Department of Agriculture and Food
GOVERNMENT OF WESTERN AUSTRALIA

WA livestock disease outlook

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Australia's access to markets for livestock and livestock products depends on evidence from our surveillance systems that we are free of reportable and trade-sensitive livestock diseases. To gather this proof of freedom, the Department of Agriculture and Food, Western Australia (DAFWA) investigates cases where livestock show signs similar to reportable or trade-sensitive diseases. The ***WA livestock disease outlook – for vets*** (***WALDO***) is collated from information collected by DAFWA and private veterinarians as part of proving Australia's freedom from those diseases.

Recent significant cases submitted to the Animal Health Laboratories (AHL)
Mid-September to mid-October 2015

Lead toxicosis in steers in the South-West

- A case of sudden death was seen in one Holstein-Friesian steer from a mob of 43 and signs of blindness, twitching and recumbency in two other steers in the mob were observed over a two-week period.
- The steers were grazing a ryegrass and capeweed pasture. An old battery with a split casing was located and removed from the paddock where the steers were grazing.
- Blood samples were taken from two steers in the affected mob and one animal was euthanased and post-mortemed to collect a full sample set.
- Histopathology revealed changes of malacia in neurons of the caudate nucleus and high lead levels in fresh kidney tissue. A diagnosis of lead toxicosis was made.
- The remaining animals in the cohort were quarantined to ensure that animals that have been potentially exposed to lead do not enter the food chain.

Western Australia's access to international and domestic markets depends on continuing to ensure our products are residue-free. To maintain these markets, it is critical that vets advise their clients to remove lead sources from their farms or prevent access by livestock by securely fencing off lead sources. Livestock must not have access to old batteries, farm dumps, machinery or sheds. DAFWA's website has comprehensive advice on preventing lead poisoning and residues in livestock.

Bluetongue virus exclusion in lethargic lambs in the Wheatbelt

- Weakness, recumbency and death were seen in six-month-old Merino lambs in the Wheatbelt.
- Four lambs had died and two were affected in a mob of 1000. The affected lambs were bright and alert but lay down after being moved.
- Blood samples were collected from both lambs and one was post-mortemed. The only abnormal gross finding at post-mortem was very pale mucous membranes. A basic sample set was submitted to AHL.
- Bluetongue virus (BTV) causes fever and laminitis in sheep, which may present as listlessness and a reluctance to move, so tests for BTV were undertaken. The BTV antibody-detection ELISA was negative.
- Blood smears revealed evidence of a regenerative anaemia and possible Mycoplasma organisms. Mycoplasma antibody ELISA and PCR confirmed *Mycoplasma ovis*. Read more on eperythrozoonosis.
- Bluetongue disease has never occurred in farmed sheep in Australia. Testing and subsequent proof of freedom from this disease supports WA's livestock markets, valued at $1.6 billion in 2014/15. Read more on bluetongue virus.

Transmissible spongiform encephalopathy (TSE) exclusions in Gingin and the South-West
Case 1

- One six-year-old Santa Gertrudis cow in a mob of 50 became recumbent, hyperaesthetic, paddled its legs intermittently and then died.
- Post-mortem revealed hepatomegaly, haemorrhagic enteric changes and reddening of the cerebral cortex.
- A full sample set was submitted to AHL including the brain for TSE exclusion as a downed cow may be a presenting sign of TSE. Testing for TSE was negative.
- Histology of the brain tissue revealed an extensive inflammatory response with bacterial colonies present.
- *Trueperella pyogenes* was cultured from brain tissue and bacterial meningoencephalitis was diagnosed.

Case 2

- One five-year-old milking dairy cow from a herd of 1200 was found lying on its side, hunched up and apprehensive. There was evidence of paddling of the legs in its recumbent position.
- Blood samples were taken prior to treatment with calcium, magnesium and glucose but as there was little response to treatment, the animal was euthanased. The cow had calved about three months earlier.

- A post-mortem revealed mediastinal emphysema, interstitial pulmonary emphysema and ruminal bloat.
- A full sample set including brain was submitted and TSE exclusion requested. TSE testing was negative.
- Histopathology revealed increased neutrophils circulating in lung tissue and some muscle tissue damage.
- Serology revealed normal selenium and vitamin E levels and slight increases in muscle enzymes.
- The cause of the skeletal muscle damage and ruminal bloat was likely due to prolonged recumbency.

For WA to maintain its proof of freedom from TSEs, WA needs to test eligible animals each year. Private veterinarians are encouraged to submit samples from appropriate clinical cases to help WA meet these requirements. Testing is fully subsidised as proof of freedom is required for Australia's continued access to export markets for livestock products. To find out more, see the National TSE Program webpage.

In early summer, be on the lookout for:

Disease	Typical history and signs	Key diagnostic samples*
Bovine anaemia *Theileria orientalis* group (BATOG). Read more on BATOG.	• Young cattle (2–3 months old), late-pregnant and recently calved cows in early lactation are most likely to be affected • Common signs: anaemia and pallor, fever, weakness, red urine, jaundice, death, late-stage abortions and premature births.	**Live animals pre-treatment:** • 10mL blood in EDTA tubes. • Bloods from 10 cohort animals. **Post-mortem:** • Basic sample set – include bone marrow and clotted blood and serum. Aborted foetus tissue samples and clotted blood, serum in plain tubes.
Haemonchus in sheep Read more on Haemonchus.	• Usually seen in late spring/early summer in coastal areas of agricultural regions of WA. • Weaners with inadequate immunity commonly affected at this time of year. • Signs include sudden death, anaemia, weakness and bottle-jaw.	**Faecal sample:** • 20g faeces per sheep for worm egg count and larval differentiation. **Post-mortem:** • Identify worms in abomasum and collect faecal sample.
Annual ryegrass toxicity (ARGT) in stock Read more on ARGT.	• Cases in grazing stock can occur as soon as there is widespread seedset in ryegrass pastures (typically from early October). • First cases typically occur in the southern Greenough area, moving south as the season progresses. • Signs include sudden deaths or hyperexcitability, ataxia and convulsions brought on by stress. • This year, **ARGT toxins have been diagnosed in hay samples from areas west of the normal distribution**, which may be due to the dry spring/early seedset.	**Pasture or fodder samples:** • 500g ryegrass pasture or 200g ryegrass heads. • Collect representative sample from each area of interest. **Post-mortem:** • 10mL rumen fluid or 20mL faeces in plastic container. • Fixed brain and liver. • Include samples for TSE exclusion testing whenever nervous signs are seen in adult sheep or cattle.
Fluoroacetate poisoning in sheep and cattle (e.g. common box, heartleaf and narrow leaf poisons).	• Plants in Gastrolobium genus containing fluoroacetate are likely to have highly toxic leaves at this time of year. • Poisoning typically occurs when hungry stock gain access to bush or a new area containing the plants and spring pasture dies and becomes less palatable. • Sudden death or recumbent animals lying quietly.	**Post-mortem:** • 50g rumen contents, fixed heart. **Toxic plant ID:** • 50g plant leaves kept frozen (if not possible to keep frozen then refrigerate).

Include base samples and any clinical or gross lesions in submissions. For sample submission advice, consult the AHL Service Manual or phone your DAFWA veterinarian, or the duty pathologist on +61 (0)8 9368 3351.

Emergency animal diseases update

See the latest on emergency animal diseases around the world in the Emergency Animal Disease Bulletin.

We welcome your feedback. To provide comments or unsubscribe, email bruce.twentyman@agric.wa.gov.au.