Watch for Copper Poisoning in Dairy Cows

Copper is an essential trace element for animals and its deficiency is one of the most common trace element deficiencies diagnosed in the UK. It is especially common in our area, with the “teart” Somerset levels containing high levels of the minerals molybdenum and sulphur which "lock up" normal copper supplies. Copper is added to diets to improve growth rates in youngstock and to combat poor fertility. Over recent years in England and Wales there have been an increasing number of cases of copper poisoning being diagnosed in adult dairy cattle, and I have recently seen my first case in our practice area.

Copper absorption and metabolism is very complex and is influenced by many factors including the presence of minerals which lock up copper, breed (Jerseys are reported to be particularly susceptible), and species (sheep are more prone than cattle). Copper is commonly added to ruminant diets, not only to overcome copper deficiency but also to avoid deficiency, even when no signs of disease are present. There are legal limits on how much copper can be added. These exist for a reason - simply it is dangerous to human and animal health to give too much! It is important to stay at sensible levels - what is the total copper level in your cows' ration?

In the dairy cow copper poisoning presents as a sudden “crisis” event following long term over supplementation with copper. This excess copper can come from a variety of sources: think about the copper in the forage, copper in the parlour cake, in the dairy mineral, plus other sources such as boluses, or copper injection. It is very important to correctly calculate the total amount of copper that animals are receiving. The recent outbreak I have been involved with resulted from an error in the feed advisor's calculation of daily copper intakes - simply they were receiving far too much on a daily basis.

Signs of copper poisoning in dairy cows occur when the liver's capacity for storing copper has been exceeded; this may be because the animal has been "tipped over the cliff" by a recent bolus or copper injection. For this reason problems are often seen in dry cows, as was the case in the outbreak I saw, where too many copper boluses were given at drying off. This overwhelmed the copper storage system and so copper was released into the circulation from the liver. This caused jaundice (yellow appearance to the cow's skin and the membranes in the eyes and vulva), and bursting of blood cells.

Signs in cattle are variable, but the most commonly reported are:
- sudden onset
- dullness and lack of appetite
- pale or jaundiced mucous membranes
- dehydration
- haemorrhages
- respiratory distress
- acute milk drop
- diarrhoea
- and often unfortunately DEATH.

Diagnosis is based on the herd feeding history and management, clinical signs, post mortem findings and blood analysis.

There is no specific treatment that will help to reduce the mortality level. If copper poisoning is confirmed in a group, further clinical cases could be prevented by the oral administration of copper antagonists - this locks up the copper already consumed.

Remember copper supplementation should be carefully considered. The availability of dietary copper levels in the ration should be calculated and the copper status of the cattle should be assessed with blood samples and/or liver samples to confirm a deficiency PRIOR to giving supplements. You should consult with your vet and nutritional advisor and allow them to work together to design the optimum and safest supplementation strategy.

Ed Powell-Jackson
Abattoir Feedback can influence Herd Health

Abattoir feedback can be an incredibly useful tool in both beef and dairy herds in addition to sheep flocks. As carcasses pass through the abattoir they are routinely meat inspected (a legal requirement to ensure meat is fit and safe for human consumption). Any organ or region which is unsuitable will be rejected and will not enter the food chain.

Usually, there is no direct cost to the producer from low level meat rejection e.g. liver rejection or low grade trimming, but there are multiple conditions which can result in extensive or whole carcase rejection with the producer directly charged.

Where rejections occur this information is recorded and as the producer you should be given access to this information. This is incredibly valuable and can help inform you on the health and productivity of the business.

Common terms found on meat rejections -

Active fluke in liver (sheep and cattle): this is suggestive of ongoing fluke infection and is particularly valuable in beef and sheep enterprises. Fluke activity in the liver of these animals will be reflective of animals still on the farm, so this information can be used to review or implement fluke control programmes. **Top tip** Screen your cull dairy cows too.

Abscess (sheep and cattle): we commonly see rejections of part of carcasses due to injection site abscesses. This may be as a result of poor hygiene or other complications. Lots of these abscesses may warrant discussion of clean injection technique and equipment such as the Sterimatic system.

Cysticercus tenuicolis (sheep): this is a liver lesion caused by a dog tapeworm which infects sheep. Liver rejections due to this parasite annually exceed rejections due to fluke. This suggests poor worm control in farm dogs, or lots of footpaths across grazing land. Posters are available to encourage dog walkers to worm their pets regularly.

Taenia ovis (sheep): another dog tapeworm which causes cysts throughout sheep carcasses and can lead to whole carcase rejection - the cost of which is transferred to the producer. The same risk factors and control measures apply as above.

Cysticercus bovis (cattle): a human tapeworm which can infect cattle. This can cause localised cysts (in cheap cuts like cheek meat and the heart), but can also result in whole carcase rejection. Abattoirs can freeze these carcasses to render the meat safe for human consumption but usually with a cost to the producer. Diagnosis may prompt a review of worm control (in both cattle and people!)

Pleurisy (cattle and sheep): evidence of pleural lesions (lining the chest cavity), are suggestive of historic respiratory disease and may prompt review of pneumonia control. Although lung rejections will have little financial effect on carcase value, it highlights the presence of a rate limiting disease earlier in production, reducing efficiency and growth rates.

Xanthosis (cattle and sheep): very unusual, but we have had a case recently in the practice. This is an accumulation of pigment in the muscles and although generally considered safe, it is unsightly and results in regional or full rejection. Very rare!

The take home message is that this information can be very useful and help to inform health and management decisions within your herd or flock. It may influence fluke control decisions in a dairy, sheep and beef enterprise, highlight issues with dog control or make you aware of the impacts of infectious disease. If you are concerned about an abattoir report then please feel free to discuss this information with your veterinary surgeon.

Emily Gascoigne

Research Project

As you all know, we at Synergy are great believers in helping the next generation of vets (and hoping that we can persuade the best ones to go into farm practice!). We also appreciate how tedious surveys can be! However, we would ask that as many of you as possible help with this project - it should be of great value to all of us that regularly use vaccines to ensure we get maximum benefit from the effort and cost.

This link (https://www.surveymonkey.com/r/cattle_vaccination) will take you to a short quiz and a video which provides an update on how to vaccinate your cattle safely and effectively. Jordan Smith, a vet student from Nottingham University, is looking for farmers who want to help out measuring how good this video really is!

At the end of the quiz there’s a link to the video and a link to the second quiz, and the whole lot takes approximately 35 minutes.

By completing both quizzes you can enter into a prize draw to receive a voucher worth £100 for the agricultural stockist of your choice.

We are very grateful for your help; feel free to pass the link onto other farmers who like to participate. The quiz will be open until November 30, 2014. Please contact Jordan at the address below if you have any queries.

Good luck in the prize draw!

Jordan Smith (svjs@nottingham.ac.uk)  
D r  W e n d e l a  W a p e n a a r  
(Wendela.wapenaar@nottingham.ac.uk)
Despite the daily rigour of farming life keeping you all out of trouble, I am sure by now most of you will have heard something about ‘Antibiotic’ or ‘Antimicrobial Resistance’. Avid readers of the newsletter will also have seen we too have been making frequent noises on the topic. For those of you that are not regular viewers of BBC’s Countryfile, could I please ask you to go onto youtube (www.youtube.co.uk) and search for Countryfile Stourbridge 7.9.14. To save you watching the whole 55 mins, scroll through to 7mins 42secs. There is a clip giving a good overview of the topic lasting 14 mins.

Regardless whether agriculture can or can’t be attributed to causing further resistance problems, the truth is that the use of antibiotics in farming is only going to get further scrutinised, with the potential for even more restricted antibiotic use in the future.

This is not new to us, and is something we have been working towards over a number of years. We are proud at Synergy to be reducing our use of antibiotics year on year. The threat of Antibiotic Resistance and possible restriction in future antibiotic use gives us further fuel to practice our ‘Preventative Approach’, with prevention always better than cure.

As part of our on farm antibiotic approach, we have a discussion event answering the following questions,

- Would you like to reduce your antibiotics drug bill?
- Could you get better results from the antibiotics you use?
- Are you happy that you know which antibiotic to use, and when?

We ran the first of these meetings in Upottery, East Devon last month—many thanks to everyone who came along and made it a great success! We were joined by forward-thinking local farmers with a combined total of more than 4,500 animals under their care, and they really got to grips with the topic of how to get the best out of antibiotics. It is our aim to replicate this meeting in different areas of the practice and we would like to have maximum attendance from farmers and herdsmen who administer antibiotics on farm. Please look out for adverts in the near future. All attendees will receive a Synergy ‘Responsible Use of Antibiotics’ Certificate.

Alasdair Moffett

Interesting Case—Going round the twist!

Out of the last 6 calvings I have been called to, 5 of them have been uterine torsions. Uterine torsion or twisted uterus is not a common cause of dystocia in cattle but is important to always bear in mind as a possibility of non-progressive labour, as prompt intervention is key. Unfortunately there is no real explanation for why they occur—proposed reasons include a large or overly active calf, flaccid uterus, or the cow falling or being butted by another cow. Frequently they occur at first stage labour, but sometimes they are found before calving when presented with a sick dry cow. Classic signs that a cow may have a torsion are discomfort, a raised tail head, unproductive straining and a long delay after the appearance of the first water bag. Other signs could include more severe colic, a dilated abdomen or sunken eyes. When torsion occurs it also twists the large blood vessels that supply the uterus – if the blood supply is restricted for too long the wall of the uterus becomes damaged, the calf can die and the cow begins to go into shock. If you notice any of these signs please call for veterinary assistance. The degree of torsion can vary from an upside down calf (180°) to a full 360° twist and this will affect the ease of correction. If a torsion can’t be corrected manually, then a caesarean will be the only option. If performed promptly this will minimise any risks to cow and calf, but it also allows any damage to the uterine wall to be assessed. As with any dystocia, I would urge you not to delay in calling for veterinary assistance and if a torsion is diagnosed then ask the vet if you can have a feel.

Esme Moffett

Crewkerne Farmers’ Skittle League update

We are now a third of the way through this year's season. The league is topped by Andrew Kempster's team from West Chinnock. Bumping along the bottom are two teams from Hardington, the Voizeys plus poor old Ray and friends! Yet again please can I politely remind captains to promptly return their score cards to me. This week the first round of the Shield is being played; for those already fed up with Nomination, the draw for the John Frampton cup will be out shortly.

Ed Powell-Jackson
Regional News

Devon
Lucy Le Cocq

Well actually, southern hemisphere news! I hope you’re all well. I have settled into New Zealand life, but have been thought of as Irish, Scottish, Cornish, Welsh and English by the clients to date, so I have had to defend my position as a Guern a few times. I have been living with a couple from the practice who have taken very good care of me, feeding me up on their freezer full of home kill (and home brew!), until I find a place of my own.

The Waikato area where I’m based in the North Island, is a bit like the Somerset Levels - there is grass as far as the eye can see, with farms neatly divided into sections, a thin strand of wire between farms and hardly any trees. The clients are friendly and interested in British farming, but tea and cake is a bit thin on the ground!

The seasonal calving (June to September) was all but finished when I arrived. I have, however, pulled about eight calves off with many being dead and a few requiring cutting up. I even calved a cow with a kamar on which was supposed to be coming into heat!

We are now full swing into ‘Repro’ season with fertility being a particularly hot topic this year as routine inductions are now banned in NZ. The cows must conform to the seasonal pattern of calving to survive the ferocious winter of 1962/63, which started with a blizzard on Boxing Day and did not relent until well into March. Fortunately they were ably assisted during this difficult time by Sue, who had arrived that year as a student and who has since found no good reason to leave.

Keith and Sue developed a milking herd at East Rew which grew to 150 cows. The breeding policy was always forward thinking, with the adoption of Canadian Holstein genetics at an early stage, but as both Keith and Sue believed, they avoided the more extreme conformation characteristics of American black and white genetics. They were afforded the opportunity to expand the herd in 1967 when Roy Selby, their neighbour, moved to Tincleton.

In the dairy Keith and Sue were assisted by several keen young stockmen, notably Billy Samways, Chris Wilcox and Shane Barnes who were trained in the East Rew ways and who continue to work in dairy farming.

Technical assistance was provided by two particular stalwarts of the Dorset Farming scene and between them they made sure that both the health and production needs of the herd were met. Cas Cade was a trusted adviser whose wisdom extended well beyond his primary nutritionist role. Keith Fletcher attended all the animals on the farm from the time Keith and Sue started until his retirement in 1986.

Fog fever. This is something that we usually only see sporadically on a few known farms on the edge of the levels, but the geographical area this year has been much greater.

The lush grass contains high levels of Tryptophan which gets converted in the body to a toxin that damages the lungs and causes excess fluid to build up resulting in the animals suffocating. If you are moving cows to a new lush field think about buffering their feed with hay or even avoid grazing it completely. Treating cows is very unrewarding. Also, with extended grazing seasons this year do not forget about lungworm and fluke also causing problems.

Somerset
Jon Reader

As I write this it is the end of October and still 20 degrees centigrade! That is the quickest way to make the weather change. After the devastating winter of 2013/2014 we all hope that we will not need to be visiting farms by boat again for many years to come.

As a result we have seen cows and youngstock staying out longer than ever to try to take advantage of the lush grass. However, with this we have also seen more cases just recently of fog fever. This is something that we usually only see sporadically on a few known farms on the edge of the levels, but the geographical area this year has been much greater.

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EVENTS

AI Course — Wed 19th to Fri 21st November £445 + VAT
Foot Trimming Course - 25th and 26th November
1 day AI Refresher Course — Tue 16th December
Feeder Wagon Lambing Course

Contact Lucy on 01935 83682 for more information or to book your place