

THE INFLUENCE OF FEEDING RAPESEED POMACE AND EXTRUDED FULL FAT SOYBEAN ON THE FATTY ACID PROFILE IN COWS MILK

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Abstract. The aim of the study was to evaluate the changes in the fatty acid (FA) profile in milk by the inclusion of rapeseed pomace and extruded full fat soybean in the diet of dairy cows on the housing period. The experimental materials comprised samples of milk from 30 lactating cows that were divided into 3 groups: control group cows were fed by a farm's total mixed ration (TMR); cows in experimental group 1 were fed by a farm's ration with rapeseed pomace (TMR+R); and cows in experimental group 2 were fed by a farm's ration with extruded full-fat soybean (TMR+S). All milk fat samples were split into 2 portions for the analysis. One portion was analysed for fat concentrations by infrared spectroscopy Lactoscope FTIR (FT 1.0. 2001; Delta Instruments, Holand). Identification and quantification of FA were performed by gas chromatography. Direct comparison of the products showed that the inclusion of rapeseed pomace into the diet of dairy cows increased the content of unsaturated fatty acids (UFAs), monounsaturated fatty acids (MUFAs), polyunsaturated fatty acids (PUFAs) and decreased the content of saturated fatty acids (SFAs), 4.06%, 4.55%, 1.66% and 2.3% respectively, in comparison with the feeding farm's total mixed ration ($P<0.05$). Inclusion of extruded full fat soybean into the diet increased the content of UFAs, MUFAs, PUFAs and decreased the content of SFAs, 6.89%, 5.12%, 16.44% and 3.91%, respectively, in comparison with the feeding farm's TMR ($P<0.05$). Among the long-chain MUFAs, oleic acid (C18:1(n-9)) was significantly affected by the treatment ($P<0.05$).

Keywords: fatty acid, rapeseed pomace, extruded full fat soybean, milk