

## Automatic Milking Systems and Milk Quality in three European Countries

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Automatic milking (AM) has evolved rapidly after the first introduction on a Dutch dairy farm in 1992. AM is widely accepted and works satisfactory however, it does not go without significant amendments of the farm management and its related farm figures. One of the aspects affected by AM is milk quality. In previous research it was elucidated that the milk quality of farms with an automatic milking system was significantly lower when compared to the milk quality figures of farms milking with conventional milking parlours and compared to the period before the introduction of the AM-system (Klungel *et al*, 2000; Van der Vorst *et al*, 2000). In the study of Van der Vorst and Hogeveen (2000) differences in milk quality were seen related to the date of installation of the AM-system. This was referred to as 'generations'.

In the study presented in this abstract, recent milk quality data of farms with an AM-system is being analysed based on three consecutive generations and compared to conventional farms. Data of 262 Dutch farms, 44 German and 99 Danish farms are included and analysed for possible relations and elapses regarding the milk quality from January 1997 until January 2001. Data of Dutch farms that milked twice (n=295) or three times a day (n=40) in conventional milking parlours during the same period, are used as controls.

In addition to data analysis, currently around 150 Dutch farms with an AM-system are investigated further. During farm visits a broad range of farm data is gathered by means of a questionnaire and a hygiene check-list for the barn. These figures will be related to the milk quality of the particular farms. Through this method it is aimed to appoint factors directly and indirectly affecting milk quality on the long term. This study is still ongoing and will be finished by the end of January 2002.

The first results on the milk quality data show significant differences. A preliminary conclusion can be drawn regarding the total plate count. It appears to improve for farms that more recently switched to AM. Data analysis is ongoing. Together with the information collected on the farms an elucidation can be given on the possible factors affecting the milk quality on the long term. Results can be used to improve the milk quality and stimulate further research on significant related factors.

### Reference

Klungel, G.H., B.A. Slaghuis, and H. Hogeveen, 2000. *The effect of the introduction of automatic milking on milk quality*, J. Dairy Sci 83:1998-2003.

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