Mussel meal in diets to growing/finishing pigs: influence on performance and carcass quality

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Mussel meal has potential as an alternative protein source for pig since it has high protein content and a balanced amino acid pattern. Mussels are good filterers of water and an effective tool to clean waters from nitrogen and phosphorus. Using mussel meal as feedstuff in animal production could close the agro-aqua nutrient cycle, bringing nutrients back from the water to the agro-ecosystem. The objective of this study, included in the EU project ICOPP, was to investigate the effects of inclusion of mussel meal in diets for two genotypes of growing/finishing pigs on performance and carcass quality. Sixty-four growing/finishing pigs (32 Yorkshire × Hampshire, 32 Yorkshire × Duroc) was fed either a commercial diet with conventional protein ingredients (C) or a diet containing 5% inclusion of dry mussel meal (M). Nutrient composition was equal in the two diets and both diets were given to the two genotypes. This mussel meal was produced from mussel meat only, i.e. no shells were included. Performance and carcass quality was analyzed with procedure MIXED in SAS. The results are in line with our hypothesis that pigs will perform with maintained high performance and carcass quality when mussel meal replaces conventional protein feed (Daily weight gain: 956 vs 948 g/day, Feed conversion: 27.1 vs 27.9 MJ NE/kg, Lean meat content: 58.8 vs 58.2%, Dressing percentage: 78.1 vs78.6% and Daily lean meat growth: 457 vs 451 g/day inthe M and C treatmet, respectivley, P>0.05 fo all traits). Genotype (Hampshire or Duroc boar) had no influence on performance (P>0.05 for all traits). The daily gain was relatively high in this study, on average 952 g/day from 37 kg live weight to slaughter (107 kg), and we conclude that mussel meal can substitute conventional protein sources in growing/finishing pig diets with maintained production results.