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

<table>
<thead>
<tr>
<th>Rate of Potash (lbs/A)</th>
<th>Yield (bu/A)</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>163.7</td>
</tr>
<tr>
<td>100</td>
<td>154.7</td>
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<tr>
<td>200</td>
<td>167.1</td>
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<tr>
<td>LSD(0.05)</td>
<td>17.2</td>
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<tr>
<td>CV</td>
<td>2.3%</td>
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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.

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