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DOES CASTRATION AFFECT THE QUALITY OF MUSCLE TISSUE IN MORAVKA PIG BREED?

Radomir R. Savić^{1*}, Dragan D. Radojković¹, Nenad R. Parunović², Marija P. Gogić³, Čedomir R. Radović³

¹University of Belgrade - Faculty of Agriculture, Belgrade - Zemun, Republic of Serbia

²Institute of Meat Hygiene and Technology, Belgrade, Republic of Serbia

³Institute for Animal Husbandry, Belgrade - Zemun, Republic of Serbia

*Corresponding author: savic@agrif.bg.ac.rs

The aim of this research was to evaluate the castration effect on chemical and fatty-acid compositions of *longissimus dorsi* muscle in Moravka, an autochthonous pig breed of combined production abilities. The trial conducted included 16 pigs: 7 entire males (EM) and 9 surgical castrates (SC). The animals were bred in farm conditions in separate, group pens (110 m² open and 40 m² covered part). Pigs were fed *ad libitum* with complete feed mixtures: I (25-60 kg, 15% of crude protein, and 13.6 MJ ME/kg) and II (60-120 kg, 13% of crude protein and 13.5 MJ ME/kg). Muscle tissue chemical composition was determined by means of standard methods in an accredited laboratory. Fatty acids as methyl esters were determined using the capillary gas chromatography with a flame ionization detector. The effect evaluation was determined by means of a General Linear Model procedure in SAS 9.1.3 software, and besides castration treatment, the model included also a linear regression effect of body weight at slaughter (BW). An average pig BW was 121 kg at the age of 333 days. The increase of BW for 1 kg resulted in the increase of water content in muscle by 0.06% (p=0.040). The EM group had higher water content (+2.3%, p=0.047) and lower content of cholesterol (-15 mg/100 g, p=0.031). The same group had lower content of saturated (-3.6%, p=0.003) and mono-unsaturated (-5.6%, p<0.001), and a higher share of poly-unsaturated (+9.0%, p<0.001) fatty acids compared to SC. From a nutritional aspect, the ratio of omega-6 and omega-3 essential fatty acids was more favorable in SC compared to the EM group (3.9 vs. 18.5, p<0.001). Castration had an effect on the quality of muscle tissue but regardless of some benefits determined in the EM group a main restricting factor for more massive fattening of non-castrated animals is a boar taint in the meat.

Keywords: pigs, longissimus dorsi, fatty acids

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