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Millet response to several grass herbicides applied PRE and POST.

Trial ID: Millet1-05 Study Dir.: Stanley Culpepper
Location: Tifton Investigator: Stanley Culpepper

Reps: 4 Plots: 6 by 25 feet
Spray vol: 14.8 gal/ac Mix size: 1 liters (min .77168)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep 1	2	3	4
1	Dual Magnum	7.62	L	1	pt/a	PRE	A	8.445 ml/mx	101	210	301	408
	PRE					PRE	A					
2	Dual Magnum	7.62	L	1	pt/a	EPOST	B	8.445 ml/mx	102	209	311	404
	EPOST					EPOST	B					
3	Surflan	4	AS	1	qt/a	PRE	A	16.89 ml/mx	103	204	302	403
	PRE					PRE	A					
4	Surflan	4	AS	1	qt/a	EPOST	B	16.89 ml/mx	104	201	304	405
	EPOST					EPOST	B					
5	Define		L	1	pt/a	PRE	A	8.445 ml/mx	105	214	309	411
	PRE					PRE	A					
6	Define		L	1	pt/a	EPOST	B	8.445 ml/mx	106	202	307	413
	EPOST					EPOST	B					
7	Prowl H20	3.8	AS	1	qt/a	PRE	A	16.89 ml/mx	107	205	310	401
	PRE					PRE	A					
8	Prowl H20	3.8	AS	1	qt/a	EPOST	B	16.89 ml/mx	108	203	305	414
	EPOST					EPOST	B					
9	Facet	75	DF	0.5	lb/a	PRE	A	4.048 g/mx	109	207	303	407
	PRE					PRE	A					
10	Facet	75	DF	0.5	lb/a	EPOST	B	4.048 g/mx	110	213	306	409
	COC		L	2	pt/a	EPOST	B	16.89 ml/mx				
	EPOST					EPOST	B					
11	Facet	75	DF	1	lb/a	PRE	A	8.096 g/mx	111	212	308	412
	PRE					PRE	A					
12	Facet	75	DF	1	lb/a	EPOST	B	8.096 g/mx	112	211	312	410
	COC		L	2	pt/a	EPOST	B	16.89 ml/mx				
	EPOST					EPOST	B					
13	Non-treated								113	208	314	406
14	Facet	75	DF	0.5	lb/a	LPOST	C	4.048 g/mx	114	206	313	402
	COC		L	2	pt/a	LPOST	C	16.89 ml/mx				

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Lot Code
21.113	ml	Dual Magnum 7.62 L	
42.225	ml	Surflan 4 AS	
21.113	ml	Define L	
42.225	ml	Prowl H20 3.8 AS	
35.422	g	Facet 75 DF	
63.338	ml	COC L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 liters (mix size basis).
* Product amount calculations increased 25 % for overage adjustment.

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Trial Comments

OBJECTIVE: Determine the most effective preemergence and postemergence herbicide for pearl millet.

VISUAL INJURY:
1. Dual Magnum and Define PRE killed the millet.
2. Surflan and Prowl H20 PRE caused severe millet injury with stunting and stand loss.
3. Facet PRE at 0.5 lb (probably 1 X rate) caused little to no stunting while the 2 X rate caused up to 21% plant stunting.
4. Injury from Dual POST was interesting as it caused some suckering from axillary buds and shortened plants.
5. Define POST also caused severe injury with stand loss.
6. Prowl H20, Surlfan, and Facet at 0.5 lb POST had little impact on millet growth.
7. Facet POST at the 2 X rate (1 lb) caused moderate stunting but millet quickly recovered.

CRABGRASS RESPONSE:
1. Crabgrass is the most troublesome weed in millet.
2. PRE applications of Dual, Surflan, Define, and Prowl H20 PRE provided excellent control. Facet PRE provided fair to good control (probably enough for millet).
3. Early POST applications of Facet were the only products providing effective POST control (81-82%) at 32 days after treatment. late POST applications of Facet were ineffective because the crabgrass was too large at time of application.

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Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6
Weed Code								DIGSA	DIGSA
Crop Code				millet	millet	millet	millet		
Rating Data Type				injury	injury	injury	injury	control	control
Rating Unit				percent	percent	percent	percent	percent	percent
Rating Date				May-25-05	May-31-05	Jun-07-05	Jun-27-05	Jun-07-05	Jun-27-05
Trt-Eval Interval				8 DA-A	14 DA-A	21 DA-A	41 DA-A	21 DA-A	41 DA-A
1	Dual Magnum PRE	1	pt/a	100	100	100	100	98	95
2	Dual Magnum EPOST	1	pt/a	0	4	31	19	20	47
3	Surflan PRE	1	qt/a	47	26	38	30	94	98
4	Surflan EPOST	1	qt/a	0	3	5	15	30	45
5	Define PRE	1	pt/a	100	100	100	100	100	100
6	Define EPOST	1	pt/a	0	9	44	26	59	81
7	Prowl H20 PRE	1	qt/a	31	32	35	39	95	92
8	Prowl H20 EPOST	1	qt/a	0	5	0	0	18	49
9	Facet PRE	0.5	lb/a	8	3	5	0	65	86
10	Facet COC EPOST	0.5 2	lb/a pt/a	0	5	5	0	54	82
11	Facet PRE	1	lb/a	20	18	21	11	78	84
12	Facet COC EPOST	1 2	lb/a pt/a	0	8	17	5	45	81
13	Non-treated			0	0	0	0	0	0
14	Facet COC	0.5 2	lb/a pt/a	0	0	0	0	5	21
LSD (P=.05)				14.6	7.9	11.7	12.1	17.7	15.1
Standard Deviation				10.2	5.5	8.2	8.4	12.4	10.5
CV				46.7	24.77	28.56	34.25	22.89	15.36

Means followed by same letter do not significantly differ (P=.05, LSD)

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Location: Tifton 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: Tifton **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Postal Code: 31794 **Initiation Date:** May-16-05
Country: USA **Planned Completion Date:** _____
E-Longitude of LL Corner °: _____ **N-Latitude of LL Corner °:** _____
Altitude of LL Corner: _____ **Unit:** _____ **Angle y-axis to North °:** _____
Directions:

COOPERATOR/LANDOWNER

Cooperator: _____ **Country:** _____
Org: _____ **Phone No:** _____
Address 1: _____ **Fax No:** _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N
Guidelines: _____ **Guideline Description:** _____

Objective:

Conclusions:

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	DIGSA	large crabgrass	

Crop 1: PANMI MILLET **Variety:** Pearl Millet (Hanna cult)
Planting Date: May-16-05 **Planting Method:** seeded
Rate: 5 row ft **Depth:** 0.25 in **Perennial Age:** ____ _____
Row Spacing: 18 inch **Spacing Within Row:** ____ _____ **Seed Bed:** flat
Soil Temperature: 85 F **Soil Moisture:** irrigated **Emergence Date:** May-20-05

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: Research station
Tillage Type: conventional **Study Design:** FACTORIAL

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance:

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No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

SOIL DESCRIPTION

% Sand: 88 **% OM:** 1.1 **Texture:** sand
% Silt: 10 **pH:** 5.9 **Soil Name:** Tifton sandy loam
% Clay: 2 **CEC:** _____ **Fert. Level:** _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: _____
Closest Weather Station: _____ **Distance:** _____ **Unit:** __

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-17-05	May-25-05	Jun-14-05
Time of Day:	2 pm	10 am	8 am
Application Method:	broadcast	broadcast	broadcast
Application Timing:	PRE	EPOST	LPOST
Applic. Placement:	on soil	overtop	overtop
Air Temp., Unit:	90 F	80 F	82 F
% Relative Humidity:	30	46	64
Wind Velocity, Unit:	1.5 mph	2 mph	2 mph
Dew Presence (Y/N):	n	n	y
Water Hardness:			
Soil Temp., Unit:	90 F	88 F	84 F
Soil Moisture:	irrigated	fair	wet
% Cloud Cover:	0	0	0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	PANMI PRE	PANMI EPOST	PANMI LPOST
Stage Scale:	not up	2-4 lf	.
Height, Unit:	0 inch	3 inch	24 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	DIGSA PRE	DIGSA EPOST	DIGSA LPOST
Stage Scale:	not up	up to 4in	up to 18"
Density, Unit:	0 ydsq	2 ydsq	3 ydsq

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APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	23	23	23
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch	18 inch
Nozzles/Row:	3	3	3
Band Width, Unit:			
Boom Length, Unit:	4.5 feet	4.5 feet	4.5 feet
Boom Height, Unit:	15 inch	15 inch	15 inch
Ground Speed, Unit:	3 mph	3 mph	3 mph
Incorporation Equip.:			
Hours to Incorp.:			
Incorp. Depth, Unit:			
Carrier:	water	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA	14.8 GPA
Spray pH:			
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	Y	Y	Y

Trt No	Treatment Application Comment