

Corn Population Study

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Objective

To determine the effects of corn seeding rate on corn yields and provide data for corn population response curves.

Background

Crop Year: 2014

Location: Adams Township

County/Town: Darke/Bradford

Soil Type: Celina Silt Loam

Drainage: Systematic with 40 foot Laterals

Previous Crop: Soybeans

Tillage: No-Till

Soil Test: pH 6.5, P 32 ppm M III, K 182 ppm

Planting Date: May 7, 2014

Nitrogen: 200 pounds/acre

Seeding Rate: Varied

Harvest Date: October 11, 2014

Methods

Five corn populations were replicated three times in a randomized complete block design. Treatments were planted with a 12 row Kinze planter. All treatments received the same tillage, fertilizer and herbicide applications. Seed used was Dekalb 6116. Stand counts were taken at V6 by obtaining 2 counts per treatment and calculating the simple average. Plots were harvested with a commercial combine equipped with a 6 row corn head. Yields and moistures were obtained by using a calibrated yield monitor. Yields were verified using a scaled grain cart. Yields were adjusted to 15.5% moisture. Precipitation data can be obtained from cocorahs.org.

Results

No.	Plant Population	Wet Moisture (%)	Treatment Average (bu./acre)
1	23,000	24.5	218.3
2	28,000	24.3	226.3
3	33,000	23.4	223.6
4	38,000	23.1	220.7
5	43,000	22.9	225.3

LSD = 9.24 ($p < .57$); CV 2.8; No significant difference.

Summary

Corn yield was not significantly affected by planted population. There was no significant lodging with any of the treatments. An economic comparison between the planting populations of 23,000 and 43,000 revealed a \$54.00 per acre advantage over seed costs. Assumptions were soybean seed cost \$300 per 80,000 units and cash corn was \$3.00/bushel

Acknowledgement

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