

Eating quality of five different pig crossbreeds using sensory and consumer science

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Introduction

To investigate the potential of increasing the eating quality of pork by using different genetics, five different crossbreeds were compared: Mangalitzta x Duroc (MD), Iberian Blackfoot x Duroc (ID), Mangalitzta x (Landrace x Yorkshire) (MLY), Iberian Blackfoot x (Landrace x Yorkshire) (ILY) and Duroc x (Landrace x Yorkshire) (DLY).

Aim

The aim of the study was to investigate the eating quality of whole loin roast with crackling by comparing results from a sensory profile performed by a trained sensory panel with consumer studies.

Materials and methods

All crossbreeds were produced in Denmark at the same farm using conventional feeding. After slaughter, longissimus dorsi (LD) was excised, vacuum packed and aged for 4 days at 4°C and frozen until the analyses.

Sensory profiling analysis:

The loins were cooked as whole roast with cracklings in an oven at 200°C until a core temperature of 65-68°C.

Consumer study – Central location test:

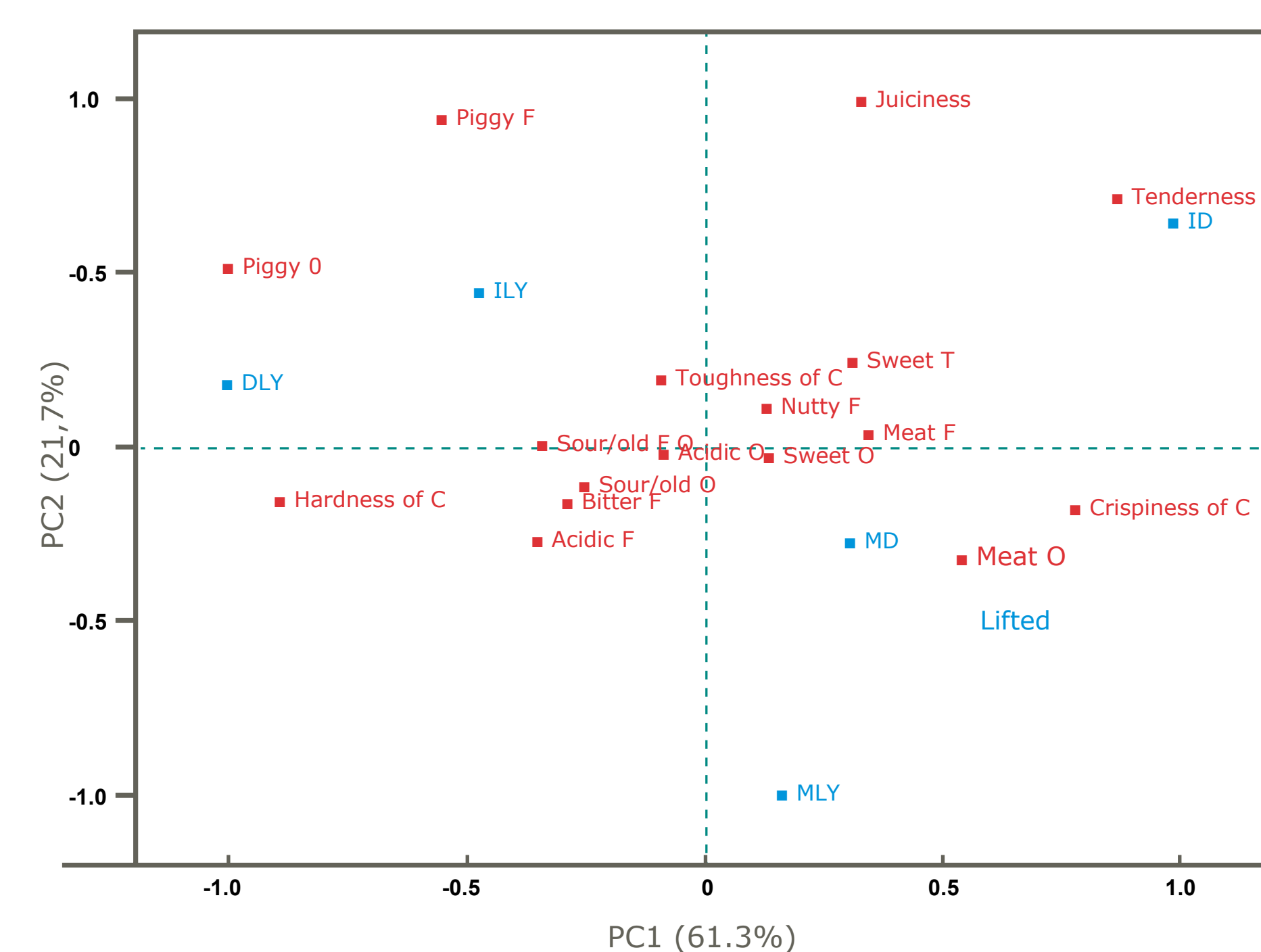
Young consumers (n=19) ranked the meat according to liking. The liking test was followed by a Holistic by DMRI™ analysis rating the following characteristics: Full-bodied, delicious, harmony, Nordic, well-known, complex, boring, traditional, suited for restaurants, different.

Consumer study - Home-use-test:

Four families received five roasts, one of each crossbreed, and were instructed to cook them as they use to. The meat was served for their families and friends (n=54) and the liking was rated.

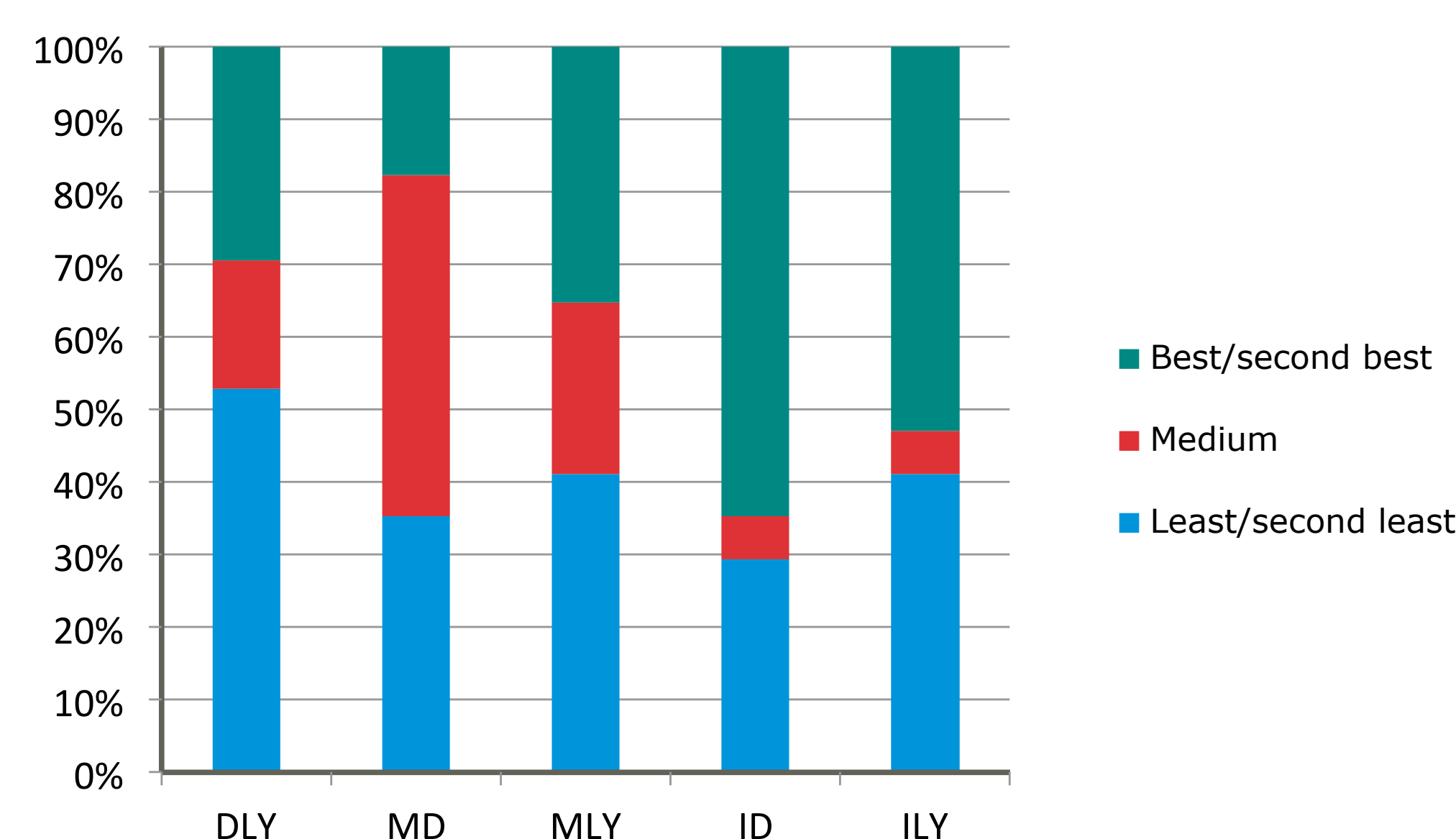
Results

Sensory profile

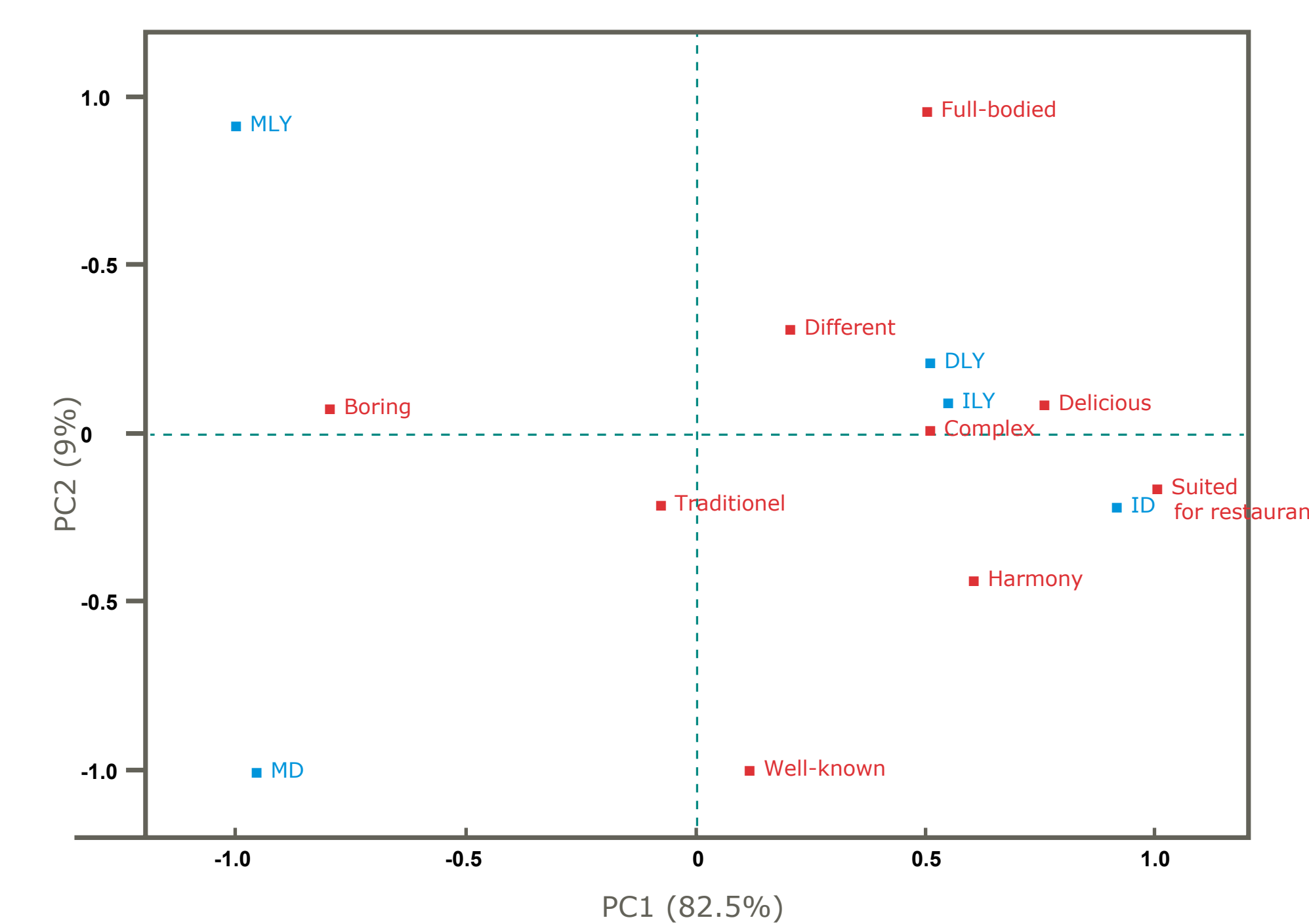


Pork roasts from the five different crossbreeds differed in sensory profile (Figure 1). The main variation (PC1) was between DLY, characterized by piggy odour, flavour and hardness of the cracklings, and ID characterized by crispy cracklings, meat odour and tenderness and to some extent juiciness. MLY was mainly characterized by not being juicy and with less piggy flavour (PC2).

Central location test

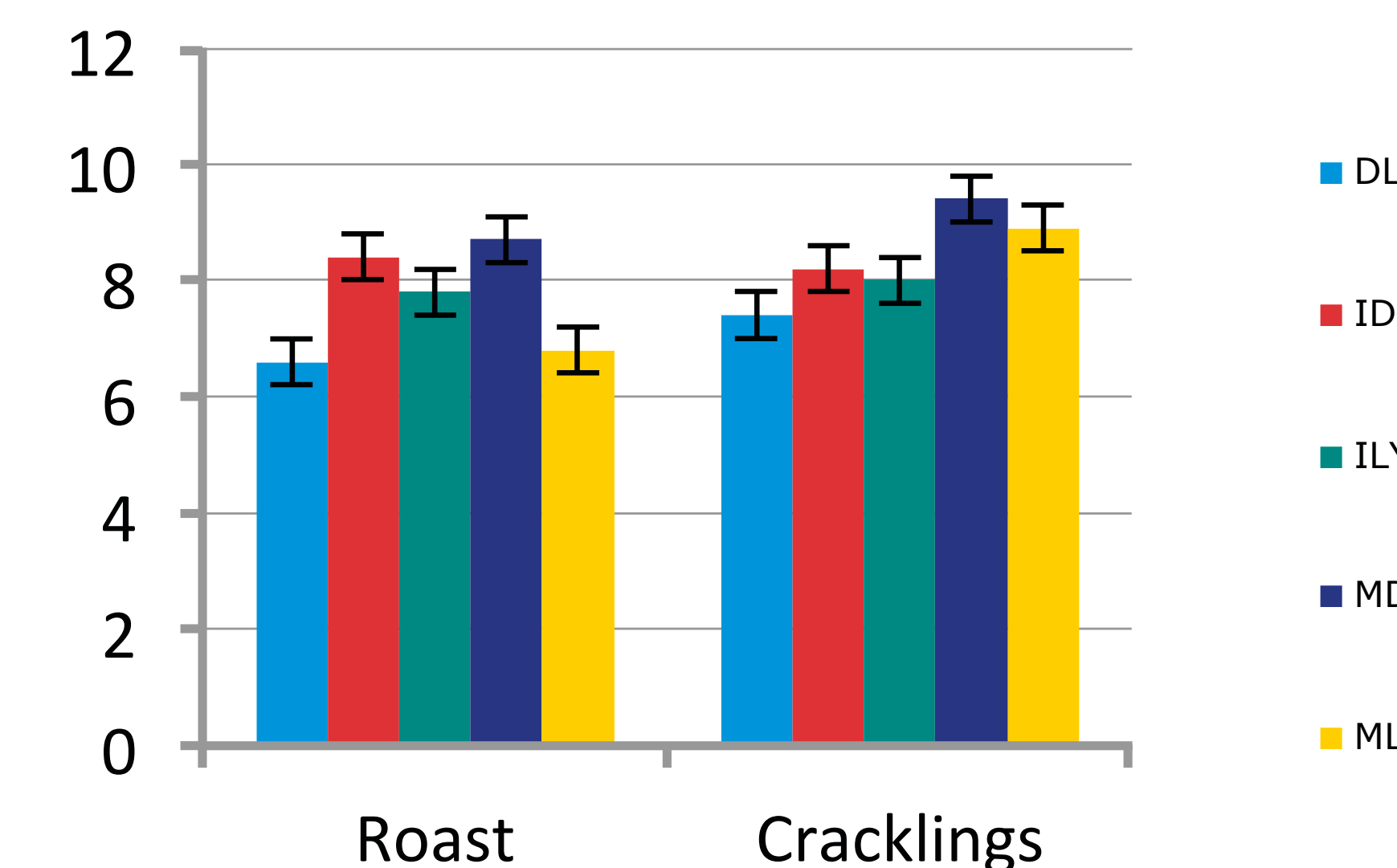


ID was the crossbreed which was most often chosen as the best or second best liked, while DLY was the crossbreed which was most often chosen as the least or second least liked.



The young consumers regarded the roasts from MD and MLY as boring (Figure 3) and this can explain why they were mainly chose it as the intermediate samples – not being the best, not the least liked – just boring! In comparison, ID was experienced as suited for restaurants, delicious and harmonic.

Home-use test



In the home-use test, the meat from ID had together with MD the highest liking score (P<0.001). The slightly lower liking of ILY could be caused by the more intensive piggy flavour, while the low juiciness of MD and the low tenderness of DLY might explain the significant lower liking of these samples. The difference between the crossbreeds in liking of the cracklings were smaller though significant (P=0.02).

Conclusion

By investigating loin pork roast with cracklings using sensory and consumer analysis, it appeared that roasts from ID were the most tender and the most liked roast, assessed by both the future consumers and today's consumers. Furthermore, it was regarded as suited for restaurants, delicious and harmonic.