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Once daily milking and feeding level combined effects on goat welfare

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40 goats (Alpine and Saanen) in late lactation were housed in individual pens, milked twice a day (TDM) and fed ad libitum for 3 weeks. They were then allocated to two balanced groups according to their milk production and their parity. One group was milked only once a day in the morning (ODM) for 1 week (period P1). Each group was then divided into 2 other balanced groups according to their milk production: one group was fed *ad libitum* and the other received a quantity of feed adapted to milk production during 3 weeks (period P2). Twice a week, cortisol plasma concentration was measured as an indicator of a stress response and individual behaviour of each goat was recorded at milking during the first 5 s after teat cup attachment as a measure of welfare. Sixteen goats were also used to determine ODM effects on time-budget by video recording for 23 h once a week. Behaviour was recorded by scan sampling of five seconds every four minutes. During P1 and P2, there were no effects of milking frequency on plasma cortisol level, on the number of goats ruminating, back hunching, foot moving and kicking at milking and on the total time spent either standing or lying. During P2, the time spent eating was reduced by ODM and the number of goats ruminating at milking was lower in the feed adjusted group during the first week but this effect disappeared at the end of P2. This experiment did not demonstrate a modification in plasma cortisol level, behavioural response at milking and time-budget under ODM management.