PPILOW
Poultry and Pig Low-input and Organic production systems' Welfare

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AGRICULTURE & INNOVATION

Preventing undesired behaviors and reducing the risk for boar taint in organic intact male pigs by genetics, management and feeding strategies

Two experiments were conducted to evaluate the main levers to reduce boar taint and undesired behaviors (sexual mounting and aggressions) in organic intact (i.e. non-castrated) male pigs: genetics, age/live weight at slaughter, management and feeding.

Genetic strategies and age/liwe weight at slaughter

Two pig genotypes were compared: Large White x Duroc, favorable for pork quality (tenderness, processing yield) vs. Large White x Pietrain, considered as standard but with lower risk for boar taint. Pigs were produced in two batches, in optimized social (stable groups from weaning) and housing conditions (good ventilation and cleanliness of the inside pens on straw and of the outdoor runs) to reduce boar taint.

Rearing Duroc compared to Pietrain crossbred males allowed to improve some animal welfare indicators (less skin scratches and tail lesions), even if overall few health and welfare problems were noticed. Growth performance did not differ between genotypes. Carcass lean meat content was lower, but indicators of technological and sensory meat quality (especially tenderness) were improved in Duroc compared to Pietrain crossbreeds. However, the risk for boar taint due to androstenone was higher for Duroc than Piétrain pigs.

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The effect of slaughter weight on boar taint was predicted from plasma hormone levels. The risk for boar taint would increase with increasing slaughter weight from 85 to 125 kg, especially in Duroc crossbred males.

Pig management and feeding strategies

A second study carried out on a commercial farm, compared improved animal management and feeding with 'standard' organic conditions on pig welfare and boar taint.

Providing additional straw in pig pens during the fattening and just before slaughter, together with adding fibre (10% alfalfa meal) to the diet did not influence animal health and welfare indicators, or housing quality indicators. Growth rate and carcass traits were not affected by pig management and feeding strategy. However, providing additional straw in the pen and fibre in the diet decreased the risk for boar taint, due to lower backfat skatole and androstenone concentrations.

Altogether, these results show that it is possible to stop castration and rear non-castrated males in organic farming, provided that risks for boar taint (and aggressive behaviour) are controlled by breeding and farming practices (i.e. feeding, cleanliness of the pen, and avoiding slaughter live weight above 125 kg).

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All practice abstracts developed by **PPILOW** project are available on:
EIP-AGRI official website: https://ec.europa.eu/eip/agriculture/en/find-connect/projects
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