Performance and carcass quality of entire male pigs fattened on a commercial farm in Switzerland

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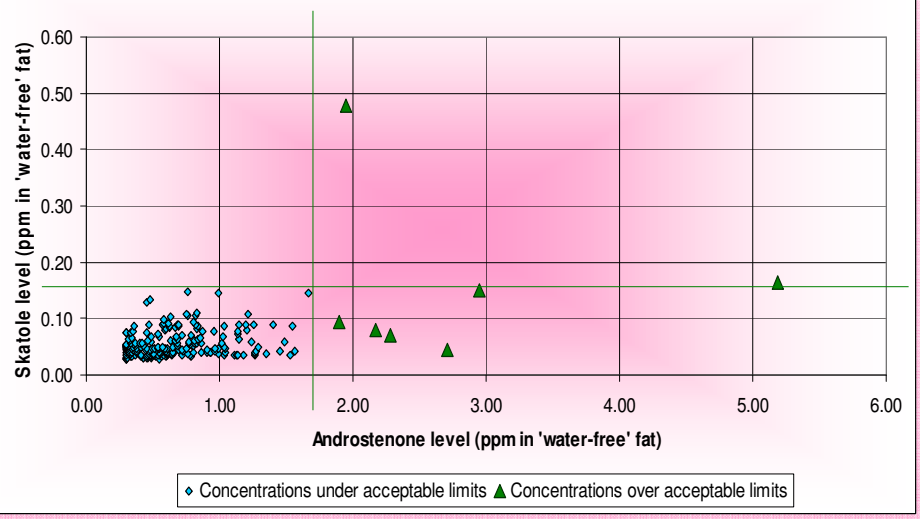
Introduction

In Switzerland, piglet castration without anaesthesia will be banned January 1, 2009. Fattening young boars could be an interesting alternative. Boars achieve better feed conversion ratio, better carcass traits and higher lean meat percentage. Organoleptic qualities of meat from some boars could be impaired by unpleasant cooking odour and flavour (boar taint). The aims of this trial were to determine the level and seasonal variability of boar taint under Swiss commercial conditions.

Method

Five hundred and eight boars (*Swiss Large White x Duroc * Swiss Large White x Swiss Landrace*) were fattened in a commercial barn with 10 pens of 20 animals each. The diet consisted of corn cob mix, protein concentrate (soybean cake, wheat starch, rapeseed cake, broken rice, sugar beet pulp) and water (15.5 MJ DE, 188 g CP and 10 g d lys per kg DM). Row potato starch (300 g per day) was distributed over the soup 5 days before slaughter. Live weights at slaughter were calculated from hot carcass weight (78% dressing percentage). Lean meat percentage was measured with Autofom (Fully Automatic Ultrasonic Carcass Grading). Indole, skatole and androstenone concentrations in the backfat were determined from 180 animals randomly selected over time. Fat sample were liquefied in a microwave oven and analysis were done by HPLC based on the method described by *Dehnhard et al.* (1993) and *Hansen-Møller* (1994). Multiple regressions and ANCOVA were conducted to evaluate factors influencing androstenone and skatole concentrations.

Fig. 1: Androstenone and skatole levels in the backfat of boars



Results

Average carcass hot carcass weight was 72.3 ± 10.6 kg (average age 164.6 ± 8.5 d). Average daily gain (543 ± 91 g/d; from birth to slaughter) varied a lot during the year. Lean meat percentage was 56.5 ± 2.4 %. Skatole levels in the backfat ranged from 0.03 to 0.48 ppm while androstenone levels ranged from 0.3 to 5.2 ppm (Fig. 1). Out of 180 boars, only two animals exceeded the acceptable skatole level of 0.17 ppm and 7 animals exceeded the androstenone limit of 1.7 ppm (limits are set for „water-free" fat). Skatole was not affected by any of the investigated parameters. Carcass weight, slaughter age and birth period influenced the androstenone level in the backfat (R^2 adjusted by 10%; probability level of the model: $P < 0.001$). Boars slaughtered in March and April had higher ($P < 0.05$) androstenone levels than those slaughtered in May and October (0.98 and 0.68 vs. 0.54 and 0.52 ppm.

Conclusions

Slaughtering boars at a maximum of 170 d of age allowed keeping boar taint reasonably low; however, average daily gain and carcass weight have to be improved.

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