	100
	Clomazone	0.3	lb ai/a	2-lf			
12	Pendimethalin Quinclorac	1	lb ai/a	2-lf	93	99	100
		0.25	lb ai/a	2-lf			
13	Cyhalofop-butyl COC	0.15	lb ai/a	2-lf	99	95	100
		2.5	% v/v	2-lf			
	Cyhalofop-butyl COC	0.15	lb ai/a	PFLD1WK			
		2.5	% v/v	PFLD1WK			

# University of Arkansas

## Evaluation of Herbicides Under No-flush Conditions

Trial ID: STUT 0305  
 Location: Suttgart, AR

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

Weed Code	BRAPP	BRAPP	BRAPP
Crop Code			
Part Rated			
Rating Data Type	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT
Rating Date	6-16-03	6-30-03	7-22-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg			
14	Cyhalofop-butyl	0.15	lb ai/a	2-lf	96	99	100
	Quinclorac	0.25	lb ai/a	2-lf			
	COC	2.5	% v/v	2-lf			
	Cyhalofop-butyl	0.15	lb ai/a	PFLD1WK			
	COC	2.5	% v/v	PFLD1WK			
15	Fenoxaprop (Ricestar)	13	oz/a	2-lf	95	98	100
	COC	1	% v/v	2-lf			
	Fenoxaprop	17	oz/a	PFLD1WK			
	COC	1	% v/v	PFLD1WK			
16	Fenoxaprop	13	oz/a	2-lf	95	99	100
	Quinclorac	0.25	lb ai/a	2-lf			
	COC	1	% v/v	2-lf			
	Fenoxaprop	17	oz/a	PFLD1WK			
	COC	1	% v/v	PFLD1WK			
17	Propanil + molinate (Arrosolo)	3	qt/a	2-lf	99	100	100
	Propanil + molinate	4	qt/a	PREFLD			
18	Propanil	4	lb ai/a	2-lf	98	98	99
	Propanil	4	lb ai/a	PREFLD			
19	Clomazone	0.5	lb ai/a	PRE	100	97	100
20	Clomazone	0.2	lb ai/a	PRE	99	99	100
	Clomazone	0.2	lb ai/a	2-lf			
	Quinclorac	0.188	lb ai/a	2-lf			
	COC	1	% v/v	2-lf			
21	Clomazone	0.4	lb ai/a	2-lf	96	96	99
	COC	1	% v/v	2-lf			
LSD (P=.05)					2.0	1.3	1.3

# University of Arkansas

## Evaluation of Early Postemergence Tank Mixtures of IR5878 50WG on Dry-Seeded Rice

Trial ID: STUT 0306  
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik  
**Affiliation:** University of Arkansas  
**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart      **Trial Status:** Completed  
**State/Prov.:** Ark.

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

**Objective:** To evaluate the efficacy of IR5878 applied alone and in tank mixtures with other rice herbicides

**Conclusions:** The purpose of this study was to evaluate the efficacy of early postemergence (EPOST) applications of IR5878 for rice weed control when applied alone or in mixtures following preemergence (PRE) applications of clomazone (Command). Control of natural populations of barnyardgrass as well as propanil-susceptible and propanil-resistant populations, was evaluated. Broadleaf signalgrass, hemp sesbania, northern jointvetch, and pitted morningglory control was also assessed. Overall, IR5878 was weak on grasses when applied EPOST. However, it provided good control of hemp sesbania and northern jointvetch when applied EPOST. Hemp sesbania and northern jointvetch control was improved when IR5878 was mixed with quinclorac (Facet) or propanil. Pitted morningglory control with IR5878 was less than 90% 16 days after treatment when applied alone or in combination with thiobencarb (Bolero) or quinclorac EPOST. Pitted morningglory control increased later in the season due to the flood.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2.	RECHCG	BARNYARDGRASS (PROPANIL-REST)	<i>Echinochloa crus-galli</i>
3.	BRAPP	SIGNALGRASS, BROADLEAF	<i>Bracharia platyphylla</i> (GRISEB.) NASH
4.	SEBEX	SESBANIA, HEMP	<i>Sesbania exaltata</i> (RAF.) CORY/Rydb.
5.	IPOLA	MORNINGGLORY, PITTED	<i>Ipomoea lacunosa</i>
6.	AESVI	JOINTVETCH, NORTHERN	<i>Aeschynomene virginica</i> (L.) B.S.P.

**Crop 1:** Oryza RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS  
**Planting Date:** 5-13-03      **Planting Method:** DRILLED  
**Rate:** 70 LB/A  
**Row Spacing:** 7 IN  
**Soil Moisture:** ADEQUATE      **Emergence Date:** 5-20-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT      **Plot Length, Unit:** 15 FT      **Reps:** 4  
**Site Type:** FIELD  
**Tillage Type:** CONVENTIONAL TILL      **Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW		2002

### 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
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B
Application Date:	5-14-03	6-3-03
Time of Day:	1:00 pm	7:30 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	2-3 LF
Applic. Placement:	BROSOI	FOLIAR
Air Temp., Unit:	72 F	67 F
% Relative Humidity:	98	96
Wind Velocity, Unit:	2 MPH	2.7 MPH
Dew Presence (Y/N):	N	N
Water Hardness:	N	N
Soil Temp., Unit:	70 F	70 F
Soil Moisture:	MOIST	WET
% Cloud Cover:	90	40

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ORYSI	ORYSI
Stage Scale:	PRE	2-3 LF
Height, Unit:		5 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC
<b>Stage Scale:</b>	PRE	2-LF
<b>Density, Unit:</b>		20 FT2
<b>Weed 2 Code, Stage:</b>	SECHC	SECHC
<b>Stage Scale:</b>	PRE	2-LF
<b>Density, Unit:</b>		10 ROWFT
<b>Weed 3 Code, Stage:</b>	RECHC	RECHC
<b>Stage Scale:</b>	PRE	2-LF
<b>Density, Unit:</b>		15 ROWFT
<b>Weed 4 Code, Stage:</b>	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	2-LF
<b>Density, Unit:</b>		10 ROWFT
<b>Weed 5 Code, Stage:</b>	SEBEX	SEBEX
<b>Stage Scale:</b>	PRE	3-LF
<b>Density, Unit:</b>		3 ROWFT
<b>Weed 6 Code, Stage:</b>	IPOLA	IPOLA
<b>Stage Scale:</b>	PRE	2-LF
<b>Density, Unit:</b>		2 ROWFT
<b>Weed 7 Code, Stage:</b>	AESVI	AESVI
<b>Stage Scale:</b>	PRE	3-LF
<b>Density, Unit:</b>		3 ROWFT
<b>Weed 8 Code, Stage:</b>	DIGSA	DIGSA

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	DG80015VS
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N



# University of Arkansas

## Evaluation of Early Postemergence Tank Mixtures of IR5878 on Dry-seeded Rice

Trial ID: STUT 0306  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code			NECHCG	NECHCG	SECHCG	SECHCG
Crop Code		ORYSI	ORYSI			
Part Rated						
Rating Data Type		INJURY	INJURY	CONTROL	CONTROL	CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-9-03	6-24-03	6-9-03	6-24-03	6-9-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg						
1	Untreated				0	0	0	0	0	0
2	Clomazone (Command) IR5878 NIS	0.3 lb ai/a PRE 0.067 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf			4	0	100	90	88	93
3	Clomazone IR5878 NIS Propanil	0.3 lb ai/a PRE 0.067 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf 4 lb ai/a 2-3 lf			6	0	100	100	100	100
4	Clomazone IR5878 NIS Quinclorac (Facet)	0.3 lb ai/a PRE 0.067 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf 0.33 lb ai/a 2-3 lf			4	0	100	96	100	100
5	Clomazone IR5878 Thiobencarb (Bolero)	0.3 lb ai/a PRE 0.067 lb ai/a 2-3 lf 3 lb ai/a 2-3 lf			6	0	100	98	98	100
6	Clomazone Triclopyr (Grandstand) NIS	0.3 lb ai/a PRE 0.35 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf			4	0	95	85	97	81
7	Clomazone Triclopyr NIS Propanil	0.3 lb ai/a PRE 0.63 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf 4 lb ai/a 2-3 lf			5	0	100	100	100	100
8	Clomazone Propanil NIS	0.3 lb ai/a PRE 4 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf			5	0	100	99	100	100
9	Clomazone Quinclorac NIS	0.3 lb ai/a PRE 0.33 lb ai/a 2-3 lf 0.2 % v/v 2-3 lf			3	0	100	100	100	100
10	Clomazone Thiobencarb	0.3 lb ai/a PRE 3 lb ai/a 2-3 lf			4	0	100	86	95	99
11	Clomazone	0.3 lb ai/a PRE			3	0	100	92	92	83
LSD (P=.05)					5.0	0.0	2.6	8.6	12.4	12.1

# University of Arkansas

## Evaluation of Early Postemergence Tank Mixtures of IR5878 on Dry-seeded Rice

Trial ID: STUT 0306  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	RECHCG	RECHCG	BRAPP	BRAPP	SEBEX	SEBEX
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-9-03	6-24-03	6-9-03	6-24-03	6-9-03	6-24-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	RECHCG 6-9-03	RECHCG 6-24-03	BRAPP 6-9-03	BRAPP 6-24-03	SEBEX 6-9-03	SEBEX 6-24-03
1	Untreated				0	0	0	0	0	0
2	Clomazone (Command) IR5878 NIS	0.3 0.067 0.2	lb ai/a lb ai/a % v/v	PRE 2-3 lf 2-3 lf	100	88	100	93	50	100
3	Clomazone IR5878 NIS Propanil	0.3 0.067 0.2 4	lb ai/a lb ai/a % v/v lb ai/a	PRE 2-3 lf 2-3 lf 2-3 lf	100	100	100	100	100	100
4	Clomazone IR5878 NIS Quinclorac (Facet)	0.3 0.067 0.2 0.33	lb ai/a lb ai/a % v/v lb ai/a	PRE 2-3 lf 2-3 lf 2-3 lf	100	98	100	100	99	100
5	Clomazone IR5878 Thiobencarb (Bolero)	0.3 0.067 3	lb ai/a lb ai/a lb ai/a	PRE 2-3 lf 2-3 lf	100	99	98	99	69	98
6	Clomazone Triclopyr (Grandstand) NIS	0.3 0.35 0.2	lb ai/a lb ai/a % v/v	PRE 2-3 lf 2-3 lf	97	79	93	85	92	100
7	Clomazone Triclopyr NIS Propanil	0.3 0.63 0.2 4	lb ai/a lb ai/a % v/v lb ai/a	PRE 2-3 lf 2-3 lf 2-3 lf	100	100	100	100	100	100
8	Clomazone Propanil NIS	0.3 4 0.2	lb ai/a lb ai/a % v/v	PRE 2-3 lf 2-3 lf	100	100	100	100	100	100
9	Clomazone Quinclorac NIS	0.3 0.33 0.2	lb ai/a lb ai/a % v/v	PRE 2-3 lf 2-3 lf	100	100	100	100	99	100
10	Clomazone Thiobencarb	0.3 3	lb ai/a lb ai/a	PRE 2-3 lf	95	86	96	90	30	15
11	Clomazone	0.3	lb ai/a	PRE	100	83	100	94	83	40
LSD (P=.05)					3.2	12.7	4.6	7.2	15.9	16.2

# University of Arkansas

## Evaluation of Early Postemergence Tank Mixtures of IR5878 on Dry-seeded Rice

Trial ID: STUT 0306  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code		IPOLA	IPOLA	
Crop Code				ORYSI
Part Rated				
Rating Data Type		CONTROL	CONTROL	YIELD
Rating Unit		PERCENT	PERCENT	KG/HA
Rating Date		6-9-03	6-24-03	10-7-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg			
1	Untreated				0	0	2941
2	Clomazone (Command)	0.3	lb ai/a	PRE	56	90	5905
	IR5878	0.067	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
3	Clomazone	0.3	lb ai/a	PRE	100	100	7805
	IR5878	0.067	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
	Propanil	4	lb ai/a	2-3 lf			
4	Clomazone	0.3	lb ai/a	PRE	54	85	8007
	IR5878	0.067	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
	Quinclorac (Facet)	0.33	lb ai/a	2-3 lf			
5	Clomazone	0.3	lb ai/a	PRE	56	84	7872
	IR5878	0.067	lb ai/a	2-3 lf			
	Thiobencarb (Bolero)	3	lb ai/a	2-3 lf			
6	Clomazone	0.3	lb ai/a	PRE	65	100	6710
	Triclopyr (Grandstand)	0.35	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
7	Clomazone	0.3	lb ai/a	PRE	100	100	7701
	Triclopyr	0.63	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
	Propanil	4	lb ai/a	2-3 lf			
8	Clomazone	0.3	lb ai/a	PRE	100	94	8058
	Propanil	4	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
9	Clomazone	0.3	lb ai/a	PRE	78	98	8006
	Quinclorac	0.33	lb ai/a	2-3 lf			
	NIS	0.2	% v/v	2-3 lf			
10	Clomazone	0.3	lb ai/a	PRE	14	3	6425
	Thiobencarb	3	lb ai/a	2-3 lf			
11	Clomazone	0.3	lb ai/a	PRE	50	58	6404

LSD (P=.05)

14.1      10.8      1177.6

# University of Arkansas

## Efficacy of IR5878 50 WG on Dry-seeded Rice

Trial ID: STUT 0307

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**Trial Status:** Completed

**State/Prov.:** Ark.

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

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

**Objective:** To evaluate postemergence grass control with IR5878 and other rice herbicides

**Conclusions:** This study evaluated the efficacy of IR5878 applied alone and in combination with other rice herbicides pre-flood (PREFLD) and post-flood (POFLD) following a PRE application of clomazone. Natural barnyardgrass, propanil-susceptible and propanil-resistant barnyardgrass, and broadleaf signalgrass control was evaluated.

Clomazone alone provided at least 86% grass control for the early part of the season. When IR5878 was applied with propanil, barnyardgrass control increased to 90% 22 DAT. Barnyardgrass control was increased to 97% 22 DAT when IR5878 was applied with quinclorac (Facet) PREFLD. IR5878 did not show added benefit to POFLD treatment of molinate (Ordram). However, control decreased significantly with all treatments 35 DAT. Propanil-resistant barnyardgrass control was less than 84% with IR5878 alone or in combination with propanil. Propanil-resistant barnyardgrass control with these treatments was attributed to clomazone (Command) and not propanil or IR5878. Rice yields ranged from 6570 to 8520 kg/ha with all herbicide treatments.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2.	SECHCG	BARNYARDGRASS (PROPANIL-SUSC.)	<i>Echinochloa crus-galli</i>
3.	RECHCG	BARNYARDGRASS (PROPANIL-REST)	<i>Echinochloa crus-galli</i>
4.	BRAPP	SIGNALGRASS, BROADLEAF	<i>Brachiaria platyphylla</i> (GRISEB.) NASH

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS

**Planting Date:** 5-14-03 **Planting Method:** DRILLED

**Rate:** 70 LB/A

**Row Spacing:** 7 IN

**Soil Moisture:** ADEQUATE **Emergence Date:** 5-20-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT

**Plot Length, Unit:** 15 FT

**Reps:** 4

**Site Type:** FIELD

**Tillage Type:** CONVENTIONAL TILL

**Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW		2002

### SOIL DESCRIPTION

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

### MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL

### APPLICATION DESCRIPTION

	A	B	C
Application Date:	5-14-03	6-24-03	6-30-03
Time of Day:	1:00 pm	7:45 PM	7:30 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	PREFLD	POFLD
Applic. Placement:	BROSOI	FOLIAR	FOLIAR
Air Temp., Unit:	72 F	88 F	84 F
% Relative Humidity:	98	64	86
Wind Velocity, Unit:	2 MPH	2 MPH	3 MPH
Dew Presence (Y/N):	N	N	N
Water Hardness:	N	N	N
Soil Temp., Unit:	70 F	90 F	91 F
Soil Moisture:	MOIST	ADEQUATE	FLOOD
% Cloud Cover:	90	20	75

### CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI
Stage Scale:	PRE	2-TILLER	4-TILLER
Height, Unit:		14 IN	18 IN

**WEED STAGE AT EACH APPLICATION**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC	NECHC
<b>Stage Scale:</b>	PRE	4-5 LF	7-LF
<b>Weed 2 Code, Stage:</b>	SECHC	SECHC	SECHC
<b>Stage Scale:</b>	PRE	4-5 LF	7-LF
<b>Weed 3 Code, Stage:</b>	RECHC	RECHC	RECHC
<b>Stage Scale:</b>	PRE	4-5 LF	7-LF
<b>Weed 4 Code, Stage:</b>	BRAPP	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	4-5 LF	7-LF

**APPLICATION EQUIPMENT**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	TT110015	TT110015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE	NONE
<b>Carrier:</b>	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N

# University of Arkansas

## Efficacy of IR58578 on Dry-seeded Rice

Trial ID: STUT 0307  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	ORYSI	NECHCG	NECHCG
Crop Code	ORYSI	ORYSI	ORYSI	ORYSI	NECHCG	NECHCG
Part Rated	ORYSI	ORYSI	ORYSI	ORYSI	NECHCG	NECHCG
Rating Data Type	INJURY	INJURY	BIOMASS	BIOMASS	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-30-03	7-16-03	6-30-03	7-16-03	6-30-03	7-16-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg						
1	Untreated				0	0	0	0	0	0
2	Clomazone (Command)	0.3 lb ai/a	PRE		0	0	0	0	93	87
	IR5878	0.067 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
3	Clomazone	0.3 lb ai/a	PRE		0	0	0	0	86	90
	IR5878	0.067 lb ai/a	PREFLD							
	Propanil	4 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
4	Clomazone	0.3 lb ai/a	PRE		0	1	0	1	94	97
	IR5878	0.067 lb ai/a	PREFLD							
	Quinclorac (Facet)	0.33 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
5	Clomazone	0.3 lb ai/a	PRE		0	3	0	3	97	94
	Triclopyr (Grandstand)	0.35 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
6	Clomazone	0.3 lb ai/a	PRE		0	40	0	40	99	89
	Triclopyr	0.63 lb ai/a	PREFLD							
	Propanil	4 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
7	Clomazone	0.3 lb ai/a	PRE		0	1	0	1	97	89
	Propanil	4 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
8	Clomazone	0.3 lb ai/a	PRE		0	0	0	0	96	98
	Quinclorac	0.33 lb ai/a	PREFLD							
	NIS	0.2 % v/v	PREFLD							
9	Clomazone	0.3 lb ai/a	PRE		0	0	0	0	91	90
10	Clomazone	0.3 lb ai/a	PRE		0	1	0	1	95	98
	Bensulfuron (Londax)	0.063 lb ai/a	POFLD							
	Molinate (Ordram)	4 lb ai/a	POFLD							

# University of Arkansas

## Efficacy of IR58578 on Dry-seeded Rice

Trial ID: STUT 0307  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code					NECHCG	NECHCG
Crop Code		ORYSI	ORYSI	ORYSI	ORYSI	
Part Rated						
Rating Data Type		INJURY	INJURY	BIOMASS	BIOMASS	CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-30-03	7-16-03	6-30-03	7-16-03	6-30-03
						7-16-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
11	Clomazone IR5878 Molinate	0.3 0.067 4	lb ai/a lb ai/a lb ai/a	PRE POFLD POFLD	0	1	0	1	91	96
12	Clomazone Molinate	0.3 4	lb ai/a lb ai/a	PRE POFLD	0	0	0	0	85	93
LSD (P=.05)					0.0	9.1	0.0	9.1	4.2	7.7



# University of Arkansas

## Efficacy of IR58578 on Dry-seeded Rice

Trial ID: STUT 0307  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	RECHCG	SECHCG	BRAPP	BRAPP	ORYSI
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-9-03	7-9-03	6-30-03	7-9-03	10-7-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg					
1	Untreated				0	0	0	0	5862
2	Clomazone (Command)	0.3 lb ai/a	PRE		84	86	96	89	7099
	IR5878	0.067 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
3	Clomazone	0.3 lb ai/a	PRE		81	86	95	86	6568
	IR5878	0.067 lb ai/a	PREFLD						
	Propanil	4 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
4	Clomazone	0.3 lb ai/a	PRE		97	97	95	95	8398
	IR5878	0.067 lb ai/a	PREFLD						
	Quinclorac (Facet)	0.33 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
5	Clomazone	0.3 lb ai/a	PRE		88	90	94	88	7554
	Triclopyr (Grandstand)	0.35 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
6	Clomazone	0.3 lb ai/a	PRE		94	91	99	88	7382
	Triclopyr	0.63 lb ai/a	PREFLD						
	Propanil	4 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
7	Clomazone	0.3 lb ai/a	PRE		89	89	95	89	7487
	Propanil	4 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
8	Clomazone	0.3 lb ai/a	PRE		93	93	97	91	8517
	Quinclorac	0.33 lb ai/a	PREFLD						
	NIS	0.2 % v/v	PREFLD						
9	Clomazone	0.3 lb ai/a	PRE		88	90	94	90	7089
10	Clomazone	0.3 lb ai/a	PRE		95	95	98	93	7734
	Bensulfuron (Londax)	0.063 lb ai/a	POFLD						
	Molinate (Ordram)	4 lb ai/a	POFLD						

# University of Arkansas

## Efficacy of IR58578 on Dry-seeded Rice

Trial ID: STUT 0307  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code	RECHCG	SECHCG	BRAPP	BRAPP	ORYSI
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-9-03	7-9-03	6-30-03	7-9-03	10-7-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg					
11	Clomazone	0.3	lb ai/a	PRE	91	93	98	93	8125
	IR5878	0.067	lb ai/a	POFLD					
	Molinate	4	lb ai/a	POFLD					
12	Clomazone	0.3	lb ai/a	PRE	87	91	94	91	7776
	Molinate	4	lb ai/a	POFLD					
LSD (P=.05)					9.3	7.6	3.0	8.1	1487.2

# University of Arkansas

## Evaluation of IR5878 with Clomazone and Cyhalofop-butyl

Trial ID: STUT 0309

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**State/Prov.:** Ark.

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

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

**Objective:** To evaluate rice response and weed control with IR5878 combined with clomazone (Command) and cyhalofop-butyl (Clincher)

**Conclusions:** This study evaluated the potential for additive effects of IR5878 when applied alone and in combination with clomazone (Command) and cyhalofop-butyl (Clincher) for grass control. Natural, propanil-susceptible, and propanil-resistant barnyardgrass and broadleaf signalgrass control was evaluated. Early-season rice injury occurred as a result of clomazone applications. Grass control was excellent with all treatments, with control being greater than 95% for the entire season. Rice yields were excellent with all treatments, and all herbicide treatments provided higher yields than the untreated check.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NECHCG	NATURAL BARNYARDGRASS	<i>Echinochloa crus-galli</i>
2.	SECHCG	PROP-SUSCEPT BARNYARDGRASS	<i>Echinochloa crus-galli</i>
3.	RECHCG	PROP-RESISTANT BARNYARDGRASS	<i>Echinochloa crus-galli</i>
4.	BRAPP	SIGNALGRASS, BROADLEAF	<i>Brachiaria platyphylla</i> (GRISEB.) NASH

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS

**Planting Date:** 5-13-03 **Planting Method:** DRILLED

**Rate:** 70 LB/A

**Row Spacing:** 7 IN

**Seed Bed:** SMOOTH

**Soil Moisture:** ADEQUATE

**Emergence Date:** 5-19-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT

**Plot Length, Unit:** 15 FT **Reps:** 4

**Site Type:** FIELD

**Tillage Type:** CONVENTIONAL TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	FALLOW		

### SOIL DESCRIPTION

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

## MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B
Application Date:	5-14-03	5-26-03
Time of Day:	1:00 pm	7:30 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	1-2 LF
Applic. Placement:	BROSOI	FOLIAR
Air Temp., Unit:	72 F	66 F
% Relative Humidity:	98	55
Wind Velocity, Unit:	2 SW	1.5 MPH
Dew Presence (Y/N):	N	N
Water Hardness:	N	N
Soil Temp., Unit:	70 F	70 F
Soil Moisture:	MOIST	ADEQUATE
% Cloud Cover:	90	45

## CROP STAGE AT EACH APPLICATION

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

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC
<b>Stage Scale:</b>	PRE	1-2 LF
<b>Density, Unit:</b>		20 FT2
<b>Weed 2 Code, Stage:</b>	SECHC	SECHC
<b>Stage Scale:</b>	PRE	1-2 LF
<b>Density, Unit:</b>		5 ROWFT
<b>Weed 3 Code, Stage:</b>	RECHC	RECHC
<b>Stage Scale:</b>	PRE	1-2 LF
<b>Density, Unit:</b>		10 ROWFT
<b>Weed 4 Code, Stage:</b>	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	1-2 LF
<b>Density, Unit:</b>		5 ROWFT

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	DG 80015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N

# University of Arkansas

## Evaluation of IR5878 with Clomazone and Cyhalofop-butyl

Trial ID: STUT 0309  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code						
Crop Code		ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Part Rated						
Rating Data Type		BLEACH	BLEACH	INJURY	INJURY	BIOMASS
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-11-03	6-26-03	6-16-03	6-30-03	6-16-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
1	Untreated check				0	0	0	0	0	0
2	Clomazone (Command)	0.3 lb ai/a	PRE		5	5	19	0	18	0
	IR5878	0.067 lb ai/a	1-2 lf							
	NIS	0.2 % v/v	1-2 lf							
3	Clomazone	0.3 lb ai/a	1-2 lf		5	5	25	0	24	0
	IR5878	0.067 lb ai/a	1-2 lf							
	NIS	0.2 % v/v	1-2 lf							
4	Clomazone	0.3 lb ai/a	PRE		5	1	9	0	9	0
	Cyhalofop-butyl (Clincher)	13.5 fl oz/a	1-2 lf							
	COC	2.5 % v/v	1-2 lf							
5	Clomazone	0.3 lb ai/a	PRE		5	3	5	0	5	0
LSD (P=.05)					0.0	3.7	9.8	0.0	10.5	0.0

# University of Arkansas

## Evaluation of IR5878 with Clomazone and Cyhalofop-butyl

Trial ID: STUT 0309  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	NECHCG	NECHCG	SECHCG	RECHCG	BRAPP	BRAPP
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-11-03	6-26-03	6-16-03	6-16-03	6-11-03	6-26-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
1	Untreated check				0	0	0	0	0	0
2	Clomazone (Command)	0.3 lb ai/a	PRE		99	95	100	100	99	97
	IR5878	0.067 lb ai/a	1-2 lf							
	NIS	0.2 % v/v	1-2 lf							
3	Clomazone	0.3 lb ai/a	1-2 lf		100	99	100	100	100	99
	IR5878	0.067 lb ai/a	1-2 lf							
	NIS	0.2 % v/v	1-2 lf							
4	Clomazone	0.3 lb ai/a	PRE		100	100	100	100	100	100
	Cyhalofop-butyl (Clincher)	13.5 fl oz/a	1-2 lf							
	COC	2.5 % v/v	1-2 lf							
5	Clomazone	0.3 lb ai/a	PRE		99	98	100	100	99	99
LSD (P=.05)					1.8	2.1	0.0	0.0	1.8	2.2

# University of Arkansas

## Evaluation of IR5878 with Clomazone and Cyhalofop-butyl

Trial ID: STUT 0309  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code  
 Crop Code ORYSI  
 Part Rated  
 Rating Data Type YIELD  
 Rating Unit KG/HA  
 Rating Date 10-7-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	
1	Untreated check				5864
2	Clomazone (Command)	0.3 lb ai/a	PRE		8346
	IR5878	0.067 lb ai/a	1-2 If		
	NIS	0.2 % v/v	1-2 If		
3	Clomazone	0.3 lb ai/a	1-2 If		8479
	IR5878	0.067 lb ai/a	1-2 If		
	NIS	0.2 % v/v	1-2 If		
4	Clomazone	0.3 lb ai/a	PRE		8564
	Cyhalofop-butyl (Clincher)	13.5 fl oz/a	1-2 If		
	COC	2.5 % v/v	1-2 If		
5	Clomazone	0.3 lb ai/a	PRE		8226
LSD (P=.05)					1753.2



# University of Arkansas

## Evaluation of IR5878 in the CLEARFIELD\* Rice System

Trial ID: STUT 0310

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**Trial Status:** Completed

**State/Prov.:** Ark.

### COOPERATOR/LANDOWNER

**Cooperator:** U of A RICE RESEARCH AND EXT. CENTER

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

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

**Objective:** To evaluate the potential of IR5878 for use in the CLEARFIELD\* rice production system

**Conclusions:** This study evaluated the potential of IR5878 in the CLEARFIELD\* rice system. Natural, propanil-susceptible, and propanil-resistant barnyardgrass and broadleaf signalgrass control was evaluated. There was no rice injury with any treatment, so data are not shown. IR5878 did not appear to benefit applications of imazethapyr (Newpath) when applied PREFLD, as control was excellent with both treatments. IR5878 did not increase grass control following a delayed preemergence (DPRE) application of pendimethalin (Prowl). The addition of IR5878 with sequential applications of imazethapyr provided the highest numerical rice yield; however, yields resulting from this treatment were not significantly different from sequential applications of imazethapyr.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2.	RECHCG	BARNYARDGRASS (PROPANIL RES.)	<i>Echinochloa crus-galli</i>
3.	SECHCG	BARNYARDGRASS (PROPANIL SUSCEPT)	<i>Echinochloa crus-galli</i>
4.	BRAPP	SIGNALGRASS, BROADLEAF	<i>Brachiaria platyphylla</i> (GRISEB.) NASH

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** CL 161

**Planting Date:** 6-10-03 **Planting Method:** DRILLED

**Rate:** 70 LB/A

**Row Spacing:** 7 IN **Seed Bed:** SMOOTH

**Soil Temperature:** 80 F **Soil Moisture:** ADEQUATE **Emergence Date:** 6-17-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT **Plot Length, Unit:** 16 FT **Reps:** 4

**Site Type:** FIELD

**Tillage Type:** CONVENTIONAL-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

**Trial Initiation Comments:** The study was originally planted on 14 May, but due to poor emergence of CL161, was abandoned and replanted on 10 June in a different location.

#### Previous Crops

1. FALLOW

**SOIL DESCRIPTION**

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

**MOISTURE CONDITIONS**

	<b>Date</b>	<b>Time</b>	<b>Amount</b>	<b>Unit</b>	<b>Type</b>
1.	6-11-03		0.07	IN	RAINFALL
2.	6-12-03		1.2	IN	RAINFALL
3.	6-13-03		0.1	IN	RAINFALL
4.	6-15-03		0.15	IN	RAINFALL
5.	6-17-03		0.16	IN	RAINFALL
6.	6-18-03		0.9	IN	RAINFALL
7.	6-19-03		0.55	IN	RAINFALL
8.	6-26-03		0.9	IN	RAINFALL
9.	6-27-03		0.95	IN	RAINFALL
10.	7-3-03				FLUSH
11.	7-10-03				FLOOD
12.	7-11-03		0.08	IN	RAINFALL
13.	7-12-03		0.05	IN	RAINFALL
14.	7-18-03		0.1	IN	RAINFALL
15.	7-19-03		0.6	IN	RAINFALL
16.	7-28-03		0.75	IN	RAINFALL
17.	7-31-03		0.2	IN	RAINFALL
18.	8-4-03		0.3	IN	RAINFALL
19.	8-6-03		0.2	IN	RAINFALL
20.	8-13-03		0.5	IN	RAINFALL
21.	8-14-03		0.55	IN	RAINFALL

**APPLICATION DESCRIPTION**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Application Date:</b>	6-11-03	6-16-03	7-10-03
<b>Time of Day:</b>	4:00 pm	5:00 PM	6:00 AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	DPRE	PREFLD
<b>Applic. Placement:</b>	BROSOI	BROSOI	FOLIAR
<b>Air Temp., Unit:</b>	89 F	85 F	78 F
<b>% Relative Humidity:</b>	75	82	100
<b>Wind Velocity, Unit:</b>	2 MPH	1 MPH	3 MPH
<b>Dew Presence (Y/N):</b>	N	Y	Y
<b>Water Hardness:</b>	N/A	N/A	N/A
<b>Soil Temp., Unit:</b>	83 F	88 F	79 F
<b>Soil Moisture:</b>	ADEQUATE	ADEQUATE	ADEQUATE
<b>% Cloud Cover:</b>	85	30	75

**CROP STAGE AT EACH APPLICATION**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	DPRE	6 LF
<b>Height, Unit:</b>			12 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC	NECHC
<b>Stage Scale:</b>	PRE	DPRE	3-4 LF
<b>Density, Unit:</b>	15 FT2	15 FT2	8 FT2
<b>Weed 2 Code, Stage:</b>	RECHC	RECHC	RECHC
<b>Stage Scale:</b>	PRE	DPRE	3-4 LF
<b>Density, Unit:</b>	3 FT2	3 FT2	.5 FT2
<b>Weed 3 Code, Stage:</b>	SECHC	SECHC	SECHC
<b>Weed 4 Code, Stage:</b>	BRAPP	BRAPP	BRAPP

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	30 PSI	22 PSI
<b>Nozzle Type:</b>	TT 110015	DG 11002	TT 110015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Carrier:</b>	H2O	H2O	H2O
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2

# University of Arkansas

## Evaluation of IR5878 in the CLEARFIELD\* Rice System

Trial ID: STUT 0310  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	NECHCG	NECHCG	RECHCG	RECHCG	SECHCG	SECHCG
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-1-03	7-29-03	7-16-03	7-29-03	7-16-03	7-29-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
1	Untreated				0	0	0	0	0	0
2	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	95	99	100	100	100	100
3	Imazethapyr	0.063	lb ai/a	PREFLD	0	89	43	93	43	93
4	Imazethapyr Imazethapyr NIS	0.063 0.063 0.2	lb ai/a lb ai/a % v/v	PRE PREFLD PREFLD	96	100	100	100	100	100
5	Imazethapyr Imazethapyr IR5878 NIS	0.063 0.063 0.067 0.2	lb ai/a lb ai/a lb ai/a % v/v	PRE PREFLD PREFLD PREFLD	95	100	100	100	100	100
6	Imazethapyr Imazethapyr Halosulfuron (Permit) NIS	0.063 0.063 0.063 0.2	lb ai/a lb ai/a lb ai/a % v/v	PRE PREFLD PREFLD PREFLD	90	100	99	100	99	100
7	Pendimethalin (Prowl) Halosulfuron NIS	1 0.063 0.2	lb ai/a lb ai/a % v/v	DPRE PREFLD PREFLD	45	83	10	86	14	86
8	Pendimethalin IR5878 NIS	1 0.067 0.2	lb ai/a lb ai/a % v/v	DPRE PREFLD PREFLD	68	76	45	85	33	85
9	Pendimethalin	1.0	lb ai/a	DPRE	65	74	28	84	96	84
LSD (P=.05)					10.7	6.7	13.8	5.5	5.4	5.5

# University of Arkansas

## Evaluation of IR5878 in the CLEARFIELD\* Rice System

Trial ID: STUT 0310  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code		BRAPP	BRAPP	ORYSI
Crop Code				
Part Rated				
Rating Data Type		CONTROL	CONTROL	YIELD
Rating Unit		PERCENT	PERCENT	KG/HA
Rating Date		7-16-03	7-29-03	9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg			
1	Untreated				0	0	1547
2	Imazethapyr (Newpath)	0.063	lb ai/a	PRE	100	100	7644
3	Imazethapyr	0.063	lb ai/a	PREFLD	43	93	5237
4	Imazethapyr Imazethapyr NIS	0.063 0.063 0.2	lb ai/a lb ai/a % v/v	PRE PREFLD PREFLD	100	100	7904
5	Imazethapyr Imazethapyr IR5878 NIS	0.063 0.063 0.067 0.2	lb ai/a lb ai/a lb ai/a % v/v	PRE PREFLD PREFLD PREFLD	99	100	8315
6	Imazethapyr Imazethapyr Halosulfuron (Permit) NIS	0.063 0.063 0.063	lb ai/a lb ai/a lb ai/a	PRE PREFLD PREFLD	99	100	8132
7	Pendimethalin (Prowl) Halosulfuron NIS	1 0.063 0.2	lb ai/a lb ai/a % v/v	DPRE PREFLD PREFLD	13	86	4467
8	Pendimethalin IR5878 NIS	1 0.067 0.2	lb ai/a lb ai/a % v/v	DPRE PREFLD PREFLD	38	85	4665
9	Pendimethalin	1.0	lb ai/a	DPRE	96	84	4033
LSD (P=.05)					6.0	5.5	1401.7

# University of Arkansas

## Postflood Efficacy and Rice Yield with Clincher vs Standards as Affected by Postflood Application Timing

Trial ID: STUT 0311

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**Trial Status:** Completed

**State/Prov.:** Ark.

**Postal Code:** 72160

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

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

**Objective:** To evaluate the cyhalofop-butyl (Clincher) applied at various timings postflood (POFLD) vs. other herbicides

**Conclusions:** This study was established to evaluate the efficacy of cyhalofop-butyl (Clincher) applied one week postflood (1 WAF), two weeks postflood (2 WAF), and three weeks postflood (3 WAF) compared to other rice herbicides. A blanket application of clomazone (Command) at 0.1 lb ai/A was applied preemergence (PRE) across the study area to simulate a herbicide failure so that grass weeds would be present at the time of postflood herbicide application. Grass control was best when cyhalofop-butyl was applied 1 WAF, but not significantly different from applications of bispyribac-sodium (Regiment) applied 1 or 2 WAF. Cyhalofop-butyl applied 1 WAF provided better grass control than applications of fenoxaprop + safener (Ricestar) + fenoxaprop (Whip 360) or quinclorac (Facet) + propanil two weeks after application. However, control with cyhalofop-butyl decreased to 70% three wk after application, while control with bispyribac-sodium was 95%. Herbicide applications 2 WAF provided similar control to 1 WAF applications. However, applications made 3 WAF resulted in significantly lower levels of grass control. The treatment of quinclorac + propanil 1 WAF resulted in higher yields than 1 and 3 WAF applications of fenoxaprop + safener + fenoxaprop and clomazone alone PRE. All treatments provided higher rice yields than the untreated check.

Results from this study show that POFLD applications of cyhalofop-butyl or bispyribac-sodium should be made within 2 weeks following flood establishment in order to maximize efficacy in this type of situation. Herbicide applications made later than 2 WAF did not result in significant yield reductions. However, in a true salvage situation where intense grass pressure is evident, waiting beyond this timing may result in yield reductions.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2.	SECHCG	BARNYARDGRASS (PROPANIL SUSCEP)	<i>Echinochloa crus galli</i>
3.	RECHCG	BARNYARDGRASS (PROPANIL RESIS)	<i>Echinochloa crus galli</i>
4.	BRAPP	SIGNALGRASS, BROADLEAF	<i>Brachiaria platyphylla</i> (GRISEB.) NASH

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS

**Planting Date:** 5-13-03 **Planting Method:** DRILLED

**Rate:** 70 LB/A **Depth:** 0.75 IN

**Row Spacing:** 7 IN **Seed Bed:** SMOOTH

**Soil Moisture:** ADEQUATE **Emergence Date:** 5-19-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT

**Plot Length, Unit:** 15 FT **Reps:** 4

**Site Type:** FIELD

**Tillage Type:** CONVENTIONAL TILL

**Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW		2002

### 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

	<b>Date</b>	<b>Time</b>	<b>Amount</b>	<b>Unit</b>	<b>Type</b>
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL
35.	8-24-03		0.1	IN	RAINFALL
36.	8-30-03		0.02	IN	RAINFALL
37.	9-1-03		0.05	IN	RAINFALL
38.	9-2-03		0.08	IN	RAINFALL
39.	9-3-03		0.3	IN	RAINFALL
40.	9-4-03		0.08	IN	RAINFALL
41.	9-13-03		1.15	IN	RAINFALL
42.	9-22-03		0.7	IN	RAINFALL

### APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	5-14-03	6-30-03	7-9-03	7-15-03
Time of Day:	1:00 pm	7:30 pm	8:30 pm	8:00 pm
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	1 WAF	2 WAF	3 WAF
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	72 F	84 F	80 F	87 F
% Relative Humidity:	98	86	85	82
Wind Velocity, Unit:	2 MPH	2 MPH	2 MPH	1.4 MPH
Dew Presence (Y/N):	N	N	N	N
Water Hardness:	N	N	N	N
Soil Temp., Unit:	70 F	91 F	85 F	85 F
Soil Moisture:	MOIST	FLOOD	FLOOD	FLOOD
% Cloud Cover:	90	75	5	0

### CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ORYSI	ORYSI	ORYSI	ORYSI
Stage Scale:	PRE	1 WAF	2 WAF	3 WAF
Height, Unit:		18 IN	24 IN	28 IN

### WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	NEHC	NEHC	NEHC	NEHC
Stage Scale:	PRE			
Density, Unit:		2 FT2	2 FT2	2 FT2
Weed 2 Code, Stage:	SEHC	SEHC	SEHC	SEHC
Stage Scale:	PRE			
Density, Unit:		2 ROWFT	2 ROWFT	2 ROWFT
Weed 3 Code, Stage:	REHC	REHC	REHC	REHC
Stage Scale:	PRE			
Density, Unit:		4 ROWFT	4 ROWFT	4 ROWFT
Weed 4 Code, Stage:	BRAPP	BRAPP	BRAPP	BRAPP
Stage Scale:	PRE			
Density, Unit:		2 ROWFT	2 ROWFT	2 ROWFT
Stage Scale:	PRE			
Density, Unit:		0.5 FT2	0.5 FT2	0.5 FT2

### APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	BCKPK	BCKPK	BCKPK	BCKPK
Operating Pressure:	22 PSI	22 PSI	22 PSI	22 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	TT11002	TT110015	TT110015	TT110015
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:	17 IN	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Incorporation Equip.:	NONE	NONE	NONE	NONE
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	10 GPA	10 GPA	10 GPA	10 GPA
Propellant:	CO2	CO2	CO2	CO2
Tank Mix (Y/N):	N	N	N	N

### Treatment Application Comment

Treatments 6-14 had 40% barnyardgrass control prior to POFLD applications, but are recorded as 0% control prior to postflood applications.



# University of Arkansas

## Postflood Efficacy and Rice Yield with Clincher vs Standards as Affected by Postflood Application Timing

Trial ID: STUT 0311  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code		NECHCG	NECHCG	RECHCG	RECHCG
Crop Code	ORYSI	ORYSI			
Part Rated					
Rating Data Type	INJURY	BIOMASS	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-9-03	7-9-03	7-29-03	8-12-03	7-29-03
			8-12-03		8-12-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
1	Untreated				0	0	0	0	0	0
2	Clomazone (Command)	0.1	lb ai/a	PRE	15	15	95	100	95	100
	Bispyribac-sodium (Regiment)	0.02	lb ai/a	1 WAF						
	NIS (Kinetic)	0.125	% v/v	1 WAF						
3	Clomazone	0.1	lb ai/a	PRE	0	1	70	80	76	80
	Cyhalofop-butyl (Clincher)	0.28	lb ai/a	1 WAF						
	COC	2.5	% v/v	1 WAF						
4	Clomazone	0.1	lb ai/a	PRE	3	3	45	53	46	54
	Fenoxaprop + safener (Ricestar)	0.07	lb ai/a	1 WAF						
	Fenoxaprop (Whip 360)	0.013	lb ai/a	1 WAF						
	COC	2.5	% v/v	1 WAF						
5	Clomazone	0.1	lb ai/a	PRE	0	0	73	79	76	85
	Quinclorac (Facet)	0.38	lb ai/a	1 WAF						
	Propanil	4	lb ai/a	1 WAF						
6	Clomazone	0.1	lb ai/a	PRE	0	0	98	99	98	99
	Bispyribac-sodium	0.02	lb ai/a	2 WAF						
	NIS	0.125	% v/v	2 WAF						
7	Clomazone	0.1	lb ai/a	PRE	0	0	86	88	90	89
	Cyhalofop-butyl	0.28	lb ai/a	2 WAF						
	COC	2.5	% v/v	2 WAF						
8	Clomazone	0.1	lb ai/a	PRE	0	0	55	59	55	59
	Fenoxaprop + safener	0.07	lb ai/a	2 WAF						
	Fenoxaprop	0.013	lb ai/a	2 WAF						
	COC	2.5	% v/v	2 WAF						
9	Clomazone	0.1	lb ai/a	PRE	0	0	64	75	70	75
	Quinclorac	0.38	lb ai/a	2 WAF						
	Propanil	4	lb ai/a	2 WAF						
10	Clomazone	0.1	lb ai/a	PRE	0	0	58	90	58	90
	Bispyribac-sodium	0.02	lb ai/a	3 WAF						
	NIS	0.125	% v/v	3 WAF						

# University of Arkansas

## Postflood Efficacy and Rice Yield with Clincher vs Standards as Affected by Postflood Application Timing

Trial ID: STUT 0311  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code				NECHCG	NECHCG	RECHCG	RECHCG			
Crop Code				ORYSI	ORYSI					
Part Rated										
Rating Data Type				INJURY	BIOMASS	CONTROL	CONTROL			
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT			
Rating Date				7-9-03	7-9-03	7-29-03	8-12-03			
Trt No.	Treatment Name	Rate	Unit	Grow Stg						
11	Clomazone	0.1	lb ai/a	PRE	0	0	74	83	74	83
	Cyhalofop-butyl	0.28	lb ai/a	3 WAF						
	COC	2.5	% v/v	3 WAF						
12	Clomazone	0.1	lb ai/a	PRE	0	0	65	73	66	74
	Fenoxaprop + safener	0.07	lb ai/a	3 WAF						
	Fenoxaprop	0.013	lb ai/a	3 WAF						
	COC	2.5	% v/v	3 WAF						
13	Clomazone	0.1	lb ai/a	PRE	0	0	64	71	64	71
	Quinclorac	0.38	lb ai/a	3 WAF						
	Propanil	4	lb ai/a	3 WAF						
14	Clomazone	0.1	lb ai/a	PRE	0	0	10	15	11	13
LSD (P=.05)					1.1	1.4	10.8	13.7	13.8	13.5

# University of Arkansas

## Postflood Efficacy and Rice Yield with Clincher vs Standards as Affected by Postflood Application Timing

Trial ID: STUT 0311  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code			SECHCG	SECHCG	BRAPP	BRAPP		ORYSI
Crop Code								
Part Rated								
Rating Data Type			CONTROL	CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit			PERCENT	PERCENT	PERCENT	PERCENT	KG/HA	
Rating Date			7-16-03	7-29-03	7-29-03	8-12-03	9-25-03	
Trt No.	Treatment Name	Rate	Unit	Grow Stg				
1	Untreated				0	0	0	4102
2	Clomazone (Command)	0.1	lb ai/a	PRE	95	94	40	6792
	Bispyribac-sodium (Regiment)	0.02	lb ai/a	1 WAF				
	NIS (Kinetic)	0.125	% v/v	1 WAF				
3	Clomazone	0.1	lb ai/a	PRE	94	65	79	7094
	Cyhalofop-butyl (Clincher)	0.28	lb ai/a	1 WAF				
	COC	2.5	% v/v	1 WAF				
4	Clomazone	0.1	lb ai/a	PRE	65	39	53	6449
	Fenoxaprop + safener (Ricestar)	0.07	lb ai/a	1 WAF				
	Fenoxaprop (Whip 360)	0.013	lb ai/a	1 WAF				
	COC	2.5	% v/v	1 WAF				
5	Clomazone	0.1	lb ai/a	PRE	83	65	66	8277
	Quinclorac (Facet)	0.38	lb ai/a	1 WAF				
	Propanil	4	lb ai/a	1 WAF				
6	Clomazone	0.1	lb ai/a	PRE	90	98	58	7407
	Bispyribac-sodium	0.02	lb ai/a	2 WAF				
	NIS	0.125	% v/v	2 WAF				
7	Clomazone	0.1	lb ai/a	PRE	81	84	90	7922
	Cyhalofop-butyl	0.28	lb ai/a	2 WAF				
	COC	2.5	% v/v	2 WAF				
8	Clomazone	0.1	lb ai/a	PRE	79	45	55	7011
	Fenoxaprop + safener	0.07	lb ai/a	2 WAF				
	Fenoxaprop	0.013	lb ai/a	2 WAF				
	COC	2.5	% v/v	2 WAF				
9	Clomazone	0.1	lb ai/a	PRE	73	60	69	7738
	Quinclorac	0.38	lb ai/a	2 WAF				
	Propanil	4	lb ai/a	2 WAF				
10	Clomazone	0.1	lb ai/a	PRE	0	50	48	7284
	Bispyribac-sodium	0.02	lb ai/a	3 WAF				
	NIS	0.125	% v/v	3 WAF				

# University of Arkansas

## Postflood Efficacy and Rice Yield with Clincher vs Standards as Affected by Postflood Application Timing

Trial ID: STUT 0311  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code	SECHCG	SECHCG	BRAPP	BRAPP	ORYSI
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	7-16-03	7-29-03	7-29-03	8-12-03	9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg					
11	Clomazone	0.1	lb ai/a	PRE	0	61	76	80	7287
	Cyhalofop-butyl	0.28	lb ai/a	3 WAF					
	COC	2.5	% v/v	3 WAF					
12	Clomazone	0.1	lb ai/a	PRE	0	55	68	73	6618
	Fenoxaprop + safener	0.07	lb ai/a	3 WAF					
	Fenoxaprop	0.013	lb ai/a	3 WAF					
	COC	2.5	% v/v	3 WAF					
13	Clomazone	0.1	lb ai/a	PRE	0	55	69	73	7506
	Quinclorac	0.38	lb ai/a	3 WAF					
	Propanil	4	lb ai/a	3 WAF					
14	Clomazone	0.1	lb ai/a	PRE	0	15	21	18	6699
LSD (P=.05)					12.9	15.0	12.6	11.3	1587.9

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312

Study Dir.: Talbert, Ottis, Scherder, Malik

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik

**Affiliation:** University of Arkansas

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**State/Prov.:** Ark.

**Postal Code:** 72160

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

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

**Objective:** To evaluate cyhalofop-butyl (Clincher) as part of a rice weed control system

**Conclusions:** The purpose of this study was to evaluate the performance of cyhalofop-butyl (Clincher) and propanil, each tank-mixed with clomazone (Command), quinclorac (Facet), pendimethalin (Pendimax), or thiobencarb (Bolero), and applied to one- to two-leaf rice for control of barnyardgrass and broadleaf signalgrass. These treatments were followed by triclopyr (Grandstand) and halosulfuron (Permit) pre-flood (PREFLD) to control natural infestations of broadleaf weeds. Cyhalofop-butyl was also evaluated 1 week post-flood following clomazone pre-emergence (PRE), triclopyr, and halosulfuron PREFLD. Cyhalofop-butyl also followed a 3-4 LF application of quinclorac, triclopyr, and halosulfuron. Rice injury ranged from 0 to 20%. There were no significant yield differences among treatments. Grass control was excellent with all treatments, except with the tank mixture of cyhalofop-butyl + thiobencarb where control decreased later in the season. There were no yield differences between early and late timings of cyhalofop-butyl.

### CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2. BRAPP	BROADLEAF SIGNALGRASS	<i>Brachiaria platyphylla</i> (GRISEB.) NASH

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS

**Planting Date:** 5-13-03 **Planting Method:** DRILLED

**Rate:** 70 LB/A **Depth:** 0.75 IN

**Row Spacing:** 7 IN **Seed Bed:** SMOOTH

**Soil Moisture:** ADEQUATE **Emergence Date:** 5-19-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT

**Plot Length, Unit:** 15 FT **Reps:** 4

**Site Type:** FIELD

**Tillage Type:** CONVENTIONAL TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW		2002

### 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
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL
35.	8-24-03		0.1	IN	RAINFALL
36.	8-30-03		0.02	IN	RAINFALL
37.	9-1-03		0.05	IN	RAINFALL
38.	9-2-03		0.08	IN	RAINFALL
39.	9-3-03		0.3	IN	RAINFALL
40.	9-4-03		0.08	IN	RAINFALL
41.	9-13-03		1.15	IN	RAINFALL
42.	9-22-03		0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B	C	D
<b>Application Date:</b>	5-14-03	5-26-03	6-24-03	6-30-03
<b>Time of Day:</b>	1:00 pm	7:30 am	7:45 pm	7:30 pm
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	1-2 LF	PREFLD	POFLD 1WK
<b>Applic. Placement:</b>	BROSOI	FOLIAR	FOLIAR	FOLIAR
<b>Air Temp., Unit:</b>	72 F	66 F	88 F	84 F
<b>% Relative Humidity:</b>	98	22	64	86
<b>Wind Velocity, Unit:</b>	2 MPH	0.5 MPH	1.5 MPH	2 MPH
<b>Dew Presence (Y/N):</b>	N	N	N	N
<b>Water Hardness:</b>	N	N	N	N
<b>Soil Temp., Unit:</b>	70 F	70 F	90 F	91 F
<b>Soil Moisture:</b>	MOIST	ADEQUATE	ADEQUATE	FLOOD
<b>% Cloud Cover:</b>	90	45	20	75

### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	1-2 LF	PREFLD	POFLD 1WK
<b>Height, Unit:</b>		3 IN	12 IN	18 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC	NECHC	NECHC
<b>Stage Scale:</b>	PRE	1 LF	4 LF	3-TILLER
<b>Density, Unit:</b>		5 FT2	5 FT2	1 FT2
<b>Weed 2 Code, Stage:</b>	BRAPP	BRAPP	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	1-LF	4 LF	3-TILLER
<b>Density, Unit:</b>		1 FT2	1 FT2	1 FT2

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	TT 11002	DG 80015	TT 110015	TT 110015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE	NONE	NONE
<b>Carrier:</b>	WATER	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N	N

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Crop Code	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Part Rated	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Rating Data Type	BLEACH	BLEACH	INJURY	INJURY	STD RED	STD RED
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-9-03	7-9-03	6-9-03	7-9-03	6-9-03	7-9-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	ORYSI 6-9-03	ORYSI 7-9-03	INJURY 6-9-03	INJURY 7-9-03	STD RED 6-9-03	STD RED 7-9-03
1	Untreated check				0	0	0	0	0	0
2	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	1-2 lf	18	1	0	4	0	0
	Clomazone (Command)	0.4	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr (Grandstand)	0.25	lb ai/a	PREFLD						
	Halosulfuron (Permit)	0.047	lb ai/a	PREFLD						
	COC	1.75	% v/v	PREFLD						
3	Cyhalofop-butyl	0.25	lb ai/a	1-2 lf	0	0	5	13	0	0
	Quinclorac (Facet)	0.28	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
4	Cyhalofop-butyl	0.25	lb ai/a	1-2 lf	0	0	4	5	0	0
	Pendimethalin (Pendimax)	1	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.75	% v/v	PREFLD						
5	Clomazone	0.3	lb ai/a	PRE	3	0	5	19	0	0
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
	Cyhalofop-butyl	0.25	lb ai/a	1WK PFLD						
	COC	2.5	% v/v	1WK PFLD						
6	Quinclorac	0.38	lb ai/a	3-4 lf	0	0	0	0	0	0
	Triclopyr	0.25	lb ai/a	3-4 lf						
	Halosulfuron	0.047	lb ai/a	3-4 lf						
	COC	1.25	% v/v	3-4 lf						
	Cyhalofop-butyl	0.25	lb ai/a	1WK PFLD						
	COC	2.5	% v/v	1WK PFLD						



# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code

Crop Code

Part Rated

Rating Data Type

Rating Unit

Rating Date

	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
	BLEACH	BLEACH	INJURY	INJURY	STD RED	STD RED
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
	6-9-03	7-9-03	6-9-03	7-9-03	6-9-03	7-9-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
7	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	8	0	0	1	0	0
	Clomazone	0.4	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
8	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	0	0	5	9	0	0
	Quinclorac	0.28	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
9	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	0	0	0	14	0	0
	Pendimethalin	1	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
10	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	0	0	3	3	0	0
	Thiobencarb (Bolero)	3	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
11	Cyhalofop-butyl	0.25	lb ai/a	1-2 lf	0	0	0	3	0	0
	Thiobencarb	3	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
12	Propanil	3	lb ai/a	1-2 lf	25	0	0	13	0	0
	Clomazone	0.4	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
Crop Code						
Part Rated						
Rating Data Type	BLEACH	BLEACH	INJURY	INJURY	STD RED	STD RED
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-9-03	7-9-03	6-9-03	7-9-03	6-9-03	7-9-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
13	Propanil	3	lb ai/a	1-2 lf	0	0	0	0	0	0
	Quinclorac	0.28	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
14	Propanil	3	lb ai/a	1-2 lf	0	0	5	3	0	0
	Thiobencarb	3	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
15	Propanil	3	lb ai/a	1-2 lf	0	0	0	10	0	0
	Pendimethalin	1	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
16	Clomazone	0.4	lb ai/a	1-2 lf	20	0	0	0	0	0
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
17	Quinclorac	0.28	lb ai/a	1-2 lf	0	0	5	0	0	0
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
18	Pendimethalin	1	lb ai/a	1-2 lf	0	0	8	15	0	0
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
19	Thiobencarb	3	lb ai/a	1-2 lf	0	0	9	20	0	0
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
LSD (P=.05)					3.9	0.8	2.2	5.3	0.0	0.0

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code				NECHCG	NECHCG	BRAPP	BRAPP
Crop Code				ORYSI	ORYSI		
Part Rated							
Rating Data Type				BIOMASS	BIOMASS	CONTROL	CONTROL
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT
Rating Date				6-9-03	7-9-03	6-9-03	7-9-03
Trt No.	Treatment Name	Rate	Unit	Grow Stg			
1	Untreated check				0	0	0
2	Cyhalofop-butyl (Clincher)	0.25	lb ai/a	1-2 lf	0	4	100
	Clomazone (Command)	0.4	lb ai/a	1-2 lf			
	COC	2.5	% v/v	1-2 lf			
	Triclopyr (Grandstand)	0.25	lb ai/a	PREFLD			
	Halosulfuron (Permit)	0.047	lb ai/a	PREFLD			
	COC	1.75	% v/v	PREFLD			
3	Cyhalofop-butyl (Facet)	0.25	lb ai/a	1-2 lf	5	10	100
	Quinclorac	0.28	lb ai/a	1-2 lf			
	COC	2.5	% v/v	1-2 lf			
	Triclopyr	0.25	lb ai/a	PREFLD			
	Halosulfuron	0.047	lb ai/a	PREFLD			
	COC	1.25	% v/v	PREFLD			
4	Cyhalofop-butyl (Pendimax)	0.25	lb ai/a	1-2 lf	4	5	100
	Pendimethalin	1	lb ai/a	1-2 lf			
	COC	2.5	% v/v	1-2 lf			
	Triclopyr	0.25	lb ai/a	PREFLD			
	Halosulfuron	0.047	lb ai/a	PREFLD			
	COC	1.75	% v/v	PREFLD			
5	Clomazone	0.3	lb ai/a	PRE	5	20	100
	Triclopyr	0.25	lb ai/a	PREFLD			
	Halosulfuron	0.047	lb ai/a	PREFLD			
	COC	1.25	% v/v	PREFLD			
	Cyhalofop-butyl	0.25	lb ai/a	1WK PFLD			
	COC	2.5	% v/v	1WK PFLD			
6	Quinclorac	0.38	lb ai/a	3-4 lf	0	0	100
	Triclopyr	0.25	lb ai/a	3-4 lf			
	Halosulfuron	0.047	lb ai/a	3-4 lf			
	COC	1.25	% v/v	3-4 lf			
	Cyhalofop-butyl	0.25	lb ai/a	1WK PFLD			
	COC	2.5	% v/v	1WK PFLD			

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code				NECHCG	NECHCG	BRAPP	BRAPP			
Crop Code				ORYSI	ORYSI					
Part Rated										
Rating Data Type				BIOMASS	BIOMASS	CONTROL	CONTROL			
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT			
Rating Date				6-9-03	7-9-03	6-9-03	7-9-03			
Trt No.	Treatment Name	Rate	Unit	Grow Stg						
7	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	3	1	100	99	100	99
	Clomazone	0.4	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
8	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	5	8	100	100	100	100
	Quinclorac	0.28	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
9	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	0	10	100	99	100	99
	Pendimethalin	1	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
10	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	3	3	100	100	100	100
	Thiobencarb (Bolero)	3	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
11	Cyhalofop-butyl	0.25	lb ai/a	1-2 lf	0	3	100	100	100	100
	Thiobencarb	3	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
12	Propanil	3	lb ai/a	1-2 lf	0	10	100	100	100	100
	Clomazone	0.4	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code				NECHCG	NECHCG	BRAPP	BRAPP			
Crop Code				ORYSI	ORYSI					
Part Rated										
Rating Data Type				BIOMASS	BIOMASS	CONTROL	CONTROL			
Rating Unit				PERCENT	PERCENT	PERCENT	PERCENT			
Rating Date				6-9-03	7-9-03	6-9-03	7-9-03			
Trt No.	Treatment Name	Rate	Unit	Grow Stg						
13	Propanil	3	lb ai/a	1-2 lf	0	0	100	100	100	100
	Quinclorac	0.28	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
14	Propanil	3	lb ai/a	1-2 lf	5	3	100	100	100	100
	Thiobencarb	3	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
15	Propanil	3	lb ai/a	1-2 lf	0	10	100	100	100	100
	Pendimethalin	1	lb ai/a	1-2 lf						
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
16	Clomazone	0.4	lb ai/a	1-2 lf	0	0	99	100	100	100
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
17	Quinclorac	0.28	lb ai/a	1-2 lf	5	0	100	100	100	100
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
18	Pendimethalin	1	lb ai/a	1-2 lf	8	15	100	100	100	100
	COC	2.5	% v/v	1-2 lf						
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
19	Thiobencarb	3	lb ai/a	1-2 lf	6	20	100	100	100	100
	Triclopyr	0.25	lb ai/a	PREFLD						
	Halosulfuron	0.047	lb ai/a	PREFLD						
	COC	1.25	% v/v	PREFLD						
LSD (P=.05)					3.1	6.6	0.4	0.6	0.2	0.6

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code  
Crop Code ORYSI  
Part Rated  
Rating Data Type YIELD  
Rating Unit KG/HA  
Rating Date 9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	
1	Untreated check				7193
2	Cyhalofop-butyl (Clincher)	0.25 lb ai/a		1-2 lf	8146
	Clomazone (Command)	0.4 lb ai/a		1-2 lf	
	COC	2.5 % v/v		1-2 lf	
	Triclopyr (Grandstand)	0.25 lb ai/a		PREFLD	
	Halosulfuron (Permit)	0.047 lb ai/a		PREFLD	
	COC	1.75 % v/v		PREFLD	
3	Cyhalofop-butyl	0.25 lb ai/a		1-2 lf	8709
	Quinclorac (Facet)	0.28 lb ai/a		1-2 lf	
	COC	2.5 % v/v		1-2 lf	
	Triclopyr	0.25 lb ai/a		PREFLD	
	Halosulfuron	0.047 lb ai/a		PREFLD	
	COC	1.25 % v/v		PREFLD	
4	Cyhalofop-butyl	0.25 lb ai/a		1-2 lf	9106
	Pendimethalin (Pendimax)	1 lb ai/a		1-2 lf	
	COC	2.5 % v/v		1-2 lf	
	Triclopyr	0.25 lb ai/a		PREFLD	
	Halosulfuron	0.047 lb ai/a		PREFLD	
	COC	1.75 % v/v		PREFLD	
5	Clomazone	0.3 lb ai/a		PRE	8383
	Triclopyr	0.25 lb ai/a		PREFLD	
	Halosulfuron	0.047 lb ai/a		PREFLD	
	COC	1.25 % v/v		PREFLD	
	Cyhalofop-butyl	0.25 lb ai/a		1WK PFLD	
	COC	2.5 % v/v		1WK PFLD	
6	Quinclorac	0.38 lb ai/a		3-4 lf	9030
	Triclopyr	0.25 lb ai/a		3-4 lf	
	Halosulfuron	0.047 lb ai/a		3-4 lf	
	COC	1.25 % v/v		3-4 lf	
	Cyhalofop-butyl	0.25 lb ai/a		1WK PFLD	
	COC	2.5 % v/v		1WK PFLD	

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code  
Crop Code ORYSI  
Part Rated  
Rating Data Type YIELD  
Rating Unit KG/HA  
Rating Date 9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	
7	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	8468
	Clomazone	0.4	lb ai/a	1-2 lf	
	COC	2.5	% v/v	1-2 lf	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
8	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	8703
	Quinclorac	0.28	lb ai/a	1-2 lf	
	COC	2.5	% v/v	1-2 lf	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
9	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	8511
	Pendimethalin	1	lb ai/a	1-2 lf	
	COC	2.5	% v/v	1-2 lf	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
10	Cyhalofop-butyl	0.19	lb ai/a	1-2 lf	7818
	Thiobencarb (Bolero)	3	lb ai/a	1-2 lf	
	COC	2.5	% v/v	1-2 lf	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
11	Cyhalofop-butyl	0.25	lb ai/a	1-2 lf	8226
	Thiobencarb	3	lb ai/a	1-2 lf	
	COC	2.5	% v/v	1-2 lf	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
12	Propanil	3	lb ai/a	1-2 lf	8773
	Clomazone	0.4	lb ai/a	1-2 lf	
	COC	2.5	% v/v	1-2 lf	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	

# University of Arkansas

## Weed Control Programs with Cyhalofop-butyl

Trial ID: STUT 0312  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code  
Crop Code ORYSI  
Part Rated  
Rating Data Type YIELD  
Rating Unit KG/HA  
Rating Date 9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	
13	Propanil	3	lb ai/a	1-2 If	9281
	Quinclorac	0.28	lb ai/a	1-2 If	
	COC	2.5	% v/v	1-2 If	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
14	Propanil	3	lb ai/a	1-2 If	8677
	Thiobencarb	3	lb ai/a	1-2 If	
	COC	2.5	% v/v	1-2 If	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
15	Propanil	3	lb ai/a	1-2 If	9405
	Pendimethalin	1	lb ai/a	1-2 If	
	COC	2.5	% v/v	1-2 If	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
16	Clomazone	0.4	lb ai/a	1-2 If	8633
	COC	2.5	% v/v	1-2 If	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
17	Quinclorac	0.28	lb ai/a	1-2 If	8681
	COC	2.5	% v/v	1-2 If	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
18	Pendimethalin	1	lb ai/a	1-2 If	8439
	COC	2.5	% v/v	1-2 If	
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
19	Thiobencarb	3	lb ai/a	1-2 If	8274
	Triclopyr	0.25	lb ai/a	PREFLD	
	Halosulfuron	0.047	lb ai/a	PREFLD	
	COC	1.25	% v/v	PREFLD	
LSD (P=.05)					964.7



# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Early Postemergence Weed Control in Rice

Trial ID: STUT 0313  
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik  
**Affiliation:** University of Arkansas  
**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart  
**State/Prov.:** Ark.  
**Postal Code:** 72160

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

**Objective:** To evaluate the potential of penoxsulam (XDE-638) applied early postemergence in rice

**Conclusions:** This study evaluated the potential of a new herbicide, penoxsulam (XDE-638), for use in an early postemergence (1-2 lf) rice weed control program. There was minimal crop injury and no rice stand reductions as a result of penoxsulam applications. Rice bleaching was evident with applications of clomazone (Command) but dissipated later in the season (data not shown). Barnyardgrass and broadleaf signalgrass control was excellent with all treatments. Broadleaf weed control was poor to moderate with penoxsulam treatments. Poor control of these weeds may have been due to late germination and dry conditions at time of application. Previous research with penoxsulam found little to no preemergence activity on hemp sesbania, which may help explain its lack of activity on this species. Quinclorac (Facet) provided good control of broadleaf weeds. There were no significant differences among rice yields, which out-yielded several of the other herbicide treatments, except for the treatment of penoxsulam + propanil, with all herbicide treatments providing higher yields than the untreated check.

### CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2. BRAPP	SIGNALGRASS, BROADLEAF	<i>Brachiaria platyphylla</i> (GRISEB.) NASH
3. SEBEX	SESBANIA, HEMP	<i>Sesbania exaltata</i> (RAF.) CORY/RYDB.
4. AESVI	JOINTVETCH, NORTHERN	<i>Aeschynomene virginica</i> (L.) B.S.P.
5. IPOLA	MORNINGGLORY, PITTED	<i>Ipomoea lacunosa</i>

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR **Variety:** FRANCIS  
**Planting Date:** 5-13-03      **Planting Method:** DRILLED  
**Rate:** 70 LB/A      **Depth:** 0.75 IN  
**Row Spacing:** 7 IN      **Seed Bed:** SMOOTH  
**Soil Moisture:** ADEQUATE      **Emergence Date:** 5-19-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT      **Plot Length, Unit:** 15 FT      **Reps:** 4  
**Site Type:** FIELD  
**Tillage Type:** CONVENTIONAL TILL      **Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. FALLOW		2002

### 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
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL
35.	8-24-03		0.1	IN	RAINFALL
36.	8-30-03		0.02	IN	RAINFALL
37.	9-1-03		0.05	IN	RAINFALL
38.	9-2-03		0.08	IN	RAINFALL
39.	9-3-03		0.3	IN	RAINFALL
40.	9-4-03		0.08	IN	RAINFALL
41.	9-13-03		1.15	IN	RAINFALL
42.	9-22-03		0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B
Application Date:	5-15-03	5-26-03
Time of Day:	11:00 am	7:30 am
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	FOLIAR
Applic. Placement:	BROSOIL	1-2 LF
Air Temp., Unit:	78 F	66 F
% Relative Humidity:	80	55
Wind Velocity, Unit:	3 MPH	1.5 MPH
Dew Presence (Y/N):	N	N
Water Hardness:	N	N
Soil Temp., Unit:	74 F	70 F
Soil Moisture:	MOIST	DRY
% Cloud Cover:	90	45

### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	1-2 LF
<b>Height, Unit:</b>		3 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC
<b>Stage Scale:</b>	PRE	1 LF
<b>Density, Unit:</b>		10 FT2
<b>Weed 2 Code, Stage:</b>	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	1 LF
<b>Density, Unit:</b>		1 FT2
<b>Weed 3 Code, Stage:</b>	SEBEX	SEBEX
<b>Stage Scale:</b>	PRE	2 LF
<b>Density, Unit:</b>		3 ROWFT
<b>Weed 4 Code, Stage:</b>	AESVI	AESVI
<b>Stage Scale:</b>	PRE	2 LF
<b>Density, Unit:</b>		3 ROWFT
<b>Weed 5 Code, Stage:</b>	IPOLA	IPOLA
<b>Stage Scale:</b>	PRE	2 LF
<b>Density, Unit:</b>		2 ROWFT

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	TT 11002	DG 80015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Early Postemergence Weed Control in Rice

Trial ID: STUT 0313  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code		ORYSI				NECHCG				
Crop Code	Part Rated	ORYSI	ORYSI	ORYSI	ORYSI	NECHCG	NECHCG			
Rating Data Type	Rating Unit	BLEACH PERCENT	BLEACH PERCENT	INJURY PERCENT	INJURY PERCENT	CONTROL PERCENT	CONTROL PERCENT			
Rating Date		6-9-03	6-29-03	6-9-03	6-29-03	6-9-03	7-21-03			
Trt No.	Treatment Name	Rate	Unit	Grow Stg						
1	Untreated				0	0	0	0		
2	Penoxsulam (XDE-638) COC	0.027	lb ai/a	1-2 lf	0	0	0	100		
		2.5	% v/v	1-2 lf				100		
3	Penoxsulam Clomazone (Command) COC	0.027	lb ai/a	1-2 lf	9	9	1	0		
		0.4	lb ai/a	1-2 lf				100		
		2.5	% v/v	1-2 lf				100		
4	Penoxsulam Clomazone Cyhalofop-butyl (Clincher) COC	0.027	lb ai/a	1-2 lf	16	4	1	0		
		0.4	lb ai/a	1-2 lf				100		
		0.25	lb ai/a	1-2 lf				100		
		2.5	% v/v	1-2 lf				100		
5	Penoxsulam Propanil COC	0.027	lb ai/a	1-2 lf	0	1	0	0		
		3	lb ai/a	1-2 lf				99		
		1.25	% v/v	1-2 lf				100		
6	Clomazone Cyhalofop-butyl COC	0.4	lb ai/a	1-2 lf	20	28	1	0		
		0.25	lb ai/a	1-2 lf				100		
		2.5	% v/v	1-2 lf				99		
7	Propanil Quinclorac (Facet)	3	lb ai/a	1-2 lf	0	0	0	0		
		0.38	lb ai/a	1-2 lf				100		
								100		
8	Clomazone Quinclorac COC	0.4	lb ai/a	1-2 lf	1	5	0	0		
		0.38	lb ai/a	1-2 lf				100		
		1.25	% v/v	1-2 lf				100		
9	Clomazone Propanil	0.4	lb ai/a	1-2 lf	10	16	1	0		
		3	lb ai/a	1-2 lf				99		
								100		
10	Penoxsulam Clomazone	0.027	lb ai/a	PRE	5	1	1	0		
		0.4	lb ai/a	PRE				99		
								100		
11	Clomazone	0.4	lb ai/a	PRE	6	9	1	0		
								100		
								100		
LSD (P=.05)					11.3	5.2	2.7	0.0	0.7	1.1

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Early Postemergence Weed Control in Rice

Trial ID: STUT 0313  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	BRAPP	BRAPP	SEBEX	SEBEX	AESVI	AESVI
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-9-03	6-29-03	6-9-03	6-29-03	6-9-03	6-29-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	6-9-03	6-29-03	6-9-03	6-29-03	6-9-03	6-29-03
1	Untreated				0	0	0	0	0	0
2	Penoxsulam (XDE-638) COC	0.027 2.5	lb ai/a % v/v	1-2 If 1-2 If	100	99	93	10	93	10
3	Penoxsulam Clomazone (Command) COC	0.027 0.4 2.5	lb ai/a lb ai/a % v/v	1-2 If 1-2 If 1-2 If	100	99	89	10	89	10
4	Penoxsulam Clomazone Cyhalofop-butyl (Clincher) COC	0.027 0.4 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	1-2 If 1-2 If 1-2 If 1-2 If	100	97	93	30	93	28
5	Penoxsulam Propanil COC	0.027 3 1.25	lb ai/a lb ai/a % v/v	1-2 If 1-2 If 1-2 If	100	98	94	43	94	43
6	Clomazone Cyhalofop-butyl COC	0.4 0.25 2.5	lb ai/a lb ai/a % v/v	1-2 If 1-2 If 1-2 If	100	99	53	29	45	24
7	Propanil Quinclorac (Facet)	3 0.38	lb ai/a lb ai/a	1-2 If 1-2 If	100	99	97	76	97	75
8	Clomazone Quinclorac COC	0.4 0.38 1.25	lb ai/a lb ai/a % v/v	1-2 If 1-2 If 1-2 If	100	99	97	90	97	90
9	Clomazone Propanil	0.4 3	lb ai/a lb ai/a	1-2 If 1-2 If	100	99	98	90	98	90
10	Penoxsulam Clomazone	0.027 0.4	lb ai/a lb ai/a	PRE PRE	99	99	71	10	70	10
11	Clomazone	0.4	lb ai/a	PRE	100	99	69	10	66	10
LSD (P=.05)					0.6	2.1	5.0	4.9	6.5	3.8

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Early Postemergence Weed Control in Rice

Trial ID: STUT 0313  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code		IPOLA	IPOLA	
Crop Code				ORYSI
Part Rated				
Rating Data Type		CONTROL	CONTROL	YIELD
Rating Unit		PERCENT	PERCENT	KG/HA
Rating Date		6-9-03	6-29-03	9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg			
1	Untreated				0	0	6129
2	Penoxsulam (XDE-638) COC	0.027 2.5	lb ai/a % v/v	1-2 lf 1-2 lf	10	10	7297
3	Penoxsulam Clomazone (Command) COC	0.027 0.4 2.5	lb ai/a lb ai/a % v/v	1-2 lf 1-2 lf 1-2 lf	18	13	7430
4	Penoxsulam Clomazone Cyhalofop-butyl (Clincher) COC	0.027 0.4 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	1-2 lf 1-2 lf 1-2 lf 1-2 lf	18	18	7951
5	Penoxsulam Propanil COC	0.027 3 1.25	lb ai/a lb ai/a % v/v	1-2 lf 1-2 lf 1-2 lf	71	50	8583
6	Clomazone Cyhalofop-butyl COC	0.4 0.25 2.5	lb ai/a lb ai/a % v/v	1-2 lf 1-2 lf 1-2 lf	45	48	7136
7	Propanil Quinclorac (Facet)	3 0.38	lb ai/a lb ai/a	1-2 lf 1-2 lf	90	78	7479
8	Clomazone Quinclorac COC	0.4 0.38 1.25	lb ai/a lb ai/a % v/v	1-2 lf 1-2 lf 1-2 lf	53	90	7539
9	Clomazone Propanil	0.4 3	lb ai/a lb ai/a	1-2 lf 1-2 lf	96	90	7408
10	Penoxsulam Clomazone	0.027 0.4	lb ai/a lb ai/a	PRE PRE	81	63	8062
11	Clomazone	0.4	lb ai/a	PRE	44	63	7020
LSD (P=.05)					6.3	9.4	941.8

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-Postemergence Weed Control in Rice

Trial ID: STUT 0314  
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik  
**Affiliation:** University of Arkansas  
**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart  
**State/Prov.:** Ark.  
**Trial Status:** Completed  
**Postal Code:** 72160

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

**Objective:** To evaluate the potential of penoxsulam (XDE-638) for mid-postemergence weed control in rice

**Conclusions:** This study evaluated the potential of penoxsulam (XDE-638) applied mid-postemergence (4 lf) for weed control in rice. There was no rice injury observed with applications of penoxsulam. Barnyardgrass control was poor to moderate when penoxsulam was applied alone preemergence (PRE). However, when applied at the 4-lf timing, barnyardgrass control was increased to 100% following an application of clomazone (Command). Barnyardgrass and broadleaf signalgrass control with penoxsulam tank mixtures was excellent. Broadleaf weed control with penoxsulam was poor at the early evaluation timing. However, control improved later in the season on hemp sesbania and northern jointvetch with penoxsulam tank mixture treatments. Pitted morningglory control was poor with penoxsulam alone, but when applied as part of a tank mixture, control was improved later in the season. Applications made at the 4-lf timing improved rice yields over single PRE treatments in most cases.

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NECHCG	BARNYARDGRASS (NATURAL)	<i>Echinochloa crus-galli</i>
2.	BRAPP	SIGNALGRASS, BROADLEAF	<i>Brachiaria platyphylla</i> (GRISEB.) NASH
3.	SEBEX	SESBANIA, HEMP	<i>Sesbania exaltata</i> (RAF.) CORY/RADB.
4.	AESVI	JOINTVETCH, NORTHERN	<i>Aeschynomene virginica</i> (L.) B.S.P.
5.	IPOLA	MORNINGGLORY, PITTED	<i>Ipomoea lacunosa</i>

**Crop 1:** Oryza RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS  
**Planting Date:** 5-13-03      **Planting Method:** DRILLED  
**Rate:** 70 LB/A      **Depth:** 0.75 IN  
**Row Spacing:** 7 IN      **Seed Bed:** SMOOTH  
**Soil Moisture:** ADEQUATE      **Emergence Date:** 5-19-03

### SITE AND DESIGN

**Plot Width, Unit:** 5 FT      **Plot Length, Unit:** 15 FT      **Reps:** 4  
**Site Type:** FIELD  
**Tillage Type:** CONVENTIONAL TILL      **Study Design:** RANDOMIZED COMPLETE BLOCK

#### Previous Crops

1. FALLOW

### 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

	<b>Date</b>	<b>Amount</b>	<b>Unit</b>	<b>Type</b>
1.	5-5-03	0.1	IN	RAINFALL
2.	5-6-03	0.26	IN	RAINFALL
3.	5-7-03	1.5	IN	RAINFALL
4.	5-11-03	1.05	IN	RAINFALL
5.	5-14-03	0.25	IN	RAINFALL
6.	5-15-03	0.1	IN	RAINFALL
7.	5-17-03	1.1	IN	RAINFALL
8.	5-18-03	0.1	IN	RAINFALL
9.	5-25-03	0.05	IN	RAINFALL
10.	6-2-03	0.05	IN	RAINFALL
11.	6-3-03	0.85	IN	RAINFALL
12.	6-5-03	0.05	IN	RAINFALL
13.	6-6-03	0.07	IN	RAINFALL
14.	6-7-03	0.45	IN	RAINFALL
15.	6-11-03	0.07	IN	RAINFALL
16.	6-12-03	1.2	IN	RAINFALL
17.	6-13-03	0.1	IN	RAINFALL
18.	6-15-03	0.15	IN	RAINFALL
19.	6-17-03	0.16	IN	RAINFALL
20.	6-18-03	0.9	IN	RAINFALL
21.	6-19-03	0.55	IN	RAINFALL
22.	6-25-03			FLOOD
23.	6-26-03	0.9	IN	RAINFALL
24.	6-27-03	0.95	IN	RAINFALL
25.	7-11-03	0.08	IN	RAINFALL
26.	7-12-03	0.05	IN	RAINFALL
27.	7-18-03	0.1	IN	RAINFALL
28.	7-19-03	0.6	IN	RAINFALL
29.	7-28-03	0.75	IN	RAINFALL
30.	7-31-03	0.2	IN	RAINFALL
31.	8-4-03	0.3	IN	RAINFALL
32.	8-6-03	0.2	IN	RAINFALL
33.	8-13-03	0.5	IN	RAINFALL
34.	8-14-03	0.55	IN	RAINFALL
35.	8-24-03	0.1	IN	RAINFALL
36.	8-30-03	0.02	IN	RAINFALL
37.	9-1-03	0.05	IN	RAINFALL
38.	9-2-03	0.08	IN	RAINFALL
39.	9-3-03	0.3	IN	RAINFALL
40.	9-4-03	0.08	IN	RAINFALL
41.	9-13-03	1.15	IN	RAINFALL
42.	9-22-03	0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	<b>A</b>	<b>B</b>
<b>Application Date:</b>	5-15-03	6-9-03
<b>Time of Day:</b>	11:00 am	5:15 PM
<b>Application Method:</b>	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	4-LF
<b>Applic. Placement:</b>	BROSOIL	FOLIAR
<b>Air Temp., Unit:</b>	78 F	88 F
<b>% Relative Humidity:</b>	80	38
<b>Wind Velocity, Unit:</b>	3 MPH	2 MPH
<b>Dew Presence (Y/N):</b>	N	N
<b>Water Hardness:</b>	N	N
<b>Soil Temp., Unit:</b>	74 F	88 F
<b>Soil Moisture:</b>	MOIST	ADEQUATE
<b>% Cloud Cover:</b>	90	25



### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	4-LF
<b>Height, Unit:</b>		6 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Weed 1 Code, Stage:</b>	NECHC	NECHC
<b>Stage Scale:</b>	PRE	3-4 LF
<b>Density, Unit:</b>		10 FT2
<b>Weed 2 Code, Stage:</b>	BRAPP	BRAPP
<b>Stage Scale:</b>	PRE	3-4 LF
<b>Density, Unit:</b>		1 FT2
<b>Weed 3 Code, Stage:</b>	SEBEX	SEBEX
<b>Stage Scale:</b>	PRE	3-4 LF
<b>Density, Unit:</b>		3 ROWFT
<b>Weed 4 Code, Stage:</b>	AESVI	AESVI
<b>Stage Scale:</b>	PRE	3-4 LF
<b>Density, Unit:</b>		2 ROWFT
<b>Weed 5 Code, Stage:</b>	IPOLA	IPOLA
<b>Stage Scale:</b>	PRE	3 LF
<b>Density, Unit:</b>		1 ROWFT

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	30 PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	TT 110002	TT 110015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	15 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-postemergence Weed Control in Rice

Trial ID: STUT 0314  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	NECHCG	NECHCG	BRAPP
Crop Code	ORYSI	ORYSI	ORYSI			
Part Rated						
Rating Data Type	BLEACH	INJURY	STD RED	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	6-16-03	6-25-03	6-16-03	6-16-03	7-22-03	6-16-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	ORYSI	ORYSI	ORYSI	NECHCG	NECHCG	BRAPP
1	Untreated				0	0	0	0	0	0
2	Clomazone (Command)	0.225	lb ai/a	PRE	5	0	0	99	94	98
3	Clomazone Penoxsulam (XDE-638) COC	0.225 0.027 2.5	lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf	3	0	0	100	100	100
4	Clomazone Penoxsulam Cyhalofop-butyl (Clincher) COC	0.225 0.027 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	3	0	0	98	97	98
5	Clomazone Penoxsulam Quinclorac (Facet) COC	0.225 0.027 0.375 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	3	0	0	99	100	98
6	Clomazone Penoxsulam Propanil COC	0.225 0.027 4 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	1	0	0	99	99	99
7	Clomazone Penoxsulam Triclopyr (Grandstand) COC	0.225 0.027 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	0	0	0	100	100	100
8	Clomazone Triclopyr Propanil	0.225 0.25 4	lb ai/a lb ai/a lb ai/a	PRE 4 lf 4 lf	0	0	0	100	93	100
9	Clomazone Bispyribac-sodium (Regiment) NIS (Kinetic)	0.225 0.02 0.125	lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf	3	0	0	99	100	98

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-postemergence Weed Control in Rice

Trial ID: STUT 0314  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code					NECHCG	NECHCG	BRAPP
Crop Code		ORYSI	ORYSI	ORYSI			
Part Rated							
Rating Data Type		BLEACH	INJURY	STD RED	CONTROL	CONTROL	CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-16-03	6-25-03	6-16-03	6-16-03	7-22-03	6-16-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	1	0	0	99	100	99
10	Clomazone Quinclorac (Facet) Propanil	0.225 0.375  4	lb ai/a lb ai/a  lb ai/a	PRE 4 If 4 If	1	0	0	99	100	99
11	Clomazone Triclopyr Halosulfuron (Permit) COC	0.225 0.25 0.05 1.25	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 If 4 If 4 If	0	0	0	98	97	98
12	Penoxsulam	0.027	lb ai/a	PRE	0	0	0	97	38	95
13	Penoxsulam	0.045	lb ai/a	PRE	0	0	0	97	75	91
14	Clomazone Penoxsulam	0.4 0.027	lb ai/a lb ai/a	PRE PRE	4	5	0	99	89	98
15	Clomazone	0.4	lb ai/a	PRE	4	6	0	99	92	99
LSD (P=.05)					2.8	3.5	0.0	1.7	8.9	2.9

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-postemergence Weed Control in Rice

Trial ID: STUT 0314  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	BRAPP	SEBEX	SEBEX	AESVI	IPOLA	IPOLA
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-22-03	6-16-03	7-22-03	6-16-03	6-16-03	7-22-03

Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg						
1	Untreated				0	0	0	0	0	0
2	Clomazone (Command)	0.225	lb ai/a	PRE	24	0	5	0	0	5
3	Clomazone Penoxsulam (XDE-638) COC	0.225 0.027 2.5	lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf	30	8	45	10	15	55
4	Clomazone Penoxsulam Cyhalofop-butyl (Clincher) COC	0.225 0.027 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	99	8	51	10	18	50
5	Clomazone Penoxsulam Quinclorac (Facet) COC	0.225 0.027 0.375 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	100	43	100	43	23	100
6	Clomazone Penoxsulam Propanil COC	0.225 0.027 4 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	100	55	100	55	33	100
7	Clomazone Penoxsulam Triclopyr (Grandstand) COC	0.225 0.027 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf 4 lf	23	65	100	65	68	100
8	Clomazone Triclopyr Propanil	0.225 0.25 4	lb ai/a lb ai/a lb ai/a	PRE 4 lf 4 lf	99	83	100	83	86	100
9	Clomazone Bispyribac-sodium (Regiment) NIS (Kinetic)	0.225 0.02 0.125	lb ai/a lb ai/a % v/v	PRE 4 lf 4 lf	63	26	100	13	15	100

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-postemergence Weed Control in Rice

Trial ID: STUT 0314  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	BRAPP	SEBEX	SEBEX	AESVI	IPOLA	IPOLA
Crop Code						
Part Rated						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-22-03	6-16-03	7-22-03	6-16-03	6-16-03	7-22-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg						
10	Clomazone Quinclorac (Facet) Propanil	0.225 0.375  4	lb ai/a lb ai/a  lb ai/a	PRE 4 If 4 If	100	81	100	81	81	100
11	Clomazone Triclopyr Halosulfuron (Permit) COC	0.225 0.25 0.05 1.25	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 If 4 If 4 If	41	65	100	65	63	100
12	Penoxsulam	0.027	lb ai/a	PRE	13	15	8	11	10	8
13	Penoxsulam	0.045	lb ai/a	PRE	15	0	10	15	0	10
14	Clomazone Penoxsulam	0.4 0.027	lb ai/a lb ai/a	PRE PRE	76	0	10	0	23	20
15	Clomazone	0.4	lb ai/a	PRE	74	0	5	0	13	8
LSD (P=.05)					7.0	6.3	9.3	5.5	6.0	6.4

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-postemergence Weed Control in Rice

Trial ID: STUT 0314  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code  
Crop Code ORYSI  
Part Rated  
Rating Data Type YIELD  
Rating Unit KG/HA  
Rating Date 9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	
1	Untreated				5853
2	Clomazone (Command)	0.225	lb ai/a	PRE	6038
3	Clomazone Penoxsulam (XDE-638) COC	0.225 0.027 2.5	lb ai/a lb ai/a % v/v	PRE 4 If 4 If	7031
4	Clomazone Penoxsulam Cyhalofop-butyl (Clincher) COC	0.225 0.027 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 If 4 If 4 If	7434
5	Clomazone Penoxsulam Quinclorac (Facet) COC	0.225 0.027 0.375 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 If 4 If 4 If	7201
6	Clomazone Penoxsulam Propanil COC	0.225 0.027 4 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 If 4 If 4 If	7186
7	Clomazone Penoxsulam Triclopyr (Grandstand) COC	0.225 0.027 0.25 2.5	lb ai/a lb ai/a lb ai/a % v/v	PRE 4 If 4 If 4 If	7854
8	Clomazone Triclopyr Propanil	0.225 0.25 4	lb ai/a lb ai/a lb ai/a	PRE 4 If 4 If	7225
9	Clomazone Bispyribac-sodium (Regiment) NIS (Kinetic)	0.225 0.02 0.125	lb ai/a lb ai/a % v/v	PRE 4 If 4 If	7510

# University of Arkansas

## Evaluation of Penoxsulam (XDE-638) for Mid-postemergence Weed Control in Rice

Trial ID: STUT 0314  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code  
 Crop Code ORYSI  
 Part Rated  
 Rating Data Type YIELD  
 Rating Unit KG/HA  
 Rating Date 9-25-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	
10	Clomazone	0.225	lb ai/a	PRE	7209
	Quinclorac (Facet)	0.375	lb ai/a	4 If	
	Propanil	4	lb ai/a	4 If	
11	Clomazone	0.225	lb ai/a	PRE	7012
	Triclopyr	0.25	lb ai/a	4 If	
	Halosulfuron (Permit)	0.05	lb ai/a	4 If	
	COC	1.25	% v/v	4 If	
12	Penoxsulam	0.027	lb ai/a	PRE	5121
13	Penoxsulam	0.045	lb ai/a	PRE	6234
14	Clomazone	0.4	lb ai/a	PRE	6004
	Penoxsulam	0.027	lb ai/a	PRE	
15	Clomazone	0.4	lb ai/a	PRE	5370
LSD (P=.05)					1107.5

# University of Arkansas

## Evaluation of Potential Yield Drag with Clomazone/Propanil Programs

Trial ID: STUT 0315  
Location: Stuttgart, Ark.

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Ottis, Scherder, Malik  
**Affiliation:** University of Arkansas  
**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart                      **Trial Status:** Completed  
**State/Prov.:** Ark.

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

**Objective:** To evaluate if clomazone (Command) causes a yield drag from early-season rice plant bleaching

**Conclusions:** This study was established to assess if clomazone (Command) causes yield reductions due to early-season rice injury associated with bleaching. Initially, rice bleaching was evident from applications of clomazone at 0.6 and 0.8 lb ai/A. Rice stand reductions were most evident with preemergence (PRE) applications of clomazone at 0.8 lb/A. Yields ranged from 5384 to 8408 kg/ha, with the highest yields in plots treated with clomazone at 0.8 lb/A at the 2 to 3-leaf rice stage and the lowest yields in plots treated with clomazone at 0.8 lb/A PRE. Results of this study indicate that there were no significant yield reductions caused by early season clomazone injury at the proper use rates of 0.3 and 0.4 lb/A, and barnyardgrass control was excellent with all treatments.

### CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. ECHCG	BARNYARDGRASS	<i>Echinochloa crus-galli</i>
2. CYPIR	FLATSEEDGE, RICE	<i>Cyperus iria</i>

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** FRANCIS  
**Planting Date:** 5-13-03              **Planting Method:** DRILLED  
**Rate:** 70 LB/A              **Depth:** 0.75 IN  
**Row Spacing:** 7 IN  
**Soil Moisture:** Adequate              **Emergence Date:** 5-19-03

### 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

1. FALLOW

### MAINTENANCE

**Field Prep./Maintenance:** All plots were oversprayed with a postflood application of 1 oz/A of halosulfuron (Permit) + NIS for control of rice flatsedge, which escaped clomazone alone treatments.

### SOIL DESCRIPTION

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



## MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL
35.	8-24-03		0.1	IN	RAINFALL
36.	8-30-03		0.02	IN	RAINFALL
37.	9-1-03		0.05	IN	RAINFALL
38.	9-2-03		0.08	IN	RAINFALL
39.	9-3-03		0.3	IN	RAINFALL
40.	9-4-03		0.08	IN	RAINFALL
41.	9-13-03		1.15	IN	RAINFALL
42.	9-22-03		0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B	C
<b>Application Date:</b>	5-14-03	6-3-03	6-24-03
<b>Time of Day:</b>	1:00 PM	7:00 AM	7:45 AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	3 LF	PREFLD
<b>Applic. Placement:</b>	BROSOL	BROFOL	BROFOL
<b>Air Temp., Unit:</b>	72 F	67 F	88 F
<b>% Relative Humidity:</b>	98	96	64
<b>Wind Velocity, Unit:</b>	2 SW	2.7 S	1.5 SE
<b>Dew Presence (Y/N):</b>	N	Y	N
<b>Water Hardness:</b>	N	N	N
<b>Soil Temp., Unit:</b>	70 F	70 F	90 F
<b>Soil Moisture:</b>	moist	WET	ADEQUATE
<b>% Cloud Cover:</b>	90	40	20

### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	3 LF	PREFLD
<b>Height, Unit:</b>		4 IN	12 IN

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Weed 1 Code, Stage:</b>	ECHCG	ECHCG	ECHCG
<b>Stage Scale:</b>	PRE	2-3 LF	4-LF
<b>Density, Unit:</b>		10 SQ FT	10 SQ FT
<b>Weed 2 Code, Stage:</b>	CYPIR	CYPIR	CYPIR
<b>Stage Scale:</b>	PRE	2-LF	4-LF
<b>Density, Unit:</b>		10 SQ FT	10 SQ FT

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	TT 11002	TT 11002
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE	NONE
<b>Carrier:</b>	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N	N

# University of Arkansas

## Evaluation of Potential Yield Drag with Clomazone/Propanil Programs

Trial ID: STUT 0315  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code					
Crop Code		ORYSI	ORYSI	ORYSI	ORYSI
Part Rated					
Rating Data Type		STD RED	STD RED	INJURY	INJURY
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		6-10-03	7-1-03	6-10-03	7-1-03
					BLEACH PERCENT 6-10-03

Trt No.	Treatment Name	Rate	Grow Stg					
		Rate Unit						
1	Untreated Check			0	0	0	0	0
2	Clomazone (Command)	0.3 lb ai/a	PRE	0	3	1	11	9
3	Clomazone	0.4 lb ai/a	PRE	0	0	0	5	10
4	Clomazone	0.6 lb ai/a	PRE	5	15	11	23	10
5	Clomazone	0.8 lb ai/a	PRE	3	14	6	24	20
6	Clomazone COC	0.3 lb ai/a 1 % v/v	2-3 LF 2-3 LF	0	0	0	5	8
7	Clomazone COC	0.4 lb ai/a 1 % v/v	2-3 LF 2-3 LF	0	0	0	4	5
8	Clomazone COC	0.6 lb ai/a 1 % v/v	2-3 LF 2-3 LF	0	0	0	3	9
9	Clomazone COC	0.8 lb ai/a 1 % v/v	2-3 LF 2-3 LF	0	0	0	11	20
10	Clomazone Propanil (SuperWham) COC	0.3 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	0	0	8	11	8
11	Clomazone Propanil COC	0.4 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	0	1	5	13	6
12	Clomazone Propanil COC	0.6 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	0	10	15	25	11
13	Clomazone Propanil COC	0.8 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	8	45	40	50	23
14	Clomazone COC Propanil COC	0.3 lb ai/a 1 % v/v 3 lb ai/a 1 % v/v	2-3 LF 2-3 LF PREFLD PREFLD	0	0	0	4	5

# University of Arkansas

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Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code

Crop Code

Part Rated

Rating Data Type

Rating Unit

Rating Date

	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
	STD RED	STD RED	INJURY	INJURY	BLEACH
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
	6-10-03	7-1-03	6-10-03	7-1-03	6-10-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg					
15	Clomazone	0.4	lb ai/a	2-3 LF	0	1	0	3	6
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
16	Clomazone	0.6	lb ai/a	2-3 LF	0	0	0	6	9
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
17	Clomazone	0.8	lb ai/a	2-3 LF	0	1	5	6	10
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
18	Clomazone	0.3	lb ai/a	PRE	0	4	6	15	18
	Propanil + bensulfuron (Duet)	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
19	Clomazone	0.4	lb ai/a	PRE	3	8	16	20	18
	Propanil + bensulfuron	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
20	Clomazone	0.6	lb ai/a	PRE	0	0	5	8	8
	Propanil + bensulfuron	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
21	Clomazone	0.8	lb ai/a	PRE	10	26	35	39	30
	Propanil + bensulfuron	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
22	Clomazone	0.3	lb ai/a	2-3 LF	0	0	0	5	5
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
23	Clomazone	0.4	lb ai/a	2-3 LF	0	0	6	5	5
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
24	Clomazone	0.6	lb ai/a	2-3 LF	0	0	3	5	10
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					

# University of Arkansas

## Evaluation of Potential Yield Drag with Clomazone/Propanil Programs

Trial ID: STUT 0315  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code

Crop Code

Part Rated

Rating Data Type

Rating Unit

Rating Date

	ORYSI	ORYSI	ORYSI	ORYSI	ORYSI
	STD RED	STD RED	INJURY	INJURY	BLEACH
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
	6-10-03	7-1-03	6-10-03	7-1-03	6-10-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg					
25	Clomazone	0.8	lb ai/a	2-3 LF	0	0	4	6	10
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
26	Propanil	3	lb ai/a	2-3 LF	11	1	6	6	3
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
27	Propanil + bensulfuron	3	lb ai/a	2-3 LF	0	0	9	4	0
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
LSD (P=.05)					7.0	10.0	8.6	11.9	3.9

# University of Arkansas

## Evaluation of Potential Yield Drag with Clomazone/Propanil Programs

Trial ID: STUT 0315  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	ECHCG	ECHCG
Crop Code					
Part Rated					
Rating Data Type	BLEACH	BIO RED	BIO RED	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-1-03	6-10-03	7-1-03	6-10-03	7-1-03

Trt No.	Treatment Name	Rate	Grow Stg	ORYSI	ORYSI	ORYSI	ECHCG	ECHCG
		Rate Unit						
1	Untreated Check			0	0	0	25	0
2	Clomazone (Command)	0.3 lb ai/a	PRE	1	1	11	100	100
3	Clomazone	0.4 lb ai/a	PRE	0	10	5	77	100
4	Clomazone	0.6 lb ai/a	PRE	15	11	23	100	100
5	Clomazone	0.8 lb ai/a	PRE	9	6	24	100	100
6	Clomazone COC	0.3 lb ai/a 1 % v/v	2-3 LF 2-3 LF	3	1	5	74	100
7	Clomazone COC	0.4 lb ai/a 1 % v/v	2-3 LF 2-3 LF	3	16	4	100	100
8	Clomazone COC	0.6 lb ai/a 1 % v/v	2-3 LF 2-3 LF	10	0	3	100	100
9	Clomazone COC	0.8 lb ai/a 1 % v/v	2-3 LF 2-3 LF	19	3	11	100	100
10	Clomazone Propanil (SuperWham) COC	0.3 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	3	10	11	100	100
11	Clomazone Propanil COC	0.4 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	4	1	13	100	100
12	Clomazone Propanil COC	0.6 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	8	8	25	100	100
13	Clomazone Propanil COC	0.8 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF	16	3	50	100	100
14	Clomazone COC Propanil COC	0.3 lb ai/a 1 % v/v 3 lb ai/a 1 % v/v	2-3 LF 2-3 LF PREFLD PREFLD	1	6	4	100	100

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Trial ID: STUT 0315  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	ECHCG	ECHCG
Crop Code					
Part Rated					
Rating Data Type	BLEACH	BIO RED	BIO RED	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-1-03	6-10-03	7-1-03	6-10-03	7-1-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg					
15	Clomazone	0.4	lb ai/a	2-3 LF	4	18	3	100	100
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
16	Clomazone	0.6	lb ai/a	2-3 LF	8	11	6	100	100
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
17	Clomazone	0.8	lb ai/a	2-3 LF	18	3	6	100	100
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
18	Clomazone	0.3	lb ai/a	PRE	8	11	15	100	100
	Propanil + bensulfuron (Duet)	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
19	Clomazone	0.4	lb ai/a	PRE	9	6	20	100	100
	Propanil + bensulfuron	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
20	Clomazone	0.6	lb ai/a	PRE	1	1	6	100	100
	Propanil + bensulfuron	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
21	Clomazone	0.8	lb ai/a	PRE	24	14	39	100	100
	Propanil + bensulfuron	3	lb ai/a	2-3 LF					
	COC	1	% v/v	2-3 LF					
22	Clomazone	0.3	lb ai/a	2-3 LF	1	9	5	100	100
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
23	Clomazone	0.4	lb ai/a	2-3 LF	4	18	5	100	100
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
24	Clomazone	0.6	lb ai/a	2-3 LF	8	0	5	100	100
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					

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Trial ID: STUT 0315  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code	ORYSI	ORYSI	ORYSI	ECHCG	ECHCG
Crop Code					
Part Rated					
Rating Data Type	BLEACH	BIO RED	BIO RED	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	7-1-03	6-10-03	7-1-03	6-10-03	7-1-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg	ORYSI	ORYSI	ORYSI	ECHCG	ECHCG
25	Clomazone	0.8	lb ai/a	2-3 LF	19	8	6	100	100
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
26	Propanil	3	lb ai/a	2-3 LF	0	4	6	100	100
	COC	1	% v/v	2-3 LF					
	Propanil	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
27	Propanil + bensulfuron	3	lb ai/a	2-3 LF	0	11	4	100	100
	COC	1	% v/v	2-3 LF					
	Propanil + bensulfuron	3	lb ai/a	PREFLD					
	COC	1	% v/v	PREFLD					
LSD (P=.05)					9.1	17.1	11.9	23.0	0.0



# University of Arkansas

## Evaluation of Potential Yield Drag with Clomazone/Propanil Programs

Trial ID: STUT 0315  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	CYPIR
Crop Code	ORYSI
Part Rated	
Rating Data Type	CONTROL YIELD
Rating Unit	PERCENT KG/HA
Rating Date	6-17-03 9-24-03

Trt No.	Treatment Name	Rate	Unit	Grow Stg		
1	Untreated Check				0	6879
2	Clomazone (Command)	0.3 lb ai/a	PRE		13	7440
3	Clomazone	0.4 lb ai/a	PRE		0	7402
4	Clomazone	0.6 lb ai/a	PRE		19	6291
5	Clomazone	0.8 lb ai/a	PRE		45	6441
6	Clomazone COC	0.3 lb ai/a 1 % v/v	2-3 LF 2-3 LF		38	7301
7	Clomazone COC	0.4 lb ai/a 1 % v/v	2-3 LF 2-3 LF		6	7661
8	Clomazone COC	0.6 lb ai/a 1 % v/v	2-3 LF 2-3 LF		43	7278
9	Clomazone COC	0.8 lb ai/a 1 % v/v	2-3 LF 2-3 LF		38	8408
10	Clomazone Propanil (SuperWham) COC	0.3 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF		100	7450
11	Clomazone Propanil COC	0.4 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF		100	8084
12	Clomazone Propanil COC	0.6 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF		94	6674
13	Clomazone Propanil COC	0.8 lb ai/a 3 lb ai/a 1 % v/v	PRE 2-3 LF 2-3 LF		100	5384
14	Clomazone COC Propanil COC	0.3 lb ai/a 1 % v/v 3 lb ai/a 1 % v/v	2-3 LF 2-3 LF PREFLD PREFLD		38	7665

# University of Arkansas

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Trial ID: STUT 0315  
Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
Investigator: Weed Science

Weed Code	CYP	PIR	
Crop Code			ORYSI
Part Rated			
Rating Data Type	CONTROL	YIELD	
Rating Unit	PERCENT	KG/HA	
Rating Date	6-17-03	9-24-03	

Trt No.	Treatment Name	Rate	Unit	Grow Stg	CYP	PIR
15	Clomazone	0.4	lb ai/a	2-3 LF	18	8052
	COC	1	% v/v	2-3 LF		
	Propanil	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
16	Clomazone	0.6	lb ai/a	2-3 LF	50	7442
	COC	1	% v/v	2-3 LF		
	Propanil	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
17	Clomazone	0.8	lb ai/a	2-3 LF	35	7103
	COC	1	% v/v	2-3 LF		
	Propanil	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
18	Clomazone	0.3	lb ai/a	PRE	100	7016
	Propanil + bensulfuron (Duet)	3	lb ai/a	2-3 LF		
	COC	1	% v/v	2-3 LF		
19	Clomazone	0.4	lb ai/a	PRE	100	6510
	Propanil + bensulfuron	3	lb ai/a	2-3 LF		
	COC	1	% v/v	2-3 LF		
20	Clomazone	0.6	lb ai/a	PRE	98	6616
	Propanil + bensulfuron	3	lb ai/a	2-3 LF		
	COC	1	% v/v	2-3 LF		
21	Clomazone	0.8	lb ai/a	PRE	100	6072
	Propanil + bensulfuron	3	lb ai/a	2-3 LF		
	COC	1	% v/v	2-3 LF		
22	Clomazone	0.3	lb ai/a	2-3 LF	23	7675
	COC	1	% v/v	2-3 LF		
	Propanil + bensulfuron	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
23	Clomazone	0.4	lb ai/a	2-3 LF	63	6546
	COC	1	% v/v	2-3 LF		
	Propanil + bensulfuron	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
24	Clomazone	0.6	lb ai/a	2-3 LF	13	7243
	COC	1	% v/v	2-3 LF		
	Propanil + bensulfuron	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		

# University of Arkansas

## Evaluation of Potential Yield Drag with Clomazone/Propanil Programs

Trial ID: STUT 0315  
 Location: Stuttgart, AR

Study Dir.: Talbert, Ottis, Scherder, Malik  
 Investigator: Weed Science

Weed Code	CYP	PIR	
Crop Code		OR	YSI
Part Rated			
Rating Data Type	CONTROL	YIELD	
Rating Unit	PERCENT	KG/HA	
Rating Date	6-17-03	9-24-03	

Trt No.	Treatment Name	Rate	Unit	Grow Stg	CYP	YIELD
25	Clomazone	0.8	lb ai/a	2-3 LF	1	7525
	COC	1	% v/v	2-3 LF		
	Propanil + bensulfuron	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
26	Propanil	3	lb ai/a	2-3 LF	93	6860
	COC	1	% v/v	2-3 LF		
	Propanil	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
27	Propanil + bensulfuron	3	lb ai/a	2-3 LF	100	6994
	COC	1	% v/v	2-3 LF		
	Propanil + bensulfuron	3	lb ai/a	PREFLD		
	COC	1	% v/v	PREFLD		
LSD (P=.05)					35.2	1404.4

# University of Arkansas

## Evaluation of Allelopathy Among Several Rice Cultivars

Trial ID: STUT 0317

Study Dir.: Talbert, Gealy, Ottis, Scherder,

Location: Stuttgart, Ark.

Investigator: Weed Science

### GENERAL TRIAL INFORMATION

**Study Director:** Talbert, Gealy, Ottis, Scherder,

**Investigator:** Weed Science

### TRIAL LOCATION

**City:** Stuttgart

**Trial Status:** Completed

**State/Prov.:** Ark.

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

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

**Objective:** To evaluate the allelopathic potential of several rice cultivars

**Conclusions:** This study was conducted to evaluate the allelopathic effects of rice cultivars on barnyardgrass. Herbicide treatments included were thiobencarb (Bolero) at reduced rates applied DPRE and sequential applications of clomazone (Command) DPRE fb applications of propanil and halosulfuron (Permit) PREFLD. Initially there was less control (15 to 50%) of barnyardgrass from thiobencarb with rice cultivars Teqing, Saber, Francis, and 4593. Later in the season thiobencarb provided 85 to 90% control of barnyardgrass in all cultivars except Rexmont. Sequential applications of clomazone, propanil, and halosulfuron gave 92 to 100% control of barnyardgrass among all cultivars. Rice yields reflected weed control in all the cases. XL8 produced the highest yields, and the lowest yields resulted from Teqing, Francis, and Saber. The competitive or allelopathic affects from any cultivars were not able to provide sufficient weed control to maximize yields without an effective herbicide control system.

### CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. ECHCG	BARNYARDGRASS	<i>Echinochloa crus-galli</i>

**Crop 1:** ORYSI RICE, PADDY (DRY-SEEDED+IRR) **Variety:** Various

**Planting Date:** 5-24-03 **Planting Method:** DRILLED

**Rate:** 90 LB/A

### SITE AND DESIGN

**Plot Width, Unit:** 6 FT **Plot Length, Unit:** 15 FT **Reps:** 4

**Site Type:** FIELD

**Tillage Type:** CONVENTIONAL **Study Design:** FACTORIAL

### SOIL DESCRIPTION

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

## MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type
1.	5-5-03		0.1	IN	RAINFALL
2.	5-6-03		0.26	IN	RAINFALL
3.	5-7-03		1.5	IN	RAINFALL
4.	5-11-03		1.05	IN	RAINFALL
5.	5-14-03		0.25	IN	RAINFALL
6.	5-15-03		0.1	IN	RAINFALL
7.	5-17-03		1.1	IN	RAINFALL
8.	5-18-03		0.1	IN	RAINFALL
9.	5-25-03		0.05	IN	RAINFALL
10.	6-2-03		0.05	IN	RAINFALL
11.	6-3-03		0.85	IN	RAINFALL
12.	6-5-03		0.05	IN	RAINFALL
13.	6-6-03		0.07	IN	RAINFALL
14.	6-7-03		0.45	IN	RAINFALL
15.	6-11-03		0.07	IN	RAINFALL
16.	6-12-03		1.2	IN	RAINFALL
17.	6-13-03		0.1	IN	RAINFALL
18.	6-15-03		0.15	IN	RAINFALL
19.	6-17-03		0.16	IN	RAINFALL
20.	6-18-03		0.9	IN	RAINFALL
21.	6-19-03		0.55	IN	RAINFALL
22.	6-25-03				FLOOD
23.	6-26-03		0.9	IN	RAINFALL
24.	6-27-03		0.95	IN	RAINFALL
25.	7-11-03		0.08	IN	RAINFALL
26.	7-12-03		0.05	IN	RAINFALL
27.	7-18-03		0.1	IN	RAINFALL
28.	7-19-03		0.6	IN	RAINFALL
29.	7-28-03		0.75	IN	RAINFALL
30.	7-31-03		0.2	IN	RAINFALL
31.	8-4-03		0.3	IN	RAINFALL
32.	8-6-03		0.2	IN	RAINFALL
33.	8-13-03		0.5	IN	RAINFALL
34.	8-14-03		0.55	IN	RAINFALL
35.	8-24-03		0.1	IN	RAINFALL
36.	8-30-03		0.02	IN	RAINFALL
37.	9-1-03		0.05	IN	RAINFALL
38.	9-2-03		0.08	IN	RAINFALL
39.	9-3-03		0.3	IN	RAINFALL
40.	9-4-03		0.08	IN	RAINFALL
41.	9-13-03		1.15	IN	RAINFALL
42.	9-22-03		0.7	IN	RAINFALL

## APPLICATION DESCRIPTION

	A	B
Application Date:	5-29-03	6-30-03
Time of Day:	7:30 PM	7:30 PM
Application Method:	SPRAY	SPRAY
Application Timing:	DPRE	PREFLD
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	84 F	84 F
% Relative Humidity:	43	86
Wind Velocity, Unit:	0 MPH	2 MPH
Dew Presence (Y/N):	N	N
Water Hardness:	N	N
Soil Temp., Unit:	74 F	91 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	0	75

### CROP STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Crop 1 Code, Stage:</b>	ORYSI	ORYSI
<b>Stage Scale:</b>	PRE	PREFLD

### WEED STAGE AT EACH APPLICATION

	<b>A</b>	<b>B</b>
<b>Weed 1 Code, Stage:</b>	ECHCG	ECHCG
<b>Stage Scale:</b>	PRE	4 LEAF

### APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>
<b>Appl. Equipment:</b>	BCKPK	BCKPK
<b>Operating Pressure:</b>	22 PSI	22 PSI
<b>Nozzle Type:</b>	TT 11002	TT110015
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN
<b>Boom Height, Unit:</b>	17 IN	17 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Incorporation Equip.:</b>	NONE	NONE
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	10 GPA	10 GPA
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	N	N

# University of Arkansas

## Evaluation of Allelopathy Among Several Rice Cultivars

Trial ID: STUT 0317  
Location: Stuttgart, AR

Study Dir.: Talbert, Gealy, Ottis, Malik  
Investigator: Weed Science

Weed Code	ECHCG	ECHCG	ECHCG	ECHCG	ORYSI
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	6-25-03	7-9-03	7-16-03	7-29-03	10-7-03
Trt No.	Treatment Name	Rate	Grow Unit	Stg	
1	PI 312777 Untreated check				2494
		5	13	0	0
2	PI 312777 Thiobencarb (Bolero)	2 lb ai/a	DPRE		4716
		38	66	46	78
3	PI 312777 Clomazone (Command) Propanil Halosulfuron (Permit)	0.4 lb ai/a 3 lb ai/a 1 oz/a	DPRE PREFLD PREFLD		6124
		98	100	100	100
4	Teqing Untreated check				3503
		18	58	48	0
5	Teqing Thiobencarb	2 lb ai/a	DPRE		3990
		35	56	33	88
6	Teqing Clomazone Propanil Halosulfuron	0.4 lb ai/a 3 lb ai/a 1 oz/a	DPRE PREFLD PREFLD		5054
		92	90	94	93
7	Saber Untreated check				2739
		3	24	5	40
8	Saber Thiobencarb	2 lb ai/a	DPRE		3918
		48	58	76	85
9	Saber Clomazone Propanil Halosulfuron	0.4 lb ai/a 3 lb ai/a 1 oz/a	DPRE PREFLD PREFLD		5030
		98	100	100	100
10	Rexmont Untreated check				1190
		18	18	5	0
11	Rexmont Thiobencarb	2 lb ai/a	DPRE		936
		23	21	0	0
12	Rexmont Clomazone Propanil Halosulfuron	0.4 lb ai/a 3 lb ai/a 1 oz/a	DPRE PREFLD PREFLD		5450
		98	100	100	100

# University of Arkansas

## Evaluation of Allelopathy Among Several Rice Cultivars

Trial ID: STUT 0317  
Location: Stuttgart, AR

Study Dir.: Talbert, Gealy, Ottis, Malik  
Investigator: Weed Science

Weed Code	ECHCG	ECHCG	ECHCG	ECHCG	ORYSI
Crop Code					
Part Rated					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	KG/HA
Rating Date	6-25-03	7-9-03	7-16-03	7-29-03	10-7-03
Trt No.	Treatment Name	Rate	Grow Unit	Stg	
13	Drew Untreated check				3181
		15	24	0	0
14	Drew Thiobencarb	2 lb ai/a	DPRE		3674
		38	48	71	75
15	Drew Clomazone	0.4 lb ai/a	DPRE		5755
	Propanil	3 lb ai/a	PREFLD		
	Halosulfuron	1 oz/a	PREFLD		
		98	100	100	100
16	XL8 Untreated check				5415
		18	35	33	79
17	XL8 Thiobencarb	2 lb ai/a	DPRE		3946
		15	30	38	76
18	XL8 Clomazone	0.4 lb ai/a	DPRE		7048
	Propanil	3 lb ai/a	PREFLD		
	Halosulfuron	1 oz/a	PREFLD		
		98	100	100	100
19	Francis Untreated check				1845
		3	15	0	3
20	Francis Thiobencarb	2 lb ai/a	DPRE		4391
		50	55	58	85
21	Francis Clomazone	0.4 lb ai/a	DPRE		5266
	Propanil	3 lb ai/a	PREFLD		
	Halosulfuron	1 oz/a	PREFLD		
		98	100	100	100
22	4593 Untreated check				4532
		28	68	35	0
23	4593 Thiobencarb	2 lb ai/a	DPRE		4497
		47	65	86	90
24	4593 Clomazone	0.4 lb ai/a	DPRE		6961
	Propanil	3 lb ai/a	PREFLD		
	Halosulfuron	1 oz/a	PREFLD		
		98	100	100	100
LSD (P=.05)		20.9	23.6	21.1	13.7
					1684.1



## **Appendix**

### **Abbreviations**

BCKPK – Backpack sprayer  
BIOMASS or BIO RED – Biomass reduction  
BLEACH – Plant Bleaching  
COC – Crop oil concentrate  
DAT – Days after treatment  
DPRE – Delayed preemergence  
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

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