

# The Effect of Plant Population on Corn

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## Objective

Numerous studies have been conducted to determine the effect of plant population on corn. Populations have generally increased over the years but there is still a wide variation of populations among producers.

The objective of this study is to determine what population is most economical.

## Background

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Cooperator:	County Home Farm	Fertilizer:	N = 147#, P <sub>2</sub> O <sub>5</sub> = 69#, K <sub>2</sub> O=30#
County:	Morrow	Herbicides:	BicepII Magnum 2.3 qt. Simazine90 1.0 # GramoxonePlus 1.3 pt.
Nearest Town:	Mt. Gilead	Planting Date:	May 7, 2005
Drainage:	Moderately drained	Planting Rate:	See table
Soil Type:	Centerburg Silt Loam	Row Width:	30-inch
Tillage:	No-till	Harvest Date:	Nov. 25, 2005
Previous Crop:	Soybeans		
Variety:	Croplan 503RR2		
Soil Test:	pH = 7.0 P = 44 ppm K = 120 ppm		

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## Method

This study consisted of four replications in a randomized complete block experimental design. The treatments were 12-rows wide and approximately 500-feet long. All treatments were planted with a J. D. 7000 planter traveling at 4.5 mph. The entire plot was harvested and treatments weighed using a weigh wagon. Populations were counted on June 9<sup>th</sup> by counting plants in two side-by-side rows for the length of 17-feet 4 inches (1/1000 of an acre) and the average means reported.

## Results

Table 1. The Effect of Plant Population on Corn Yield

<u>Desired Population</u> <u>at Planting</u>	<u>Counted Population</u> <u>(a)</u>	<u>Cost of Additional</u> <u>Seed, \$/acre (b)</u>	<u>Yield (Bu./Ac.)</u>
26,100	27,380	-	173.4 A
30,200	30,580	4.61	178.6 A
35,600	37,250	10.69	178.8 A
			LSD (0.05) = 7.9
			CV = 2.58

- (a) The average plant population measured on June 9th  
(b) The cost per unit of corn used to calculate this value was \$90 per 80,000 seed unit. The cost is in addition to 26,100 seeds/acre.

## Summary

There was no significant difference between any of the plant populations in this study. These results are similar to those printed by most Universities and seed corn companies.

## Acknowledgement

The author would like to thank Central Ohio Farmers Cooperative, the County Commissioners and Morrow SWCD for their contributions and assistance in the study.

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