Animal Health Update

Urea Toxicity in ewes with winter lambs at foot
by District Veterinarian Tim Biffin

In the previous month a producer in the Gundagai region suffered significant losses in a mob of ewes with winter lambs at foot.

On the previous afternoon the mob had been mustered into a yard surrounding the wool shed, machinery shed and sheep yards with the intent to commence lamb marking.

The following morning, approximately 10% of the ewes were found dead with grossly distended abdomens and frothy rumen content discharging from the nostrils. None of the other ewes or lambs were showing signs of illness while post mortem changes in three of the ewes revealed consistent findings:

- severe bloat (which had occurred after death)
- no urea pellets within the gut
- acute liver injury

Various samples were taken which identified extremely high levels of ammonia and urea within the body tissues establishing the definitive diagnosis of urea poisoning.

Within the rumen, pelleted urea is rapidly metabolized to ammonia by gut microorganisms. High levels of ammonia within the blood stream result in rapid liver and brain injury, followed by sudden death.

Rapid post mortem bloating is also a common outcome, as the gut microorganisms continue to actively break down excess urea.

After discussing pathological findings with this producer, it was identified that a small fenced area had been breached, within which there was an old store of grains and pelleted urea.

This case serves as a timely reminder to many producers currently performing sheep work throughout the Riverina:

I encourage you to consider what you have lying around on your farm. Old piles of arsenic dip, lead based paint, batteries, organophosphates or other farm chemicals should be disposed of via legal avenues while other farm chemicals need to be contained.

Don't just assume your wire barrier is any more "stock proof" than anyone else's!

Images 1 and 2: Slight swelling and inconsistent pale discolouration of the liver indicating acute injury as a result of high ammonia levels.
Are your livestock ready for this fire season?
by Regional Veterinarian Eliz Braddon

This season is shaping up to be another high risk one for bush and grass fires in our region. In the eastern part of our local land service area, we are already experiencing high fire danger ratings and instances of grassfires.

As yet we have not had any reports of stock losses but these early fires should serve as a timely reminder to plan ahead for livestock should a fire threaten your property.

The first step to preparing your property and livestock paddocks is to create effective fire breaks. Spring time mowing, grazing, brush cutting or ploughing around buildings, crops, pastures and key fence lines will greatly assist in fighting fires in summer.

Firebreaks should also, where practical, be designed to avoid trees or to provide an additional break around the trees themselves. Creating effective firebreaks assists in not only reducing the likelihood of fires entering your property but also works as a means to prevent fire escaping from your property and causing further damage to the neighborhood.

Personal safety is the first priority in all situations.

When planning, determine the most appropriate or low risk areas to move stock on to give them the greatest chance of survival. Local knowledge of the terrain, the most likely direction of fire threat, accessibility, prevailing wind direction and the location in relation to timbered areas should be considered.

This could include, but would not be limited to:

- **Bared out paddocks** – paddocks that have been heavily grazed during spring or early summer.
- **Irrigated paddocks or green summer crops** – they won't burn as readily as dry feed.
- **Yards** – a low risk option but do consider if any nearby trees pose a threat.

Once low risk areas have been selected ensure the area remains prepared and available.

The behaviour of livestock is something that must be considered in terms of priority movement. District Veterinarian, Eliz Braddon says that from her experience she would be least concerned about cattle as they tend to find their own way from fire.

As would be expected sheep, particularly young sheep, can be difficult to move and prefer to stay in the mob situation. If the potential for fire exists they should be moved first and early. During the Cobbler Road fire one producer noticed sheep in hilly paddocks with a clear stock camp did fare reasonably well.

Working dogs should also be catered for by ensuring grass is mown adjacent to kennels.

As soon as you become aware of a fire in your area (eg. Watch and act) put your bushfire plan into action. The NSW RFS mobile app *Fires Near Me NSW* is a great reference to keep up to date.

Tony Armour, a sheep producer who was severely affected by the Cobbler Road bushfire at Bookham in 2013, believes livestock and infrastructure insurance is a priority.

"You only have to be burnt once in a couple of hundred years for the cost of insurance to be covered," he said.

For further information about protecting your livestock from bushfire contact your nearest Riverina Local Land Services office.

*Image 3: Affected stock running on a fire ground.*
REMINDER: Protect against fly strike and grass seeds
by District Veterinarian Rahul Shankar

Warm and moist conditions favour both activity of blowflies and the development of predisposing conditions in sheep. The most important determinants of breech strike risk are breech wrinkle and dag (in high rainfall areas).

Other factors that can increase the risk of breech strike including breech cover, yellow wool and urine stain. To reduce the effects flies can have on your enterprise, implementing chemical prevention in addition to dag management (crutching, improved scour worm control, gradual introduction to high quality feed) combined with regular monitoring, can make fly seasons manageable.


Grass seeds – 25 grass seeds can result in a 50% reduction in daily weight gains. In addition abattoirs can take up to $1/kg as a penalty for grass seed affected sites.

Prevent grass seeds from affecting your stock by strategically grazing, early weaning onto prepared pastures, shearing lambs before seed set and via chemical control methods on pastures (consult your local agronomist for best practice advice).

Infectious abortion and infertility in cattle
by District Veterinarian Gabe Morrice

Both pestivirus and vibriosis (campylobacteriosis) cause abortion in cattle and make it into the MLA Priority list of endemic diseases for the red meat industries. Leptospirosis also causes abortion and birth of weak/ dummy calves. Although not on the MLA’s priority list, it can cause serious impacts on individual properties and can infect humans and other mammals.

The inclusion of vibriosis and pestivirus in the MLA priority list highlights the extent and economic impact of these diseases.

**Vibriosis** only affects cattle. It is spread at mating. There will be no outward signs of vibrio in most cases. The first thing noted by most farmers is a drop off in calving percentage or a late calving compared to joining period. The disease can be carried by the bull or infected cows and a carrier state exists in both cows and bulls. Once established, it is more common to see the effects of vibriosis in heifers. The disease can be brought into closed herds in bulls (including strays) or potentially through carrier cows.

If you have low calving or pregnancy testing percentages, it is worth having a sample of cattle tested for these diseases.

All three diseases can be controlled with vaccination. For vibriosis and pestivirus, most farmers get their disease status checked first to determine whether or not vaccination is warranted. In the case of leptospirosis ("lepto"), regular vaccination is recommended in conjunction with clostridial vaccination in breeding cattle (7-in-1). Buying vaccinated bulls is also strongly recommended.

**Pestivirus** and its control has been highlighted previously in our newsletter, for more information on pestivirus or other diseases, please contact your veterinary adviser.

Good season associated with Pulpy Kidney
by District Veterinarian Matt O’Dwyer

From Hillston, Gunbar, Hay, Booligal and Carrathool the farmers I speak with all state that it is the best season in over ten years. One farmer said the best season in 15 years.
Many are phoning me about regulations associated with bringing extra stock into the Regional Biosecurity Area (RBA – see LLS website for the map) from other areas and states - this is because of the abundant feed associated with the good season.

Cattle and sheep that were in poor body condition at the beginning of winter are now fat. Crops are looking good; however the heat might not finish them off as good as people would have liked. Most people out my way are very happy with the season thus far.

With the good season there have been moderate pulpy kidney outbreaks in places that never usually see it. It has occurred in healthy lambs and ewes in good condition. Usually they are found dead with greenish froth at the nostrils; however many have also been found with a bloody discharge (Image 4 and 5).

Deaths have occurred because of the lush feed. In my area it has been associated in particular with the Burr Medic legume (often called Trefoil). I have also had high worm egg counts in areas that never usually get any serious worms burdens.

Both have been associated with the amount of feed and moisture that fell during this season. I am still recommending faecal egg counts especially coming into summer. I am also recommending people revisit standard clostridial vaccination protocols to prevent the clostridials associated with multiple diseases, especially pulpy kidney.

Pulpy kidney can be prevented by maintaining a sheep/cattle vaccination program and you can include an extra vaccination during periods of high risk – in both cattle and sheep.

Vaccines for pulpy kidney come in multiple combinations:

- with tetanus and cheesy gland (CLA) vaccine (3-in-1 vaccine)
- with other clostridial vaccines, such as that for tetanus, blackleg, black disease and malignant oedema (6-in-1 vaccine and Tasvax 8-in-1)
- with selenium and vitamin B12 (or both)
- with moxidectin (in an injectable form) to treat worms ie weaner or ewe guard.

Some of the deaths I have investigated were in older ewes never previously vaccinated or in those that had only received a single vaccination at marking years earlier. These older sheep should receive two vaccinations four to six weeks apart. This will help achieve a greater-level of protection and save you the financial costs associated with stock loss and ewe replacement.

To maintain a high level of protection each year, booster doses are needed and are highly recommended. The general rule for young lambs is for two vaccinations four to six weeks apart followed by this annual booster.

When the annual booster injection is given to ewes in late pregnancy, the newborn lambs then receive temporary protection via the colostrum/milk. This temporary protection from the colostrum lasts for about six weeks until the initial vaccination at marking; the second vaccination is carried out 4 - 6 weeks later. Therefore, lambing ewes need a booster dose every year 2-6 weeks before lambing.

Booster doses can also be used in special occurrences such as when sheep have been purchased from drought areas and are being placed onto lush pastures, damaged grain crops or into feedlots etc.

![Image 4: Bloody discharge from the nostrils](Image 4)

![Image 5: Green froth at the nostrils](Image 5)
Pig vaccinations and environmental management
by District Veterinarian Rahul Shankar

Small to medium size landholder piggeries along with ‘back-yard’ piggeries are now becoming common place throughout the NSW countryside. Many of these producers have either run livestock only in the past, or have had a ‘go’ with pigs in the past, but are not up to speed with the basics of pig health and husbandry.

As in other animal species, vaccinations are a low-cost insurance against known diseases. The major diseases that cause infectious reproductive failures are: Erysipelas, Leptospirosis and Porcine Parvovirus. Erysipelas or ‘Diamond skin disease’ causes diamond shaped skin lesions on affected animals and may cause sows to abort. Leptospirosis typically causes late-term abortions and occasionally causes still births.

Both Leptospirosis and Erysipelas are ZOONOTIC (i.e. animal to human transmission of the disease is possible).

Porcine Parvovirus affects unborn piglets and typically manifests itself in the form of mummified piglets.

The vaccination program starts with an injection soon after gilt selection. Full protection comes only two weeks after a booster shot. Combination vaccines (3 in 1) are readily available.

E.coli is another disease that can be vaccinated against. Diarrhea which results in dehydration and ultimately death from this disease can occur a few days after birth, through well after weaning. With E. coli vaccinations, the aim is to produce maximum antibodies in the gilt’s colostrum at her first farrowing. The booster for E. coli must be given 3-4 weeks before farrowing. The primary injection can be given at selection, or as late as 4 weeks before the booster shot.

Routine vaccination against erysipelas, leptospirosis, parvovirus and E. coli should be considered when introducing young gilts to the herd.

Environmental management and hygiene are critical to any pig herd. Facilities should be kept as clean as possible (no overflow from sewage lines, regular cleaning of pens etc.) and rodent control measures should be implemented.

Water availability, light, ambient temperatures, insulation and faulty floor surfaces are other considerations. The first requirement of good management is to prevent the build up of infection through the cleaning and disinfection of buildings, maintaining low stocking densities and good environments. Reducing stress through the effects of fluctuating temperatures and the influences of humidity and ventilation on organisms in the air is the second part. The third part is the provision of good nutrition and in particular, adequate levels of energy, protein and lysine.

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*Figure 1: Example of a vaccination schedule for gilts and sows*

Emergency Animal Disease (EAD) Quiz
by District Veterinarian Tim Biffin

As a mixed farming system you are running a mob of approximately 50 cows which you use strategically to rotationally graze pasture and stubbles with several sheep mobs. These cows
have been on farm for approximately three years now, each year yielding ~90% calving rate (via artificial insemination). At approximately 5 months post insemination you start noticing cows aborting and after one week almost 30 cows have slipped their calves. You do the correct thing and call for veterinary advice as soon as you start noticing the abortions occur.

Image 6: A five month old aborted calf with the placenta removed

Which possible condition is the district vet most concerned about?

a) Vibrosis
b) Toxoplasmosis
c) Leptospirosis
d) Trichomoniasis
e) Brucellosis

The correct answer is e) Brucellosis.

Although (a) – (d) are all potential diseases of cattle, and (a), (c), and (d) are well known causes of abortion in cattle, the sheer number of late term abortions in this case flags definite concern for bovine brucellosis.

*Brucella* is a genus of bacteria with many species. As many producers may recall, Australia was declared free from *Brucella abortus* (also known as bovine brucellosis) in 1989 after an extensive eradication program (in conjunction with bovine tuberculosis). Our greatest risk for re-entry of this disease is via inappropriately prepared imported semen or inappropriately imported (infected) cattle. This disease presents a serious human health, animal health and economic impact, thus it is one best kept on the exotics list!

One of the difficulties facing Australia in a Brucellosis outbreak is how fast will we recognise the disease. This means that everyone from the paddock (producers, agents, abattoir workers) to the top of government (private vets, district vets, veterinary laboratories, State and Federal veterinary officers) have to be aware of their role in that diagnosis. For those of us at the ground level, we need to be able to recognise the signs as unusual and then seek the appropriate help.

As a producer, what would you do if these were your cattle?

Your answer should be to call a vet. This could be your local private vet or your local district vet. These are the people equipped to get a speedy diagnosis and also assist in containing the disease. You could also call the Exotic Disease Hotline 1800 675 888.

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District Veterinarians

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