

Adding Sulfur and Zinc to Starter Fertilizer for Corn

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Objective

To evaluate the effect of adding sulfur and zinc to row starter fertilizer on yields of corn.

Background

Cooperator:	Tom Weiler	Fertilizer:	206-70-99 lb/A actual N, P ₂ O ₅ , K ₂ O
County:	Morrow	Herbicides:	PRE: Atrazine (1.5 lb/A), Balance (1 oz/A)
Nearest town:	Chesterville		POST: Clarity (1 pt/A)
Soil Type:	Sloan silty clay loam	Variety:	Golden Harvest 2495
Previous Crop:	Soybeans	Planting Date:	May 1, 2000
Drainage:	Naturally well-drained	Planting Rate:	30,100 seeds/A
Tillage:	Conventional	Row Width:	30 inches
Soil Test:	pH 7.0, P 23 ppm, K 154 ppm	Harvest Date:	October 23, 2000

Methods

This study is a split-planter design comparing starter fertilizer with starter fertilizer plus 4.1 lbs. per acre of sulfur and 0.22 lbs. per acre of zinc. The treatments were replicated four times. The size of each treatment plot was 3/10 of one acre (12 rows times 435 feet in length). The starter fertilizer used in the study was 20 gallons per acre (N 9.5 lbs., P₂O₅ 22.5 lbs., and K₂O 4.1 lbs.). The entire treatment area was harvested and weighed using a weigh wagon.

Results

Table 1. Starter Fertilizer Treatments

Treatments	Yield (bu/A)
Starter Fertilizer	197.5
Starter Fertilizer plus S and Z	195.2
F = 1.7	NS
CV = 1.3%	

Summary and Notes

Some companies are advocating the use of zinc and sulfur to increase yields of corn. This increases the cost of production and further limits the profit per acre. University studies previously conducted only support the use of zinc and sulfur under special soil conditions (low organic matter, soils high in pH and available phosphorus, mucks, or some peats). Plant analysis and field tests are ways to tell if the corn is responsive to these micronutrients. In this one-year, one-site study, the addition of zinc and sulfur to the starter fertilizer did not increase yields.

Acknowledgment

For additional information, contact:

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