When things go wrong in Mixed Farming – A case of Vetch Toxicity in Cattle

District Veterinarian Emily Stearman

We have a vast array of mixed farming enterprises across our region where plant and animal enterprises can be utilised with a mutual benefit. Alternative species such as grazing canola, clover & lucerne, high density legume mixes and vetch can be a solution to disease management in a cropping rotation; these can also be an effective stock feed. On occasion, consideration of the impact some of these species have on animal health can be overlooked unintentionally.

Vetch is a common species found in mixed pasture hay and is a good quality feed source. However, the subspecies of vetch should be considered when selecting varieties with a dual purpose. Popany vetch (Vicia benghalensis) or wooly vetch species can cause dermatitis, photosensatisation and ill thrift when grazed by cattle.

Angus cows grazing a combination of vetch and pea pasture as a cropping rotation had severe liver and kidney disease as well as skin lesions, resulting in death of over 50% of the cows that were affected. While both these plants can be utilised for grazing stock, the specific variety of vetch was a significant detriment to animal health.

We advise that you discuss plant selection in detail with your agronomist, outlining clearly the intended benefits and risks associated with utilising a plant species. If there are any concerns regarding animal health risks or you wish to discuss the grazing management of any of these alternatives, don’t hesitate to contact your local district veterinarian.
How much do you know about Anthrax?

District Veterinarian Eliz Braddon

Anthrax is a serious disease that can affect livestock and humans. Learn more about this disease by taking the following quiz.

1. Anthrax is caused by which of the following?
   a) Virus
   b) Parasite
   c) Bacterium
   d) Fungus

2. Which livestock can be affected by anthrax
   a) Cattle
   b) Sheep
   c) Pigs
   d) Humans
   e) All of the above

3. Anthrax occurs in NSW?
   a) True
   b) False

4. The first sign of anthrax on your farm is
   a) Diarrhea
   b) Respiratory disease
   c) Sudden death in animals
   d) Skin lesions

5. What step should a producer take if they find dead animals with no obvious cause?
   a) Remove carcasses so predation can’t occur
   b) Call your local District Vet or the EAD hotline to report the deaths
   c) Don’t worry unless a lot of animals have died
   d) All of the above

Supplementary Feeding Pregnant Ewes in Dry Times

District Veterinarians Kristy Stone and Sophie Hemley

Autumn is an important time for sheep producers in the Riverina, with many flocks currently in lamb or on the point of lambing. Meeting the nutritional requirements of the ewe throughout gestation and into lactation is crucially important. Supplementary feeding during the drier months to meet these demands can be beneficial for a number of reasons:

- Improved ewe survival by reducing nutritional-derived disease incidence
- Improved lamb birthweight, increasing lamb survival
- Improved colostrum quality and milk production
- Tailored management of multiple and single bearing ewes

What do we need to consider when deciding to supplementary feed?

- Pasture availability
- Ewe body condition score
- Energy demands of the ewes
- Physical limitations
- When to start feeding
- Avoiding complications

Pasture availability

Assessing pasture availability allows you to determine the amount of supplement that is required. Targets for single bearing ewes in late pregnancy is 1000kg DM/ha and 1200kg DM/ha for twin bearing ewes. During lactation this increases to 1200kg DM/ha for singles and 1800kg DM/ha for twins.
Ewe body condition score

Condition scoring is a useful monitoring tool to assess the nutritional status of ewes and adjust their feed demands accordingly. Regular condition scoring allows you to monitor any changes closely and make adjustments early to avoid big fluctuations in condition score. Condition score 3 is optimal in pregnant/lambing ewes and has positive effects on lamb survival. Avoid fluctuations in condition score throughout pregnancy (no more than +/- 0.5 score).

Energy demands of the ewe

A 50 kg ewe with singles will require metabolisable energy of 11-14.2 MJ/kg from 16-20 weeks gestation; the twin bearing equivalent will require 12.8-18MJ/Kg. Protein requirements are around 8-10% of the ration for both maintenance and gestation however increase during lactation. Ewes carrying twin or multiple lambs are more vulnerable to poor nutrition as their demand for nutrition and energy to support multiple foetuses is higher.

Grains vary in their energy and protein content. Oats have approximately 12.5 MJ/Kg energy and 10.5% protein compared to lucerne hay with energy of approx. 8.5 MJ/Kg and protein of 15-20%.

Physical limitations

A late gestation ewe may need to consume 4kgs/day of pasture feed to meet requirements but physically cannot consume this volume due to the size of the fetus and uterus. As grain is high energy and small volume it is usually critical in late pregnant ewes where volume of feed is a major factor. Similar to pasture, average quality lucerne hay is often unsuitable as the ewe needs to eat a lot to get the energy she requires but her rumen capacity is significantly reduced so grain is required also.

In lactation, where protein and energy are required, hay can be readily used as higher volumes can be ingested.

When to start feeding

- In general, approximately 4-6 weeks out from lambing
  - May be earlier depending on feed availability (don’t want them dropping body condition)
- Need to allow enough time to slowly introduce the grain while still meeting energy requirements
- Begin feeding at 50g per head per day increasing by 50-100g per head per day, allowing approximately 2-3 weeks to reach the total volume required.
  - This will allow rumen microbes to adapt to the change in diet and reduce the risk of acidosis.
- Some grains are more of a risk to producing acidosis than others. Lupins are safest, followed by oats, then barley, with wheat and triticale being the most risky.

Avoiding complications

1. Pregnancy toxaemia (twin lambing sickness, lambing sickness)

Pregnancy toxaemia is a disease typically seen in multiple bearing ewes in late gestation. Essentially the ewe and lambs glucose demands cannot be met and the ewe-lamb unit has a glucose deficiency. There are a number of factors that lead to the onset, these include:

- Falling plane of nutrition in the last two months of gestation (from day 90)
- Sudden restrictions of feed during late pregnancy – yarding, trucking
- Stressful events that reduce feed intake – storms
- Any diseases that restrict the ewe to eat – footrot, abscesses etc.
- Older ewes

Clinically ewes with pregnancy toxaemia present with: lethargy, reduced/no appetite, nervous signs, recumbency (laying down) and death.
Treatments may include intravenous glucose, fluid therapy and caesarean sections in high value animals by a veterinarian.

2. **Hypocalcaemia** (milk fever)

Hypocalcaemia (low calcium) in pregnant ewes results from insufficient intake and absorption of calcium, and insufficient resorption from bone to meet foetal demands. Mature ewes in late gestation typically present with hypocalcaemia. Economically the most important aspect of hypocalcaemia is typically the reduced survivability of lambs born to affected ewes, with some studies suggesting 22% of lambs died as compared to 3% from normal ewes.

Clinically ewes present with an unusual gait (walk), blind, lying on their sternum and may have their head reflect towards their flanks. Coma and death can occur within 24 hours.

Treatment with 4-in-1 is crucial as affected ewes are likely also low in magnesium and phosphorus. A veterinarian should perform intravenous injection as rapid high blood calcium can cause heart attacks; but producers may treat affected animals with subcutaneous injections as they are more slowly absorbed.

Prevention focuses on supplementation with lime/ causmag/ salt or a commercial lambing ewe lick or block.

3. **Acidosis** (grain poisoning)

Acidosis results when grains are fed either too quickly in onset or there is a rapid increase in the volume being fed. The grain is fermented in the rumen and produces lactic acid, which is absorbed into circulation and ultimately results in a toxic shock. Typically acidic sheep are seen dead or lethargic with colic type signs.

Prevention:

- Early and ongoing assessment of feed availability and ewe body condition so that grain feeding is started early enough
- Trail feed prior to placing on lick feeders
- Don’t open up feeders too quickly

4. **Mismothering**

Trail feeding lambing ewes can cause mismothering and lamb deaths. This can be managed by reducing the density of ewes in the lambing paddocks and feeding ewes daily in the afternoon.

**How much do you know about Anthrax? ANSWERS**

*District Veterinarian Eliz Braddon*

**Question 1.** Answer c.

Anthrax is caused by the bacterium, Bacillus anthracis. It is a bacteria that can form spores when exposed to air (eg. as a carcass is decomposing or broken open by predation). These spores can survive in the soil for more than 50 years.

**Question 2.** Answer e.

Anthrax impacts cattle and sheep primarily but has also been reported in pigs. It is rare in goats and horses; and dogs and cats appear fairly resistant to the infection. Humans can be infected with serious consequences resulting in death. Human exposures are commonly due to handling infected carcasses without taking necessary precautions.

**Question 3.** Answer a.

In Australia, there is an area known as the “Anthrax Belt”. It runs through the center of New South Wales and into Victoria. In NSW the area lies approximately between Bourke and Moree in the north to Albury and Deniliquin in the south. Although cases of Anthrax are of low frequency, they still occur, with approximately 5 cases per year in the past decade.
Question 4. Answer c.
The most common sign of Anthrax on a farm is sudden death in one or a group of animals. Often there is no or few signs of ill health before the animal/s die. Anthrax can occur in any age or class of stock with no warning. In some cases, deaths may occur sporadically at first and then significantly increase over a short time.

Question 5. Answer b.
Anthrax is a notifiable disease in NSW and so producers have a legal responsibility to report any suspicious deaths. Therefore, any cases of sudden, unexplained deaths should be reported to an LLS District Veterinarian or the Emergency Animal Disease (EAD) Hotline for investigation. Anthrax is a significant disease that is treated very seriously due to the human and animal health risks and impacts on export markets and farm productivity.

To read more about Anthrax, see the NSW DPI primefact at the link below.

Announcements

Call for participants – Jurox lamb study
Jurox, Australia’s Animal Health Company, is searching for farm sites to recruit into a lamb mulesing study in 2018.

The study will investigate the efficacy of several topical insecticide sprays for the prevention of blowfly strike on mulesing wounds.

From January to December 2018, the 6-week study will be conducted at a number of farm sites across Australia.

Requirements for farm sites to be enrolled into the study are:

- Farms that will have at least 400 unweaned lambs (all of the same breed or crossbreed) between 2 and 12 weeks of age at the time of mulesing.
- Farms with facilities appropriate for mulesing and for separating 8 groups of lambs and ewes for up to 24 hours after mulesing.
- Farms where mulesing will be conducted by farm staff or by a contractor organised by the farm owner/manager.
- Farmers that are happy for their 400 study lambs to be tagged with study ear tags and weighed by the Jurox research team just prior to mulesing.
- Farmers that are happy for mulesing to go slowly (i.e. 400 lambs mulesed over one or two days) so that the Jurox research team can apply topical sprays and record study data.
- Farmers that are willing to check lambs every day for 6 weeks after mulesing to identify, photograph and treat any lambs that are blowfly struck.
- Farmers that are prepared to complete study paperwork and are happy for Jurox staff to visit their farm multiple times during the 6-week study (follow-up visits will require yarding and handling of study lambs at 1 week and 6 weeks after mulesing).
All study medications will be provided and all study costs will be paid for by Jurox. As a token of appreciation, participating producers will receive Jurox products such as Strikeforce-S and Q-Drench for their own personal use after the completion of the study at their farm.

Producers who are interested in participating in the study in 2018 are encouraged to contact the study coordinator:

Jenna Fraser, Research Veterinarian
(02) 4931 8096 or 0418 247 722
jenna.fraser@jurox.com.au

Invitation to Participate in Gudair® vaccine research

Research conducted in the past 15 years has shown that vaccination with Gudair® substantially reduces mortalities but sheep in some flocks continue to shed Johne’s disease causing bugs in their faeces. Why is the efficacy of Gudair® different on different properties? What are the reasons for the persistence of the disease on some properties? This project funded by Meat and Livestock Australia will answer these and other similar questions.

We cordially invite you to participate in Phase 1 of this research project to answer some crucial questions about the efficacy of Gudair® vaccine.

How can you participate in this research?
You can participate in this exciting research by:
• clicking this link https://www.surveymonkey.com/r/GGZSBJD
• by calling Dr Jeff Eppleston on 0429 652 888 or emailing him at jeff.eppleston@sydney.edu.au
• by writing to us at the following address:
  A/Professor Navneet Dhand
  The University of Sydney
  425 Werombi Road, Camden NSW 2570

After receiving your response, we will contact you if you meet the eligibility criteria for the 2nd phase of the study. Your name will also go into a draw to win one of the ten $50 gift vouchers.

We sincerely thank you for your anticipated cooperation. Your participation in this research will help in better management and control of Johne’s disease in Australia!

Thank you!

Help DPI survey for Tomato potato psyllid in NSW

NSW DPI are looking to DPI and LLS staff across the state to assist in the surveillance activities of the Tomato potato psyllid.

Do you have a veggie patch at home?
Are you growing tomatoes, eggplants, potatoes, capsicums, chillies or sweet potato?

Why not participate in an insect trapping survey to help DPI Biosecurity prove NSW is free of an insect called tomato potato psyllid?

Tomato potato psyllid is a serious threat to Australia’s potato, tomato and capsicum crops. It causes damage to plants when it feeds, but is also a vector for the plant disease Candidatus Liberibacter solanacearum. It was found in Western Australia in 2017.

We need data from across NSW to prove this insect is not present here. Your participation will contribute to a greater insect surveillance project that also includes commercial growers and nurseries.

If you would like to be involved contact Bernie Dominiak (bernie.dominiak@dpi.nsw.gov.au or 0458 798 159) for your free trap kit. The kit has everything you need and instructions on what to do. All you need to do is place the sticky trap in your veggie patch for a week before posting it back to DPI in the reply paid envelope provided. If you are interested in participating, please contact Bernie Dominiak directly for more info.

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## Riverina Local Land Services
### District Veterinarians

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<thead>
<tr>
<th>Location</th>
<th>Veterinarians</th>
<th>Contact Details</th>
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<tr>
<td><strong>Wagga Wagga</strong></td>
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<td><strong>Young</strong></td>
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<tr>
<td><strong>Gundagai</strong></td>
<td>Kristy Stone</td>
<td>6940 6900</td>
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