

## AN IMPACT OF ANIMAL BREED ON THE COMPOSITION OF FATTY ACIDS IN *MUSCULUS LONGISSIMUS DORSI*

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**Abstract.** The aim of the research was to assess the breed impact on the composition of fatty acids in the *musculus longissimus dorsi* comparing 500-day-old bulls bred under the same conditions. The study investigated the structure of fatty acids in *musculus longissimus dorsi* of the following cattle breeds: Angus, Hereford, Charolaise, Limousin, Lithuanian black and white crossbred with Charolais (LBW x CH), Lithuanian black and white crossbred with Limousines (LBW x LI), Lithuanian black and white crossbred with Simmental (LBW x SI), and the Lithuanian red Limousines hybrids (LR x LI). The breed had the most significant impact on the total amount of monounsaturated and total amount of omega-6 fatty acids ( $p < 0.05$ ,  $p < 0.05$ ). There were significant differences determined in average values of omega-3 fatty acids ( $p < 0.05$ ) depending on breed. A lower ratio of omega-6/ omega-3 fatty acids was observed in pure-bred bulls. The meat of pure-bred bulls contained a slightly larger amount of saturated fatty acids compared to the crossbred bulls. There was a strong correlation between polyunsaturated / saturated fatty acids ratio and the amount of omega - 3, when  $r = 0.934$ . The amounts of trans-fatty acid isomers were not affected by breed ( $p \geq 0.05$ ). The research results revealed that cattle breed affects the composition of fatty acids in the *muscular longissimus dorsi*.

**Keywords:** fatty acids, bulls, breed, crossbred, pure-bred.