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Chemical composition, sensory characteristics, and fatty acid profile of muscle from Aberdeen Angus, Charolais, Simmental, and Hereford bulls

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Aberdeen Angus (AA), Charolais (CH), Simmental (SI), and Hereford (HE) bulls were used in two fattening experiments with the objective of determining breed differences in chemical composition, sensory characteristics, and fatty acid profile of *m. longissimus thoracis et lumborum*. The target slaughter live weights were set at 550 kg for earlier maturing breeds AA and HE and 630 kg for later maturing breeds CH and SI. Intramuscular lipid contents were higher in AA and HE ($P < 0.05$) than in CH and SI, but cholesterol contents were similar among the breed groups. The highest content of dry matter was found in HE ($P < 0.05$), while AA had the lowest protein content ($P < 0.001$). Meat from AA generally received the highest scores for different sensory characteristics (odour, flavour, texture, and juiciness). Concentrations of stearic acid (C18:0) in total muscle lipids were lower in SI than in CH ($P < 0.05$), while total saturated fatty acids were lower in SI compared to CH ($P < 0.001$) and AA ($P < 0.05$). CH had less oleic acid (C18:1-n9c) and total monounsaturated fatty acids than AA ($P < 0.05$), SI and HE ($P < 0.01$). Concentrations of linolenic acid (C18:3-n3) were highest in AA ($P < 0.01$).

Keywords:

beef cattle; bulls; breeds; meat quality; sensory characteristics; fatty acid composition

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