

University of Georgia

Wheat and ryegrass response to Axiom and mesosulfuron.

Trial ID: wheat2-03
Location: Plains

Study Dir.:
Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. Agronomist
Affiliation: University of Georgia
Postal Code: 31794
Investigator: Stanley Culpepper **Title:** Ext. Agronomist
Affiliation: University of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Plains **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Country: USA **Initiation Date:** Nov-25-02

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	LOLSS	annual ryegrass	

Crop 1: TRZAW WHEAT, WINTER **Variety:** Pioneer 26 R61
Planting Date: Nov-25-02 **Planting Method:** DRILLED
Rate: 6 foot **Depth:** 0.5 in
Row Spacing: 7 inch **Seed Bed:** flat
Soil Temperature: 0. . **Soil Moisture:** fair/irrigat **Emergence Date:** Dec-04-02

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 30 FT **Reps:** 4
Site Type: research station
Tillage Type: conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 82 **% OM:** 1.6 **Texture:** loamy sand
% Silt: 12 **pH:** 5.9
% Clay: 12

APPLICATION DESCRIPTION

	A	B	C
Application Date:	Dec-18-02	Jan-05-03	Feb-02-03
Time of Day:	9 am	2 PM	12 PM
Application Method:	broadcast	broadcast	broadcast
Application Timing:	spike	2lfLOLSS	2TLOLSS
Applic. Placement:	overtop	overtop	overtop
Air Temp., Unit:	51 F	59 F	63 F
% Relative Humidity:	49	45	45
Wind Velocity, Unit:	2 mph	2 mph	2 mph
Dew Presence (Y/N):	y	n	n
Soil Temp., Unit:	49 F	55 F	63 F
Soil Moisture:	moist	wet	fair
% Cloud Cover:	100	0	0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	TRZAW Spike	TRZAW 2lfLOLSS	TRZAW 2TLOLSS
Stage Scale:	spike	2 leaf	1 tiller
Height, Unit:	1 inch	2.5 inch	3 inch

University of Georgia

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	LOLSS Spike	LOLSS 21fLOLSS	LOLSS 2TLOLSS
Stage Scale:	11f,0.75"	21f,2.5"	1-2T,3"
Density, Unit:	see comme		

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	22	22	22
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch	18 inch
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
Carrier:	water	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA	14.8 GPA
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	Y	Y	Y

University of Georgia

Wheat and ryegrass response to Axiom and mesosulfuron.

Trial ID: wheat2-03

Study Dir.:

Location: Plains

Investigator: Stanley Culpepper

Weed Code			wheat	wheat	wheat	wheat	wheat	LOLSS	LOLSS	LOLSS
Crop Code			injury	injury	injury	injury	injury	control	control	control
Rating Data Type			percent	percent	percent	percent	percent	percent	percent	percent
Rating Unit										
Rating Date			Jan-05-03	Feb-02-03	Feb-18-03	Apr-02-03	Jun-02-03	Jan-05-03	Feb-02-03	Feb-18-03
Trt-Eval Interval			18 DA-A	46 DA-A	62 DA-A	105 DA-A	166 DA-A	18 DA-A	46 DA-A	62 DA-A
ARM Action Codes										
# Subsamples, Dec.										
Trt No.	Treatment Name	Rate	1	2	3	4	5	6	7	8
1	non-treated		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Axiom	6 oz/a	0.0	0.0	0.5	0.0	0.0	66.5	95.5	97.8
3	Axiom	8 oz/a	0.0	0.0	2.3	0.0	0.0	72.3	94.8	99.0
4	Axiom	10 oz/a	0.0	0.0	10.0	0.0	0.0	79.0	97.3	99.0
5	AE F130060 01 Destiny UAN (30%)	18.22 g ai/a 1.5 pt/a 3.8 pt/a	0.0	0.0	0.0	0.0	0.0	0.0	69.8	80.8
6	AE F130060 01 NIS	18.22 g ai/a 0.25 % v/v	0.0	0.0	0.0	0.0	0.0	0.0	47.8	64.5
7	Hoelon	1.33 pt/a	0.0	0.0	0.0	0.0	0.0	0.0	70.5	86.8
8	Hoelon	2.5 pt/a	0.0	0.0	0.0	0.0	0.0	0.0	74.8	89.8
9	AE F130060 01 Destiny UAN (30%)	18.22 g ai/a 1.5 pt/a 3.8 pt/a	0.0	0.0	10.5	0.0	0.0	0.0	0.0	41.3
10	AE F130060 01 NIS	18.22 g ai/a 0.25 % v/v	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.8
11	Hoelon	2.5 pt/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5
12	MCPA Express NIS	0.75 pt/a 0.25 oz/a 0.125 % v/v	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSD (P=.05)			0.00	0.00	2.17	0.00	0.00	3.41	5.16	6.50
Standard Deviation			0.00	0.00	1.50	0.00	0.00	2.36	3.57	4.50
CV			0.0	0.0	77.56	0.0	0.0	13.03	7.8	7.33
Bartlett's X2			0.0	0.0	7.756	0.0	0.0	0.535	23.543	14.307
P(Bartlett's X2)			.	.	0.051	.	.	0.765	0.001*	0.046*

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

University of Georgia

Weed Code		LOLSS	LOLSS	wheat	wheat		
Crop Code				yield	yield		
Rating Data Type		control	control	lb/plot	bu/A		
Rating Unit		percent	percent				
Rating Date		Apr-02-03	Jun-02-03	Jun-02-02	Jun-02-02		
Trt-Eval Interval		105 DA-A	166 DA-A	-199 DA-	-199 DA-		
ARM Action Codes					TY2		
# Subsamples, Dec.					1		
Trt No.	Treatment Name	Rate	Unit	9	10	11	12
1	non-treated			0.0	0.0	12.8	62.0
2	Axiom	6 oz/a		92.0	93.5	14.1	68.2
3	Axiom	8 oz/a		96.8	96.8	14.2	68.5
4	Axiom	10 oz/a		95.0	99.0	14.5	69.9
5	AE F130060 01 Destiny UAN (30%)	18.22 g ai/a 1.5 pt/a 3.8 pt/a		94.5	97.5	14.5	70.2
6	AE F130060 01 NIS	18.22 g ai/a 0.25 % v/v		69.5	66.3	13.9	67.3
7	Hoelon	1.33 pt/a		87.3	93.0	13.8	66.8
8	Hoelon	2.5 pt/a		96.3	96.8	14.2	68.7
9	AE F130060 01 Destiny UAN (30%)	18.22 g ai/a 1.5 pt/a 3.8 pt/a		90.0	96.8	14.1	68.2
10	AE F130060 01 NIS	18.22 g ai/a 0.25 % v/v		86.3	97.8	14.1	68.2
11	Hoelon	2.5 pt/a		89.5	94.0	14.2	68.5
12	MCPA Express NIS	0.75 pt/a 0.25 oz/a 0.125 % v/v		0.0	13.8	12.6	61.0
LSD (P=.05)				7.27	6.07	0.71	3.44
Standard Deviation				5.04	4.20	0.49	2.38
CV				6.74	5.33	3.54	3.54
Bartlett's X2				7.998	2.997	10.685	10.687
P(Bartlett's X2)				0.534	0.964	0.47	0.47

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

Column 12: TY2 = 4.84*[11]

Trial Comments

GENERAL COMMENTS: Annual ryegrass was seeded across the back 6 foot of each plot with the grain drill to make sure some ryegrass was present. The wheat was sidedressed within 10 days of the mesosulfuron application. Wheat was irrigated within 5 days of spike herbicide applications.

OBJECTIVE: To compare Axiom and Osprey for the control of annual ryegrass.

INJURY:

1) Injury was not an issue in this trial.

RYEGRASS CONTROL:

- 1) Axiom was applied at spike when ryegrass was small, irrigation occurred with 5 days of this application, control was excellent with all rates.
- 2) Control by Osprey applied to 2 leaf ryegrass showed a huge benefit from Destiny plus UAN compared to NIS as the adjuvant. However, this was not the case with the same treatment applied to 2 tiller ryegrass. Either there was a screw up or there is something going on with the N sidedress application impacting sensitivity of ryegrass and possibly wheat to Osprey treatments.
- 3) As usual, Hoelon provided excellent control when applied at recommended use rates and timings.

YIELD:

1) Yields from all plots treated with a ryegrass material were similar. Yields from the non-treated and from MCPA plus Express were less than others due to ryegrass competition. This is quite interesting as ryegrass was only present in 6 foot of the 30 foot plot.

CONCLUSIONS:

- 1) Axiom used as recommended with help from mother nature or irrigation will provided excellent ryegrass control.
- 2) A standard NIS is not the best adjuvant system for Osprey.

University of Georgia

3) Osprey provided excellent ryegrass control.