



BIOZ  
DIAMOND

AGROLUTION pHLOW<sup>®</sup>

Trial



Corn  
*(Zea mays)*  
on a Milford silty clay loam

**Agrolution pHLow** Agrolution pHLow 11-45-11 is an all-in-one water soluble package for use as an acidifying starter fertilizer to improve phosphorus and micronutrient availability.

**BIOZ Diamond** is a molasses-based carbon and nitrogen fertilizer that includes fulvic acid and a yeast extract.

**N** 11%

**P** 45%

**K** 11%

**Zn** 2%

**N** 10%

**K** 1%



## When

### Planting Dates:

May 12, 2022  
May 15, 2023



## Where

Whitewater, WI USA  
(Dr. Tim Maloney,  
Agri-Tech Consulting)



## Crop

Corn  
(*Zea mays*)



## Soil type

Milford silty clay loam  
(pH 6.9, 5.1% organic  
matter, CEC 26.7, 30  
ppm P, 136 ppm K,  
and 4.1 ppm Zn)



## Measurements

Grain yield

## Objective

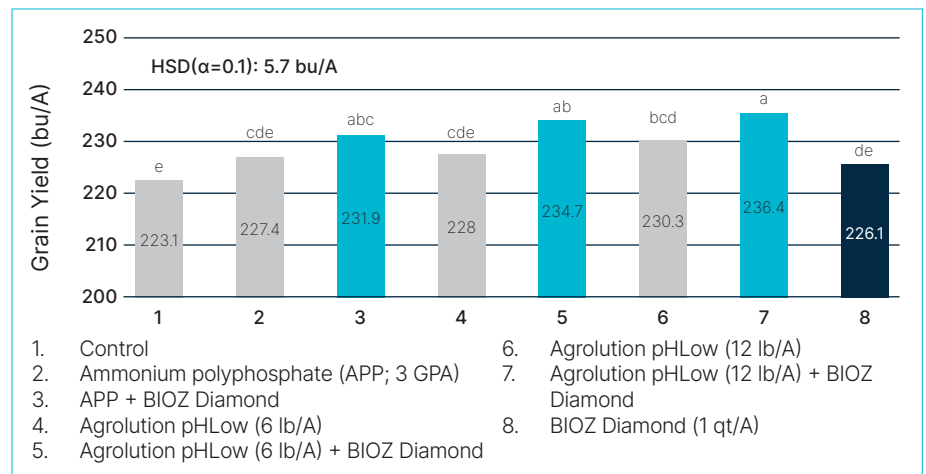
To evaluate the performance of Agrolution pHLow® 11-45-11+2Zn as an in-furrow starter fertilizer for corn production in comparison to a grower standard practice of ammonium polyphosphate (10-34-0). Also, to understand the additive effect of a molasses based, fulvic acid and yeast extract biostimulant containing, fertilizer – BIOZ Diamond 10-0-1.

## Treatments

A grower standard rate of ammonium polyphosphate (10-34-0) was applied in-furrow at 3 gallons/A, providing approximately 11.9 lb P<sub>2</sub>O<sub>5</sub>/A. Agrolution pHLow 11-45-11+2Zn at either 6 or 12 lb/A of dry product was solubilized into 3 gallon/A of water as a carrier. These rates provided 2.7 and 5.4 lb P<sub>2</sub>O<sub>5</sub>/A, respectively. BIOZ Diamond 10-0-1 was applied at 1 quart/A, either in combination with the three starter fertilizer sources, or as an individual treatment. All in-furrow application treatments were compared to an untreated control which received no starter fertilizer or biostimulant. Treatments were replicated four times in each year.

## Results

- Averaged across two years, starter fertilizer treatments (with no biostimulant) increased grain yield over the untreated control by approximately 5.5 bu/A.
- Although the rates of Agrolution pHLow 11-45-11+2Zn used in this study provided less P compared to the grower standard rate of ammonium polyphosphate, similar yield responses occurred, which suggests greater P use efficiency of Agrolution pHLow.
- BIOZ Diamond applied as an individual treatment trended 3 bu/A greater compared to the untreated control. However, when combined with a starter fertilizer source, the additive yield benefit of BIOZ Diamond averaged 5.8 bu/A compared to starter fertilizer alone.



## Conclusion

- Agrolution pHLow 11-45-11+2Zn resulted in greater P use efficiency as a starter fertilizer. Efficiencies were 1.8 and 1.3 bushels of yield increase per pound of P<sub>2</sub>O<sub>5</sub> for the 6 and 12 lb/A rates of Agrolution pHLow, respectively, compared to only 0.3 bushel of yield increase per pound of P<sub>2</sub>O<sub>5</sub> for ammonium polyphosphate.
- The BIOZ Diamond 10-0-1 biostimulant consistently increased corn grain yield across both years of the trial at this location. Although there was benefit to BIOZ Diamond alone, the greatest benefit was realized when combined with starter fertilizers. The highest yielding treatments (and most P use efficient) resulted from the combinations of Agrolution pHLow and BIOZ Diamond.



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