



#36 | 11 May 2022

## At our doorstep

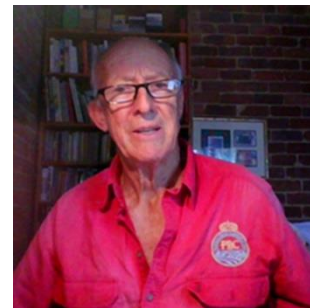
Hi everyone in our NABS network

The threat to the northern Australian cattle industry has never been so serious with both Lumpy Skin Disease (LSD) and Foot and Mouth Disease (FMD) at our doorstep. And we are on the frontline.

We are arranging a Zoom briefing and discussion for NABSnet vets on Monday 4th July – see below for more details and how to join in.

Botulism was a strong suspect in some of our recent SDIs. These cases are a reminder that Botulism is a common and complex disease in the north where clinical diagnosis is often supported by rule-outs, and getting relevant samples is key.

In my recent discussions with NABSnet members I heard about lots of new vets joining their practices. To help with induction about the NABS network we've made a short video which is now on the website. I don't think this will launch me on a TikTok influencer career 😊 – but I'm very pleased to say a warm welcome and outline the NABS SDI process for everyone.



Hey – good news – the next NABS Masterclass will be held 25-26 November 2022, in Townsville. Each NABS practice will be offered two places – details for registration will be in the next newsletter. Save the date- will be great to see each other face-to-face again.

**Cheers**

**Kev**



## Current LSD and FMD outbreaks in Indonesia

In March 2022, LSD was formally reported in Riau province on the Island of Sumatra, Indonesia, close to Malaysia. In the first week of May 2022, FMD has been reported in four regions - Gresik, Lamongan, Mojokerto and Sidoarjo in East Java province, south-east of Sumatra and directly west of Bali.

### What is the NABSnet program team doing?

The NABSnet program team are participating in government, industry and research discussions on both LSD and FMD preparedness and response planning.

The team will provide updates for the NABS network. A Zoom briefing session and discussion about what roles NABSnet vets can play will be held on 4th July.

## **4th July - NABSnet Zoom meeting LSD and FMD at our doorstep – being prepared is key!**

An opportunity to hear the latest info and to discuss what roles the NABSnet vets can play in the north

**When – Monday 4th July - Qld 7.30-9.00pm / NT 7.00-8.30pm / WA 5.30-7.00pm**

**Where – By Zoom**

**[Register here](#)**

**A national LSD action plan has been developed** with these current activities:

- Supporting Indonesia's LSD response and assisting LSD preparedness and surveillance in Timor Leste and Papua New Guinea
- Arranging approval for the importation of LSD virus to the Australian Centre for Disease Preparedness (ACDP, previously called AAHL) for development of tests / vaccines and work on vector transmission in Australian conditions
- Enhancing surveillance through community and producer awareness, training and sampling of suspect animals and targeted vector monitoring
- Working with trading partners to manage trade implications
- Updating the LSD AUSVETPLAN Disease Strategy
- Modelling the spread of LSD to predict and prepare for LSD outbreaks
- Engaging and communicating with stakeholders

**The news of the FMD detection** is only very recent, but Australia has undertaken long-term significant preparedness activity for FMD, with:

- Diagnostic testing capability in state veterinary laboratories
- A vaccine antigen bank in the UK for rapid production of vaccine for a specific FMD serotype, should it be detected in Australia.

A number of NABSnet vets have participated in FMD training overseas and are familiar with the clinical signs, epidemiology and diagnostics for FMD.

### What can NABSnet vets do now?

- Talk to producers and everyone working across northern Australia about the threat of LSD and FMD. This is critical to increase the number of 'eyes' on the look-out.
- Take samples from any suspect animals for LSD. State and Territory governments are starting to roll out LSD sample kits for vets and cattle producers. There are instructions and a video on how to take samples. Handing out LSD sample kits to producers gives them the ability to be part of the network for early detection when you aren't available or a few days away.
- Freshen up your FMD knowledge with [free FMD on-line training for vets](#)
- Report any suspect cases of FMD to the EAD hotline – 1800 675 888

[Read more on LSD](#)

[Read more on FMD](#)

## Botulism the prime suspect

**Both these featured SDIs are a good reminder that a diagnosis of botulism is based on:**

- **Clinical signs and epidemiology consistent with the disease**
- **Appropriate post-mortem samples from clinically affected cattle to RULE OUT other causes**
- **Samples from suspect sources (if available).**

### **SDI 1: Deaths from suspected Botulism, despite owner assurance of vaccination**

In Sept 2021 in FNQ, 8 Brahman weaners and 1 adult cow from a mob of approximately 30 weaners and 10 cows died over a 7-day period while being fed a mixed ration of tropical-grass, round-bale silage, peanut meal and corn gluten meal.



Several post-mortem examinations were conducted with extensive laboratory workup, without confirmation of a definitive diagnosis.

No significant gross or histopathological changes were observed in the post-mortems conducted. Tests for Bovine Ephemeral Fever and Clostridia were negative. The cattle only had access to the mixed ration. Contamination of the 18 months old round bale silage with Botulism toxin was considered. However the owner was adamant that all cattle had been vaccinated eight months earlier with Longrange Botulinum vaccine.

Sera were collected from three animals that were considered healthy and three that had possibly been unwell and that had recovered.

- ELISA tests for Botulinum toxin were negative in all six, but this did not rule out Botulism as a possible diagnosis.
- ELISA tests for Botulinum antibodies in all six animals were performed with only three of the six demonstrating significant titres. Because animals previously vaccinated should have had positive titres, this was a concerning finding.

The possibility of failure of effective immunization, despite the history of whole herd vaccination, was discussed with the owner.

The old silage was replaced with more recently preserved bales. The herd was re-vaccinated for Botulism and it was decided that higher quality maize silage would be sourced in the future.

### **SDI 2: Deaths from suspected Botulism, no history of vaccination**

In March 2022 in central Qld seven cows died over 5 days in a mob of 80 mixed age Brahman cows with calves at foot. The cattle were grazing very dry, short country and being fed a dry lick. No vaccinations of any type had ever been used in the herd.

On clinical examination about six animals had a shuffle gait, were reluctant to move and eventually became recumbent. These animals attempted to get up but could not get from lateral to sternal recumbency. Their tongues could be pulled out, and were not retracted.



Field differential diagnoses were: Botulism (high likelihood), BEF, plant poisoning (several poison plants were present in the area), Anthrax, Tick Fever, TSE.

One animal was euthanised and a post mortem examination done. No gross abnormalities were found. Laboratory findings were:

- No significant histopathological findings in a full set of tissues (brain, heart, lung, liver, spleen, kidney, rumen, abomasum, intestine)
- ELISA for BEF - negative
- PCR and polychrome methylene blue stain for Anthrax - negative
- Gut contents ELISA for Botulinum C-D toxin - negative.

The high probability of Botulism and the benefits of vaccination were discussed with the owner.

Sample	Test for...	Things to consider...
<b>Clotted blood</b> ± from 10-20 cohorts	Botulinum ELISA (toxin &/or antibody) Bovine Ephemeral Fever (VNT) Virology ± OP toxicology	<ul style="list-style-type: none"> <li>• Botulism titres in natural exposure and/or vaccination</li> <li>• Can be useful to determine if mob was vaccinated (C &amp; D)</li> </ul>
<b>EDTA blood</b>	Haematology Bovine Ephemeral Fever (PCR)	
<b>Lithium blood</b>	Metabolic diseases	
<b>Blood smear, brain smear, organ smear</b>	Tick fever	
<b>Fresh brain</b>	Virology & Bacteriology ± OP toxicology	
<b>Fresh tissue:</b> rumen & small intestine contents (@50 mL), liver, spleen, haemal nodes, brain, faeces, maggots* (chilled) <b>Suspect source samples**</b> (chilled <sup>++</sup> )	Botulism toxin ELISA &/or PCR Bovine Ephemeral Fever (PCR) et al	<ul style="list-style-type: none"> <li>• May not detect toxin as it can be lethal in minute doses</li> <li>• Most cases in Australian cattle due to type D</li> <li>• Current lab tests only detect C and D toxins (not B)</li> </ul>
<b>Ocular fluid</b> (aqueous or vitreous)	Metabolic diseases	
<b>Fresh rib</b>	Metabolic diseases	<ul style="list-style-type: none"> <li>• Helps assess adequacy of P and Ca supplementation</li> </ul>
<b>Fixed tissues:</b> the big 5 <sup>#</sup> + brain, spinal cord, any lesions	Histopathology	

\* Maggots from carcasses may contain toxin at very high levels

\*\* *C botulinum* spores germinate and bacteria proliferate in decaying organic material (carcasses, spoiled feed etc)

++ Keep chilled on ice or freeze prior to dispatch

# The big 5 collected at any autopsy = lung, liver, heart, spleen, kidney

## Welcome to NABSnet – starter or refresher video

When a new person joins a veterinary business they have a lot to find out to become fully part of the team. To help with induction about the NABS network there is now a [‘Welcome Pack’ with a short video on the website.](#)

Do share this link with others in your practice, as a starter or a quick refresher.

nabsnet.com.au/project/welcome-pack/

NABSnet

Home SDIs Resources

## NABSnet Welcome Pack

The welcome pack consists of a video, printed sheet and warm welcome from the NABSnet team to help veterinary clinics onboard new staff.

Kevin Bell  
NABS SDI Network Vet Adviser

Call me about any potential SDI

Or to talk about anything unusual

PDF of key points

MORE RESOURCES



## Key NABS SDI network contacts

**Kevin Bell, NABS Vet Adviser**

Contact at: [nabsvetadviser@gmail.com](mailto:nabsvetadviser@gmail.com) / 0427 433 244

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

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