

Nitrogen Applied to Wheat at Heading

Study ID: 0932095201901

County: Jefferson

Soil Type: Crete silt loam, 1-3% slope; Crete silty clay loam, 3-7% slope

Planting Date: 9/28/19

Harvest Date: 7/15/19

Seeding Rate: 1.35 million seeds/ac

Row Spacing (in): 9

Variety: AM Eastwood

Reps: 7

Previous Crop: Soybean

Tillage: No-Till

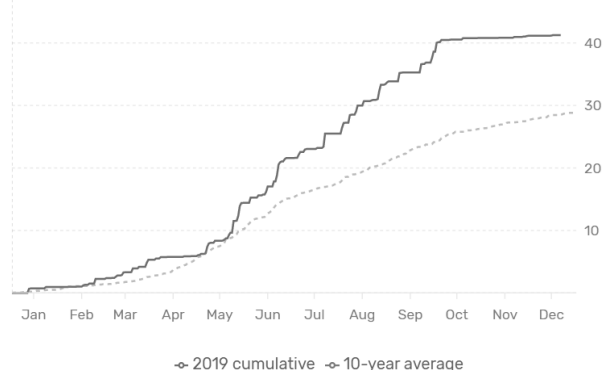
Herbicides: Pre: 0.75 oz/ac Harmony® Extra at early vegetative stage in spring

Foliar Fungicides: 4 oz/ac propiconazole at early vegetative; Quilt Xcel® at flag leaf; Prosaro® at early flowering

Fertilizer: 100 lb N/ac and 8.5 lb S/ac in early spring

Irrigation: None

Rainfall (in):



Introduction: The purpose of this study was to evaluate the addition of N to wheat at heading. 100 lb N/ac was applied prior to planting. The study evaluated adding an additional 20 lb N/ac as 46% urea, which was hand applied at heading on June 24, 2019. The field received approximately 0.34" rain on June 26. The field was harvested with a plot combine. Wheat yield and protein were evaluated.

Results:

	Kernel Weight (1000/lb)	Weight of 1000 Kernels (g)	Test Weight (lb/bu)	Moisture (%)	Protein Dry Basis, NIR (%)	Yield (bu/ac)†	Marginal Net Return‡ (\$/ac)
Check	11.2 A*	41 A	58 A	10.7 A	12.0 A	90 B	329.42 A
20 lb N/ac at heading	11.2 A	40 A	58 A	10.6 A	12.3 A	93 A	325.94 A
P-Value	0.786	0.749	0.186	0.477	0.103	0.062	0.495

*Values with the same letter are not significantly different at a 90% confidence level.

†Bushels per acre adjusted to 13% moisture.

‡Marginal net return based on \$3.65/bu wheat, \$0.40/lb N, and \$6.43/ac in-season N application (for this study urea was hand applied to simulate broadcast application; therefore, a broadcast application rate is included in the cost).

Summary:

- There was a 3 bu/ac yield increase for the 20 lb N/ac treatment.
- Harvest moisture, test weight, protein, kernel weight, and net return were not impacted.

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