

Use of tainted boar meat for processed meat products

Kristensen, L., Tørngren, M. & Claudi-Magnussen, C.

Danish Meat Research Institute (DMRI), Meat Quality, Maglegaardsvej 2, 4000 Roskilde, Denmark

Objectives

To clarify the effect of androstenone, skatole, indole, cooking and serving temperature on the perceived boar taint in processed whole meat cuts from entire males.



Impact of:

Androstenone
Skatole
Indole
Cooking temperature
Serving temperature



Impact of:

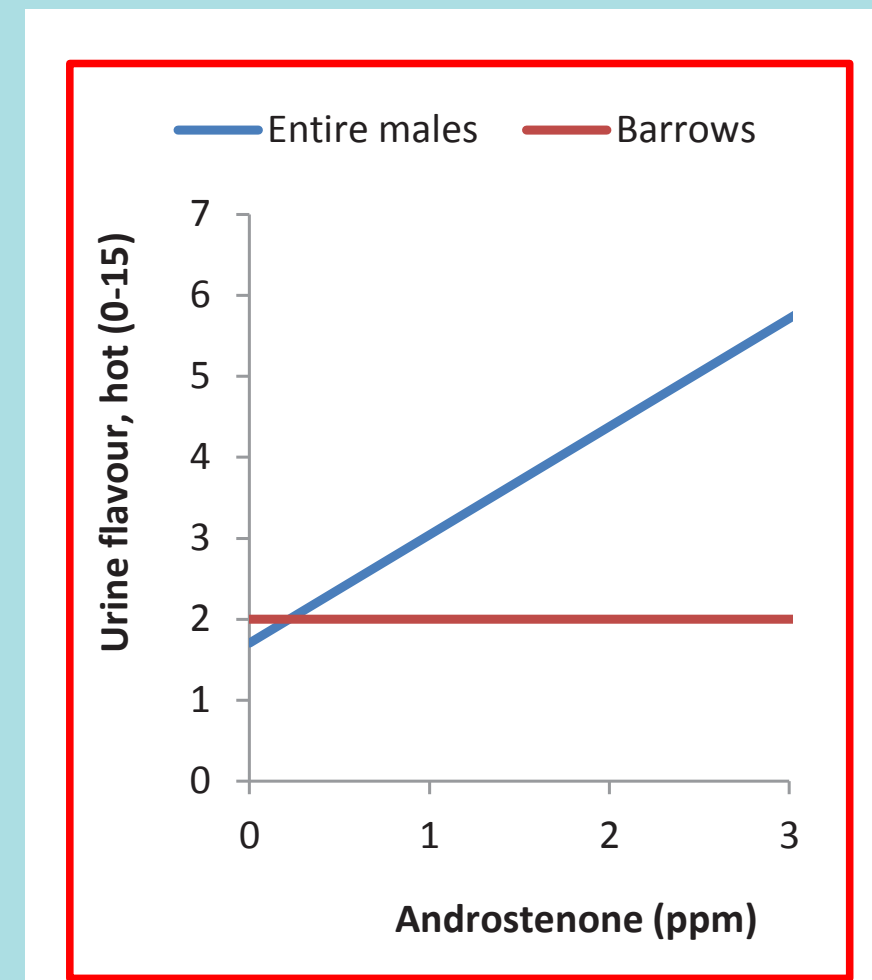
Androstenone
Skatole
Indole



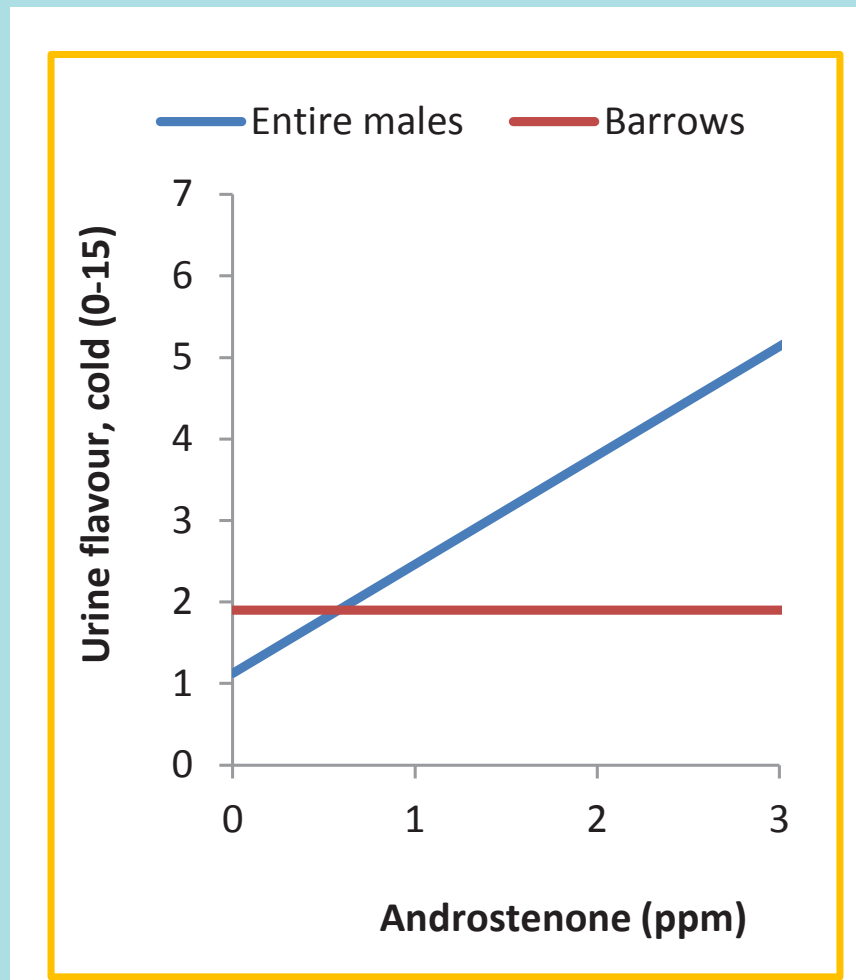
Impact of:

Androstenone
Skatole
Indole
Serving temperature

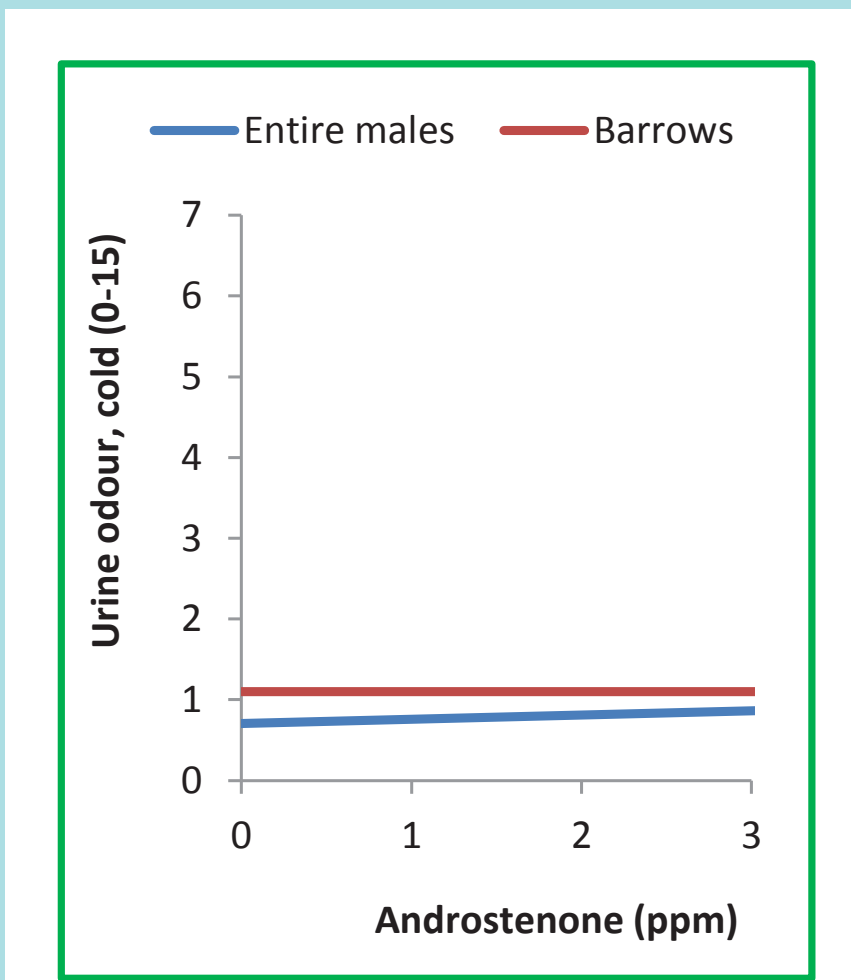
Cooked smoked ham



Androstenone should be below 0.2 ppm when serving ham hot (65°C).



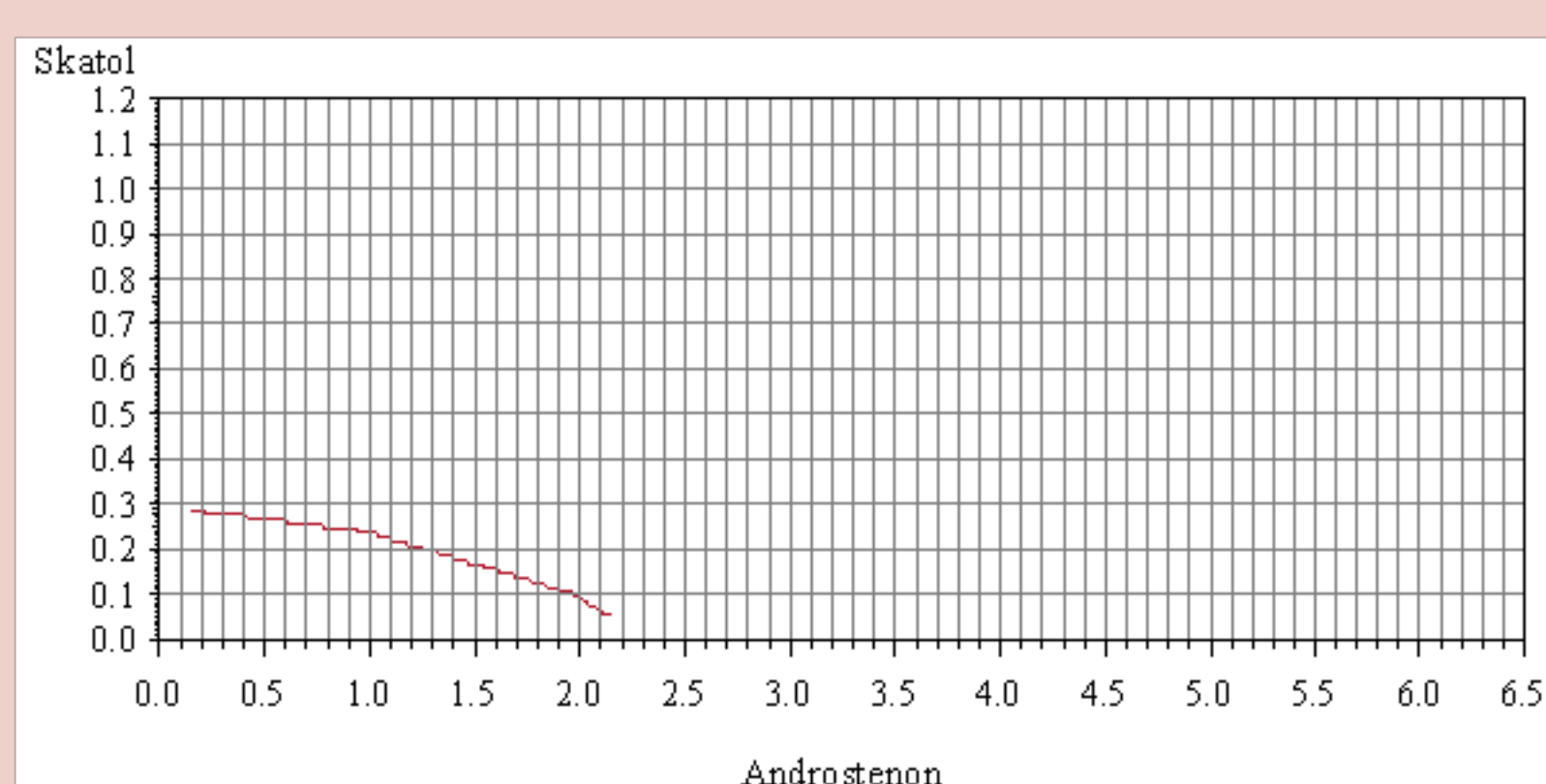
Androstenone should be below 0.4 ppm when serving ham cold (23°C).



Cold serving eliminates odour attributes.

- Androstenone has a major effect and should be below 0.4 ppm when serving ham cold or below 0.2 ppm when serving ham hot.
- Variation in skatole is not reflected in boar taint.
- Core temperature in the range of 70°C-90°C has no effect on perceived boar taint.
- All odour attributes can be eliminated when serving ham cold.
- Pungent flavour is the most intense flavour attribute, whereas urine flavour is the most critical attribute.

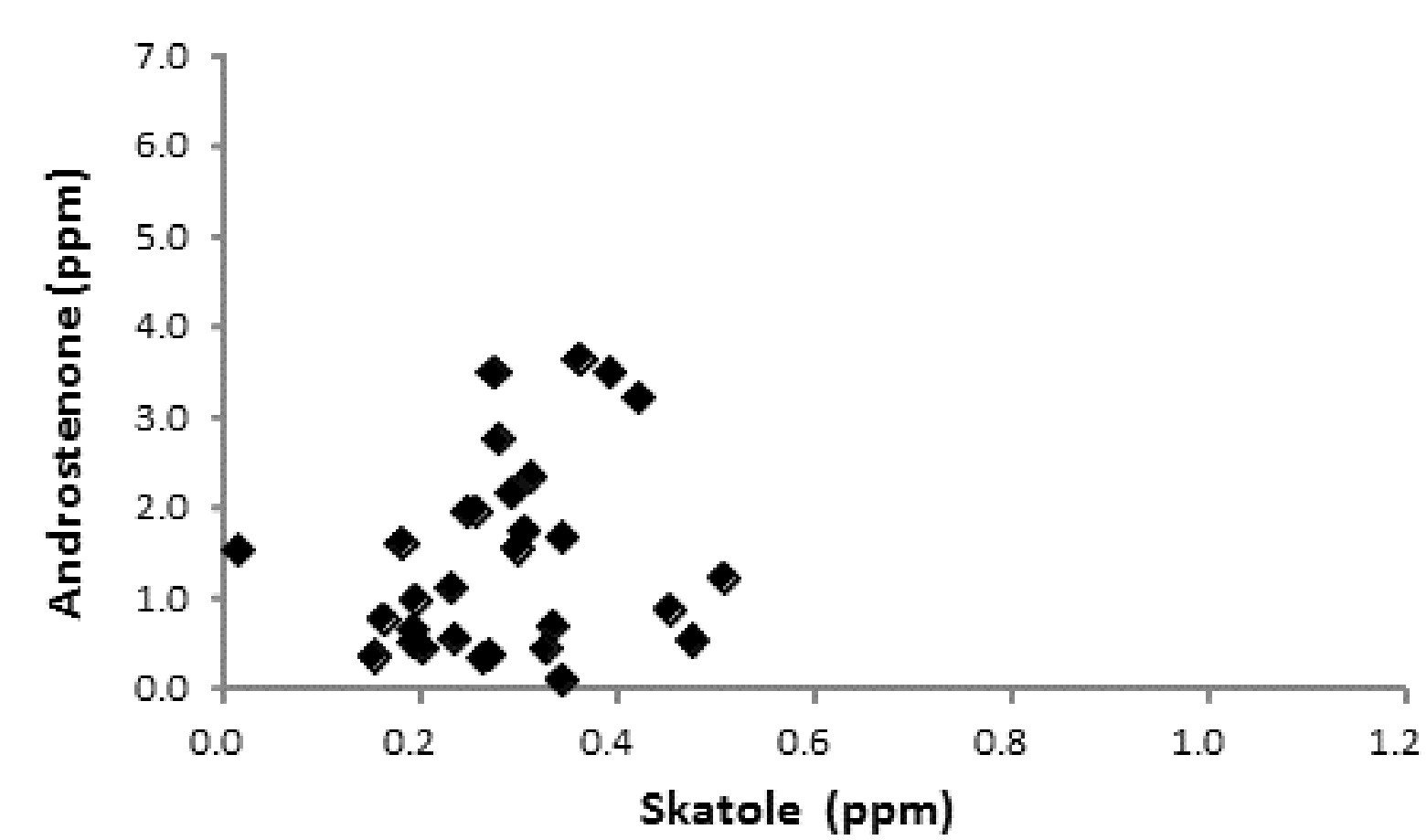
Danish flank roll



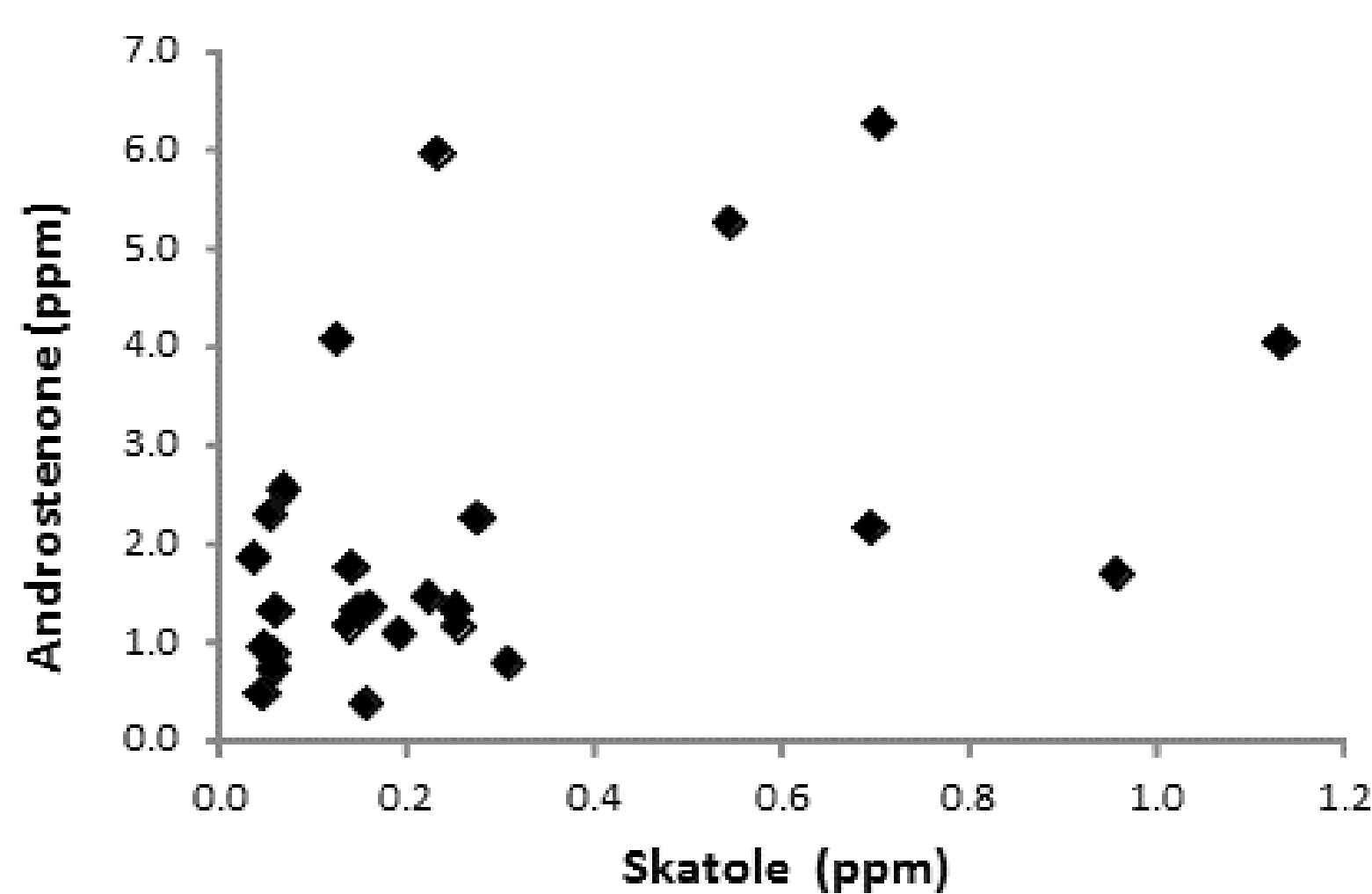
- Heat treatment at 72°C does not eliminate the impact from skatole on perceived boar taint.
- Androstenone and skatole have a major effect on perceived boar taint.
- Manure flavour is the most intense attribute, whereas manure aftertaste is the most critical attribute.
- Androstenone content should be below 2.1 ppm (if skatole content < 0.05ppm), and skatole content should be below 0.3 ppm (if androstenone content < 0.2 ppm).

Materials & methods

Entire males and barrows were selected at a Danish slaughter house. Androstenone, skatole and indole levels were determined on neck fat samples using HPLC and predictive models were evaluated for the three components impact on boar taint attributes. Barrows were used as acceptance level (mean+2sd).

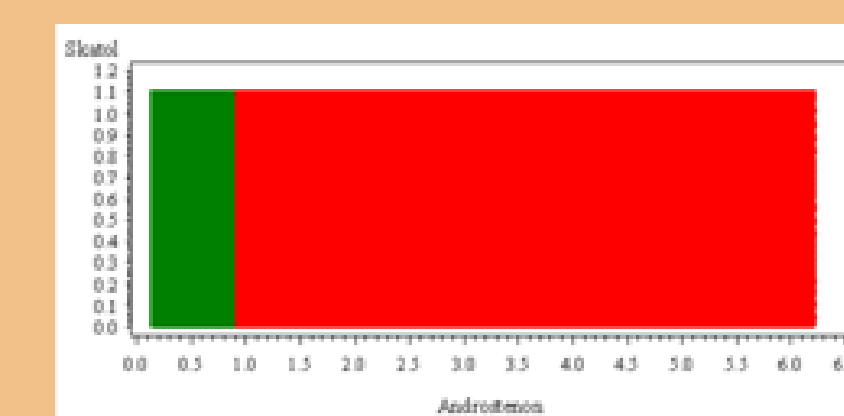


Cooked smoked ham: Skatole and androstenone levels in entire males.

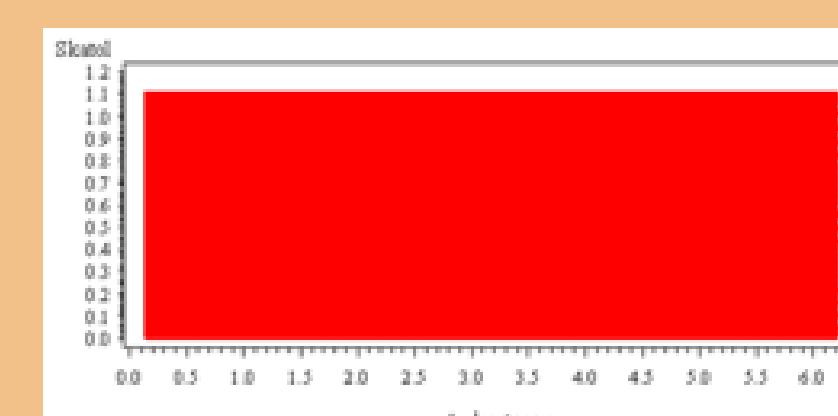


Flank roll and bacon: Skatole and androstenone levels in entire males

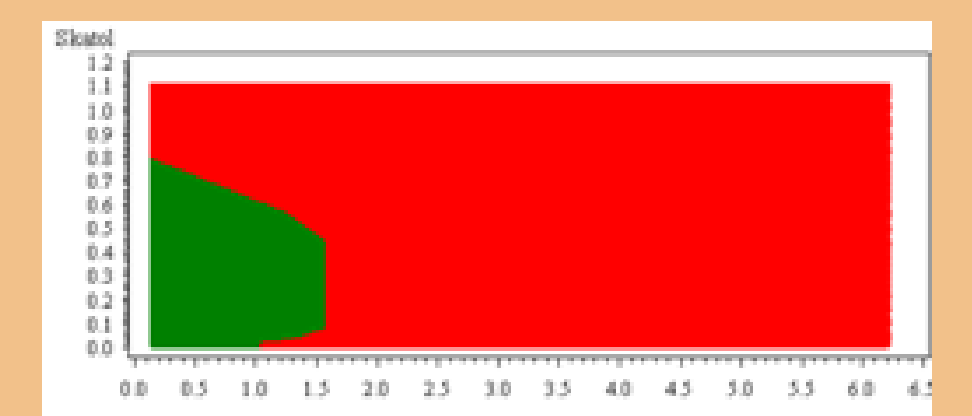
Smoked streaky bacon



Kitchen: Androstenone is solely responsible for boar taint during frying



Serving hot: Serving bacon hot is not recommendable



Serving cold: Serving bacon cold can eliminate unpleasant boar odour but not the boar flavour

- Androstenone and skatole have a major effect on perceived boar taint in smoked streaky bacon.
- Androstenone is solely responsible for boar taint during cooking, and should be below 0.9 ppm to avoid boar taint in the kitchen.
- Serving bacon hot is not recommendable.
- Serving bacon cold can eliminate unpleasant boar odour, but not the boar flavour.
- Pungent, sweet and urine odour are the most intense attributes in hot bacon, whereas sweet and urine flavour is the most intense in cold served bacon.
- Cold served bacon should never exceed 0.9 ppm androstenone and 0.8 ppm skatole in the neck fat.

Acknowledgement

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Contact information
Email: LRK@dti.dk