

## 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:	Minimum Tillage
Location:	Harrison Township	Planting Date:	May 18, 2017
County/Town:	Darke/New Madison	Nitrogen:	200 pounds/acre
Soil Type:	Crosby Silt Loam Celina Silty Loam	Seeding Rate:	Varied
Drainage:	non systematic	Harvest Date:	October 27, 2017
Previous Crop:	Soybeans	Rainfall:	29.31 in. - 4/15-9/15

### Methods

Six corn populations, including the farmer's typical variable rate, were replicated three times in a randomized complete block design. Treatments were planted with a 16 row Kinze planter, field length and .93 acres each. The farmer's variable rate ranged from 26,000 to 38,000 in 4,000 unit increments and we prescribed based on soil type. All treatments received the same tillage and herbicide applications. Variety used was Pioneer P0825AMXT. Stand counts were taken at V4 by obtaining 2 counts using 1/1,000<sup>th</sup> of an acre per treatment and calculating the simple average. Plots were harvested with a commercial combine equipped with a 12 row header. Yields and moistures were obtained using a calibrated yield monitor. Yields were adjusted to 15.5% moisture. Precipitation data were and obtained from cocorahs.org and recorded daily.

### Results

No.	Target Planting Population	V4 Stand Count	Grain Moisture %	Treatment Average (bu./acre)
1	22,000	20,250	19.93	199.37 a
2	26,000	23,666	19.8	200.50 a
3	30,000	24,166	20.17	205.83 b
4	34,000	28,750	20.23	206.27 b
5	38,000	35,083	20.07	208.70 b
6	farmer variable	26,916	20.33	206.77 b

Grain Moisture CV %: 1.94 not significant

Yield LSD (0.10): 5.24, CV%: 1.73



## Summary

In this plot, there was not a significant difference in the grain moisture at harvest. There was a significant difference in yield between the two lower seeding rates and the three higher seeding rates.

## Acknowledgement

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