March 2015

Animal Health Update

National Livestock Identification System (NLIS)
by District Veterinarian Tim Biffin

What’s the fuss about NLIS?
There is a myriad of reasons why the NLIS is an important national livestock tool; however, I believe the most appreciable is market access. Without the NLIS the current Australian meat industry would not exist. Life-time traceability is absolutely required for many of Australia’s current trade agreements.

Other reasons for its existence include: disease response, chemical contamination control, national reputation, international arrangements and standards, market demand and property management.

How can I use the system for my property management?
Individual visual management tags can be issued with each cattle NLIS device, upon request (fees apply).
Abattoir monitoring directly utilizes NLIS for reporting. These reports can be reviewed by producers so they may identify why a mob has been discounted at the abattoir. Producers can then seek veterinary advice from either their private veterinarian or a Local Land Services District Veterinarian to develop strategies that may improve future production.

Contact Local Land Services staff if you are having difficulty finding abattoir monitoring reports.

I have concerns with NLIS devices falling out before the animals get to their destination. Is there anything I can do to fix this?
Tagging animals with NLIS devices just prior to shipment can result in tag losses. For this reason it is generally recommended to tag calves at processing or weaning. Correct technique at this time is also important for their security.

Checking all animals have NLIS devices in place immediately prior to shipment is a producer’s responsibility. Often animals are missed if this is done on a visual basis or days/weeks/months prior to movement. For this reason, I recommend scanning cattle as they are loaded onto the truck. If you only have a small mob and don’t have a RFID scanner, taking photos of each device in situ is an alternative aid.

If you still have concerns then they should be addressed with a Local Land Services Biosecurity Officer or District Veterinarian.

What do I do if I don’t have the facilities or means to place NLIS devices prior to the cattle leaving my property?
On a case by case basis a district veterinarian or biosecurity officer can issue a permit for movement – for this very situation. Acquiring this permit is a free service and a simple task for producers – contact your Local Land Services office with the relevant animal and movement details. It is not acceptable to just specify the untagged animals on an NVD and move them without a valid permit. In fact, this is a serious offence as the vendor is viewed to have deliberately made the breach.

Chronic copper poisoning
by District Veterinarian Amy Shergold

This summer saw above average rainfall in many parts of our region. As a consequence, summer weeds have
thrive and graziers should be aware of the risks of chronic copper poisoning in sheep and cattle. The condition is often seen in older stock that have had the opportunity to graze toxic plants over many months, and successive seasons.

Chronic copper poisoning is a condition in which excessive copper accumulates in the liver. It can occur following ingestion of plants containing toxic compounds called ‘Pyrrolizidine Alkaloids’, including Heliotrope and Patterson’s curse. It can also result from grazing pastures that are low in the trace elements molybdenum and sulphur, as this mineral imbalance favours copper retention. Often cases involve a combination of these two risk factors.

For example, in a case last year, older ewes started dying after they were moved onto a clover dominant pasture. While they no longer had access to suspect weeds, they had a long history of grazing Patterson’s curse and subsequent underlying liver damage. The clover pasture was low in molybdenum and this was the catalyst for the deaths. Treatment with a molybdenum drench resolved the problem.

Signs of chronic copper poisoning are severe jaundice with yellowing of the eyes and gums, which may progress to death in affected livestock. On post-mortem, the kidneys are often dark and they can be sent to a laboratory to measure copper levels.

If you have any concerns about chronic copper poisoning, or are interested in the prophylactic use of a molybdenum drench, contact your local district veterinarian.

Joining ewes on Lucerne by District Veterinarian Amy Shergold

There are a few schools of thought about joining ewes on lucerne, many of which raise concerns about ewe fertility.

One theory suggests that high protein levels in lucerne increase blood urea, which leads to impaired fertility. High protein intake has been shown to have a detrimental effect on embryo development in sheep and cattle, but it is not clear that this would occur for females grazing lucerne. Recent unpublished trials funded by MLA and conducted at Charles Sturt University (CSU) failed to show a relationship between blood urea and foetal numbers for ewes eating lucerne.

Another idea is that lucerne contains a phyto-oestrogen, similar to the hormone oestrogen, which reduces ovulation rates. This is not commonly reported on lucerne. It becomes more of a risk if lucerne is infected with fungus or aphids as this increases phyto-oestrogen levels, so that if the infection is heavy, grazing during joining is best avoided.

The third hypothesis is that joining ewes on lucerne facilitates maximum feed intake, which causes a decrease in the hormone progesterone. This is supported by trial work done in the late 80s and early 90s, which shows days 11-12 after conception are the most critical for the adverse effects of low progesterone. This may explain farmer reports of poor results when joining ewes on lucerne in wet summers when pastures are lush (pers comms Graham, P).

Recent unpublished trials done at CSU (pers comms Robertson, S) have shown different results. Merino ewes were joined in March and were put on lucerne from 7 days before until the end of joining. Another group of similar ewes were taken off lucerne 7 days after the ram was put in, while a third group only grazed dead pasture. Grazing on lucerne produced 115% lambs marked per ewe compared with 96% if ewes grazed only dead pasture. This trial showed that staying on lucerne throughout joining did not reduce the number of lambs born. Taking ewes off lucerne at day 7 of joining was deemed most efficient as the pasture could be used for other purposes.

CSU trials were also done with artificially bred sheep. Ewes in this study were eating large quantities of lucerne for 17 days after insemination and had half the number of multiples when compared with ewes eating maintenance levels. It is unclear why this result was seen in artificially inseminated ewes and not naturally bred ewes.

The bottom line is that flushing naturally joined ewes on lucerne pasture can increase the number of lambs born. Recent trial work done by CSU demonstrated no problems with grazing ewes on large quantities of lucerne throughout the joining period in naturally bred
sheep, but flagged a concern about above maintenance feeding in artificially bred sheep.

**Brucellosis in rams**

**by District Veterinarian Matt O’Dwyer**

*Brucella ovis* (OB) is the Brucella bacteria that affect sheep. It is an important cause of infectious sub fertility in rams that causes a serious economic impact to sheep producers Australia wide when left unchecked.

*Brucella ovis* is found in the sperm of infected rams, after birth membranes and fluids and in the mammary glands of infected ewes.

The bacteria can enter the body through any mucous membrane. The bacterium has been shown to enter through the mucosa of the eye, penis, prepuce, vagina, rectum and nasal linings. Therefore infection can be spread in many different ways, ram to ram directly or via the ewe. Brucella ovis then localises in the epididymides or sperm tubes found in and around the testicles of the ram.

*Brucella ovis* infection results in epididymitis or inflammation of the tubes that carry and store sperm from the testes. The main sites of inflammation are the head, body and tail of the epididymides or sperm tubes. Lesions or lumps often develop in the tail of the epididymis and less commonly in the body and head. The lesions may persist as a hard granuloma or as an abscess (see picture below). The result is often associated with chronic blockages of the sperm tubules. Depending on the severity of the infection the inflammatory response can result in poor quality sperm, reduced sperm or even no sperm and therefore reduced conception rates and longer lambing periods are common. Furthermore ram wastage becomes high with poor performing rams dispersed to sale yards and this can cause further spread of disease.

The non-pregnant ewe becomes infected via mating and the bacteria can localise in the vagina. The ewe has been shown experimentally to carry the bacteria for many months in the vagina. However in most cases the infection resolves by the time of the next oestrous (17 day cycle). Pregnant ewes harbour the bacteria in the placenta leading to inflammation and possible abortion. The stage of gestation and the severity of infection determine if abortion occurs or if the birth of small weak lambs occurs. The role of ewes in the spread of infection is not as important as the role of rams in the spread of infection. However ewes in flocks with a high percentage of infected rams only have a transient infection that is not carried from one breeding season to the next. Clinical data has shown that Brucella-free replacement rams have not become infected from ewe flocks that were exposed to *Brucella ovis* infected rams in the previous year. Weaning ram lambs early is also important as they have been infected experimentally as young as eight weeks.

**Diagnosis**

As a minimum rams should have their scrotal contents palpated (testicles and spermatic tubes palpated) before they are purchased. Obvious lumps or lesions are palpated in the testicle and around the testicle in the epididymides. Testicular size may vary from one side to the other or general irregularities may be palpated. Lumps will cause blockages of the epididymides for a period of time. The blockage is not permanent and can clear therefore the ram may feel normal although infected and shedding the bacteria.

Any abnormalities detected via palpation can be followed up with blood testing of all of the rams in the flock. Blood testing will often reveal many more
infected rams. Veterinarians recommend regular blood testing of ram flocks. The test most commonly used in many countries for accreditation and eradication schemes is the complement fixation test (CFT) because of its overall good accuracy.

**Figure 2: Anatomical locations of the spermatic cord and epididymis**

**Culling**

There are many methods of control and eradication:

1) eradication via test and slaughter
2) eradication via total replacement
3) eradication by managing a ‘two flock system’
4) eradication using a combination of methods.

The recommended method is eradication via CFT testing and slaughter if positive. The blood test is then repeated every 30 days until consecutive negative results. Please contact your Local Land Services veterinarian to arrange Brucellosis blood testing.

**Worm Activity**

**Gundagai**

Significant worm burdens have been seen in the Gundagai region over the past month. There have been light losses due to Barber’s pole worm in weaners and ewes, diagnosed on post-mortem. Worm egg counts are mostly revealing mixed burdens of scour worms and Barber’s pole worm. The highest counts averaged 1200 epg, while other tests came back with minimal numbers that did not warrant drenching. The larger burdens have mostly been in weaners, while adult sheep have had lower counts.

Keep in mind that Barber’s pole worm is still active and chose your drench carefully. There is resistance to ‘mectin’ drenches in some populations of Barber’s poleworm, including moxidectin (Cydectin). There was a case recently where sheep became infested with Barber’s pole worm after receiving a long acting moxidectin drench. This suggests potential resistance and subsequent shortening of the pay out period. Abamectin triples and Q drench, monepantel (Zolvix), naphthalophos combinations (Rametin combination and Napfix) and derquantel combination (Startect) have been performing well against barber’s pole worm locally.

**Young**

Wormtests from the young area have come back at varied counts and types. These have ranged from individual animals having counts of up to 1200 and averages of 480 being detected in some of the mobs tested. Barbers Pole Worm (BPW) has been found as incidental findings during disease investigations, but the primary burden for those that have chosen to undertake larval differentiation have been Ostertagia (Brown stomach worm) and Trichonstrongylus (Black scour worm). One producer has seen production losses from what was presumed to be BPW, with wether lambs that were anemic, with bottle jaws and a clear tail to the mob. Drenching with a suitable product appears to have quelled the situation and no further losses were reported. Interesting to note that the paddock the lambs were on, was one where no stock had been on for 2 months prior, and the stock that was previously on was only dry stock, with the worm burdens being kept in check with worm counts from a test conducted at the time. Producers have been asked to be mindful of worm burdens that may creep up with the rain that is supposedly forecast for the coming weeks. Drench rotations have been advocated for those producers undertaking their first drench of the year, with some producers opting to use Deraquantel and Closantel to ensure they maintain the longevity of their drenches in regards to resistance.

**A call for Feral Fighters**

Invasive species have no place in our landscape. The ability and responsibility to manage feral animals rests with every land manager.

The Feral Fighters program aims to reduce the impacts of invasive species on industry, communities and the
environment. During autumn Riverina Local Land Services will be targeting foxes and wild dogs.

Land managers with an interest in participating in strategic, coordinated group control programs are encouraged to participate in this initiative.

Land managers who register to become a Feral Fighter will receive free training in vertebrate pesticide usage and an aerial map of their property for planning purposes. The first 30 meat baits will be provided free of charge.

By becoming a Feral Fighter you are making a commitment to effective invasive species management.

For further information contact your local office and to register or visit www.lls.nsw.gov.au

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