

# Udder health effects of an evidence-based mastitis therapy concept in Northwestern Germany

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Date submitted: 03/10/2018

Date accepted: 24/10/2018

Volume/Page(s): 71/14-20

## Abstract

Antibiotic use in dairy farming is a highly discussed issue in society. As a result, the European commission issued guidelines for the prudent use of antimicrobial agents in veterinary medicine in 2015 (EU 2015/C 299/04). Several studies could show effects of selective treatment of clinical mastitis. The present study assesses antibiotic reduction without negative effects on cure rates. The mastitis therapy concept was used on a 950-cow dairy farm in Northwestern Germany from 2016-2017. The cows showing clinical mastitis were assigned to an examination and a control group. The control group (n=71) was given the standard therapy, an intramammary antibiotic. Cows from the examination group (n=69) were treated, based on their individual mastitis history and the result of a rapid on-farm test of a quarter milk sample. The udder health effects such as clinical cure, bacteriological cure, cytological cure, number of recurrent cases of clinical mastitis, the culling rate as well as the withdrawal period and mean doses of antibiotics were compared between the control and examination group. There was a significantly higher chance of a clinical cure in the examination group ( $p=0.01$ , examination group: 43.5%, control group: 21.7%). The cure rate for bacteriological cure was 62.5% for the examination group and 66.6% for the control group. As well, 14.5% of cows had a cytological cure in the examination group and 9.9% of cows in the control group, respectively. However, the mean amount of local antibiotics per case was approximately 55% higher in the control group. Thus, this therapy concept could significantly reduce the antibiotic usage for mastitis treatment without there being any negative effects on cure rates.

*Key words: dairy cow, clinical mastitis, selective mastitis treatment, antibiotic reduction*