Department of Primary Industries and Regional Development

GOVERNMENT OF WESTERN AUSTRALIA

WA livestock disease outlook

Veterinarian edition | August 2018

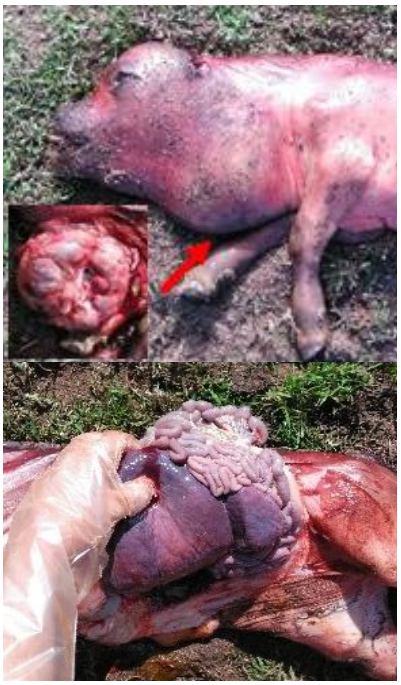
Recent livestock disease cases in WA

Abortions and deformities in red Angus cross calves

- Four abortions occurred over one month in a herd of 80 five-year-old cows in the Wheatbelt.
- Apart from one cow with retained foetal membranes and diarrhoea, the cows did not appear sick. Two of the aborted calves had enlarged necks.
- The herd was grazing sorghum and being fed cabbage.
- On necropsy of one calf, the head appeared misshapen and the heart, liver and kidneys were enlarged. A melon-sized, liver-coloured, segmented mass had caused distension of the neck.
- Samples submitted to the lab by the private vet showed this mass to be severe thyroid hyperplasia (goitre). The liver was severely congested.
- Glucosinolate toxicoses was the likely cause given the clinical history and lab findings. Glucosinolates are well recognised anti-thyroid compounds and can be found in brassica species such as cabbages, turnips and Brussels sprouts. Prolonged or overfeeding of these vegetables can cause goitre and can be accompanied by abortions, stillbirths and weak calves.

Recommendations:

- Remove brassicas from the herd's diet.
- Consider possibility of iodine deficiency and supplement if deficient. (Iodine deficiency is another potential cause of goitre.)
- Feeding sorghum also has the potential to cause toxicity in stock if the quality and feeding regime are not well managed. Hungry stock should not be put onto a sorghum-only diet and should be monitored for 48 hours after being put onto sorghum to ensure toxicity does not develop.



Figures show aborted calf with enlarged neck (top), skin reflected from segmented thyroid mass (inset) and congested liver and spleen.

- The cows were tested for **exotic** diseases, such as *Brucella abortus*, with negative results. *B. abortus* is an emergency animal disease that causes significant numbers of abortions and infertility and is zoonotic. Vets (especially if pregnant or immunocompromised) should use appropriate personal protective equipment when handling aborted tissues to protect themselves from zoonoses.
- Read more on bovine brucellosis.

Severe neurological signs in heifers in the South-West

- Two heifers, introduced to a herd of 20 late last year, died within a three-month period, both with severe neurological signs of staggering, muscle fasciculations and seizures.
- One heifer was found in lateral recumbency with muscle fasciculations affecting the head and body, a normal body temperature and no menace response.
- Post-mortem of this heifer found mild rumenitis and abomasitis with nodular lesions of the abomasal wall and no other signs of disease. Histopathology of the brain showed acute, cerebrocortical necrosis (polioencephalomalacia) and blood testing showed a severe thiamine deficiency. Tests for lead and annual ryegrass toxicity were negative. Occasional nematodes were seen in the abomasum.
- The herd was being fed hay and kikuyu/rye pasture, but had been moved off hay at the break in season. A decrease in roughage or a sudden change in feed composition is a common cause of thiamine deficiency, which results in reduced energy availability to the brain and subsequent brain degeneration resulting in neurological signs. Cases are often sporadic, but can occur in up to 10% of the herd.

Recommendations:

- Cohort sampling for thiamine deficiency or supplementation of this herd was recommended to reduce further losses. Early treatment of clinical cases can result in improvement although neurological signs may persist if disease is advanced.
- Neurological signs in adult cattle could be a sign of a transmissible spongiform encephalopathy (TSE), a disease **exotic** to Australia. Subsidised testing for neurological disease in cattle helps us to prove that Australia is free of this disease. For more information, visit the NTSESP webpage.

In spring, watch for these livestock diseases:

Disease, typical history and signs	Key samples
Coccidiosis in young stock • Most common in lambs previously unexposed to coccidia and following cold conditions when feed is in short supply and grazing occurs close to the ground. Adult sheep tend to have good immunity to coccidia. Adult goats may still be susceptible. • High stocking rates and poor hygiene can cause coccidia that are shed in faeces to build up in the environment and infect other animals. • Signs include diarrhoea (may contain blood or mucus), dehydration, poor appetite and poor growth. On post-mortem, the small intestine may be thickened with 1-2mm diameter white lesions on the wall of the small intestine. **Recommendations:** • Good hygiene where stock congregate can help to reduce infection, and early treatment with a coccidiocide may reduce severity of disease. • Read more about coccidiosis in sheep and goats on the Wormboss website.	**Faecal sample:** • Package 50g fresh faeces from affected group separately for each animal (not pooled). Refrigerate between +4 & +8ºC prior to shipment on ice.
Cobalt/vitamin B12 deficiency • Plant and climate factors affect cobalt availability, which is required for vitamin B12 synthesis in ruminants. • Producers may note weaner illthrift despite good worm control and access to green feed. Signs in growing cattle and sheep include anaemia, illthrift and scaly ears. Cattle may have a rough, pale coat and pica. Sheep are more susceptible and may also have weepy eyes and produce small lambs. • Areas with more than 500mm winter rainfall (South-West) and deep, sandy soils are more prone to low cobalt levels. Grassy pasture has about half the amount of cobalt of clover or capeweed grown on the same soil. • Stock agisted in the South-West that originated further north may not have been supplemented with cobalt in the past and susceptible to deficiency in winter/early spring. **Recommendations:** • A vitamin B12 response test in animals with clinical signs in susceptible areas can help to identify deficiency. • Read more about cobalt deficiency in sheep and cattle.	**Antemortem:** • 10mL blood in lithium heparin from 5 or more sheep. **Post-mortem:** • Liver – fresh, chilled (for vitamin B12 testing) and fixed.

Note: Include base samples and any clinical or gross lesions in submissions. For sample submission advice, contact your DPIRD field vet or the duty pathologist on +61 (0)8 9368 3351.

Three common mistakes that result in misdiagnosis

At the livestock disease investigation workshop held in June in South Perth, presenter Dr Tristan Jubb provided attending vets with valuable tips and tools for investigations, including the following:

1. **Bias and denial**: Personal bias – you have seen something similar before which biases the information you collect and the tests you do. Producer bias – a post-mortem of the animal a producer is willing to sacrifice rather than the animal showing the most consistent signs with the event.
2. **Limiting resources**: Time and money – forcing off-site investigation and restricting epi information collection, reducing number of animal investigations (e.g. 1 vs 3 post-mortems) and samples collected.
3. **Forgetting or ignorance:** Not knowing what questions to ask or samples to collect.

DPIRD is here to help with these issues – we can help broaden your differential list, provide a sample plan and support follow-up investigation. For contact details for the duty pathologist and local DPIRD field vets, go to agric.wa.gov.au/livestock-biosecurity/livestock-biosecurity-program-contacts.

We welcome feedback. To provide comments or to subscribe to the monthly email newsletter, *WA livestock disease outlook*, email waldo@dpird.wa.gov.au