Consumer acceptance of eating quality of different maize varieties

Lawrence Kinoti, Hugo De Groote, Bernard Munyua

Introduction

- Maize is the most important food crop in Sub-Saharan Africa
- Maize research has produced many improved varieties, but focused on quantity, not on sensory and nutritional quality.

Objectives

- To nudge breeders towards satisfying consumer expectations, we conducted sensory evaluation of maize from new varieties, in comparison to old varieties

Methodology

- Sensory evaluations were carried out at seven sites in Uganda and Kenya with 1,695 participants
- Thirty-nine maize varieties were selected for consumer testing
- Maize was evaluated for three different preparations: boiled maize, roasted maize, and ugali (stiff porridge),
- Participants were asked to score each sample on a 5-point hedonic scale for different traits and overall

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In the case of boiled and roasted maize, only one new variety was appreciated by the participants. For Ugali, four new varieties were appreciated by the participants compared to the existing ones.

In the case of boiled maize, participants did not appreciate the new variety. For roasted maize, only two new varieties were appreciated. In the case of Ugali, participants appreciated five new varieties compared to the existing varieties.
Results

<table>
<thead>
<tr>
<th>Preparations</th>
<th>Maturity group</th>
<th>Kenya</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiled</td>
<td>Early</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Intermediate-late</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Roasted</td>
<td>Early</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Intermediate-late</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Ugali</td>
<td>Early</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Intermediate-late</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

The table shows the number of new varieties most appreciated by participants for different preparations per country.

Conclusion

• There were significant differences in consumer acceptance of maize varieties between Kenya and Uganda consumers for boiled, roasted maize and Ugali.

• Few of the new varieties scored well in comparison to the controls, but some varieties clearly performed poorly, and this might be a factor for the low adoption of these varieties.