Nutrient Effects on Nitrogen Utilization

Garett Land and Cattle, Iowa: 2024

Experiment Info	
Planted:	
Harvested:	
Yield Goal:	
Variety:	
Pop.:	
Row Width:	
Prev. Crop:	
Plot Size:	
Reps:	

Soil Test (ppm)	
pH:	6.1
CEC:	21.0
%OM:	3.2
Bray P1:	69.2
Bicarb P:	--
K:	227.6
S:	25.9
%K:	2.9
%Mg:	18.1
%Ca:	58.1
%H:	19.8
Zn:	4.2
Mn:	143.9
B:	0.3

Objective:

Soil and applied nutrients react and interact with one another. In many cases, if one nutrient is limited or excessive it will influence other nutrients availability. This trial tested the relationship between a nitrogen application in conjunction with Micro 1000 (10 micro and secondary nutrient package) and LiberateCa (calcium). Two 2x2 nitrogen rates were applied: 5 gal and 10 gal/A compared to no nitrogen. Each nitrogen then received either 2 qt/A Micro 1000 or 2 qt/A LiberateCa to see if there was any difference between the combinations.

Yield appear on the table below.

2x2 High NRG-N Rate (gal/A)	Nutrient Additions	Yield (bu/A)	% Moisture
0	2 qt Micro 1000	235	22.3
0	2 qt LiberateCa	234	22.9
5	2 qt Micro 1000	218	25.6
5	2 qt LiberateCa	225	24.1
10	2 qt Micro 1000	233	22.9
10	2 qt LiberateCa	234	21.9

Conclusions:

- All treatments yielded similar to one another, however the 5 gal/A nitrogen rate did yield slightly lower than the other two rates.
- More work needs to be done to better determine the connection between secondary and micronutrients and nitrogen update.