

EFFECT OF GRAZING MANAGEMENT ON ON-FARM MORTALITY IN SWEDISH DAIRY HERDS

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Interpretative summary (5 lines max):

On-farm mortality (death and euthanasia) in dairy cows is a welfare concern which also causes economic losses for the farmer. This study investigated the association between grazing management and on-farm mortality. The results show the importance of summer grazing since low on-farm mortality was associated with access to production pasture for most of the day.

Main abstract:

According to Swedish legislation, cows shall be on pasture during the summer for a continuous period of at least two months, depending on region. A recent study on risk factors for on-farm mortality found regional differences, partly consistent with the length of the legislated grazing period [1]. To further explore risk factors for on-farm mortality a questionnaire was sent to herds with high or low mortality rates. Here we present the results for grazing management.

Herds were defined as high or low mortality herds based on their mortality during a three years period. High mortality herds (HM) had a mortality rate in the fourth quartile in 2011/2010 (>7.7) and 2010/2009 (>8.1) and above median (>5.2) in 2008/2009. Low mortality herds (LM) had a mortality rate in the first quartile the last two years (<2.7) and below median (<5.2) in the first year. The questionnaire was sent to all HM and LM herds enrolled in official milk recording with an average herd size ≥ 35 cows. Questions related to grazing were: type of pasture (exercise or production), pasture stocking (cows per hectares of pasture, categorized as $<\text{median}\geq$), hours per day at grazing (categorized as $<\text{median}\geq$), part of the day at pasture (only day, only night, both day and night, varies between day and night) and whether the doors to the barn was open so that the cows could choose to go inside. Differences in grazing management between HM and LM herds were analyzed with Pearson's chi-squared test.

Production pasture was used in 15 (27.3%) HM herds and 54 (66.7%) LM herds ($p < 0.001$). Seventeen (34.0%) of the HM herds and 41 (61.2%) of the LM herds had pasture stocking below the median 5.8 cows per hectare ($p = 0.004$). The median time of pasture per day were 15 hours, and 52 (62.3%) of the LM herds and 19 (34.6%) of the HM herds were above median ($p = 0.001$). Pasture was offered to the cows both day and night in 16 (27.6%) HM herds and 47 (54.7%) LM herds ($p = 0.001$). In 34 (59.7%) of the HM herds and 28 (34.2%) of the LM herds the doors to the barn were kept open and the cows could choose to go inside while at pasture ($p = 0.003$).

The results in this study indicate that pasture have a positive effect on on-farm mortality as the LM herds practiced production pasture to a larger extent than HM herds, and also kept the cows on pasture with a lower stocking rate and during a longer time period each day. A higher proportion of LM herds also practiced closed barn doors when the cows were on pasture which is consistent with a study of risk factors for on-farm mortality in Danish dairy cows [2].

References

1. Alvåsen, K., Jansson Mörk, M., Hallén Sandgren, C., Thomsen, P.T. & Emanuelson, U. (2012). Herd-level risk factors associated with cow mortality in Swedish dairy herds. *Journal of Dairy Science*, 95, 4352-4362.
2. Burow, E., Thomsen, P.T., Sorensen, J.T. & Rousing, T. (2011). The effect of grazing on cow mortality in Danish dairy herds. *Preventive Veterinary Medicine*, 100, 237-241.