

behaviour at the same time). In the housing systems there was a tendency for lower group synchronisation in the loose-house than in the tie-stall. There was lower synchronisation in both than on pasture, thus a high synchronisation is more natural.

- When animals are stressed and not comfortable with their situation they can develop stress related behaviours. In this study it was seen that the cows were standing at the same spot lifting and setting down their legs, stepping, for long periods of time. Stepping is probably a stress related behaviour and thereby a problem. It was performed considerably more in the tie-stall than in the loose-house.

- The problems with low activity, low group synchronisation and difficult rising ups were seen in the tie-stall as well but not to the same extent as in the loose-house.

Conclusions

From this study it was concluded that there are behavioural problems in both the tie-stall and the loose-house. The problems in the tie-stall could though be considered as more severe. It was also concluded that the loose-house, despite the freedom of movement, does not seem to invite to the same behavioural pattern as on pasture.



Behavioural effects of housing system in dairy cattle

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Introduction

In Sweden there are mainly two types of housing systems for dairy cows used, tie-stalls and loose-houses. In a tie-stall are the cows tied by the neck next to the fodder table while they can move around freely in a loose-house. The freedom of movement in the loose-house probably gives them better opportunities to perform their natural behaviour while they can be restricted by the tie in the tie-stall. The aim of this study was to compare the cow behaviour in the loose-house with the tie-stall to see if there are any behavioural problems.

Tie-stall →

Loose-house



Method

Observations of individual behaviours and group synchronisation were made in both the tie-stall and the loose-house. These were then compared to the behaviour on pasture, since it could be considered as the most natural. There were also heart rate measurements made in the tie-stall and the loose-house.



Cow with heart rate monitor.

Results and discussion

- There was a tendency for less activity in the loose-house than in the tie-stall. When they were active they were mostly eating, thus the time spent eating was probably shorter in the loose-house. This could be considered as a problem since it is natural for cows to eat for long periods.
- Despite the low activity in the loose-house there was a tendency for higher heart rate than in the tie-stall. This implies that the cows in the loose-house could be more stressed than the tie-stall cows.
- Cows rise up and lie down by a special movement which is innate. It is very important that the cow has the possibility to perform this movement without disturbance. In this study there was a tendency for more difficult rising-ups in the loose-house while they had considerably more difficulties lying-down in the tie-stall. Thus, there were problems in both housing systems with this behaviour.
- When the cows were on pasture they had a high group synchronisation (they tended to perform the same