



The case of boar taint – how sensory provides knowledge for decision-making in the industry

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SITUATION

Proposed stop for surgical castration of male piglets in EU by 2018.

Anticipation of significant increase in the number of slaughtered entire male pigs and the amount of meat containing boar taint.

COMPLEXITY

- Boar taint odour is not one distinct odour but has several shades.
- The compounds, skatole and androstenone, are mainly responsible for boar taint, but the inter-relationship between the compounds is not fully understood.
- The distribution of skatole and androstenone in the carcass and the consequent impact on sensory perception is partly unknown.
- Some people are anosmic towards androstenone – the percentage among Danish consumers are unknown.

CHALLENGE

At which concentrations should the slaughterhouses set the sorting limit with regard to both skatole and androstenone?

Questions to be answered:

- How is the distribution of skatole and androstenone in the carcass?
- Is this distribution related to sensory perception?
- How many Danish consumers are anosmic towards androstenone?
- How many Danish consumers are highly sensitive towards androstenone?
- Can the consumers perceive boar taint odour and flavour in the meat from entire male pigs?
- Is the preference for meat without boar taint from entire male pigs and castrates different?

CHEMICAL ANALYSIS

Measurement of skatole and androstenone in neck fat and in different meat cuts



SENSORY PROFILE

Sensory profile of cooked meat cuts performed by the trained "boar taint panel"



SENSITIVITY TEST

Sensitivity towards androstenone tested among 2000 Danish consumers with paper sticks.



PREFERENCE TEST

Consumer preference test was performed using both CLT (at DMRI) and HUT.



RESULTS

A large number of pigs and meat cuts were used in the studies. Equally, a large number of consumers participated in the studies. With the complexity related to boar taint it was of the utmost importance to collect representative data.

- Skatole and androstenone were detected in all meat cuts regardless of fat content
- Boar taint was perceived also in very lean cuts as loin and tender loin
- Approx. 70% are anosmic towards androstenone
- Approx. 10% are highly sensitive to skatole and androstenone
- Liking decreased with increasing concentrations of androstenone and skatole
- Tenderness of pork chops was the most important attribute for eating quality for consumers

DECISION

