



RIVERINA LOCAL
LIVESTOCK UPDATE

May



Local Land
Services

Case study: Green feed – red gut

By Bianca Garnham, District Vet

🔍 Sheep

CASE HISTORY:

A producer had 5 paddock deaths over the previous week in a mob of 700 otherwise healthy Merino lambs, with the carcasses described as being extremely bloated. Another death that morning was in a yarded sheep - prior to death, the lamb had also appeared bloated and was heard groaning.

The lambs had been grazing lush, high density lucerne/clover pasture for the previous few weeks though had been moved that morning onto less thick lucerne. Drenching and vaccination (6in1) were recent and used as recommended.

CLINICAL EXAMINATION:

A post-mortem was performed on the lamb that had died that morning.

Externally there was marked abdominal bloating, with dark red/purple gums and purple skin in the inguinal (groin) region.

Internally, there was marked gaseous distension of the gastrointestinal tract, with serosanguinous (bloody-appearing) fluid within the abdominal cavity. The large and majority of the small intestines were dark red to purple/black, or had dark red vasculature (veins – these should not be this colour in a healthy sheep). There were no other abnormal findings – some fresh lucerne in the rumen, no evidence of worms in the abomasum, and thoracic (chest) cavity was normal.

Diagnosis: Intestinal torsion secondary to rapid digestion (also known as “redgut”).

WHAT DOES THIS MEAN?

The common name for some disease conditions are very apt for describing the outcome – in this case, while the digestive tract of sheep is normally varying shades of pink, redgut is unmistakably red, purple, swollen, and overall “angry” looking.

Ruminant digestion is complicated; the fundamental thing it relies on however, is the rumen (and microbial population within it), to ferment and break down feed sufficiently. When the microbial population is healthy and the feed is appropriate, the nutrients from this feed are ultimately able to pass to other regions of the digestive tract and be absorbed for the animal’s growth/maintenance.



Figure 1: Areas of small and large intestines showing the gaseous distension and red/purple discolouration of tissue and veins typical of intestinal torsion.

In the case of redgut, if a sheep eats a lot of feed that is highly lush, (and importantly, has low fibre) as described with lucerne, clover, and some legumes, it can move out of the rumen/reticulum and into the intestines too quickly. This reduces the size of the rumen/reticulum, and the feed ultimately ends up fermenting in the colon instead of the rumen, causing gaseous distension of the intestines in excess of normal. The rumen is adapted to fluctuate in size and handle lots of gas; the intestines, beyond a certain point, are not.

In some animals, this excessive intestinal gas and small rumen can then result in the intestines moving to positions they normally aren't able to, where they can torse (twist) back onto themselves – imagine twisting the middle of a sausage or balloon animal. This twist reduces or completely cuts off blood supply, and further increases gas buildup. Once blood supply is reduced or removed, a series of events quickly follow one another that result in tissue death, rapid decomposition, and ultimately death of the animal – quite a painful process in addition.

WHAT CAN BE DONE TO PREVENT?

Once an intestinal torsion has occurred there is no effective treatment (beyond surgery within a very small timeframe - generally not an option for sheep!) so prevention is the key.

The key factor in redgut is a lack of fibre in the animal's rumen. Lush feed in itself is fine – it just has very little fibre. Therefore, the best way to prevent the risk of redgut is roughage:

1. Ensure hungry animals are never turned directly onto lush feed – pre-feed with hay before moving, as you otherwise risk them going straight for the green feed and ignoring any hay.
2. Once on lush pasture, ensure access to ad-lib hay at all times.
3. If hay is not available, intermittently graze between fibrous paddocks and lush paddocks.

Case study: Theileria Troubles

By – Elizabeth Ferguson, Team Leader Animal Biosecurity & Welfare

🔍 Cattle

CASE HISTORY:

In February 2022, the District Vet received a call from a beef producer with a property near the Tumut River, in the eastern part of Riverina LLS. Nine weeks earlier, the producer had introduced a consignment of weaners that had been shipped from South Australia to his property. Over the previous few days, two heifers had died and a steer that had been lethargic for the previous 24 hours had just died. Upon arrival at the property, the cattle had been vaccinated with 5 in 1 and drenched with an injectable ML drench. All cattle were in good body condition, and they had just been moved to a pasture that was predominantly millet. Apart from weakness prior to death, there were no other signs of illness.

The farmer did mention that some cattle on the property had died of *Theileria* sp. infection a number of years earlier. However, given that it was late summer, he was also concerned about whether three day sickness had contributed to the deaths.

CLINICAL EXAMINATION:

The recently deceased steer was found in a ditch. There were no signs of trauma, and the ground around the animal was undisturbed, meaning that there was no seizure-like activity prior to death. There was no jaundice outwardly evident.

A post-mortem examination was conducted and was unremarkable, except that the steer's blood had the viscosity of water. This is unusual, as blood, so the proverb says, is "thicker" than water – we find that this is also literal, with the many cells and proteins present in blood meaning that it has a thicker consistency than water.

Blood and aqueous humour (eye fluid) were both collected and submitted for pathology.

DIAGNOSIS:

Given the history of the animals that had died, having come from a region with no known cases of *Theileria*, and the property having a history of *Theileria* in cattle, this was the most likely cause of death. This was also due to *Theileria* usually causing disease 5-8 weeks after naïve cattle are introduced into an endemic region, and these cattle were introduced 9 weeks prior to death.

Three day sickness was less likely, as smaller animals with this infection have a good prognosis. Larger animals (bulls, dairy cows) are more likely to die from three day sickness due to muscle damage from a combination of high bodyweight and a prolonged period of recumbency.

Blood lead levels were also measured, as was calcium and magnesium in the aqueous humour. All levels were normal.

Theileria orientalis was detected in the blood at very high levels, meaning that at this level, 95% of cattle would develop clinical signs. This was determined to be the cause of death of this steer, and presumably, the heifers that had also recently died.

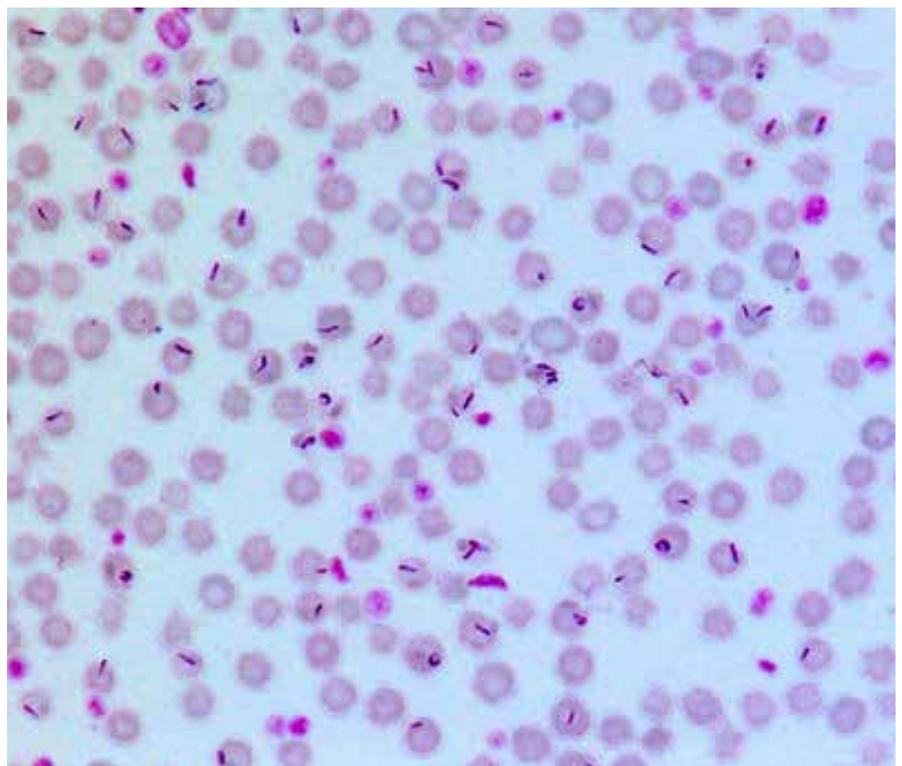


Image: *Theileria* (dark red) infecting red blood cells
(Image from www.wormboss.com.au)

WHAT DOES THIS MEAN?

Theileria is protozoan parasite that is spread by insect vectors, most commonly the bush tick. It infects red blood cells and breaks them down, causing severe anaemia which can result in death. In areas where the protozoan is endemic (east coast and adjacent ranges), cattle that are born and raised in those areas can develop disease early in life, and if they recover, then they develop immunity. If the infection levels are low, the animal may not show any signs of infection and also go on to develop immunity.

In this situation, it is likely that the cattle which have been on the property for a long period of time have been exposed and are now immune. However, the cattle that were shipped from South Australia would have been completely naïve, and when faced with a high level infection, stood little chance of survival.

WHAT CAN BE DONE TO PREVENT?

There is no registered treatment for Theileria. If possible, it is recommended to limit the movement of cattle from non-endemic regions to endemic regions, and vice versa. It is also important to make sure cattle in endemic regions are kept healthy, with a focus on nutrition, worm control and trace element supplementation. A healthy animal is more likely to overcome any infection compared to one that is malnourished or otherwise diseased.

If any animals are found to be infected, or infection is suspected, keeping stress and movement to a minimum will give the cattle the best chance of survival.

Theileria is still an uncommon diagnosis in the Riverina, however it is a disease that producers need to be aware of, especially if they move cattle regularly between properties.

FOR FURTHER INFORMATION:

- https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/404679/Bovine-anaemia-caused-by-Theileria-orientalis-group-Primefact-1110.pdf
- <http://www.wormboss.com.au/cattle/worms/other-internal-parasites-of-cattle/theileriosis.php>

Announcements and additional warnings

ARE YOUR STOCK FIT TO LOAD? TAKE THIS QUIZ TO TEST YOUR KNOWLEDGE

Jessica Rees, Final Year CSU Veterinary Science Student

1. Why is 'fit to load' important?

- A. Reduced stress for transported animals
- B. Protects the producer from litigation under animal cruelty legislation
- C. Reduces the risk of death or injury during transport
- D. All of the above

2. Who is the 'person in charge' of transported animals?

- A. Producer/consignor
- B. Transporter/driver
- C. District veterinarian
- D. It changes at different points during the journey

3. Who is responsible for completing the transport documentation (eg/ Livestock Production Assurance (LPA) National Vendor Declaration (NVD) or waybill)?

- A. Producer/consignor
- B. Transporter/driver
- C. District veterinarian

4. What are some of the responsibilities of the producer/consignor?

- A. The preparation, inspection and selection of animals as 'fit for the intended journey' and NLIS compliant
- B. Loading animals and final inspection during loading
- C. Providing an appropriate transport vehicle
- D. Providing appropriate loading facilities
- E. A & D

5. Which of these statements about transporting bobby calves is incorrect?

- A. Dogs and electric prodders must not be used to move bobby calves
- B. Consignments of bobby calves cannot be transported across Bass Strait
- C. Calves can be treated exactly the same way as a mature cow
- D. Bobby calves less than five days old cannot be transported for more than six hours

6. What can be done prior to long journeys to reduce physical stress associated with time off water?

- A. Reduce space around troughs to encourage competition
- B. Providing electrolytes during the preparation period
- C. Drenching prior to transport with lukewarm water
- D. Just don't record the time off water

7. Which of these animals can be transported:

- A. A sheep with long claws that cannot walk/stand normally
- B. A cow in heavy lactation with full udder
- C. A sheep with severe scabby mouth disease
- D. A panting bull who may be suffering heat stress
- E. None of these animals are fit to load

8. When is it safe to transport pregnant animals?

- A. Pregnant animals cannot be transported within 2-4 weeks of their due date
- B. Pregnant animals can only be transported in the last 2-4 weeks of gestation under veterinary advice

9. Animals with eye cancers may be transported if:

- A. The cancer is less than 2cm, free of discharge, and not infested with fly larvae
- B. The associated eye is blind

10. Which statement is correct regarding transport of animals?

- A. Only severe injury, pain, or distress makes an animal unfit to load
- B. Less severe conditions can cause significant pain and distress during transport. If in doubt, leave it out.

Answers: 1. D; 2. D; 3. A; 4. E (the transporter/driver is responsible for providing an appropriate vehicle and loading/final inspection before loading); 5. C (requirements for bobby calves vary with age; for more information on transporting bobby calves please refer to the Dairy Australia website: www.dairyaustralia.com.au); 6. B (refer to the MLA 'Is The Animal Fit to Load?' guide for maximum time off water and rest times for different stock classes); 7. E; 8. B; 9. A (if in doubt, consult your veterinarian); 10. B.

EXOTIC DISEASE AWARENESS

Over the last few months, we've looked at a number of exotic animal diseases that have been declared as priority diseases. This means there is a high risk of these diseases entering Australia, and state and federal departments are on alert for any signs in our animals. These diseases are foot and mouth disease, avian influenza, lumpy skin disease, African horse sickness and African swine fever. To wrap up the series, this month we will focus on African horse sickness.

African horse sickness

African horse sickness is a serious, often fatal disease of horses, mules, and donkeys. The virus is spread by infected insects (biting midges) and causes fever and, heart and respiratory disease in affected animals. Death is common and can occur suddenly. The disease primarily occurs in Africa, but outbreaks have been reported in Egypt, parts of the Middle East, Spain, Portugal, Morocco, Pakistan and India. In 2020, African horse sickness was diagnosed in horses in Thailand, the first time this virus has been detected in Eastern Asia. It is likely that the virus was imported through the illegal trade of live animals or hides.

Clinical Signs

African horse sickness can cause respiratory disease, cardiac disease, or a cyclic fever. Death rates can be as high as 95% for some forms of the disease. The pulmonary or respiratory form occurs rapidly (within days). Signs of disease include fever, difficulty breathing, coughing, sweating, and frothy discharge from the nostrils. Death usually occurs within a few hours after illness is seen. The cardiac form of the disease causes fever and swelling (oedema) around the eyes, lips, cheeks, tongue, and neck. Death usually occurs due to heart failure. Some affected animals may have both pulmonary and cardiac signs of disease. Some animals may only develop a cyclic fever (high in the afternoon, gone in the morning). These animals may also have depression and a decreased appetite. Animals with this horse sickness fever form of African horse sickness will typically recover.

While the species of biting midge that is most commonly recognised as being the primary vector for African horse sickness (AHS) is exotic to Australia, it is possible that *Culicoides brevitarsis*, the species that carries Bluetongue and Akabane virus which is common in Australia, would also be able to act as a vector for AHS.

How Are We Keeping it Out?

Introduction of AHS virus to Australia could occur through an infected equid or a live infected vector.

While importation of a viraemic equine host is possible, Australia's import conditions significantly reduce this risk by prohibiting the entry of equids and equid genetic material from countries with AHS.

Windborne spread of vectors is possible as *Culicoides* can travel up to 700km over water in windy conditions. Research is underway in northern Australia to identify which *Culicoides* species feed on horses and whether they are competent vectors.

Australia has never had an outbreak of AHS and maintains its AHS-free status through biosecurity policies and border controls. Australia has strict import conditions for live equids, genetic material, vaccines, and other commodities that may be contaminated with AHS virus or *Culicoides*.

Australia continues to monitor the global spread of AHS to ensure these biosecurity policies and import controls are appropriate. The Northern Australian Quarantine Strategy (NAQS) conducts surveillance of feral horses and donkeys, monitoring for any suspect deaths and early warning signs. NAQS also contributes to the National Arbovirus Monitoring Program for *Culicoides* vectors of Bluetongue virus, another key feature in Australia's surveillance for potential AHS vectors.

It is also important for horse owners to be aware of the signs of AHS, and report anything suspicious to their local veterinarian, Local Land Services, or call the EAD hotline on 1800 675 888.

For more information on AHS, you can go to:

- <https://www.awe.gov.au/biosecurity-trade/pests-diseases-weeds/animal/ead-bulletin/ead-bulletin-no-122>



Culicoides sp., the biting midge which acts as a vector for African horse sickness (image from Wikipedia, 2022)



Thailand's response to the recent AHS outbreak included vaccination of at-risk horses (from <https://rr-asia.oie.int/>)

LAMB MARKING - ANAESTHETICS AND ANALGESICS

Naomi Kirkwood, Final year CSU Veterinary Science Student

Whether you are joining, lambing, or weaning, now is a great time to start getting prepared and thinking about lamb marking. In the last 10 or so years, there has been a massive development of practical and effective local anaesthetic and analgesics for lambs undergoing mulesing, tail docking and castration.

There are several products on the market for pain relief. Fast acting local anaesthetics such as Tri-Solfen® and Numnuts® block sensory function and pain in the short term, and slower acting analgesics (non-steroidal anti-inflammatories (NSAID)) such as Buccalgesic® and Metacam® provide longer-term pain relief.

Marking can be a stressful time for lambs, and the more pain relief we can provide them with will reduce these stressors, and hopefully reduce morbidity and increase production.

The question is, which products are most effective? How much is this going to cost? Why is using analgesia and local anaesthesia beneficial? What is the gold standard? Unfortunately, there is not a one size fits all protocol, and it is up to you to decide what products work best for your farm, and our job to give you the facts!

A study was conducted in 2018 that compared all the available options for analgesia and local anaesthesia, and measured pain post-marking through the expression of abnormal behaviours and postures. The combination of the fast acting local anaesthetic Tri-Solfen and the longer acting analgesia provided by Buccalgesic or Metacam provided the most effective pain relief.

The benefits of combining an analgesic NSAID with local anaesthetics Tri-Solfen or Numnuts is that these drugs target pain differently. Blocking pain at several different pathways provides superior pain relief compared to just one drug alone. Local anaesthetics also provide instant short-term pain-relief but wear off quickly. Combining a local anaesthetic with an analgesic NSAID will provide both immediate and long-term pain relief.

Brand name:	Tri-Solfen	Numnuts	Buccalgesic	Metacam 20
Type of drug:	Local anaesthetic and antiseptic	Local anaesthetic	NSAID	NSAID
Application method:	Spray on with applicator	Injection with Numnuts applicator	Oral with applicator	Subcutaneous injection
Alleviates pain caused by:	Knife castration, tail docking with a hot or cold knife, dehorning, mulesing.	Castration with a ring, tail docking with a ring.	All marking activities.	All marking activities.
Time to start of effective pain relief:	<1min	<1min	After 10-15min	After 10-15min
Meat withholding period:	90 days	0 days	10 days	11 days
Cost per head: *Depending on lamb weights at marking	Tail docking \$0.23 - \$0.30*	Tail docking \$0.67	\$0.48 - \$1.20*	\$0.66 - \$1.65*
	Mulesing \$0.90 - \$1.80*	Castration \$0.67		
	Castration \$0.45 - 0.68			

Table modified from <https://www.wool.com/globalassets/wool/sheep/research-publications/welfare/improved-pain-relief/btb-81-dec2019-anaesthetics-analgesics-widely-adopted-by-woolgrowers.pdf>

The choice for pain-relief when marking depends on so many factors. There is not a one size fits all protocol, and it is up to you to decide what works best for your farm. For more information, contact your local veterinarian. More detailed information can be found from the following sources:

- <https://pubmed.ncbi.nlm.nih.gov/29567597/>
- <https://www.wool.com/globalassets/wool/sheep/research-publications/welfare/improved-pain-relief/btb-81-dec2019-anaesthetics-analgesics-widely-adopted-by-woolgrowers.pdf>

Upcoming events

MERINOLINK CONFERENCE

The 2022 MerinoLink Conference will be held from June 6-8, 2022 in Wagga Wagga NSW.

A save-the-date program is available with the full program currently being developed. It will involve lead-in farm visits and workshops on the afternoon of Monday, June 6 with an informal meet-and-greet meal that evening, a full conference day and formal dinner on Tuesday, June 7, then a field day on the morning of Wednesday, June 8.

For more information and to book your ticket visit [the MerinoLink website](#).

THIS MONTHS PICK OF WEBINARS

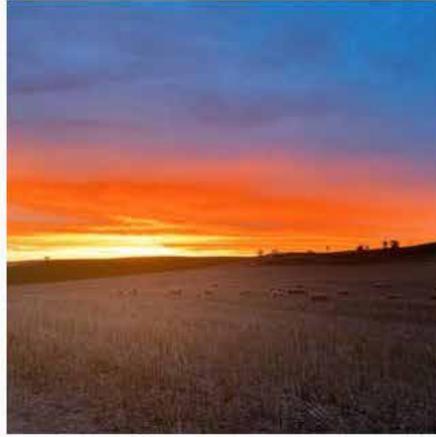
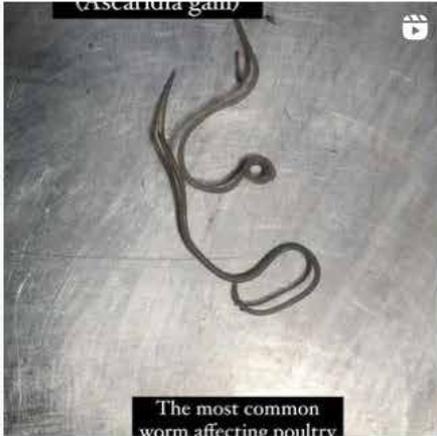
This month's pick of webinars have all been produced by Meat and Livestock Australia (MLA).

MLA's Productivity and Profitability Webinar Series are a fantastic resource that [can easily be accessed via the MLA Website](#).

1. How can producers be carbon neutral? - May 25th: Professor Richard Eckard, University of Melbourne.
2. Key diseases to vaccinate against in cattle - June 8th: Dr Paul Nilon, Nilon Farm Health.

[Register and be notified of upcoming webinars.](#)

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



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Kristy Stone (Tues, Wed, Thurs) – 0428 262 112

YOUNG

Bianca Garnham (Mon, Wed) - 0455 489 296