Spring wheat response to nitrogen, Harvey, 2006 (G. Endres, M. Halvorson and D. Franzen).

The objective of this NDSU field study was to examine spring wheat performance with several nitrogen sources, rates and application timings. Experimental design was a randomized complete block with four replications. Spring soil analysis indicated 2.2% organic matter, 80 lb/A nitrate-N and 13 ppm phosphorus. Illinois Soil N Test levels were 157 ppm at 0-6 inch depth and 92 ppm at 6-12 inch depth. Preplant urea and an experimental Georgia-Pacific granular N (43-0-0) were applied at 15, 30 and 45 lb nitrogen/acre and lightly incorporated using a garden rake on May 30. Rainfall totaling 0.31 inches was received during May 31 to June 4. 'Glenn' HRS wheat was seeded on conventional-till soybean ground at 1.25 million PLS/A on May 30. Stream nozzles were used to POST apply UAN at 15 and 30 lb nitrogen/acre to 4-leaf wheat on June 23. The trial was harvested with a plot combine on September 7.

Seed yield and quality with N treatments were similar to the untreated check (Table).

Table. Spring wheat response to nitrogen sources, rates, and application timings, Harvey, 2006.

Treatment	Yield	Test weight	Kernel weight	Protein
	bu/A	lb/bu	seeds/lb	%
untreated check	20.6	59.4	10884	16.3
PPI 15 urea	25.7	59.6	11069	16.5
PPI 30 urea	25.1	59.5	10835	16.4
PPI 45 urea	20.0	59.1	11071	17.0
PPI 15 GP	20.6	59.2	10577	16.6
PPI 30 GP	22.5	59.6	10885	16.4
PPI 45 GP	25.6	59.5	11092	16.5
PPI 15 urea/POST 15 UAN	27.9	59.6	11112	16.3
POST 30 UAN	22.4	59.4	10990	16.7
mean	23.4	59.5	10946	16.5
C.V. (%)	28.6	1.4	5.6	3.5
LSD (0.05)	NS	NS	NS	NS