

Fusarium Head Blight - Uniform Fungicide Trials on Wheat.

Trial ID: 10-ARC-24D-N115

Location: Agronomy Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
City State Zip Country: Carbondale IL 62901 USA
Trial Status: FINAL **Initiation Date:** 10-21-09

Objectives: Evaluate application timing for several fungicide for control of fusarium head blight in winter wheat.

Crop 1: TRZAW Winter wheat **Variety:** P25R47
Planting Method: SEEDED **Planting Date:** 10-21-09
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:** Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2009

Field Prep./Maintenance: Fall: N 27 LB/A, P205 69 LB/A, K20 0 LB/A as DAP
 Spring: N 95 LB/A, P205 0 LB/A, K20 0 LB/A as 32% UAN

% OM: 1.7 **Texture:** SILT LOAM
pH: 6.7 **Soil Name:** WEIR
CEC: 8.7 **Fert. Level:** P1: 69 LB/A, K: 252 LB/A

	Application Description									
	A		B		C		D		E	
Application Date:	04-29-10	05-04-10	05-04-10	05-06-10	05-12-10	05-18-10	05-12-10	05-18-10	05-12-10	05-18-10
Time of Day:	9:00	10:00	12:00	10:00	10:30					
Application Method:	Spray	Spray	Spray	Spray	Spray					
Application Timing:	FK9	FK10	FK10.5	FK10.51	5DA-D					
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL					
Applied By:	NRJ	NRJ	NRJ	NRJ	NRJ					
Air Temperature, Unit:	69 F	80 F	71 F	78 F	67 F					
% Relative Humidity:	56	42	48	71	60					
Wind Velocity, Unit:	3 MPH	1 MPH	2 MPH	1 MPH	3 MPH					
Wind Direction:	S	S	E	SW	NW					
Dew Presence (Y/N):	N	N	N	Y	N					
Soil Temperature, Unit:	50 F	58 F	60 F	65 F	60 F					
Soil Moisture:	NORMAL	ABONOR	ABONOR	NORMAL	NORMAL					
% Cloud Cover:	10	0	0	100	50					

	Application Description									
	A		B		C		D		E	
Crop stage at application:	9	FK 10	FK 10.5	FK 10.51	FK 10.54	FK				
Height Min, Max (inch):	18	22 22	28 26	30 28	32 30	34				

Pest Stage At Each Application
Application Date: 04-29-10 05-04-10 05-06-10 05-12-10 05-18-10
Stage Majority (leaves): NA NA NA NA NA

	Application Equipment									
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer					
Operating Pressure:	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI					
Nozzle Type:	TwinFlFan	TwinFlFan	TwinFlFan	TwinFlFan	TwinFlFan					
Nozzle Size:	XR 110015	XR 110015	XR 110015	XR 110015	XR 110015					
Boom Length, Unit:	5 FT	5 FT	5 FT	5 FT	5 FT					
Spray Volume, Unit:	20 GPA	20 GPA	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	TRZAW	TRZAW
06-21-10	06-21-10	06-21-10
Moisture	Test wt.	Yield
Percent	lb/bu	bu/A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									10.9 b	47.7 cde	50 ef
2	LEM17	1.67	EC	0.313	lb ai/a	24	fl oz/a	FK10.51	D	10.7 bc	48.4 b-e	50 ef
2	ACTIVATOR 90	100	SL	0.25	% v/v	0.25	% v/v	FK10.51	D			
3	A9232D	100	SC	7	fl oz/a	7	fl oz/a	FK10.51	D	11.0 b	47.8 cde	61 bcd
4	PROSARO	3.52	SC	0.179	lb ai/a	6.5	fl oz/a	FK10.5	C	10.8 bc	47.3 de	63 bc
4	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.5	C			
5	PROSARO	3.52	SC	0.179	lb ai/a	6.5	fl oz/a	FK10.51	D	11.4 ab	51.8 a	74 a
5	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	D			
6	PROSARO	3.52	SC	0.179	lb ai/a	6.5	fl oz/a	5DAD	E	11.2 ab	50.1 abc	64 bc
6	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	5DAD	E			
7	CARAMBA	0.75	SC	0.079	lb ai/a	13.5	fl oz/a	FK10.5	C	11.0 b	49.0 b-e	57 cde
7	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.5	C			
8	CARAMBA	0.75	SC	0.079	lb ai/a	13.5	fl oz/a	FK10.51	D	11.9 a	49.5 a-d	66 ab
8	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	D			
9	CARAMBA	0.75	SC	0.079	lb ai/a	13.5	fl oz/a	5DAD	E	11.4 ab	50.7 ab	65 abc
9	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	5DAD	E			
10	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	FK9.0	A	11.0 b	47.4 de	45 f
10	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK9.0	A			
11	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	FK10.0	B	10.2 c	48.1 b-e	52 def
11	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.0	B			
12	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	FK10.5	C	10.2 c	46.5 e	48 f
12	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.5	C			
13	FOLICUR	3.6	F	0.113	lb ai/a	4	fl oz/a	FK10.51	D	10.8 bc	49.5 a-d	67 ab
13	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	FK10.51	D			
14	TOPGUARD	1.04	SC	0.057	lb ai/a	7	fl oz/a	FK9.0	A	10.8 bc	46.6 e	49 ef
LSD (P=.05)										0.71	2.67	9.0
Replicate F										1.105	0.886	2.207
Replicate Prob(F)										0.3588	0.4570	0.1027
Treatment F										3.369	2.825	7.933
Treatment Prob(F)										0.0016	0.0061	0.0001

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

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Pest Code									HEADSCAB	HEADSCAB	LFRST	LFRST	TNST/SEP	TNST/SEP	
Crop Code									TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	
Rating Date									06-04-10	06-04-10	06-04-10	06-04-10	06-04-10	06-04-10	
Rating Data Type									Incidence	Severity	Incidence	Severity	Incidence	Severity	
Rating Unit									Percent	Percent	Percent	Percent	Percent	Percent	
Rating Timing									SoftDough	SoftDough	SoftDough	SoftDough	SoftDough	SoftDough	
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Unit	Other Rate	Other Unit	Growth Stage	Appl Code						
1	NONTREATED									100 a	35 ab	21 a	0 a	74 a	2 a
2	LEM17	1.67	EC	0.313 lb ai/a	24 fl oz/a			FK10.51	D	100 a	32 abc	5 b	0 b	73 a	1 a
2	ACTIVATOR 90	100	SL	0.25 % v/v	0.25 % v/v			FK10.51	D						
3	A9232D	100	SC	7 fl oz/a	7 fl oz/a			FK10.51	D	90 b-e	22 cde	0 b	0 b	21 d	0 c
4	PROSARO	3.52	SC	0.179 lb ai/a	6.5 fl oz/a			FK10.5	C	93 a-d	25 bcd	0 b	0 b	40 bc	1 bc
4	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.5	C						
5	PROSARO	3.52	SC	0.179 lb ai/a	6.5 fl oz/a			FK10.51	D	67 f	12 e	0 b	0 b	25 cd	0 c
5	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.51	D						
6	PROSARO	3.52	SC	0.179 lb ai/a	6.5 fl oz/a			5DAD	E	82 e	19 de	0 b	0 b	31 bcd	0 c
6	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			5DAD	E						
7	CARAMBA	0.75	SC	0.079 lb ai/a	13.5 fl oz/a			FK10.5	C	93 a-d	20 de	0 b	0 b	31 bcd	0 c
7	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.5	C						
8	CARAMBA	0.75	SC	0.079 lb ai/a	13.5 fl oz/a			FK10.51	D	87 cde	18 de	1 b	0 b	22 d	0 c
8	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.51	D						
9	CARAMBA	0.75	SC	0.079 lb ai/a	13.5 fl oz/a			5DAD	E	95 abc	27 bcd	1 b	0 b	23 d	1 c
9	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			5DAD	E						
10	HEADLINE	2.09	EC	0.098 lb ai/a	6 fl oz/a			FK9.0	A	99 a	39 a	20 a	0 a	43 b	1 c
10	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK9.0	A						
11	HEADLINE	2.09	EC	0.098 lb ai/a	6 fl oz/a			FK10.0	B	98 ab	42 a	2 b	0 b	35 bcd	0 c
11	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.0	B						
12	HEADLINE	2.09	EC	0.098 lb ai/a	6 fl oz/a			FK10.5	C	99 a	35 ab	3 b	0 b	40 bc	1 c
12	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.5	C						
13	FOLICUR	3.6	F	0.113 lb ai/a	4 fl oz/a			FK10.51	D	86 de	25 bcd	0 b	0 b	29 bcd	0 c
13	ACTIVATOR 90	100	SL	0.125 % v/v	0.125 % v/v			FK10.51	D						
14	TOPGUARD	1.04	SC	0.057 lb ai/a	7 fl oz/a			FK9.0	A	99 a	41 a	29 a	0 a	63 a	1 ab
LSD (P=.05)										8.1	11.7	13.3	0.1	16.7	0.5
Replicate F										0.974	0.941	3.188	3.044	1.815	7.014
Replicate Prob(F)										0.4146	0.4302	0.0342	0.0401	0.1603	0.0007
Treatment F										10.673	5.372	4.435	4.429	9.646	5.021
Treatment Prob(F)										0.0001	0.0001	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.
2. Ratings: DI/DS, based on 25 flag leaves/heads per plot, at soft dough.
3. Yield, seed samples, send to Carl Bradley.
4. Spread inoculum at flag leaf, 2 weeks before heading.
Irrigated 0.1 inch each morning and afternoon starting 5-4-10 through 5-23-10 if no natural rainfall.
5. Application timings, FK10.5 (C) should be approximately 5 days before the FK10.51 (D).
6. Blanket application of fertilizer at planting and early spring.
Blanket preemergence application of Roundup WeatherMax (32 fl oz/A) was applied on 10-28-09.
Blanket postemergence application of Harmony Extra (0.5 oz/A), if needed, was applied 4-20-10.
7. HEADSCAB = Fusarium head blight. LFRST = Leaf rust. No stripe rust was found.
TNST/SEP = Tan spot and/or septoria leaf blotch on the flag leaf (25% tan spot and 75% septoria leaf blotch).
8. Harvested 6-21-10 (6) 7.5 inch rows by 20 ft.