

LSU Northeast Research Station

Broadleaf weed control in drill-seeded rice with Grasp and Permit.

Trial ID: SJ06R037
Location:

Protocol ID: SJ06R037
Study Director:
Investigator: Bill Williams

General Trial Information

Investigator: Bill Williams

Conclusions:

Combinations of Grasp and Permit were evaluated for weed control in drill-seeded rice. Combinations of Grasp and Permit were very effective at controlling barnyardgrass, sesbania and rice flatsedge following preemergence applications of Command.

In an identical trial with Regiment (SJ06R035), applying Permit with Regiment appeared to improve sprangletop control compared to Regiment alone. Similar results were observed with Grasp plus Permit combinations. Additional, work will be required to confirm or rebuke the sprangletop results.

Crop Description

Crop 1: ORYSA Oryza sativa Common rice
Variety: Trainasse **Description:** 5/24/06
BBCH Scale: BRIC
Planting Method: DRILLED **Rate, Unit:** 100 LB/A
Depth, Unit: 1 IN
Row Spacing, Unit: 8 IN
Seed Bed: MEDIUM
Soil Moisture: DRY **Emergence Date:** 5/31/06
Harvested Width, Unit: 5 FT **Harvest Equipment:** Small plot combine
Harvested Length, Unit: 12 FT
% Standard Moisture: 12.0

Pest Description

Pest 1 Type: W **Code:** ECHCG Echinochloa crus-galli
Common Name: Common barnyardgrass
Pest 2 Type: W **Code:** LEPPA Leptochloa panicoides
Common Name: Amazon sprangletop
Pest 3 Type: W **Code:** SEBEX Sesbania exaltata
Common Name: Hemp sesbania
Pest 4 Type: W **Code:** CNPPA Capersonia palustris
Common Name: Texasweed
Pest 5 Type: W **Code:** CYPPIR Cyperus iria
Common Name: Rice flatsedge

Site and Design

Plot Width, Unit: 6.67 FT **Site Type:** FIELD
Plot Length, Unit: 15 FT **Tillage Type:** CONVENTIONAL-TILL
Replications: 3 **Study Design:** Factorial

Maintenance

No.	Date	Maintenance Treatment Name	Rate	Rate Unit
1.	6/27/06	Prilled urea	300	LB/A

Soil Description

Description Name: Bay 4 - Northend
% Sand: 25.2 **% OM:** 2.07 **Texture:** Clay
% Silt: 32.8 **pH:** 7.87 **Soil Name:** Sharkey
% Clay: 42 **CEC:** 21.9 **Fert. Level:** Excellent

Moisture Conditions

Overall Moisture Conditions: Dry
Closest Weather Station: Northeast Research Station **Distance:** 0.25 **Unit:** MI

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	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5/26/06				Flush		
2.	5/28/06	5:00 pm	0.18	In	Rain	1	Hou
3.	5/29/06	2:30 pm	0.46	In	Rain	2.5	Hou
4.	5/30/06	1:30 pm	0.79	In	Rain	3	Hou
5.	6/2/06	6:30 pm	0.03	In	Rain	1	Hou
6.	6/5/06				Flush		
7.	6/12/06				Flush		
8.	6/17/06	7:00 pm	0.03	In	Rain	1	Hou
9.	6/18/06	10:00 p	0.01	In	Rain	1	Hou
10.	6/19/06	10:00 p	0.05	In	Rain	1	Hou
11.	6/20/06	2:30 pm	0.19	In	Rain	1	Hou
12.	6/24/06	9:00 pm	0.07	In	Rain	1	Hou
13.	6/27/06				Fertilizer		
14.	6/28/06				Permanent Flood		
15.	7/3/06	1:00 pm	0.07	In	Rain	0.5	Hou
16.	7/4/06	3:00 pm	0.69	In	Rain	1.5	Hou
17.	7/4/06	7:00 am				1	Hou
18.	7/5/06	12:00 a	1.25	In	Rain	0.75	Hou
19.	7/5/06	6:00pm				1.5	Hou
20.	7/6/06	6:00 pm	0.35	In	Rain	3.5	Hou
21.	7/11/06	2:00 pm	0.45	In	Rain	2	Hou

Application Description

	A	B
Application Date:	5/25/06	6/12/06
Time of Day:	8:30	10:00
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BANSOI	BANFOL
Air Temperature, Unit:	72 F	88 F
% Relative Humidity:	68	48
Wind Velocity, Unit:	3 MPH	4 MPH
Wind Direction:	N	E
Soil Temperature, Unit:	81 F	86 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	30	10

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ORYSA BRIC	ORYSA BRIC
Stage Scale Used:	BBCH	BBCH
Stage Majority, Percent:	N/A	2-3 LF 100
Height, Unit:		3 IN
Height Minimum, Maximum:		2 4

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Pest Stage At Each Application

	A	B
Pest 1 Code, Disc., Scale:	ECHCG W	ECHCG W
Stage Majority, Percent:	N/A	3-4 LF 100
Height, Unit:		1.5 IN
Height Minimum, Maximum:		1 2
Pest 2 Code, Disc., Scale:	LEFPA W	LEFPA W
Stage Majority, Percent:	N/A	3 100
Height, Unit:		1 IN
Height Minimum, Maximum:		1 1
Pest 3 Code, Disc., Scale:	SEBEX W	SEBEX W
Stage Majority, Percent:	N/A	6 LF 100
Height, Unit:		3 IN
Height Minimum, Maximum:		3 4
Pest 4 Code, Disc., Scale:	CNPPA W	CNPPA W
Stage Majority, Percent:	N/A	4 LF 100
Height, Unit:		4 IN
Height Minimum, Maximum:		4 4
Pest 5 Code, Disc., Scale:	CYPIR W	CYPIR W
Stage Majority, Percent:	N/A	1-2 LF 100
Height, Unit:		1 IN
Height Minimum, Maximum:		1 1

Application Equipment

	A	B
Appl. Equipment:	Backpack	Backpack
Operating Pressure, Unit:	31 PSI	31 PSI
Nozzle Type:	Greenleaf	Greenleaf
Nozzle Size:	11002	11002
Nozzle Spacing, Unit:	20 IN	20 IN
Nozzles/Row:	2	2
Ground Speed, Unit:	2.8 MPH	2.8 MPH
Carrier:	Water	Water
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC
Propellant:	CO2	CO2

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Pest Code	ECHCG	ECHCG	ECHCG	ECHCG	LEFPA	LEFPA	LEFPA	SEBEX	SEBEX	
Part Rated	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	
Rating Date	5/31/06	6/20/06	6/26/06	7/11/06	6/20/06	6/26/06	7/11/06	5/31/06	6/20/06	
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit	%	%	%	%	%	%	%	%	%	
Days After First/Last Applic.	6 6	26 8	32 14	47 29	26 8	32 14	47 29	6 6	26 8	
Trt-Eval Interval	6 DA-A	8 DA-B	14 DA-B	29 DA-B	8 DA-B	14 DA-B	29 DA-B	6 DA-A	8 DA-B	
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
No. Name	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	
1 Command	1.33 pt/a	95.0 a	93.3 a	86.7 a	93.3 a	71.7 a	56.7 a	30.0 a	0.0 a	95.0 a
Grasp	1.4 oz/a									
Permit	0.33 oz/a									
Dyne-A-Pak	1.5 % v/v									
2 Command	1.33 pt/a	95.0 a	95.0 a	88.3 a	95.0 a	71.7 a	56.7 a	30.0 a	0.0 a	91.7 ab
Grasp	1.4 oz/a									
Permit	0.66 oz/a									
Dyne-A-Pak	1.5 % v/v									
3 Command	1.33 pt/a	95.0 a	90.0 a	88.3 a	88.3 a	70.0 a	60.0 a	30.0 a	0.0 a	85.0 b
Grasp	1.4 oz/a									
Permit	1.0 oz/a									
Dyne-A-Pak	1.5 % v/v									
4 Command	1.33 pt/a	95.0 a	90.0 a	93.3 a	90.0 a	73.3 a	56.7 a	30.0 a	0.0 a	91.7 ab
Grasp	1.8 oz/a									
Permit	0.33 oz/a									
Dyne-A-Pak	1.5 % v/v									
5 Command	1.33 pt/a	95.0 a	93.3 a	88.3 a	93.3 a	73.3 a	53.3 a	30.0 a	0.0 a	91.7 ab
Grasp	1.8 oz/a									
Permit	0.66 oz/a									
Dyne-A-Pak	1.5 % v/v									
6 Command	1.33 pt/a	95.0 a	95.0 a	93.3 a	95.0 a	71.7 a	56.7 a	30.0 a	0.0 a	85.0 b
Grasp	1.8 oz/a									
Permit	1.0 oz/a									
Dyne-A-Pak	1.5 % v/v									
7 Command	1.33 pt/a	95.0 a	91.7 a	90.0 a	91.7 a	66.7 a	56.7 a	30.0 a	0.0 a	95.0 a
Grasp	2.3 oz/a									
Permit	0.33 oz/a									
Dyne-A-Pak	1.5 % v/v									
8 Command	1.33 pt/a	95.0 a	93.3 a	91.7 a	93.3 a	71.7 a	56.7 a	30.0 a	0.0 a	91.7 ab
Grasp	2.3 oz/a									
Permit	0.66 oz/a									
Dyne-A-Pak	1.5 % v/v									
9 Command	1.33 pt/a	95.0 a	91.7 a	91.7 a	88.3 a	70.0 a	50.0 a	30.0 a	0.0 a	95.0 a
Grasp	2.3 oz/a									
Permit	1.0 oz/a									
Dyne-A-Pak	1.5 % v/v									
10 Command	1.33 pt/a	95.0 a	90.0 a	70.0 b	60.0 b	66.7 a	56.7 a	30.0 a	0.0 a	0.0 c
LSD (P=.05)	0.00	3.65	6.09	6.68	6.41	10.80	0.00	0.00	0.00	5.72
Standard Deviation	0.00	2.13	3.55	3.90	3.74	6.30	0.00	0.00	0.00	3.33
CV	0.0	2.31	4.02	4.39	5.29	11.24	0.0	0.0	0.0	4.06
Bartlett's X2	0.0	0.0	5.524	4.921	3.308	1.232	0.0	0.0	0.0	6.2
P(Bartlett's X2)	.	1.00	0.70	0.426	0.855	0.996	.	.	.	0.287
Replicate F	0.000	0.184	8.206	0.878	1.132	0.252	0.000	0.000	0.000	7.500
Replicate Prob(F)	1.0000	0.8337	0.0029	0.4327	0.3442	0.7797	1.0000	1.0000	1.0000	0.0043
Treatment F	0.000	2.531	10.949	21.470	1.219	0.523	0.000	0.000	0.000	228.675
Treatment Prob(F)	1.0000	0.0447	0.0001	0.0001	0.3431	0.8389	1.0000	1.0000	1.0000	0.0001

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

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Pest Code	SEBEX	SEBEX	CYPIR	CYPIR	CYPIR	CYPIR			
Part Rated	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P	PLATOT P			
Rating Date	6/26/06	7/11/06	5/31/06	6/20/06	6/26/06	7/11/06			
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL			
Rating Unit	%	%	%	%	%	%			
Days After First/Last Applic.	32 14	47 29	6 6	26 8	32 14	47 29			
Trt-Eval Interval	14 DA-B	29 DA-B	6 DA-A	8 DA-B	14 DA-B	29 DA-B			
Trt No.	Treatment Name	Rate	Unit	10	11	12	13	14	15
1	Command	1.33	pt/a	93.3 a	91.7 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	1.4	oz/a						
	Permit	0.33	oz/a						
	Dyne-A-Pak	1.5	% v/v						
2	Command	1.33	pt/a	95.0 a	93.3 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	1.4	oz/a						
	Permit	0.66	oz/a						
	Dyne-A-Pak	1.5	% v/v						
3	Command	1.33	pt/a	90.0 a	93.3 a	0.0 a	91.7 a	91.7 b	95.0 a
	Grasp	1.4	oz/a						
	Permit	1.0	oz/a						
	Dyne-A-Pak	1.5	% v/v						
4	Command	1.33	pt/a	91.7 a	95.0 a	0.0 a	91.7 a	95.0 a	95.0 a
	Grasp	1.8	oz/a						
	Permit	0.33	oz/a						
	Dyne-A-Pak	1.5	% v/v						
5	Command	1.33	pt/a	91.7 a	88.3 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	1.8	oz/a						
	Permit	0.66	oz/a						
	Dyne-A-Pak	1.5	% v/v						
6	Command	1.33	pt/a	93.3 a	93.3 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	1.8	oz/a						
	Permit	1.0	oz/a						
	Dyne-A-Pak	1.5	% v/v						
7	Command	1.33	pt/a	95.0 a	95.0 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	2.3	oz/a						
	Permit	0.33	oz/a						
	Dyne-A-Pak	1.5	% v/v						
8	Command	1.33	pt/a	93.3 a	95.0 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	2.3	oz/a						
	Permit	0.66	oz/a						
	Dyne-A-Pak	1.5	% v/v						
9	Command	1.33	pt/a	95.0 a	95.0 a	0.0 a	95.0 a	95.0 a	95.0 a
	Grasp	2.3	oz/a						
	Permit	1.0	oz/a						
	Dyne-A-Pak	1.5	% v/v						
10	Command	1.33	pt/a	0.0 b	0.0 b	0.0 a	0.0 b	0.0 c	0.0 b
LSD (P=.05)				5.52	4.76	0.00	2.09	1.57	0.00
Standard Deviation				3.22	2.77	0.00	1.22	0.91	0.00
CV				3.84	3.3	0.0	1.43	1.07	0.0
Bartlett's X2				5.262	3.697	0.0	0.0	0.0	0.0
P(Bartlett's X2)				0.385	0.449	.	1.00	.	.
Replicate F				2.250	2.928	0.000	2.250	1.000	0.000
Replicate Prob(F)				0.1342	0.0793	1.0000	0.1342	0.3874	1.0000
Treatment F				251.795	341.735	0.000	1803.063	3227.667	0.000
Treatment Prob(F)				0.0001	0.0001	1.0000	0.0001	0.0001	1.0000

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.