

Axiom and Atlantis in Winter Wheat.

Trial ID: 10-ARC-N9-AH1

Location: Agronomy Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Carbondale IL 62901 USA
 Trial Status: FINAL Initiation Date: 11-10-09

Objectives: Evaluate Axiom followed by Osprey or Atlantis for crop tolerance and weed control in winter wheat.

Crop 1: TRZAW Winter wheat Variety: P25R78
 Planting Method: SEEDS Planting Date: 11-10-09
 Rate, Unit: 1.3 mil. S/A Depth, Unit: 1 IN
 Row Spacing, Unit: 7.5 IN

Pest 1 Type: W Code: LAMAM Lamium amplexicaule L. henbit
 Pest 2 Type: W Code: BROTE Bromus tectorum L. brome, downy

Plot Width, Unit: 15 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2009

Field Prep./Maintenance: Fall: N 30 LB/A, P205 0 LB/A, K20 0 LB/A as 32% UAN
 Spring: N 95 LB/A, P205 0 LB/A, K20 0 LB/A as 32% UAN

% OM: 1.6 Texture: SILT LOAM
 pH: 6.6 Soil Name: WEIR
 CEC: 7.5 Fert. Level: P1: 95 LB/A, K: 244 LB/A

Application Description

	A	B
Application Date:	11-25-09	03-30-10
Time of Day:	10:45	16:00
Application Method:	Spray	Spray
Application Timing:	1-3WHEAT	4-T1WEED
Application Placement:	BROFOL	BROFOL
Applied By:	NVH	DKP
Air Temperature, Unit:	60 F	66 F
% Relative Humidity:	51	41
Wind Velocity, Unit:	5 MPH	6 MPH
Wind Direction:	SW	S
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	50 F	50 F
Soil Moisture:	ABONOR	ABONOR
% Cloud Cover:	5	30

	A	B
Crop stage at application:	2	LVS 2 FK
Height Min, Max (inch):	1	2.5 3 8

Pest Stage At Each Application

	A	B
Application Date:	11-25-09	03-30-10
Weed Code:	LAMAM	LAMAM
Stage Majority (leaves):	NA	6
Stage Min, Max:		2 8
Height Majority:		1 IN
Height Min, Max:		0.5 1.5
Density, Unit:		1 FT2
Weed Code:	BROTE	BROTE
Stage Majority (leaves):	NA	4
Stage Min, Max:		3 6
Height Majority:		3 IN
Height Min, Max:		1 4
Density, Unit:		1 FT2

Application Equipment

	A	B
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	AI 11002	XR 8002
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA

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Pest Code
Crop Code
Rating Date
Rating Data Type
Rating Unit
Rating Timing
Trt-Eval Interval

TRZAW	TRZAW	TRZAW
06-22-10	06-22-10	06-22-10
Moisture	Test wt.	Yield
Percent	lb/bu	bu/A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									11.7 ab	51.7 a	64 a
2	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		12.4 a	50.8 a	64 a
3	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	4-T1WEED B		11.5 b	50.6 a	60 ab
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B				
3	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B				
4	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		11.5 b	52.2 a	45 d
4	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	4-T1WEED B				
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B				
4	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B				
5	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED B		11.1 b	51.3 a	55 bc
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B				
5	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B				
6	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED B		11.2 b	51.7 a	60 ab
6	MSO (DESTINY)	100	SL	1.08	% v/v	1.3	pt/a	4-T1WEED B				
7	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		11.2 b	50.9 a	53 c
7	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED B				
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B				
7	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B				
8	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		11.6 b	51.3 a	59 ab
8	AXIAL XL	0.42	EC	0.055	lb ai/a	16.8	fl oz/a	4-T1WEED B				
LSD (P=.05)										0.77	2.72	5.9
Replicate F										0.837	0.058	1.570
Replicate Prob(F)										0.4889	0.9810	0.2263
Treatment F										2.441	0.334	9.132
Treatment Prob(F)										0.0535	0.9292	0.0001

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

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									LAMAM						
Pest Code									TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW
Crop Code									12-02-09	12-09-09	12-23-09	04-06-10	04-13-10	04-27-10	04-20-10
Rating Date									Injury	Injury	Injury	Injury	Injury	Injury	Control
Rating Data Type									Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit									7 DA-A	14 DA-A	28 DA-A	7 DA-B	14 DA-B	28 DA-B	21 DA-B
Rating Timing															
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									0 a	0 a	0 a	0 e	0 d	0 c
2	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		0 a	0 a	0 a	3 de	0 d	0 c
3	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	4-T1WEED B					16 bc	14 bc	11 b
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B							99 a
3	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B							
4	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		0 a	0 a	0 a	45 a	45 a	50 a
4	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	4-T1WEED B							99 a
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B							
4	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B							
5	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED B					5 de	3 d	3 bc
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B							99 a
5	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B							
6	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED B					13 cd	8 cd	3 bc
6	MSO (DESTINY)	100	SL	1.08	% v/v	1.3	pt/a	4-T1WEED B							99 a
7	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		0 a	0 a	0 a	24 b	16 b	11 b
7	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED B							99 a
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED B							
7	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED B							
8	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT A		0 a	0 a	0 a	8 cde	4 d	4 bc
8	AXIAL XL	0.42	EC	0.055	lb ai/a	16.8	fl oz/a	4-T1WEED B							99 a
LSD (P=.05)										0.0	0.0	0.0	10.0	8.3	8.6
Replicate F										0.000	0.000	0.000	0.293	0.224	0.036
Replicate Prob(F)										1.0000	1.0000	1.0000	0.8303	0.8788	0.9905
Treatment F										0.000	0.000	0.000	18.704	27.636	32.176
Treatment Prob(F)										1.0000	1.0000	1.0000	0.0001	0.0001	0.0001

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

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Location: Agronomy Res. Center

Pest Code		BROTE	BROTE	BROTE
Crop Code				
Rating Date		04-20-10	05-11-10	05-29-10
Rating Data Type		Control	Control	Control
Rating Unit		Percent	Percent	Percent
Rating Timing				
Trt-Eval Interval		21 DA-B	42 DA-B	60 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 c	0 c	0 c
2	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT	A	99 a	93 a	90 a
3	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	4-T1WEED	B	99 a	99 a	99 a
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED	B			
3	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED	B			
4	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT	A	99 a	99 a	99 a
4	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	4-T1WEED	B			
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED	B			
4	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED	B			
5	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED	B	99 a	99 a	99 a
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED	B			
5	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED	B			
6	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED	B	99 a	99 a	99 a
6	MSO (DESTINY)	100	SL	1.08	% v/v	1.3	pt/a	4-T1WEED	B			
7	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT	A	99 a	99 a	99 a
7	ATLANTIS	12.6	WG	0.055	lb ai/a	7	oz/a	4-T1WEED	B			
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	4-T1WEED	B			
7	32% UAN	100	SL	3.33	% v/v	4	pt/a	4-T1WEED	B			
8	AXIOM	68	WG	0.34	lb ai/a	8	oz/a	1-3WHEAT	A	94 b	70 b	69 b
8	AXIAL XL	0.42	EC	0.055	lb ai/a	16.8	fl oz/a	4-T1WEED	B			

LSD (P=.05)

2.3 11.2 10.6

Replicate F

1.000 1.172 1.189

Replicate Prob(F)

0.4123 0.3440 0.3379

Treatment F

2036.985 82.594 91.919

Treatment Prob(F)

0.0001 0.0001 0.0001

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

Trial Comments

1. Protocol: Bayer (AH1).
2. Ratings: CI 7, 14 and 28 DAT, WC 21, 42 and 60 DA B.
Last WC rating can be 60 DAT through crop maturity.
3. Yield.
4. Estimate percent ground cover of each weed in the nontreated at each weed control evaluation.
5. Application timings:
1-3WHEAT = Very early POST, spike to 3 leaf wheat.
4-T1WEED = Sequential POST, 4 leaf to 1 tiller grassy weeds.
6. Percent ground cover for LAMAM was 10 at 21 DA-B.
By 5-11-10 the LAMAM in the nontreated plots was senescing naturally.
Percent ground cover for BROTE was 5, 5, and 3 at 21 DA-B, 42 DA-B, and 60 DA-B, respectively.
7. Harvested 6-22-10, (8) 7.5 inch rows by 27 ft.