

M285 The effect of allocation frequency in rotational grazing systems

on the fatty acid (FA) profile in milk fat of dairy cows. B. Vlaeminck*

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Eight Holstein cows were blocked in 2 groups according to milk yield, parity and DIM to evaluate the effect of frequency of allocation to new grazing plots on profiles of FA in milk fat. The 2 treatments were daily allocation to 0.125-ha plots (1D) or allocation every 4 d to 0.5-ha plots (4D) of *Lolium perenne* L. and were tested in a randomized block design (2 rotations with 2 measuring periods of 4 d each). The model included the effect of treatment, day within treatment, rotation, cow, the interaction between treatment and rotation and the covariate value.

Significance was declared at $P < 0.05$. There were no differences in the FA composition of the offered and residual pasture between 1D and 4D. Within days in the 4D treatment, the proportion of 16:0, 18:0 and 18:2n-6 increased, and that of 18:3n-3 as well as total FA content of grass decreased linearly. Treatment effects on milk FA composition and secretion were small. In contrast, milk FA composition was largely affected by day within the 4D treatment. Secretion of de novo synthesised and C16-FA decreased linearly during the 4 d whereas secretion of odd- and branched and C18-FA were not affected by day in the 4D treatment. Proportions of trans-11-18:1 in milk fat increased on d 2 (4.60 g/100 g FA) and decreased thereafter (3.86 g/100 g FA on d 4). Proportions of cis-9, trans-11-18:2 (2.34 and 1.83 g/100 g fatty FA on day 2 and 4, respectively), trans-11, cis-15-18:2 (0.81 and 0.63 g/100 g FA on day 2 and 4, respectively) and 18:3n-3 (0.87 and 0.83 g/100 g FA on day 2 and 4, respectively) in milk fat followed the same pattern. Results from this study suggests that increasing pasture allocation frequency from once every 4 d to every day has no effect on profiles of FA in milk. In addition, short term variation in pasture quality during the 4 days affected milk FA composition with a greater effect on biohydrogenation intermediates in milk fat compared with its major precursor, 18:3n-3