Glyphosate-resistant Palmer amaranth response to paraquat mixtures for burndown.

Trial ID: C42-07 Study Dir.: Culpepper

Location: Macon County Investigator: Stanley Culpepper

Reps: 3 Plots: 6 by 30 feet

Spray vol: 14.8 gal/ac Mix size: 1 liters (min .69451)

	y von i no ganao		IVIIX OIL		(- /						
Trt	Treatment	Form	Form	Form		Rate	Grow	Appl	Amt Product	Plot N	lo. By	Rep	
No.	Name	Conc	Unit	Type	Rate	Unit	Stg	Code	to Measure	1	2	3	
1	Gramoxone Inteon	2		SL	1.5	PT/A	POST	Α	12.67 ml/mx	101	202	301	
	COC			L	2	% V/V	POST	Α	20.0 ml/mx				
2	Gramoxone Inteon	2		SL	2	PT/A	POST	Α	16.89 ml/mx	102	203	304	
	COC			L	2	% V/V	POST	Α	20.0 ml/mx				
3	Gramoxone Inteon	2		SL	1.5	PT/A	POST	Α	12.67 ml/mx	103	201	305	
	COC			L	2	% V/V	POST	Α	20.0 ml/mx				
	Direx	4		L	1	QT/A	POST	Α	16.89 ml/mx				
4	Gramoxone Inteon	2		SL	1.5	PT/A	POST	Α	12.67 ml/mx	104	205	303	
	COC			L	2	% V/V	POST	Α	20.0 ml/mx				
	2,4-D Amine	4		L	1	PT/A	POST	Α	8.445 ml/mx				
5	Gramoxone Inteon	2		SL	1.5	PT/A	POST	Α	12.67 ml/mx	105	204	302	
	COC			L	2	% V/V	POST	Α	20.0 ml/mx				
	Clarity	4		L	8	OZ/A	POST	Α	4.223 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
84.451	ml	Gramoxone Inteon	2	SL	
124.987	ml	COC		L	
21.113	ml	Direx	4	L	
10.556	ml	2,4-D Amine	4	L	
5.279	ml	Clarity	4	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.
- * 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1 liters.

Trial Comments

OBJECTIVE: Determine the most effective paraquat mixture to burndown Palmer amaranth.

Palmer Response:

- 1. Palmer was 3 to 7 inches in height at time of application. Moisture was limited at time of application.
- 2. Gramoxone Inteon at 1.5 pt/A was less effective than 2 pt/A; however, mixing Direx, 2,4-D, or Clarity with 1.5 pt of Gramoxone was as effective as the full quart of Gramoxone.
- 3. Only 80% control was noted with the best treatments at 38 DAT. Surviving plants were those greater than 5 inches at time of application.
- 4. Gramoxone at 1 qt plus diuron, 2,4-D, or Clarity would likely be effective up to 6 inches. Sequential applications would likely be more effective especially for 2,4-D or Clarity followed by Gramoxone.

Glyphosate-resistant Palmer amaranth response to paraquat mixtures for burndown.

Trial ID: C42-07 Study Dir.: Culpepper

Location: Macon County Investigator: Stanley Culpepper

Weed Code AMAPA AMAPA Crop Code cotton cot Rating Data Type % Rating Unit control con Rating Date May-30-07 Jun-19-	ton % trol 07
Rating Data Type % Rating Unit control con	% trol ·07
Rating Unit control con	trol 07
•	07
Pating Date May 30 07 Jun 10	
realing Date Iviay-30-07 Juli-19	۱_Δ
Trt-Eval Interval 18 DA-A 38 DA	1-71
Trt Treatment Rate	
No. Name Rate Unit 1 2	
1 Gramoxone Inteon 1.5 PT/A 83 b 65	b
COC 2 % V/V	
2 Gramoxone Inteon 2 PT/A 97 a 80	a
COC 2 % V/V	
3 Gramoxone Inteon 1.5 PT/A 94 a 80	a
COC 2 % V/V	
Direx 1 QT/A	
4 Gramoxone Inteon 1.5 PT/A 92 a 80	a
COC 2 % V/V	
2,4-D Amine 1 PT/A	
5 Gramoxone Inteon 1.5 PT/A 90 ab 85	а
COC 2 % V/V	
Clarity 8 OZ/A	
LSD (P=.05) 7.3 1.	2.8
	6.8
CV 4.24 8	.72
Bartlett's X2 3.03 1.0	23
P(Bartlett's X2) 0.553 0.7	'96

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

Mar-11-08 (C42-07) Site Description Page 3 of 5

University of Georgia

Glyphosate-re	sistant Palmer amaranth re	esponse to paraquat m	ixtures for burndown.	
Trial ID: C42-07	Study Dir.:	Culpepper		
Location: Macon County	Investigator:	Stanley Culpepper		
	GENERAL TRIAL INFORMATIO	N		_
Study Director: Stanley (Culpepper	Title: Ext. Weed	Science	
Affiliation: Univ. of	Georgia			
Postal Code: 31794				
Investigator: Stanley (Culpepper	Title: Ext. Weed	Science	
Affiliation: Univ. of	Georgia			
Postal Code: 31794				
	TRIAL LOCATION			
City: Macon			Completed	
State/Prov.: GA		-	good	
Postal Code:			May-12-07	
Country: USA		ned Completion Date:		
	°: N-Lati			
	Unit: Angl	e y-axis to North °:		
Directions:				
	COOPERATOR/LANDOWNER			
Cooperator:		Country:		
		Phone No:		
		Fax No:		
City:				
State/Prov:				
Postal Code:				
Conducted Under GLP (Y/N)	: N Conducted	Under GEP (Y/N): N		
	Guideline Description:			
	<u>-</u>			
Objective:				
Conclusions:				
	CROP AND WEED DESCRIPTION	N		
Weed Code Common Name	Scientific Name			
1. AMAPA Amaranth, Palm	ner Amaranthus palmeri			
	Total			
Crop 1: No crop		Variety:		
Planting Date:	Planting Method			
	Depth:	-		
	Spacing Within Row: 8			
	Soil Moisture: moist			
DOII Temperature. 00 I	boil Morgeure. morse	Emergence Date	•	
	SITE AND DESIGN			
Plot Width, Unit: 6	FT Plot Length, Unit:	30 FT Reps:	3	
Site Type: Macon Co.		nopp.	-	
Tillage Type: Conventiona	Study Design:	RANDOMIZED COMPLETE	BLOCK	
	30			
Trial Initiation Comments	! :			
Previous Crops	Previous 1	Pesticides	Year	
1				

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

Texture: Loamy sand

 SOIL DESCRIPTION

 % Sand: 82
 % OM: 2.0
 Texture: L

 % Silt: 14
 pH: 6.3
 Soil Name: _

 % Clay: 4
 CEC: _____
 Fert. Level:

 Soil Name: Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Туре	Interval	Unit
1.							

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

APPLICATION DESCRIPTION

	A
Application Date:	May-12-07
Time of Day:	12:00 pm
Application Method:	broadcast
Application Timing:	POST
Applic. Placement:	overtop
Air Temp., Unit:	89 F
% Relative Humidity:	38
Wind Velocity, Unit:	2 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	84 F
Soil Moisture:	fair
% Cloud Cover:	100

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	
Stage Scale:	
Height, Unit:	

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	AMAPA POST
Stage Scale:	3-7 in
Density, Unit:	12 ydsq

APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	24
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 in
Nozzles/Row:	2
Band Width, Unit:	
Boom Length, Unit:	4.5 ft
Boom Height, Unit:	15 in
Ground Speed, Unit:	3 mph
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	water
Spray Volume, Unit:	14.8 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	

Trt No	Treatment Application Comment