



# Calcium Fertilizer Additives to Corn in low pH Soil

## Real Farm Research. Mitchell, SD

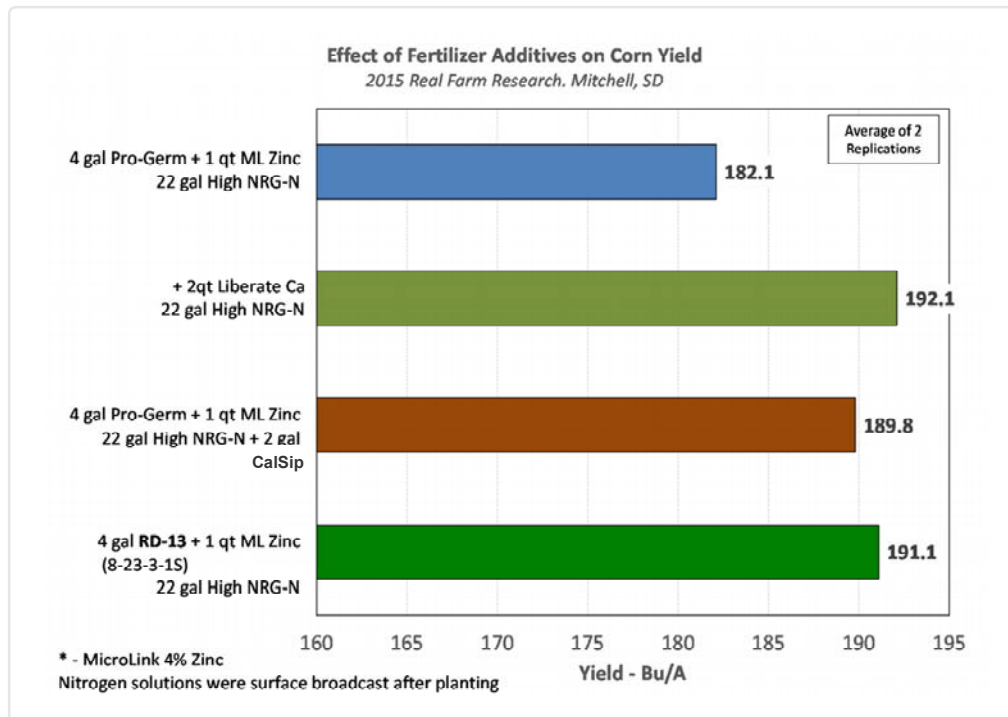
Experiment Info:	
Planted:	5/21/201
Harvest:	11/5/201
Yield Goal:	140 bu
Target Fert.	110-50-0
Variety:	Ciru 732-99
Population:	25,000
Row Width:	30"
Prev. Crop:	sunflower
Plot Size:	4 row x 157'
Replications:	2

Soil Test Values (ppm):	
pH:	5.5
CEC:	18.8
%OM:	4.3
Bray P1:	13 (M3)
Bicarb P:	
K:	313
S:	113
%K:	4
%Mg:	23
%Ca:	52
%H:	19
Zn:	1.47
Mn:	56.5
B:	

### Objective:

Evaluate the effect of addition of calcium fertilizer products to a program for corn growing in low pH soil.

A mid-range pH is desirable for growing corn. But growers are often faced with low pH and lime isn't always an option due to time, cost or rented land. There are calcium additives, which not positioned as an option for pH correction, do enable addition of plant-usable calcium. One disadvantage is that calcium is not compatible with phosphorus. However, the formulation Liberate Ca does enable mixing with phosphorus fertilizers. S-Calate is a sulfur and calcium nutrient product that can be applied with nitrogen. Both of these were part of the treatments in this corn experiment in a soil with a pH of 5.5. Additionally, the experimental fertilizer RD-13 was compared to Pro-Germinator. RD-13 has an analysis of 8-23-3-1S. There is no calcium in RD-13,



LSD(0.05): 7.6; LSD(0.1): 6.1; CV: 4.6%

### Conclusions:

- Addition of Liberate Ca resulted in a significant yield increase from the added calcium.
- Addition of S-Calate to the broadcast High NRG-N also had a yield increase that could be attributed to calcium.
- The treatment with RD-13 also had a significantly higher yield than a similar treatment with Pro-Germinator. RD-13 has no calcium, but does have 1% sulfur, although this soil tests extremely high in sulfur. There is also a difference in formulation that is reported to offer improved storage capability. There have been additional reports of improved yields at the NCRS and elsewhere.