

University of Georgia

Wheat and ryegrass response to Prowl, Axiom, Osprey, Hoelon, and Axial.

Trial ID: Wheat2-08

Study Dir.: Amy Davis

Location: Plains

Investigator: Stanley Culpepper

Reps: 4

Plots: 6 by 30 feet

Spray vol: 14.8 gal/ac

Mix size: 1.5 liters (min .92602)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Grow Unit	Stg	Appl Code	Amt to Measure	Product	Plot No. By Rep			
											1	2	3	4
1	None										101	206	308	406
2	Prowl H20	3.8	L		42 OZ/A	PRE		A	33.26 ml/mx		102	204	305	411
3	Prowl H20	3.8	L		42 OZ/A	Spike		B	33.26 ml/mx		103	205	310	404
4	Axiom	68		DF	8 OZ/A	Spike		B	6.072 g/mx		104	202	304	407
5	Osprey	4.5		WG	4.75 OZ/A	1-2 lf W		C	3.605 g/mx		105	208	312	413
	UAN			L	1.5 QT/A	1-2 lf W		C	38.0 ml/mx					
	NIS			L	0.25 % V/V	1-2 lf W		C	3.75 ml/mx					
6	Hoelon	3		EC	2 PT/A	1-2 lf W		C	25.34 ml/mx		106	201	311	412
7	Axial	0.83		EC	8.2 OZ/A	1-2 lf W		C	6.493 ml/mx		107	209	303	402
	ADIGOR			L	9.6 OZ/A	1-2 lf W		C	7.601 ml/mx					
8	Osprey	4.5		WG	4.75 OZ/A	2 T whea		D	3.605 g/mx		108	207	309	410
	UAN			L	1.5 QT/A	2 T whea		D	38.0 ml/mx					
	NIS			L	0.25 % V/V	2 T whea		D	3.75 ml/mx					
9	Hoelon	3		EC	2 PT/A	2 T whea		D	25.34 ml/mx		109	213	306	408
10	Axial	0.83		EC	8.2 OZ/A	2 T whea		D	6.493 ml/mx		110	212	301	409
	ADIGOR			L	9.6 OZ/A	2 T whea		D	7.601 ml/mx					
11	Prowl H20	3.8		L	42 OZ/A	Spike		B	33.26 ml/mx		111	203	307	403
	Osprey	4.5		WG	4.75 OZ/A	2 T whea		D	3.605 g/mx					
	UAN			L	1.5 QT/A	2 T whea		D	38.0 ml/mx					
	NIS			L	0.25 % V/V	2 T whea		D	3.75 ml/mx					
12	Prowl H20	3.8		L	42 OZ/A	Spike		B	33.26 ml/mx		112	211	313	401
	Hoelon	3		EC	2 PT/A	2 T whea		D	25.34 ml/mx					
13	Prowl H20	3.8		L	42 OZ/A	Spike		B	33.26 ml/mx		113	210	302	405
	Axial	0.83		EC	8.2 OZ/A	2 T whea		D	6.493 ml/mx					
	ADIGOR			L	9.6 OZ/A	2 T whea		D	7.601 ml/mx					

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
207.850	ml	Prowl H20	3.8	L	
7.590	g	Axiom	68	DF	
13.520	g	Osprey	4.5	WG	
142.510	ml	UAN		L	
14.061	ml	NIS		L	
95.007	ml	Hoelon	3	EC	
24.348	ml	Axial	0.83	EC	
28.505	ml	ADIGOR		L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1.5 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

* 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1.5 liters.

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Trial Comments

Determine the most effective program for the control of annual ryegrass.

NOTE: Ryegrass was seeded across the back 6 foot of each plot to ensure a significant ryegrass population. After late-season weed control ratings were made, the back 6 foot where ryegrass was planted was mowed down prior to harvest. A natural infestation of 1 ryegrass plant per square yard was present and tended to impact yield.

Wheat response:

1. No treatment injured wheat.

Ryegrass Response:

1. Six systems provided excellent control at harvest and included:
 - A. Hoelon applied to 2-leaf wheat (90%)
 - B. Axial applied to 2-leaf wheat (92%)
 - C. Hoelon applied to 2 tiller wheat (94%).
 - D. Prowl at spike followed by Osprey, Hoelon or Axial at 2 tiller wheat (97-98%).
2. Axiom or Prowl alone at spike provided poor control as the ryegrass had already emerged prior to activation by rainfall.
3. Prowl PRE provided poor late season control, although control during mid-season was greater than 75%.
4. Osprey provided poor control. This is the first research trial conducted in five years where control was unacceptable.

Wheat Yield:

1. Spike applications of Prowl or Axiom did not improve yield compared to the control. All other treatments improved yield compared to the non-treated.

GENERAL COMMENTS:

1. 14.3% moisture; 59.5 lb/bu test weight at harvest

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Weed Code	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	LOLMG	LOLMG
Crop Code	injury	injury	injury	injury	injury	injury	control	control
Rating Data Type	percent	percent	percent	percent	percent	percent	percent	percent
Rating Unit								
Rating Date	Nov-30-07	Dec-12-07	Dec-19-07	Jan-29-08	Mar-03-08	Apr-14-08	Nov-30-07	Dec-12-07
Assessed By	AD	AD	AD	AD	AD	AD	AD	AD
Trt-Eval Interval	16 DA-B	12 DA-C	19 DA-C	41 DA-D	75 DA-D	117 DA-D	16 DA-B	12 DA-C
Trt No.	1	2	3	4	5	6	7	8
Treatment Name								
Rate								
Unit								
1 None	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
2 Prowl H20 42 OZ/A	0 a	0 a	0 a	0 a	0 a	0 a	74 a	71 a
3 Prowl H20 42 OZ/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
4 Axiom 8 OZ/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
5 Osprey 4.75 OZ/A UAN 1.5 QT/A NIS 0.25 % V/V	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
6 Hoelon 2 PT/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
7 Axial 8.2 OZ/A ADIGOR 9.6 OZ/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	50 b
8 Osprey 4.75 OZ/A UAN 1.5 QT/A NIS 0.25 % V/V	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
9 Hoelon 2 PT/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
10 Axial 8.2 OZ/A ADIGOR 9.6 OZ/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
11 Prowl H20 42 OZ/A Osprey 4.75 OZ/A UAN 1.5 QT/A NIS 0.25 % V/V	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
12 Prowl H20 42 OZ/A Hoelon 2 PT/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
13 Prowl H20 42 OZ/A Axial 8.2 OZ/A ADIGOR 9.6 OZ/A	0 a	0 a	0 a	0 a	0 a	0 a	0 b	0 c
LSD (P=.05)	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Standard Deviation	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
CV	0.0	0.0	0.0	0.0	0.0	0.0	12.22	7.43
Bartlett's X2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P(Bartlett's X2)

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

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Weed Code	LOLMG	LOLMG	LOLMG	LOLMG	TRZAQ	
Crop Code					yield	
Rating Data Type	control	control	control	control	lb/plot	
Rating Unit	percent	percent	percent	percent		
Rating Date	Dec-19-07	Jan-29-08	Mar-03-08	Apr-17-08	May-23-08	
Assessed By	AD	AD	AD	SC&AD		
Trt-Eval Interval	19 DA-C	41 DA-D	75 DA-D	120 DA-D	198 DA-A	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	
1	None	0 d	0 g	0 e	0 f	
2	Prowl H20	42 OZ/A	70 a	73 d	13 d	16 e
3	Prowl H20	42 OZ/A	0 d	0 g	0 e	1 f
4	Axiom	8 OZ/A	3 d	0 g	5 e	5 f
5	Osprey	4.75 OZ/A	46 c	90 b	56 c	72 d
	UAN	1.5 QT/A				
	NIS	0.25 % V/V				
6	Hoelon	2 PT/A	60 b	99 a	99 a	90 abc
7	Axial	8.2 OZ/A	60 b	97 a	99 a	92 abc
	ADIGOR	9.6 OZ/A				
8	Osprey	4.75 OZ/A	0 d	50 f	50 c	86 bc
	UAN	1.5 QT/A				
	NIS	0.25 % V/V				
9	Hoelon	2 PT/A	0 d	80 c	99 a	94 abc
10	Axial	8.2 OZ/A	0 d	80 c	86 b	82 cd
	ADIGOR	9.6 OZ/A				
11	Prowl H20	42 OZ/A	0 d	78 cd	87 b	99 a
	Osprey	4.75 OZ/A				
	UAN	1.5 QT/A				
	NIS	0.25 % V/V				
12	Prowl H20	42 OZ/A	0 d	60 e	96 a	97 ab
	Hoelon	2 PT/A				
13	Prowl H20	42 OZ/A	0 d	73 d	99 a	97 ab
	Axial	8.2 OZ/A				
	ADIGOR	9.6 OZ/A				
LSD (P=.05)		6.1	5.6	6.9	11.0	0.8
Standard Deviation		4.2	3.9	4.8	7.7	0.6
CV		23.07	6.49	8.0	12.12	2.66
Bartlett's X2		5.846	5.404	15.83	34.129	15.641
P(Bartlett's X2)		0.016*	0.144	0.007*	0.001*	0.208

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

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Study Dir.: Amy Davis

Location: Plains

Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Amy Davis

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: Plains

Trial Status: Completed

State/Prov.: GA

Trial Reliability: good

Postal Code: _____

Initiation Date: Nov-06-07

Country: _____

Planned Completion Date: _____

E-Longitude of LL Corner °: _____

N-Latitude of LL Corner °: _____

Altitude of LL Corner: _____ Unit: _____ Angle y-axis to North °: _____

Directions: _____

COOPERATOR/LANDOWNER

Cooperator: _____

Country: _____

Org: _____

Phone No: _____

Address 1: _____

Fax No: _____

Address 2: _____

City: _____

State/Prov: _____

Postal Code: _____

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Guidelines: _____ Guideline Description: _____

Objective: _____

Conclusions: _____

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	LOLMG	Ryegrass, annual	Lolium multiflorum gaudini

Crop 1: TRZAW wheat

Variety: AGS-2000

Planting Date: Nov-06-07

Planting Method: drilled

Rate: 20 ft

Depth: 1 in

Perennial Age: _____

Row Spacing: 7.5 in

Spacing Within Row: 0.05 in

Seed Bed: flat

Soil Temperature: 75 f

Soil Moisture: fair

Emergence Date: Nov-11-07

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 30 FT Reps: 4

Site Type: Plains Research Station

Tillage Type: Conventional

Study Design: RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments: _____

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance: _____

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

SOIL DESCRIPTION

% Sand: 80 % OM: 5.9 Texture: loamy sand
 % Silt: 10 pH: 1.6 Soil Name: _____
 % Clay: 10 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: _____

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Nov-07-07	Nov-14-07	Nov-30-07	Dec-19-07
Time of Day:	5:00 pm	9:00 am	9:00 am	4:30 pm
Application Method:	broadcast	broadcast	broadcast	broadcast
Application Timing:	a	b	c	d
Applic. Placement:	on soil	overtop	overtop	overtop
Air Temp., Unit:	57 f	71 f	54 f	66 f
% Relative Humidity:	29	69	62.5	58
Wind Velocity, Unit:	5 mph	3 mph	5 mph	2 mph
Dew Presence (Y/N):	n	n	y	n
Water Hardness:				
Soil Temp., Unit:	65 f	63 f	52 f	62 f
Soil Moisture:	dry	fair	fair	moist
% Cloud Cover:	0	0	0	0

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	TRZAW A	TRZAW B	TRZAW C	TRZAW D
Stage Scale:	PRE	spike	3 leaf	2 tiller
Height, Unit:	0 in	0.75 in	5 in	7 inch

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	LOLMG A	LOLMG B	LOLMG C	LOLMG D
Stage Scale:	PRE	Spike	2 leaf	2 tiller
Density, Unit:	0 ydsq	15 ydsq	2 in	4 inch

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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:	2	2	2	2
Band Width, Unit:				
Boom Length, Unit:	4.5 ft	4.5 ft	4.5 ft	4.5 ft
Boom Height, Unit:	15 in	15 in	15 in	15 in
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