

## Udder health concepts that comply with organic principles – how to reduce therapies?

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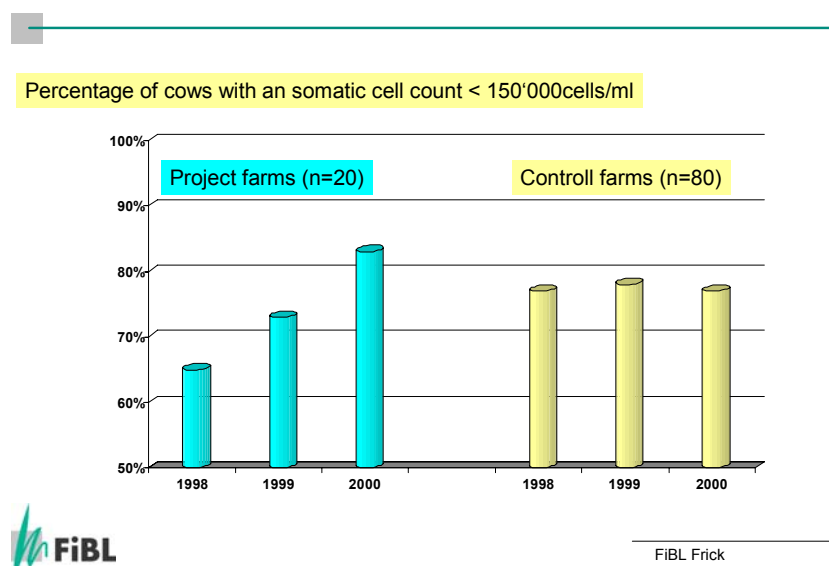
### Introduction

Both the consumers and the legislators expect products from healthy organic livestock. Consequently, keeping farm animals healthy has the highest priority in veterinary work on organic farms. Different Swiss FiBL projects on bovine mastitis in recent years were aimed at health concepts that comply with organic livestock production principles. This paper summarises some of the work carried out.

### Somatic cell counts and clinical mastitis

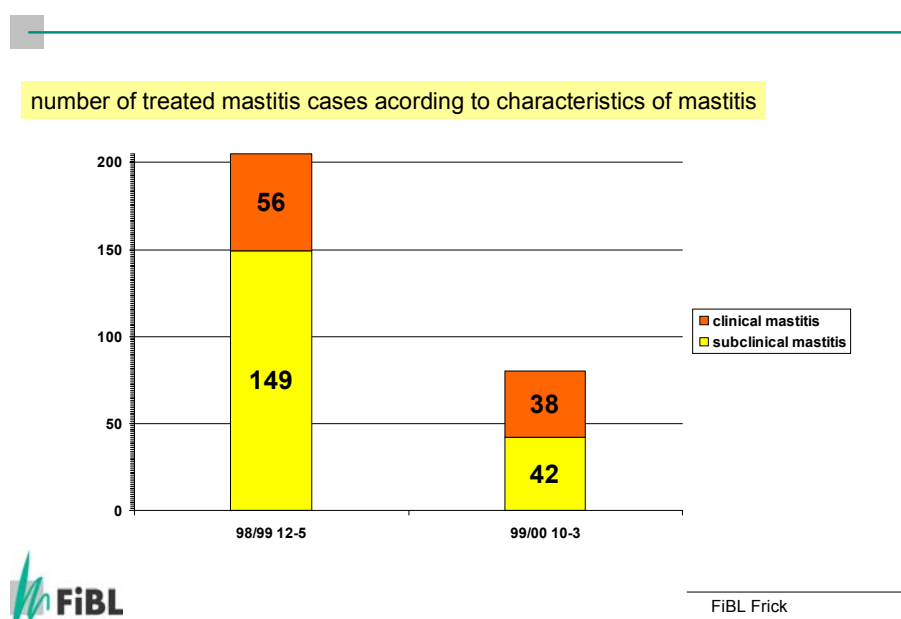
One project included 20 farms (with an average of 15 cows per farm) of a high mountain Swiss region and placed emphasis on milking hygiene, milking technology, mastitis treatment during lactation (homeopathy versus antibiotics) and dry-off treatment (homeopathy versus placebo and partially additional antibiotic). The overall result was a reduction of cows with a somatic cell count higher than 150,000/ml based on milk recording dates between January and May from 35% in 1998 to 17% in 2000 (Figure 1).

**Figure 1:** Percentage of cows with a somatic cell count <150,000, as observed in an udder health project (Walkenhorst *et al.*, 2001).



During the project the average number of treated mastitis cases per farm decreased from 10 to 4 (Figure 2).

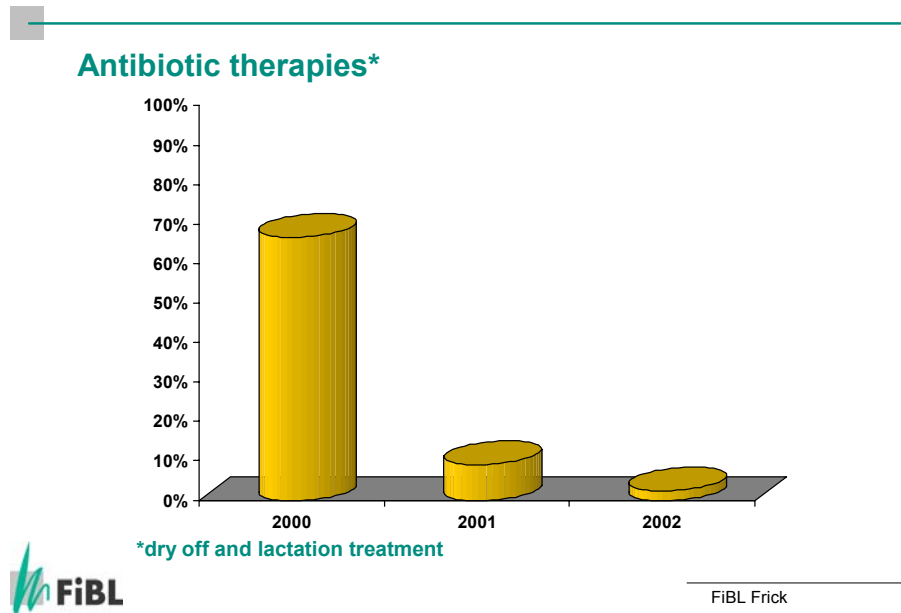
**Figure 2:** Number of treated mastitis cases according to characteristics of mastitis in an udder health project (Walkenhorst *et al.*, 2001).



### Reduction of antibiotic use

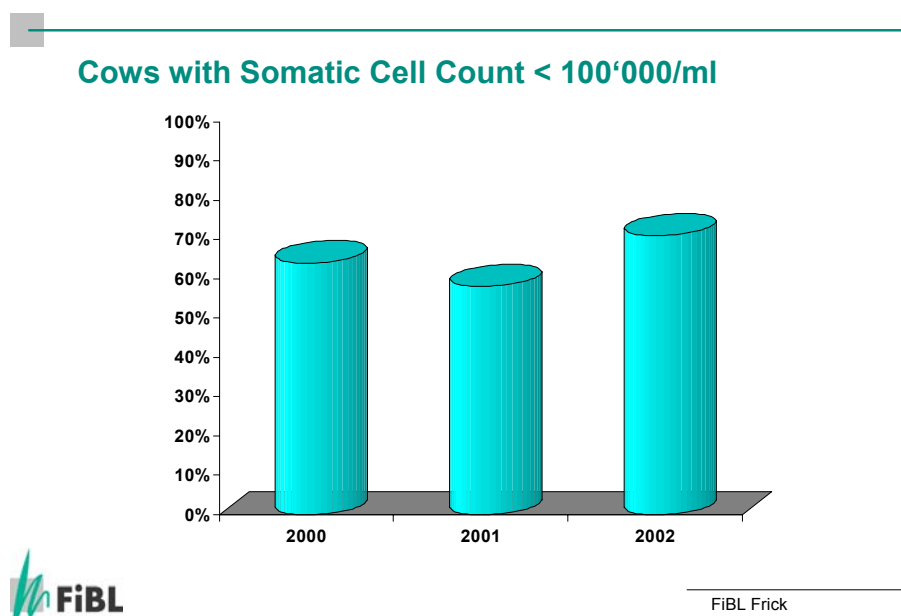
A second project, considering farms in the north west of Switzerland, was aimed at the implementation of an organic principles compliant udder health concept, placing emphasis on reduction of the use of antibiotics. In order to achieve this, it was envisaged that factors contributing to mastitis will consistently be eliminated or at least reduced by implementation of herd health management and, in addition, by the establishment of complementary therapy and prophylaxis in udder health. The project placed emphasis on a better co-operation between practical veterinarian and the farmer in the issue of preventive herd health management. On the three pilot farms, a reduction in the use of antibiotics from 70 treatments per 100 cow and year in 2000 (previous the start of the project) to two treatments per 100 cow and year in 2002 (second project year) could be shown (Figure 3).

**Figure 3:** Minimisation of antibiotic treatments for mastitis in an udder health project (Notz *et al.*, 2001).



Thereby, the udder health status of the herds remained stable with round about 65% of cows with a somatic cell count lower than 100'000/ml (Figure 4).

**Figure 4:** Udder health status according to the proportion of cows with somatic cell counts < 100,000 cells/ml in an udder health project that showed significant reduction in antibiotic use (see Figure 3) (Notz *et al.*, 2001).



### Udder health concepts into practice

The objective of the current project is the enlargement and implementation of the previous concept into practice. A project team of veterinarians and agronomists will collect data of mastitis causing factors on 100 new farms per year in Switzerland: housing, feeding, human-cow-interaction, milking technology, milking hygiene. These data will be connected to the mastitis status of the herd based on quarter milk samples and milk recording dates. During a period of at least 2 years these farms will be intensively advised by the project team and the practical veterinarian. Therapies will primarily be based on homeopathic remedies. The development of mastitis causing factors and the mastitis status of the farms is followed up at regular intervals to show possible correlations between (changing) factors and mastitis status. The monitoring system of the project is presented in Table 1.

In addition, an Internet based network of health data should be implemented for providing information for farmers and veterinarians in preventive herd health management. The aims of the project are reduction in the use of antibiotics in udder treatment, improvement of the udder health state of the herds and, as a consequence, improvement of milk quality.

**Table 1:** Analysis of mastitis situation within the project.

	Clinical examination	Quarter based bacteriology	Quarter based SCC	Milk recording data
Start	X	X	X	
After 1 <sup>st</sup> project year	X	X	X	
Monthly				X
Dry off (if SCC>100 or CMT pos.)	X	X	X	
Calving (if SCC>100 or CMT pos.)	X	X	X	
Mastitis	X	X	X	
Mastitis + 30d	X	X	X	

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