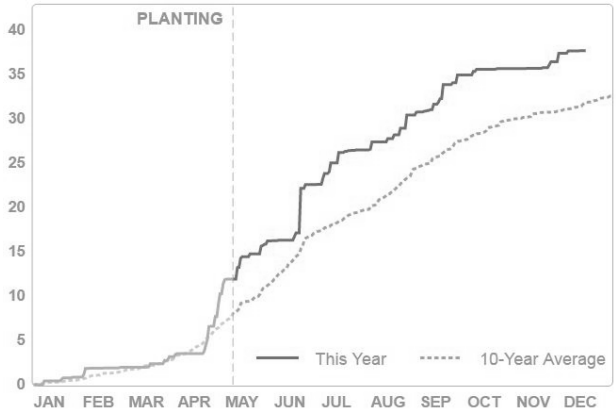
Sidedress Nitrogen Application with the Climate FieldView™ Advisor

Study ID: 359053201601
County: Dodge
Soil Type: Kennebec silt loam; Kennebec and Colo soils; Zook silt loam; Zook silty clay loam; Alcester silty clay loam
Planting Date: 5/6/16
Harvest Date: 11/1/16
Population: 28,300
Row Spacing (in): 30
Hybrid: Pioneer 1197AMXT
Reps: 4
Previous Crop: Corn
Tillage: No-Till
Herbicides: ***Pre:*** 5 oz/ac Corvus®, 1 lb/ac Atrazine, 8 oz/ac 2,4-D with 32% and ATS on 5/7/16 ***Post:*** 3 oz/ac Status®, 32 oz/ac Roundup®, 40 oz/ac Warrant®, and 1 qt/100 gal crop oil on 6/17/16
Seed Treatment: Amplify-D® Seed Treatment
Foliar Insecticides: 10 oz/ac Capture® LFR® with starter on 5/6/16;
3.2 oz/ac Lambda-Cy® Gold by plane on 8/2/16

Foliar Fungicides: 9 oz/ac Affiance® fungicide with post herbicide on 6/17/16;
10 oz/ac Affiance® fungicide on 8/2/16
Fertilizer: 75 lb N/ac as 32% (10%ATS) with herbicide; 5 gal/ac 6-24-6 starter and 0.5 pt/ac Zinc, 0.7 pt/ac Copper, 0.5 pt/ac Ca, 10 oz/ac Soil X-cyto with starter.
Note: The field was flooded twice when the Maple Creek came out of its banks.
Irrigation: None
Rainfall (in):



Introduction: The objective of this study was to evaluate the Climate FieldView™ Nitrogen Advisor Tool. Nitrogen Advisor is built on a detailed process model that takes into account the major physical, chemical, and biological processes that affect nitrogen in agricultural fields. The model takes into account a field's soil, weather and management conditions in order to make daily calculations of nitrogen gains, losses and transformations, all of which are specific to that field. The tool calculated an in-season N recommendation of 65 lb N/ac. To test this recommendation, three N treatments were used: the Climate FieldView rate, the Climate FieldView rate + 30 lb N/ac, and the Climate FieldView rate - 30 lb N/ac. Sidedress application treatments were made on June 11, 2016 with 32% UAN and 10% ATS. Additionally, 0.5 pt/ac zinc, 0.7 pt/ac Mn, 2 pt/ac B, and 0.7 pt/ac Mg were included in the fluid fertilizer mixture. There was additional S, Zn, Mn, B, and Mg applied with the +30 lb N/acre rate and less with the -30 lb N/acre, which could confound the N rate treatments.

Results:

Sidedress N Treatment§	Harvest Stand Count (plants/ac)	Moisture (%)	Yield (bu/acre)†	Marginal Net Return‡ ($/ac)
Climate FieldView Rate - 30 lb N/ac (35 lb N/ac)	23,917 A	14.0 A	196 A	580.65
Climate FieldView Rate (65 lb N/ac)	24,083 A	14.0 A	201 A	581.20
Climate FieldView Rate + 30 lb N/ac (95 lb N/ac)	24,042 A	14.2 A	201 A	566.50
P-Value	0.988	0.228	0.819	N/A

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 15.5% moisture.
‡Marginal net return based on $3.05/bu corn and $0.49/lb nitrogen fertilizer cost.
§Sidedress rates are in addition to 78 lb N/ac already applied

Summary: There was no population, moisture, or yield difference between the treatments. The recommended nitrogen rate using the UNL N rate calculator (pre-season model) was 136 lb N/ac and Climate FV Nitrogen Advisor recommended a total of 142 lb N/ac for the season. Therefore, both the UNL N Rate and Climate FV Nitrogen Advisor recommended similar N rates for the season.

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