

## Session 72: Review on the effects of sustainable extensification of pig husbandry on pork quality

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Pork quality is a complex trait with multiple factors affecting it throughout the production chain, including the husbandry practices. Extensive production provides more space, environmental enrichment and varied diet with foraging opportunities in comparison to intensive husbandry. Also native breeds are often only used in extensive production. Our goal was to provide a comprehensive review of the impact of extensification of husbandry practices on intrinsic pork quality parameters with the focus on: breed, diet, space and environmental enrichment. We have summarized the characteristics of pork from Italian, Polish and Spanish breeds. Native breeds are usually more robust and adapt more easily to changing conditions. Their meat has higher quality (e.g. nutrient, colour, tenderness) than meat from conventional breeds. Thus crosses of native breeds with Large White or Duroc are often used to improve their meat quality. Next to breed, diet is the most studied factor affecting pork quality. It influences the nutrient value of the meat and its flavour. Thus there are differences between meat from pigs fed only commercial diet and kept indoors and pigs with the access to the pasture and foraging opportunities. Pork from free-range pigs contains more unsaturated fatty acids compared with meat from traditionally reared pigs, which increases the risk of lipid oxidation. Thus a proper level of antioxidants in the feed is highly important. More space per pig and the environmental enrichment considered separately do not have a clear effect on intrinsic meat quality. However, in combination with diet, housing system and access to the pasture provide an opportunity for more animal-friendly and sustainable pig production. However, in most European countries pigs are kept indoors, on slatted floors, as these systems are considered more economically effective, less labour-intensive, more controllable considering biosecurity and zoonotic hazards when compared to indoors deep-bedded systems and free-range. This project was financed by the European Union grant no. 101000344.

