

University of Georgia

Wheat, radish, and ryegrass response to Fierce, Valor, and Zidua at spike.

Trial ID: W4-13

Study Dir.: Stanley Culpepper

Location: Ponder Farm 5161

Investigator: Stanley Culpepper

Use 1.5 liters(s) per treatment mixture to spray 15 gal/ac

Plots: 6 by 30 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No.	By Rep	1	2	3	4
1	No herbicide								101	205	303	404		
2	Valor	51	WG	1	oz/a	1lfLOLMU	A	0.7489 g/mx	102	204	301	403		
3	Zidua	85	WG	0.75	oz/a	1lfLOLMU	A	0.5617 g/mx	103	202	305	401		
4	Fierce	76	WG	1.5	oz/a	1lfLOLMU	A	1.123 g/mx	104	203	302	405		
5	Fierce	76	WG	2.25	oz/a	1lfLOLMU	A	1.685 g/mx	105	201	304	402		

Sort Order: Treatment

Trial Comments

OBJECTIVE: Determine wheat and weed response to Fierce applied very early POST to wheat.

VISUAL INJURY:

1. Maximum injury from Valor was 8%.
2. Injury from Zidua was minimal and less than 3%.
3. Maximum injury from Fierce 1.5 oz/A was 13% and for 2.25 oz/A it was 27%; both documented 22 DAA.

RYEGRASS CONTROL:

1. Valor provided poor/fair control throughout the season (74% late-season).
2. Zidua provided poor/fair control (61% late-season); noting weed emergence before herbicide activation.
3. Fierce at 1.5 to 2.25 oz/A provided excellent season long control (>98% control at harvest).

WILD RADISH:

1. Valor provided good control only (89% late-season).
3. Zidua provided poor control.
4. Fierce provided 99 to 100% control throughout the season.

WHEAT STAND:

1. Stand for two entire rows was counted for each plot at 8 and 20 DAA.
2. Only Fierce at 2.25 reduced stand (8%) at 20 DAA.

WHEAT HEIGHTS:

1. Twenty plants per plot were measured for heights twice during the season.
2. At 18 DAA, Valor and Fierce at 2.25 oz/A reduced heights 8 to 11%.

GENERAL COMMENTS:

1. Irrigation of 0.3" occurred 1 (Nov 7) and 10 d (Nov 16) after planting. The first three rains were Nov 18 (0.34"), Nov 23 (0.05") and Nov 26 (2 inch).
2. POST applications were made 9 days after planting.

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Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Crop Stage

Crop Stage Scale

Assessed By

Trt-Eval Interval

ARM Action Codes

Subsamples, Dec.

Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8	9	10	
1	No herbicide			0.0	c 0.0	c 0.0	c 0.0	b 0.0	c 0.0	a		0.0	c 0.0	c
2	Valor	1	oz/a	8.3	b 6.3	b 7.5	bc 7.5	ab 2.5	bc 0.0	a		85.0	b 67.5	b
3	Zidua	0.75	oz/a	0.0	c 0.0	c 2.5	c 0.0	b 0.0	c 0.0	a		82.5	b 65.0	b
4	Fierce	1.5	oz/a	10.0	b 10.8	b 12.5	b 10.0	ab 6.3	b 0.0	a		98.3	a 99.5	a
5	Fierce	2.25	oz/a	15.3	a 19.0	a 26.3	a 16.3	a 12.5	a 7.5	a		98.0	a 100.0	a
LSD (P=.05)				2.25	5.67	8.08	10.04	6.21	10.34	.	.	8.24	13.05	
Standard Deviation				1.46	3.68	5.24	6.52	4.03	6.71	.	.	5.35	8.47	
CV				21.84	51.08	53.79	96.58	94.85	447.21	.	.	7.35	12.75	
Bartlett's X2				1.334	4.223	0.767	1.286	2.324	0.0	.	.	6.009	12.665	
P(Bartlett's X2)				0.513	0.121	0.857	0.526	0.313	.	.	.	0.111	0.002*	
Replicate F				2.148	2.100	0.773	0.265	1.513	1.000			0.869	1.709	
Replicate Prob(F)				0.1474	0.1537	0.5312	0.8495	0.2614	0.4262			0.4840	0.2181	
Treatment F				82.261	18.959	15.727	4.529	6.846	1.000			238.654	92.562	
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0184	0.0041	0.4449			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.

University of Georgia

Weed Code	LOLMU	LOLMU	LOLMU	LOLMU	LOLMU	RAPRA	RAPRA
Crop Code							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%	%	%	%	%
Rating Date	12/6/2013	12/18/2013	1/17/2014	3/11/2014	3/21/2014	11/22/2013	11/30/2013
Crop Stage							
Crop Stage Scale							
Assessed By	JS	JS	JS	JS	SC	JS	SC
Trt-Eval Interval	22 DA-A	34 DA-A	64 DA-A	117 DA-A	127 DA-A	8 DA-A	16 DA-A
ARM Action Codes							
# Subsamples, Dec.							

Trt No.	Treatment Name	Rate	Unit	11	12	13	14	15	16	17	18	19	
1	No herbicide			0.0	d 0.0	c 0.0	d 0.0	d 0.0	d		0.0	c 0.0	c
2	Valor	1	oz/a	75.0	c 82.5	b 73.8	c 60.0	c 73.8	b		94.3	a 95.5	a
3	Zidua	0.75	oz/a	84.3	b 86.3	b 80.8	b 83.8	b 60.8	c		28.8	b 40.0	b
4	Fierce	1.5	oz/a	99.0	a 100.0	a 98.8	a 100.0	a 98.8	a		95.8	a 99.8	a
5	Fierce	2.25	oz/a	99.8	a 100.0	a 99.3	a 100.0	a 98.8	a		100.0	a 100.0	a
LSD (P=.05)				3.10	4.87	6.11	3.00	10.54	.	.	23.61	6.61	
Standard Deviation				2.01	3.16	3.96	1.95	6.84	.	.	15.33	4.29	
CV				2.81	4.29	5.62	2.83	10.3	.	.	24.04	6.4	
Bartlett's X2				10.338	2.295	6.731	0.0	8.289	.	.	11.667	12.357	
P(Bartlett's X2)				0.016*	0.13	0.081	.	0.04*	.	.	0.003*	0.002*	
Replicate F				1.216	0.792	1.329	1.000	0.225			1.297	0.524	
Replicate Prob(F)				0.3463	0.5216	0.3108	0.4262	0.8771			0.3205	0.6737	
Treatment F				1685.748	705.000	427.420	1845.264	140.818			36.434	445.207	
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001			0.0001	0.0001	

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University of Georgia

Weed Code	RAPRA	RAPRA	RAPRA	RAPRA	RAPRA	TRZAW	TRZAW
Crop Code							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	STAND COUNT	STAND COUNT
Rating Unit	%	%	%	%	%	ROWS 2&6	ROWS 2&6
Rating Date	12/6/2013	12/18/2013	1/17/2014	3/11/2014	3/21/2014	11/22/2013	12/4/2013
Crop Stage							
Crop Stage Scale							
Assessed By	JS	JS		JS	SC		
Trt-Eval Interval	22 DA-A	34 DA-A	64 DA-A	117 DA-A	127 DA-A	8 DA-A	20 DA-A
ARM Action Codes						T3	T4
# Subsamples, Dec.							

Trt No.	Treatment Name	Rate	Unit	20	21	22	23	24	29	33	
1	No herbicide			0.0	c 0.0	c 0.0	c 0.0	d 0.0	c 179.3	a 167.8	ab
2	Valor	1	oz/a	98.5	a 100.0	a 98.8	a 98.0	b 89.0	a 175.0	a 171.0	ab
3	Zidua	0.75	oz/a	32.5	b 32.5	b 36.3	b 30.0	c 45.0	b 184.0	a 175.5	a
4	Fierce	1.5	oz/a	100.0	a 100.0	a 100.0	a 100.0	a 99.5	a 173.5	a 162.5	bc
5	Fierce	2.25	oz/a	100.0	a 100.0	a 100.0	a 100.0	a 100.0	a 165.3	a 154.8	c
LSD (P=.05)				8.55	6.60	5.58	1.69	11.14	21.21	12.71	
Standard Deviation				5.55	4.28	3.62	1.10	7.23	13.76	8.25	
CV				8.38	6.44	5.41	1.67	10.84	7.85	4.96	
Bartlett's X2				7.599	0.0	2.966	0.0	10.789	1.082	5.097	
P(Bartlett's X2)				0.006*	.	0.085	.	0.005*	0.897	0.278	
Replicate F				1.244	1.000	0.762	1.000	0.129	0.503	0.111	
Replicate Prob(F)				0.3371	0.4262	0.5368	0.4262	0.9411	0.6876	0.9522	
Treatment F				287.529	487.909	656.810	7489.334	145.535	1.033	3.770	
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001	0.4300	0.0329	

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

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Weed Code	AVG20PLA	AVG20PLA
Crop Code	TRZAW	TRZAW
Rating Data Type	HEIGHTS	HEIGHTS
Rating Unit	CM	CM
Rating Date	11/25/2013	12/2/2013
Crop Stage	AVERAGE	AVERAGE
Crop Stage Scale		
Assessed By		
Trt-Eval Interval	11 DA-A	18 DA-A
ARM Action Codes	T1	T2
# Subsamples, Dec.	2	2

Trt No.	Treatment Name	Rate	Unit	55	78
1	No herbicide			20.71	a 20.63 a
2	Valor	1	oz/a	20.18	a 19.03 b
3	Zidua	0.75	oz/a	19.90	a 20.69 a
4	Fierce	1.5	oz/a	19.33	a 19.69 ab
5	Fierce	2.25	oz/a	18.08	a 18.39 b
LSD (P=.05)				1.901	1.587
Standard Deviation				1.234	1.030
CV				6.28	5.23
Bartlett's X2				1.964	2.189
P(Bartlett's X2)				0.742	0.701
Replicate F				1.195	2.589
Replicate Prob(F)				0.3533	0.1014
Treatment F				2.661	3.777
Treatment Prob(F)				0.0846	0.0327

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Study Dir.: Stanley Culpepper

Location: Ponder Farm 5161

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: GOOD

Postal Code: 31795

Initiation Date: 11/6/2013

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed Code Common Name

Scientific Name

1. LOLMU Italian ryegrass Lolium multiflorum

2. RAPRA Wild Radish Raphanus raphanistrum

Crop 1: TRZAW WHEAT, WINTER

Variety: AGS 2035

Planting Date: 11/6/2013

Planting Method: DRILLED

Rate: 22 SEED/FT

Depth: 0.5 IN

Row Spacing: 7.5 IN

Spacing Within Row: 0.5 IN

Seed Bed: flat

Soil Temperature: 80

F

Soil Moisture: MOIST

Emergence Date: 11/12/2013

SITE AND DESIGN

Plot Width, Unit: 6 FT

Plot Length, Unit: 30 FT

Reps: 4

Site Type: UGA Ponder Research Farm

Tillage Type: CONVENTIONAL

Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 89.6 % OM: 0.67

Texture: SAND

% Silt: 8 pH: 6.2

% Clay: 2.4 CEC: 3.9

Overall Moisture Conditions: MOIST

Closest Weather Station: www.griffin.uga.edu/aemn/

Distance: 250

Unit: yd

APPLICATION DESCRIPTION

A

Application Date: 11/14/2013

Time of Day: 9:30am

Application Method: BROADCAST

Application Timing: 1LF LOLMU

Applic. Placement: OVERTOP

Air Temp., Unit: 54 F

% Relative Humidity: 78

Wind Velocity, Unit: 0 MPH

Dew Presence (Y/N): N

Soil Temp., Unit: 56 F

Soil Moisture: FAIR

% Cloud Cover: 100

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: TRZAW

Stage Scale: 1 LEAF

Height, Unit: 1.75 IN

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WEED STAGE AT EACH APPLICATION

A

Weed 1 Code, Stage: LOLMU
Stage Scale: 1 IN
Density, Unit: 30 YDSQ
Weed 2 Code, Stage: RAPRA
Stage Scale: 1.5" DIAM
Density, Unit: 8 YDSQ

APPLICATION EQUIPMENT

A

Appl. Equipment: BACKPACK
Operating Pressure: 26
Nozzle Type: AIXR
Nozzle Size: 11002
Nozzle Spacing, Unit: 18 IN
Boom Length, Unit: 4.5 IN
Boom Height, Unit: 16 IN
Ground Speed, Unit: 3 MPH
Carrier: WATER
Spray Volume, Unit: 15 GPA
Propellant: CO2
Tank Mix (Y/N): Y