

University of Georgia

Glyphosate-resistant Palmer amaranth response to Ignite, Weedar, Clarity, DHT-014, Remedy, and Direx.

Trial ID: C53-09 Protocol ID:
 Location: Macon County Study Director: Stanley Culpepper
 Project ID: Investigator: Stanley Culpepper
 Sponsor Contact:

Reps: 3		Plots: 6 by 20 feet									
Spray vol: 14.8 gal/ac		Mix size: 1 liters (min .46301)									
Trt	Treatment	Form	Form	Rate	Growth	Appl	Amt	Product	Plot No.		
No.	Name	Conc	Type	Rate	Unit	Stage	Code	to Measure	Rep. 1	2	3
1	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	101	207	306
2	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	102	212	307
	Direx	4	L	1 pt/a	POST	A	8.445	ml/mx			
3	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	103	214	302
	Direx	4	L	1.5 pt/a	POST	A	12.67	ml/mx			
4	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	104	218	312
	Direx	4	L	2.0 pt/a	POST	A	16.89	ml/mx			
5	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	105	210	308
	Valor	51	DG	2 oz/a	POST	A	1.012	g/mx			
6	Direx	4	L	2 pt/a	POST	A	16.89	ml/mx	106	216	314
	NIS		L	0.25 % v/v	POST	A	2.5	ml/mx			
7	Direx	4	L	2 pt/a	POST	A	16.89	ml/mx	107	217	320
	Valor	51	DG	2 oz/a	POST	A	1.012	g/mx			
	NIS		L	0.25 % v/v	POST	A	2.5	ml/mx			
8	Direx	4	L	2 pt/a	POST	A	16.89	ml/mx	108	215	313
	Valor	51	DG	2 oz/a	POST	A	1.012	g/mx			
	NIS		L	0.25 % v/v	POST	A	2.5	ml/mx			
	MSMA	6	L	2.5 pt/a	POST	A	21.11	ml/mx			
9	Direx	4	L	2 pt/a	POST	A	16.89	ml/mx	109	220	311
	Gramoxone	2	L	2 pt/a	POST	A	16.89	ml/mx			
	Inteon		L	2 pt/a	POST	A	16.89	ml/mx			
	COC		L	2 pt/a	POST	A	16.89	ml/mx			
10	Direx	4	L	2 pt/a	POST	A	16.89	ml/mx	110	208	305
	Gramoxone	2	L	3 pt/a	POST	A	25.34	ml/mx			
	Inteon		L	2 pt/a	POST	A	16.89	ml/mx			
	COC		L	2 pt/a	POST	A	16.89	ml/mx			
11	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	111	202	303
	Weedar	3.8	L	1 pt/a	POST	A	8.445	ml/mx			
12	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	112	209	317
	Weedar	3.8	L	1.5 pt/a	POST	A	12.67	ml/mx			
13	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	113	201	304
	Clarity	4	L	8 oz/a	POST	A	4.223	ml/mx			
14	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	114	219	301
	Clarity	4	L	12 oz/a	POST	A	6.334	ml/mx			
15	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	115	213	310
	Remedy	4	L	1 pt/a	POST	A	8.445	ml/mx			
16	Ignite	2.34	L	23 oz/a	POST	A	12.14	ml/mx	116	203	318
	Remedy	4	L	1.5 pt/a	POST	A	12.67	ml/mx			

17 Ignite	2.34 L	23 oz/a	POST	A	12.14 ml/mx	117	204	309
DHT-014	2 L	2 pt/a	POST	A	16.89 ml/mx			
18 Ignite	2.34 L	23 oz/a	POST	A	12.14 ml/mx	118	205	319

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Reps: 3 Plots: 6 by 20 feet
 Spray vol: 14.8 gal/ac Mix size: 1 liters (min .46301)

Trt	Treatment	Form	Form	Rate	Growth	Appl	Amt Product	Plot No.
No.	Name	Conc	Type	Rate	Unit	Stage	Code	to Measure
	DHT-014	2	L	3	pt/a	POST	A	25.34 ml/mx
19	Non-treated							
20	Non-treated							

Sort Order: Replicate 1

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Trial Comments

OBJECTIVE: Compare potential burndown herbicide options for the control of emerged Palmer amaranth.

1. At 3 DAT, Gramoxone + diuron (96%) and Ignite + Valor (83%) provided the greatest level of control.
2. AT 10 DAT, all treatments except Ignite alone and Direx + Valor + NIS provided greater than 89% control.
3. At 20 DAT, control was at least 80% with Direx alone, Ignite + 2 pt/A Direx, Ignite + Remedy at 1.5 pt/A, and Ignite + DHT-014 at 3 pt/A. Greater than 75% control was noted with Gramoxone + Direx and Ignite + 2,4-D 1.5 pt/A.

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 Project ID: Investigator: Stanley Culpepper
 Sponsor Contact:

Pest Type	W Weed			W Weed			W Weed		
Pest Code	AMAPA			AMAPA			AMAPA		
Pest Scientific Name	Amaranthus palmeri			Amaranthus palmeri			Amaranthus palmeri		
Pest Name	Palmer amaranth			Palmer amaranth			Palmer amaranth		
Rating Date	Jun-12-2009			Jun-19-2009			Jun-29-2009		
Rating Type	control			control			control		
Rating Unit	%			%			%		
Number of Subsamples	1			1			1		
Days After First/Last Applic.	3 3			10 10			20 20		
Trt-Eval Interval	3 DA-A			10 DA-A			20 DA-A		
Trt	Treatment	Rate	Appl						
No.	Name	Rate	Unit	Code	1	2	3		
1	Ignite	23 oz/a	A		71.7 c	74.3 f	45.0 h		
2	Ignite	23 oz/a	A		72.7 c	88.7 de	66.0 efg		
	Direx	1 pt/a	A						
3	Ignite	23 oz/a	A		70.0 c	92.7 a-d	69.0 d-g		
	Direx	1.5 pt/a	A						
4	Ignite	23 oz/a	A		73.0 c	96.3 abc	80.0 abc		
	Direx	2.0 pt/a	A						
5	Ignite	23 oz/a	A		83.0 b	86.0 e	64.3 fg		
	Valor	2 oz/a	A						
6	Direx	2 pt/a	A		71.7 c	93.3 a-d	85.0 a		
	NIS	0.25 % v/v	A						
7	Direx	2 pt/a	A		69.0 c	79.3 f	60.0 g		
	Valor	2 oz/a	A						
	NIS	0.25 % v/v	A						
8	Direx	2 pt/a	A		84.7 b	90.7 b-e	72.7 b-f		
	Valor	2 oz/a	A						
	NIS	0.25 % v/v	A						
	MSMA	2.5 pt/a	A						
9	Direx	2 pt/a	A		95.7 a	90.3 cde	78.3 a-d		
	Gramoxone	2 pt/a	A						
	Inteon	2 pt/a	A						
10	Direx	2 pt/a	A		96.0 a	90.7 b-e	78.3 a-d		
	Gramoxone	3 pt/a	A						
	Inteon	2 pt/a	A						
11	Ignite	23 oz/a	A		69.3 c	92.3 a-e	68.3 d-g		
	Weedar	1 pt/a	A						
12	Ignite	23 oz/a	A		73.3 c	94.3 a-d	76.0 a-e		
	Weedar	1.5 pt/a	A						
13	Ignite	23 oz/a	A		68.3 c	89.3 de	63.3 fg		
	Clarity	8 oz/a	A						
14	Ignite	23 oz/a	A		73.7 c	90.0 cde	72.7 b-f		
	Clarity	12 oz/a	A						
15	Ignite	23 oz/a	A		71.0 c	92.0 a-e	64.0 fg		
	Remedy	1 pt/a	A						
16	Ignite	23 oz/a	A		70.0 c	97.0 ab	83.3 a		
	Remedy	1.5 pt/a	A						
17	Ignite	23 oz/a	A		70.0 c	92.7 a-d	71.0 c-f		
	DHT-014	2 pt/a	A						
18	Ignite	23 oz/a	A		70.0 c	97.3 a	82.0 ab		
	DHT-014	3 pt/a	A						
19	Non-treated				0.0 d	0.0 g	0.0 i		

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Pest Type	W Weed	W Weed	W Weed
Pest Code	AMAPA	AMAPA	AMAPA
Pest Scientific Name	Amaranthus palmeri	Amaranthus palmeri	Amaranthus palmeri
Pest Name	Palmer amaranth	Palmer amaranth	Palmer amaranth
Rating Date	Jun-12-2009	Jun-19-2009	Jun-29-2009
Rating Type	control	control	control
Rating Unit	%	%	%
Number of Subsamples	1	1	1
Days After First/Last Applic.	3 3	10 10	20 20
Trt-Eval Interval	3 DA-A	10 DA-A	20 DA-A
Trt Treatment	Rate Appl		
No. Name	Rate Unit Code	1	2
20 Non-treated	0.0 d	0.0 g	0.0 i
LSD (P=.05)	7.02	6.51	10.51
Standard Deviation	4.25	3.94	6.37
CV	6.29	4.85	9.96
Bartlett's X2	14.651	19.114	13.706
P(Bartlett's X2)	0.33	0.263	0.621
Replicate F	2.654	2.893	0.089
Replicate Prob(F)	0.0834	0.0677	0.9149
Treatment F	99.955	155.091	41.889
Treatment Prob(F)	0.0001	0.0001	0.0001

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

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

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	Sponsor Contact:

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

AMAPA, Amaranthus palmeri, = US

Rating Unit

% = percent

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Trial ID: C53-09 Protocol ID:
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General Trial Information

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Investigator: Stanley Culpepper **Title:** Ext. Weed Science

Discipline: .
Trial Status: F one-year/final
Initiation Date: Jun-8-2009

Trial Location

City: Macon Co.
State/Prov.: GA
Postal Code: 31795
Country: USA United States

Personnel

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Address: PO Box 748
Location: Tifton, GA
Postal Code: 31795 **E-mail:** stanley@uga.edu
Phone No.: 229-386-3328
Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Address: PO Box 748
Location: Tifton, GA
Postal Code: 31795 **E-mail:** stanley@uga.edu
Phone No.: 229-386-3328

Crop Description

Crop 1: . NON-CROP
Variety: .

Pest Description

Pest 1 Type: W **Code:** AMAPA Amaranthus palmeri
Common Name: Palmer amaranth

Site and Design

Plot Width, Unit: 6 FT **Site Type:** ONFARM
Plot Length, Unit: 20 FT
Plot Area, Unit: 120 FT² **Tillage Type:** CONVEN
Replications: 3 **Study Design:** RACOB Randomized Complete Block (RCB)

Soil Description

% Sand: 82 **% OM:** 2 **Texture:** .
% Silt: 14 **pH:** 6.1 **Soil Name:** loamy sand
% Clay: 4

Moisture and Weather Conditions

Overall Moisture Conditions: MOIST
Closest Weather Station: on site **Distance, Unit:** 100 yd

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Comment:

2009 Macon Co. Rainfall Data:

4-15: 0.75 in
 4-21: 0.2 in
 4-23: 0.4 in

5-5: 0.25 in
 5-6: 0.75 in
 5-7: 0.25 in
 5-10: 0.75 in
 5-17: 0.75 in
 5-28: 1.4 in

6-4: 0.77 in
 6-5: 0.11 in
 7-5: 0.1 in
 7-6: 0.03 in
 7-8: 1.1 in
 7-13: 0.24 in
 7-23: 0.41 in
 7-26: 0.14 in
 7-27: 0.01 in
 7-28: 0.46 in
 7-29: 0.1 in
 7-30: 0.22 in
 7-31: 0.25 in

8-2: 0.01 in
 8-5: 1.04 in
 8-9: 0.08 in
 8-11: 0.16 in
 8-16: 0.22 in
 8-17: 1.03 in
 8-19: 0.6 in
 8-21: 0.02 in
 8-27: 0.21 in
 8-28: 1.35 in
 8-30: 0.25 in
 8-31: 0.01 in

Application Description

A

Application Date: Jun-9-2009
 Time of Day: 8:00 am
 Application Method: broadcast
 Application Timing: POST
 Application Placement: overtop
 Air Temperature, Unit: 81 F
 % Relative Humidity: 45
 Wind Velocity, Unit: 3 mph
 Dew Presence (Y/N): N no
 Soil Temperature, Unit: 79 F
 Soil Moisture: moist
 % Cloud Cover: 0

Crop Stage At Each Application

A

Crop 1 Code, BBCH Scale: .
 Stage Scale Used: .
 Stage Minimum, Percent: .

Pest Stage At Each Application

A

Pest 1 Code, Type, Scale: AMAPA W .
 Stage Majority, Percent: .

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Sponsor Contact:

Height, Unit: 6.5 in
Height Minimum, Maximum: 5 8
Density, Unit: 0. .

Application Equipment

A

Appl. Equipment: backpack
Operating Pressure, Unit: 24 psi
Nozzle Type: flat fan
Nozzle Size: 11002
Nozzle Spacing, Unit: 18 in
Nozzles/Row: 2
Boom Length, Unit: 4.5 ft
Boom Height, Unit: 15 in
Ground Speed, Unit: 3 mph
Carrier: water
Spray Volume, Unit: 15 GPA
Propellant: CO2
Tank Mix (Y/N): Y yes