

University of Georgia

BXN cotton and Texas panicum response to Arrow alone and mixed with Buctril.

Trial ID: C24-03
Location: Ponder farm

Study Dir.: Stanley Culpepper
Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. weed science
Affiliation: University of Georgia
Postal Code: 31794
Investigator: Stanley Culpepper **Title:** Ext. weed science
Affiliation: University of Georgia
Postal Code: 31794

TRIAL LOCATION

City: TyTy **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Postal Code: 31794 **Initiation Date:** May-01-03
Country: U.S.A.

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	PANTE	Texas panicum	
2.	IPOLA	pitted morningglory	

Crop 1: GOSHI cotton **Variety:** BXN 47
Planting Date: May-01-03 **Planting Method:** strip till
Rate: 3 per foot **Depth:** 0.7 in
Row Spacing: 36 inch **Spacing Within Row:** 4 inch **Seed Bed:** flat
Soil Temperature: 84 F **Soil Moisture:** moist **Emergence Date:** May-06-03

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: research station
Tillage Type: strip till **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 94 **% OM:** 1.1 **Texture:** sand
% Silt: 4 **pH:** 5.9 **Soil Name:** Tifton sandy loam
% Clay: 2

Overall Moisture Conditions: wet

APPLICATION DESCRIPTION

	A
Application Date:	May-26-03
Time of Day:	11:00am
Application Method:	Broadcast
Application Timing:	POST
Applic. Placement:	overtop
Air Temp., Unit:	80 F
% Relative Humidity:	47
Wind Velocity, Unit:	4 mph
Dew Presence (Y/N):	N
Soil Temp., Unit:	81 F
Soil Moisture:	fair
% Cloud Cover:	100

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI POST
Stage Scale:	V5
Height, Unit:	6 inch

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WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	PANTE POST
Stage Scale:	4T, 6inch
Density, Unit:	5 ydsq
Weed 2 Code, Stage:	IPOLA POST
Stage Scale:	V0, <1.5"
Density, Unit:	2 ydsq

APPLICATION EQUIPMENT

A	
Appl. Equipment:	backpack
Operating Pressure:	22
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 inch
Nozzles/Row:	2
Boom Length, Unit:	4.5 feet
Boom Height, Unit:	15 inch
Ground Speed, Unit:	3 mph
Carrier:	water
Spray Volume, Unit:	14.8 GPA
Propellant:	CO2
Tank Mix (Y/N):	Y

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Weed Code		GOSHI	PANTE	PANTE	PANTE	PANTE	PANTE	IPOLA	IPOLA	
Crop Code		injury	control	control	control	control	control	control	control	
Rating Data Type		percent	percent	percent	percent	percent	percent	percent	percent	
Rating Unit		May-31-03	May-31-03	Jun-15-03	Jun-25-03	Jul-05-03	Sep-06-03	May-31-03	Jun-15-03	
Rating Date		5 DA-A	5 DA-A	20 DA-A	40 DA-A	40 DA-A	40 DA-A	5 DA-A	20 DA-A	
Trt-Eval Interval										
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	
			1	2	3	4	5	6	7	
									8	
1	Arrow COC	6 oz/a 1 % v/v	0.0	61.0	94.5	85.3	99.0	99.0	0.0	0.0
2	Select COC	6 oz/a 1 % v/v	0.0	64.5	95.8	87.0	99.0	99.0	0.0	0.0
3	Arrow COC	8 oz/a 1 % v/v	0.0	60.0	94.5	87.3	99.0	99.0	0.0	0.0
4	Select COC	8 oz/a 1 % v/v	0.0	58.8	96.8	90.0	99.0	99.0	0.0	0.0
5	Arrow COC Buctril	6 oz/a 1 % v/v 1 pt/a	0.0	82.0	81.8	74.5	99.0	99.0	100.0	99.0
6	Select COC Buctril	6 oz/a 1 % v/v 1 pt/a	0.0	78.8	86.0	75.0	99.0	99.0	100.0	99.0
7	Arrow COC Buctril	8 oz/a 1 % v/v 1 pt/a	0.0	82.5	95.0	88.8	99.0	99.0	100.0	99.0
8	Select COC Buctril	8 oz/a 1 % v/v 1 pt/a	0.0	81.3	93.8	88.0	99.0	99.0	100.0	99.0
9	Non-treated		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LSD (P=.05)		0.00	10.84	4.31	4.39	0.00	0.00	0.00	0.00
	Standard Deviation		0.00	7.43	2.96	3.01	0.00	0.00	0.00	0.00
	CV		0.0	11.75	3.6	4.01	0.0	0.0	0.0	0.0
	Bartlett's X2		0.0	7.016	4.58	3.584	0.0	0.0	0.0	0.0
	P(Bartlett's X2)		.	0.427	0.711	0.733

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Weed Code			IPOLA	IPOLA	IPOLA
Crop Code					
Rating Data Type			control	control	control
Rating Unit			percent	percent	percent
Rating Date			Jun-25-03	Jul-05-03	Sep-06-03
Trt-Eval Interval			33 DA-A	40 DA-A	103 DA-A
Trt No.	Treatment Name	Rate			
		Rate Unit	9	10	11
1	Arrow COC	6 oz/a 1 % v/v	0.0	100.0	100.0
2	Select COC	6 oz/a 1 % v/v	0.0	100.0	100.0
3	Arrow COC	8 oz/a 1 % v/v	0.0	100.0	100.0
4	Select COC	8 oz/a 1 % v/v	0.0	100.0	100.0
5	Arrow COC Buctril	6 oz/a 1 % v/v 1 pt/a	99.0	100.0	100.0
6	Select COC Buctril	6 oz/a 1 % v/v 1 pt/a	99.0	100.0	100.0
7	Arrow COC Buctril	8 oz/a 1 % v/v 1 pt/a	99.0	100.0	100.0
8	Select COC Buctril	8 oz/a 1 % v/v 1 pt/a	99.0	100.0	100.0
9	Non-treated		0.0	0.0	0.0
LSD (P=.05)			0.00	0.00	0.00
Standard Deviation			0.00	0.00	0.00
CV			0.0	0.0	0.0
Bartlett's X2			0.0	0.0	0.0
P(Bartlett's X2)			.	.	.

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Trial Comments

GENERAL COMMENTS: Cotoran (1 qt/A) + Staple (0.8 oz/A) was applied PRE over entire trial on May 1 to reduce broadleaf infestations. Caparol (1 qt/A) + MSMA (2 lb ai) was applied LPD on June 25.

OBJECTIVE: Compare Select and Arrow for grass control alone and mixed with Buctril.

RESULTS:

Cotton Injury:

1. No visual injury was noted at any time.

Weed Control

Pitted morningglory:

- 1) Buctril provided excellent morningglory control.
- 2) LPD treatment of Caparol plus MSMA also provided excellent control.

Texas panicum:

- 1) Arrow and Select provided similar control when applied at the same rate. Rate had little affect when applied alone as the 6 oz rate provided excellent control.
- 2) Interestingly at 5 DAT, control was greater with the graminicide/Buctril combination than with the graminicide alone. Buctril provided a burning affect.
- 3) At 20 and 35 DAT, mixing Buctril with 6 oz of either graminicide reduced control 10 to 12% compared to the graminicide alone. This antagonism was overcome with both graminicides by increasing the rate from 6 oz/A to 8 oz/A when applied in combination with Buctril.
- 4) Control from all treatments dropped from 20 to 35 days do to continued panicum emergence.
- 5) Regardless of early season control, applying a LPD treatment improved control by all treatments to nearly 100%.