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Chemical composition and physicochemical properties of skeletal muscles of slaughter cattle of four categories

S u m m a r y

The research objective was to assess the basic chemical composition and physicochemical properties - pH, electrical conductivity (EC) and meat colour - of the ***musculus longissimus lumborum*** and ***musculus semitendinosus*** obtained from four categories of Polish Holstein-Friesian

Black and White variety cattle (calves, heifers, young bulls and cows). Both the studied muscles of heifers were found to show the highest dry matter content as indicated by the highest intramuscular fat level. The lowest dry matter content was recorded in calves' muscles, yet with the concurrent highest protein concentration. The lowest protein and crude ash amount were found in cows' muscles. The highest pH_1 and pH_{24} values were observed in calves' muscles, whereas the lowest pH values in all the measurements - in heifers' muscles. Evaluation of electrical conductivity (EC) revealed a progressive increase of this parameter during meat storage time (except for calves' muscles) with a peak recorded 48 h ***post mortem.*** Out of the muscles under study, the lightest colour (the highest L* values) was reported in calves, whose muscles were characterized by the smallest participation of redness (a*) and yellowness (b*). However, the young bulls' muscles analyzed had the highest a* and b* colour indices, thus showing the darkest colour.