

Milk fever control in dairy cows: x-zelit is on the way



A unique product, x-zelit, is likely to be available soon as a new option to dairy farmers in planning their herd health management. The product, based on a special formulation of synthetic zeolite, has proven highly effective in the prevention of milk fever and hypocalcaemia in the newly calved cow.

The hypothesis

The product is the result of innovative research directed towards reducing the risk of milk fever in the dairy industry. Some years ago Rolf Jørgensen, a Danish research professor, developed the hypothesis that if the cows natural defence mechanisms against threatening hypocalcaemia could be activated before calving, then she would be well prepared for the massive draw of calcium (Ca) from the blood to the udder soon after calving, at the onset of the new lactation. But how to achieve a negative calcium balance, believed to be necessary to trigger this mechanism, when the daily calcium requirement of dry cows is lower than the daily intake of calcium? The track followed by the professor and his research group in Copenhagen was that of reducing the bioavailability of the daily intake of calcium by adding a calcium binder to the feed. Synthetic sodium zeolite, a microcrystalline aluminium silicate powder, is one such compound known to the laundry industry and the food industry as a water softener due to its sodium-calcium ion exchange capability.

How does it work?

The product x-zelit, now in the pipeline, is a special formulation of synthetic zeolite which is given during the period from two weeks before expected date of calving and until actual calving. During this period it will reduce ration Ca availability, and an additional effect was discovered: blood inorganic phosphorus (P) decrease. It is the combination of these two effects which gives the product its high efficacy.

Efficiency

Some research studies comparing exposed calving cows to unexposed control cows have shown 100 percent efficacy in preventing milk fever and subclinical hypocalcaemia. The results of a recent extensive trial involving 259 calvings on 22 private dairy farms may however be more relevant to dairy farmers because it is likely to reflect a much broader diversity of farm specific conditions. Here the frequency of milk fever (clinical hypocalcaemia) recorded by the farmers among unexposed cows was 28.4 % against 6.9 % among x-zelit exposed cows. Among high risk cows (3rd calvers and older) the reduction reached 80 percent. Some cows, diagnosed by the farmer and his veterinarian as being cases of milk fever were later found to be false positives since their blood Ca level was not below 1.8 mmol/L at the time of clinical diagnosis. Subtracting these cases reveals the exceptional high efficiency of 85 percent (26.4 % and 3.8 %, respectively).

Are there no drawbacks?

Presently the only in feed - products available for the reduction of the risk of milk fever are the anionic formulations intended to acidify the cow. When added in sufficient amounts their major drawback is low palatability. Synthetic zeolite appears to be no exception but product development has led to improvements in palatability of the most recent products like x-zelit to the extent that most dairy cows accept it.

No negative side effects related to production, cow and calf health, consumer safety or the environment have been disclosed during the 7 years of experience with synthetic zeolite for milk fever prevention.

Where to get further scientific information?

In December 2004 the European Feed and Food Safety Association's Scientific Panel on Additives and Products or Substances used in Animal Feed published their Opinion on this novel use of zeolite. Click on the link below or Google >>Milk fever zeolite opinion<<

http://www.efsa.europa.eu/etc/medialib/efsa/science/feedap/feedap_opinions/745.Par.0003.File.dat/zeolite_summary_en1.pdf

An update is expected to be published May 2007. The most recent research results will soon be available in the on line version the scientific journal The Veterinary Journal. Search for Pallesen et al.

For information on product registration, contact director, Dr. Agro. Finn Eiland, mail: fe@stalosan.dk from Stormoellen.

Stalosan® Ointment



Christine van Wyhe
Stormøllen

- Is a unique, newly invented and patented ointment that has all the qualities of Stalosan® F. The ointment is non-toxic for humans and animals. It is a highly efficient wound healer that can be used on any kind of wound, skin infection or irritated skin with all animals.

This new product has already helped animals in Denmark, USA, Sweden, Spain, Germany and more countries are just waiting to get started.

Stalosan® Ointment was first launched in Denmark on the 15th of January 2007, at the Agromek exhibition. This was several years after the idea first came to life in collaboration between the importers of the US and employees of Stormøllen.

After one year of testing on efficacy, viscosity and general practical value, we finally decided in favour of the product, available on the market today. This ointment has a viscosity and concentration of Stalosan that will allow it to be pressed through a small hole in a

tube, still remaining a relatively short drying period and being sticky.

The application of the ointment should be done evenly in a thin layer on the wound. The Stalosan® Ointment then needs to dry for a few minutes and it will stick to the animal for up to 24 hours. The farmer needs to follow this procedure every day until the wound is gone and in the end he will discover the impressive wound healing effect of the ointment.

Stormøllen has several hundred different farmers testing this product on any possible problem. The animals included are primarily sows, horses, cows and sheep. Stormøllen has completed trials that revealed a two times faster healing time of shoulder wounds of sows compared to control. More specifically, the control showed a healing of 0.15 cm/day compared to 0.30 cm/day for the ointment test group.

One can always speculate on the mechanisms of action and why an ointment suddenly can appear to outperform existing alternatives. The best explanation is probably that Stalosan® ointment attacks the infection from many different angles. Firstly there is a direct biocidal effect as proven for Stalosan® F. Secondly there is a neutralization of ammonia and other soft tissue dissolvers, produced by pathogens as a way of infection. Thirdly the ointment dries the wound. Fourthly the ointment leaves a resistant cover on the wound that protects from any further infections and gives rest for the body to recover.

In terms of use and target, we still have a long way to go and many experiences to collect. Therefore it is important for us, and you, to try the ointment on new animal groups and/or indications in order to increase our knowledge and find the limits to the use of the Stalosan® Ointment. So far, we haven't come across any skin infection that could not be helped by Stalosan® Ointment. In other words, if there exists a skin infection problem with any type of animal in your country, it might be a good idea, together with a few farmers or pet holders, to try the ointment and see if it will solve the problem. We will of course assist you with our experience and knowledge.

New Regional Manager



Karsten Rasmussen
Vitfoss

Vitfoss has hired agricultural technologist, Karsten T. Rasmussen as new Regional Manager. In the future Karsten is going to be in charge of the sale of Vitfoss-products in Russia, Ukraine, the Baltic states, and in Finland.

Karsten is 46 years old, and due to his former jobs, i.e. as product manager for feed in DLG, he has extensive experience within the business. For the last 20 years Karsten has worked with sale and consultancy in the animal production, where theory and practical experience are major factors. Furthermore Karsten is a skilled farmer, and he has worked as farm manager in the pig production in Denmark.

Stalosan® F in poultry production



Torben Hansen
Stormollen

Poultry production is of great importance worldwide. Efficient breeding schemes improve the genetic potential of average daily gain, number of eggs per year etc., and the task is then to use the genetic potential as sensible as possible. Increased stress due to higher performance is likely to reduce immunity and well being, with increasing risk of disease outbreaks. It is therefore of crucial importance to reduce pathogenic load in stable environment, and to improve air quality by binding ammonia and water. It is furthermore important to reduce parasitic burdens of the birds.

Research, farm trials, lab test etc. have already concluded that Stalosan® F is capable of matching the above-mentioned demands, but further information is still important. At the moment two farm trials are conducted with broiler production in Denmark. Each farm has two identical sheds of approximately 2000 square meters, and each shed with approximately 37,500 birds. Stalosan® F was applied by blower on top of the straw before the birds entered, and then applied once a week during the rotation. It is important to reduce light intensity to a minimum as a means of reducing bird flight. As soon as it is almost dark in the shed, birds sit on the straw despite noise from the blower, and the applied Stalosan® F is falling down on the birds. The preliminary results from one of the farms are a reduction of mortality from 3.56 % (control) to 2.34 % (Stalosan® F). Furthermore straw quality was much better with Stalosan® F applied, because it was dry through the entire rotation. Level of ammonia was not measured, but it was evident that air quality was much better in the shed with applied Stalosan® F due to a lower level of ammonia.

In the following rotations ammonia level will be measured, straw samples will be analysed regarding pathogenic load and slaughter data included to get as much information as possible.

Stalosan Seminar in Italy

by Lars Ole Madsen, Vitfoss

As earlier announced in Stalosan News Stormollen and Vitfoss appointed a task force in order to boost Stalosan's profile, professionally as well as in sales terms. The plan was discussed with Granda Zootecnici in Italy, involving management as well as the professional and the sales staff. This set-up was thoroughly discussed, and the brainstorming wound up in a plan, indicating estimated sales over a period of years. It was further settled how the market was to be attacked, and the target groups that were to be involved in the various phases were defined. It was also formulated, how middlemen and other representatives were to be involved in the sales phases.

Further, it was decided to hold a seminar with participation of the best veterinarians and largest pig producers. By the end of January Granda Zootecnici completed the seminar with app. 80 participants and with presentations given by some of the most experienced and skilled research scientists and veterinarians. All presentations were considered very relevant and were met with enthusiastic applause.

Among the participants were Hans Aae from Vitfoss and Jan Storgaard from Stormollen.

In the afternoon the sales staff of Granda Zootecnici as well as other sales representatives were invited to a peptalk, aiming at matching the professional angle to the Stalosan end users, i.e. how to underline the efficiency of the product compared with price.

During spring 2007 we expect the first common reporting to take place, and we all hope that sales will develop positively.



Milk fever is history!

x  zelit



Advertisement

x-zelit is a completely new way of preventing milk fever and the subclinical form, hypocalcaemia.

It is a zeolite-containing product for dry cows. Approx. 500 gram active substance is given daily in the dry cows feed ration the last 2 weeks before expected calving and the effectiveness is very high in the scientific trials.

Furthermore the product is tested more extensively in 22 Danish herds during the stable period 2005/2006.

Even under such "field conditions" there was an effective prevention of milk fever. It showed that over 75% of the cases that normally occurs in the herd disappeared.

Such a convincing effect can be felt in the herd even though the frequency of milk fever normally varies a lot from year to year.

x-zelit is a specially treated Zeolite-product which is given to the cows 14 days before calving. x-zelit binds calcium and in that way the cow is brought into a negative calcium balance. This "activates" the cow's homeostatic regulation of calcium to a higher absorption. When the cow is calving the increased homeostase will result in a better calcium supply corresponding the increased demands to the milk production. And so the development of milk fever is prevented to a greater extent – both the clinical and the subclinical.

At a trial in 22 herds with a total of 259 cows, half of the cows received no preventing treatment, while the other half got 500 gram x-zelit daily 2 weeks before expected calving.

The frequency of clinical milk fever, registered by the herd owner in the control group, was 26.4% and it was 3.8% in the group that was treated with x-zelit. This difference is significant ($P < 0.001$).

If the focus is placed on cows in the risk group (third-calf cow or older), the incidence of milk fever was reduced with over 80%.

If the clinical observations combined with calcium analysis in the blood, where a "TRUE" milk fever requires both a clinical diagnosis and a calcium value in the blood under 1.8 mmol, the frequency of milk fever in the control group was 26.4%, while it was 3.8% in the group that was treated with x-zelit. This difference is significant ($P < 0.001$). This reduction corresponds to 85% less risk of milk fever if the cows were given Zeolite.


Vitfoss

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