

# Irish trial demonstrates effective mastitis reduction

The majority of clinical mastitis is due to environmental bacteria E coli and Strep uberis, with E coli being the most common cause of toxic cases around calving.

Research shows that over 50% of clinical mastitis due to these bacteria in early lactation stems originally from dry period infections.

Bacteria which enter the dry udder cannot multiply due to the fact that all the iron in the udder has been bound up by the enzyme lactoferrin, which increases in the dry period.

Without this iron, bacteria cannot start to multiply and can only do so when the cow starts lactating - resulting in mastitis.

## OPEN TEAT CANALS AND MASTITIS RISK

It used to be believed that the teat canal seals over quickly after dry-off. This is not the case at all. Many are open throughout the entire dry period.

Work conducted in New Zealand (Williamson et al) found that 50% of cows had open teats 10 days after dry off, and 20% were still open between six and eight weeks later.

As the average New Zealand cow gives less than 4,000 litres per annum, one would reasonably expect a greater proportion of teats in higher yielding Irish cows to be open.

Boviseal works by creating a physical barrier in the teat canal to keep infection out.

The New Zealand data showed that 83% of mastitis occurring in the first three weeks of lactation originated from dry period infections.

Of these, nearly all (97%) occurred in cows with 'open' teats.

US work showed that cows who leak milk during the dry period are four times more likely to contract clinical mastitis in the next lactation.

An Irish spring calving herd in the north west has been involved in trial work using Boviseal with antibiotic dry cow therapy at dry off.

Mastitis records, covering the lactation prior to the trial



Pinch top of teat when infusing Boviseal.



Remove Boviseal by stripping out after calving and use clean milk filter sock.

commencing, showed 26 cases of mastitis per 100 cows (January to July 2008).

## RECENT IRISH DATA

Recently completed Irish trial work has again shown that using Boviseal in conjunction with antibiotic dry cow therapy reduced the incidence of clinical mastitis by over 50% in a spring calving herd along with a significant reduction in the severity of signs.

During the 2008/09 dry period, 60 cows from the herd were randomly selected and were dried off using Boviseal, together with antibiotic dry cow therapy.

The remaining cows were administered antibiotic dry cow therapy on its own.

The incidence of mastitis with the trial group (ie those given Boviseal plus an antibiotic) reduced to 14 cases per

100 in the subsequent lactation.

In the most recent dry period (2009/10), the entire herd (other than heifers who did not receive Boviseal and have been excluded from data analysis) was dried off using Boviseal and antibiotic dry cow therapy.

The incidence of mastitis across the herd fell further to nine cases per 100 in the following lactation.

## IMPACTS OF CLINICAL MASTITIS

Clinical mastitis is disruptive to milking and costly in terms of milk discarded and treatment, with damage to the udder tissue reducing yield by an average of 5%. Reducing the incidence of mastitis reduces treatments and the risk of antibiotic residues failures.

## COST BENEFIT AT IRISH TRIAL

The farmer involved in the recent Irish trial estimated that each case of mastitis cost €150.

In the year prior to use, there were 26 cases per 100 and this fell to 14 per 100 the following year, a saving of 12 cases per 100 cows at €150 per case.

This saving is worth €1,800 per 100 on an annual basis.

The cost of using Boviseal in the 100 cows was €600 and so this gives a 300% return on investment and is seen as a reduced number of clinical cases.

For herds with a high number of toxic cases around calving, it is estimated the savings will be even greater.

## BOVISEAL USE

There are some key points with Boviseal use and these are vital to reducing clinical cases.

Firstly, Boviseal is **NOT** a substitute for antibiotic dry cow therapy which is essential to help eliminate subclinical infections and lower cell counts.

Boviseal reduces clinical mastitis in the following lactation and has no effect on cell count. Scrupulous hygiene is required prior to infusion.

Teats need to be thoroughly disinfected before infusion.

Prepare the two furthest teats using wipes supplied with the product (or cotton wool and surgical spirit). Antibiotic dry cow therapy is administered and massaged into the udder. If necessary, disinfect the teat again.

Boviseal is then infused,

pinching the top of the teat to ensure that the seal remains at the bottom of the teat. Do **NOT** massage Boviseal into the udder. Repeat on the two nearest teats and then teat dip all four quarters.

After calving, the calf will easily be able to suckle as the Boviseal can easily be removed.

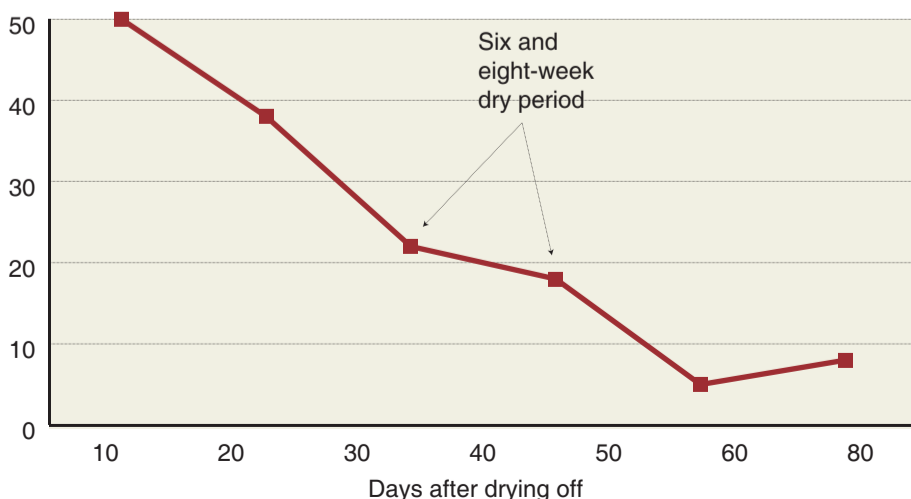
Strip out the quarters well at the start of lactation to ensure that all the Boviseal is removed. Make sure that you use a clean milk sock for each milking.

Boviseal use at dry off should be recommended on every dairy farm to benefit animal welfare. It is highly cost-effective with a significant reduction in the incidence and severity of clinical mastitis.

- PETER EDMONDSON MVB, FRCVS

## New Zealand study

% 'open teats' after dry off



## Recent Irish farm trial data

Mastitis cases per 100 cows

