

**Boar taint compounds in different fat tissues
within the pig**

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ABSTRACT

The most common adipose tissue site sampled in the pig carcass for analyses of boar taint is subcutaneous backfat. Consumption of fresh pork however, includes mostly of intermuscular and intramuscular fat. Taint compounds, androstenone, indole and skatole, are lipophilic and accumulate in fat with age. Since the relative growth rates and chemical components of intermuscular and subcutaneous fat are reported to differ, the levels of taint compounds may differ also. Analysis of taints was carried out in different sites of the pig carcass: total minced fat taken from the left side of 19 carcasses (experiment 1); intermuscular fat, ventral and dorsal subcutaneous fat from the shoulder of 5 Duroc and 5 Large White (experiment 2) were studied. In experiment 1, there were no significant differences between the mean values of either taint compound in total minced fat and subcutaneous backfat. Correlation coefficient between measurements of skatole and androstenone were high ($r = 0.808$ and 0.724 respectively; $P \leq 0.001$), but not for indole ($r = 0.131$). However, further analysis demonstrated that the measurement of subcutaneous backfat was shown to possibly overestimate the concentration of taint compounds in total fat at higher levels of taint. In experiment 2, a significant difference between breeds was observed ($P < 0.001$). Although there were no differences between sites, it was observed that there is also a possible trend for subcutaneous backfat to contain higher levels of androstenone than those seen in the 3 shoulder sites, particularly in Duroc pigs. Log transformation of the data improved the statistical analysis by reducing variation as the taint increased. Although, in this study, no significant difference between the measurements of boar taint in 3 subcutaneous regions, intermuscular fat and in total minced fat were observed, it can not be concluded definitely that measurement of taint compounds in subcutaneous fat is representative of taints found in adipose tissues elsewhere in the pig. This is probably because the number of samples was insufficient and the range of taint values too narrow. Consequently, further investigation with more number of samples is needed.

Keywords — *Boar taint, back fat, intermuscular fat, adipose tissue*