

University of Georgia

Barley and Rye response to Axiom, Osprey, and Hoelon.

Trial ID: SmallGrains1-07

Study Dir.: Andrew MacRae

Location: Plains

Investigator: Stanley Culpepper

Reps: 4

Plots: 6 by 30 feet

Spray vol: 14.8 gal/ac

Mix size: 2 liters (min .92602)

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code	Amt Product to Measure	Plot No. By Rep			
									1	2	3	4
1	Prowl H20 Barley	3.8 L	L	42 OZ/A	PRE	A		44.34 ml/mx	101	207	317	409
2	Prowl H20 Rye	3.8 L	L	42 OZ/A	PRE	A		44.34 ml/mx	102	208	318	410
3	Axiom Barley	68 DF		8 OZ/A	PRE	A		8.096 g/mx	103	205	313	401
4	Axiom Rye	68 DF		8 OZ/A	PRE	A		8.096 g/mx	104	206	314	402
5	Axiom Barley	68 DF		8 OZ/A	spike	B		8.096 g/mx	105	217	301	411
6	Axiom Rye	68 DF		8 OZ/A	spike	B		8.096 g/mx	106	218	302	412
7	Osprey NIS UAN Barley	4.75 DG L L		3.5 OZ/A 0.5 % V/V 1.5 QT/A	2-4 lf	C		3.542 g/mx 9.999 ml/mx 50.67 ml/mx	107	215	307	415
8	Osprey NIS UAN Rye	4.75 DG L L		3.5 OZ/A 0.5 % V/V 1.5 QT/A	2-4 lf	C		3.542 g/mx 9.999 ml/mx 50.67 ml/mx	108	216	308	416
9	Osprey NIS UAN Barley	4.75 DG L L		4.75 OZ/A 0.5 % V/V 1.5 QT/A	2-4 lf	C		4.807 g/mx 9.999 ml/mx 50.67 ml/mx	109	203	309	413
10	Osprey NIS UAN Rye	4.75 DG L L		4.75 OZ/A 0.5 % V/V 1.5 QT/A	2-4 lf	C		4.807 g/mx 9.999 ml/mx 50.67 ml/mx	110	204	310	414
11	Hoelon Barley	3 L		2 PT/A	2-4 lf	C		33.78 ml/mx	111	211	319	403
12	Hoelon Rye	3 L		2 PT/A	2-4 lf	C		33.78 ml/mx	112	212	320	404
13	Osprey NIS UAN Barley	4.75 DG L L		3.5 OZ/A 0.5 % V/V 1.5 QT/A	3-5 T	D		3.542 g/mx 9.999 ml/mx 50.67 ml/mx	113	213	305	407
14	Osprey NIS UAN Rye	4.75 DG L L		3.5 OZ/A 0.5 % V/V 1.5 QT/A	3-5 T	D		3.542 g/mx 9.999 ml/mx 50.67 ml/mx	114	214	306	408
15	Osprey NIS UAN Barley	4.75 DG L L		4.75 OZ/A 0.5 % V/V 1.5 QT/A	3-5 T	D		4.807 g/mx 9.999 ml/mx 50.67 ml/mx	115	219	303	405
16	Osprey NIS UAN Rye	4.75 DG L L		4.75 OZ/A 0.5 % V/V 1.5 QT/A	3-5 T	D		4.807 g/mx 9.999 ml/mx 50.67 ml/mx	116	220	304	406
17	Hoelon Barley	3 L		2 PT/A	3-5 T	D		33.78 ml/mx	117	209	311	419

University of Georgia

Reps: 4 Plots: 6 by 30 feet
 Spray vol: 14.8 gal/ac Mix size: 2 liters (min .92602)

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
18	Hoelon Rye	3	L	2	PT/A	3-5	T D	33.78 ml/mx	118	210	312	420
19	No herbicide Barley								119	201	315	417
20	No herbicide Rye								120	202	316	418

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
110.853	ml	Prowl H20	3.8	L	
40.482	g	Axiom	68	DF	
41.747	g	Osprey	4.75	DG	
99.989	ml	NIS		L	
506.703	ml	UAN		L	
168.901	ml	Hoelon	3	L	

- * 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 2 liters (mix size basis).
- * Product amount calculations increased 25 % for overage adjustment.
- * 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 2 liters.

Trial Comments

OBJECTIVE: Determine Rye and Barley Tolerance to Axiom, Prowl, Osprey, and Hoelon.

Visual Injury:

1. Prowl PRE caused less than 2% to Barley or Rye.
2. Axiom PRE caused 4 and 11% injury to Barley and Rye, 36 days after treatment.
3. Axiom at spike caused 14 and 36% injury to Barley and Rye, 35 days after treatment.
4. Hoelon applied at the 2-If stage caused less than 2% injury to Barley or Rye.
5. Osprey at 3.5 oz/A applied at the 2-If stage caused 24 and 28% injury to Barley and Rye, 13 days after treatment. Osprey at 4.75 oz/A applied at the 2-If stage caused 32 and 36% injury to Barley and Rye, 13 days after treatment.
6. Osprey at 3.5 oz/A applied at the 3-tiller stage caused 19 and 16% injury to Barley and Rye, 16 days after treatment. Osprey at 4.75 oz/A applied at the 3-tiller stage caused 18 and 16% injury to Barley and Rye, 16 days after treatment.

Crop Yield:

No reduction in Barley or Rye yield was observed with any treatment. However, Osprey applied when Barley was fully tillered did produce less numerical yield than the non-treated control. This application may have delayed the crop and since the application was late in the year the crop may have not been able to recover from the delay.

University of Georgia

Barley and Rye response to Axiom, Osprey, and Hoelon.

Trial ID: SmallGrains1-07

Study Dir.: Andrew MacRae

Location: Plains

Investigator: Stanley Culpepper

Crop Code	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW		
Rating Data Type	Injury	Injury	Injury	Injury	Injury	Injury	Injury	Harvest	Yield		
Rating Unit	%	%	%	%	%	%	%	kg/plot	ton/A		
Rating Date	Nov-23-06	Dec-11-06	Dec-18-06	Jan-03-07	Feb-12-07	May-17-07	May-25-07				
Crop Stage	1 leaf	1 tiller	2 tiller			harvest					
Assessed By	AWM	AWM	AWM	AWM	AWM	AWM	AWM	AWM	AWM		
Trt-Eval Interval	10 DA-B	13 DA-C	20 DA-C	16 DA-D	56 DA-D	150 DA-D	158 DA-D				
ARM Action Codes									T1		
Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6	7	8
1	Prowl H20 Barley	42	OZ/A	1 ab	1 f	0 c	0 c	0 b	0 a	5 cd	3708 cd
2	Prowl H20 Rye	42	OZ/A	0 b	0 f	0 c	0 c	0 b	0 a	5 abc	4348 abc
3	Axiom Barley	8	OZ/A	1 ab	4 f	1 c	0 c	0 b	0 a	5 a-d	4046 a-d
4	Axiom Rye	8	OZ/A	0 b	11 e	3 c	0 c	3 b	0 a	5 abc	4384 abc
5	Axiom Barley	8	OZ/A	3 a	7 ef	14 b	1 c	0 b	0 a	5 a-d	4116 a-d
6	Axiom Rye	8	OZ/A	1 ab	41 a	36 a	12 b	9 a	0 a	5 a-d	4254 a-d
7	Osprey NIS UAN Barley	3.5 0.5 1.5	OZ/A % V/V QT/A	0 b	24 d	7 bc	1 c	0 b	0 a	5 cde	3624 cde
8	Osprey NIS UAN Rye	3.5 0.5 1.5	OZ/A % V/V QT/A	0 b	28 cd	9 bc	1 c	0 b	0 a	5 abc	4296 abc
9	Osprey NIS UAN Barley	4.75 0.5 1.5	OZ/A % V/V QT/A	0 b	33 bc	8 bc	4 c	0 b	0 a	5 bcd	3958 bcd
10	Osprey NIS UAN Rye	4.75 0.5 1.5	OZ/A % V/V QT/A	0 b	36 ab	11 bc	4 c	2 b	0 a	6 ab	4589 ab
11	Hoelon Barley	2	PT/A	0 b	0 f	0 c	0 c	0 b	0 a	5 bcd	3908 bcd
12	Hoelon Rye	2	PT/A	0 b	1 f	1 c	0 c	0 b	0 a	6 ab	4555 ab
13	Osprey NIS UAN Barley	3.5 0.5 1.5	OZ/A % V/V QT/A	0 b	0 f	0 c	19 a	0 b	0 a	5 cde	3634 cde
14	Osprey NIS UAN Rye	3.5 0.5 1.5	OZ/A % V/V QT/A	0 b	0 f	0 c	16 ab	0 b	0 a	6 ab	4506 ab
15	Osprey NIS UAN Barley	4.75 0.5 1.5	OZ/A % V/V QT/A	0 b	0 f	0 c	18 a	0 b	0 a	4 e	2998 e

University of Georgia

Crop Code	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW			
Rating Data Type	Injury	Injury	Injury	Injury	Injury	Injury	Harvest	Yield			
Rating Unit	%	%	%	%	%	%	kg/plot	ton/A			
Rating Date	Nov-23-06	Dec-11-06	Dec-18-06	Jan-03-07	Feb-12-07	May-17-07	May-25-07				
Crop Stage	1 leaf	1 tiller	2 tiller			harvest					
Assessed By	AWM	AWM	AWM	AWM	AWM	AWM	AWM	AWM			
Trt-Eval Interval	10 DA-B	13 DA-C	20 DA-C	16 DA-D	56 DA-D	150 DA-D	158 DA-D				
ARM Action Codes								T1			
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8
16	Osprey NIS UAN Rye	4.75 0.5 1.5	OZ/A % V/V QT/A	0 b	0 f	0 c	16 ab	0 b	0 a	6 ab	4567 ab
17	Hoelon Barley	2	PT/A	0 b	0 f	0 c	0 c	0 b	0 a	5 abc	4376 abc
18	Hoelon Rye	2	PT/A	0 b	0 f	0 c	0 c	0 b	0 a	6 a	4791 a
19	No herbicide Barley			0 b	0 f	0 c	0 c	0 b	0 a	4 de	3514 de
20	No herbicide Rye			0 b	0 f	0 c	0 c	0 b	0 a	6 ab	4647 ab
LSD (P=.05)				1.7	7.0	9.2	5.0	3.8	0.0	0.8	636.7
Standard Deviation				1.2	5.0	6.5	3.5	2.7	0.0	0.6	450.2
CV				379.84	53.51	148.22	76.97	412.91	0.0	10.87	10.87
Bartlett's X2				0.095	28.023	46.696	28.364	3.586	0.0	18.159	18.16
P(Bartlett's X2)				0.992	0.001*	0.001*	0.001*	0.166	.	0.512	0.512

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

Column 8: T1 = [7]*1000/454/6/20*43560

University of Georgia

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance: Field was conventionally prepared and beds formed. Grain was drilled and irrigation applied within 4 hours of planting.

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

SOIL DESCRIPTION

% Sand: 80	% OM: 1.6	Texture: loamy sand
% Silt: 10	pH: 6.0	Soil Name: _____
% Clay: 10	CEC: _____	Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: irrigated

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Nov-05-06	Nov-13-06	Nov-28-06	Dec-18-06
Time of Day:	17:45	07:45	09:00	10:00
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	Spike	2 leaf	3 tiller
Applic. Placement:	Soil	Soil	2 inch	4 inch
Air Temp., Unit:	56 F	43 F	67 F	72 F
% Relative Humidity:	61	85	80	74
Wind Velocity, Unit:	2 mph	3 mph	4 mph	1 mph
Dew Presence (Y/N):	N	Y	Y	Y
Water Hardness:				
Soil Temp., Unit:	59 F	45 F	65 F	71 F
Soil Moisture:	Moist	Moist	Slight	Moist
% Cloud Cover:	0	0	95	0

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	HORVW .	HORVW .	HORVW .	HORVW .
Stage Scale:	PRE	spike	2 leaf	3 tiller
Height, Unit:	0 inch	0.5 inch	3 inch	4 inch
Crop 2 Code, Stage:	SECCE .	SECCE .	SECCE .	SECCE .
Stage Scale:	PRE	spike	2 leaf	3 tiller
Height, Unit:	0 inch	1 inch	3 inch	5 inch

University of Georgia

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:
Stage Scale:
Density, Unit:

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	backpack	backpack	backpack	backpack
Operating Pressure:	24	24	24	24
Nozzle Type:	flat fan	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002	11002
Nozzle Spacing, Unit:	18 in	18 in	18 in	18 in
Nozzles/Row:	1	1	1	1
Band Width, Unit:				
Boom Length, Unit:	4.5 feet	4.5 feet	4.5 feet	4.5 feet
Boom Height, Unit:	15 inch	15 inch	15 inch	15 inch
Ground Speed, Unit:	3 mph	3 mph	3 mph	3 mph
Incorporation Equip.:				
Hours to Incorp.:				
Incorp. Depth, Unit:				
Carrier:	water	water	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA	14.8 GPA	14.8 GPA
Spray pH:				
Propellant:	CO2	CO2	CO2	CO2
Tank Mix (Y/N):	y	y	y	y

Trt No	Treatment Application Comment