

Animal and Bioscience Department

Title

Strategies to prevent and treat mastitis on Irish dairy farms with an aim to improving profitability, cow welfare, and responsible antibiotic use

Abstract

Mastitis remains the most common and the most costly condition affecting dairy cows and is the foremost reason for use of antimicrobial therapy in dairy cows globally. There are significant concerns regarding the overuse of antibiotics in veterinary medicine and so a reduction in mastitis related antibiotic usage must be achieved. Recent Teagasc research has shown that 1.3cpl can be gained by reducing a herd SCC from 201,000 – 300,000 to 101,000 – 200,000 cells per ml. So with an approximate national average BTSCC of 250,000 cells/ml, mastitis is potentially significantly reducing the profitability of Irish dairy farms.

Additionally mastitis is a painful condition which adversely affects cow welfare unless treated quickly and appropriately. Consumers are becoming increasingly aware of the source of their food and the welfare of the animals producing it and so placing greater demands on the primary producer. From the point of view of the processor, the quality of milk-derived products is negatively impacted by mastitis e.g. by reducing the shelf life of milk and resulting in cheese yield reductions.

It is therefore essential for the benefit of farmer, cow, consumer and processor to reduce the incidence of both subclinical and clinical mastitis in dairy cows, promote responsible antibiotic use and seek alternatives to antibiotic use.

The aim of this project is to investigate new ways of preventing and treating mastitis and to optimize use of some of the current treatments.

We hope to do this by pursuing four main areas of research. Initially, we intend to investigate Startvac (Hippra), a vaccine directed against mastitis caused by *Staphylococcus aureus*, coagulase negative staphylococci and coliforms. In addition, we aim to carry out pathogen profiling for parities, which will generate data to aid on-farm decision making regarding prudent choice of antibiotic in relation to lactation stage and parity.

It is also aimed to assess the targeted use of dry cow therapy in conjunction with teatsealants. We also wish to investigate developing a probiotic alternative for treating mastitis.

By using less antibiotics and by reducing subclinical and clinical mastitis on farms, we will strive to make farms and milk more profitable, to improve cow welfare, to improve sustainability by reducing the number of cows culled due to high cell count and decrease the risk of antimicrobial resistance developing.

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