



RIVERINA LOCAL LIVESTOCK UPDATE

July



Local Land
Services

Case study: How now, down cow!

By Emily Stearman, District Vet

Cattle

CASE HISTORY:

Local veterinarians have received multiple calls over the past three weeks from Riverina cattle properties experiencing losses and concurrently down cows. We will discuss two cases with very different histories that have had a very similar outcome.

Case 1: Mid-late age British breed beef cows. 2020 Calves weaned six days prior to the first case. Cows PTIC ~5-7 months gestation. Cows were moved to short, green feed for 7-10 day period prior to moving to better pasture. No mineral or fibre supplements were offered. Seven cows found dead, three cows down.

Case 2: Mixed Age, British breed beef cows with Autumn born calves at foot. Cow-calf unit grazing short, mixed native pasture, supplemented with hay. No mineral supplements on offer. Three cows dead, two cows down.

CLINICAL EXAMINATION:

Deceased animals of mixed stages of decomposition. None present in either case that were deceased less than 12 hours. Post mortem and assessment of aqueous humour were prevented by the stage of decomposition.

Case 1: Down cows were quiet, alert and responsive, residing in sternal recumbency. Gut sounds were reduced but present. Respiratory rate increased but lung and heart sounds clear. Blood was collected from three animals.

Case 2: Down cows were depressed, in variable positions of lateral recumbency, one with splayed legs. Respiratory rate increased, and gut sounds absent in the worst affected cow. Temperature was increased. Blood was collected from two animals.

DIAGNOSIS:

Blood results are as follows:

Animal	Blood Calcium	Blood Magnesium	Blood Ketones
Case 1, Cow 1	Mildly Low	Critically Low	Mildly High
Case 1, Cow 2	Mildly Low	Mildly Low	Mildly High
Case 1, Cow 3	Normal	Low	Mildly High
Case 2, Cow 1	Low	Normal	High
Case 2, Cow 2	Low	Critically Low	Mildly High

WHAT DOES THIS MEAN?

All down cows were in a negative energy balance. In case one this can be attributed to low feed intakes in the preceding days, in case two this is likely a consequence of being down, with ensuing reduced appetite. Blood calcium levels in 4 of 5 cows were mild to moderately low, in case one this can be attributed to reduced intake on a low calcium diet; in case two this is attributed to being down with subsequent reduced intake. Most significantly, 4 of 5 cows had low to critically low blood magnesium levels.

Mammals have no ability to store magnesium in tissues or bones, they rely solely on dietary intake to meet daily requirements.

Case 1: Low blood magnesium is a result of time of year, while grazing non-supplemented, short pasture at a peak time of need ie: stage of gestation coinciding with prolonged lactation beyond weaning.

Case 2: These cows had good access to fibre, however were in peak lactation on native pasture that is critically low in magnesium; the absence of mineral supplementation in this case has led to critically low blood magnesium.

Respiratory Rate and Gut sounds: Both calcium and magnesium are required for muscle function; low levels of either mineral will result in changes to respiration dependent on the blood level. Muscle tremor in early stages of disease will increase body temperature in the absence of infection. Gut sounds in down cows reduce for two reasons: a reduction of appetite and therefore reduce fermentation of low available feed, and reduced gut muscle contraction as a direct result of low calcium.

WHAT CAN BE DONE TO PREVENT?

The risk factors for grass tetany or hypomagnesemia were discussed in last month's Animal Health Update. The fluctuating temperatures and short pastures predispose to low plant magnesium. Cows require oral magnesium daily during these time periods to ensure requirements are met.

Cows with autumn calves at foot, at or beyond peak lactation are highest risk at the time of year where magnesium is at its lowest availability in the grazing enterprise. Even when weaning calves, it takes at least 2 weeks for cows to stop producing milk and therefore stop pumping magnesium into the milk at their own expense.

Prevention is always better than cure! Clinical cases often proceed to death, and death is often the first clinical sign observed. All cows with calves at foot, in late gestation or those that have recently weaned calves, especially if PTIC, should be supplemented with magnesium. Providing with loose lick or liquid magnesium supplements will increase absorption of calcium and magnesium from the diet.

Powdered or granulated Causmag can be applied directly to hay as both prevention and treatment. Don't miss a day! Cows cannot store magnesium so application to hay must be done daily to meet the increased needs.

A pre-mixed or homemade mix of calcium, Causmag and salt should be provided concurrently to support calcium and increase magnesium intake. Liquid magnesium supplement may provide a higher palatability and bioavailability, but cows are mixed in response to intake of these products.

WHAT HAPPENED TO THE DOWN COWS?

Case 1: Two of three down cows responded well to subcutaneous 4-in-1 treatment (calcium, magnesium, phosphorus and glucose) as well as dietary management. When hay and loose lick were provided, deaths ceased. The cows were held on short feed with supplementation for two weeks prior to movement to prevent further losses by stress.

Case 2: More intensive medical management with intravenous magnesium was required and provided by the private veterinarian. The cow with normal magnesium levels was euthanised due to complicating pathology. The addition of magnesium to the hay in the diet has prevented further cases in this herd.

Losses in this case were reduced by the provision of fibre and time of interaction.

Case study: Steering clear of pneumonia

By Dione Howard, District Vet

🔍 Cattle

CASE HISTORY:

A farmer called Local Land Services after finding three weaner steers dead and another one sick. The consignment of 110 weaners had been purchased out of an interstate weaner sale from four source properties three weeks earlier.

The weaners were grazing a mixed phalaris and clover pasture since their arrival. After finding the first three steers dead, the farmer moved the rest of the steers into the paddock next door (a similar pasture mix), and administered a 5-in-1 clostridial vaccination, a drench and a *Mannheimia haemolytica* vaccine.

The sick steer was treated with antibiotics – it sat down, appeared to be struggling to breathe and had discharge from the nose.

EXAMINATION:

The following morning, the sick steer had died. The district vet completed a post mortem examination of the steer - as soon as the chest cavity was opened, copious amounts of straw-coloured fluid escaped. The lungs were attached to the ribs (Image 1), and the lungs were a mottled colour of pink, red and yellow (Image 2). Lung samples were sent to the laboratory.

DIAGNOSIS:

The infection of both the lungs and their outer surface is called pleuropneumonia. The lung samples cultured the bacteria *Mannheimia haemolytica*.

WHAT DOES THIS MEAN?

You might remember we shared a case back in May where the same bacteria, *Mannheimia haemolytica* (MH), caused mastitis and pneumonia in ewes. Cattle are also susceptible to pleuropneumonia caused by MH, which often occurs as part of the bovine respiratory disease (BRD) complex.

The MH bacteria is found in the nasopharynx of healthy animals, however when stress or infection compromises an animal's immune status it invades the lungs.

Causes of stress in this case for the weaner steers could have included the weaning process, transporting and yarding for sale, transport to the next farm as well as commingling with cattle from other sources – the list goes on for animals of this age!



Image 1 – Fibrin attaching the lungs to the ribs

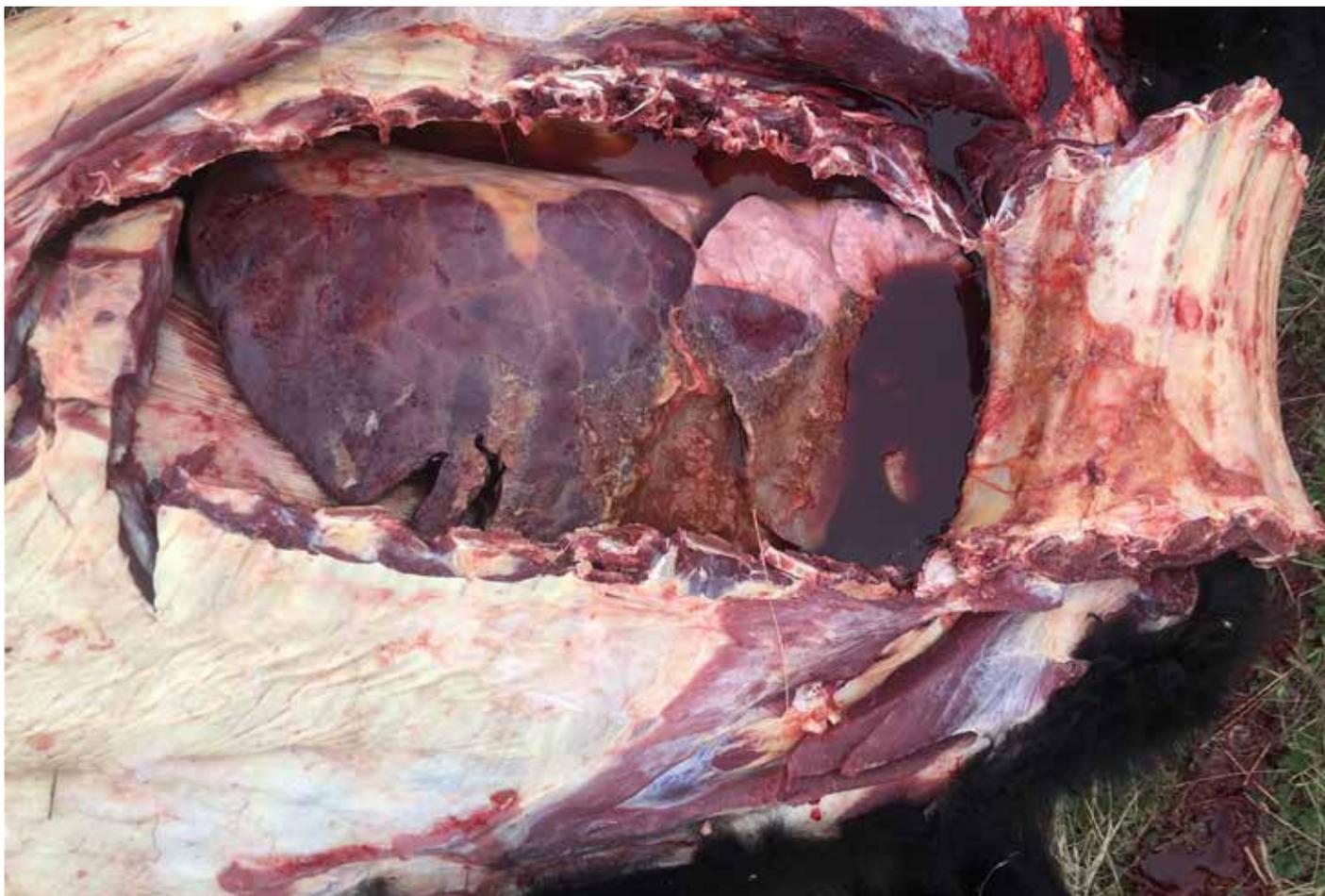


Image 2 – Lungs were a mottled colour of pink (normal), yellow & red (abnormal)

Infection with one or more viruses such as pestivirus, bovine herpesvirus (BHV-1) which causes infectious bovine rhinotracheitis (IBR), parainfluenzavirus-3 (PI-3) and bovine respiratory syncytial virus (BRSV) is often the first step in BRD developing, followed by bacterial invasion (which was MH in this case).

WHAT CAN BE DONE TO PREVENT?

The good news story in this case is that:

1) there is a vaccine available to protect cattle against MH.

There are various MH vaccination products available on the market, which require one or two doses. Factors influencing the product chosen may include availability, cost of product and time/labour to administer. For more information about vaccines visit this link: [Bovine Respiratory Disease - Website - Local Land Services \(nsw.gov.au\)](http://Bovine%20Respiratory%20Disease%20-%20Website%20-%20Local%20Land%20Services%20(nsw.gov.au))

2) the farmer had already vaccinated the rest of the group, protecting them from developing disease in future.

The vaccination is not a silver bullet however, and stressors affecting the rest of the herd need to be reduced as much as possible. It is important to minimise time off feed, in the yards and any changes in diet or water source going forward so that any animals with sub-clinical infection can recover.

FOR FURTHER INFORMATION:

[Bovine Respiratory Disease - Website - Local Land Services \(nsw.gov.au\)](http://Bovine%20Respiratory%20Disease%20-%20Website%20-%20Local%20Land%20Services%20(nsw.gov.au))

[Bovine respiratory disease complex \(flockandherd.net.au\)](http://Bovine%20respiratory%20disease%20complex%20(flockandherd.net.au))

Announcements and additional warnings

Q & A WITH OUR NEW VETERINARIAN AT YOUNG - RHYS POWELL

Where are you from?

Originally I'm from Newcastle but moved around a bit after school, Armidale, Queanbeyan then Vet School in Wagga, then Orange and now Young (but still living in Orange on the weekends).

What's your favourite part about livestock vet work?

The best part of livestock vetting is the herd health investigations where you get to use your brain and think deeply about things and that the work actually helps producers and their businesses. As well as an outdoor job where no two days are the same.

Why did you become an Local Land Services District Vet?

I applied to be a DV because I wanted to pursue more livestock work than mixed general practice offered. I've always had an interest in Epi/public health and this is a way to use it on an almost daily basis.

What are you most looking forward to about working in the Young area?

I'm excited to work in Young as I can get out and see a different part of NSW whilst working with the producers to maximise productivity. Oh and the cherries of course.

What do you do outside of work?

Outside of work, I am either camping or vetting at horse events, riding my bike or running.



BLOAT ALERT APP

With bloat season not far away – we are encouraging producers to check out the Bloat Alert App!

Bloat relies on community-based reporting of occurrences of bloat in their cattle which is then displayed on a map for other producers to view. Users within a specified proximity to a bloat report will receive an alert that bloat was reported within their area.

Bloat Alert provides producers with the opportunity to promptly implement management strategies for bloat prevention – before it occurs on your farm. Tracking bloat occurrences also helps to develop our understanding of bloat so that we may better advise you.

The App also contains information on how to identify bloat and risk factor.

Bloat Alert is currently only compatible with iPhones and iPads and requires iOS 11.0 or later.

[Download from the Apple App Store today!](#)



Upcoming events

THIS MONTH'S PICK OF EVENTS

Graham Centre Livestock Forum moving online

Promoting discussion on current issues and giving sheep and beef producers insight into new research to boost their bottom-line is the focus of an online Forum being hosted by the Graham Centre for Agricultural Innovation on Friday 30 July.

In light of the current COVID situation a decision has been made to move from an in-person, face-to-face event to online delivery.

An online interactive platform will allow producers to tap into a program of great research, ask questions and interact with each other and the researchers.

People can register to attend the Forum online through an interactive conference platform at \$10 per head.

Registration is available at www.csu.edu.au/research/grahamcentre/2021-livestock-forum

The program includes Charles Sturt University and NSW Department of Primary Industries research examining bloat in cattle, feeding lambs, the management of ewes, dung beetles, getting more value from cull cows and new technologies for lamb carcass assessment.

There'll also be discussion about restocking with advisor John Francis from Agrista and Jugiong producer Bobby Miller.

The Forum also aims to start a conversation on one of the big issues confronting the industry, how to improve environmental sustainability, make a profit and harness the opportunities in reducing our carbon footprint.

The event is sponsored by Riverina LLS, Meat & Livestock Australia, Nutrien Ag Solutions, Animal Health Australia, ProWay Livestock Equipment, Sheep Connect NSW, and Teys Australia.

Up-Coming Webinars

Here is a list of upcoming webinars from MLA's Productivity and Profitability Webinar Series. If you have not already registered to this fantastic and informative webinar series [visit the MLA website](#).

1. Lifting Lamb Survival

28th July 8:00pm – 9:00pm (AEST)

Nathan Scott (Achieve Ag) will provide an overview of the key factors affecting lamb survival and give practical tips on how to improve lamb survival in your own flock.

2. Foot issues in Sheep

11th August 8:00pm-9:00pm (AEST)

Bruce Allworth (Charles Sturt University) will discuss the different types of foot issues and how to prevent and treat them to minimise production losses.

3. Pasture dieback

25th August 8:00pm-9:00pm (AEST)

Caroline Hauxwell (Queensland University of Technology) will talk about pasture dieback, a condition which causes the death of sown and native pastures by affecting plant health and function, reducing the productivity of affected properties.

Also on our radar is:

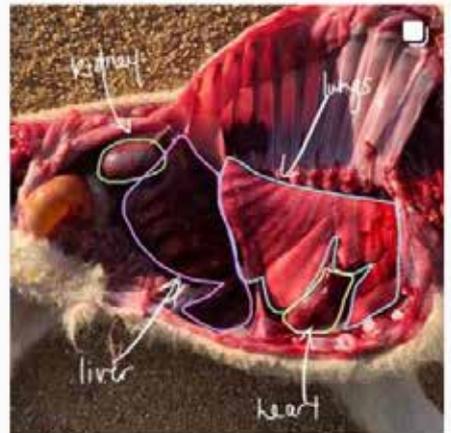
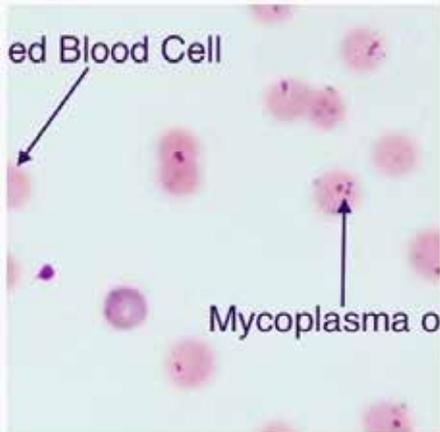
4. Is Condition scoring your under-utilised tool?

22nd July 1:00pm – 2:00pm (AEST)

Join Sheep Connect NSW's Project Manager Megan Rogers to explore all you need to know about condition score and its application.

Register here: [Registration \(gotowebinar.com\)](http://Registration(gotowebinar.com))

Follow us at [@locallivestockvets](https://www.instagram.com/locallivestockvets) on Instagram to see photos and videos direct from the paddock!



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