2009 Corn Zn Rate Trials — Polk County

Cooperator: Elliot & Eric Solheim
Nearest Town: Beltrami
Soil Type: Clearwater loam
Tillage: Field cultivator
Previous Crop: Soybean
Planting Date: 17 May 2009
Harvest Date: 19 October 2009
Experimental Design: Randomized Complete Block (4 replications)

Purpose of Study:
U of M calibration and correlation data on zinc is very limited in northern Minnesota. Additional information is needed on the response of the newer corn genetics to zinc fertility. There are many fields in the northern region testing less than .5 ppm Zn.

Results:
The zinc rate trial was established in a corn growers' production fields with fertilizer zinc rates of 0, 2.5, 5, 10, & 15 pounds of zinc per acre with the treatments replicated four times. The zinc source was 36% zinc sulfate which was broadcast and incorporated prior to planting. N, P, & K were added to the site at sufficient rates. Zinc fertilizer response is suspected with a soil test of .5 ppm zinc or less. Unfortunately, this corn site had a zinc soil test level of 1.36 ppm, so no yield response to zinc was observed as illustrated in Figure 1.

Figure 1. Corn yield response to zinc fertilizer rates at Beltrami

2009 Corn Zn rate trial

Yield

Corn yield

Zn rate (lb/ac)

0 2.5 5 10 15

150 155 160 165 170 175