

Effect of slaughter age of entire males on cooked ham quality

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Application

The use of entire males older than 8 months in the production of cooked ham.

Introduction

Boar taint is a sensory off-odour/off-flavour found in meat from entire male pigs due to two main compounds: androstenone and skatole. The incidence of boar taint is of concern when considering the use of entire males for pork production. Entire male pigs usually attain puberty at 6–7 months old, depending on the pig's breed. The measurement of the overall consumer acceptability of entire male pork should be conducted with unselected consumers.

Materials and Methods

Two batches of cooked ham from pigs slaughtered at 5/6 months (H5/6) and 8/9 months (H8/9) respectively (Fig.1 and 2), were produced following the same conditions and formulations. Texture Profile Analysis, colour test (CIE Lab system), pH and moisture content were determined. A consumer test (38 tasters) was performed to evaluate characteristics such as texture, aroma, taste, appearance and global appreciation, and preferred sample.



Fig. 1 – Batches of ham



Fig. 2 – Ham under analysis

Results

Results showed that H8/9 had significantly higher values ($p < 0.05$) in the hardness and chewiness parameters, and no differences in elasticity and cohesiveness were found (Fig. 3). There were also significant differences in colour parameters, H8/9 samples being darker, reddish and less yellow (Fig. 4). There were no significant differences in pH and moisture. H5/6 were the preferred samples (for 67% of consumers), however with respect to overall appreciation and texture no significant differences were detected by tasters. The consumers preferred the appearance of H8/9 ($p < 0.05$), but the aroma and flavour of H5/6 achieved better scores (Fig. 5).

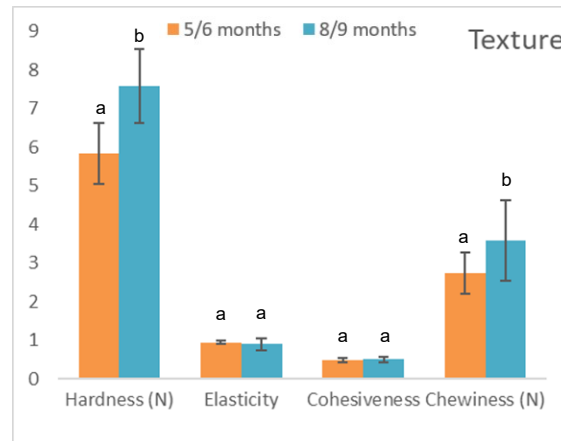


Fig. 3 – Results of Texture Profile Analysis performed on hams

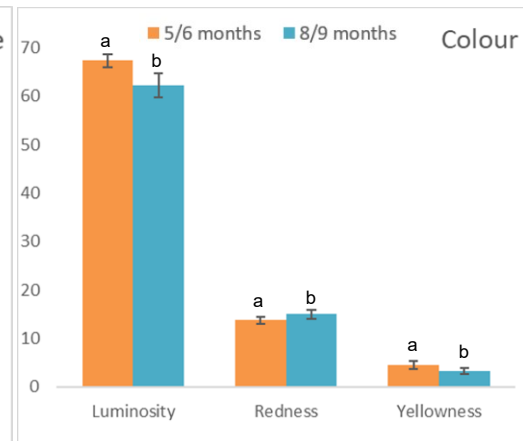


Fig. 4 – Results of colour analysis performed on hams

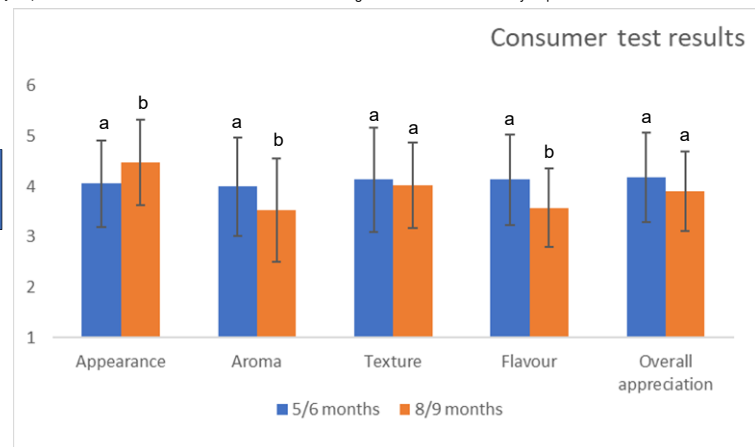


Fig. 5 – Consumer test results

Conclusions

Although most consumers preferred ham produced with pork slaughtered at 5/6 months, no differences in overall appreciation were found. Furthermore, the better scores in terms of appearance were achieved by H8/9. The results obtained lead to the conclusion that ham from pigs slaughtered aged 8/9 months is acceptable. Studies for improving flavour parameter of H8/9 hams are under consideration.