CONKLIN® AgroVantage® SYSTEM

## ACRES Research Facility - Central Iowa

# 2017 Guardian®-L Study - Usage with UAN (Corn)

## Purpose

**To evaluate corn response of a liquid dicyandiamide (DCD) nitrogen stabilizer and UAN compared to UAN alone in a corn-on-corn test.**

## 2017 Results

| Treatments | Bu./A. | Bu./A. Difference |
|---|---|---|
| Control - No Nitrogen | 177 | -- |
| 30 lb. N (10 gpa) UAN Pre-Plant<br>150 lb. N (50 gpa) UAN Side-Dress | 247 | 70 |
| 30 lb. N (10 gpa) UAN Pre-Plant<br>150 lb. N (50 gpa) UAN Side-Dress<br>1.5 qt. Guardian-L Side-Dress | 257 | 80 |
| 30 lb. N (10 gpa) UAN Pre-Plant<br>84 lb. N (28 gpa) UAN Side-Dress<br>1.5 qt. Guardian-L Side-Dress | 260 | 83 |

**UAN is a commonly used nitrogen fertilizer source for corn production. This trial looked at the impact of different rates of UAN along with the use Guardian-L, a nitrogen stabilizer that slows the conversion of ammonium nitrogen to nitrate nitrogen by blocking the enzyme responsible for this conversion. This trial shows the inclusion of Guardian-L kept the nitrogen in the root zone longer, leading to increased yields. Even with a decreased rate of applied UAN, Guardian-L allowed for increased yield.**

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## 2017 ACRES Research Additional Information

**Treatment plots were laid out in a complete randomized block design to minimize effects from field conditions. Each treatment was replicated five (5) times and data was averaged.**

**Total rainfall recorded at the research site in the growing months (May-September) equaled 18.8 inches. During the same period, the 30-year rainfall average at this site is 23.8 inches.**

**Guardian-L was applied with UAN.**

**Corn variety: Pioneer P0825AM**

| **Soil Characteristics:** *(Analyzed by Midwest Labs in Omaha, NE)* |
|---|
| OM - 6.8% |
| CEC - 17.9 |
| pH - 6.3 |
| Sand - 40% Silt - 43% Clay - 18% (Aredale loam) |
| Conventional tillage |