

Blood test offers a pre-emptive strike against nutritional deficiencies

Blood 'vetting'

Milk testing is routine on UK dairy units. But is there a place for routine blood testing? We ask a leading cattle vet about a programme of testing currently being used by some of the UK's larger 400-plus cow herd and the advantages it offers.

text **Rachael Porter**

With so much more at stake and the additional pressures that managing a large herd can bring, it's little wonder that some producers are turning to blood testing to check that dairy rations are doing 'exactly what they say on the tin'.

"It's not cost effective to wait and see and to act when a problem manifests in terms of cow health or fertility. These guys want to know what's happening now to all their cows, whatever their stage of lactation," says XL Vet's Andrew Cobner of Penbode Veterinary Group, which is based in Holsworthy in Devon. He has a handful of clients who blood test a sample of their herd four times each year using the Dairy Herd Health and Productivity Service, run by the University of Edinburgh's Royal (Dick) School of Veterinary Studies.

Progressive producers

"These are my most progressive producers – they can see the value in testing even though it comes with a sizeable price tag – and it's part of the service that our surgery provides," explains Mr Cobner.

Blood is typically taken from six cows that are close to calving, six that are two to six weeks into their lactation and another six cows and heifers in mid lactation. And in the first instance it's screened for energy and protein level indicators.

"Non-essential fatty acids, or NEFAs, in the blood tell us that the cow is mobilising too much fat and is under nutritional stress, as will excessive levels of ketones. It flags up that the cow is short of energy."

The test also checks urea levels – an

indicator of how much non-protein nitrogen is being excreted because there's not enough energy available in the rumen to metabolise protein properly.

"Another long-term 'protein' indicator is albumen. These levels change slowly over time and provide another window into the cow's metabolic state," says Mr Cobner.

The blood test can also pick up magnesium and other trace element levels, including selenium, copper and cobalt.

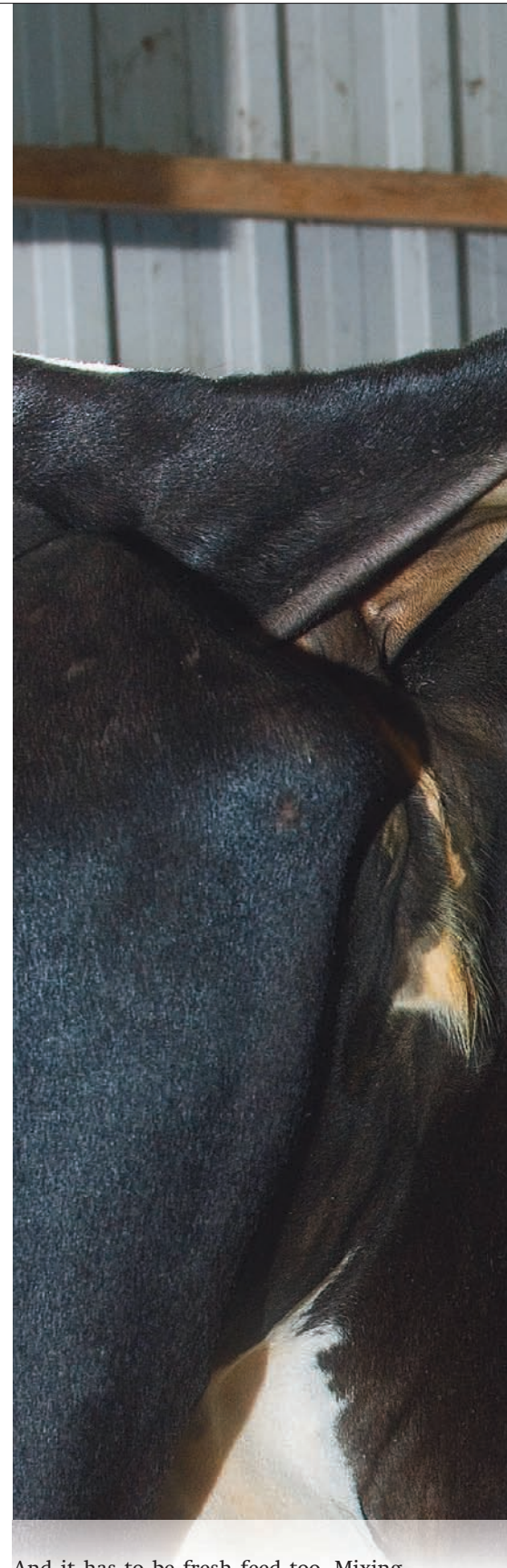
"The blood provides a window into what's really happening inside the cow and whether or not nutritional management throughout her productive cycle is supplying her with the nutrients she needs to milk efficiently while at the same time looking after her health and fertility.

"The cow will ultimately tell you if a ration is good – not a computer."

Any areas of shortage, in terms of energy or trace minerals, highlighted by the blood test may be the result of an inadequately formulated ration, but Mr Cobner says that more often than not the ration is fine on paper – it's the mixing, feeding and presentation that's at fault.

Usual culprits

"It's easy to blame the ration, but I always urge producers to look at how it's fed to the cows before they go back and look more closely at the diet formulation. The usual culprits are inadequate space at the feed fence and not feeding the cows enough of a ration. To be truly ad lib there has to be feed in front of the cows 24 hours a day," he explains.



And it has to be fresh feed too. Mixing and feeding every two days may save time, but it can impact on intakes as the feed can go stale. And the ingredients in the ration can also deteriorate and may not offer the nutritional value that they did the day before. "I prefer fresh feed to be put in front of the cows every day – and there must be plenty of it," he says.



Testing time: regular checks can help to pick up nutritional 'problems' before they impact on your herd

“Cows want to eat and if she’s in a position to do it – she can easily get to the feed fence and there’s feed there – then she’ll eat.”

So the blood test is, in effect, testing the whole feeding process – from ration formulation through to feed out – and it’s testing pre-emptively.

“Don’t wait until the end of the winter,

to see how well the ration fed out by looking at milk production and other parameters. Early testing allows you to make changes to both the cows’ ration and how it’s fed before problems start to manifest. Blood testing means that you’re a step ahead of the cows.”

He recommends testing every three months and for the tests to coincide with

recent change. “November is a good time to test as it tells you how the early winter feeding should go but often changes are forced by February by availability of different cuts of silage and other feeds. “We see a lot of nutritional problems, such as retained cleansings and displaced abomasa, between January and April,” explains Mr Cobner.

And he particularly recommends it to herds where getting an open three-way dialogue between the farmer, the vet and nutritionist may have proved problematic. “Blood testing can be real proof that energy levels, for example, in a ration are inadequate. It’s there, on paper, for all to see.

Simpler test

“It may simply be that there’s not enough feed fence space, or too little feed is being put in front of the cows. But whatever the cause, it’s not a stick to beat the nutritionist or the farmer with. It’s an opportunity to redress the dietary balance before it starts to impact on milk production, health and fertility. It’s a litmus test – a way to check that things are on track.”

The cost could prove prohibitive for smaller herds, but there’s a simpler test that they can do on their cows that’s quick and easy and could then help to justify the cost of further testing if required.

Called Optium Xceed, it just tests the ketone levels in the blood and works a little like a thumb-prick blood sugar test in humans. “The kit sits in the palm of your hand and the vet just takes a little blood from the tail base and does the test on the spot.”

Mr Cobner says it’s ideal to use between one and three weeks post calving to see how the cow is coping with a potential negative energy balance.

“It’s a quick test for post calvers that can be added to the vet’s routine visit. I visited a herd where early lactation cows were not being seen bulling. And I did this test on five cows and all had high ketone levels, so we knew that they needed more energy.

“It’s not as detailed as the test offered by the DHHPS, but it’s certainly very useful and at £3 per test it’s also cost effective,” he adds.

But the cost of the more detailed test, which is more than 10 times higher, can be easily justified by larger herds. “I’d like to see most, if not all, of my large herd clients using this service. With so many cows, there’s really is a lot more at stake.” |