Nitrogen Rates and Population Studies on Corn

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NITROGEN RATES AND POPULATION STUDIES ON CORN

S. H. Phillips
Extension Grain Specialist

John Watts and C. E. Wyatt, Extension Agronomists in the Purchase Area, have conducted nitrogen rates and population studies on corn for several years. The following data relative to these variables are reported from the 1967 tests.

Yields of corn varied as much as 68.4 bushels per acre at different levels of population and nitrogen fertility in the University of Kentucky research plots on the Harold Potts Farm in Hickman county during 1967.

All plots received 150 pounds of P₂O₅ and 180 pounds of K₂O per acre, so that population rates and nitrogen fertilizer amounts would be the only variable factors.

In general, about 18,000 stalks per acre gave the best yields with medium height hybrids, while 22,000 stalks per acre proved best with the short, early-maturing hybrids. The best yields were gained by using 150 pounds of nitrogen per acre.

The averages of corn plots on the Potts Farm with the nitrogen and population variables were as follows:

<table>
<thead>
<tr>
<th>Lbs of Nitrogen</th>
<th>17,700 Stalks S X 31 Variety</th>
<th>17,700 Stalks S X 9 Variety</th>
<th>22,000 Stalks S X 9 Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>136.6</td>
<td>134.7</td>
<td>137.0</td>
</tr>
<tr>
<td>150</td>
<td>145.6</td>
<td>129.9</td>
<td>130.7</td>
</tr>
<tr>
<td>100</td>
<td>137.1</td>
<td>111.0</td>
<td>133.5</td>
</tr>
<tr>
<td>50</td>
<td>127.9</td>
<td>118.2</td>
<td>113.6</td>
</tr>
<tr>
<td>None</td>
<td>86.8</td>
<td>85.0</td>
<td>77.2</td>
</tr>
</tbody>
</table>

Agricultural and Home Economics Extension Service of the University of Kentucky, the United States Department of Agriculture cooperating.

W. A. Seay, Director. Issued in furtherance of the Acts of May 8 and June 30, 1914.