

# Effects of housing conditions on social behaviour in cattle herds

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## Key words

Automatic Tracking, Dairy Cows, Heifers, Integration, Interval Length, Introduction, Neighbour, Network Analysis, Proximity, Replacement, Scan-Sampling Interval, Social Behaviour, Synchronicity, Use of Barn Areas

## Aim of the study

Social relationships in dairy herds may serve as a welfare indicator sensitive to changes in housing conditions and management. We therefore wanted to validate a local position measurement system and the use of its data for the assessment of social relationships in dairy herds and to apply the approach to an exemplary situation of practical importance: whether heifers should preferably be introduced into dairy herds singly or in pairs known to each other.

## Material and methods

Data was collected on several subgroups of the dairy herd at the Agroscope Reckenholz-Tänikon Research Station ART and on herds of six Swiss working farms (24-43 cows) for which the integration of one single and a pair of heifers was investigated in a balanced order.

## Results and significance

Based on the identification of non-random attachment and avoidance relationships, we could characterise herds of dairy cows as tightly knitted networks encompassing the majority of the cows with no obvious subdivision, even though the single cows varied considerably in how many relationships to other cows they maintained. Previous contact during the last dry period and especially having grown up together coincided with being more synchronous and at closer distances.

Heifers newly introduced into dairy herds in pairs faced only half the rate of agonistic interactions, seemed to form lying relationships with cows more quickly and to provide some mutual support by being close to each other. In Addition, their use of feeding, lying and activity area differed less from the cows compared to singly introduced heifers. Cows of the herd were hardly influenced by the integration of either single or pairs of heifers. Thus, the introduction of pairs of heifers can be favoured over the introduction of single heifers.

## Publications, posters and presentations

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7 conference contributions of these same authors

**Project duration** April 2004 – February 2008