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MEAT FATTY ACID COMPOSITION OF TURKISH MERINO, RAMLIC, KIVIRCIK, CHIOS AND IMROZ LAMBS RAISED UNDER AN INTENSIVE PRODUCTION SYSTEM

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Abstract. The aim of the study was to investigate the fatty acid composition of lambs from Turkish Merino, Ramlic, Kivircik, Chios and Imroz breeds in north-western Turkey, finished under an intensive production system. After weaning at approximately 85 days of age, 42 lambs from Turkish Merino, Ramlic, Kivircik, Chios and Imroz breeds were fattened for 56 days. Lambs were slaughtered after electrical stunning. At 24 h post-mortem, 25 g meat samples from *longissimus lumborum* muscle at the point of 5th lumbar vertebrae from the right side of each carcass were removed in order to assess meat fatty acid composition. Determination of fatty acids was performed using gas chromatography–mass spectrometry.

As a result of gas chromatography–mass spectrometry 7 saturated fatty acid (SFA), 5 monounsaturated fatty acid (MUFA) and 8 polyunsaturated fatty acid (PUFA) were determined. In the *longissimus lumborum* muscle of all the investigated breeds in the study, the most common fatty acid was oleic acid (%47.11-49.02). Moreover, the percentages of palmitic (%24.05-24.83) and stearic acids (%11.63-13.24) in the meat of lambs were seemingly high. In the study, the differences between different lamb breeds in terms of individual fatty acid percentages were not significant ($P>0.05$) other than C12:0. It was found that the C12:0 percentage was higher in Turkish Merino and Ramlic breeds than Kivircik and Chios breeds ($P<0.05$).

The differences between the meat of lamb breeds in terms of ∑SFA, ∑MUFA, ∑PUFA, ∑PUFA/∑SFA, ∑n6 were not significant ($P>0.05$) ; while it was determined that the meat of Ramlic breed had higher averages in terms of ∑n3 than the meat of Turkish Merino, Kivircik and Imroz lambs ($P<0,05$). In the light of the results of the present study, it can be concluded that when the lambs of the common sheep breeds of Marmara Region are intensively fattened, no significant differences were found between the levels of PUFA/SFA percentage, n6/n3 percentage, total SFA, MUFA and PUFA, which are important in terms of heart and vessels health.

Keywords: Lamb finishing, indigenous breeds, fatty acid composition