COMPARISON OF FATTY ACIDS AND CHOLESTEROL CONTENT IN THE MILK OF LATVIAN COWS

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Abstract. Milk fat is the most complex of natural fats and oils. Milk fat also contains a moderate amount of cholesterol. Concern about cholesterol in the diet arises because of a high serum cholesterol level, especially the low-density lipoproteins, which is only one of the risk factors associated with atherosclerosis. Other dietary factors are: the total fat intake, saturated fat intake and a lack of dietary fibres.

The investigations on cholesterol level in milk of different breeds of cows in our country are not conducted. Therefore, the tasks of the work were to determine the cholesterol level and fatty acid composition in different breeds of the Latvian cows milk and to analyse the influence of cows feed on the fatty acid and cholesterol content in milk.

Milk samples were obtained from *Latvian Brown,* and *Black and White* cows on a farms situated in Riga's region. Both breeds consumed the same feed.

Fatty acid composition and cholesterol content were analysed by gas chromatography at the National Veterinary Laboratory. Feed composition was detected in the Laboratory of Biochemistry of Research Centre "Sigra" of Latvian University of Agriculture. In this study, the difference between breeds associated in fatty acid composition, cholesterol and fat content was detected. The fat content in milk of *Black and White* breed cows was 4.25 ± 0.13 %, and cholesterol level – 16.25 ± 1.20 mg dl^{-1}. It was less, than in *Latvian Brown* breed cows milk, respectively, 4.88 ± 0.68 % and 18.63 ±3.58 mg dl^{-1}. As we know, milk of *Latvian Brown* has a significantly higher content of fat and protein, while *Black and White* cows have a higher milk yield. The content of saturated fatty acids was different between *Black and White* and *Latvian Brown* breeds. The amount of myristic acid, which most of all affects the cholesterol content in plasma, was the same in cows milk of both breeds – (0.37 g 100 g^{-1}).

Keywords: milk, cholesterol, fatty acids, breed