

## Corn Population Study, Darke County

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### Objective

To determine the effects of corn seeding rate on corn yields to determine best management practices for corn seeding rates and provide data points for determining variable rates for corn seeding.

### Background

Crop Year: 2018	Tillage: Minimum Tillage
Location: Adams Township	Soil Test: pH 6.3, P 24 ppm BP1, K 129 ppm
County/Town: Darke/Bradford	Planting Date: May 1, 2018
Soil Type: Miamian Silt Loam	Nitrogen: 200 units per acre
Brookston Silty Clay Loam	Seeding Rate: Varied
Drainage: Systematic Pattern	Harvest Date: October 11, 2018
Previous Crop: Soybeans	Rainfall: 14.25 in – April-August

### Methods

Five corn populations were replicated three times in a randomized complete block design. Treatments were planted with a 12 row Kinze planter, 500 feet in length. All treatments received the same tillage and herbicide applications. Variety used was Dekalb 6220. Stand counts were taken at V4 by obtaining two 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 6 row header. Yields and moistures were obtained by using a calibrated yield monitor. Yields were verified using a grain cart. Yields were adjusted to 15.5% moisture. Precipitation data was obtained from ccorahs.org and recorded daily.

### Results

No.	Target Planting Population	V4 Stand Count	Grain Moisture %	Treatment Average (bu./acre)	Return Above Seed (\$/ac)
1	22,000	21,417	15.4	207 d	648
2	26,000	25,500	15.5	219 c	676
3	30,000	31,083	15.4	227 b	690
4	34,000	31,583	15.5	231 a	690
5	38,000	37,333	15.5	232 a	679

Grain Moisture CV %: 0.66; Not significant

Yield LSD (0.10): 2.26; CV %: 0.67



## Summary

In this plot, there was no significant difference in the grain moisture at harvest. There was a significant difference in yield with the 34,000 and 38,000 seeding rates yielding significantly better than the other rates. The 30,000 and 34,000 Return above seed cost per acre was the best.

## Acknowledgement

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



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