

Spring wheat response to preplant UAN, Carrington, 2006 (G. Endres and D. Franzen).

The objective of this study was to examine spring wheat performance on a low organic matter site with several levels of preplant applied urea-ammonium nitrate (UAN). Experimental design was a randomized complete block with four replications. The field study was conducted by the NDSU Carrington Research Extension Center on a Heimdahl-Emrich loam soil. Spring soil analysis indicated 2.2% organic matter, 6.8 pH, 90 lb/A nitrate-N and 8 ppm phosphorus. Illinois Soil N Test levels were 160 ppm at 0-6 inch depth and 107 ppm at 6-12 inch depth. UAN was applied using stream nozzles on April 26 at 45, 90, 135 and 180 lb nitrogen/A. The UAN was incorporated twice at a one-inch depth using a culti-harrow. Rainfall totaling 0.47 inches was received on April 27-28. 'Alsen' HRS wheat was direct-seeded into wheat stubble at 1.5 million seeds/A on April 27. The trial was harvested with a plot combine on August 1.

Plant height and seed yield and quality with UAN treatments were similar to the untreated check (Table).

Table. Spring wheat response to preplant UAN, Carrington, 2006.

N application		Wheat				
Treatment	Rate	Plant height	Yield	Test weight	Kernel weight	Protein
	lb N/ac	inches	bu/A	lb/bu	seeds/lb	%
untreated check	0	23.9	35.5	61.3	11390	15.4
PPI UAN	45	25.5	37.5	60.5	11431	15.1
PPI UAN	90	25.1	39.8	59.9	11052	15.5
PPI UAN	135	24.9	35.2	59.6	11246	15.6
PPI UAN	180	25.4	39.9	59.9	11256	15.8
mean		25.0	37.6	60.2	11275	15.5
C.V. (%)		5.3	8.2	1.6	4.3	2.9
LSD (0.05)		NS	NS	NS	NS	NS