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ORIGINAL PAPER

The effect of aviary housing system on the quality of meat from male pheasants (*Phasianus colchicus*)*

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Abstract

The aim of this study was to evaluate the effect of two aviary housing systems on the chemical composition, fatty acid profile, physicochemical and sensory properties of the breast muscle (*Pectoralis major, PM*) of male pheasants (*Phasianus colchicus*). Birds were raised on a farm in a normal production cycle. At six weeks of age, pheasants were provided with access to big aviaries (control group, C). A total of 32 males and 224 females (experimental group, E) were randomly selected from among six-week-old birds, and were transferred to 32 small (20 m^2) adjacent aviaries (1 male and 7 females per aviary). Pheasants in both groups were fed identical diets, but in group C, aviaries were planted with cultivated crops that constituted an additional feed source for birds. Randomly selected, 25-week-old males from C (n=8) and E (n=8) group were slaughtered. The muscles of group E pheasants had higher (p=0.031) manganese (Mn) content. The muscles of group C birds were characterized by a higher content of intramuscular fat (IMF) (p=0.042), collagen (p=0.009), and copper (p=0.033), and higher aroma intensity (p=0.048). They also had a tendency (p>0.05) to lower proportion of saturated fatty acids (SFAs; by 4.16 p.p.), higher proportions of monounsaturated fatty acids and polyunsaturated fatty acids (MUFAs and PUFAs; by 1.64 and 2.51 p.p., respectively), higher nutritional quality of IMF, and scored higher for aroma desirability, taste, and tenderness. Minor differences in the properties of the *PM* muscle, observed between the compared groups, could result from the availability of plant-based feed in large aviaries, and its absence in small aviaries.

Keywords: pheasant, aviary housing system, meat quality

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