

Rumen function is key to reducing mycotoxin threat

Limit mycotoxicosis risk

Watch out – wet forages could pack a toxic punch this winter. But keeping rumen health in tip-top condition will help your cows to cope with any potential hidden mycotoxin challenges. A dairy vet and a nutritionist explain why

text **Rachael Porter**

Where there's damp and water, there are moulds and fungi. So it's no surprise that this year's wet and poor quality silage, on many dairy units, represents an increased mycotoxin risk and that some herds' production, health and fertility may

suffer as a result. Mycotoxins are the poisons – or toxins – that are produced from secondary metabolic processes which occur naturally in a variety of moulds as they grow. The amount and type depends on fungal type and environmental conditions.

Aspergillus, for example, grows in warm and dry conditions and produces aflatoxins. Fusarium grows in cool and wet conditions and produces, among others, 'T' toxins.

So, how can producers make sure that their herd side steps any potential mycotoxin threat? "By focusing on rumen health," says Cumbria-based dairy vet Richard Spooner, from Pendragon Vets.

"I have seen a few producers during the past few weeks who have a suspected mycotoxin problem and there is certainly a higher risk this year. But if cows are fed a ration that's conducive to good rumen function and a stable pH then mycotoxins, even where they are



Invisible threat: the mycotoxins that can be found in maize and wholecrop silage are produced in the field

present, can have a limited impact, if any, on the cow's health, productivity and fertility."

Conversely, he says that if cows are under nutritional pressure, or just a little acidotic, then mycotoxins can wreak havoc. "And what compounds the problem is that the symptoms of mycotoxicosis are similar to those resulting from acidosis or SARA," says Mr Spooner. Acidosis and mycotoxicosis can both be associated with cattle having inconsistency in their faeces with mucous tags, a drop in milk production and quality, poor body condition and reduced bulling activity (fertility).

Other mycotoxin symptoms, which are wide and varying, can include rough coats, poor conception rates, foot lesions that fail to heal, heifer conception rates below 60%, swollen legs and hocks in cows (and sometimes udders in heifers). In terms of prevention, producers should avoid feed spoilage through good silage clamp management, and avoid feeding spoiled feed and forages where at all possible.

Rumen function

Adding a mycotoxin binder to the herd's ration, without making other changes, is one way on farm to achieve a diagnosis. If improvements are seen then mycotoxicosis is likely to be at least part of the issue.

"But focusing on rumen health, could also be the way forward. If rumen function and pH is optimised, the protozoa should be able to deal with most of the mycotoxins. And this can deal with the mycotoxin problem, with the added bonus of optimising



Richard Spooner: "Good rumen health is key to mitigating mycotoxin threat"

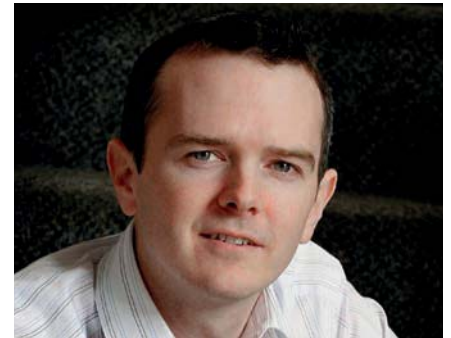
rumen health and all the other benefits associated with that.

"Adding a binder could simply mask – or even compound – a SARA problem. And some simple clay-based binders can potentially lock up mineral availability from the ration, causing a deficiency problem," he says. "So it's well worth investigating rumen pH and optimising function before taking the mycotoxin binder route."

That said, if symptoms persist when rumen health has been addressed then adding a binder may be the way forward. It is possible to test feed for the presence of mycotoxins, but this is expensive and delays treatment. And it can fail to identify what is causing the symptoms in the cows. "Producers should then monitor the response of the herd to the addition of a binder – that will confirm a mycotoxin problem."

Binder ingredients

AB Vista's technical director Derek McIlmoyle agrees that, for some herds, adding a multi-component mycotoxin binder to the ration is likely to be



Derek McIlmoyle: "Not all binders are the same, so select one to suit your needs"

beneficial. And he's keen to point out that all binders are not the same. Some comprise only clay, others are made using yeast cell wall, and some contain a combination of the two as well as yeast extract.

Common mycotoxin

"A mycotoxin known as deoxynivalenol – or DON for short – is the most prevalent in the UK," Mr McIlmoyle says.

It is one of several mycotoxins produced by certain *Fusarium* species, which are frequently found in maize, wheat, oats and other grains. "It thrives in the UK's unique climate and is best tackled, where present, with a binder containing yeast extract. It's a toxin that can't be bound easily, but it can be 'deactivated' by products containing yeast extract."

He agrees that optimising rumen function is the best way to mitigate the potential impact of mycotoxins in the ration. "And avoid feeding ingredients that are contaminated. That sounds obvious, but many moulds are not visible with the naked eye.

"And the mycotoxins that are typically found in maize and wholecrop wheat – which include DON – are produced when the crop is in the field. If you have any concerns that your maize silage or wholecrop wheat has been affected, it's worth considering adding a multi-component binder product to the TMR. "A 'broad spectrum' product, containing clay, yeast cell wall and yeast extract, could be the best option to mop up a wide range of mycotoxins," adds Dr McIlmoyle.

At the first sign of symptoms, which could indicate mycotoxicosis or SARA, Mr Spooner recommends consulting the vet and nutritionist. "They should work with you to get the bottom of the issue as quickly as possible and with a solution that offers long-term benefits and not short term fixes that mask underlying rumen health issues." |

Mouldy maize: visible signs of a mycotoxin threat

