

MSU Soil Fertility Research Program

RED WINTER WHEAT AS AFFECTED BY STARTER N AND PLANTING DATE

Trial ID: WHT08-15.16 Location: Campus Trial Year: 2014

Investigator: Kurt Steinke

Project ID: Starter N

Crop Code Crop Name	TRZAW Winter wheat					
Crop Variety Description Rating Date Rating Type Rating Unit	Sunburst Yield Jul-11-2016 HARVEST BU					
Trt Treatment No. Name	Form Form Conc Type	Rate Rate Unit	Other Rate	Other Rate	Growth Unit Stage	6
TABLE OF R MEANS						
Replicate 1						101.6
Replicate 2						97.1
Replicate 3						97.0
Replicate 4						92.6
TABLE OF A (Planting Date) MEANS						
1 Late Sept						103.3 a
2 Late October						90.9 b
LSD P=.10						2.85
Standard Deviation						2.97
CV						3.06
TABLE OF B (Nitrogen) MEANS						
1 NO Starter						97.4 a
1 Urea 46-0-0	46 GR	90 lb ai/a	196 lb/a		GRNUP	
2 Starter						101.8 a
2 Urea 46-0-0	46 GR	25 lb ai/a	54.3 lb/a		FALL	
2 Urea 46-0-0	46 GR	90 lb ai/a	196 lb/a		GRNUP	
3 Starter						92.1 b
3 Urea 46-0-0	46 GR	25 lb ai/a	54.3 lb/a		FALL	
3 Urea 46-0-0	46 GR	65 lb ai/a	141 lb/a		GRNUP	
LSD P=.10						5.22
Standard Deviation						5.81
CV						5.99
TABLE OF A (Planting Date) B (Nitrogen) MEANS						
1 Late Sept						103.8 a
1 NO Starter						
1 Urea 46-0-0	46 GR	90 lb ai/a	196 lb/a		GRNUP	
2 Late October						90.9 a
1 NO Starter						
1 Urea 46-0-0	46 GR	90 lb ai/a	196 lb/a		GRNUP	
1 Late Sept						107.5 a
2 Starter						
2 Urea 46-0-0	46 GR	25 lb ai/a	54.3 lb/a		FALL	
2 Urea 46-0-0	46 GR	90 lb ai/a	196 lb/a		GRNUP	

Means followed by same letter or symbol do not significantly differ (P=.10, LSD)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Crop Code								TRZAW
Crop Name								Winter wheat
Crop Variety								Sunburst
Description								Yield
Rating Date								Jul-11-2016
Rating Type								HARVEST
Rating Unit								BU
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit Stage	
								6
2	Late October							96.2 a
2	Starter							
2	Urea 46-0-0	46	GR	25 lb ai/a	54.3 lb/a		FALL	
2	Urea 46-0-0	46	GR	90 lb ai/a	196 lb/a		GRNUP	
1	Late Sept							98.7 a
3	Starter							
3	Urea 46-0-0	46	GR	25 lb ai/a	54.3 lb/a		FALL	
3	Urea 46-0-0	46	GR	65 lb ai/a	141 lb/a		GRNUP	
2	Late October							85.5 a
3	Starter							
3	Urea 46-0-0	46	GR	25 lb ai/a	54.3 lb/a		FALL	
3	Urea 46-0-0	46	GR	65 lb ai/a	141 lb/a		GRNUP	
LSD P=.10								7.38
Standard Deviation								5.81
CV								5.99

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COMPLETE SPLIT-PLOT AOV For TRZAW Winter wheat Sunburst Yield Jul-11-2016 HARVEST BU (Data Column 6)

Missing values in column 6 results in unbalanced data, Least Squares Analysis is preferred

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	22	1954.086225				
R	3	239.920765	79.973588	2.368	0.1266	
A	1	928.721591	928.721591	105.384	0.0020	2.9
ERROR A	3	26.438271	8.812757			
B	2	383.136828	191.568414	5.672	0.0203	5.2
AB	2	4.342516	2.171258	0.064	0.9381	7.4
ERROR B	11	371.526254	33.775114			

FACTORIAL/POOLED ERROR AOV For TRZAW Winter wheat Sunburst Yield Jul-11-2016 HARVEST BU (Data Column 6)

Missing values in column 6 results in unbalanced data, Least Squares Analysis is preferred

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	22	1954.086225				
R	3	239.920765	79.973588	2.813	0.0777	
A	1	928.721591	928.721591	32.672	0.0001	3.8
B	2	383.136828	191.568414	6.739	0.0089	4.7
AB	2	4.342516	2.171258	0.076	0.9268	6.6
ERROR	14	397.964526	28.426038			

Crop Code

TRZAW, BCER, Triticum aestivum (winter), = TRZAW, BCER, Triticum aestivum (winter),

Rating Unit

BU = bushel

ARM Action Codes

TY1 =  $9.219048 \times [3] \times (100 - @MVAVGREP([4])) / 86.5$