

Paramètres génétiques et effet du génotype halothane pour la consommation moyenne journalière résiduelle chez le porc Piétrain en croissance

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Genetic parameters and halothane genotype effect of residual feed intake in Piétrain growing pigs

Data from the French national genetic evaluation program were used, which included a subset on the Piétrain breed in which the halothane allele (n) was known to be segregating. A total of 2,312 Piétrain animals were tested between 2002 and 2009 in three central stations: 176 were homozygous halothane negative (NN), 470 were heterozygous (Nn) and 1666 were homozygous halothane positive (nn). Individual feed intake of animals raised in group pens (maximum 12 animals per pen), each equipped with a single-place electronic feeder, was recorded. The data set was used to estimate heritability (h^2) of residual feed intake (RFI) and growth, carcass and meat quality traits, as well as the genetic correlations between these traits, taking into account the effect of the halothane genotype. Variance and covariance components were estimated using REML methodology. RFI and food conversion ratio (FCR) appeared to be heritable traits ($h^2 = 0.40 \pm 0.06$ and 0.47 ± 0.07 , respectively) with a genetic correlation of 0.85 ± 0.04 between the two traits. Improving feed efficiency through selection for a lower RFI would improve FCR and reduce average daily feed intake (ADFI) with few impacts on growth, carcass and meat quality traits. Halothane genotype did not affect RFI but did affect FCR, possibly due to the compensation of the effects of halothane genotype on the traits used to compute RFI. Selection for lower RFI in the growing pig is not expected to change the frequency of the halothane genotypes in the Piétrain breed.