



Investigating regional differences in cow mortality in Dutch dairy herds

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Introduction

Cattle health surveillance (CHS) in the Netherlands indicated a regional difference in on-farm mortality of cows > 1 year in Dutch dairy herds. This difference was consistently present over the last 4 years (Figure 1). We hypothesized that there were two possible causes. The first cause could be a difference in the health status of cattle in different regions. The second cause was a possible regional difference in attitude of the farmers and/or the veterinarians with respect to culling or euthanasia of cattle. The objective of our study was to determine whether regional differences in attitude towards euthanasia and culling of sick and loser cows could explain the differences in on-farm mortality.

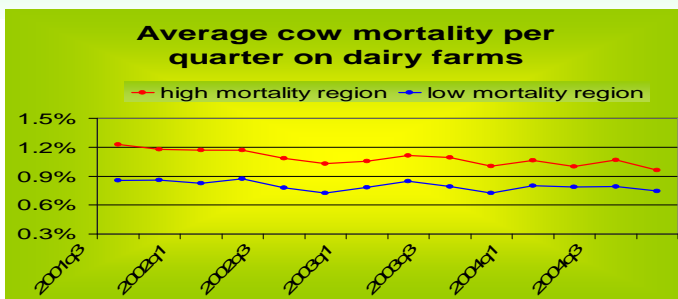


Figure 1. Percentage of cow mortality for LM and HM regions over the years.

Material & Methods

The study consisted of two components:

- 1 an analysis of on-farm mortality in relation to culling for the two regions. This was done using data from the Information and Registration system (I&R) (birth, move on-farm, move off-farm and date of on-farm or off-farm movement) and the rendering plant (collection date and age of collected cadaver).
- 2 a questionnaire on euthanasia practices among all veterinary practices in the two regions that differed in mortality

Results

1. Data analyses

Of all Dutch dairy cows >1 year that annually moved off-farm, 11% died on-farm. In the high-mortality region (HM), cow mortality (# cows dying on farm/#cows present on farm) was 1.2% per quarter compared to 0.6% in the low-mortality region (LM) (Figure 1). Extrapolated to an average Dutch herd, consisting of 65 dairy cattle, 3.1 cows died on farm in region HM compared to 1.6 cows in region LM.

The data-analysis showed that there were differences between regions in the rate of culling and the destination of culled cows (either for slaughter or for life-trade). In one year in an average herd of 65 cows in region HM, 60% of the cull cows (12 out of 20) went for slaughter whereas in region LM, 47% (8 out of 17) of the cull cows went for slaughter (Table 1). Farmers in region LM may have different and more accessible channels for cull cows (for life trade) than farmers in region HM. Subsequently, cows from region LM that are traded to other cattle farms, may have different health and life expectancies compared to cows from region HM.

2. Questionnaire

Based on the questionnaire amongst veterinary practices, vets in region HM proposed euthanasia for cows with a moderate to low recovery prognosis (<25%) more easily than vets in Region LM. From the results of the questionnaire, it was calculated that 26% of the animals that died on-farm were euthanized in region HM compared to 19% in region LM. Hence, the difference in cow mortality was only partly explained by a higher proportion of euthanized cows in region HM. This means for an average dairy herd with 65 cows that 0.3 dairy cow > 1 year per year in region LM is euthanized and that 0.8 dairy cow > 1 year per year in region HM is euthanized (Table 1).

Table 1. Number of dairy cows > 1 year that moves off-farm per year from an average dairy farm. The numbers are based on estimations of I&R results in the period 1 January 2002 until 1 April 2006 and data of veterinary practices in the period 1 July - 31 December 2005.

	Rendering plant data		I&R data		Total
	# Death on-farm (euthanasia)	Trade	slaughter		
Region LM	1.6 (0.3)	7	8		17
Region HM	3.1 (0.8)	5	12		20
The Netherlands	2 (*)	5	11		18

* information unknown.

Conclusion

In the HM region 20 cows move off-farm each year relative to 17 cows in the LM region. This difference is partly explained by one extra cow in two years that is euthanized on-farm in the HM region. Cows in the LM region more often (41%) leave the farm for life-trade than cows in the HM region (25%). We can not rule out that there may be differences in cattle health between the regions. Investigating those health differences will require long-term follow-up and the collection of detailed cattle health and management data in a large number of herds.