

FATTY ACIDS CONTENT AND COMPOSITION OF MILK FAT FROM COWS CONSUMING PASTURE AND TOTAL MIXED RATION

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Summary. The study was aimed to determine the composition and content of fatty acids in milk from cows consuming pasture and total mixed ratio (TMR). During this study it was established that the proportion of saturated fatty acids in total content of studied fatty acids was insignificantly lower in the milk fat from pasture fed cows (55.15%) than in the milk fat from confine fed cows (56.07%, $P > 0.05$). Statistically significant differences ($P < 0.05$) were observed in the content of unsaturated fatty acids (32.87 versus 30.07% for pasture and confine fed cows' milk fat, respectively). Pasture group cows produced significantly higher amounts of PUFAs – 6.02% versus 5.24% ($P < 0.05$) of TMR group. Within PUFAs, the highest concentration of C18:2 and C18:3 was observed in the milk fat from pasture cows (3.70% versus 3.27% and 0.51% versus 0.44%, $P < 0.05$, respectively).

The study showed that pasture fed cows produced significantly higher concentrations of CLA in milk fat compared to TMR fed cows – 0.66 and 0.51% ($P < 0.05$), respectively.

The study results revealed that milk fat from pasture fed cows had better proportion of unsaturated:saturated fatty acid in nutritional aspect, with more polyunsaturated FA and more CLA, than the milk fat from TMR fed cows had.

Key words: cows' milk fat, fatty acids, conjugated linoleic acid, pasture, TMR.