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## No poisonous plants in the Xmas wreath!

Hi everyone, the season has been patchy over the north – rain and fire for some and not others – but prices mostly pretty good. This will influence what producers need from their vets – all the good advice and services we can provide.

During 2021 we've had a focus on plant poisonings – always an important aspect of farming livestock in the north – and a common cause of significant disease events.

Knowing the likely circumstances for poisoning and being able to pick out your local culprits can really help you put the picture together in an investigation. If you feel like a refresh, I'd recommend watching the YouTube clips of Selina Ossedryver's presentations at the [online Masterclass](#). You can find them on our NABSnet website.

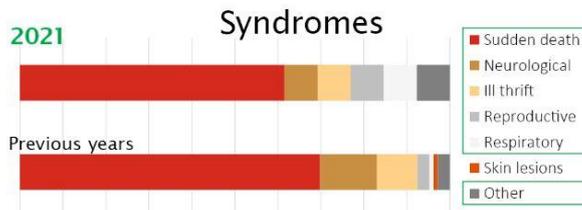
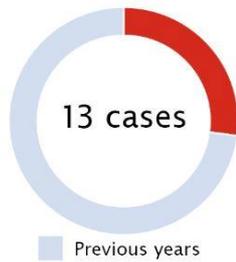
Best wishes for the Xmas break, and looking forward to connecting again in 2022.

**Cheers**

**Kev**



# NABS SDIs in 2021



Definitive diagnoses  
Acute oxalate toxicity, ARG, Botulism, Coccidiosis, Flavivirus, Helminths, Hepatopathy, Septicaemia, Yellow-wood poisoning, Yersiniosis

Inconclusive  
23%

Evidence of absence  
African horse sickness, Anthrax, BSE, BVD type II, Brucella abortus, EHV-1, Equine influenza, CBPP



## What plant is this? (answer below)



### ***Could this be a plant poisoning?***

Animals are often poisoned when their normal routine is disturbed in some way, putting them under stress: for instance, when hungry animals ... are placed in unfamiliar surroundings. For example, hungry stock given access to lush herbage (such as in stockyards) containing plant species that accumulate toxic amounts of nitrates or oxalates. Other circumstances .. are stock in drought conditions eating shrubs and deep-rooted herbs that remain green after normal feed is exhausted; or eating toxic plants .. that grow after light rain.

(From Dowling & McKenzie, Poisonous Plants, a field guide DPIQ, 1993)

## **16 of 170 Brahman die with foul-smelling diarrhoea**

During September 2021 in FNQ over a period of 2-3 weeks, 43 weaners and adults in a mob of 170 Brahman showed lethargy and diarrhoea (morbidity rate 25%) and 16 died within 24-48 hours.

Three months previously the animals had been transported about 300 km to the property. Calves were weaned one month after arrival. Affected weaners and cows developed signs of lethargy, inappetence, dehydration, abdominal pain (flank watching) and foul-smelling diarrhoea, which progressed in some animals to sternal recumbency, severe dehydration and death within 24-48 hours.

**Field investigation:** The mob were in poor body condition. EDTA and plain blood samples were collected from 10 animals and faeces from 5 animals. A post-mortem was conducted on one animal. Gross findings included petechial haemorrhages on the interventricular septum and kidney surface, rounded liver margins, minimal visceral fat, and red-stained omentum. Both large and small intestines had mucosal damage and contained green contents. Green to olive, foetid faeces were collected.

Field differential diagnoses included bacterial enteritis such as Yersiniosis, Bovine Viral Diarrhoea/Mucosal disease and plant toxicity. Yersiniosis is seen in Brahman cattle in the region,

usually when cattle are stressed e.g. following inclement weather or nutritional stress. Heavy rain had occurred in the previous weeks, but no flooding. No suspect plants were observed in the animals' environs, but prior access to lantana couldn't be ruled out.



**Laboratory findings:** *Yersinia pseudotuberculosis* was cultured from the faeces of all animals sampled. No *Salmonella spp* were cultured from the faeces.

Key histopathological findings from the post-mortem examination were haematological, biochemical and histological evidence of septicaemia, acute inflammation, hepatopathy, severe dehydration, azotaemia and muscle breakdown. No *Haemophilus spp* or *Salmonella spp* were cultured from the organs. Advanced autolysis prevented examination of the mucosae of the small and large intestines.

### **Recommendations**

After the preliminary field diagnosis of Yersiniosis all of the clinically affected animals were treated with long-acting Oxytetracycline; most treated animals gradually recovered.

Following the lab-confirmed presence of *Yersinia pseudotuberculosis* the client's key concerns were ongoing production losses associated with recovering animals and potential losses associated with future sporadic outbreaks. Recommendations were:

1. Treat cattle showing any clinical signs with long-acting Oxytetracycline – don't wait until symptoms become severe.
2. Limit movement of cattle in the wet season when there is increased likelihood of inclement weather.
3. Avoid having stressful events conducted at the one time (transport, weaning, comingling, yarding).
4. Limit nutritional stress by ensuring introduced cattle are stocked appropriately.

## Tips on sending off samples

– NOT tissues straight into ziplocks!!

**Super important that samples arrive at the lab in good condition and that there is NO spillage or contents (like sharps) that are dangerous for lab staff.**

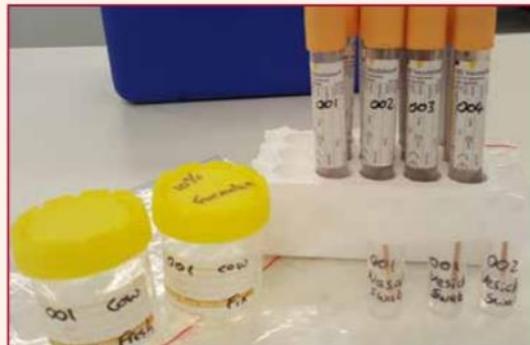
Misnumbered vials, leaky pots, incomplete submission forms etc all put diagnostic success at risk, quite apart from making lab staff lives difficult!!

**Don't miss out on the critical lab findings because the pot leaked!**

### Significant Disease Investigation Guide

#### Handling samples in the field

- Ensure all samples are taken prior to giving treatments
- Ensure enough samples are collected to represent the whole herd
- Collect fresh and fixed samples first, then gut samples
- Label samples as soon as you take them
- Ensure labelling is clear and indelible
- Tissue samples should be prepared as both fresh and fixed
- Use plenty of 10% formalin to fix tissues
- Fix for 24 hours then formalin can be drained off for transport. Add a few mls of formalin to the container, or wrap tissue in paper towel moistened with formalin, and place in leak proof container
- Clean any surface contamination from tubes and containers
- Place tubes/vials in to zip-lock bags to keep them clean and contained together
- Keep samples cool while in the field
- Don't leave samples standing in the sun while working
- Use an esky and ice bricks to store samples.



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## **Q. What plant is this?**

### **A. The poisonous cotyledons of germinating Noogoora burr.**

Causes acute liver necrosis in grazing animals often where the seedlings emerge after rain and before other feed has grown.

The mature plant is a woody annual about 1 meter tall with broad stalked leaves. The burrs each contain two seeds in separate compartments. One germinates in the first season and the next remains dormant until the next favourable season.



Noogoora burr is widespread in northern Australia along river and creek flats, on roadsides and in pasture land. A native of North America, it was first noticed in Australia on Noogoora Station, Queensland in the 1870s, where it was probably introduced as a contaminant of cotton seeds. It has since spread over more than two million hectares. Pre-biosecurity days!

[www.nabsnet.com.au](http://www.nabsnet.com.au)

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## Key NABS SDI network contacts

Kevin Bell, NABS Vet Adviser

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or visit [www.nabsnet.com.au](http://www.nabsnet.com.au)

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**Newsletter sent on Kevin's behalf from the team at Harris Park Group**

Let us know any topics you'd like to see covered here.