Corn Population Study

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Objective

To determine the effects of corn seeding rate on corn yields that will provide data for determining BMPs for corn seeding rates and may provide data points for determining variable rates for corn seeding.

Background

Crop Year:	2017	Tillage:	Conventional Tillage
Location:	Monroe Township	Planting Date:	April 18, 2017
County/Town:	Darke/Gordon	Nitrogen:	200 pounds/acre
Soil Type:	Crosby Silt Loam	Seeding Rate:	Varied
	Brookston Silty Loam	Harvest Date:	October 17, 2017
Drainage:	non systematic	Rainfall:	29.31 in. - 4/15-9/15
Previous Crop:	Soybeans		

Methods

Five corn populations were replicated four times in a randomized complete block design. Treatments were planted with a 16 row John Deere planter, 500 feet in length. All treatments received the same tillage and herbicide applications. Variety used was Channel 21359. Stand counts were taken at V4 by obtaining 2 counts using 1/1,000th of an acre per treatment and calculating the simple average. Plots were harvested with a commercial combine equipped with an 8 row header. Yields and moistures were obtained using a calibrated yield monitor. Yields were adjusted to 15.5% moisture. Precipitation data was obtained from cocorahs.org and and recorded daily.

Results

No.	Target Planting Population	V4 Stand Count	Grain Moisture %	Treatment Average (bu./acre)
1	22,000	16,812	18.18	170.47
2	26,000	21,312	18.00	181.90
3	30,000	25,750	17.80	179.65
4	34,000	30,437	17.50	167.97
5	38,000	33,250	17.55	183.75

Grain Moisture CV %: 2.30 not significant

Yield LSD (0.10), CV %: 9.13 not significant

Summary

This field was affected by several major rainfalls resulting in flooding and areas of the plot being lost to drowned outs. In this plot, there was not a significant difference in the grain moisture at harvest. There was a no significant difference in yields.

Acknowledgement

The author expresses appreciation to on-farm collaborators Powell Farms for the land use, planting and harvesting of this plot.

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