

MSU Soil Fertility Research Program  
**VARIETAL RESPONSE TO NUTRIENT MANAGEMENT ON WINTER WHEAT**  
 Trial ID: WHT11-18.19      Location: SVRF      Trial Year: 2019  
 Investigator: Kurt Steinke  
 Project ID: VARSAG

Crop Code						TRZAW
Crop Name						Winter wheat
Description						Yield
Rating Date						Jul-23-2019
Rating Type						YIELD
Rating Unit						bu/ac
Crop Stage Scale						HARVEST
ARM Action Codes						ER1 TY1
Number of Decimals						1
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Growth Unit Stage
						6
TABLE OF R MEANS						
Replicate 1						99.9
Replicate 2						88.5
Replicate 3						88.0
Replicate 4						85.7
TABLE OF A (Fertilizer) MEANS						
1	MESZ	40 GR		250 lb/a	250 lb/a	FALL TD
1	Urea 46-0-0	46 GR		130 lb ai/a	283 lb/a	GRNUP
2	Urea 46-0-0	46 GR		130 lb ai/a	283 lb/a	GRNUP
3	Urea 46-0-0	46 GR		130 lb ai/a	283 lb/a	GRNUP
3	28% Nitrogen	3 AL		40 lb ai/a	13.3 gal/a	FKS7
4	CHECK					
						100.8 a
						100.5 a
						97.2 a
						63.6 b
LSD P=.05						11.84
Standard Deviation						18.13
CV						20.03
TABLE OF B (Variety) MEANS						
1	Whitetail					86.4 c
2	Jupiter					91.5 ab
3	Dyna-Gro 9362W					87.4 bc
4	MClA Jonah					91.0 abc
5	W 304					94.3 a
6	AgriMAXX 438					92.6 a
LSD P=.05						4.80
Standard Deviation						6.78
CV						7.49
TABLE OF A (Fertilizer) B (Variety) MEANS						
1	MESZ	40 GR		250 lb/a	250 lb/a	FALL TD
1	Urea 46-0-0	46 GR		130 lb ai/a	283 lb/a	GRNUP
1	Whitetail					
						95.4 a
2	Urea 46-0-0	46 GR		130 lb ai/a	283 lb/a	GRNUP
1	Whitetail					
						92.2 a
3	Urea 46-0-0	46 GR		130 lb ai/a	283 lb/a	GRNUP
3	28% Nitrogen	3 AL		40 lb ai/a	13.3 gal/a	FKS7
1	Whitetail					
						95.0 a

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).  
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ARM Action Codes							ER1 TY1	
Number of Decimals							1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Yield
	4 CHECK							63.2 a
	1 Whitetail							
1	MESZ	40	GR	250 lb/a	250 lb/a		FALL TD	102.1 a
1	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	
2	Jupiter							
2	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	104.2 a
2	Jupiter							
3	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	96.6 a
3	28% Nitrogen	3	AL	40 lb ai/a	13.3 gal/a		FKS7	
2	Jupiter							
4	CHECK							63.1 a
2	Jupiter							
1	MESZ	40	GR	250 lb/a	250 lb/a		FALL TD	99.0 a
1	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	
3	Dyna-Gro 9362W							
2	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	96.8 a
3	Dyna-Gro 9362W							
3	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	91.2 a
3	28% Nitrogen	3	AL	40 lb ai/a	13.3 gal/a		FKS7	
3	Dyna-Gro 9362W							
4	CHECK							62.4 a
3	Dyna-Gro 9362W							
1	MESZ	40	GR	250 lb/a	250 lb/a		FALL TD	103.2 a
1	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	
4	MCIA Jonah							
2	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	99.7 a
4	MCIA Jonah							
3	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	99.7 a
3	28% Nitrogen	3	AL	40 lb ai/a	13.3 gal/a		FKS7	
4	MCIA Jonah							
4	CHECK							61.5 a
4	MCIA Jonah							
1	MESZ	40	GR	250 lb/a	250 lb/a		FALL TD	106.7 a
1	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	
5	W 304							
2	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a		GRNUP	104.0 a
5	W 304							

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Rating Unit						bu/ac
Crop Stage Scale						HARVEST
ARM Action Codes						ER1 TY1
Number of Decimals						1
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Growth Unit Stage
				Rate Unit	Rate Unit	
						6
3	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a	GRNUP
3	28% Nitrogen	3	AL	40 lb ai/a	13.3 gal/a	FKS7
5	W 304					99.8 a
4	CHECK					66.8 a
5	W 304					
1	MESZ	40	GR	250 lb/a	250 lb/a	FALL TD
1	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a	GRNUP
6	AgriMAXX 438					98.5 a
2	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a	GRNUP
6	AgriMAXX 438					106.4 a
3	Urea 46-0-0	46	GR	130 lb ai/a	283 lb/a	GRNUP
3	28% Nitrogen	3	AL	40 lb ai/a	13.3 gal/a	FKS7
6	AgriMAXX 438					101.1 a
4	CHECK					64.4 a
6	AgriMAXX 438					
LSD	P=.05					9.60
Standard Deviation						6.78
CV						7.49

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COMPLETE SPLIT-PLOT AOV For TRZAW Winter wheat Yield Jul-23-2019 YIELD bu/ac HARVEST ER1 TY1 1 (Data Column 6)							
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.05)	
Total	95	33343.639764					
R	3	2901.509603	967.169868	21.011	0.0001		
A	3	23477.695411	7825.898470	23.801	0.0001		11.8
ERROR A	9	2959.233054	328.803673				
B	5	748.239749	149.647950	3.251	0.0116		4.8
AB	15	495.054242	33.003616	0.717	0.7578		9.6
ERROR B	60	2761.907705	46.031795				
FACTORIAL/POOLED ERROR AOV For TRZAW Winter wheat Yield Jul-23-2019 YIELD bu/ac HARVEST ER1 TY1 1 (Data Column 6)							
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.05)	
Total	95	33343.639764					
R	3	2901.509603	967.169868	11.665	0.0001		
A	3	23477.695411	7825.898470	94.385	0.0001		5.2
B	5	748.239749	149.647950	1.805	0.1233		6.4
AB	15	495.054242	33.003616	0.398	0.9752		12.8
ERROR	69	5721.140759	82.915083				

Crop Code  
 TRZAW, BCER, Triticum aestivum, Winter wheat = US  
Rating Type  
 YIELD = yield  
Rating Unit  
 bu/ac = bushels per acre  
ARM Action Codes  
 ER1 = Excluded replicate 1  
 TY1 = 12.1\*[3]\*(100-[4])/86.5

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