

# Potassium Fertility on Corn Yields

Steve Ruhl, Agriculture and Natural Resources Extension Agent

In cooperation with the Morrow County Soil and Water Conservation District

## Objective

To examine the effect on corn yields when using K fertilizer on a soil with a low exchangeable K level.

## Background

Cooperator:	Morrow County Farm	Herbicides:	PRE: Balance (2 oz/A), Atrazine (1.8 lb/A)
Nearest Town:	Mt. Gilead		
Soil type:	Centerburg		POST: Simazine (0.9 lb/A), Accent (2/3 oz/A), Clarity (8 oz/A), UAN (3/4% v/v)
Tillage:	Conventional		
Previous Crop:	CRP		
Soil Test:	pH 7.0, P 44 ppm, K 90 ppm, CEC 9.3	Variety:	Golden Harvest 2495
Fertilizer:	60 lbs/A N with herbicides 130 lbs/A N sidedressed	Planting Date:	May 11, 1999
		Harvest Date:	October 19, 1999

## Methods

A replicated study using five replicates in a randomized complete block design was planned. The phosphorus reading of 44 ppm allowed us not to use phosphorus. The potash was applied in 40-foot wide plots at the rates of 0, 100, and 200 pounds per acre of 0-0-60. The individual harvested plots were 0.187 acres in size.

## Results

Rate of Potash (lbs/A)	Yield (bu/A)
0	163.7
100	154.7
200	167.1
LSD(0.05)	17.2
CV	2.3%

## **Summary and Notes**

Ohio soils contain 10,000 to 20,000 ppm of total K. Only a few hundred ppm of K exist in the exchangeable (available) form readily available for plants. The K soil test level for the site of the trial would be regarded as less than optimum for corn production.

The yields in this trial were good despite a fairly dry crop year. The yields were not significantly different. This trial will be repeated another three years - two years in soybeans and one additional year in corn.

For additional information, contact:

Steve Ruhl  
The Ohio State University Extension  
ruhl.1@osu.edu