Consumers penalize off-flavours in pork chops even in a meal context

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Background

- Alternatives to surgical piglet castration are needed in Europe.
- Sorting of 'boar-tainted' and 'non-tainted' pig carcasses can be essential for quality control.
- Currently odour assessment is done with human testers at slaughter line.
- Sorting must be relevant for consumer acceptance.

Research questions

- Is consumer liking of pork chops with off-flavors (boar taint) moderated by a meal presentation context?
- How strong and of which form is the relation between consumer liking of chops and trained experts’ evaluation of backfat?

Material & Methods

- Backfat of 24 animals assessed by 10 trained sensory panellists → fat score
- 37 consumers (GER; 18 – 65 yrs.) evaluated three chops (low, medium and high taint) PURE and in a MEAL CONTEXT → overall liking (9 pt. scale)
- CLT; 2 sessions; within-subject design
- Presentation context: PURE and within a MEAL

Data analysis with mixed regression model (fixed: context; quantitative covariate: linear and quadratic fat score; random: consumer)

Results

- Significant effect of linear & quadratic fat score
- No effect of meal context on overall liking

Table 1: Effects on overall liking

<table>
<thead>
<tr>
<th>Effects</th>
<th>F (1, 180)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>0.02</td>
<td>0.89</td>
</tr>
<tr>
<td>Linear fat score</td>
<td>3.48</td>
<td>0.06</td>
</tr>
<tr>
<td>Quadratic fat score</td>
<td>6.62</td>
<td>0.01</td>
</tr>
<tr>
<td>Linear fat score *context</td>
<td>0.01</td>
<td>0.91</td>
</tr>
<tr>
<td>Quadratic fat score *context</td>
<td>0.15</td>
<td>0.69</td>
</tr>
</tbody>
</table>

Conclusions

- The fat score assessed by trained panellists predicts the acceptability at consumer level: high fat scores evoke rejections.
- Sorting of carcasses by olfactory assessment appears reasonable.
- Acceptability of pork chops with boar-taint related off-flavours is not moderated by meal context.