Mycoplasma ovis

District Veterinarian Courtney Simkin

Mycoplasma ovis (formerly known as Eperythrozoon ovis or E.ovis) is a parasitic bacteria.

Mycoplasma ovis (M.ovis) attaches to the outside of the red blood cells (RBC) causing the sheep’s immune system to recognise it as a foreign body. The immune system then destroys those red blood cells often resulting in fatalities due to anaemia.

M.ovis is spread by blood through such things as biting insects such as mosquitos, unhygienic mulesing, shearing and other husbandry events. Any stressors including husbandry events, worm burdens, or malnutrition can increase the severity of the disease. Younger sheep are more susceptible and can be affected from four weeks of age.

It is recommended to simply avoid any handling of the affected stock and leaving them in a paddock with good quality feed and water for 4-6 weeks to recover. M.ovis can generally be controlled by ensuring good hygiene during marking and mulesing by keeping instruments clean and by avoiding the need to yard stock within six weeks of marking or shearing. Ensuring optimum nutrition, worm control and trace element supplementation (if required) will also help limit the severity of the disease if it occurs.

If you identify or suspect anaemic sheep, it is important not to assume they have a Barber’s pole infection as mustering/yarding/drenching sheep infected with M.ovis can exacerbate the problem and result in sheep dying. Occasionally, concurrent diseases such as a worm burden may be exacerbating the impact of M.ovis and as such need to be identified and managed appropriately.

Please contact your local district veterinarian for further information.

Image 1: M.ovis organisms in red blood cells (tiny purple/blue dots inside the red cell). Photo courtesy of Department of Agriculture and Food WA.
Emergency animal disease quiz
Regional Veterinarian Elizabeth Braddon

The farm has about 100 layer chickens for eggs to supply friends, family and a local community market. They are essentially free-range on the farm, roaming around the farm yards and paddocks until night time when they get penned up in a coop to keep them safe from the foxes.

You notice that in the last few days there has been a sharp drop in egg production despite this usually being "the busy season" for eggs and a few birds are looking a bit ruffled.

A day or so later, one bird turns up dead after being quiet for a few days and you notice that some of the other sick birds appear to have swollen eyes; sneezing and are breathing hard.

Possible things that could be going wrong are:
1. Chronic Respiratory Disease
2. Avian Influenza
3. Infectious Coryza
4. Fowl Cholera

You call your local district vet for some advice and they ask you about

- any new introductions to the flock
- how many birds are sick
- how long have you noticed the symptoms for
- what sort of housing do you have for the birds
- if you have had any visitors lately
- whether your birds have contact with wild birds, particularly waterfowl
- are your birds vaccinated.

You mention to the vet that you have recently bought the most amazing rooster from a local breeder who wins all the shows. The rooster was put in with the 'ladies' about a week to 10 days ago.

You also advise that the rooster is absolutely fine, it is only your original birds that appear to have gotten sick.

Your district vet examines some of the birds and collects some samples from them for laboratory analysis. What was the district vet looking for?

The answer to the quiz can be found at the end of this newsletter
Lead poisoning in cattle
District Veterinarian Sophie Hemley

Lead poisoning is one of the most common poisonings of cattle. The most common sources of lead that cattle have access to on farm include:

- discarded lead batteries, or those sitting in an old car body
- lead-based paints, especially if it is flaking
- waste oil
- grease
- solder
- putty
- automotive exhaust
- industry pollution.

The clinical signs seen with lead poisoning depend upon the type of lead ingested, the length of time exposed and the age of the animal. Sudden death of young inquisitive animals is the most common presentation seen. These cases have a rapid onset and development of neurological signs such as depression, uncoordinated gait, blindness, muscle twitching and jaw champing, which progress to death. If the animal ingests a sub-lethal dose of lead the main clinical signs include dullness, loss of appetite, aimless wandering and blindness. Chronic poisonings are much less commonly seen.

Once ingested the majority of the lead moves through the gastrointestinal system, with most being passed out in the faeces. At post mortem, it is typical to find a few lead battery “chips” or flakes of paint in the reticulum (the honeycomb walled stomach) that have not yet passed through. Lead is absorbed into the bloodstream after ingestion and localizes in the kidney and liver, which can also be tested.

Once a lead poisoning has been diagnosed on a property, all cattle that have potentially been exposed are blood tested. Any animals with high lead blood levels must not enter the food chain until their blood lead levels are within safe limits. Identifying and removing or preventing access to the lead source is also crucial.

An important aspect of managing lead affected cattle is ensuring the producer’s NLIS requirements are fulfilled. All cows and calves must have a RFID tag and be uploaded correctly on the NLIS database – that is, be registered on the correct PIC. The NLIS database will then be updated with an “Early Warning” status, indicating there is lead affected cattle on the property. This is important for an extra level of security to ensure lead affected animals do not accidently enter the food chain. Additionally identifiable management tags are recommended for lead affected cattle to ensure they are not accidently drafted and sent to market.

Treatment is available however the success is highly variable and depends upon the type of lead ingested, and severity of clinical signs.

Preventing cattle accessing sources of lead is the main preventative measure producers can take. Cattle should not have access to the rubbish tip areas or workshops and sheds.

Due to the significant risk lead toxicity poses to human health, all cases of lead poisoning must be reported to the district veterinarian.

If you would like more information on lead poisoning contact your local district veterinarian.

Biosecurity - a landholder's tale...

Here’s a story of a landholder’s experience of purchasing sheep affected by footrot.

In mid-January 2016, 220 3 year old merino ewes were purchased on Auctions Plus. They were part of a flock dispersal from a property in the Riverina. A few days after the landholders purchased them the agent...
called the husband to say that there were only 211 coming as he had taken 'a few hoppy ones' out. The wife asked her husband: 'Did you ask if they had footrot?' and he said it didn't cross his mind.

The sheep arrived on Friday evening and as the producers were going away for a week first thing Saturday morning they only had time to drench them in the fading light. The producers say it is worth pointing out that 218 arrived and a few were noted to have a different ear tag and when mouthed were broken mouth - not three year old.

When they took them up to their paddock early the next morning they were concerned as some were noted to be lame - they were hoping it was just from the trucking.

The producers went on their week holiday.

When they got back, they moved them to a new paddock and noticed there were still some lame. The producers inspected them again in the paddock the next day and decided they needed to yard the sheep and look closer.

The first one tipped had a toe abscess. However, the second and third sheep had score 5 lesions. A fourth sheep had a lot of under running from the toe back towards the heel. They thought this could have been an old toe abscess but no seed or blood or pus was noted. The next sheep had a score 5.

At this point, the producers decided it best to stop looking and notify their District Vet for a proper diagnosis.

He found about 5% advanced under running in 100 randomly selected ewes and diagnosed virulent footrot.

They were able to arrange with the vendor to return the consignment back to the place of origin the following day.

Some lessons the producers wanted to point out from this experience:

- It cost them a reasonable sum of money as the sheep grazed for two weeks and then were quarantined for another week. (Agistment guidelines from 2007, recommend $0.30/head/week so if this is increased by 3.1% CPI to 2016 would be a minimum of $0.40/hd/wk or a total of $250 for the three weeks). After the diagnosis, the producers' still needed to purchase some ewes for autumn lambing. In that time the market price went up approximately $10/hd so additional costs to purchase the same number of ewes was incurred.
- They had also put a quarantine drench into them at a cost of approximately $1.00 / head chemical cost plus labour. They felt pretty ordinary for buying ewes with footrot and potentially putting neighbours at risk. However because they were vigilant about monitoring the sheep and picked up on it before a spread period and lambing, they avoided an even more costly exercise.

Therefore quarantining on farm and monitoring is very important.

The producers take home message from this experience: check sheep to make sure you receive what you bought.

A few words on meat quality issues

District Veterinarian Kristy Stone

Sheep measles (Taenia ovis)

I have had a few conversations with producers about sheep measles lately. Sheep measles is a condition caused by a tapeworm parasite that forms small cysts in the muscle of sheep. Sheep become infected with the parasite when they graze pasture that is contaminated by dog or fox faeces which contain infective
eggs. Larvae then migrate from the intestines of the sheep into the muscle. The lifecycle continues when the dog or fox eats the infective cysts in offal or meat. The cysts become calcified over time and remain as a defect in the muscle. This defect is unpleasant to see in meat and unpleasant to eat therefore carcasses will be downgraded or even condemned at the abattoir.

**Control of T.ovis:**

- Treat all dogs every four weeks with a de-wormer that treats tapeworm (must contain praziquantel).
- Do not allow contractors’ dogs access to areas that are grazed by sheep (as those dogs have an unknown worming history).
- If feeding meat to dogs, it must be properly cooked or frozen for at least 10 days to inactivate the cysts.
- Lock dogs up when they are not working to prevent them roaming paddocks and eating sheep carcasses.
- Dispose of dead livestock in a way that prevents dog (or fox access) such as burial or burning.
- Fox control – T.ovis has also been found in the intestine of foxes so fox control needs to be strongly considered if T.ovis is an issue.

**Grass seeds**

I probably don’t need to remind you that it’s that time of year when annual grasses are starting to go to head. If seeds are causing you problems year-in, year-out, then developing and implementing a management plan for grass seeds is very important. Seed contamination has been identified as a significant cause of financial loss due to:

- reduced growth rates
- susceptibility to skin infections & flystrike
- infections in eyes causing blindness
- irritation to feet causing lameness
- significant downgrading or condemnation of the carcass due to excess trimming required to remove the seeds during processing.

Continual supply of seed infested sheep may result in future rejection of consignments at certain abattoirs. Just like managing worms and lice, seed management requires an integrated approach. A control program needs to be considered throughout the year, not just when seeds are a threat.

Strategies can be both short and long term and include:

- Grazing management – heavy grazing or slashing during emergence of seed head, preparation of clean paddocks for lambs & weaners.
- Pasture management – improve soil fertility & perennial pasture composition, cropping rotations, fodder conservation, irrigation.
- Stock management – shearing, early weaning onto prepared pastures, adjusting time of lambing, feedlotting, genetics.
- Chemical management – spray grazing, spray topping or winter cleaning.

**Answer to the emergency animal disease quiz**

Avian influenza is a notifiable disease in poultry in NSW and can have a significant impact on the poultry industry if there is an outbreak. District and private veterinarians are always vigilant to look for this particular poultry disease in cases of unexplained respiratory disease or death in poultry.
Typically birds with Avian Influenza will have

- sudden death in large numbers of birds over a short period of time
- sick birds will have ruffled feathers; reluctance to move, eat or drink; swollen heads, wattles or combs; and respiratory distress.

Potentially, it is also a zoonosis which means the virus can transmit to humans. This is usually quite rare unless there is very intimate contact with birds and bird by-products.

The other three diseases mentioned are relatively common poultry diseases that are the most likely cause of disease in this case. Typically, if any of these three diseases were the cause of the problem, the number of sick birds would be lower and overall the severity of the disease would be much less (eg. Less birds would get sick and die with any of these three versus up to 100% death rate very quickly with Avian Influenza). However, the symptoms are very similar thus any birds with respiratory disease should be examined to rule out Avian Influenza

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