

## Spring wheat response to preplant nitrogen, Wishek, 2007

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The objective of this NDSU field study was to examine spring wheat performance with several dry nitrogen rates and sources. Experimental design was a randomized complete block with four replications. Soil analysis from June 5 sampling indicated 6.0 pH, 4.3% organic matter, 94 lb/A nitrate-N and 8 ppm phosphorus. Illinois Soil N Test levels were 259 ppm at 0-6 inch depth and 194 ppm at 6-12 inch depth. Preplant urea and an experimental Georgia-Pacific granular N (43-0-0) were applied at 30, 60 and 90 lb nitrogen/A on April 24. 'Glenn' HRS wheat was direct seeded on 2006 wheat ground at 1.25 million PLS/A on April 24. Rainfall totaling 0.95 inches was received on May 4. The trial was harvested with a plot combine on August 13.

Seed yield tended to increase with increasing N, while 60 lb/A of the Georgia-Pacific N resulted in greater yield compared to the untreated check (Table). Protein improved with all N treatments compared to the untreated check except 30 lb/A urea.

**Table. Spring wheat response to preplant N, Wishek, 2007.**

N application		Plant		Wheat seed			
Treatment	Rate	Height	Lodge	Yield	Test Weight	Kernel Weight	Protein
	lb N/ac	inches	0-9	bu/A	lb/bu	g/1000	%
untreated check		76	3	25.9	61.9	29.70	15.1
urea	30	82	2	29.8	61.6	30.27	15.4
urea	60	78	3	30.9	61.5	30.04	15.8
urea	90	83	2	31.9	61.0	29.90	16.1
GP dry	30	79	3	30.3	61.8	31.07	15.5
GP dry	60	82	3	37.4	61.5	30.75	15.9
GP dry	90	82	3	31.6	61.7	30.50	16.0
mean		80	3	31.1	61.6	30.32	15.7
C.V. (%)		4.6	28.7	12.0	0.7	2.7	1.4
LSD (0.05)		NS	NS	5.6	NS	NS	0.3