



#33.2 | 19 October 2021

## A gold-mine of resources for disease investigations



Hi all, over the last 3 years our NABS network has put together an amazing set of resources around disease investigations. We've built a great bank of more than 30 SDI case reports, descriptions of diseases relevant in northern Australia, and tips and techniques. These have been in the newsletters and then put on the website to refer to at any time – some great things to share.

And now our website is getting a makeover to make finding things easier – [do check it out](#).

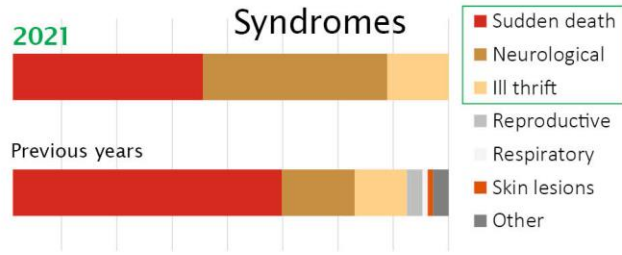
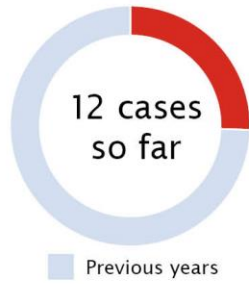
For your calendar – the Masterclass planned for November could not be run due to COVID travel restrictions – watch out for info on the next Masterclass in 2022.

And another thought for 2022 - registration opens this month for College Membership exams - why not consider Veterinary Public Health or Epidemiology as an option?

**Cheers**

**Kev**

# SDIs for the year to date



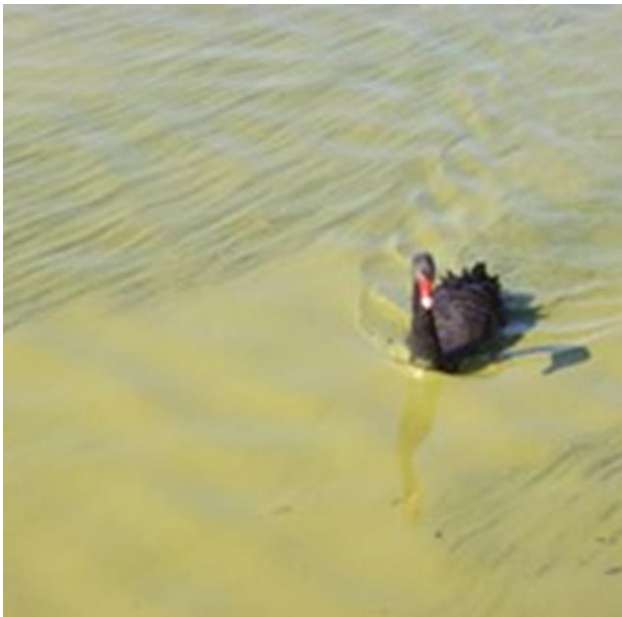
**Definitive diagnoses**  
 Acute oxalate toxicity, ARGT,  
 Botulism, Coccidiosis,  
 Flavivirus, Helminths,  
 Hepatopathy,  
 Yellow-wood poisoning

Inconclusive  
 25%

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



**What plant is this? (answer below)**



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## 23 cow mortalities following relocation

In late July 2021 two consignments each of about 70 recently mustered mature cows were transported to a station in WA. 23 cows died over the next 3 weeks.

When they arrived at the property the cows were put into small paddocks (a couple of hectares in size) before being moved out to leased land. They were fed supplements including home grown hay. Grass was short and no poisonous plants were identified.

18 cows died over a few days about a week after arrival. The veterinarian observed three cows prior to death. One was very poor and lethargic, the second was recumbent. A third cow was seen two days later and had sunken eyes and neurological signs including staggering, shaking of the head and staring which progressed until the animal was aggressive and too uncoordinated to stand. A fourth cow demonstrated similar nervous signs a week later, and was the last cow affected.

A timeline of the outbreak showed that all the deaths occurred while the cattle were in one of the small paddocks, or shortly after they were moved out of it.

The paddock had a water trough in the yards and more readily available water in a shallow dam that was fed from irrigation overflow via a nearby swamp. An algal bloom was evident in this dam and water samples were taken.

**Post-mortem examinations** The three cows were shot and examined at post mortem. The cow with neurological signs was too aggressive to be safely euthanized in any other way (and so the brain could not be examined).

Each cow had a very empty rumen and whole digestive tract indicative of an animal suffering inanition. The liver in the first cow was pale and slightly swollen with rounded edges; and she had evidence of metritis. The second had an extremely swollen very pale and yellow liver; she was 7-8 months pregnant. The third cow also had a pale, swollen liver with rounded edges.

All three cows had clear lungs and no other significant gross pathology.

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The fourth cow that died a week later was too autolyzed for a full post mortem examination but the brain was submitted for histopathology.



Cow 2: Fatty liver and advanced pregnancy.

The initial list of differential diagnoses related to the origin and type of cattle and the potentially stressful processes involved. Diseases considered at the outset were:

- Shipping Fever
- Ketosis/Pregnancy toxaemia (with neurological emphasis)
- Intoxication
  - Feed contaminant (mouldy hay)
  - Water contaminant (algal)
  - Plant in paddocks
- Nutritional inadequacy +/-or metabolic disease (including Polioencephalomalacia)
- TSE – as an exclusion

#### **Lab results**

- Water samples – no evidence of toxic algae.
- Histopathology of the liver in all three animals showed vacuolar degeneration/fatty change of hepatocytes.
- Histopathology of the brain and spinal cord from one animal showed no evidence of polioencephalomalacia, no significant inflammatory cell infiltrates (largely excluding encephalitis and meningitis) and was TSE negative.

The field diagnosis (after the post mortem examinations) was metabolic hepatopathy, presenting as pregnancy toxaemia in advanced pregnant animals. This was confirmed by the laboratory findings.

**Recommendations** The initial recommendation was to provide plenty of good quality hay that the cows were more likely to be familiar with, and to offer other energy sources. Hay, silage and pellets were made available.

It was also advised that all cows should be drafted prior to trucking, based on BCS and pregnancy status. The client subsequently reviewed their processes for sourcing clean-skin cattle and how they were transferred to their final destination.

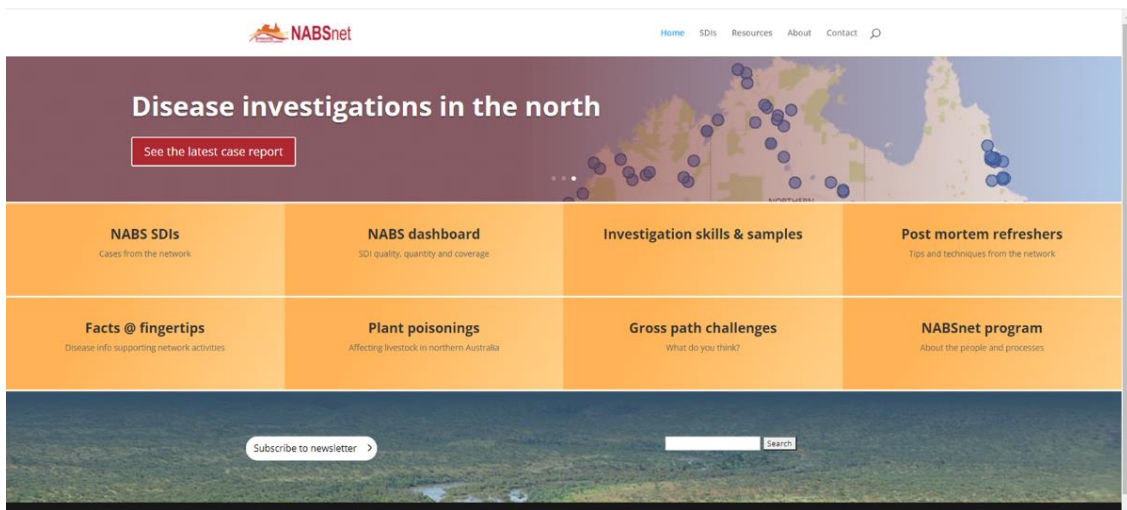
The next lot of cattle were coarser mustered over a two-week period and held each night in a panel yard. By the end of this period, they were very quiet and were given a 'dry run' through the yards, spelled for a couple of days on pasture and then yarded and processed (tagged, branded, backliner, Bovillis, Multimin). They were held in yards on ample hay for a couple more days and trucked to the small property where they were pregnancy tested, vaccinated for botulism and trucked to their final destination back on native pasture. This new line was much easier to handle and stronger with no signs of the previous problems.

## Tips on post-mortem techniques

See video tips from Tristan Jubb on bovine post-mortem protocols

[Examination of the forestomaches, abomasum, liver and spleen](#)

## Website refresh – [nabsnet.com.au](https://nabsnet.com.au)



Want to check the dose for magnesium sulphate euthanasia? Looking for the how-to on brain smears? Want tips on disease mapping? Try the NABS website. It's currently getting a refresh to help you find what you need quickly and easily. There are new buttons on the home page for key resources, and there is an excellent search function.

Check out the NABS SDI summaries from fellow NABS vets – with all the real world challenges of good disease investigations in the big canvas of northern Australia.

We'll continue to build content – let us know if there is anything in particular that you want.

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

#### ***A. Blue-green algae (Cyanobacteria)***

Blue-green algal blooms form on fresh or brackish water (or discolour the water without forming a floating scum). They look green and sometimes turn bluish when scums are dying. Some species are capable of producing neurotoxins or hepatotoxins.

Poisonous cyanobacterial blooms cannot be distinguished from non-poisonous organisms such as true algae, without examination by microscopy and testing for toxins or toxicity.

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To test: send water samples containing bloom material to labs that specialize in this work – including state vet labs.

**Note: Do not expose your bare skin to these blooms because irritation can occur.  
Use plastic gloves when obtaining samples.**

BTW - The image of the dam edge in the Q. is algal bloom from the SDI in this newsletter.  
No toxic blue-green algae were seen on microscopy of samples of this water.

## 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.