

Data unlocks potential to improve he

Recording aids

With pressure to show that steps are being taken to promote responsible antibiotic use increasing, we look at a dairy industry initiative that's leading the way in Norway and find out if a similar scheme could be set up in the UK.

text **Rachael Porter**

Antibiotic use in Norwegian dairy herds is the lowest of any country in Europe and this achievement comes, in part, as a result of three decades of focusing on breeding for health and fertility. This, in turn, has only been possible due to detailed record keeping by vets and producers. Reaping the success of this trend, the country's breeding programme experts, with the backing of producers, have introduced new weightings that include greater emphasis on traits that support cow health.

"From 1975 to 1993 we saw the use of antibiotics increase, but negative publicity in the fishing industry regarding antibiotic use had a knock on effect on our cattle industry," explains Geno's Tor Sletmoen. Geno Global is the breeding organisation for Norwegian Red cattle. "Much of the use on dairy farms was for mastitis and vets and producers came to realise that much of it was unnecessary. As a result we have seen the use of antibiotics drop dramatically.

"Our producers now see that although the milk cheque is important so is the cost of production and improved herd health and fertility will drive this and result in better yields, easier to manage cows and improved longevity."

The introduction of a national health card scheme boosted health and fertility management in 1990. For the past 25 years each dairy herd has been legally obliged to record all health issues and any treatments must be signed off by the vet. This information has been fed into a national database and used in the breeding programme.

"Its introduction coincided with a number of health initiatives, an increased weighting towards health and fertility in Geno's breeding goals and a dramatic reduction in antibiotic use in the dairy industry," says Mr Sletmoen.

The increase in health and fertility weightings has resulted in impressive health parameters and improved production. Results just released through



alth through breeding and management

responsible use



Lowest user: Norway's minimal antibiotic use, including dry-cow therapy, is the result of better management and breeding for health

the country's central database show that the national Norwegian Red herd, the breed that accounts for 97% of the country's cows with all but 3% of herds milk recorded, has reached 8,000kg at 4.2% fat and 3.4% protein in 2014, up from 6,100kg in 1990.

"In the same 25 years, cow health and fertility has also improved markedly and producers have reaped the benefits of more milk from fitter, healthier cows," adds Mr Sletmoen.

Vet treatments for mastitis, fertility issues and metabolic disorders have fallen. Current data shows that on average a cow is treated 0.5 times a year with an estimated to cost producers of between 0.9ppl and 1.1ppl. In 1990 the figures was 1.4 treatments per cow per year. The average somatic cell count in 2014 was 127,000cell/ml.

Vet treatments on Norway's dairy farms are typically for mastitis, retained placenta, milk fever or ketosis but the rates are low. Very little dry cow therapy is carried out in Norway

"We attribute around 50% of this dramatic improvement to the emphasis placed on health and fertility breeding goals," says Mr Sletmoen.

Vaccination programmes on dairy units are not the norm in Norway thanks to the eradication of diseases like BVD, although herds are regularly screened for BVD and Johne's disease to ensure the country's status is maintained. Dry cow therapy is only used in exceptional cases.

Yellow cards

Cows in Norway all have a yellow card – known as the cow health card. Vets are obliged to carry out all prescription treatments – including mastitis – on farm and must log and sign for these on the cow's health card. This information is then added to a central database.

Introduced in 1974 to build a more accurate picture of disease levels and control, the cattle health card is integrated into the Norwegian Cattle Health Service.

"The health card scheme is fundamental to our industry," says Anne Guro Larsgard, who is responsible for its operation and for data collation.

"It has helped shape the industry during the past two decades by playing a major part in setting breeding goals and weightings and in providing valuable information for research projects, advisory bodies and the Food Standards Authority."

Held by Norway's principal dairy co-op, TINE, that buys and sells the majority of Norway's milk, the central database is well-coordinated. Major investment a few years ago took it to a new



Tight controls: only vets can prescribe and administer antibiotics in Norway

operational level and data continues to be highly regarded by the immediate industry and by third parties who pay to access specific information.

So could – and should – a similar scheme be introduced in the UK? Data does, indeed, need to be collected in a central data hub, not least so that the UK dairy industry knows just how much antibiotic it is actually using. So says the Cattle Health & Welfare Group's secretary Brian Lindsay. "The challenge is to extract that data from producers' medicine books to provide an accurate picture of what's going on, on a sector-wide basis. We need to do that in order to have the data in support of any future promotion or defence activities and,

importantly, to provide the basis for future reduction strategies."

The group has been commissioned by the UK's Veterinary Medicines Directorate (VMD) to determine what data is already available – both on farm and in vet practices – and how this data could then be collected, 'anonymised' and aggregated.

"We don't know the true level of dairy herd use. We do know that 14 tonnes of antibiotics were used in the cattle sector in 2014, for example. But we don't know what treatments these were and some of it could well have been used on sheep, for example, on mixed farms if the active ingredient was appropriate for multispecies use.

"This is a starting point for discussion – how can the industry present a case to the EU on responsible use of antibiotics, and how the industry plans to reduce and improve use, if we these figures are not available."

He says that the VMD has looked at models in other countries and decided that, because they often require a high level of veterinary involvement, they are not appropriate for the UK. "So we're looking for another way that could utilise the data that's already being collected in herd medicine books. We don't want to create more paperwork for producers or, indeed, vets. We want to add value to what records are already being maintained."

Industry-led scheme

An on-line data hub, run by an independent industry body, seems to be the most appropriate solution. "It has to be owned and led by the cattle industry," stresses Mr Lindsay, adding that the group, which is funded by EBLEX and DairyCo, has set the challenge of two years to identify a solution. "In the meantime, I'd like to urge producers to consider using an electronic system to record their herd's medicine use. This will make data far easier to access and extract in the future.

"The key thing to stress is that this is for the good of the dairy industry – it's not about pointing the finger of blame or flagging up vets and herds that use more antibiotics than others. We simply want to build an accurate picture of what's actually going on," says Mr Lindsay.

"Not only with this allow the UK industry to pre-empt, or even influence, any future EU legislation, by putting a system in place on its own terms, but it will also help to safeguard antibiotic use

in UK herds and help to reduce costs on farm."

Shropshire-based vet Dan Humphries, from Lambert Leonard and May, was impressed by the incredibly low disease rate seen in Norwegian dairy herds, during a Geno-organised visit to the country.

Vet's view

"Biosecurity was just the start – we were not allowed to visit any herds before we'd spent 48 hours 'quarantined'," he says, adding that low stocking rates, facilitated by an average herd size of around 25 cows, as well as limited cattle movements (there are no live auction marts) and breeding for health traits all combine to keep disease – and antibiotic usage – to a minimum.

"Treatment rates average 0.5 per cow per year – that's incredibly low compared to UK herds."

Along with his fellow veterinary colleagues, Mr Humphries couldn't help but be impressed by the Norwegian government's commitment to national control programmes during the past three decades, which that has led to the eradication of many diseases such as bTB, BVD, Johne's and IBR.

"These programmes appear to be well supported by the dairy industry, which is happy to contribute financially to national disease control. In the UK many disease control programmes are 'industry led', which leads to more fragmented and less robust disease control. The eradication of disease has definitely helped Norway to produce healthier cows compared to other countries."

What struck Mr Humphries in particular was the use of data. "Decisions on breeding and health are made using extremely robust data and that's definitely something where I think the UK industry could benefit.

"The health card scheme may not necessarily work on the UK – our herds are much larger and managed on different systems – but there's definitely an argument for collecting more herd health data.

"UK vets and producers are already generating a considerable amount of data on health and fertility, most of which is recorded.

"But sharing this data, possibly in a national database, and using it in a meaningful way would not only benefit the industry as a whole, but also individual herds and businesses." |