A different approach against mastitis: VACCINATION

Feeling worried about pressure from dairies and government to reduce antibiotic usage? Concerned about the effect that this may have fighting mastitis? Luckily there is a different tool in the fight against mastitis that can help.

Hipra, the reference in prevention for animal health, is the manufacturer of Startvac®, the only vaccine available in the market which can help reduce mastitis. The inactivated vaccine has two separate components that tackle four different groups of bacteria:

• J5 component against E.coli and coliforms (Klebsiella, Serratia, etc).
• Biofilm producing Staph. aureus component versus Staph. aureus and CNS.

Hipra has been keen to conduct many different studies and field trials to prove the effectiveness of the vaccine, which should be used in conjunction with good husbandry, thorough milking parlour routine and hygiene management. Interestingly, Startvac® has shown a reduction in clinical signs of mastitis and severity, less culling rate and increased productivity (more litres and solids). ¹

1 Another study proved that in farms with good management practices, S.aureus would eventually be eliminated due to vaccination.

The key finding of our study on the use of STARTVAC® - a very large efficacy study in the UK - was the reduction in the severity of the mastitis cases. We found that STARTVAC® reduced the severity of clinical mastitis. On top of that, it reduced the amount of culling associated with clinical mastitis. Interestingly, it was also related to an increase in milk production. The following is an extract from an interview with the authors of a large UK based STARTVAC® trial.

The vaccine resulted in increased milk production in vaccinated animals. Based on that increase, what is the economical Return of Investment (ROI) of the vaccine?

We did a calculation based on cost of the vaccine and milk prices in the UK at the time, and this demonstrated a return on investment of between 2.5 and 2.6 to 1, in terms of just the increase in milk yield. Data suggested that when using the vaccine on the label protocol, almost 2L extra milk were produced per cow and day in the first 210 days of lactation. For the rolling protocol (known as 3-3-3 protocol) the increased production was of around 1L per cow and day.

What is in your opinion the cause of this extra milk yield? This is actually a really interesting question because the majority of the effect is not directly related to the reduction in the clinical mastitis or reduction in Somatic Cell Count (SCC). In our analysis, we controlled for the impact of vaccination on the culling, severity of disease, sub-clinical mastitis and on SCC. However, we were still left with a big impact on production. Because of this, we think this extra milk yield is in part explained by extra-mammary or outside the mammary gland effects. We do not know exactly why we have these effects on production, but we do know that we cannot explain them purely through the control of mastitis.

The results of this study show that the vaccine has an effect on the milk composition as well, particularly by the increasing of protein and fat. Can this fact position vaccination as a product of interest for the dairy industry?

Obviously that was an area that we investigated further. It is one thing to produce more liters of milk but another to get not just more liters but also more milk solids. Having more fats and proteins is of interest, particularly, for milk manufacturers. For liquid milk consumption it is not so interesting; but for cheese manufacture and other products, if we get more solids we can expect to produce more milk products from these cows. Certainly it is of interest that the increase on production is not just in volume of milk, but also in the quality of this milk.

So if you have issues with mastitis and you are interested in reducing antibiotic usage, why don’t you try a different approach against mastitis? Please speak to one of the vets about how Startvac® can help your dairy herd.

References:
¹ A. Bradley et al, “An investigation of the efficacy of a polyvalent mastitis vaccine using different vaccination regimens under field conditions in the United Kingdom” (2015)
² Y. H. Schukken et al, “Efficacy of vaccination on Staphylococcus aureus and coagulase-negative staphylococci intramammary infection dynamics in 2 dairy herds” (2014)
Diakur

Oral rehydration solutions have been available for many years and have proved to be life-saving in both human and animal medicine.

By containing salts such as sodium, as well as energy in the form of glucose, they allow water to be absorbed more rapidly. Rehydration solutions may also contain neutralising buffers like bicarbonate to correct the build-up of acid. Traditional oral rehydration solutions in calves cannot be fed at the same time as milk because the bicarbonate which they contain interferes with milk clotting in the calf’s stomach, resulting in milk passing too quickly into the gut, potentially making the scour worse. Milk provides the very high levels of energy and proteins which are needed to help recovery, so milk feeding should not be ceased and a rehydration solution which can be mixed with milk is preferable.

Diakur Plus is a unique oral rehydration solution which contains a combination of three different neutralising buffers which rapidly correct the high acid levels but do not interfere with the formation of the milk clot in the calf’s stomach. As a result Diakur Plus can be mixed with water, milk or milk replacer providing a flexible solution and the calf can be rehydrated while still receiving the nutrition from milk to maintain growth rates.

Another added benefit of Diakur Plus is that it contains patented citrus fibres that have been shown to bind and remove pathogens such as E.coli from the intestine. Talk to your vet about Diakur Plus and your calf scour management protocol today.

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by kind permission of Andy Latham

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