



# Quality perception of boar meat with high levels of androstenone and skatole in a home environment

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### We explored:

The evaluation by untrained consumers in a home environment of boar meat with high androstenone and skatole levels. Meat was evaluated during and after preparation by the cooks and after preparation by a family member during 5 successive weeks in which 2 times boar and 3 times gilt meat was tested.

### We found:

- The quality of boar meat with high levels of androstenone and skatole was rated lower than gilt meat.
- Both cooks and family members rated boar meat lower.
- Androstenone and skatole sensitivity of the consumers were related to quality scores of boar meat.

### Consumer evaluation at home

This research project aimed to determine the extent to which meat with high risk on boar taint is rated as unacceptable during cooking and consumption in a home environment. To evaluate whether preparation affects acceptance rate, the scores of the cook were compared with those from the other family members.

### Design

All 328 household tested gilt meat in the first week, experimental groups then tested twice boar meat and twice gilt meat in a random order, see Randomization scheme below:

	Baseline	Randomization			
Random experimental groups	Gilt	Gilt	Gilt	Boar	Boar
	Gilt	Gilt	Boar	Gilt	Boar
	Gilt	Gilt	Boar	Boar	Gilt
	Gilt	Boar	Gilt	Gilt	Boar
	Gilt	Boar	Gilt	Boar	Gilt
Control group	Gilt	Gilt	Gilt	Gilt	Gilt

NB Boar = boar tainted boar meat that was selected with human nose scores and androstenone and skatole levels.

### Measurements

Phase	Participant	Measurements
During cooking in the kitchen	Cook	Rating of odour and exterior
During consumption	Cook and one other family member	Rating of odour, flavour, exterior, and overall quality

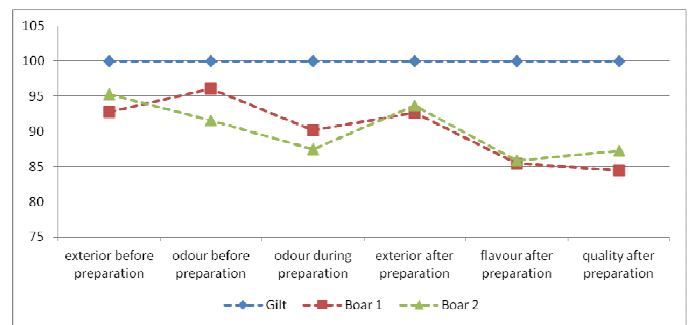
Scores from 1 (very unpleasant/untasteful) to 9 (very pleasant/tasteful)

In a distinct lab-setting the same panel of respondents was asked to rate the odour of a mixture of artificial derived androstenone ( $\pm 10$  mg/kg) and skatole (2.9 mg/kg). We denote this metric as sensitivity.

Future research	Design and expected results
Meat types	At home evaluation of different types of meat from boars that were selected based on in line human nose scores and ASI. Each respondent rated all 3 types of meat from 2 different animals.
Sausages	At home evaluation of sausages with different percentages of boar tainted meat (defined by in line human nose) by 60 German and 60 Dutch respondents.

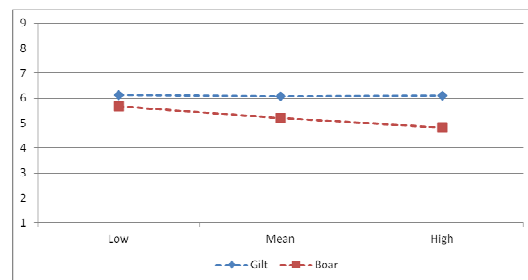
### Boar versus gilt meat

The figure below shows the scores for the cooks on boar meat compared to gilt meat that is indexed on 100. Boar 1 indicates the first judgement of boar-tainted boar meat, and Boar 2 indicates the second judgement of boar-tainted boar meat. Similar results were found for the family members.



### Sensitivity to androstenone and skatole

The figure below shows the relationship between perceived odour and sensitivity during cooking. Boar-tainted boar chops is rated lower than gilt chops, and the scores for boar chops are even lower when the cook is highly sensitive to androstenone and skatole levels. Similar results were found after preparation and for both the cook and the family member.



Sensitivity from low (1 SD below the mean) to high (1 SD above the mean)\*\* significant difference between boar-tainted boar and gilt at  $p < 0.01$

### Learning effects

We do not find empirical evidence for adjustment effects, as the scores of the second-time boar-tainted boar chops were also significant and negative. The rating of gilt meat after a respondents has encountered boar-tainted boar meat was not significant different from the overall mean. So, when respondents have to rate gilt meat in the week after they had to judge boar-tainted boar meat, the associated gilt scores were in line with the baseline (gilt) ratings.