2019 AgXplore Foliar Fertilizers in Spring Wheat at Minot

TRT	Product	Heading Date	Plant Height	Test Weight	Grain Protein	Harvest Moisture	Grain Yield
		DAP*	inches	lbs/bu	%	%	bu/A
1	Untreated	63	26	60.4	12.3	13.7	50.5
2	16 oz/A NutriPak[1] at 4 leaf + 16 oz/A NutriPak at flag leaf	63	27	60.3	12.0	13.7	48.5
3	16 oz/A SulPak 17[2] at 4 leaf + 16 oz/A SulPak 17 at flag leaf	63	27	60.6	12.1	13.9	50.7
4	32 oz/A NitroUltra[3] at 4 leaf	63	26	60.4	12.2	13.7	48.2
5	12 oz/A ValuPak[4] at flag leaf	63	27	60.2	12.3	13.7	47.9
Trial Mean		63	27	60.4	12.2	13.8	49.2
C.V. %		1.6	4.8	0.6	4.0	3.0	6.5
LSD 0.05		NS	NS	NS	NS	NS	NS

**Days After Planting*

[1] AgXplore NutriPak: 8-10-2

[2] AgXplore SulPak 17: 8-0-0-17S

[3] AgXplore NitroUltra: 10-0-0-0.05B-0.2Cu-0.2Fe-0.1Mn-0.1Mg-0.2Zn

[4] AgXplore ValuPak: 7-12-1

NS = no statistical difference between treatments.

Summary: The primary objective of this trial was to enhance grain protein content and overall plant vitality with various foliar fertilizer treatments. The trial was planted with SY Rockford hard red spring wheat into no-till soybean stubble on April 24 . 50 lbs/A potash (0-0-60) and 50 lbs/A AMS were applied in a mid-row band at planting. 50 lbs/A of MAP (11-52-0) was also applied with the seed at planting. Residual soil fertility levels at 0 - 24" were 25 lbs/A N (+ 40 lbs/A legume crop N crdit), 21 ppm P and 464 ppm K. Soil is a Williams loam with a pH of 6.9. Foliar treatments were applied to 4 leaf wheat on June 4 and to flag leaf wheat on June 17. Fertilizer treatments were mixed with water and applied at a rate of 20 gallons/A with a CO_2 propelled backpack sprayer. The trial was harvested on August 20. None of the foliar fertilizer treatments provided any enhancement to test weight, grain protein or grain yield.

Descriptions and agronomic traits of durum wheat varieties grown in North Dakota, 2019

						Reaction to Disease[5]				
Variety	Agent or Origin[1]	Year Released	Height (inches)[2]	Straw Strength[3]	Days to Head[4]	Stem Rust[5]	Leaf Rust	Foliar Disease	Bact.Leaf Streak	Head Scab
AC Commander	Can.	2002	31	5	60	1	1	6	NA	NA
Alkabo	ND	2005	33	2	61	1	1	5	7	6
Alzada	WB	2004	28	6	59	1	1	8	NA	9
Ben	ND	1996	35	3	60	1	1	4	7	8
Carpio	ND	2012	34	5	63	1	1	5	6	5
CDC Verona	Can.	2010	32	4	61	1	1	4	NA	8
Divide	ND	2005	35	5	62	1	1	5	7	5
Grenora	ND	2005	32	5	60	1	1	5	7	6
Joppa	ND	2013	33	5	61	1	1	5	7	5
Lebsock	ND	1999	33	3	60	1	1	5	7	6
Maier	ND	1998	32	5	61	1	1	5	NA	8
Mountrail	ND	1998	34	5	62	1	1	5	7	8
ND Grano[6]	ND	2017	34	5	63	1	1	NA	7	6
ND Riveland[6]	ND	2017	34	4	61	1	1	NA	7	5
Pierce	ND	2001	32	5	61	1	1	6	7	8
Rugby	ND	1973	36	5	60	1	1	4	NA	8
Strongfield[6]	Can.	2004	34	6	62	1	1	6	NA	8
Tioga	ND	2010	29	4	61	1	1	5	7	6
VT Peak	Viterra	2010	25	6	61	NA	NA	NA	NA	NA

[1] Refers to agent or developer: Can. = Agriculture Canada, WB = Westbred, ND = North Dakota State University.

[2] Plant height was obtained from the average of six variety trials in 2018.

[3] Straw Strength = 1-9 scale, 1 the strongest & 9 the weakest. Based on recent data. These values may change as more data becomes available.

[4] Days to Heading = the number of days from planting to head emergence from the boot. Averaged from several locations in 2018.

[5] Disease reaction scores from 1-9, with 1 = resistant and 9 = very susceptible. NA = Not adequately tested. Foliar Disease = reaction to tan spot and septoria leaf spot complex.

[6] Low cadmium accumulating variety

-NDSU Publication A1067-19 available at www.ag.ndsu.edu.publications