

# Acceptability of entire male pork with various levels of androstenone and skatole by French consumers according to their sensitivity to androstenone

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# Aim of the study

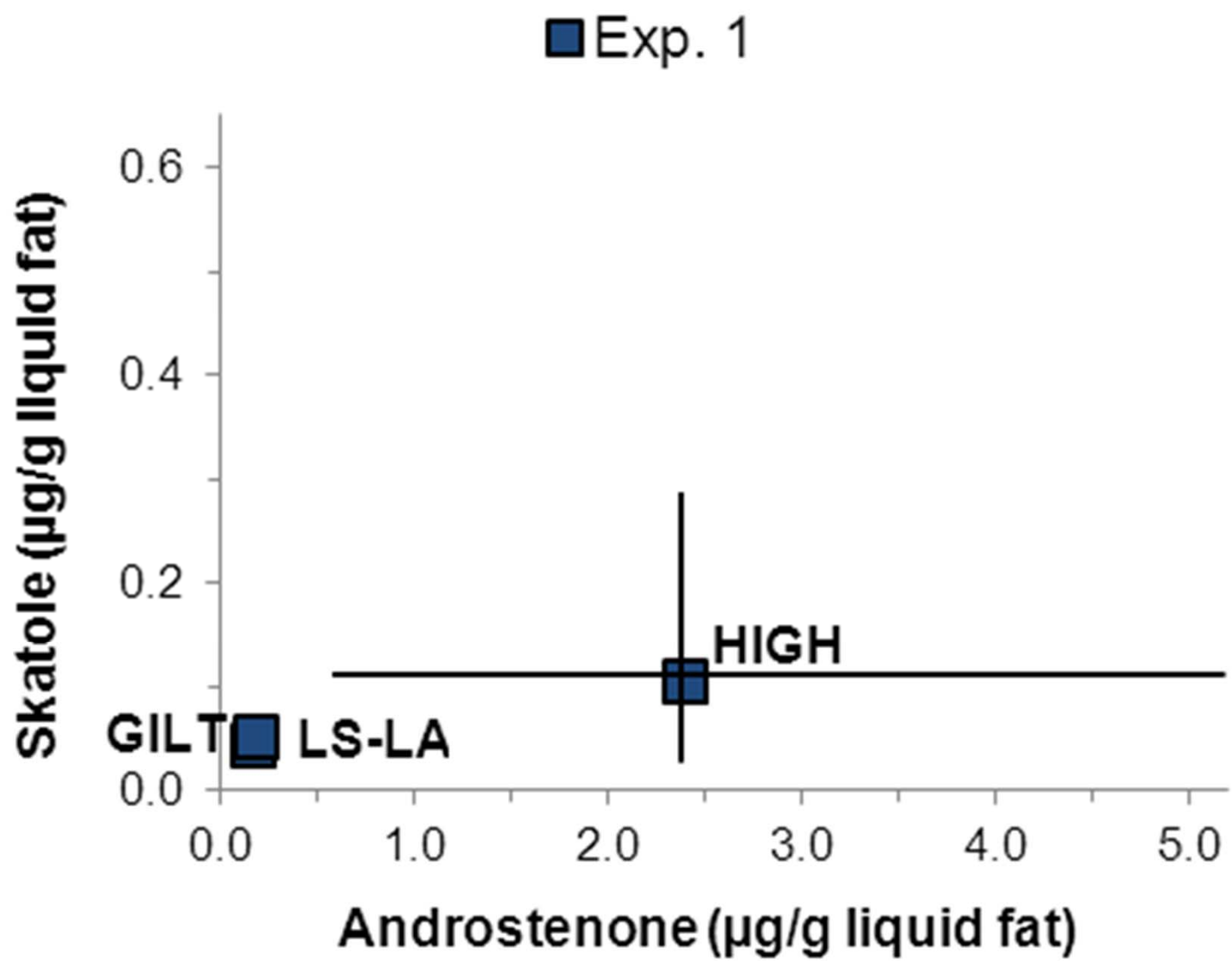
- Investigate the effect of various combinations of skatole and androstenone levels on the acceptability of pork by French consumers
- Determine the extent to which the evaluation of entire male pork by consumers is affected by their ability to smell androstenone.

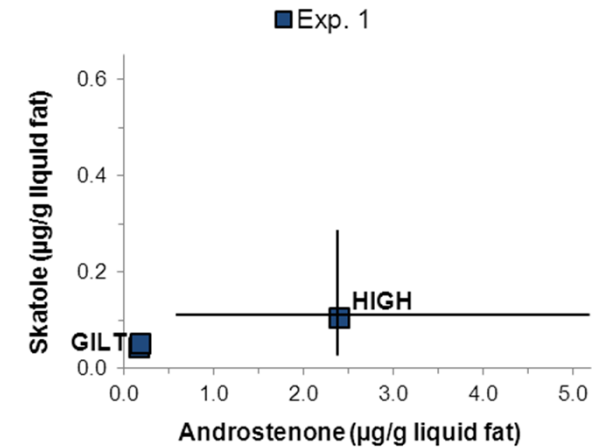
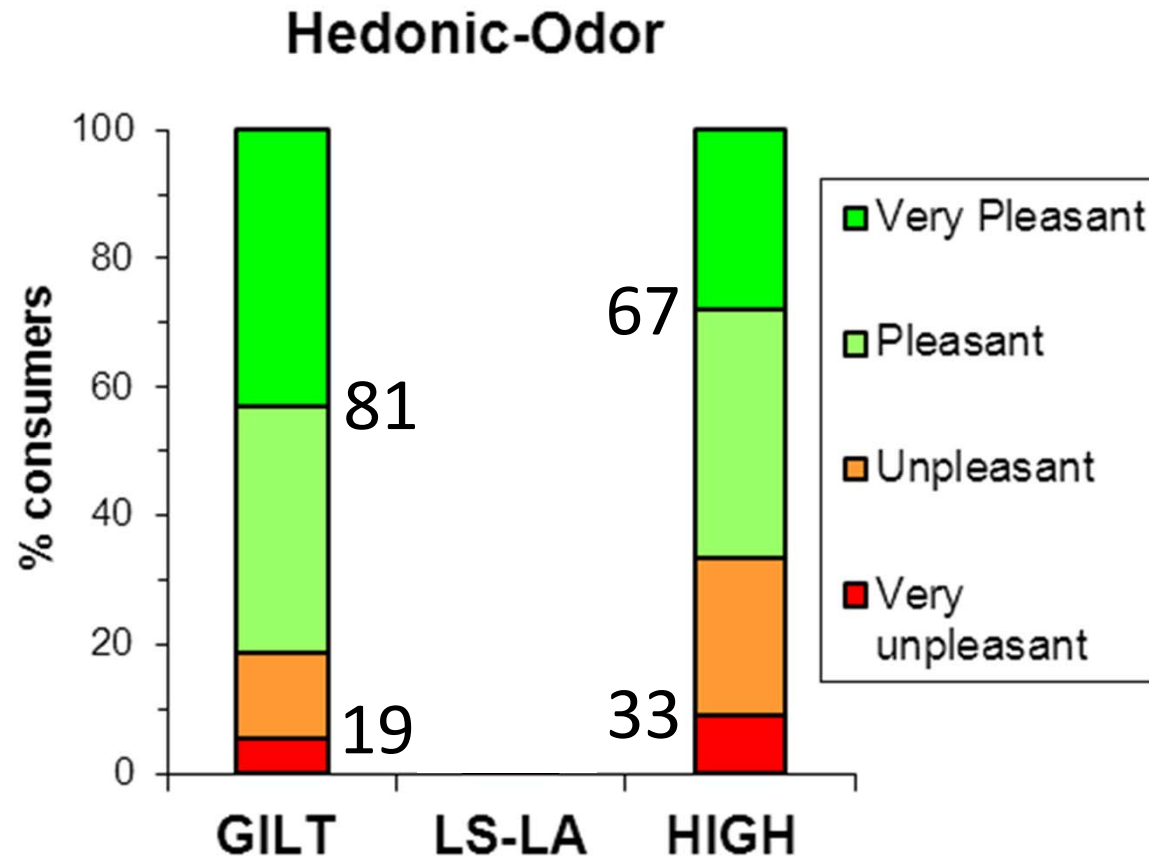
# Material and Methods

- 3 experiments
- Each experiment involved 140 consumers
- Consumers tested for their sensitivity to the odour of pure androstenone
  - INSENS: cannot smell it
  - SENS-PLEA: can smell, perceive it as pleasant
  - SENS-UNPL: can smell, perceive it as unpleasant

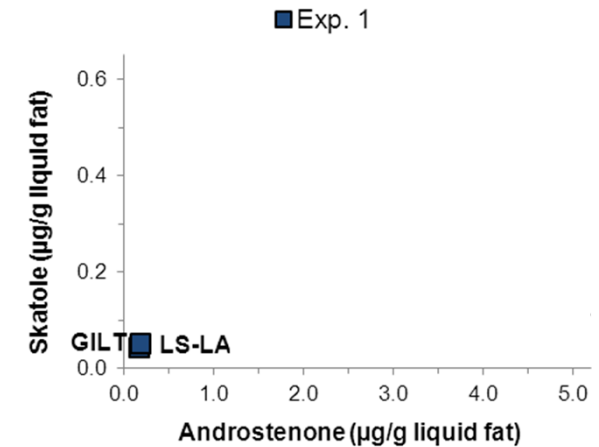
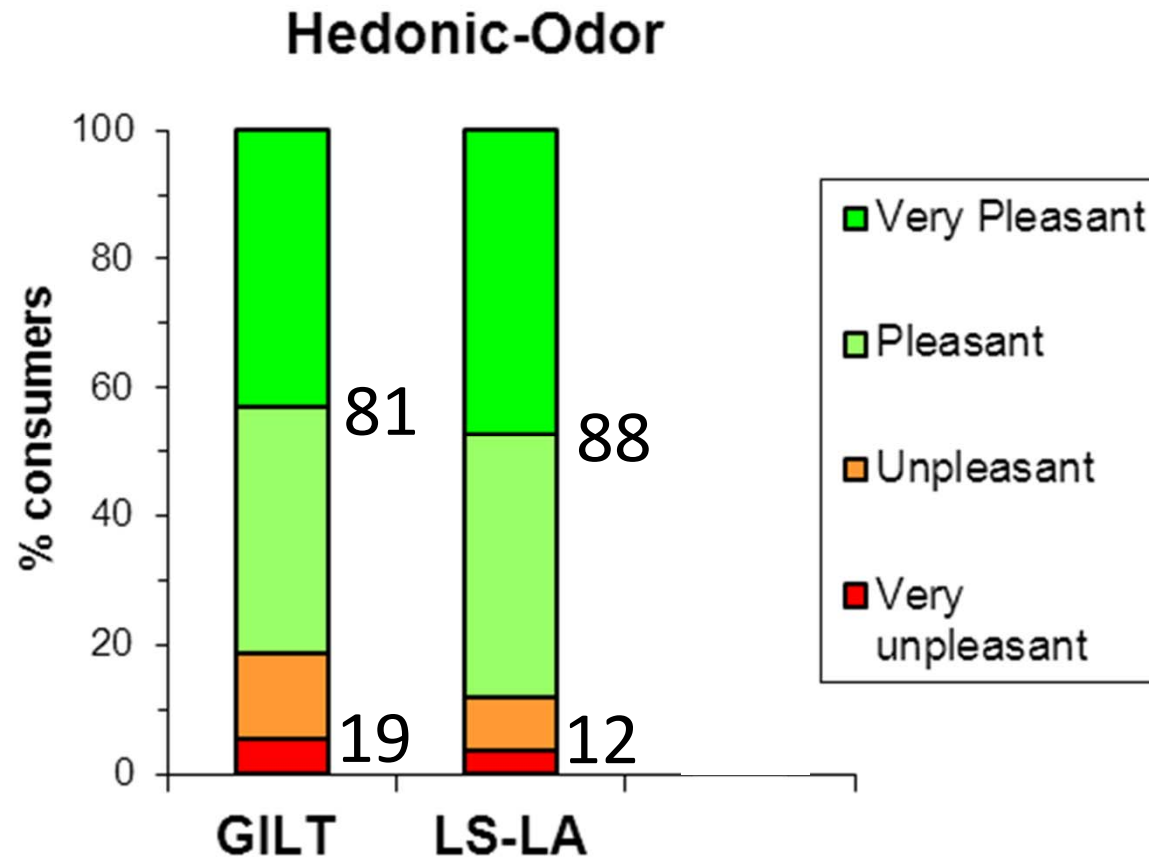
# Material and Methods

- Fresh pork from the loin
- 5 mm backfat left on the meat
- Fried in a pan
- Assessed at eating
- Fat androstenone and skatole levels
  - measured with HPLC
  - expressed as  $\mu\text{g}$  per g liquid fat

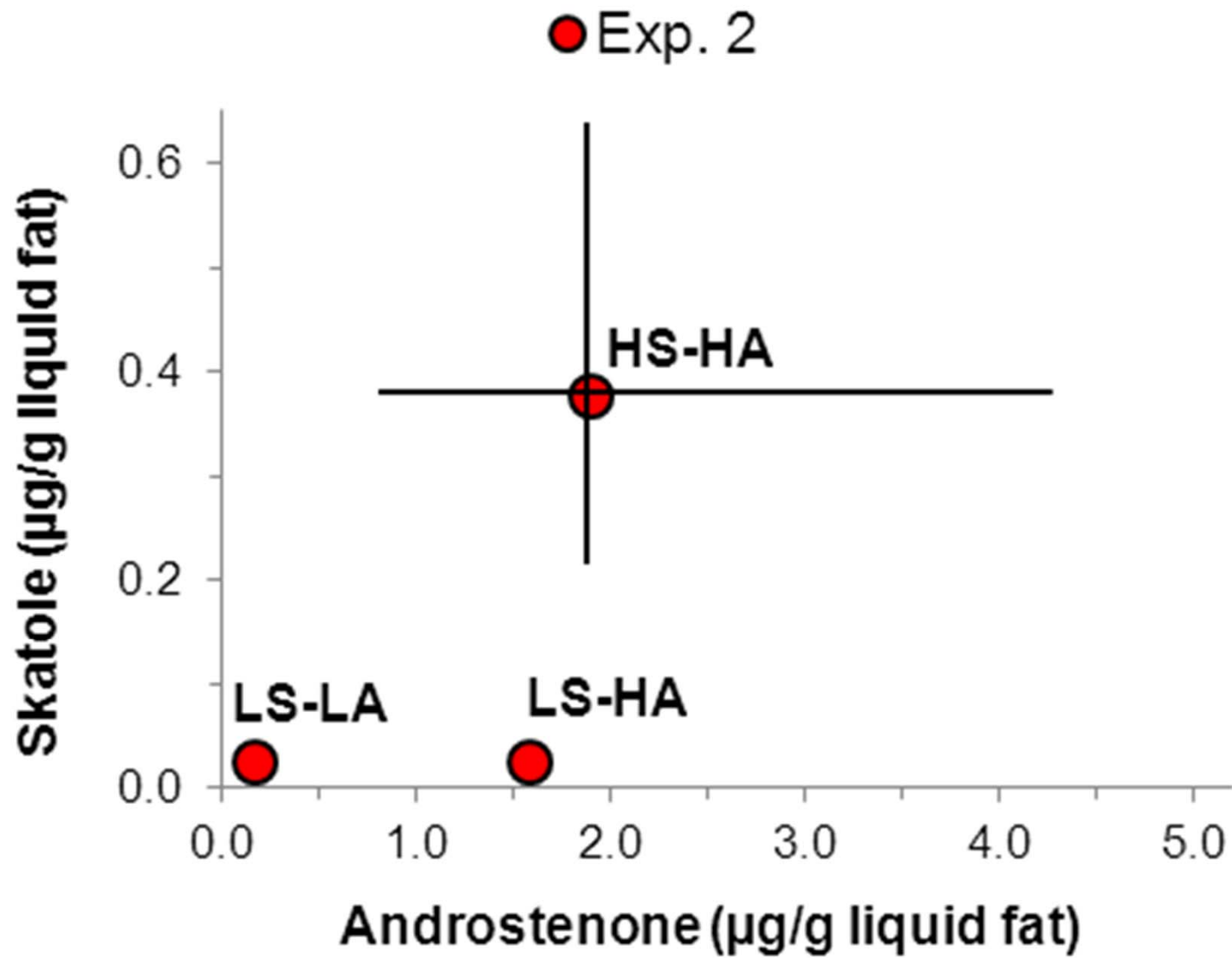




- French consumers differentiated
  - entire male pork with high levels of boar taint compounds
  - from gilt pork

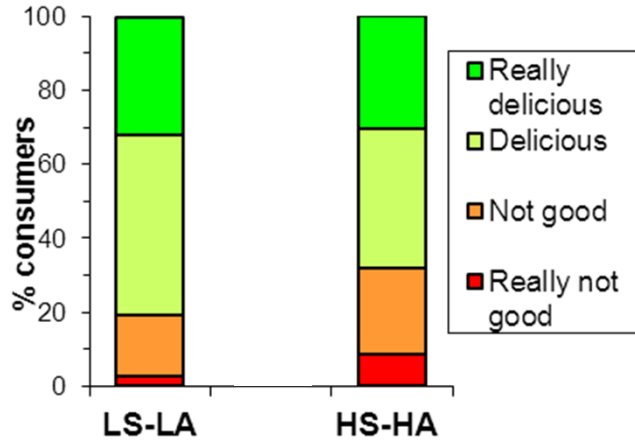


- French consumers did NOT differentiate
  - entire male pork with very low levels of androstenone and skatole (similar to those observed in gilt pork)
  - from gilt pork

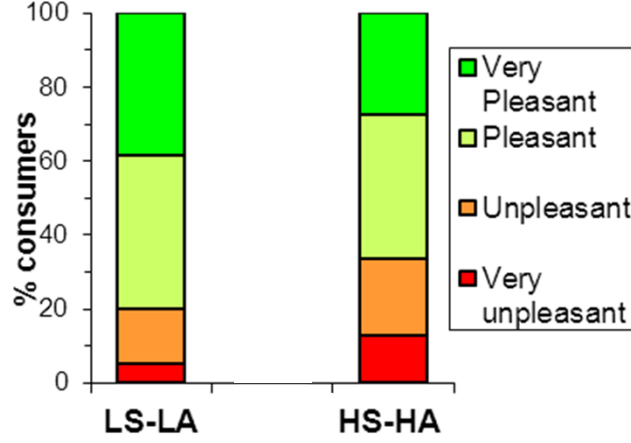




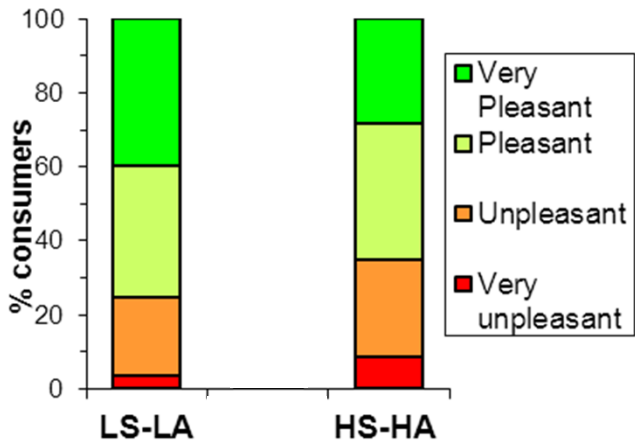
### Hedonic-Delicious



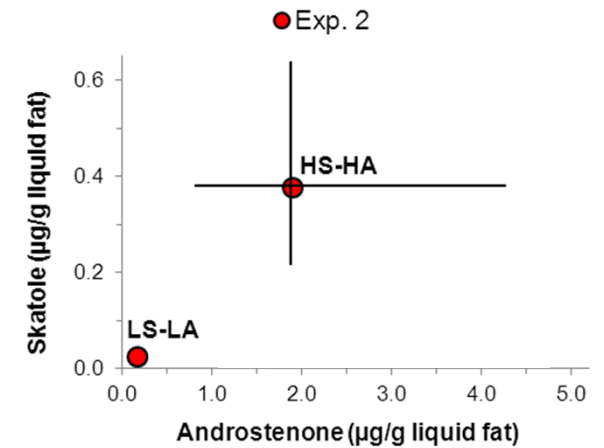
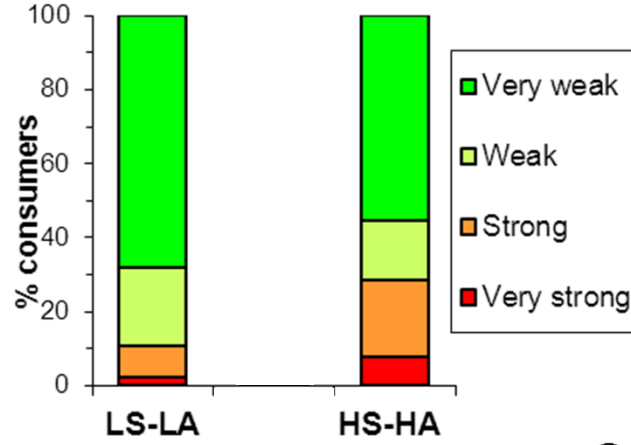
### Hedonic-Odor



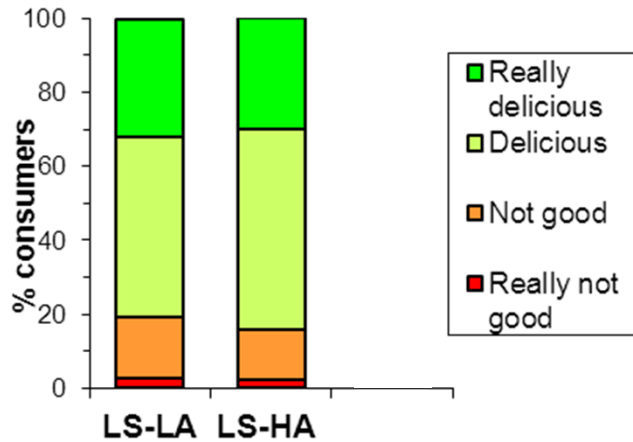
### Hedonic-Taste



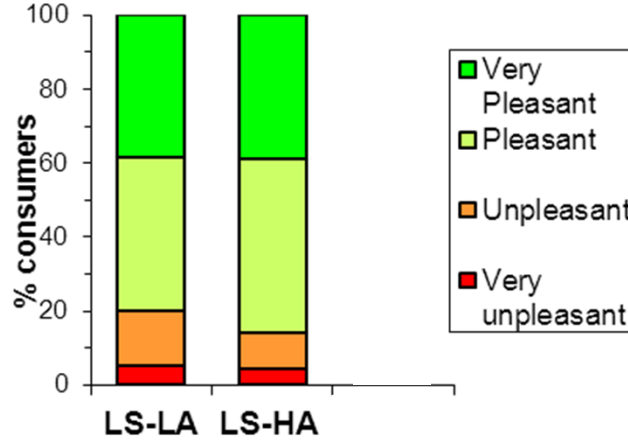
### Intensity-Abn. odor



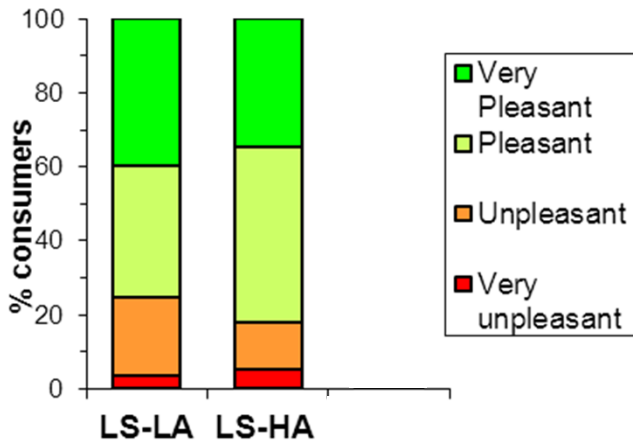
### Hedonic-Delicious



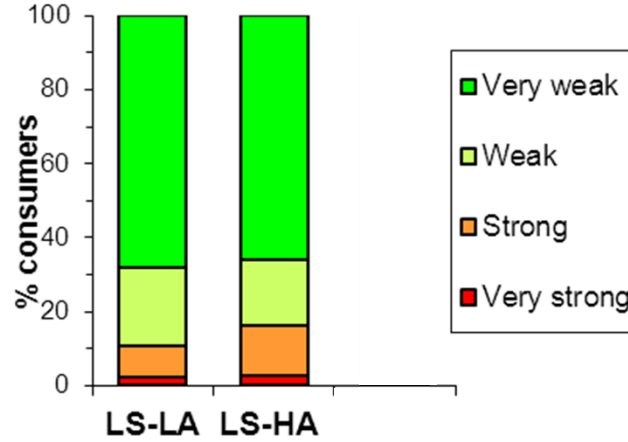
### Hedonic-Odor



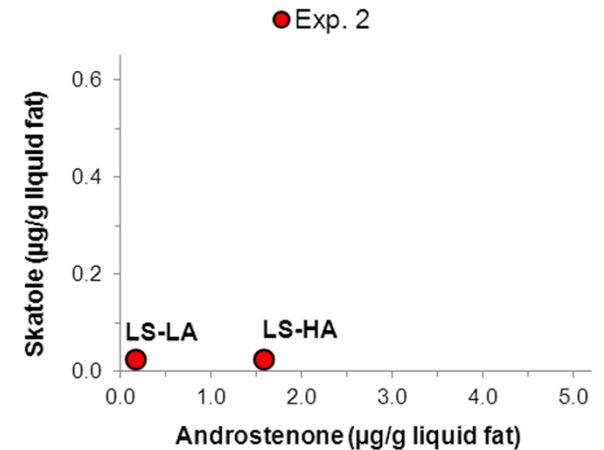
### Hedonic-Taste



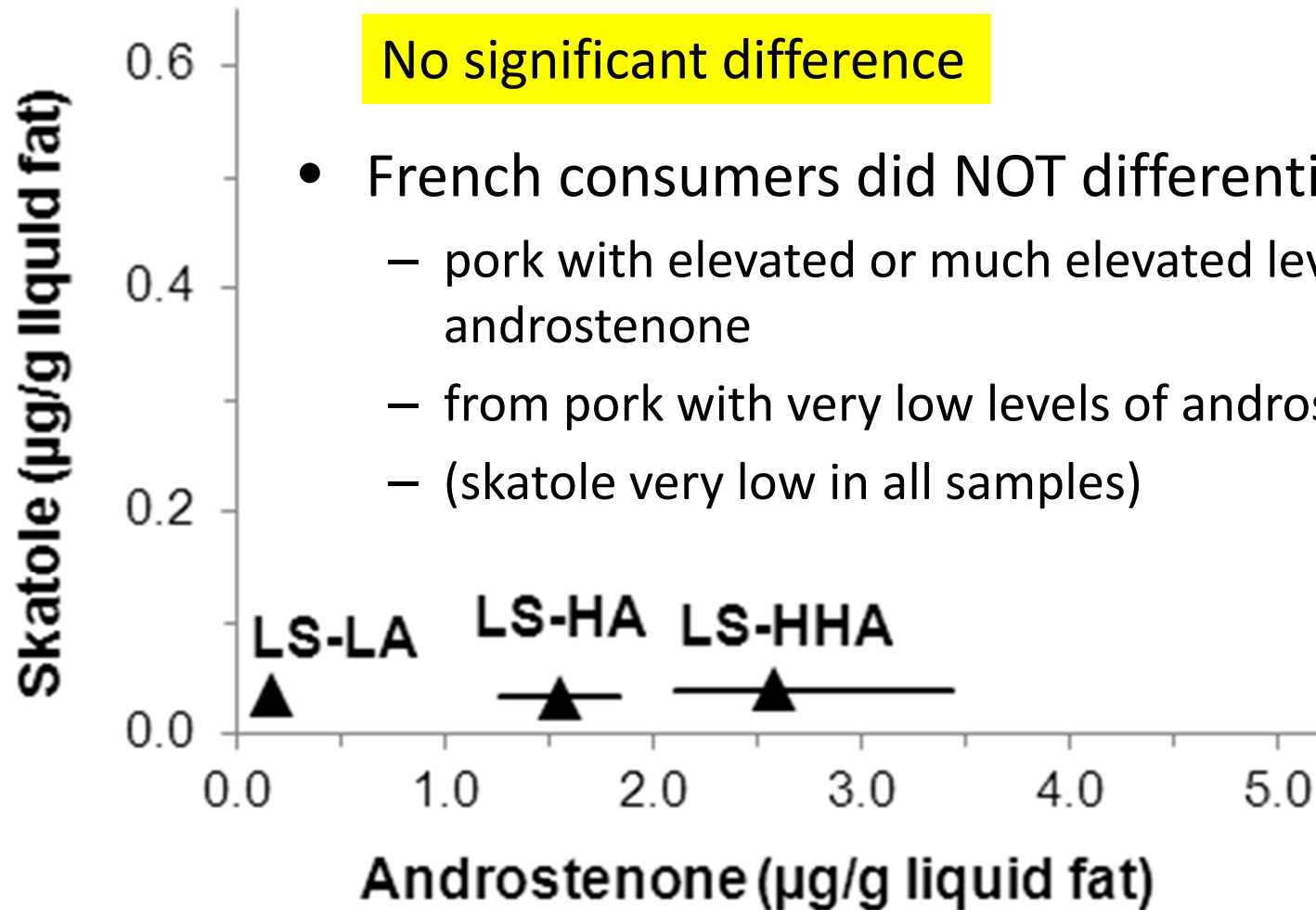
### Intensity-Abn. odor

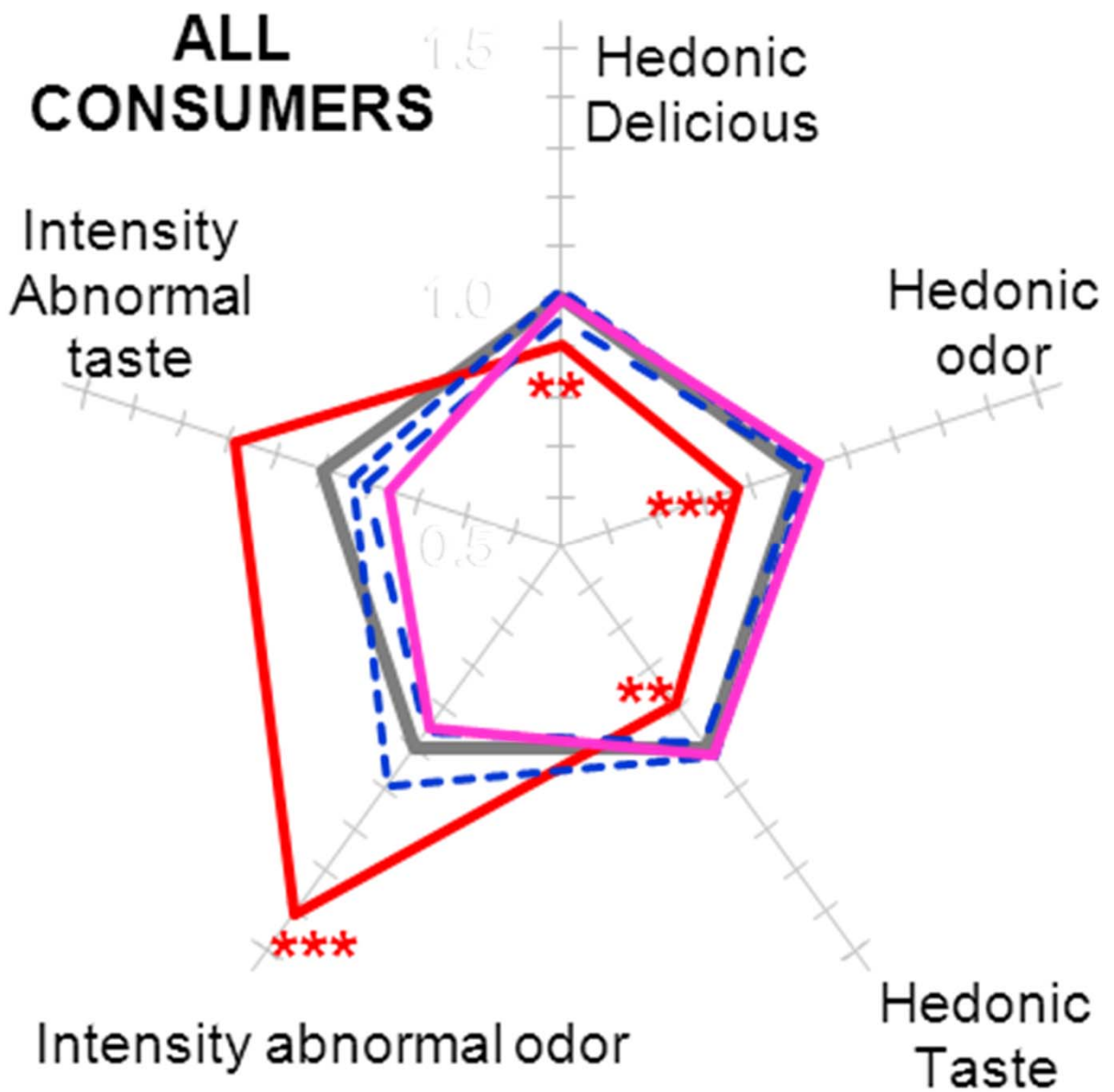


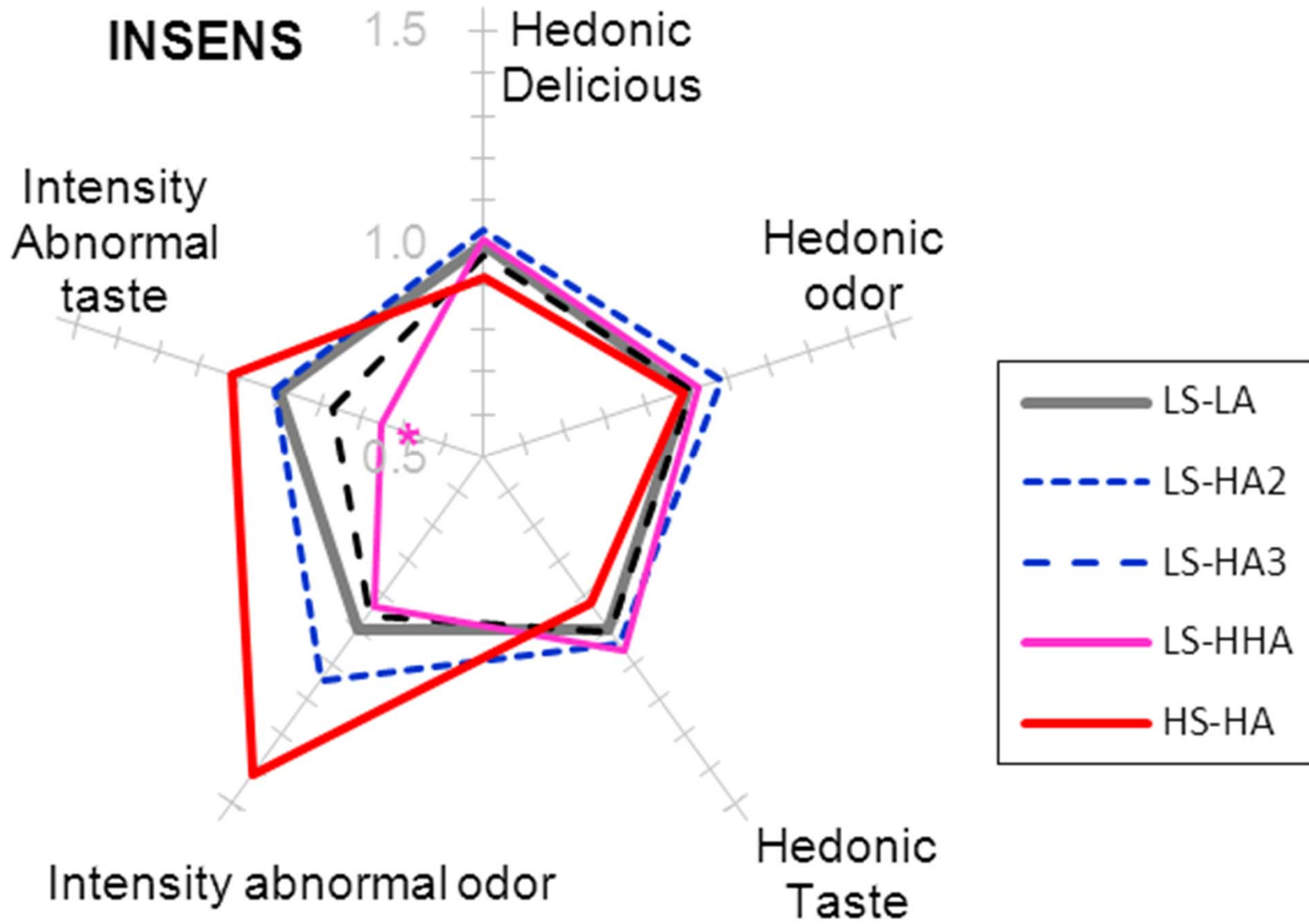
- French consumers did NOT differentiate
  - pork with elevated levels of androstenone
  - from pork with very low levels of androstenone
  - (skatole very low in all samples)

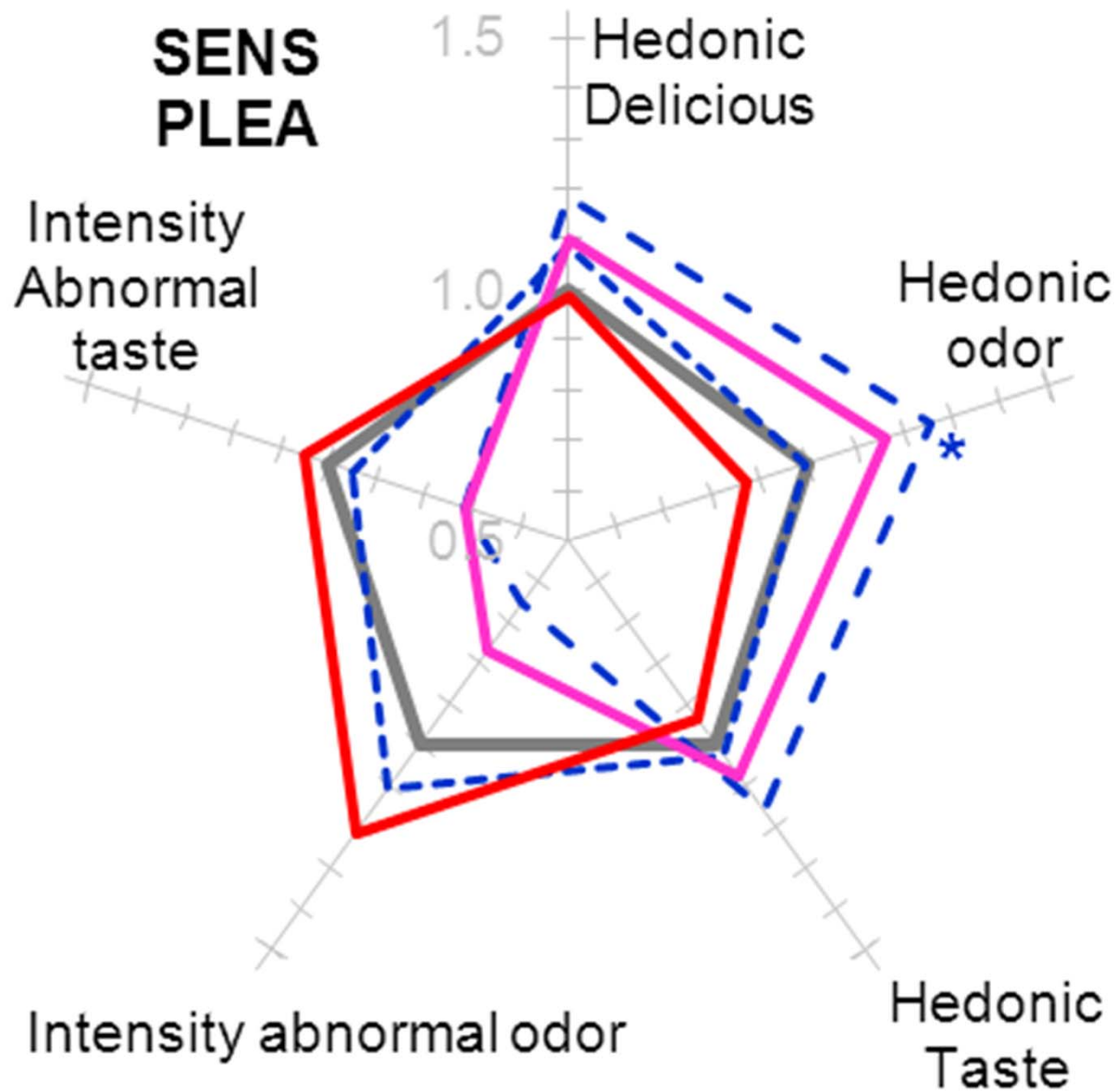


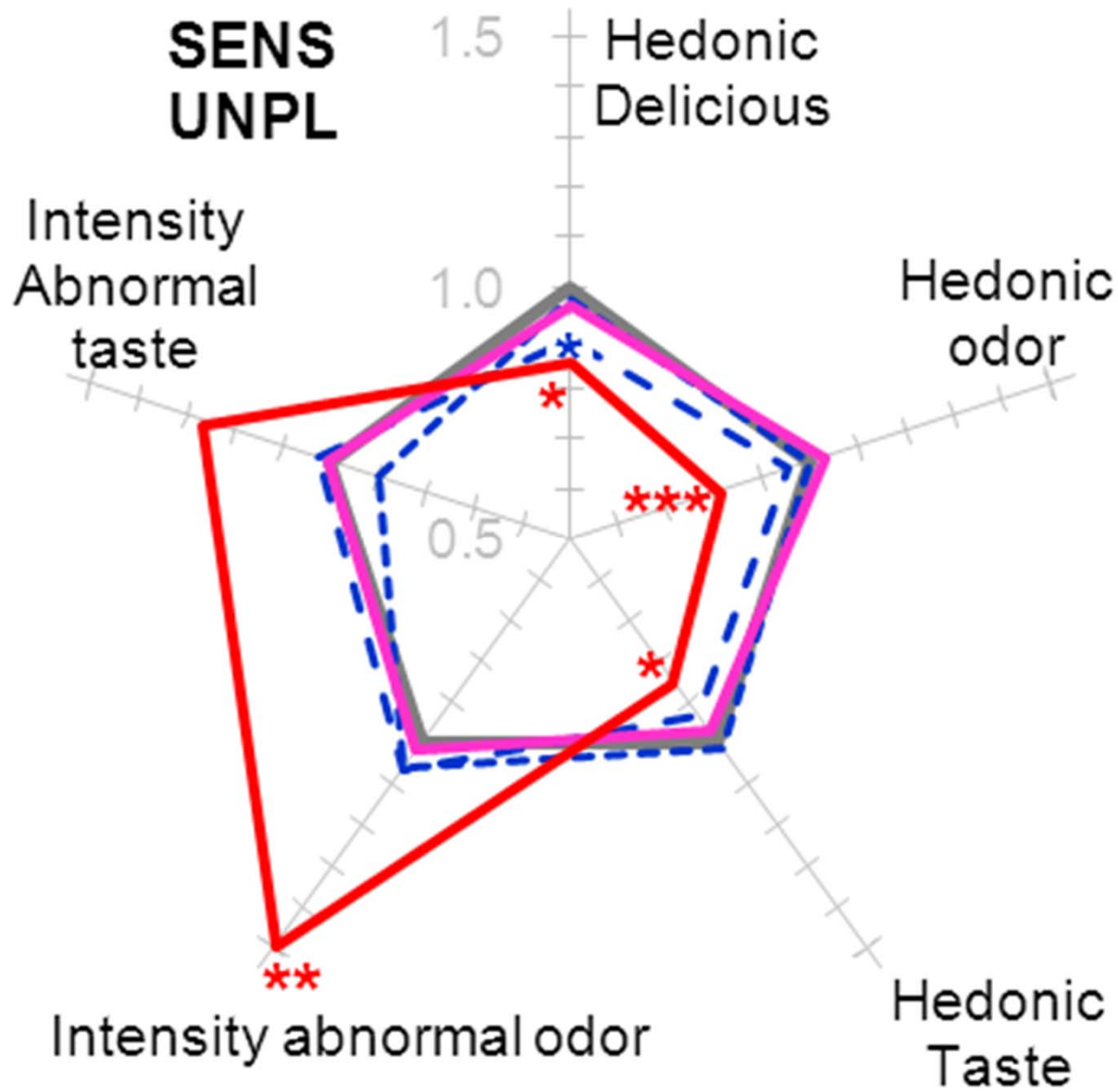
▲ Exp. 3











# Main conclusions

- For French consumers eating entire male pork
  - Entire male pork with very low levels of androstenone and skatole are as well accepted than gilt pork → there is no need to look after other compounds
  - In the absence of skatole, the acceptability threshold for androstenone is likely higher than 2.0 µg / g liquid fat
  - Consumers sensitive to the odour of pure androstenone are more likely to perceive boar taint in pork with high levels of androstenone and skatole whereas they hardly perceive high levels of androstenone in the absence of skatole



# Limitations and perspectives

- Whether these results apply for COOKING odour remains to be investigated
- Further investigations are needed regarding
  - threshold levels for skatole in the absence of androstenone
  - interactions between the perceptions of androstenone and skatole