

Heritability of meat and fertility traits in pigs in Estonia

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The importance of fertility traits has decreased during the year, whereas meat traits have become more and more superior in Estonian pig breeding. To get better meat quality and maintain good fertility of Estonian pigs, breeders should take heritability and relationships between the traits into account. Therefore it is of utmost importance to study heritability of the traits considered in selection. Data of 6601 sows and 1015 boars with 10411 litters, obtained from database of Animal Recording Centre in 1999...2001, was used to analyze heritability of litter size and meat traits. The following breed combinations were investigated: Estonian Landrace (EL), Estonian Large White (ELW), Hampshire (H), Pietrain (Pi), EL♂xELW♀, ELW♂xEL♀ and Pi♂xH♀. Meat traits were measured by ultrasonic equipment Piglog 105. Average heritability of backfat and lean meat percentage was high, being $h^2=0.68$ and $h^2=0.66$ respectively, on the other hand the heritability of loin eye diameter was lower ($h^2=0.30$). Among breeds heritability differed largely. Heritability of lean meat percentage was higher in EL and Pi breeds ($h^2=0.73$ and $h^2=0.62$), which are both well known for their good meat quality. Lower heritability of lean meat percentage was found in ELxELW and ELWxEL crossbred breeds ($h^2=0.49$ and $h^2=0.54$). Average heritability of litter size at birth was $h^2=0.08$, being lower in ELxELW ($h^2=0$) and EL ($h^2=0.03$), higher in ELW ($h^2=0.09$) and ELWxEL ($h^2=0.12$). These results show highly significant effect of a boar on litter size and of a sow on meat traits. Correlations between meat traits and fertility were generally low.