

The effect of different TMR rations on the quality of milk and milk products from Polish Holstein-Friesian cows

Summary

The study was carried out on 36 cows, divided into four groups, during the second trimester of lactation. Replacement of maize silage with barley silage in TMR diets was found to have no significant effect on the yield, chemical composition, fatty acid content or technological suitability of the milk, or on the content of major protein fractions and protein substances. Curd cheese and rennet cheese from the milk of cows fed on barley and wilted grass silages (groups BS/GS-70:30 and BS/GS-50:50) and creamery butter from the milk of cows fed diets with a lower (50% DM) proportion of high-energy silages (MS/GS-50:50 and BS/GS-50:50) had higher ($P \leq 0.01$) content of solids and fat compared to analogous products from the milk of cows in the other groups (MS/GS-70:30 and BS/GS-70:30). Butter from the milk of the MS/GS-70:30 and MS/GS-50:50 cows had significantly higher content of PUFA (including C18:2 n-6, C18:3 n-6, C18:3 n-3 and CLA) and lower content of SFA (from C-4 to C-16) than the BS/GS-70:30 and BS/GS-50:50 cows. Irrespective of the type of total mixed ration used in the second trimester of lactation, the milk and milk products had desirable functional and technological properties.

KEY WORDS: dairy cows, TMR, milk yield and composition, quality of milk products