RIVERINA ANIMAL HEALTH UPDATE

May
WORM UPDATE

District Veterinarian Evie Duggan

Following the dry conditions over summer, worm burdens in the Riverina have been low (with exceptions in stock that have been on lucerne or irrigated pasture). In Young the dominant species in larval cultures has been Haemonchus contortus (barbers pole worm) and in Wagga Trichostrongylus spp (black scour worm).

Currently the focus is on management of pregnant and lambing ewes. During late gestation and lactation, ewes have a lapse in their immunity, and become more susceptible to the effects of a worm burden. They are unable to suppress the worm egg output – this is referred to as the peri-parturient rise in worm egg count. It is this lapse in immunity which makes a pre-lambing drench and pasture management so important.

If there is a worm burden present in ewes during lactation it not only has negative effects on the ewe, but also directly affects the productivity of the lambs - with decreased milk produced by ewes and a higher burden of infective worm larvae on the pasture. Lambs (<12 months of age) have not yet developed immunity to worms, meaning that they are much more susceptible to worm burdens and worms are able to produce more eggs. Ingestion of low doses of infective worm larvae has been shown to cause a 50% reduction in weight gain and decrease wool growth by up to 30% in 12 month merinos and 18% in 2nd X lambs.

In what will hopefully be an Autumn with decent rainfall, the worm burdens will increase to peak in Winter. This is associated with scouring, reduced body weights and up to 30% mortalities in cases of outbreaks of clinical parasitism.

Monitoring worm burdens in flocks, particularly those that are most at risk, is an easy method to allow you to actively manage and treat burdens. A WormTest kit can be picked up from your local LLS Office.

Monthly updates for Young, Wagga, Narrandera & Gundagai are published on the ParaBoss website.

ENTEROTOXEMIA AND THE RISK OF GREEN FLUSHES

District Veterinarian Katelyn Braine

Enterotoxemia (commonly known as Pulpy Kidney) is caused by the bacterium Clostridiumperfringens type D. This bacterium is present in the normal gastrointestinal tract of ruminants but only to a small degree. The disease occurs when there is an increase in the number of bacteria in the intestine where it produces a toxin that is absorbed into the body causing diarrhea, depression,convulsions and sudden death. Enterotoxemia can affect all ruminants, but it is predominantly seen in sheep, and younger animals are more commonly affected compared to older animals.

In most outbreaks of Enterotoxemia, the affected animals are being fed highly nutritious diets and are in good condition. Grazing lush, rapidly growing pastures or young cereal crops, and being fed heavy grains diets have been associated with cases of Enterotoxemia. In these cases, the ruminal flora has not had time to adapt to the change in diet and partially digested food may spill over into the intestine where the high levels of starch and protein found in the diet result in the proliferation of the bacteria.

Treatment of Enterotoxemia is generally unsuccessful due to the rapid course of the disease and the damaged caused by the toxin. Prevention is designed around the use of vaccination and management of predisposing causes. Vaccines against C. perfringens type D can be found in your regular clostridial vaccines (5 in 1 or 7 in 1 vaccines). The initial vaccination course includes two vaccinations 4 weeks apart. Booster doses may be necessary every 12 months in sheep and as short as every 90 days in cattle, depending on the risk. Booster vaccinations should be given just prior to the expected flush of feed, prior to the use of concentrated feeds, or prior to other risk factors.
CASE STUDY: WHEN HAY STRIKES
District Veterinarian Sophie Hemley

Case history
Twenty head of mixed aged Angus cattle were found dead overnight. The majority of the cattle were found along the fence line or next to the hay feeders. Some of the carcases were significantly bloated, whilst others had obvious signs of struggling (paddling marks) prior to death. Most of the carcases had blood from the nose, eyes and anus. The cattle had been moved into a new paddock four days prior and last fed three days ago with sorghum hay. Due to a significant rain event the cattle had missed a normal feed by one day and were waiting at the gate when the producer went to feed them the day preceding the deaths. There was some green pick in the paddock, however this was only starting to come away and not currently considered cattle feed.

Post mortem findings
Both carcases that were post mortemed had:
• Poorly clotted, dark blood but were negative for Anthrax on a carcase side test
• Haemorrhages within the trachea (wind pipe) and myocardium (heart muscle)
• Significant volumes of dry sorghum hay in the rumen
• Marked lung congestion which was pneumonia likely associated with the summer dust storms.

Laboratory findings
1. Anthrax negative
2. Nitrite positive from aqueous humour (the front juicy part of the eye)
3. Nitrate positive of 2500 ppm in the hay
4. Strongly positive for cyanide in the hay

So what happened to the cattle?
The cattle unfortunately died from cyanide (prussic acid) poisoning from the sorghum hay. Sorghum can contain high levels of both cyanide and nitrates and should be routinely tested prior to feeding to stock. Interestingly plants are more likely to accumulate cyanide if they are stressed – this includes when they are wilted, crushed, in drought or damaged from insects for example. Nitrate levels in plants rise during drought and following drought-breaking rain, in cloudy and cold weather and following any damage from herbicides or insects and fungi. Producers should also be aware that the levels of nitrate and cyanide can differ across the same paddock.

Cyanide prevents the release of oxygen from the red blood cells, thereby stock affected will show signs of respiratory distress (head outstretched, laboured breathing) prior to dying within 5-15 minutes. Affected stock will have bright red gums.

Nitrates turn into nitrites during digestion, and nitrites inhibit the oxygen carrying capacity of the red blood cells. Livestock affected by nitrites will also present with respiratory distress but their gums will normally be blue-grey or brown. Death normally ensues within 6-12 hours of ingesting toxic levels of plants/hay containing nitrates.

Producers can safeguard their animals when feeding sorghum by:
• Testing crops, hay, and silage prior to feeding.
• Remembering to test from multiple sections of the paddock, or multiple bales.
• Do not graze hungry stock
• Watch stock closely for the first day when introducing them to the sorghum
• Supplement stock with sulphur-containing licks/blocks
• Ensiling crops that have high cyanide can reduce the risk by up to 50%, but ensure you feed test the silage prior to feeding

If you have questions about feeding sorghum or other rations please call your local District Veterinarian.
WATER REQUIREMENTS FOR SHEEP AND CATTLE

District Veterinarian Courtney Simkin

Water quality is one of the main drivers of amount of water consumed. Poor water quality can lead to decreased intake especially in young stock. This will have a significant impact on stock production, feed efficiency and the welfare of your stock.

Water quality is affected by four main factors: salinity, acidity or alkalinity (pH), toxic elements and compounds, and algae growth or bloom. All of these can be analysed with water test kits available at your Local Land Services Office.

Once you have assessed your water quality the next step is to calculate the projected water intake of your stock. In hot weather animals use greater amounts of water to cool themselves through evaporative cooling (sweating and panting), thereby increasing their water demand. Sheep are particularly affected by the heat when freshly shorn. A freshly shorn sheep on a hot day can have an increase of water requirements by almost 80%. Generally when comparing stock between summer and winter water consumption will be 40% greater in summer; although this increases by 50-80% with high salinity water (or high salt diet as seen in saltbush).

An animal's diet will affect water intake. High roughage, high salt (supplements or saltbush) will increase water requirements. Lush feed can supply sheep with all their water requirement and they can go without drinking water for weeks.

Finally animals' production status will affect water requirements. Lactating stock have a much higher demand for water than young or dry stock.

The below tables give a rough estimate of stock water requirements:

<table>
<thead>
<tr>
<th>STOCK TYPE</th>
<th>DAILY WATER CONSUMPTION (PER LITRE/PER HEAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEEP</td>
<td></td>
</tr>
<tr>
<td>Weaners</td>
<td>2 - 4</td>
</tr>
<tr>
<td>Adult dry sheep</td>
<td>2 - 6 (grassland) or 4 - 12 (saltbush)</td>
</tr>
<tr>
<td>Lactating ewes</td>
<td>4 - 10</td>
</tr>
<tr>
<td>CATTLE</td>
<td></td>
</tr>
<tr>
<td>Weaners</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Adult dry (400kg)</td>
<td>35 - 80</td>
</tr>
<tr>
<td>Lactating cows</td>
<td>40 - 100 (grassland) or 70 - 140 (saltbush)</td>
</tr>
<tr>
<td>HORSES</td>
<td></td>
</tr>
<tr>
<td>Adult</td>
<td>40 - 50</td>
</tr>
</tbody>
</table>
Unlike feeding, water must be supplied fresh daily or multiple times a day depending on your system. Thirsty stock will trample each other trying to get to water, especially if supply has been disrupted. You must consider your capabilities to maintain daily watering of stock for long periods before considering trucking in water to your property. Water trucks can hold anywhere from 5,000L to 30,000L depending on the size of the truck. Destocking or agistment must be considered as other viable options. There are some calculations below of different stock water requirements. You must consider potential water loss to evaporation, stock wastage and contamination as well as wildlife consumption of water in your calculations.

**CASE ONE**  
*May 2019 - mob of 1000 adult dry sheep on grassland with grain supplementation, salt/lime loose lick and fibrous hay, wool (shorn December).*

In this case water demand would increase with salt in loose lick and dry feed (no lush grass). Estimated 5 litres per head per day. The sheep would be drinking twice daily due to higher water requirement thereby reducing their feeding range to less than 2.5km radius from the watering point. This mob would require 5,000L good quality water per day. Adequate access to water must be allocated. For sheep, 30cm plus 10cm per head is recommended. The trough also has to be able to refill fast enough to keep up with the stocks' requirements.

**CASE TWO**  
*May 2019 - mob 1000 weaner lambs, on saltbush.*

The salt in the saltbush would increase water requirement. Estimated 4L/head/day. This mob would require 4,000L good quality water per day. Weaners (both sheep and cattle) can be fussier with water quality. There have been cases of weaner lambs dying of thirst due to a thin layer of dirt on the trough's water surface. Water temperature can also be an issue. Stock prefer water at or below their body temperature, they will actively avoid warm water. This can be difficult to manage with trough and other shallow water systems.

**CASE THREE**  
*May 2019 - mob 100 lactating cattle, grassland (some green), grain, salt/lime loose lick and pasture hay, bore water with 4500mg/L dissolved solids (salinity of 4500ppm).*

In this case green in the grass would reduce water requirement (water obtained from green grass), all other feeds and supplements would increase water requirement. The slightly salty water would also increase water intake. The cattle would have a feeding radius of about 5km from watering points. Estimated the cattle would require 75L/head/day This mob would require 7,500L good quality water per day. Adequate access to water must be allocated. For feedlots, it is recommended to allow for 10% of the mob to drink at a time (10 head in this case) with 300mm trough minimum for every 10 head in the yard.
Do you follow us on Facebook? Stock Chat is a series of instructional videos featuring our veterinarians. They’ll step you through the symptoms and treatment options of common animal health issues, and give you some advice along the way.

Find Riverina Local Land Services on Facebook to keep in the loop!

MEET OUR NEW TEAM MEMBER!

We welcome Katelyn Braine to our team. Katelyn is a District Vet based at our Gundagai office and is covering for Kristy while she is on maternity leave.

Katelyn grew up on a stock and cropping farm in the Southern Riverina where her parents are still farming today. As a vet, Katelyn has a background in mixed practice and large animal production.

She has worked as a private vet in Central West NSW and has also completed an animal production internship in various clinics across NSW and Victoria, where she gained experience in dairy/mixed practice, beef feedlot consultancy, swine consultancy, and research.

Outside of work Katelyn enjoys spending time with her dog, catching up with friends and family, and working on art and craft projects. Katelyn is looking forward to meeting the landholders in the area, and assisting them with any of their animal health and livestock production queries or concerns.

CONTACT YOUR CLOSEST DISTRICT VETERINARIAN

Wagga Wagga | Emily Stearman | 6923 6300 | Dione Howard | 0428 115 134
Young | Eliz Braddon & Evie Duggan | 6381 4700
Narrandera/Griffith | Sophie Hemley | 0427 696 895
Hay | Courtney Simkin | 0427 418 006
Gundagai | Katelyn Braine | 0428 262 112