

# University of Georgia

ZIDUA VS. DUAL MAGNUM VS. WARRANT NON-CROP (BARE-GROUND)	
Trial ID: NC-02-19	Study Dir.: "MIGHTY" ABRAHAM FULMER
Location: PONDER FARM	Investigator: Eric P. Prostko

Reps: 4                      Plots: 6 by 25 feet  
                                  Mix Size: 1.5 L

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code	Appl. Amount	Amt Product to Measure	Diluent	Rep 1	2	3	4
1	NTC								-	101	209	304	409
2	ZIDUA	4.17	SC	2.5 oz/a	PRE	A	15 GPA	1.953 mL/mx	1498.0 mL	102	204	303	411
3	ZIDUA	4.17	SC	3.5 oz/a	PRE	A	15 GPA	2.734 mL/mx	1497.3 mL	103	202	311	403
4	DUAL MAGNUM	7.62	EC	16.0 oz/a	PRE	A	15 GPA	12.5 mL/mx	1487.5 mL	104	205	312	401
5	DUAL MAGNUM	7.62	EC	21.0 oz/a	PRE	A	15 GPA	16.4 mL/mx	1483.6 mL	105	208	309	407
6	WARRANT	3	ME	48.0 oz/a	PRE	A	15 GPA	37.5 mL/mx	1462.5 mL	106	210	305	404
7	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	15 GAL/AC	9.374 mL/mx	1472.4 mL	107	211	306	412
	STORM	4	SL	16.0 oz/a	EPOST	B	15 GAL/AC	12.5 mL/mx					
	ZIDUA	4.17	SC	2.5 oz/a	EPOST	B	15 GAL/AC	1.953 mL/mx					
	INDUCE			0.25 % v/v	EPOST	B	15 GAL/AC	3.75 mL/mx					
8	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	15 GAL/AC	9.374 mL/mx	1471.6 mL	108	212	302	410
	STORM	4	SL	16.0 oz/a	EPOST	B	15 GAL/AC	12.5 mL/mx					
	ZIDUA	4.17	SC	3.5 oz/a	EPOST	B	15 GAL/AC	2.734 mL/mx					
	INDUCE			0.25 % v/v	EPOST	B	15 GAL/AC	3.75 mL/mx					
9	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	15 GAL/AC	9.374 mL/mx	1465.6 mL	109	207	308	402
	STORM	4	SL	16.0 oz/a	EPOST	B	15 GAL/AC	12.5 mL/mx					
	DUAL MAGNUM	7.62	EC	16.0 oz/a	EPOST	B	15 GAL/AC	12.5 mL/mx					
10	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	15 GAL/AC	9.374 mL/mx	1461.7 mL	110	203	310	406
	STORM	4	SL	16.0 oz/a	EPOST	B	15 GAL/AC	12.5 mL/mx					
	DUAL MAGNUM	7.62	EC	21.0 oz/a	EPOST	B	15 GAL/AC	16.4 mL/mx					
11	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	15 GAL/AC	9.374 mL/mx	1436.9 mL	111	201	301	408
	STORM	4	SL	16.0 oz/a	EPOST	B	15 GAL/AC	12.5 mL/mx					
	WARRANT	3	ME	48.0 oz/a	EPOST	B	15 GAL/AC	37.5 mL/mx					
	INDUCE			0.25 % v/v	EPOST	B	15 GAL/AC	3.75 mL/mx					
12	NTC								-	112	206	307	405

Sort Order: Treatment

### Trial Comments

LAST TILLAGE = MAY 14, 2019

PLOT #306 HAD A LOW POPULATION OF AMAPA ON MAY 28 (EPOST TIMING)

WILD RADISH POPULATION IN REPS 3/4 WERE LOWER THAN IN REPS 1/2

#### SUMMARY:

1) ON JUNE 18, THE FOLLOWING OBSERVATIONS WERE MADE:

A) GENERALLY, ALL TREATMENTS PROVIDED EXCELLENT CONTROL OF PALMER AMARANTH (92%).

B) PRE APPLIED DUAL MAGNUM @ 16 OZ/A PROVIDED SLIGHTLY LESS CONTROL OF PALMER AMARANTH THAN PRE APPLIED ZIDUA OR WARRANT (92.3% CONTROL VS. 97-99% CONTROL).

C) THE LEAST AMOUNT OF ANNUAL GRASS CONTROL PROVIDED BY PRE HERBICIDES WAS WITH ZIDUA 4.17SC @ 2.5 OZ/A (87.3% CONTROL).

D) ANNUAL GRASS CONTROL WITH GRAMOXONE + STORM WAS BETTER WHEN TANK-MIXED WITH ZIDUA IN COMPARISON TO TANK-MIXTURES WITH DUAL MAGNUM OR WARRANT.

E) PRE APPLICATIONS OF ZIDUA WERE MORE EFFECTIVE ON WILD RADISH THAN DUAL OR WARRANT (81-86% CONTROL VS. 46-65% CONTROL)

F) ALL GRAMOXONE + STORM + ZIDUA/DUAL/WARRANT TREATMENTS PROVIDED AT LEAST 92% CONTROL OF WILD RADISH WITH NO DIFFERENCES.



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NON-CROP (BARE-GROUND)

Trial ID: NC-02-19      Study Dir.: 'MIGHTY' ABRAHAM FULMER  
Location: PONDER FARM      Investigator: Eric P. Prostko

		WEED STAGE AT EACH APPLICATION					
		A	B	C	D	E	F
<b>Weed 1</b>	<b>Stage:</b> AMAPA	_____	1-6"	_____	_____	_____	_____
	<b>Stage Scale:</b>	_____	_____	_____	_____	_____	_____
	<b>Density, Unit:</b>	_____	_____	_____	_____	_____	_____
<b>Weed 2</b>	<b>Stage:</b> AGRASS	_____	1-'3"	_____	_____	_____	_____
	<b>Stage Scale:</b>	_____	_____	_____	_____	_____	_____
	<b>Density, Unit:</b>	_____	_____	_____	_____	_____	_____
<b>Weed 3</b>	<b>Stage:</b> RAPRA	_____	0.5-1"	_____	_____	_____	_____
	<b>Stage Scale:</b>	_____	_____	_____	_____	_____	_____
	<b>Density, Unit:</b>	_____	_____	_____	_____	_____	_____

		APPLICATION EQUIPMENT					
		A	B	C	D	E	F
<b>Appl. Equipment:</b>	BACKPACK SAME AS A	_____	_____	_____	_____	_____	_____
<b>Operating Pressure:</b>	38	_____	_____	_____	_____	_____	_____
<b>Nozzle Type:</b>	AIXR	_____	_____	_____	_____	_____	_____
<b>Nozzle Size:</b>	11002	_____	_____	_____	_____	_____	_____
<b>Nozzle Spacing, Unit:</b>	20	IN	_____	_____	_____	_____	_____
<b>Nozzles/Row:</b>	_____	_____	_____	_____	_____	_____	_____
<b>Band Width, Unit:</b>	_____	_____	_____	_____	_____	_____	_____
<b>Boom Length, Unit:</b>	60	IN	_____	_____	_____	_____	_____
<b>Boom Height, Unit:</b>	20	IN	_____	_____	_____	_____	_____
<b>Ground Speed, Unit:</b>	3.5	MPH	_____	_____	_____	_____	_____
<b>Incorporation Equip.:</b>	_____	_____	_____	_____	_____	_____	_____
<b>Hours to Incorp.:</b>	_____	_____	_____	_____	_____	_____	_____
<b>Incorp. Depth, Unit:</b>	_____	_____	_____	_____	_____	_____	_____
<b>Carrier:</b>	WATER	_____	_____	_____	_____	_____	_____
<b>Spray Volume, Unit:</b>	15	GPA	_____	_____	_____	_____	_____
<b>Spray pH:</b>	_____	_____	_____	_____	_____	_____	_____
<b>Propellant:</b>	CO2	_____	_____	_____	_____	_____	_____
<b>Tank Mix (Y/N):</b>	_____	_____	_____	_____	_____	_____	_____

Trt No	Treatment Application Comment

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Trial ID: NC-02-19							Study Dir.: 'MIGHTY' ABRAHAM FULMER						
Location: PONDER FARM							Investigator: Eric P. Prostko						
Weed Code							AMAPA	RAPRA	AMAPA	RAPRA	AGRASS	AMAPA	AGRASS
Crop Code							-----	-----	-----	-----	-----	-----	-----
Rating Data Type							Control	Control	Control	Control	Control	Control	Control
Rating Unit							Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date							May-24-19	May-24-19	Jun-4-19	Jun-4-19	Jun-4-19	Jun-18-19	Jun-18-19
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	1	2	3	4	5	6	7
1	NTC						0.0 b	0.0 c	0.0 d	0.0 e	0.0 e	0.0 d	0.0 f
2	ZIDUA	4.17	SC	2.5 oz/a	PRE	A	99.0 a	88.3 a	98.0 b	82.0 ab	93.5 ab	97.0 ab	87.3 bc
3	ZIDUA	4.17	SC	3.5 oz/a	PRE	A	99.0 a	89.8 a	99.0 a	91.0 ab	99.0 a	98.0 ab	99.0 a
4	DUAL MAGNUM	7.62	EC	16.0 oz/a	PRE	A	99.0 a	41.3 b	98.0 b	37.3 d	98.0 a	92.3 c	95.5 ab
5	DUAL MAGNUM	7.62	EC	21.0 oz/a	PRE	A	99.0 a	28.8 b	95.0 c	48.5 cd	98.0 a	95.8 abc	98.0 a
6	WARRANT	3	ME	48.0 oz/a	PRE	A	99.0 a	46.3 b	99.0 a	62.0 bcd	95.8 ab	99.0 a	92.0 abc
7	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	0.0 b	0.0 c	99.0 a	98.0 a	87.3 b	99.0 a	84.8 c
	STORM	4	SL	16.0 oz/a	EPOST	B							
	ZIDUA	4.17	SC	2.5 oz/a	EPOST	B							
	INDUCE			0.25 % v/v	EPOST	B							
8	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	0.0 b	0.0 c	99.0 a	99.0 a	73.8 cd	99.0 a	70.0 d
	STORM	4	SL	16.0 oz/a	EPOST	B							
	ZIDUA	4.17	SC	3.5 oz/a	EPOST	B							
	INDUCE			0.25 % v/v	EPOST	B							
9	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	0.0 b	0.0 c	99.0 a	91.8 ab	78.5 c	98.0 ab	57.5 e
	STORM	4	SL	16.0 oz/a	EPOST	B							
	DUAL MAGNUM	7.62	EC	16.0 oz/a	EPOST	B							
10	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	0.0 b	0.0 c	99.0 a	97.0 a	67.5 d	95.5 abc	58.8 e
	STORM	4	SL	16.0 oz/a	EPOST	B							
	DUAL MAGNUM	7.62	EC	21.0 oz/a	EPOST	B							
11	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	0.0 b	0.0 c	99.0 a	75.5 abc	67.5 d	94.8 bc	48.8 e
	STORM	4	SL	16.0 oz/a	EPOST	B							
	WARRANT	3	ME	48.0 oz/a	EPOST	B							
	INDUCE			0.25 % v/v	EPOST	B							
12	NTC						0.0 b	0.0 c	0.0 d	0.0 e	0.0 e	0.0 d	0.0 f
	LSD P=.10						.	18.05	0.99	33.34	8.54	3.91	10.14
	Standard Deviation						0.00	15.08	0.83	27.86	7.13	3.27	8.48
	CV						0.0	61.5	1.01	42.75	9.97	4.05	12.85
	Grand Mean						41.25	24.52	82.00	65.17	71.56	80.69	65.96
	Bartlett's X2						0.00	7.31	0.00	38.769	17.035	8.602	13.341
	P(Bartlett's X2)						.	0.12	.	0.001*	0.03*	0.197	0.101

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.  
 Could not calculate LSD (% mean diff) for columns 1 because error mean square = 0.

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Trial ID: NC-02-19		Study Dir.: 'MIGHTY' ABRAHAM FULMER					
Location: PONDER FARM		Investigator: Eric P. Prostko					
Weed Code						RAPRA	
Crop Code						-----	
Rating Data Type						Control	
Rating Unit						Percent	
Rating Date						Jun-18-19	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Grow Stg	Appl Code	
						8	
1	NTC					0.0 d	
2	ZIDUA	4.17	SC	2.5 oz/a	PRE	A	81.0 ab
3	ZIDUA	4.17	SC	3.5 oz/a	PRE	A	86.0 ab
4	DUAL MAGNUM	7.62	EC	16.0 oz/a	PRE	A	48.5 c
5	DUAL MAGNUM	7.62	EC	21.0 oz/a	PRE	A	46.0 c
6	WARRANT	3	ME	48.0 oz/a	PRE	A	64.5 bc
7	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	98.0 a
	STORM	4	SL	16.0 oz/a	EPOST	B	
	ZIDUA	4.17	SC	2.5 oz/a	EPOST	B	
	INDUCE			0.25 % v/v	EPOST	B	
8	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	98.0 a
	STORM	4	SL	16.0 oz/a	EPOST	B	
	ZIDUA	4.17	SC	3.5 oz/a	EPOST	B	
	INDUCE			0.25 % v/v	EPOST	B	
9	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	95.5 a
	STORM	4	SL	16.0 oz/a	EPOST	B	
	DUAL MAGNUM	7.62	EC	16.0 oz/a	EPOST	B	
10	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	92.0 a
	STORM	4	SL	16.0 oz/a	EPOST	B	
	DUAL MAGNUM	7.62	EC	21.0 oz/a	EPOST	B	
11	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B	93.3 a
	STORM	4	SL	16.0 oz/a	EPOST	B	
	WARRANT	3	ME	48.0 oz/a	EPOST	B	
	INDUCE			0.25 % v/v	EPOST	B	
12	NTC						0.0 d
LSD P=.10						24.98	
Standard Deviation						20.87	
CV						31.2	
Grand Mean						66.90	
Bartlett's X2						49.155	
P(Bartlett's X2)						0.001*	

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).  
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Could not calculate LSD (% mean diff) for columns 1 because error mean square = 0.

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ZIDUA VS. DUAL MAGNUM VS. WARRANT NON-CROP (BARE-GROUND)						
Trial ID: NC-02-19		Study Dir.: 'MIGHTY' ABRAHAM FULMER				
Location: PONDER FARM		Investigator: Eric P. Prostko				
Randomized Complete Block (RCB) AOV For AMAPA ----- Control Percent May-24-19 (Data Column 1)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	114345.000000				
Replicate	3	0.000000	0.000000	0.000	1.0000	
Treatment	11	114345.000000	10395.000000	0.000	1.0000	
Error	33	0.000000	0.000000			
Randomized Complete Block (RCB) AOV For RAPRA ----- Control Percent May-24-19 (Data Column 2)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	63591.979167				
Replicate	3	2906.062500	968.687500	4.259	0.0120	
Treatment	11	53180.229167	4834.566288	21.256	0.0001	
Error	33	7505.687500	227.445076			
Randomized Complete Block (RCB) AOV For AMAPA ----- Control Percent Jun-4-19 (Data Column 3)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	64632.000000				
Replicate	3	1.333333	0.444444	0.647	0.5904	
Treatment	11	64608.000000	5873.454545	8551.060	0.0001	
Error	33	22.666667	0.686869			
Randomized Complete Block (RCB) AOV For RAPRA ----- Control Percent Jun-4-19 (Data Column 4)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	89010.666667				
Replicate	3	5157.666667	1719.222222	2.215	0.1048	
Treatment	11	58243.166667	5294.833333	6.823	0.0001	
Error	33	25609.833333	776.055556			
Randomized Complete Block (RCB) AOV For AGRASS ----- Control Percent Jun-4-19 (Data Column 5)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	56947.812500				
Replicate	3	102.395833	34.131944	0.671	0.5762	
Treatment	11	55165.562500	5015.051136	98.518	0.0001	
Error	33	1679.854167	50.904672			
Randomized Complete Block (RCB) AOV For AMAPA ----- Control Percent Jun-18-19 (Data Column 6)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	63074.312500				
Replicate	3	40.562500	13.520833	1.265	0.3023	
Treatment	11	62681.062500	5698.278409	533.172	0.0001	
Error	33	352.687500	10.687500			
Randomized Complete Block (RCB) AOV For AGRASS ----- Control Percent Jun-18-19 (Data Column 7)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	57289.916667				
Replicate	3	467.750000	155.916667	2.170	0.1102	
Treatment	11	54450.916667	4950.083333	68.889	0.0001	
Error	33	2371.250000	71.856061			
Randomized Complete Block (RCB) AOV For RAPRA ----- Control Percent Jun-18-19 (Data Column 8)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	47	79966.479167				
Replicate	3	8100.562500	2700.187500	6.199	0.0019	
Treatment	11	57490.729167	5226.429924	11.998	0.0001	
Error	33	14375.187500	435.611742			
<b>Weed Code</b>						
AMAPA = AMARANTH, PALMER / AMARANTHUS PALMERI S.WATS.						
RAPRA = RADISH, WILD / RAPHANUS RAPHANISTRUM L.						



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ZIDUA VS. DUAL MAGNUM VS. WARRANT NON-CROP (BARE-GROUND)						
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Location: PONDER FARM		Investigator: Eric P. Prostko				
Weed Code						RAPRA
Crop Code						-----
Rating Data Type						Control
Rating Unit						Percent
Rating Date						Jun-18-19
Trt	Treatment	Form	Form	Rate	Grow	Appl
No.	Name	Conc	Type	Rate	Unit	Stg
						Code Plot
						8
1	NTC					101 0.0 209 0.0 304 0.0 409 0.0 Mean = 0.0
2	ZIDUA	4.17	SC	2.5 oz/a	PRE	A 102 65.0 204 65.0 303 95.0 411 99.0 Mean = 81.0
3	ZIDUA	4.17	SC	3.5 oz/a	PRE	A 103 85.0 202 75.0 311 99.0 403 85.0 Mean = 86.0
4	DUAL MAGNUM	7.62	EC	16.0 oz/a	PRE	A 104 0.0 205 30.0 312 65.0 401 99.0 Mean = 48.5
5	DUAL MAGNUM	7.62	EC	21.0 oz/a	PRE	A 105 0.0 208 0.0 309 99.0 407 85.0 Mean = 46.0
6	WARRANT	3	ME	48.0 oz/a	PRE	A 106 0.0 210 60.0 305 99.0 404 99.0 Mean = 64.5
7	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B 107 99.0
	STORM	4	SL	16.0 oz/a	EPOST	B 211 95.0
	ZIDUA	4.17	SC	2.5 oz/a	EPOST	B 306 99.0
	INDUCE			0.25 % v/v	EPOST	B 412 99.0 Mean = 98.0
8	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B 108 99.0
	STORM	4	SL	16.0 oz/a	EPOST	B 212 95.0
	ZIDUA	4.17	SC	3.5 oz/a	EPOST	B 302 99.0
	INDUCE			0.25 % v/v	EPOST	B 410 99.0 Mean = 98.0
9	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B 109 99.0
	STORM	4	SL	16.0 oz/a	EPOST	B 207 85.0
	DUAL MAGNUM	7.62	EC	16.0 oz/a	EPOST	B 308 99.0 402 99.0 Mean = 95.5
10	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B 110 85.0
	STORM	4	SL	16.0 oz/a	EPOST	B 203 85.0
	DUAL MAGNUM	7.62	EC	21.0 oz/a	EPOST	B 310 99.0 406 99.0 Mean = 92.0
11	GRAMOXONE	2	SL	12.0 oz/a	EPOST	B 111 85.0
	STORM	4	SL	16.0 oz/a	EPOST	B 201 90.0
	WARRANT	3	ME	48.0 oz/a	EPOST	B 301 99.0
	INDUCE			0.25 % v/v	EPOST	B 408 99.0 Mean = 93.3
12	NTC					112 0.0 206 0.0 307 0.0 405 0.0 Mean = 0.0



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RAPRA = RADISH, WILD / RAPHANUS RAPHANISTRUM L.