



The effect of Vitapol Zn2 supplementation of dairy cattle on somatic cell counts and mastitis.

The profitability of today's dairy farmers depends on the proportion of revenues and expenses. That's why milk yield and quality has high priority.

Mastitis and high somatic cell counts can cut our profit, so it is crucial to prevent them. This problem mostly occurs in humid, warm weather conditions, and under poor hygiene circumstances.

Reasons could be:

- ❖ On hot days, cows splatter out drinking water, and lie down to cool themselves.
- ❖ If manure can not be brought out in time.
- ❖ Inadequate udder hygiene, poor disinfection due to human error, or for example if the infected milk of a teat is milked in the bulk milk.
- ❖ Vacuum failures occurring in the milking system.
- ❖ Diseases caused by *Prototheca* algae
- ❖ Others

Overall, it is important, to have a good stable and milking hygiene, and to provide our cows all necessary nutrients they could need, to ward off the diseases.

The solution is: **Vitapol Zn2!**

As we hope more and more yield from our cows, they have less and less chance to regenerate udder tissues and to combat infections.

The teat end is the first barrier against invading pathogens. The anatomical and physical characteristics of the teat canal (tightness of closure and keratin lining) inhibit penetration of udder pathogens. Approximately 40% of the keratin lining is removed at each milking and, therefore, it requires constant regeneration. High somatic cell counts occur, if the regeneration of these tissues is not proper.

This cellular damage can be mitigated or possibly eliminated with the usage of **Vitapol Zn2**.

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Two modes of action!

1. With its epithelialization promoting agents, it helps the regeneration of tissues. Its organic micronutrient content is required for keratin formation and to rebuild the mucosa cells. Several studies have showed the effect of supplemental zinc on reducing SCC. Organic forms of micronutrients appear to be better absorbed and retained by the animal. The organic microelements in Vitapol also improve resistance against bacteria.
2. Humic acids have strong antibacterial effect. The following microbe strains proved to be sensitive against humates among others: *Staphylococcus epidermidis and aureus*, *Streptococcus pyrogenes*, *salmonella typhimurium*, *Proteus vulgaris*, *Enterobacter cloacae*, *Pseudomonas aeruginosa*. The effect of humates on microbes can be derived from several reasons according to the experiments, first of all they can affect the catalysis of the metabolic reactions, but a definite blocking effect on the bacteria and virus bodies was also realized. At the same time humic acids show a direct protective effect against harmful microbes forming ionic bonds with the cell-protein toxins so blocking the uptake of these molecules through the mucous membrane.

What is Vitapol Zn2?

Vitapol Zn2 mineral feed exclusively contains natural raw materials, humic and fulvic acids, minerals and microelements. It contains minerals and micronutrients in an organic humic acid complex form, so they are easily absorbed in the digestive tract of animals, thus promoting the digestibility of feed and a better feed utilization. Humic and Fulvic acids as natural agents, are possible alternatives of antibiotics and chemotherapeutic preparations in many ways. Thanks to its unique composition Vitapol Zn2 strengthens the immune system, and it helps the profitability of farming.

Our practice experiences are, that in case of farms, who already tried more independent somatic cell count reduction methods without success, Vitapol Zn2 could decrease SCC from 6-700.000 to under 400.000.

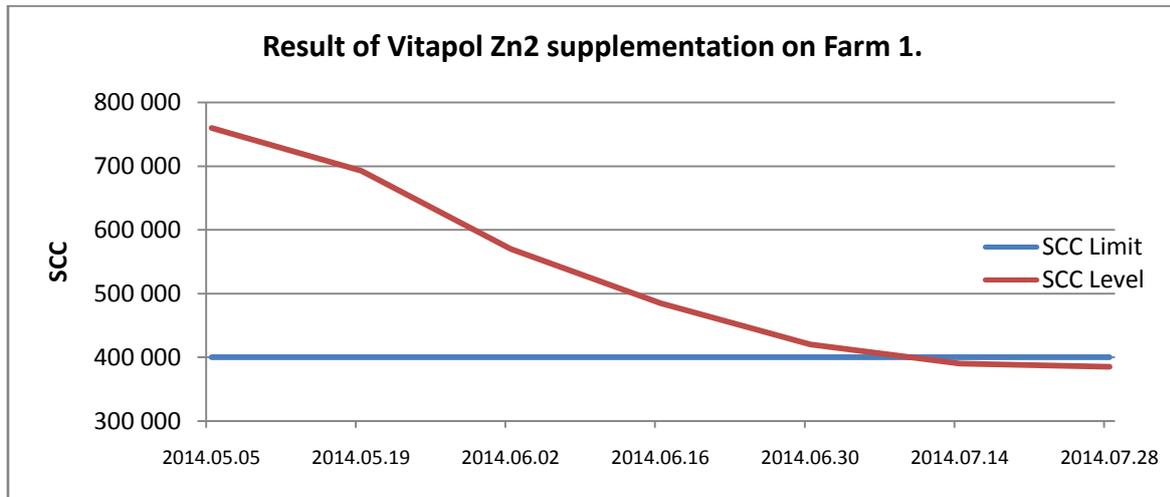
In addition, Vitapol Zn2 can also prevent and stop diarrhea on short term and reduce lameness, laminitis, Mortellaro-disease (digital dermatitis) on the long run.

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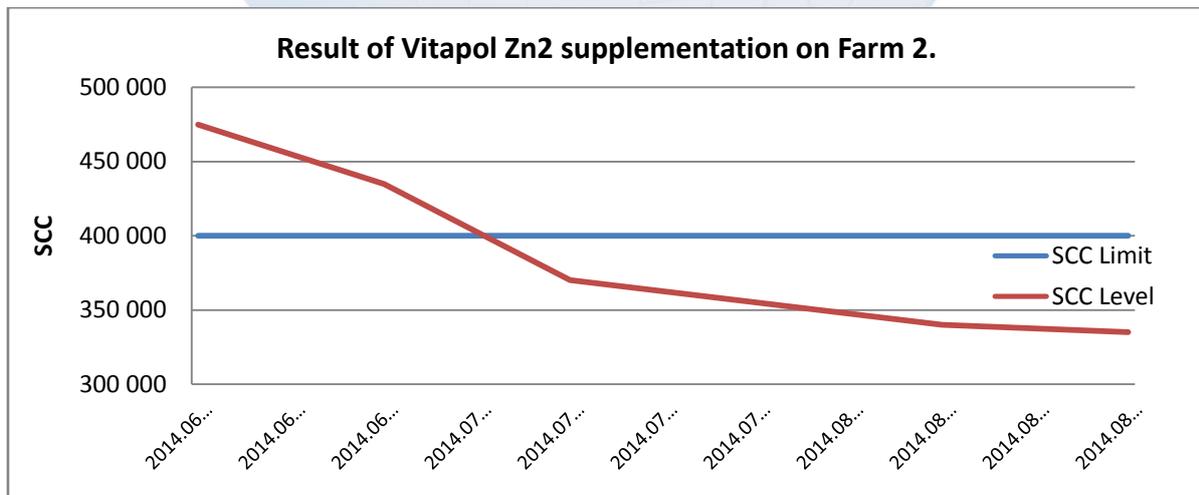
Results of Vitapol Zn2 supplementation:

The tests were made under usual farm conditions. No other technological change took place during the tests. We started Vitapol Zn2 supplementation after the first milk sampling.

1. Farm
- test time: 2014. may-july
 - average number of milked cows: 350
 - total daily milk: 9.030 kg
 - average milk/cow/day: 25,8 L



2. Farm
- test time: 2014 june-august
 - average number of milked cows: 1.200
 - total daily milk: 44.360 kg
 - average milk/cow/day: 36,9 L



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Application for high somatic cell group:

1. 150 g/cow/day for 14 days. On the 15th day sampling and controlling the somatic cell count in the milk.
2. If the number of somatic cells decreased, the dosage is 120 g/cow/day for the next 30 days.
3. After controlling the somatic cell count in the milk, 100 g/cow/day for 14 days.
4. After the treatment we recommend the application of VITAPOL Pulvis in the TMR (100 g/cow/day), replacing the VITAPOL Zn2.



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