

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

EFFECT OF DIETARY INULIN ON THE LEVELS OF ANDROSTENONE AND SKATOLE IN BACK FAT OF ENTIRE MALE PIGS

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Abstract: Androstenone and skatole are two main compounds responsible for boar taint, an off-odour found in meat of some entire male pigs, which depreciate meat. The effect of dietary inulin on concentration of androstenone and skatole in belly fat was evaluated. Crossbred pigs (progeny of Large White x Landrace dams sired by Pietrain boars) from 30 litters were used for the study. The same commercial diet, *ad libitum* access, was given to the animals until 5.5 months age. Then, pigs were allocated to three treatment groups (n=10). All received commercial feed 2.8 kg per pig-day and the diet of 2 groups included 3% or 6% inulin, for 2 months prior to slaughter. Pigs were slaughtered at same day. Androstenone and skatole were determined by high liquid chromatography with a fluorescence detector and a Hypersil ODS column (5 µm, 250x4.6 mm) operated at 40 °C. The effect of the two inulin concentrations on moisture content, pH, drip loss and colour parameters (L*, a*, b*) was not significant (P>0.05), however the meat from pigs fed with 3% inulin group had higher hardness value (P<0.05). The inclusion of 3% or 6% inulin in the finisher diet of entire male pigs affected differently the concentration of skatole and androstenone in liquid fat. An ANOVA test was used for statistical treatment of physicochemical and androstenone data but not applicable to skatole due to the high variability of the analysed treatment groups. The skatole levels in the control group have a very high variability (s²=0.0019), however in both groups, 3% and 6% inulin, skatole decreases significantly, with s²=0.00010 and s²=0.00028 respectively. Between these two groups there is no significant difference in the variance (P=0.91) neither in the average values (P=0.94). It seems that the addition of inulin to pig diet reduces the variability of skatole concentration in pig fat. In this study, the skatole levels in pigs fed with inulin are all in the first quartile of the control group. The average values are 0.047±0.044, 0.017±0.010 (3% inulin) and 0.017±0.017 (6% inulin) µg/g liquid fat. The levels of androstenone did not differ between the 3 groups (P=0.36). The average androstenone levels were 0.56±0.26, 0.46±0.26 and 0.40±0.23 µg/g liquid fat in control group, 3% inulin or 6% inulin groups respectively. It seems that the inclusion of inulin in pig feed has a strong effect in the variability of skatole concentration, but no effect in the variability or average of androstenone levels in pig fat.

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Keywords: Boar taint, Androstenone, Skatole, Inulin

Acknowledgments: POCI-01-0247-FEDER-017626 - PIGS+CARE, co-financed by FEDER through COMPETE 2020 - Operational Program for Competitiveness and Internationalization. The feeding experiments were conducted by Escola Superior Agrária de Coimbra, Portugal, a partner in this project.

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