

Effect of Stalosan F powder application on the improvement of animal welfare in cattle stables.

Decrease in high somatic cell count (SCC), mastitis, locomotion score (digital dermatitis) and contagious diseases in calves.

Summary

Somatic cell count (SCC) is a main indicator of the quality of the milk. White blood cells known as leukocytes constitute the majority of somatic cells. The number of somatic cells increases as an immune response to the presence of mastitis-causing bacteria and small number of epithelial cells (milk-producing cells). The SCC is quantified as cells per ml of milk. Generally, it is considered less than 100,000 cells/ml for healthy cows and over 250,000 for cows with one or more quarters affected by pathogens. The milk SCC also increases after calving when colostrum is produced.

Digital dermatitis (DD) is an infectious condition of the foot caused by different bacteria such as *Treponema*, *F. necrophorum*, *D. Nodosus*, etc. DD causes painful ulcerations of the cow skin. Moreover, if no action is taken the process is going to be worse. As a result, cows feel pain, lie down, do not eat, loose body weight, decrease the milk production, have abnormal service period and consequently they will be culled.

It is very important to prevent respiratory and intestinal diseases in young calves, because this will significantly reduce the animal performance. In many cases, this can lead to culling or even death.

Introduction

In 2010 three Turkish dairy farms, with 3500, 1000 and 970 Holstein cows, were participating in a test showing if improved environment and welfare in the barns is going to reduce high somatic cell count, locomotion score and contagious disease in calves. For this purpose a well-known powder product called Stalosan F, produced by Vilofoss group, was used.

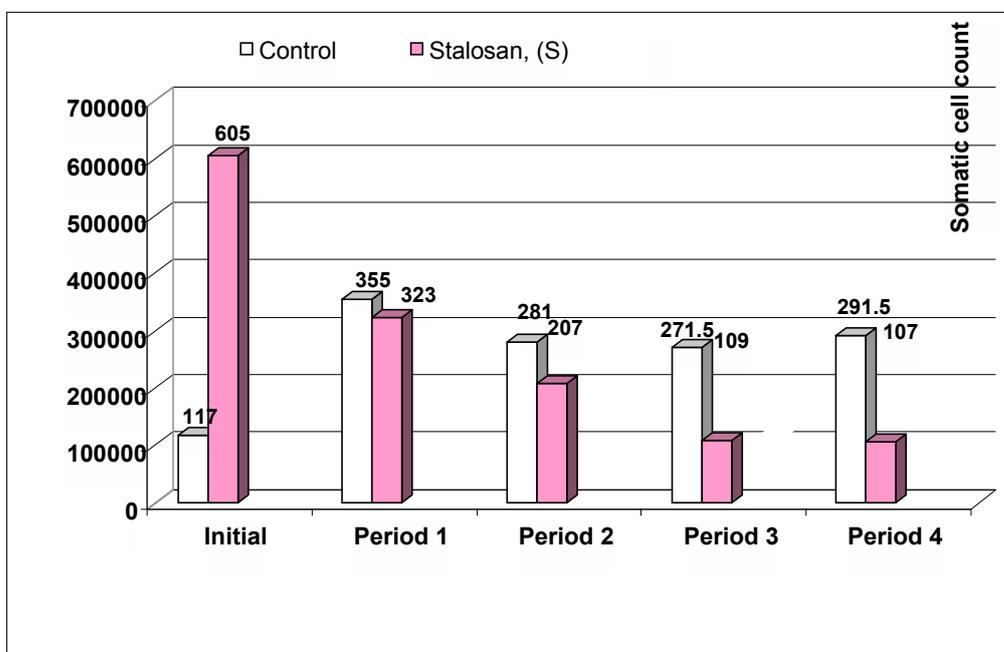
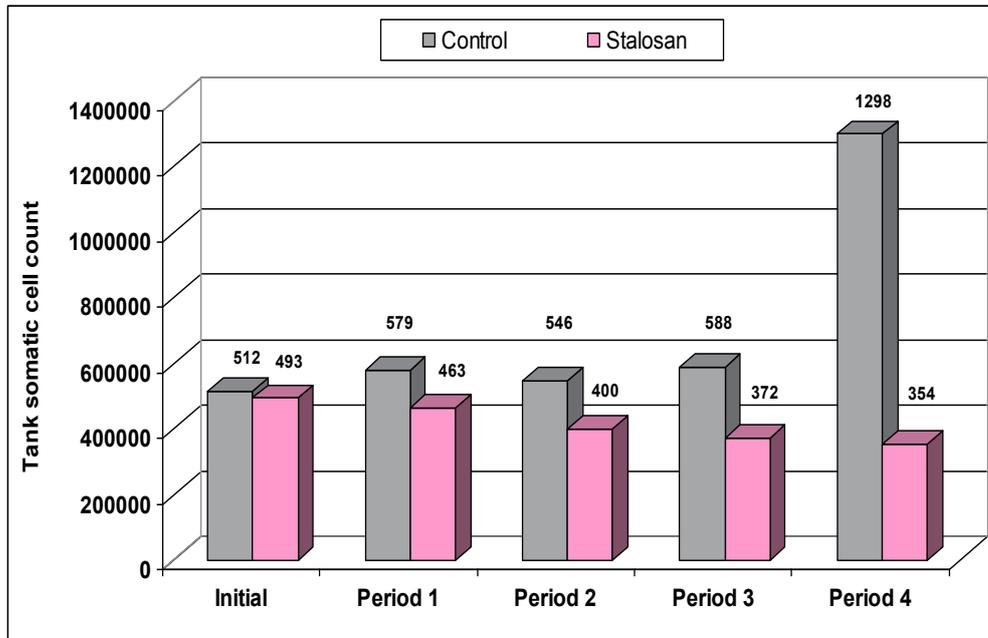
Materials and methods

The study was carried out in barns where the SCC is high, mastitis and hoofs problems are persisting, as well as diseases in new-born calves. The product was applied weekly, five applications in a period of 28 days, in bedding areas for cows and calves and around water areas in a dosage of 50g/m². Samples are taken of milk from the bulk tank and from the individual cows, locomotion is scored and calf diseases are recorded.



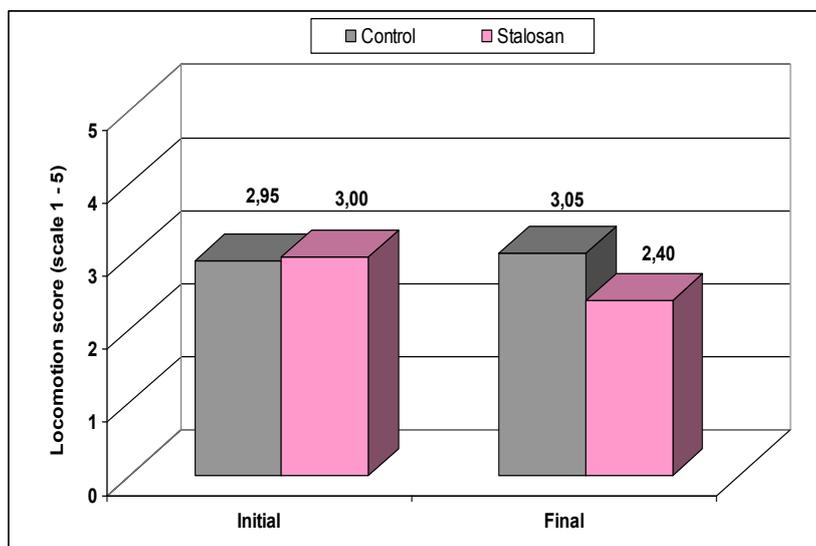
Results

The study showed that Stalosan F has affected the bulk SCC during the trial period. SCC for the Stalosan group was approximately 2 times lower than control group.



After 28 days of Stalosan application locomotion score was improved compared to control group. At the same time, locomotion score had a tendency to increase in control group.

Comparing the health status of the herd before and after trial we have significant improvement of the welfare of young and old animals.



	Before Trial	After Trial	Improvement
Calf Diarrhoea	15	10	33%
Calf Pneumonia	20	17	15%
Subclinical Mastitis	20	10	50%
Clinical Mastitis	20	10	50%
Somatic Cell Counts	472 000	307 000	35%

Conclusion

The studies showed a decrease in somatic cell count (in some cases more than twice), which is actually improvement of the udder health status. High SCC normally is a consequence of mastitis or poor hygiene in the barns.

Trials have also shown less incidents of digital dermatitis. Healthy hoofs are one of the key factors for good economical results.

Improving the health status of the calves is also very important because it is the next generation of the farm. Healthy calves and heifers are becoming cows that are more profitable.

No doubt when Stalosan F is used, animal health and welfare are improved and dairy farm profitability is increased.