

Effects of suckling on milk yield and milk composition in dam rearing systems

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There is an increasing interest in dairy farming systems that allow a prolonged contact between cow and calf beyond colostrum period. Although various dam rearing systems can be found in dairy practice, the knowledge about the effect of these systems on the cows' performance is limited. In collaboration with universities, we conducted some experiments at our research farm that was designed especially to study calf rearing by suckling. Based on four studies done between 2007 and 2014, the milk recording data of 135 cows with permanent, two times daily, nightly or no contact to their own calf were analysed using linear mixed models. Suckling as such had always an effect on the tested variables (Tab.1). All variants of calf contact affected the recorded milk yield before and after weaning but to different extent. On average the milk yield during the suckling period of 95 days was 13.6 kg per cow and day lower than in the control cows without calf contact. However, the restriction of the contact on the time between evening and morning milking caused an additional milk yield of 2.0 kg per cow and day. This surplus of that treatment persisted over the whole lactation. As expected, the milk fat content was lower during the suckling period while the milk protein content was higher compared to the control cows. Somatic cell count was also affected but only during the suckling period. Compared to the control cows, suckling cows showed marginal higher somatic cell counts; the estimated difference for the re-transformed data was 12 cells per ml. Thus, no relevant effect of cow contact in combination with machine milking on udder health could be revealed.

Tab. 1: Effects of tested variables on performance and milk quality (F-values and significance level given)

Effect		Milk yield	Fat [%]	Protein [%]	Log SCC
Breed	German Red Pied/ German Holstein	16.47***		83.75***	
Parity status	Primipar/Multipar	133.65***		17.03***	
DIM		1595.65***	32.15***	721.51***	72.40***
Treatment	Control/Permanent/2x daily/nightly	25.97***	9.14***	9.19***	
Calf contact	Yes/No	1223.01***	177.34***	23.52***	7.81**

***p<0.001 **p<0.01

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