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Organoleptic properties of celta pig meat fed with traditional or commercial feed (#346)

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Introduction

he organoleptic attributes of meat are usually considered key factors to assess meat quality, among which the sensory acceptability is a major factor to address the consumers preferences, which can ultimately affect their purchasing intention. Celta pig is a native breed of Galicia (NW Spain) highly appreciated by its succulent meat. Moreover, previous studies have shown the influence of diet and slaughter weight in the nutritional quality of meat (Lorenzo et al., 2014). Changes in the physicochemical properties of meat could modify the sensorial characteristic and influence the acceptance of consumers. The aim of this study was to evaluate the effect of feeding (traditional feed (C) and commercial feed (F)) and slaughter weight (low weight (Lw) and high weigh (Hw)) on the sensory attributes of Celta pig meat.

Methods

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Results

The results of the QDA of Celta pig loins are shown in Figure 1. Significant differences ($P<0.05$) in color intensity, marbling, tenderness and juiciness were observed. The C-Hw samples received the highest scores in these attributes. Regarding PCA, the first two components (Figure 2) accumulated 94.55% of total variance (F1 = 83.95% and F2 = 10.60%, first and second principal components, respectively). This outcome is in accordance with Reis et al. (2010), who argued that to select principal components, the accumulated percentage of variance has to be equal or greater than 70%. The PCA indicated that color, tenderness, and flavor were located in the same quadrant with C-Hw. This outcome agrees with the data reported by Cannata et al. (2010) who observed that highly marbled pork loins also received significantly high scores on juiciness and tenderness attributes. In addition, the HCA was applied to data and three groups with different preference profiles were generated. The PREFMAP indicated that the applied model was significant for Group 1 and 2 ($Pr>F = 0.004$ and 0.45, respectively). External preference mapping and contour plot (Figure 3) showed areas that 80 and 100% of consumers were satisfied with fresh loin obtained from C-Hw and C-Lw treatments. The high preference values for these treatments could be attributed to the high scores obtained for tenderness and juiciness attributes. This hypothesis is supported by the data obtained by Aaslyng et al. (2007), who reported that consumer preference was positively associated with tenderness and juiciness in pork loins.

Conclusion

Feeding and slaughter weight influenced the sensorial perception of color, marbling, tenderness and juiciness of Celta pig loins. The high percentage of consumers satisfied with the loins obtained from C-Hw treatment support the use of traditional feed and high weight slaughter to produce Celta pig loin in the conditions used in the present study.

Acknowledgements

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Notes

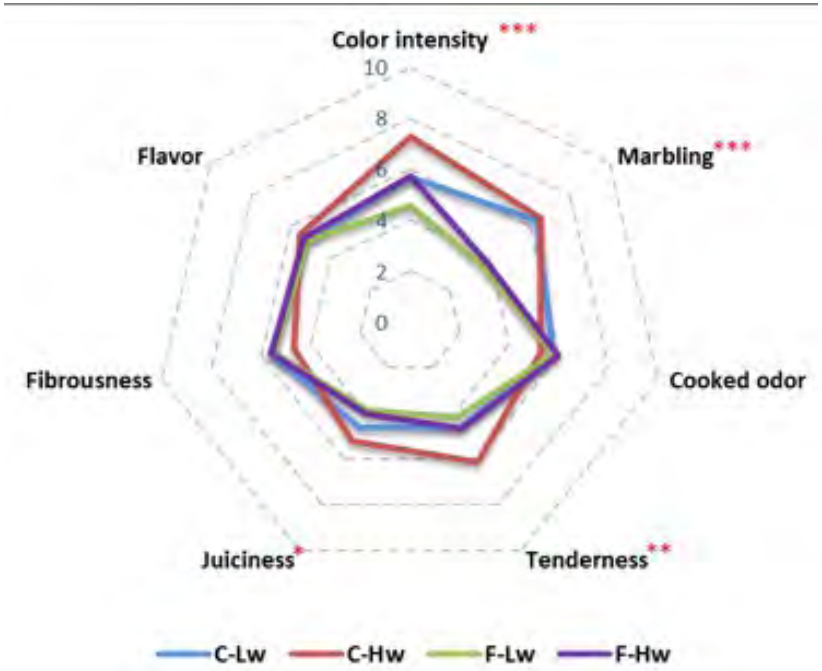

Figure 1. Sensory profile of fresh Celta pig loins. * P<0.05; **P<0.01; ***P<0.001

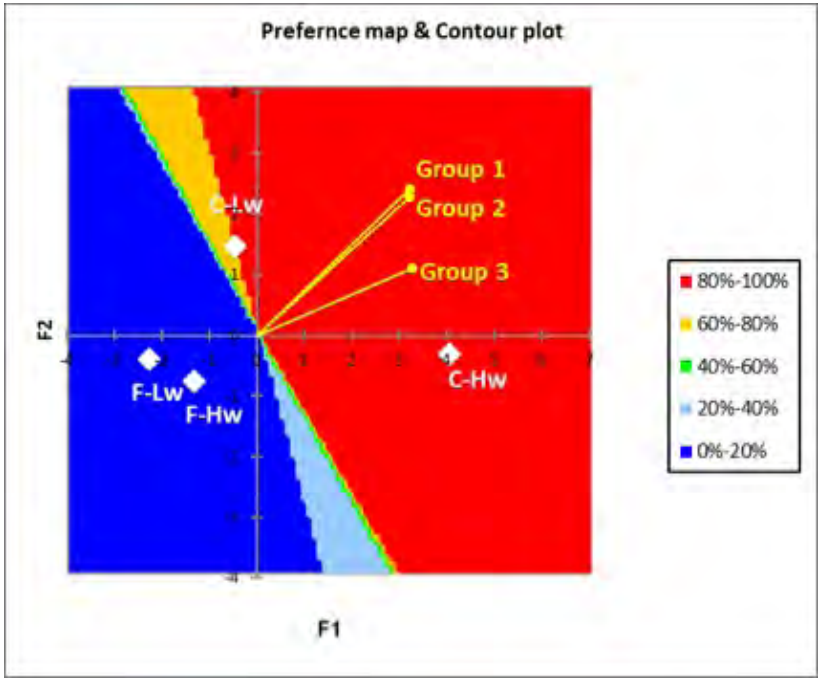

Figure 3. External preference mapping and contour plot of the Celta pig loins.

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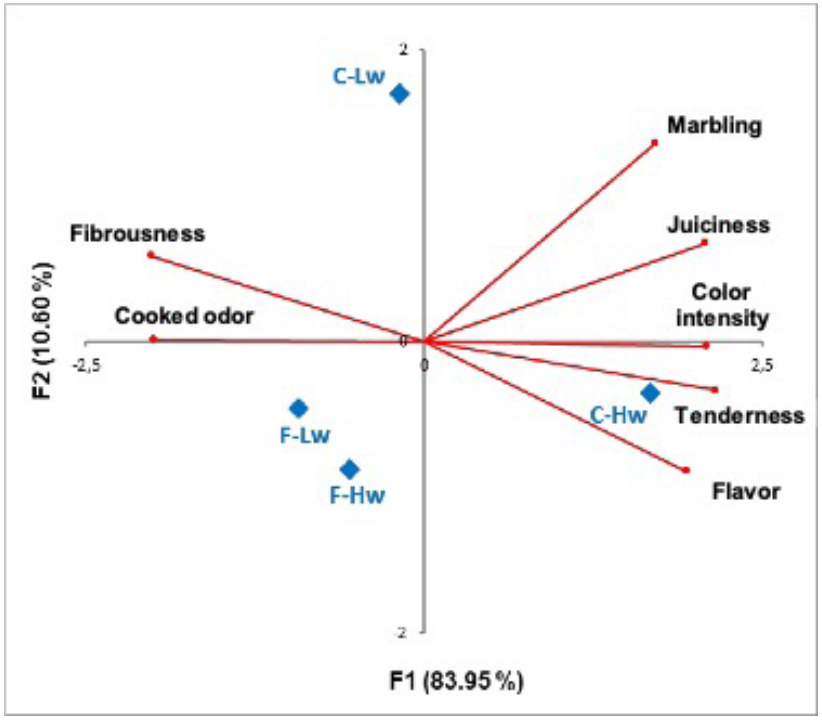

Figure 2. Sensory attribute mapping of fresh Celta pig loins.

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