Deaths from suspected dehydration by District Veterinarian Rahul Shankar

In late March 2015, a producer in the Riverina experienced mass deaths in his property. Only one of his flocks was affected, with 90% of the flock dying from what is suspected to be dehydration via water deprivation.

The owner had been away for roughly four days when the incident occurred, and the animals were being watched over by another responsible person.

The four days were noted to be slightly hotter in temperature compared to the week before. On the fourth day, losses of 80% were reported in the mob. A further 10% were lost in the week following the 80% losses. The producer was unsure of what water levels in the trough may have been on the days he was away.

A post-mortem examination was conducted on two of the chronically affected animals from the remainder of the flock. Post-mortem signs were consistent with severe dehydration and kidney damage.

Water samples were taken from both the affected paddock’s trough (which had a light green discolouration) and the main bore (transparent in colour). The water in the trough had not been disturbed since the incident, and it came back with high coliform (gram-negative bacteria present in aquative, soil and vegetative environments) counts.

Water from the bore samples came back as normal for all tests conducted on it. Water was also tested for blue-green algae and came back as negative.

A lack of water, coupled with the fact that the water in the trough had high coliform counts may have made the water less tempting for the sheep. The further hot conditions on those days would have further exacerbated matters. This producer is an attentive, dedicated and well managed farmer. He had never experienced losses such as these in the past. It serves as a valuable reminder to check your water sources regularly, especially if you are going away for any period of time.

An adult sheep on average requires 2-6L of water a day. Ewes with lambs require 4-10L of water a day in order to maintain a healthy hydration status. Further information on water requirements for cattle and sheep can be found at:


Barber’s Pole Worm continues to kill!
by James Cook University Vet student Callum Bettington

There has been a higher than average incidence Barber’s Pole Worm (BPW) deaths in the Wagga Wagga region over the last month. Normally an infestation is not fatal, if caught early enough. However, if a severe enough infestation occurs BPW can be deadly to sheep of any age.

Female worms, have a characteristic red and white barber’s pole appearance, and can each lay up to 10,000 eggs every day with a subsequent severe burden developing within the flock.

BPW love warmth and water, thus, the largest burdens generally occur in late summers and autumns with decent rainfall. This autumn is proving to be favorable for BPW.
The worms live in the stomach of sheep and feed on the sheep’s blood (Images 1 and 2). Signs of disease are only apparent when the worm burden is excessive. These signs may include a tail in the mob, poor performance, lethargy, pale third eyelids (Image 3), bottle jaw and death. Scouring is not usually present.

These asymptomatic infections emphasize the importance of proactive Faecal Egg Counts (FEC). DrenchChecks to test drench efficacy are crucial if they have not been performed on your property within the last 2-3 years. Macrolytic lactones (Abmectin) have and are showing resistance to BPW in the last few years throughout the Riverina.

A DrenchCheck (or DrenchCheck-day10) requires two FECs: one pre-drenching, and one 10-14 days post-drenching. This is a cheap and effective way of identifying resistance.

The results of your DrenchCheck-day10 or any other egg counts should be discussed with a worm control advisor (whether that be your private vet, LLS vet, parasitologist or other).

As most producers are aware, there are many other techniques to minimize drench reliance, such as grazing management, genetics and nutrition. These should always be considered in pest management.

For further information on worm management (including FEC, DrenchCheck-day10 etc.) contact your Local Land Services District Veterinarian.

Chlamydia
by District Veterinarian Gabe Morrice

Chlamydia is known to cause a polyarthritis, ill thrift/weight loss in lambs (as well as pink eye in sheep of all ages). On some properties, the impact can be severe.

There are other causes of arthritis and lameness in lambs, which often look the same. As these can require different treatments and preventive measures, it is important to get your sheep checked out and diagnosed before treating for any one in particular.

A previous survey conducted in this area found that the number of flocks showing evidence of exposure to Chlamydia was 35%. Within flocks, the exposure rate varied from 10-64%.

Lambs clinically affected with chlamydia have reduced productivity and returns due to poor weight gain and the cost of treatment. Deaths are relatively uncommon.

The disease is definitely a lot more common in rapidly growing lambs, so is more frequently seen in British breed and crossbred lambs on good feed. Merino weaners have been observed with clinical disease as well, but less often. The same survey mentioned above found little conclusive evidence of the means of spread.

Lambs affected by chlamydia often display lameness (a “proppy gait”); elevated temperatures; and can also lose weight and appear “ill thrifty”. Sheep of all ages
can be affected with a chlamydial form of conjunctivitis/ “pink eye” leading to watery eyes and tear staining. This frequently occurs in conjunction with the polyarthritis form.

Diagnosis is carried out by blood testing a sample of affected lambs. This form of testing is relatively cheap, quick and reliable. DNA testing of affected joints can also be undertaken but is generally not necessary. It is important to get an accurate diagnosis to ensure that the problem is not caused by another disease as the treatments can be different for each form.

Treatment is currently based around early detection and control using prescribed antibiotics. The antibiotic of choice is oxytetracycline. This will impact on withholding periods and Export Slaughter Intervals (ESIs) for lambs close to being sold, so discuss this with your vet first.

Unfortunately there is no vaccine available to treat this disease. Also, advice on prevention is difficult as the exact mechanism and transmission is not well understood. Some producers report a reduction in cases following movement off troughed water to dams and away from lick feeders.

In summary, Chlamydia can lead to significant disease in lambs primarily expressing as lameness and conjunctivitis, as well as weight loss. Treatment is available; however prevention options are limited due to insufficient knowledge on methods of spread.

Prevention of pregnancy toxemia by District Veterinarian Emily Stearman

Pregnancy toxemia is a metabolic disease of sheep in late gestation and early lactation. It arises when the late gestation metabolic energy requirement cannot be met, typically in ewes carrying twins. However, a reducing plane of nutrition or sudden dietary restriction can predispose any pregnant ewe to this condition.

Classic signs of disease include dullness, anorexia, nervous signs, recumbency, coma and then death. Initially signs may be as subtle as isolation from the mob but regularly progress over a 3-7 day period.

Typically two conditions exist, an undernutrition syndrome and a stress syndrome. Undernutrition occurs when feed availability is inadequate to maintain the late gestation energy requirement; the stress syndrome is more acute occurring when ewes are held off feed for various reasons. Understanding the factors which predispose to pregnancy toxemia is critical to prevention.

Predisposing factors: (a combination of these factors typically occurs)

- overcrowding causing feed restrictions
- weather – restricting feed availability or restricts intake but increases energy requirement
- falling plane of nutrition in last two months of pregnancy
- sudden feed restriction – yarding for shearing or crutching in late gestation
- general diseases restricting feed intake – footrot, foot abscess, internal parasitism, pink eye, hypocalcaemia and dental abnormality
- older ewes are more at risk ewes less than two tooth’s
- ewes with twins or triplets greater risk than single foetus

Prevention & Planning:

Like most metabolic disease prevention is better than treatment. Provision of adequate nutrition at crucial metabolic times is paramount. It is important to plan for the year ahead.

- develop feeding programs that provide a gradual increase in energy intake – supporting fetal development without reducing body reserves
- weigh ewes pre-joining and mid-pregnancy - during pregnancy a ewe on average will increase bodyweights by 4kgs for a single fetus and 7.5kgs for twins
- detecting twin pregnancies by ultrasound scanning - enables more efficient stocking rates and utilisation of feed availability
- early disposal of lambs and dry ewes - paramount for provision of feed stores and availability of supplementary feed stores
- considerations to fertilizer regimes – maximizing grass availability
• in rotation situations: lighter ewes should be selected and managed separately; generally, rotation time should be increased to maintain feed availability
• avoid mustering and holding off feed for prolonged periods especially pre-lambing crutching or shearing

Hypocalcaemia (milk fever) by District Veterinarian Matt O’Dwyer

Milk fever in sheep occurs when blood calcium levels fall below a normal level. This occurs when there is insufficient intake and absorption of calcium from the diet. Milk fever often occurs in the last weeks of pregnancy or during the first weeks after lambing. It is very common in older pregnant ewes that have had multiple pregnancies.

Weaners and dry sheep, along with pregnant ewes, are also susceptible to hypocalcaemia especially when fed cereal based feeds such as wheat and oats. Furthermore milk fever is often confused with pregnancy toxaemia, however, they are two different diseases that require similar treatments and changes in management.

Milk fever can occur when there are sudden changes in feed type or changes in paddock feeds and periods of starvation. It also occurs when the calcium to phosphorus ratio drops below the recommended ratio of 2:1. This occurs when cereal grains are added to the diet. Cereal grains are high in phosphorus and low in calcium.

Oxalate containing plants are also a cause of precipitating milk fever (hypocalcaemia). Other contributing factors are stressful events such as quick mustering and droving for long periods and holding in yards for crutching and shearing.

Initial signs include a staggery gait with muscle twitching/tremors and the affected sheep will initially move away from you when approached. The sheep often go down very quickly into a sitting frog leg position and can be found with their head turned into the flank. The rumen can bloat because it stops contracting and salivation and regurgitation can occur. Untreated animals go into a deep coma after twenty four hours and death occurs within 24-36 hours.

Diagnosis is made from flock history of a sudden feed change, late pregnancy or early lactation, characteristic signs and from a rapid response to the treatment. Blood testing can be carried out to determine the levels of calcium.

Treatment: Affected sheep will respond very rapidly to calcium injections. The treated animals often get up and walk away within minutes, especially if the calcium is given into the vein by the vet, and this rapid response is diagnostic for milk fever.

It is recommended to use a 4 in 1 metabolic solution which contains calcium, magnesium, phosphorus and glucose. Some of the common brands on the market are ‘MINBAL 4 in 1’ and ‘FLOWPAK PLUS 4 in 1’ and these can be purchased from rural supply stores. In sheep it is recommended that doses between, 60mLs for 50kg small breed adult sheep, and up to 150mLs for 100 kg large breed adult sheep, be given under the skin (subcutaneously).

Affected sheep may require repeated doses, every 6-8 hours, dependent on their metabolic state at the time. Sites for subcutaneous injection include over the ribs, along the side of the neck or under the bare skin of the inner thigh. Multiple injection sites may be used for larger volumes and the area should be massaged following injection to allow for quicker absorption of the solution. Treatment must be given early.
**Prevention:** includes avoiding physical stress on sheep in the last month of pregnancy or when new born lambs are at foot.

Keep bags of calcium solutions on hand ready for use. In sheep supplementation of calcium can be given to pregnant ewes in the last few weeks of pregnancy and during early lactation. Supplementation can also be given to weaner lambs. A ratio of 1:1:1 should be used for Lime, salt and causmag mixes prepared on farm. Calcium and molasses blocks are also available, however individual dominant sheep consume more than others.

**Grain Poisoning**

**by District Veterinarian Rahul Shankar**

Grain poisoning/acidosis/overload occurs when sheep or cattle consume large amounts of grain. The grain releases carbohydrates into the affected animal’s rumen, causing the contents to rapidly ferment rather than being digested normally.

Bacteria in the rumen produce lactic acid, resulting in acidosis, slowing of the gut, dehydration and ultimately death.

Wheat and barley are common causes of the problem, but lupins and oats can equally also cause issues.

Cracking or crushing of grain can increase the likelihood of grain poisoning occurring because carbohydrates are able to be released quicker.

**Common causes:** sudden change in diet, stock being suddenly grain fed (rather than being gradually introduced), and stock grazing newly harvested paddocks with grain spills or unstrapped areas.

**Clinical signs:** diarrhea (scours), staggers gait, severe lameness, lying down, inappetence, dehydration, and death.

**Treatment:** Seek veterinary advice if you are concerned that grain poisoning might be affecting your enterprise. Below are a few recommended treatment options:

Removal of grain from the ration for affected animals, addition of hay to the diet. Lot fed animals can be changed to a diet consisting of 20-25% lower grain levels for 2-3 days to see if improvement occurs.

The use of sodium bicarbonate may prove of some benefit, but it should also be noted that if the pH of the rumen is less than 5.5, introduction of bicarbonates generates a rapid release of carbon dioxide, leading to the occurrence of bloat.

Common sequelae to grain acidosis is the formation of liver abscesses and secondary infections occurring. Antibiotics may be warranted in such cases, but should be used and prescribed in accordance with a registered veterinarian.

Following grain overload, the rumen lining may take up to 6 weeks to repair, so affected animals may show poor growth rates during this time.

**Prevention:** includes gradual introduction of grain/pellets via trail feeding. During the introductory phase feed grain daily. Introduce oats in sheep at a rate of 50g/head/day, increasing 50g/head/day daily till the required ration is reached. Oats to cattle can be introduced at 500g/head/day, increasing every 4th day by 500g/head/day until the required ration is achieved.

Ensure a good quality source of hay or silage is present, making up 20% of the ration. To transition to wheat or barley from oats, increase the wheat or barley portion by 25% of the oat ration every five days over 16 days.

Check pulpy kidney vaccinations are up to date and vaccinate prior to introduction of grain feeding. Specific antibiotic preparations that reduce the number of acid producing bacteria are available, but only under veterinary prescription.

Monitor stock for any of the above mentioned clinical signs, and contact your Local Land Services District Veterinarian if you have any concerns.
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