SELECTIVE DRY COW THERAPY

SELECTIVE dry cow therapy is where only individual animals receive antibiotic dry cow therapy at the end of lactation and this selection is based on individual cow data.

It is intended to reduce antibiotic use and reduce the likelihood of antibiotic resistance. It is now being promoted by many of the UK milk buyers and forms part of the guidelines for Arla producers, where all farmers will have to take steps to move towards selective dry cow therapy.

Remember that dry cow therapy was introduced specifically to help eliminate subclinical infection at dry off. Over the years this was amended by adding in some Gram-negative cover to try to help prevent new infections occurring.

There can be no justification to administer dry cow antibiotic into a cow that is free of subclinical infection in conjunction with a teat sealant will have a 12-fold increased risk of E. coli mastitis compared to a cow just treated with a teat sealant.

Selective dry cow therapy has been successfully used in many countries for many years. There is nothing to fear provided the correct guidelines are followed.

You need individual cell count data and accurate clinical mastitis records for decision-making on which cows should get antibiotics at dry off. Some herds don’t have individual cow cell count data but this should not be used as an excuse to continue with blanket dry cow therapy. Responsible use of antibiotics has to be based on sound science and not economics or the convenience of decision making.

Not every herd will be able to use selective dry cow therapy. Herds with high cell counts will still have to use blanket antibiotic dry cow therapy. These problem herds should be taking steps to reduce their cell counts, which offer more opportunities for vets. The median cell count of herds in the UK runs at below 180 at present, indicating the levels of subclinical mastitis are low.

Some herds will make their own guidelines, which can prove disastrous.

Many years ago we had a client who decided to go down the selective dry cow therapy route without consulting us and his cell count increased from 150 to 350 over a period of 12 months.

He thought that a teat seal also contained antibiotics! It is very important that farmers work with their vets to ensure that sensible and sound decisions are made.

Some considerations to help decide if selective dry cow therapy is suitable at a herd level:

1. Is the herd cell count under 200? If over 200, steps should be taken to reduce the herd cell count and blanket dry cow therapy used until this occurs.
2. Do less than 25% of cows have cell counts over 200? If above 25% this suggests widespread infection and there is a greater risk of missing infected animals.
3. Does the herd have a significant Staph. aureus problem? If so, use blanket dry cow therapy until this is resolved. It can be very difficult to identify all Staph. aureus cows.
4. Is Strep. agalactiae present? If present, blanket dry cow therapy is recommended in the short term until levels have been significantly reduced.
5. Are there low levels of Strep. uberis infection? If high, this would indicate that there will be many cows that have low.

It is intended to reduce antibiotic use and reduce the likelihood of antibiotic resistance. It is now being promoted by many of the UK milk buyers and forms part of the guidelines for Arla producers, where all farmers will have to take steps to move towards selective dry cow therapy.

Remember that dry cow therapy was introduced specifically to help eliminate subclinical infection at dry off. Over the years this was amended by adding in some Gram-negative cover to try to help prevent new infections occurring.

There can be no justification to administer dry cow antibiotic into a cow that is free of subclinical infection.

Peter Edmondson, MVB, DipECBHIM, CertCHP, FRCVS, graduated from Dublin in 1980 and is a practitioner with the Shepton Veterinary Group in Somerset, specialising in mastitis control and milk quality. He provides referral visits throughout the UK and works closely with many dairy and pharmaceutical companies around the world.

References:

Mastitis in a neonatal filly
Rebecca Gilday and others, University of Saskatchewan, Saskatchewan

Mastitis in horses is considered to be rare as a result of the short lactation period in the mare, frequent emptying of the small equine udder and its concealed position, which minimises the risk of traumatic injury. Mastitis in the equine neonate is even rarer with only three reported cases in the literature. The authors report a further case in a one-week-old paint filly which presented with a three-day history of a purulent discharge from the udder. The foal responded well to antimicrobial therapy with trimethoprim-sulphonamethoxazole but the long-term effects of the infection on mammary development and future lactation is unknown. 


Choice of antimicrobial therapy in E. coli mastitis cases
Helena Dagg, Willaston, Cheshire

E. coli mastitis in cattle is usually self-limiting and as the duration of infection is usually less than 10 days, the question of whether to use antimicrobial therapy in such cases remains essential. The author reviews published studies on the efficacy of antimicrobial treatment involving several different agents and concludes that the evidence to support the use of antimicrobial therapy in those cases is limited. The paucity of reliable data can only be remedied via large-scale randomised trials in various countries under different management systems.

Cattle Practice 22 (2): 139.

Association between mutations of the lactoferrin gene and clinical mastitis
Krishanender Dinesh and others, National Dairy Research Institute, Haryana, India

Lactoferrin is a globular glycoprotein present in milk and the gene coding for this component is considered to be a potentially important determinant of mastitis resistance in ruminants. The authors identify mutations in exons 7 and 12 of the lactoferrin gene in the Murrah buffalo which they correlated with the incidence of clinical mastitis in animals carrying those particular polymorphisms. These findings indicate that there is potential scope for incorporating the appropriate gene in breeding programmes for improved resistance.

BOVINE TB: A LACK OF SHARED UNDERSTANDING

THE Badger Trust held a debate entitled Bovine TB – the role of badgers in the spread of the disease from a current and historical perspective, following its AGM in April.

The president of the BVA, John Blackwell, Professor John Bourne and Roger Blowey were invited to address the audience.

RICHARD GARD reports on a debate held by the Badger Trust on the role of badgers in the spread of bovine TB and finds there was little common ground on the best way forward in controlling the disease.

Roger made his notes of the meeting available and there has since been clarification of many of the aspects revealed during the meeting.

It is clear that there is no agreed understanding between the speakers about the role of badger culling as a means of controlling bovine TB. Prof. Bourne continues to say that “badger culling can make no meaningful contribution to cattle TB control in Britain”.

This view is accepted totally by the Badger Trust but strongly challenged by Roger Blowey and John Blackwell, who believe that reducing the number of bTB infected badgers would be of benefit to both cattle and badgers.

Roger Blowey commented that the meeting was well worth attending although there was a minority of unpleasant people present. “There were several people who, although not agreeing, wanted to hear alternative views. One of my own reasons for attending was to try to understand why our views were so very different to theirs,” he said.

The main thrust of the Badger Trust argument, heavily promoted by Prof. Bourne, is that bTB was controlled in the 1930s and 60s by frequent implementation of the standard skin test, movement restrictions on infected herds and some whole herd slaughter.

The frequency of herd testing was reduced to four-year intervals in many areas of the country and this, with the widespread movement of the alleged untested and bTB infected cattle during the FMD restock, is what led to the sharp rise in bTB from 2000 onwards.

If this was the case, says Roger, it does not explain why areas such as Scotland, where extended testing intervals were first introduced, now have the lowest incidence of bTB nationally.

John Bourne continues to insist that improved cattle controls alone, especially risk-based trading (subdividing the UK into high and low risk areas) will control the disease, and that badger controls have no meaningful part to play. He continually quoted the Australian example (limiting cattle movements across the country) and was very much in favour of the caudal fold test as being more accurate.

Others would, of course, dispute this. When challenged, he admitted that in his segregated areas we would still need to do something about badger infection, but he said “eventually”.

It was a surprise, says Mr Blowey, to hear John Bourne quote that RBCT achieved an 80% removal of badgers, and he maintained this view even when challenged. Perhaps he meant that the reduction was achieved only by the end of the five years, not in year one.

After the meeting, Prof. Bourne said that the best way forward would be to take badgers off the protected species list, although he did add that this would then allow farmers to remove as many as they wished, and it would demonstrate that it had no effect on bTB!

Mark Jones quotes the 50% reduction in bTB levels in Wales since 2010 as evidence that improved cattle controls, improved biosecurity measures and badger vaccination will decrease bTB. It should be noted that in 2009 Wales had the highest incidence of cattle TB in the developed world, so starting from any high point one would expect to see a decrease, and DEFFRA statistics show that there has been an increase in reactors slaughtered between 2013 and 2014.

John Blackwell gave details of the BVAs current position, namely supporting the continuation of the cull, but with the evidence currently available, withdrawing its support for free shooting.

As expected, most people, including John Bourne, tried to rubbish the Roger Blowey Gloucestershire cull data showing no increase in bTB on the

continued on page 52

Guidelines on antimicrobials in dry cow management

THE Responsible Use of Medicines in Agriculture Alliance (RUMA) has published guidelines on the responsible use of antimicrobials in dry cow management.

John FitzGerald, secretary-general of the alliance, says RUMA has produced the guidelines to help vets and farmers determine how best to treat cows in the drying-off period to prevent and treat the development of bacterial disease such as mastitis in the udder.

In line with “responsible use” principles, the guidelines stress the need to manage farms to reduce disease challenge and minimise antimicrobial use. In particular, they highlight the need to monitor milk quality and infection status using somatic cell counts and bacteriology, where appropriate, at the herd and individual cow level and to use the monitoring results to decide the appropriate strategy for each cow to be dried-off.

Strategies are: (1) do nothing and monitor closely for the potential development of mastitis; (2) use an internal teat sealant; (3) use a dry cow antibiotic; (4) use both an internal teat sealant and antibiotic.

Elizabeth Berry, representing the BCVA, led the preparation of the guidelines which are available free on the RUMA website, www.ruma.org.uk.