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## Agricultural and Food Science - abstract



Vol. 15 (2006), No. 3, p. 280-292

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Comparison of part-time grazing and indoor silage feeding on  
milk production

Keywords milk production, restricted grazing, dairy cows, protein  
supplementation,

### Abstract

Cows were assigned randomly to indoor silage feeding (with 2 h outdoor exercise) or part-time grazing treatment in two different experiments. One group was kept in confinement with ad libitum grass silage within each experiment. The other group had ad libitum grass silage indoors and they were put out on grass pasture during part of the 24 hour period, 12 hours (night, Experiment 1) and 6 hours (day, Experiment 2) in June, July and August. In Experiment 2, the concentrate (9 kg d<sup>-1</sup>) was given at two crude protein levels: high crude protein [185 g kg<sup>-1</sup> dry matter (DM)] and low crude protein (135 g kg<sup>-1</sup> DM). In Experiment 1, night-time grazing increased total DM intake and milk (3.9 kg d<sup>-1</sup>) production. There was interaction between month and forage feeding strategy, the difference in milk yield being smallest between treatments in June. In Experiment 2, day-time grazing had no significant main effect on milk production but there was significant interaction between month and forage feeding strategy showing 2.5 kg d<sup>-1</sup> difference between treatments in July. High-protein concentrate tended to increase the milk yield more on the silage diet compared with the group grazing during daytime. The differences in milk yield between the forage feeding treatments were mainly due to the higher dry matter intake and higher metabolizable energy content of the pasture grass compared with silage. The lower milk responses to concentrate crude protein in the cows grazing during daytime compared with the silage group indicate a high protein value of pasture grass. It is concluded that part-time grazing increases the milk yield and decreases the need for supplementary concentrate protein.

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Update 24.11.2006.

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