

Inheritance of coat color in piglets of Meishan and Duroc crosses in favor of black coat selection ⁽¹⁾

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Abstract

The purpose of this study was to select for black coat from crossbred of Meishan and Duroc. The 66 Duroc pigs and 65 Meishan pigs, boars and sows, respectively, were reciprocally crossed with Meishan breed. The F₁ pigs showing black color in the skin had 98.7% (695/704). Coat color of hybrid piglets recorded at birth from F₁ to F₅ generations included solid black (B), golden longitudinal stripes of black (L), golden longitudinal stripes of red (Q), and solid red (R), which were further classified into two categories, black (B + L) and red (Q + R) series. In favor of black series color selection following by reproduction evaluation was conducted in this study, and then selected animals were mated between themselves within generation. The adjusted chi-square statistic with Yates' correction for continuity was used for testing the goodness-of-fit under genetic hypotheses of single gene difference between Meishan and Duroc breeds. The actual frequency of coat color observed in F₁, F₂ and F₃ generations seemed to bear this out, giving credence to the hypotheses. However, it was no the case for data obtained in F₂ and F₃ generations, and thus the hypotheses of one gene segregating two alleles (*E* and *e* in Meishan and Duroc pigs, respectively, within this study) was rejected. This implied coat color expression in pigs might be partly regulated by other gene (non-*KIT* gene) in which nonepistatic interaction between loci identified seemed to be involved.

Key words: Coat color inheritance, Cross, Duroc pig, Meishan pig.

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