

Antibiotic use must be records driven – not based on guesswork

Data aids 'safe' selection

Selective use of antibiotics at drying off is an attractive proposition. It cuts costs and it satisfies industry and government pressures. But it is a risky route to take without accurate records for each cow. A Somerset-based producer and vet team describe the decision-making process as each cow is dried off.

text Karen Wright

There's no doubt that producer Anthony Gothard is pleased with the progress he and Synergy's vet Alastair Hayton have made in reducing the use of antibiotics at drying off. "We now only treat half of our 800 cows with antibiotics at drying off. Five years ago, we automatically treated all the cows. The cost saving is huge, with no adverse effects. Our herd average cell count is an ideal 130,000 cells/ml with minimal cases of mastitis."

Adverse effect

Anthony is happy to maintain current cell count levels in his Holstein Friesian herd, which averages 11,600kg of milk on three-times-a-day milking. But, as his

vet explains, the background to arriving at this point is interesting.

"Four years ago we were concerned with the level of E coli mastitis in this herd," says Alastair. "Average cell counts had been falling and were between 80,000 cells/ml and 100,000 cells/ml in the then 600-cow herd. Mastitis infection was minimal. All cows were treated with teat sealant and antibiotic at drying off. But, despite this, we were seeing too many cows suffering from toxic E coli mastitis in early lactation."

This herd had accurate records and all cases of mastitis were carefully recorded. "But I was aware of evidence that showed an increase in E coli infections in mastitis-free cows treated with antibiotics at

drying off. The thinking was that the antibiotics were killing off the 'good' bugs and therefore reducing the cow's natural defences.

"NMR records showed that some of these cows had exceptionally low cell counts at drying off – between 10,000 cells/ml and 12,000 cells/ml. It was possible that these, and other low cell count cows, were too susceptible to infection challenges."

Antibiotics cut

Keen to reverse the E coli levels in the herd, which is based at Stoke St Gregory near Taunton, they considered how best to boost the immune system in the herd. "One suggestion was to stop post milking teat dipping," says Anthony. "But this terrified me – I felt the risks were too great."

This led them to look at selective dry cow treatment and to only treat cows with antibiotic at drying off if they had any mastitis infection. "We started off being very conservative," adds Alastair. "We only stopped using antibiotics on cows with no cases of mastitis in the lactation and SCCs lower than 200,000 cells/ml for the previous five or six months."

During the past 12 months they have amended the 'rules' and to qualify for

antibiotic treatment at drying off the cow needs to have had a cell count of more than 200,000 cells/ml during the past three months prior to drying off or a case of mastitis other than in the first 80 days of lactation.

Common sense

"You have to use some common sense. This is a clean and tidy farm and management protocols are very good." Vet Alastair tackles each of his herds differently. "No one rule fits all. You have to consider the current clinical and sub-clinical mastitis levels, the risks for infection in the dry period and the sort of bacteria involved. This is why I encourage producers to use bacteriology tests. We then know what we're dealing with. And if the farm has dirty dry cow yards and high SCC averages then the chances are that selective dry cow therapy wouldn't be considered."

Progress has been good at Slough Court. Antibiotic use at drying off has halved and somatic cell counts have stabilised at 130,000 cells/ml. "This would suggest that cows have some immunity so are not quite so vulnerable to infection as they were," says Alastair.

And, up until January this year, the herd hasn't had any more mortality due to cases of toxic E coli mastitis for the past two years. "We had a one-off case in January 2016, which broke this record," says Anthony. "We're monitoring all the cows carefully and following strict hygiene protocols, but we think this cow may have had poor immunity around calving."

Although the parameters used for treating cows at drying off have changed during the past four years the decision-making process is just as thorough. Monthly meetings see Anthony and Alastair reviewing cows approaching the dry period and identifying those to treat. They refer to the monthly herd health report produced by the practice that incorporates NMR data, as well as information from Anthony's farm management software program.

"We're totally dependent on our NMR individual cow cell count records and our parlour mastitis recordings," adds Anthony. "We've expanded cow numbers and put up a new shed for 240 cows in 2014. There are more staff involved, but our protocols have remained the same. I work closely with Alastair to select cows to treat at drying off. We don't leave anything to chance and there's no room for guessing." |



Anthony Gothard (left) and Synergy vet Alastair Hayton

Head start in cow selection

Herds with consistently low somatic cell counts and minimal mastitis incidence could be contenders for selective dry cow therapy (SDCT) at drying off. Producers with good records and who work closely with their vet will be able to identify if their herds are suitable for SDCT and then select cows for antibiotic therapy with confidence.

"Those with good milk records have a significant head start," says NML vet Eamon Watson. "And producers can take advantage of NML's Selective Dry Cow tool, which is available free of charge to all producers via Herd Companion. NMR milk recording customers will see that their reports

are automatically populated with an analysis of their individual cow SCCs and clinical mastitis records."

Producers can also subscribe to a quarterly bulk milk mastitis pathogen screening test within the scheme, which can help producers and vets understand the pattern and distribution of mastitis pathogens. "The tool is a starting point for active mastitis management and for continuous monitoring of the herd for SDCT," adds Eamon.

"At a cow level, those with access to InterHerd+ can create bespoke reports. They can set their own parameters and let the program do the sifting and sorting."

Each cow's records are reviewed prior to drying off



Antibiotic use at Slough Court has halved and somatic cell counts are stable

