

University of Georgia

Wheat and ryegrass response to Axiom, Prowl, and Osprey combinations.

Trial ID: Wheat3-05

Study Dir.: Culpepper

Location: Plains

Investigator: Stanley Culpepper

Reps: 4

Plots: 6 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 1 liters (min .77168)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt to Measure	Plot No. By Rep			
									1	2	3	4
1	Untreated								101	207	308	411
2	Prowl H20	3.8	L	25.3	fl oz/a	PRE	A	13.36 ml/mx	102	204	303	402
3	Prowl H20	3.8	L	50.5	fl oz/a	PRE	A	26.66 ml/mx	103	210	307	410
4	Axiom	68	DF	8	oz/a	PRE	A	4.048 g/mx	104	201	310	412
5	Prowl H20	3.8	L	25.3	fl oz/a	Spike	B	13.36 ml/mx	105	202	311	409
6	Prowl H20	3.8	L	50.5	fl oz/a	Spike	B	26.66 ml/mx	106	209	305	407
7	Axiom	68	DF	8	oz/a	Spike	B	4.048 g/mx	107	212	302	408
8	Prowl H20	3.8	L	25.3	fl oz/a	Spike	B	13.36 ml/mx	108	203	301	406
	Osprey	4.5	DF	4.75	oz/a	POST	C	2.404 g/mx				
	Induce		L	0.50	% v/v	POST	C	4.999 ml/mx				
	UAN		L	2.0	qt/a	POST	C	33.78 ml/mx				
9	Axiom	68	DF	3.5	oz/a	Spike	B	1.771 g/mx	109	208	304	405
	Osprey	4.5	DF	4.75	oz/a	POST	C	2.404 g/mx				
	Induce		L	0.50	% v/v	POST	C	4.999 ml/mx				
	UAN		L	2.0	qt/a	POST	C	33.78 ml/mx				
10	Osprey	4.5	DF	4.75	oz/a	POST	C	2.404 g/mx	110	206	312	404
	Induce		L	0.50	% v/v	POST	C	4.999 ml/mx				
	UAN		L	2.0	qt/a	POST	C	33.78 ml/mx				
11	Osprey	4.5	DF	4.75	oz/a	POST	C	2.404 g/mx	111	205	309	401
	Induce		L	0.50	% v/v	POST	C	4.999 ml/mx				
	UAN		L	2.0	qt/a	POST	C	33.78 ml/mx				
	Prowl H20	3.8	L	25.3	fl oz/a	POST	C	13.36 ml/mx				
12	Osprey	4.5	DF	4.75	oz/a	POST	C	2.404 g/mx	112	211	306	403
	Induce		L	0.50	% v/v	POST	C	4.999 ml/mx				
	UAN		L	2.0	qt/a	POST	C	33.78 ml/mx				
	Prowl H20	3.8	L	50.5	fl oz/a	POST	C	26.66 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Lot Code
166.742	ml	Prowl H20 3.8 L	
12.334	g	Axiom 68 DF	
15.023	g	Osprey 4.5 DF	
31.247	ml	Induce L	
211.126	ml	UAN L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 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 liters.

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Trial Comments

OBJECTIVE: Evaluate wheat response to Prowl. Also compare ryegrass response to various programs.

Visual Wheat Response:

1. Prowl PRE (irrigated in) injured wheat 6 to 12% (stunting) at 17 days after application. Wheat recovered very quickly.
2. No other treatment caused injury.
3. Before labeling Prowl PRE, a similar study should be conducted on soils containing at least 88% sand as several wheat producing areas contain a higher sand content as compared to this location. Regardless, wheat at Plains was very tolerant to Prowl applications.

Ryegrass Response (Low natural populations of ryegrass were present so ryegrass was seeded in the last 6 foot of each plot).

1. Prowl PRE provided fair to good control for a while before breaking down.
2. The PRE Axiom application provided excellent early-season control with fair to good control noted at harvest.
3. Spike applications of Axiom or Prowl provided poor control because the ryegrass was already up at time of application.
4. The POST application of Osprey provided good mid-season control but ryegrass continual emerged during the season. Programs including Prowl mixed with Osprey applied POST and Axiom at a half rate PRE followed by Osprey POST provided the best control.

Wheat Yield (Natural population of ryegrass were low and we mowed down the area where we planted ryegrass so yields are essentially weed free yields)

1. No treatment negatively impacted yield.

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Weed Code	wheat injury percent	wheat injury percent	wheat injury percent	wheat injury percent	wheat injury percent	wheat injury percent	wheat injury percent	LOLMU control percent	
Crop Code	Nov-11-04	Nov-19-04	Dec-01-04	Dec-30-04	Dec-27-04	Feb-21-05	May-27-05	Nov-19-04	
Rating Data Type	9 DA-A	17 DA-A	29 DA-A	58 DA-A				17 DA-A	
Rating Unit									
Rating Date									
Trt-Eval Interval									
ARM Action Codes									
# Subsamples, Dec.									
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
1	2	3	4	5	6	7	8		
1	Untreated							0	
2	Prowl H20	25.3 fl oz/a						58	
3	Prowl H20	50.5 fl oz/a						73	
4	Axiom	8 oz/a						89	
5	Prowl H20	25.3 fl oz/a						13	
6	Prowl H20	50.5 fl oz/a						19	
7	Axiom	8 oz/a						18	
8	Prowl H20	25.3 fl oz/a						18	
	Osprey	4.75 oz/a							
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
9	Axiom	3.5 oz/a						19	
	Osprey	4.75 oz/a							
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
10	Osprey	4.75 oz/a						0	
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
11	Osprey	4.75 oz/a						0	
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
	Prowl H20	25.3 fl oz/a							
12	Osprey	4.75 oz/a						0	
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
	Prowl H20	50.5 fl oz/a							
LSD (P=.05)		0.0	3.5	2.4	3.3	0.0	0.0	0.0	7.5
Standard Deviation		0.0	2.4	1.6	2.3	0.0	0.0	0.0	5.2
CV		0.0	95.73	355.11	319.88	0.0	0.0	0.0	20.45

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

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Weed Code	LOLMU	LOLMU	LOLMU	LOLMU	LOLMU	Yield wheat 26ft/plot	Yield wheat Acre bushel		
Crop Code									
Rating Data Type	control	control	control	control	control				
Rating Unit	percent	percent	percent	percent	percent	lb	bushel		
Rating Date	Dec-01-04	Dec-30-04	Jan-27-05	Feb-21-05	May-27-05	May-27-05	May-27-05		
Trt-Eval Interval	29 DA-A	58 DA-A							
ARM Action Codes							TY1		
# Subsamples, Dec.							1		
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate		
		Unit							
			9	10	11	12	13	14	15
1	Untreated		0	0	0	0	0	15	75.0
2	Prowl H20	25.3 fl oz/a	78	70	60	54	13	17	83.7
3	Prowl H20	50.5 fl oz/a	93	86	83	72	48	16	79.4
4	Axiom	8 oz/a	95	71	92	91	83	17	83.0
5	Prowl H20	25.3 fl oz/a	21	34	13	11	10	16	75.0
6	Prowl H20	50.5 fl oz/a	43	37	30	24	20	17	80.4
7	Axiom	8 oz/a	70	90	78	65	42	17	83.3
8	Prowl H20	25.3 fl oz/a	28	21	75	87	84	16	79.4
	Osprey	4.75 oz/a							
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
9	Axiom	3.5 oz/a	53	59	82	90	96	17	82.0
	Osprey	4.75 oz/a							
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
10	Osprey	4.75 oz/a	0	14	68	81	75	16	79.8
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
11	Osprey	4.75 oz/a	0	13	63	84	91	17	81.8
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
	Prowl H20	25.3 fl oz/a							
12	Osprey	4.75 oz/a	0	11	59	80	87	16	78.3
	Induce	0.50 % v/v							
	UAN	2.0 qt/a							
	Prowl H20	50.5 fl oz/a							
LSD (P=.05)			10.6	26.7	14.0	13.3	12.8	1.4	6.79
Standard Deviation			7.3	18.5	9.7	9.2	8.8	1.0	4.70
CV			18.32	44.02	16.58	15.03	16.41	5.87	5.87

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

Column 15: TY1 = 4.84*[14]

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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: 5.9 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
Application Date:	Nov-02-04	Nov-11-04	Dec-17-04
Time of Day:	10:00am	9:00am	10:00am
Application Method:	Broadcast	Broadcast	Broadcast
Application Timing:	PRE	Spike	POST
Applic. Placement:	on soil	overtop	overtop
Air Temp., Unit:	79 F	55 F	62 F
% Relative Humidity:	69	54	29
Wind Velocity, Unit:	3 mph	4 mph	1 mph
Dew Presence (Y/N):			
Water Hardness:			
Soil Temp., Unit:	78 F	56 F	51 F
Soil Moisture:	dry	moist	moist
% Cloud Cover:	100	100	20

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	wheat PRE	wheat spike	wheat POST
Stage Scale:	not up	spike	2 tiller
Height, Unit:	0 in	0.5 inch	3.5 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	LOLMU PRE	LOLMU Spike	LOLMU POST
Stage Scale:	not up	1 leaf	1 tiller
Density, Unit:	25 ydsq	0.5 inch	4-6 inch

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APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	23	23	23
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch	18 inch
Nozzles/Row:			
Band Width, Unit:			
Boom Length, Unit:	4.5 feet	4.5 feet	4.5 feet
Boom Height, Unit:	15 inch	15 inch	15 inch
Ground Speed, Unit:	3 mph	3 mph	3 mph
Incorporation Equip.:			
Hours to Incorp.:			
Incorp. Depth, Unit:			
Carrier:	water	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA	14.8 GPA
Spray pH:			
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	Y	Y	Y

Trt No	Treatment Application Comment