

Practical approaches to controlling mastitis and somatic cell counts

Mastitis is considered to be one of the most costly dairy cattle diseases, thus making it highly relevant to dairy farmers. The losses associated with mastitis are often underestimated at farm level as many of the losses are unseen, like reduced milk production and lower herd growth potential, which can impact expansion.

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There are multiple factors that contribute to mastitis and somatic cell counts (SCC), which range from environmental issues to the milking procedure, to poor immune system function and, unfortunately, there is no magical solution that will prevent mastitis problems on farm.

A group of dairy specialists from Alltech have devised a 'Mastitis and SCC Control Plan' to help farmers mitigate issues associated with mastitis and high SCC. This plan includes key areas of management that can be implemented and used as part of any mastitis control programme to try to reduce the occurrence of these issues. The areas of management are as follows:

Individual cow milk recording

This is the most crucial part of any mastitis programme. Individual cow milk recording allows you to monitor the SCC of each cow over the course of the lactation.

This information then allows you to identify cows with higher than average SCC and whether they are repeat offenders. It also aids in identifying animals likely to respond to cry cow therapy and those that should be culled.

Early detection

Once high SCC cows have been identified, it is important to find out which quarters are causing the problem. Fore-milking or pre-stripping while wearing disposable gloves, manual inspection of the udder and



California Mastitis Tests (CMT) should be used to identify clinically infected quarters.

Symptoms of infection include clots, colour changes in the milk and swelling of the affected quarter. Early treatment of these cases with suitable courses of intramammary antibiotics will minimise the establishment of chronic infections and reduce the spread of contagious bacteria during the milking process.

Targeted milk sampling of high SCC cows

Having located the infected quarter, treating the infection with an appropriate antibiotic will achieve best cure rates.

Taking a sterile milk sample from the infected quarter and sending it for analysis will allow you to determine which bacteria is/are causing the infection and thus use a more targeted antimicrobial treatment.

It is imperative to know the source of the infection and how the infection was spread to the new cows.

There are two types of mastitis-causing bacteria; contagious and environmental.

If the bacteria are identified as contagious, it will mean there are chronically infected cows in the herd. Contagious bacteria will spread in the parlour due to inadequacies in the milking routine that need to be identified.

If the bacteria are environmental, then the

source of infection is likely to be dirty or contaminated calving areas, cubicles or walk-ways. Environmental bacteria will spread between milkings and control will be aimed at decreasing the environmental risks.

Optimal post-milking teat disinfection

While the entire milking routine is important, optimal post-milking teat disinfection is the most critical aspect in terms of controlling the spread of contagious mastitis bacteria. It is crucial to ensure that there is sufficient volume and coverage of disinfectant applied to each teat when being used.

Teats should be covered with 15ml/cow of teat spray and 10ml/cow of teat dip. Teats should be fully covered and any less than these required amounts decrease the efficacy of the disinfectant.

Feeding programme and mineral supplementation

A dairy cow's immune system is challenged at times of stress, particularly at calving. This becomes apparent in the cow's ability to fight infections including those affecting the udder. Ensuring that cows are fed adequate and well-balanced diets in the dry period and throughout the lactation will help to minimise stress.

Nutrition and the use of organic trace minerals can play a key role in milk quality as well as managing infections before they even occur. Nutrition has been linked to improving immune function and reducing mastitis.

Selenium, zinc, copper and manganese all play an important role in building immunity and fighting infections such as mastitis. The traditional method of supplementation has been through the use of inorganic minerals however, these minerals are poorly absorbed by the animal.

Through the use of technologies such as Bioplex and Sel-Plex, these essential trace elements can now be supplied in a form that is better absorbed, stored and utilised by the animal. ■