Agricultural and Food Science - abstract

Vol. 15 (2006), No. 3, p. 268-279

KHALILI, HANNELE, MÄNTYSAARI, PÄIVI, SARIOLA, JUHA, KANGASNIEMI, REIMA,

Effect of concentrate feeding strategy on the performance of dairy cows fed total mixed rations

Keywords dairy cows, concentrates, grass silage, total mixed ration, milk yield, feed intake,

Abstract

Little information is available concerning the effects of offering additional concentrates with total mixed ration (TMR) on milk production. The aim of the present study was to compare TMR representing simplified feeding (TMR1) with TMR combined with a decreasing amount of additional concentrate (TMR2C). Finnish Ayrshire cows (39) were housed in a loose housing barn. TMR1 consisted of a mixed ration of grass silage (0.49) and concentrates (0.51). In TMR2C, the same grass silage and concentrate were mixed in a ratio of 55:45. In TMR2C, cows were offered additional concentrates from automatic feeders differing in composition from the concentrate in TMR1 [6.5 kg d-1 (first 100 days, Phase 1), 3.0 kg d-1 (subsequent 50 days, Phase 2) and no concentrate thereafter (Phase 3)]. During the whole experiment (224 days), total consumption of concentrates per cow averaged 2426 kg dry matter (TMR1) and 2414 kg dry matter (TMR2C). There were no significant differences in mean total dry matter, metabolizable energy, crude protein or absorbed amino acid intakes. During Phase 2, total intake of all cows fed TMR2C was one kg lower (P = 0.10) than for cows fed TMR1. This was due to differences in total feed intake of multiparous cows. Average yields (kg d-1) of milk, energy corrected milk, protein, fat and lactose were not significantly different between diets. During Phase 2, primiparous cows tended to produce more energy corrected milk on TMR2C than on TMR1. The results showed that both TMR1 and TMR2C were equal feeding strategies for early lactating cows and cows did not benefit from greater concentrate consumption in early stage of lactation when total consumption of concentrates was similar.

Contact hannele.khalili@mtt.fi

[Full text] (PDF 345 kt)

Update 24.11.2006.

Source: MTT's Publications database Afsf