

Improving herd resilience cuts the need for antibiotics in Somerset herd



For brothers Ed and John Frost, third generation dairy farmers from Melsbury Farm near Wells in Somerset, reductions in antibiotic use on their 140-cow dairy farm have been part of a bigger mission to improve the resilience of their business.

Currently at less than 8mg/kg across the whole herd, antibiotic use has fallen steadily from a decade ago when it was estimated at around double this.

Ed (pictured) says the starting point was a decision in 2009 to increase cow numbers and adopt a simpler management system.

“We started using Danish Red bulls on our black and whites with the aim of improving foot and udder health and fertility and keeping more heifers back as they calved; Normande or Montbelliarde were then used on the crosses when they came into the herd.

“We phased out maize, which stopped spoilage and disease challenge from starlings. Now the cows are fed a simple diet of 2 tonnes a year of concentrate fed through the parlour, grazed grass in the summer and silage in the winter, with ad lib hay always on offer.

“We’ve also shifted the calving pattern to predominantly winter-based, allowing ourselves time off in the autumn.”

Efforts to improve the soil have paid off too, he says. Following several years of monitoring trace minerals and treatment with gypsum, pregnancy rate has increased from 33% to >48% and 100 day in-calf rate from 45% to 58%.

Mastitis and somatic cell counts have been one of the priority areas to tackle antibiotic use. Investment in triangular liners in the parlour has helped – Ed says the brothers have a rule to not skimp on any equipment that touches the cow, and milk recording is another priority.

“We use cell counts to help with the risk assessment for selective dry cow therapy.

“Having had samples cultured over the years, we know *Streptococcus uberis* is our main problem so our vet can prescribe the right antibiotic for clinical or dry cow treatment when needed,” he explains.

“Milk recording also helps us identify cows that can be selected for drying off with a sealant. Five years ago we were giving almost a third of the herd dry cow therapy and we were getting 48 clinical cases of mastitis per 100 cows per year.

“Now we use antibiotics at drying off on 17% of the herd, with the rest having teat sealant only, and seeing 19 cases of mastitis per 100 cows.

“The criteria we use is any cows with cell counts of over 200,000 cells per ml in three consecutive monthly tests are treated with long-acting intramammary antibiotic at drying off. However, we’ve recently tried just sealing some that are marginally over 200,000, and they seem to have self-cured without problem.”

Cases of clinical mastitis are treated with a broad-spectrum antibiotic mastitis tube at each milking over three days, but no injectable antibiotic is ever used for mastitis treatment.

More severe cases will see affected cows treated with a non-steroidal anti-inflammatory drug (NSAID) in addition to intramammary tubes. If there’s a recurrence clinical case, then they repeat the treatment, but a third recurrence means the Frosts abandon that quarter for the rest of the lactation.

Another change has been to treat cases of digital dermatitis – which Ed admits is not a huge problem on the farm – individually. They lift the foot, trim out the infection, and treat with purple spray. Any escalation leads to formalin rather than antibiotic footbathing.

Calf scouring has been reduced by a regular thorough cleaning of the calving shed, at first every six weeks then every three after a significant improvement was seen, says Ed.

All bedding is removed, the floor is treated with lime then fresh bedding is put down. Subsequent to being moved into calf pens, any scouring calves receive oral hydration; only those with a temperature receive antibiotics.

The systematic approach to improving cow health and adoption of a risk-based approach to antibiotics has been supported by Orchard Veterinary Group, as well as QMMS and Nottingham Vet School.