

# Nebraska On-Farm Research Network

## Maize-N Nitrogen Sidedress Rate

**Study ID:** 004053201501

**County:** Dodge

**Soil Type:** Alcester silty clay loam; Moody silty clay loam; Moody-Alcester silty clay loam;

**Planting Date:** 4/30/15

**Harvest Date:** 10/28/15

**Population:** 27,500

**Row Spacing (in.)** 30

**Hybrid:** Within each treatment is two different hybrids (Hoegemeyer 8345 and 8066)

**Reps:** 3

**Previous Crop:** Soybean

**Tillage:** No-Till

**Herbicides:** **Pre:** 2.0 qts/ac Keystone LA (atrazine & acetochlor at planting 4/30/15. **Post:** 0.5 oz/ac Armezon, 1 pt/ac Atrazine, and 32 oz/ac Roundup Powermax on 6/8/15.

**Seed Treatment:** Poncho 1250

**Foliar Insecticides:** Capture LFR 3 oz/ac on April 30 (at planting).

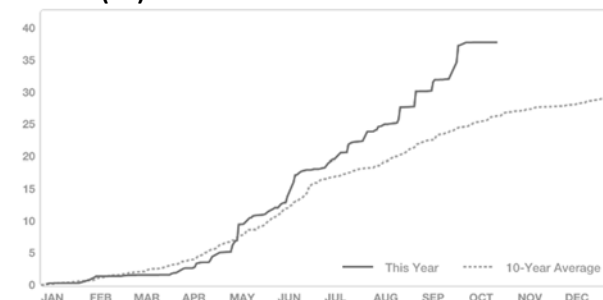
**Foliar Fungicides:** 10.5 oz/ac Quilt Xcel with Hagie sprayer (volume of 18 gallon/ac) on 7/15/15.

**Fertilizer:** 110 lb/ac MAP, fall applied. 5 gal/ac 10-34-0 with planter 4/30/15. 20 gal/ac 32% UAN and 3 gal/ac 12-0-0-26 with sprayer on 4/30/15.

Note: Wet Year

**Irrigation:** None, Total: 0"

**Rainfall (in.):**



**Introduction:** Maize-N is a nitrogen recommendation model developed at the University of Nebraska-Lincoln. The user inputs information on the current corn crop, last season crop, tillage, crop residue management, basic soil properties, fertilizer management, and long-term weather data of the field. The Maize-N program was run on June 11, 2015, and weather events up to that week were included in the calculations for in-season sidedress rate. The program generated an attainable yield of 210 bu/ac for this field on June 11, 2015. The grower had already applied 84 lb N/ac at planting. The model calculated in-season N recommendation at 63 lb N/ac. To test this recommendation, two treatments of N were used: the Maize-N rate (20 gallons/ac 32% UAN) and the Maize-N rate + 30 lb N/ac (28.5 gallons/acre 32% UAN). Treatments were applied on June 24.

**Results:** Data were analyzed using the GLIMMIX procedure in SAS 9.4 (SAS Institute Inc., Cary, NC). Mean separation was performed with Fisher's LSD. There was no interaction between hybrid and nitrogen rate (N rate x hybrid  $P=0.5487$ ), therefore these factors are reported separately.

Hybrid	Yield (bu/ac)†	Marginal Net Return (\$/ac)‡
Hoegemeyer 8345	222 A	810.30
Hoegemeyer 8066	221 A	800.12
<i>P-Value</i>	0.8309	N/A
N Rate		
-Maize-N Sidedress Rate	222 A	775.30
Maize-N Sidedress Rate + 30	221 A*	756.65
<i>P-Value</i>	0.4919	N/A

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

†Bushels per acre corrected to 15.5% moisture.

‡Net return based on \$3.65/bu corn price, \$0.49/lb N fertilizer price, \$19/unit price difference between the 2 hybrids (8066 cost more).

**Summary:** There was no significant difference between Hoegemeyer 8345 and Hoegemeyer 8066 or between the Maize-N rate and Maize-N + 30 rate. The Maize-N treatment resulted in yields that were not different than Maize-N + 30 lb/acre and therefore had a higher net return.