



#55 | 16 June 2025

## NABSnet info

Hi all in our NABSnet network

This newsletter features an SDI that was presented at the Masterclass - **a very unusual and nasty skin condition** – with a big impact on the animals affected and a significant diagnostic challenge.

This case was on one property in FNQ, but a check of the NABSnet SDI records showed two similar cases on different properties, one 700 km away, in 2023. This shows the real value of sharing investigation observations across the north. The lab is doing a deep dive on testing to support this investigation. Do contact Bill If you have any suggestions or experiences to add.

Other things Included:

- **What poison plants are these?** As floods recede, and cattle are looking for feed, there are often new poison plants to deal with. A couple of 'quiz' images to get your botanical brains going.
- **All the mind maps and sampling guides in one place.** Over the last few newsletters we've been building 'mind maps and sampling guides' for syndromes investigated as SDIs in cattle in the north. These are now all together in a single resource – you can download it onto your phone or print and pop it in your glovebox.



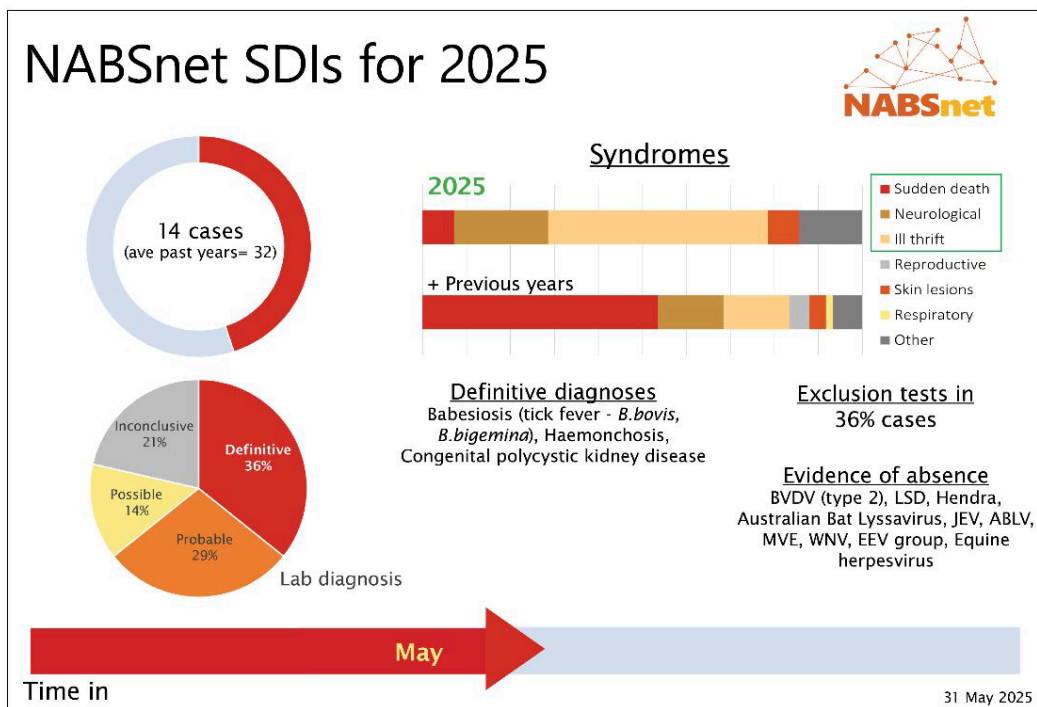
Kevin Bell



Bill Tranter

Two updates on the NABSnet team - after a couple of years leading the NABSnet project Teagan Fitzwater has gone to another role for 12 months – and Cass Wittwer is now heading up our NABSnet efforts. Thanks to Teagan and welcome back Cass. And while Jane Gilian is away, Charlotte Watson will be the key NABSnet contact in NT - welcome Charlotte. Contact details for all at the end of this newsletter.

Cheers Kev and Bill



## NABSnet SDIs in the last 6 months

Date	Location	Animal species	Presenting Syndrome	Numbers [sick / dead / at risk]	Diagnosis with lab findings	Diagnostic confidence	NND exclusions
Nov-24	QLD	cattle	reproductive - calf deaths, and abortions	30 / 20 / 150	No diagnosis	inconclusive	BVDV (type 2)
Nov-24	QLD	cattle	neurological signs and sudden death in	5 / 40 / 720	BEF - BEFV	probable	BVDV (type 2)
Nov-24	WA	goats	neurological signs and sudden death	2 / 2 / 40	Enterotoxaemia	definitive	None
Nov-24	WA	cattle	respiratory signs and sudden death in a	1 / 1 / 22	Shipping fever	definitive	None
Nov-24	QLD	avian	respiratory signs - dyspnoea and ocular discharge	6 / 1 / 100	Infectious coryza - <i>Avibacterium avium</i>	definitive	Influenza A, avian infectious laryngotracheitis, Avian paramyxovirus
Nov-24	QLD	cattle	illthrift and deaths in weaners	? / 14 / 154	Botulism - botulium toxin	probable	None
Nov-24	QLD	cattle	sudden death in weaners	2 / 8 / 30	Blackleg - <i>Clostridium chauvoei</i>	definitive	BVDV (type 2)
Dec-24	QLD	cattle	acute illness and sudden death in	? / 8 / 195	No diagnosis	inconclusive	None
Jan-25	QLD	cattle	deaths after short recumbency in bulls	2 / 2 / 100	Tick fever - <i>Babesia bovis</i>	definitive	None
Jan-25	QLD	cattle	illthrift in weaners	3 / 3 / 50	Non-specific bacteraemia	possible	None
Jan-25	QLD	cattle	neurological signs and sudden death in	? / 35 / 181	Fluoracetate poisoning	probable	None
Feb-25	NT	cattle	long dead carcasses	? / 100 / 200	No diagnosis	inconclusive	None
Feb-25	QLD	cattle	illthrift and death in heifers	? / 12 / 42	Tick fever - <i>Babesia bovis</i>	definitive	None
Feb-25	QLD	cattle	illthrift and death in weaners	8 / 3 / ?	Polycystic kidney disease - congenital	definitive	BVDV (type 2)
Mar-25	QLD	cattle	neurological signs and death	? / 80 / 240	Salt toxicity from water deprivation	probable	None
Mar-25	QLD	cattle	necrotising skin lesions	18 / 0 / 40	Open to date - further lab work	inconclusive	LSD
Mar-25	QLD	cattle	illthrift, diarrhoea	3 / 10 / ?	Haemonchosis	definitive	None
Mar-25	NT	cattle	illthrift	3 / 0 / 50	Congenital heart failure; Zamia toxicity	probable	BVDV (type 2)
Mar-25	WA	cattle	neurological signs, aggression	3 / 2 / 180	Tick fever - <i>Babesia bigemina</i>	definitive	Rabies, Australian Bat Lyssavirus
Mar-25	WA	avian	neurological signs, death	? / 3 / 12	Nodular tapeworm & botulism	probable	None
Apr-25	WA	horses	sudden and severe distress leading to euthanasia	0 / 3 / 16	Likely plant toxicity - ironwood	inconclusive	Hendra, JEV, ABLV, MVE, WNV, EEV group, Equine herpesvirus
May-25	QLD	cattle	stiff gait and sudden death	3 / 5 / 110	Likely plant toxicity	inconclusive	None

## What plants are these? (answers below)



### Extensive necrotising skin lesions in young cattle

Over a one-week period In February 2025, 18 young steers and heifers within a 40-head beef herd in North Queensland developed severe and extensive necrotising skin lesions on their flanks and sides. Similar lesions had been observed in a smaller number of young cattle on the same property in the 2022 and 2024 wet seasons.

#### Case definition

Necrotising skin lesions primarily developed on the flanks, often associated with the site of

fire branding but, in some cases, appearing on the back or sides without direct relation to the brand site. Lesion sizes ranged from a few centimetres in diameter to the size of a dinner plate, occasionally extending forward over the flank. The skin at the periphery of the lesions was inflamed and pruritic, leading to frequent licking by affected animals. The necrotic skin sloughed, leaving an open, raw granulating wound.



*Lesions at about day 12*



*Frequent licking of pruritic lesions*

**Disease mapping**

***Spatial Clustering:***

The cattle were bred on a property located 40 km away and transported to the home property when weaned. Lesions only occurred on this home property where the cattle were rotationally grazed across four pasture paddocks dominated by Wynn Cassia.

***Temporal Clustering:***

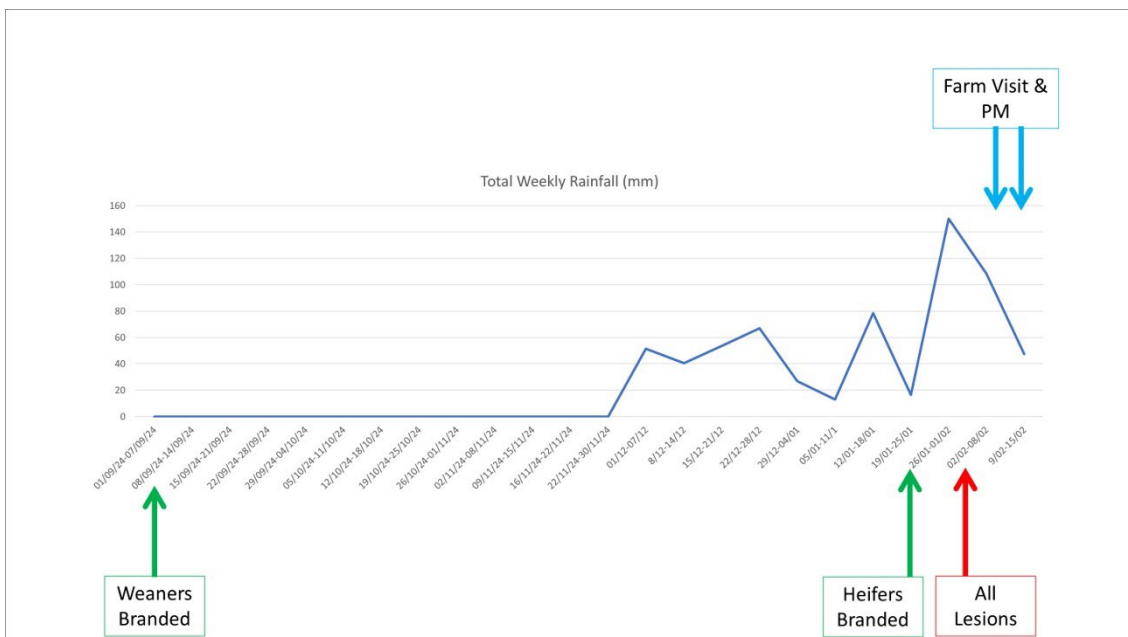
18 cases occurred in early February of 2025. In previous years cases occurred in January, February, and April of 2022 (four cases) and April of 2024 (two cases).

Cases appeared to cluster in the days or weeks following heavy rainfall events ranging from 50–250 mm per week.

### Clustering in Animal Characteristics:

During the 2025 outbreak only young cattle were affected. Unweaned and unbranded calves (n=2), as well as older cattle (8 cows, 2 bulls), remained unaffected. All breeds on the property, including Brahman, Brahman crosses, and one British breed animal, were affected. In previous outbreaks cases occurred in red-coated Droughtmaster heifers and steer, white Brahman heifers and a British breed steer. 10 of 12 heifers that were purchased in December 2024 and transported to the property were affected.

In 2025, lesions developed in animals either one week or five months post-branding. Animals branded in January were 1.62 times more likely to develop lesions than those branded in the previous September. The branding technique was identical in January and September, utilizing a gas-fired three-piece brand.



### Gross PM examination

One severely affected animal had bloods collected and was euthanized for post mortem examination. No abnormalities were detected in the internal organs. Fresh and fixed samples and swabs were collected from the centre and margins of the lesions and healthy skin.



### Lab findings

Bacterial and fungal culture studies performed to date have failed to identify a significant pathogen. Histological skin lesions show a vasculitis suggestive of an unidentified bacterial process, however, trauma as an inciting cause cannot be excluded.

Further testing has been undertaken to explore the possible role of *Mycobacterium* spp (of particular interest is *Mycobacterium ulcerans* which causes Buruli/Bairnsdale ulcer).

Results to date: ZN stain (negative), PCR (weak positive non-specific), genome sequencing (unidentified *Mycobacterium*) and ongoing culture (can take up to 2-3 months for a result). Other bacteria isolated could be pathogenic or background contaminants and testing continues.

Biochemistry and histopathological examination of the liver did not demonstrate pathology that could cause the lesions. Although this does not rule out a primary photosensitization, the distribution of the lesions and presence in pigmented skin make this very unlikely.

Animals tested negative for pestivirus (antigen and antibody), malignant catarrhal fever and lumpy skin disease.

**Management / Environment / Animal factors (reducing resistance or increasing exposure)**

There is a strong association between branding wounds and lesion location, and occurrence during the wet season, particularly after heavy rainfall. The disease predominantly affects young cattle of multiple breeds and skin colours.

Potential contributing factors include: High wet-season rainfall, heat, and humidity / Insect irritation / compromised skin integrity due to branding wounds, yarding, transport injuries, insect bites, or possible mechanical trauma from bulls.

These environmental conditions are common across northern Queensland, yet this outbreak is highly localised, suggesting additional unidentified contributing factors.



A previous NABSnet SDI case with very similar presentation was recorded in February 2023 on an unrelated property 700km from this farm.

[\(2023 SDI report here\)](#)

**Diagnoses we can exclude:**

Based on the laboratory testing undertaken on samples taken from live animals and on necropsy the following aetiologies can be excluded:

- Some bacterial and fungal causes including dermatophilosis (rain scald) and dermatophytosis (ringworm)

- Viral causes: LSD (capripox); Papillomavirus; Bovine popular stomatitis, pseudocowpox; Malignant catarrhal fever
- Insect hypersensitivity
- Parasitic causes including mites, lice and ticks
- Primary and secondary photosensitisation
- Nutritional causes including copper, zinc and vitamin A deficiencies
- Neoplasia

**Unresolved questions include:**

- What causes a small wound, usually associated with branding, to develop into extensive necrotising lesions?
- Why do some lesions emerge five months post-branding?
- How do non-brand-associated lesions develop?
- Why do similar branding practices on other properties under comparable weather conditions not result in lesions?
- Are there common contributing factors with the similar cases 700 km away?

**Recommendations (strategies to increase resistance and reduce exposure)**

- Avoid branding cattle during the wet season and preferably brand at the wetland property
- Review the branding technique – too hot or too long?
- Watch for any unusual plant that might be ingested when Wynn Cassia is relatively unpalatable
- Contact the vet practice to sample at the very first suggestion of new lesions
- Until the cause is better understood, consider implementing enhanced monitoring of branding (and other wounds), and provide affected cattle with access to shade and insect protection.



*The extent of lesions on some animals in this SDI case by May 2025*

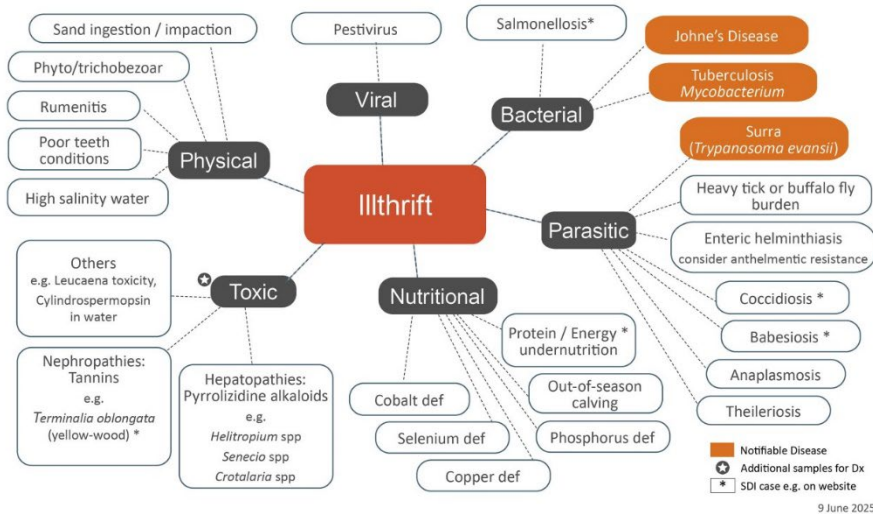
## Illthrift ddx and sampling guide



## Mind map Illthrift syndrome



CATTLE



Ante mortem		
Bloods *3		
Blood smear		
Faeces		
Collect sufficient sample quantity for multiple tests		
Post mortem		
	<b>Fresh</b> Individual, labelled, chilled	<b>Fixed</b> Pooled, formalin
Brain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Liver	<input checked="" type="checkbox"/> <span style="font-size: 0.8em;">+</span>	<input checked="" type="checkbox"/>
Lung	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kidney	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Spleen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Heart	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Skeletal muscle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Any lesions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bone - rib	<input checked="" type="checkbox"/> <span style="font-size: 0.8em;">+</span>	
Abomasum, Forestomachs		
Sm, Large Intestine	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Illthrift Sampling

### Sampling considerations

- Illthrift is failure to grow or maintain weight in the presence of apparently adequate nutrition.
- Broad range of causes. Need thorough history.
- Bloods important:
  - Serum: antibodies (e.g. pestivirus, JD, surra), trace elements.
  - Lithium heparin: trace elements, vitamins, biochem.
  - EDTA: Haemoparasites, PCRs.
- Faeces for enteric parasites, Faecal Egg Count.
- Fresh gut. Fresh liver for trace elements, vitamins. Could be liver biopsy in live animals
- Fresh bone can be helpful for mineral analysis.
- Fixed samples from all main organs.

### Additional samples

- + Suspect feed: nutritional analysis including ME, CP, NDF, trace minerals. Also assess amount of feed on offer.
- + Suspect toxins: gut content is generally not much help - often chronic or historical exposure and toxins rarely detectable in gut or tissues when clinically affected. Request specific tests - you may need to check with the lab about what to collect and how.
- + Suspect water e.g. salinity or cyanobacteria: rinse container in water source, sample from multiple depths.

9 June 2025

[Download illthrift mind map and sampling guide](#)

Now all the mind maps and sampling guides are available in one resource:  
neurological signs, respiratory signs, skin lesions, sudden death and illthrift



[Download the full set](#)

## Is everyone in your practice getting the NABSnet newsletter?

If not, or if they are relying on you forwarding them a copy each time, encourage them to sign up to receive it direct and keep up-to-date with info relevant to cattle practitioners across the north. Super easy to do:

[click here](#)

First name, last name, email - and it's done

## **Q. What plants are these?**

### **1. 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. Probably a native of North America, it was first noticed in Australia on Noogoora Station, Queensland in the 1870s, where it was likely introduced as a contaminant of cotton seeds. It has since spread over more than two million hectares. Pre-biosecurity days!

## 2. Leaves and flowers of Heart-Leaf Poison Bush

*Gastrolobium grandiflorum*, commonly known as heart-leaf poison bush or wallflower poison bush is a bushy shrub which grows to 2 or 3 metres. February to August it produces orange-red pea-flowers with a yellow centre and red veins. The leaves are hairy and heart-shaped on younger plants and elliptic and more glabrous on older plants, up to 6 cm long and 2.7 cm wide.


Like many in the genus *Gastrolobium*, this plant contains high levels of fluoroacetate. The leaves, seeds and roots are highly poisonous to cattle, sheep, horses and goats and have caused major livestock losses.

**Heart-Leaf Poison Bush was the likely culprit in a recent SDI investigating sudden death of 35 cattle in a mob of 181 in central Qld.**



## Key NABSnet SDI contacts

**Key contacts**



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Department of Primary Industries and Regional Development

**NORTHERN TERRITORY GOVERNMENT**  
Department of Health

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