Vaccination, an element to be added to your mastitis control programme

Mastitis has been and continues to be the main cause of financial loss on Belgian dairy farms. Traditionally, the implementation of mastitis control programmes was based on maintaining clean beds, proper milking routines, excellent milking facility operations, dry cow therapy, and treatment of clinical cases and the elimination of chronic animals. These control measures are still of the utmost importance, but a new tool is now available: vaccination.

A growing number of Belgian farmers have started to use the mastitis vaccine in the last three years. The purpose of this vaccination is to enhance the animal’s immune system to combat mastitis, as not only does vaccination reduce the number of infections but it also reduces infection severity, increasing the possibility of achieving a cure. As a result of this improved control, farmers have growing numbers of healthy animals (with low cell counts), reducing the number of treatments required and losing fewer animals due to severe mastitis. Mastitis is also an important cause of reduced milk production, so when the number of cases diminishes and cases are less severe, farmers find that their milk production increases.

Three years ago, Luc Nouwen started to test the vaccine on his 60-head farm in Balen Belgium, as he was seeing more and more mastitis problems caused by S. aureus. After talking to his vet, Dr. Danny Coomans, he decided to use the vaccine. Luc realises that vaccination is an investment in the future to help controlling mastitis problems and that he will certainly see positive results in both the short and long-term. This is supported by Danny, who maintains that it is important to accept vaccination as an element to be added to your mastitis control programme, as a complement of good management measures. In other words, if you start to vaccinate, you still need to have a milking machine that is working perfectly. Luc agrees “In those three years, vaccination helped us to minimise the impact of mastitis, especially in critical periods, where we had serious problems with the milking machine and SCC in the bulk tank increased. Now I understand that vaccine has added value and it should be managed as a complement control measure”. No sooner said than done: the vet and the farmer decided to take the step and, after two years in which a vaccination programme has been established, some milking routine problems have been solved and some chronic animals were eliminated. The results are quite clear: the number of somatic cells in the tank has fallen. However, according to Danny, that is not the most important thing, as the level was almost acceptable before vaccination, although at the expense of eliminating many cows due to mastitis and wasting a lot of milk. What is really important in his opinion is that “more than 90% of the animals have had low cell counts this past year and only one was eliminated because of mastitis. The number of clinical cases of mastitis has also fallen, particularly in primiparous cows. In fact in the heifers that were vaccinated before calving in the last three years although some of them experienced some increase in SCC not one of them had a bacteriology positive to aureus.”

Luc also remarks vaccination worked very well to prevent new mastitis but the cows that had mastitis before starting vaccination remained infected and most of them were culled over time. Danny gives us the explanation “cows infected with S. aureus before vaccination are cows chronically infected so we can’t expect to cure them with the vaccine, the objective should be to protect the healthy cows, not to cure the chronic ones”.

According to Luc, it has been hard work, with a significant effort with regard to time, discussions and investment, but it has paid off. As he says, “I have now realised how important it is to have a clear plan to control mastitis and to put it into practice”.

Dr. Gerrit Tacken also has had a good experience with one of his customers, a farm with 50 animals in the area of Limburg, following vaccinating for just one year. His problem was a large number of mastitis cases, with some acute cases, that led to significant milk loss, excessive use of medication and a great deal of withdrawal milk. After a bacteriological study of the mastitis, it was found that the main problems were caused by coliform bacteria and S. aureus. The farmer had never heard of the possibility of vaccinating against these bacteria, but his vet, Dr. Gerrit Tacken, mentioned a new product on the market that could help him. As a result, he started to vaccinate a year ago. In 2012, there has been a dramatic change in somatic cells, and his cases of clinical mastitis have fallen to the lowest level for the last five years. They say; “the greatest concerns were deaths and the number of cows eliminated because of mastitis. These have fallen so much that there have been no eliminated cows due to mastitis this year to date”. Another benefit is that he is using much less treatment, so he has had to withdraw less milk. In his own words, “I used to withdraw up to 175 litres per day due to antibiotics and high cell counts, and the figure has now fallen to under 50.”

In mid-2012, after vaccinating for a year, the farmer decided to give his cows one last injection and stop vaccinating because milk prices had fallen and the mastitis problem seemed to be under control. Nothing changed in the first few months, but in early autumn this year things took a turn for the worse. As he described, some heifers started to present high somatic cell counts and the number of mastitis cases started to rise.

As Dr. Tacken explains, “It is difficult to eradicate mastitis, because coliform bacteria are in the environment, in the beds, aisles, etc. and they contaminate the cows’ udders. Moreover, S. aureus, despite being considered contagious, is very difficult to eradicate, as it can be isolated in places other than in the milk and is intermittently excreted, so the objective is to keep it under control”. His advice was clear and the farm will start vaccinating again.

Inactivated mastitis vaccine against E. coli, S. aureus, coliforms and coagulase-negative staphylococci.

STARTVAC® prevents the development of Biofilm; produced by S. aureus and other staphylococcal bacteria, by producing Biofilm-specific antibodies and therefore activating the cows’ immunity.

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