

Effect of Castration on Antioxidative/Prooxidative characteristics and Fat deposition of skeletal muscles in Pheasant (*Phasianus colchicus*)

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Muscle tissue development and oxidative processes are under influence of different hormones. The purpose of the current study was to examine the effect of castration on glutathione peroxidase (GSH-Px) and lipoprotein lipase (LPL) activities, and triacylglycerol and lipid peroxide (TBARS) concentrations in breast and thigh muscle of male pheasants. The experiment was carried out on 40 animals reared in commercial phaesantry. Half of the pheasants were castrated at 8 weeks of age. In the 32nd week of age 10 intact and 7 castrated birds were randomly selected and slaughtered. The GSH-Px activity in thigh muscle of castrated pheasants was significantly lower in comparison with intact birds (230.0 ± 42.8 U/g protein vs. 365.4 ± 137.3 U/g protein; $p < 0.01$). The concentration of triacylglycerols in thigh muscle of castrated pheasants was significantly lower than in intact pheasants (0.32 ± 0.1 mmol/g tissue vs. 0.44 ± 0.13 mmol/g tissue; $p < 0.05$). There were no statistically significant differences observed in activity of LPL or TBARS concentration between castrated and intact pheasants in skeletal muscle tissue. The results showed higher activity/concentration of parameters in thigh muscle than in breast muscle according to structure and metabolic characteristics of this type of muscle tissue. Castrated animals are less active with reduced glutathione peroxidase activity in thigh muscle. Unexpectedly, castration resulted in lower triacylglycerol concentrations in thigh muscle, so further investigations are still needed.