

Previous Crop Wheat Disease Trial - 2008/2009.

Trial ID: 09-HRC-6-HeadScab Location: Agronomy Res. Ctr.

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Carbondale IL 62901 USA
 Trial Status: PRELIMINARY Initiation Date: 10-28-08

Objectives: Demonstrate that integrated management is the most effective and economical means of reducing losses to FHB/DON and increase grower adoption of integrated strategies to control FHB.

Crop 1: TRZAW Winter wheat Variety: See treatment list
 Planting Method: Seeded Planting Date: 10-28-08
 Rate, Unit: 1.3 mil. S/A Depth, Unit: 1 IN
 Row Spacing, Unit: 7.5 IN

Plot Width, Unit: 5 FT Site Type: FIELD
 Plot Length, Unit: 24 FT Tillage Type: NO-TILL
 Replications: 4 Study Design: Split-Block

Prior Crops, Year

1. See treatment list 2008

Field Prep./Maintenance: N 18 LB/A, P205 46 LB/A, K2O 120 LB/A on 10-27-08 and N 95 LB/A as 32% UAN on 3-4-09

% OM: 1.5 Texture: SILT LOAM
 pH: 6.5 Soil Name: HOSMER
 CEC: 7.2 Fert. Level: P1: 46 LB/A, K: 153 LB/A

Application Description

	A	B	C
Application Date:	05-05-09	05-07-09	05-11-09
Time of Day:	15:00	9:00	11:30
Application Method:	Spray	Spray	Spray
Application Timing:	FK10.51	FK10.51	FK10.51
Application Placement:	BROFOL	BROFOL	BROFOL
Applied By:	JLM	JLM	JLM
Air Temperature, Unit:	72 F	71 F	67 F
% Relative Humidity:	54	81	57
Wind Velocity, Unit:	3 MPH	3 MPH	3 MPH
Wind Direction:	S	S	NE
Dew Presence (Y/N):	N	Y	N
Soil Temperature, Unit:	60 F	65 F	55 F
Soil Moisture:	ABONOR	ABONOR	ABONOR
% Cloud Cover:	75	100	0

	A	B	C
Crop stage at application:	10.51 FK	10.51 FK	10.51 FK
Height Min, Max (inch):	26 36	26 36	26 36

Pest Stage At Each Application

	A	B	C
Application Date:	05-05-09	05-07-09	05-11-09

Application Equipment

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI
Nozzle Type:	TwinFlFan	TwinFlFan	TwinFlFan
Nozzle Size:	XR 110015	XR 110015	XR 110015
Boom Length, Unit:	5 FT	5 FT	5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

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Pest Code Crop Code Rating Date Rating Data Type Rating Unit Rating Timing Trt-Eval Interval										TRZAW 06-19-09 Moisture Percent	TRZAW 06-19-09 Test wt. lb/bu	TRZAW 06-19-09 Yield bu/A	HEADSCAB TRZAW 06-04-09 Incidence Percent SoftDough	HEADSCAB TRZAW 06-04-09 Severity Percent SoftDough						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code											
1	SOYBEAN RESIDUE									12.8	c-f	53.1	lm	131	a		85	b	15	f
1	P25R47																			
1	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	B											
1	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	B											
2	SOYBEAN RESIDUE									11.6	jk	52.0	n	117	bc		96	a	23	a-d
2	P25R47																			
3	SOYBEAN RESIDUE									12.0	hij	55.1	hi	126	ab		100	a	18	def
3	P25R54																			
3	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A											
3	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A											
4	SOYBEAN RESIDUE									11.6	k	53.9	jk	111	cde		100	a	27	ab
4	P25R54																			
5	SOYBEAN RESIDUE									12.9	c	57.1	cd	125	ab		100	a	17	ef
5	BW5170																			
5	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A											
5	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A											
6	SOYBEAN RESIDUE									12.4	fgh	56.0	efg	106	def		97	a	20	c-f
6	BW5170																			
7	SOYBEAN RESIDUE									13.5	b	58.0	ab	110	cde		99	a	18	def
7	BW5530																			
7	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A											
7	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A											
8	SOYBEAN RESIDUE									12.8	c-f	57.2	c	99	fgh		99	a	22	b-e
8	BW5530																			
9	SOYBEAN RESIDUE									12.4	e-h	56.0	efg	112	cd		100	a	20	c-f
9	COOPER																			
9	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A											
9	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A											
10	SOYBEAN RESIDUE									11.8	ijk	54.4	ij	96	gh		100	a	27	ab
10	COOPER																			
11	SOYBEAN RESIDUE									13.7	b	58.5	a	111	cde		98	a	17	ef
11	KASKASKIA																			
11	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	B											
11	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	B											
12	SOYBEAN RESIDUE									12.6	c-g	56.8	cd	97	fgh		100	a	27	ab
12	KASKASKIA																			
13	NON-BT CORN RESIDUE									13.5	b	52.5	mn	110	cde		97	a	17	ef
13	P25R47																			
13	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C											
13	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C											
14	NON-BT CORN RESIDUE									11.7	jk	50.8	o	90	hij		100	a	23	a-d
14	P25R47																			
15	NON-BT CORN RESIDUE									12.5	d-h	55.4	gh	113	cd		99	a	19	c-f
15	P25R54																			
15	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C											
15	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C											
16	NON-BT CORN RESIDUE									11.5	k	53.5	kl	90	hij		100	a	28	a
16	P25R54																			
17	NON-BT CORN RESIDUE									12.8	c-f	56.5	cde	107	c-f		100	a	20	c-f
17	BW5170																			
17	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A											
17	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A											
18	NON-BT CORN RESIDUE									12.2	ghi	55.5	fgh	90	hij		100	a	28	a
18	BW5170																			

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									HEADSCAB	
Pest Code									TRZAW	TRZAW
Crop Code									06-19-09	06-19-09
Rating Date									06-04-09	06-04-09
Rating Data Type									Incidence	Severity
Rating Unit									Percent	Percent
Rating Timing									SoftDough	SoftDough
Trt-Eval Interval										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
19	NON-BT CORN RESIDUE									
19	BW5530									
19	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A	
19	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A	
20	NON-BT CORN RESIDUE									
20	BW5530									
21	NON-BT CORN RESIDUE									
21	COOPER									
21	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C	
21	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C	
22	NON-BT CORN RESIDUE									
22	COOPER									
23	NON-BT CORN RESIDUE									
23	KASKASKIA									
23	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C	
23	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C	
24	NON-BT CORN RESIDUE									
24	KASKASKIA									
LSD (P=.05)									0.47	5.9
Replicate F									24.168	23.347
Replicate Prob(F)									0.0001	0.0001
Treatment F									21.395	3.754
Treatment Prob(F)									0.0001	0.0001

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

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									TNST/SEP	TNST/SEP	TRZAW	TRZAW
									TRZAW	TRZAW	06-19-09	12-02-08
									Incidence	Severity	Height	Stand
									Percent	Percent	cm	1-5
									SoftDough	SoftDough	EOS	21 DAE
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl				
No.	Name	Conc	Type	Rate	Unit	Rate	Rate Unit	Stage	Code			
1	SOYBEAN RESIDUE									38 i	3 fg	85 def 3.8 abc
1	P25R47											
1	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	B			
1	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	B			
2	SOYBEAN RESIDUE									93 ab	8 ab	85 def 3.9 ab
2	P25R47											
3	SOYBEAN RESIDUE									72 def	5 c-f	88 cde 3.5 a-e
3	P25R54											
3	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A			
3	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A			
4	SOYBEAN RESIDUE									93 ab	7 ab	90 bcd 3.9 ab
4	P25R54											
5	SOYBEAN RESIDUE									56 fgh	3 efg	88 cde 4.1 a
5	BW5170											
5	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A			
5	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A			
6	SOYBEAN RESIDUE									77 b-e	6 b-e	86 def 3.9 ab
6	BW5170											
7	SOYBEAN RESIDUE									85 a-d	6 bcd	84 d-g 4.1 a
7	BW5530											
7	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A			
7	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A			
8	SOYBEAN RESIDUE									87 a-d	6 bcd	85 def 3.8 abc
8	BW5530											
9	SOYBEAN RESIDUE									68 ef	4 d-g	83 efg 3.4 b-e
9	COOPER											
9	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A			
9	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A			
10	SOYBEAN RESIDUE									89 abc	7 ab	78 ghi 3.4 b-e
10	COOPER											
11	SOYBEAN RESIDUE									77 b-e	5 b-e	96 ab 3.1 c-g
11	KASKASKIA											
11	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	B			
11	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	B			
12	SOYBEAN RESIDUE									98 a	7 ab	98 a 3.6 a-e
12	KASKASKIA											
13	NON-BT CORN RESIDUE									44 hi	3 fg	81 fgh 3.0 efg
13	P25R47											
13	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C			
13	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C			
14	NON-BT CORN RESIDUE									75 cde	5 b-e	80 f-i 3.1 c-g
14	P25R47											
15	NON-BT CORN RESIDUE									47 ghi	3 fg	86 def 3.1 d-g
15	P25R54											
15	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C			
15	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C			
16	NON-BT CORN RESIDUE									93 ab	8 a	84 efg 2.5 g
16	P25R54											
17	NON-BT CORN RESIDUE									36 i	2 g	81 fgh 3.2 c-f
17	BW5170											
17	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A			
17	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A			
18	NON-BT CORN RESIDUE									91 abc	7 ab	82 e-h 3.6 a-e
18	BW5170											

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Pest Code Crop Code Rating Date Rating Data Type Rating Unit Rating Timing Trt-Eval Interval								TNST/SEP TRZAW 06-04-09 Incidence Percent SoftDough	TNST/SEP TRZAW 06-04-09 Severity Percent SoftDough	TRZAW 06-19-09 Height cm EOS	TRZAW 12-02-08 Stand 1-5 21 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Unit	Other Rate	Other Unit	Growth Stage	Appl Code		
19	NON-BT CORN RESIDUE									58 fgh	3 efg
19	BW5530									84 d-g	3.6 a-e
19	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	A		
19	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	A		
20	NON-BT CORN RESIDUE									76 cde	5 b-e
20	BW5530									83 efg	3.7 a-d
21	NON-BT CORN RESIDUE									63 efg	4 d-g
21	COOPER									74 i	3.3 b-f
21	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C		
21	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C		
22	NON-BT CORN RESIDUE									85 a-d	7 abc
22	COOPER									76 hi	3.3 b-f
23	NON-BT CORN RESIDUE									58 fgh	3 efg
23	KASKASKIA									93 abc	2.6 fg
23	PROSARO	3.5	SC	0.178	lb ai/a	6.5	fl oz/a	FK10.51	C		
23	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	C		
24	NON-BT CORN RESIDUE									88 a-d	7 abc
24	KASKASKIA									94 abc	2.6 fg
LSD (P=.05)								16.3	2.3	6.3	0.65
Replicate F								1.612	2.286	21.065	0.467
Replicate Prob(F)								0.1944	0.0864	0.0001	0.7061
Treatment F								10.706	5.368	7.002	3.929
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: University of Illinois - Bradley, BASF.
2. Ratings: DI/DS, based on 25 flag leaves/heads per plot, at soft dough.
3. Yield, seed samples.
4. Blanket application of fertilizer at planting and early spring.
Blanket herbicide application of Roundup WeatherMax (32 fl oz/A) was applied at planting.
Blanket application of Harmony Extra SG (0.75 oz/A) at FK5-6 was applied 4-8-09.
Blanket application of Warrior (2.5 fl oz/A) was applied on 4-23-09.
5. The FK10.51 application timing was reached on different dates depending on wheat variety and residue.
The target timing was the beginning of anthesis.
The percent of anthesis at application for treatments 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, and 23 was 90, 25, 90, 90, 25, 33, 50, 50, 65, and 33, respectively.
6. Residue was samples on 12-2-08 as 25 points across the plot either with or without crop residue over the soil.
Average percent residue cover in the soybean and corn plots was 77 and 74, respectively.
7. Test wt. = Test weight. HEADSCAB = Head scab (fusarium head blight). EOS = End of season. DAE = Days after emergence.
TNST/SEP = Tan spot and/or septoria leaf blotch on the flag leaf (80% tan spot and 20% septoria leaf blotch).
No leaf rust was found. No stripe rust was found.
8. Harvested 6-19-09, (6) 7.5 inch rows by 20 ft.