

Inter-Animal Variability in Androstenone Transport and Potential Effect

on the Development of Boar Taint

Christine Bone¹, Jocelyn Cameron¹, E.J. Squires¹





Introduction

- Boar taint is a meat quality issue caused by the accumulation of androstenone in the fat, which affects some boars more than others
- Androstenone is a sex pheromone that is transported to the adipose tissue in the plasma by albumin
- Variability in the binding efficiency of androstenone for albumin between animals may influence the degree of accumulation in the fat

Objective

• To characterize the binding specificity of androstenone in the plasma from animals with high fat androstenone (HFA) and low fat androstenone (LFA) concentrations at slaughter

Materials and Methods





Results

	Average Fat Androstenone Concentration (μg/g)	Average Androstenone Binding Specificity in Plasma (%)	Average Albumin Concentration (mg/ml)
HFA Boars	20.9 ± 2.0	14.1 ± 4.4	8.0 ± 0.2
LFA Boars	1.8 ± 0.4	21.8 ± 5.2	7.7 ± 0.2

Conclusions

- The concentration of albumin in the plasma was not different between HFA and LFA boars
- The percentage of androstenone displaced in plasma from HFA boars was significantly less (p=0.01) than the displacement observed in plasma from LFA boars
- Variability in androstenone binding specificity exists among individuals, which is not a result of different albumin concentrations in the plasma, and may influence the accumulation of androstenone in the fat

Acknowledgements

This work was supported by grants to EJS from the Natural Sciences and Engineering Research Council of Canada and the Ontario Ministry of Agriculture Food and Rural Affairs.