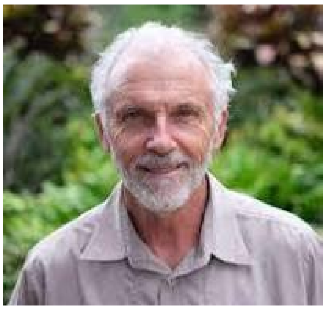
#57 | 10 October 2025

NABSnet info

Kevin Bell



Bill Tranter

Hi all

The next NABSnet Masterclass will be in Perth on 6-7 March 2026. The budget this year will allow for one subsidised place from each clinic and Expressions of Interest are now open – see below.

A number of people have asked us about elements of the SDI process – so here's a Q&A included to step it through. Don't hesitate to contact either of us if you have queries about cases you see.

Other things in this newsletter:

- Summaries of two SDIs – both good workups with important feedback for the producers involved.
- An interview with Julia Keough – great to 'meet' with people throughout our network.
- The Cattle Skin Survey continues – with a few tweaks to make it easier for you, and for collating the results.
- A request for input to a JCU survey on EAD response capacity.
- A very timely One Health reminder from the Office of the Chief Veterinary Officer – JEV infection is a risk – and vaccination is available.

There are quite a few requests asking for your input / feedback about various northern veterinary issues. Not everyone has time every time, but if you do have the opportunity to participate it is always much appreciated by the researchers.

Cheers Kev and Bill

NABSnet Masterclass 2026

! Need to act now - EOI due 12 Dec!
NABSnet Masterclass 2026 Perth, WA

When: **Friday 6th and Saturday 7th of March 2026**
(accommodation check-in available from Thursday 5th March)

Where: TBC (accommodation and venue close to Perth CBD)

Who: Large and mixed animal veterinary practitioners in Northern Australia - the NABSnet network

What's on: The 1.5 day NABSnet Masterclass 2026 will be a valuable opportunity to connect with other northern cattle vets to share insights and enhance your disease investigation skills. The program will include case presentations and discussions and updates on surveillance programs from across northern Australia.

Participation at the Masterclass, accommodation, food and air travel will be subsidised by NABSnet for one veterinarian from each clinic. Priority for subsidised places will be given to those vets who have not previously attended a NABSnet Masterclass.

Next step: The number of places will be limited. To register your interest, download the form and send to Tom Clune by 12 December 2025 (details on the form).

download EOI form here

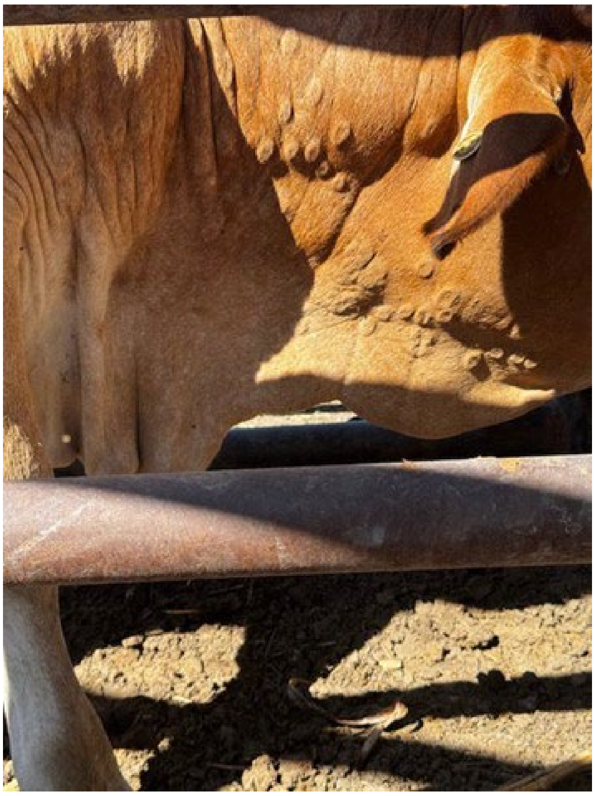
What plant is this? (answer below)

Producer concern on 25% incidence of skin lesions

In May 2025 in the Kimberley region a producer received a consignment of about 200 weaners with approximately 25% showing extensive areas of skin lesions. He contacted his veterinarian to ensure LSD was ruled out.

On examination the brahman weaners weighed about 180-220kg and had either circular raised lesions that looked like welts or circular, coalescing patches of alopecia, sometimes with sloughing hair and exudate. Lesions affected the face, neck, shoulders, ribs and back.

No animals were showing systemic signs of fever, lethargy or lameness.



Field differentials:

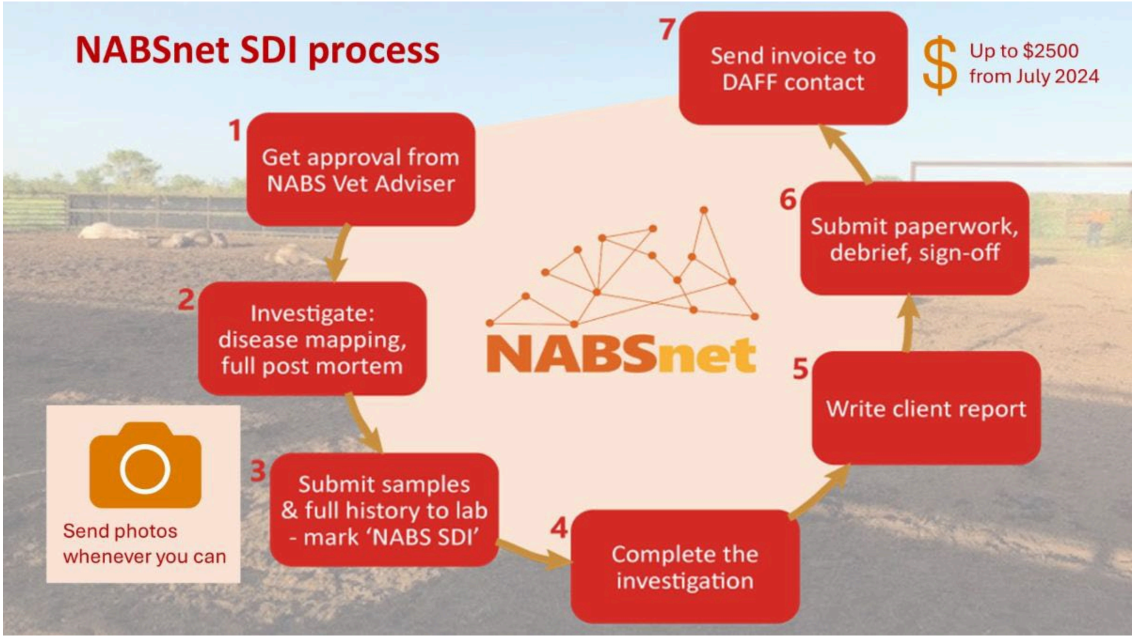
1. **Insect Bite Hypersensitivity - Lab confirmed**
2. Dermatophytosis (Ringworm)
3. Dermatophilosis
4. Herpes Virus
5. LSD Exclusion

Fresh and fixed biopsies showed mild lymphohistiocytic and multifocally eosinophilic perivascular dermatitis characteristic of hypersensitivity or topical irritant type reactions.

No viral inclusions, dermatophytes or *Dermatophilus* were observed. Capripox PCR of the biopsies was negative.

In the ongoing business of being LSD alert in the north, it's excellent to have producers aware and willing to call when they see something unusual, NABSnet practitioners actively involved in field assessments, and a great diagnostic lab service.

Q&A - Significant Disease Investigations in the north



One of the key elements of NABSnet is the SDI process – where private vets can investigate a significant disease event through to laboratory confirmation with the support of a financial subsidy (provided by DAFF) and free lab tests (contributed by the state or territory).

A steady stream of SDIs from the north strengthens our biosecurity surveillance and provides producers and practitioners with better information to treat and control diseases that reduce productivity.

Here are the answers to some common questions about the process.

What sort of case can be submitted as a NABSnet SDI?

- Livestock – ruminants, pigs, horses, and poultry.
- Multiple animals with serious or unusual morbidity or mortalities, presenting with:
  - Neurological signs
  - Sudden death
  - Respiratory signs
  - Ill-thrift

    - Skin lesions
    - Reproductive signs such as abortion
- If you are not sure whether a disease event could be investigated as an SDI – contact one of the NABSnet Vet Advisers – Kevin Bell (0427 433 244) or Bill Tranter (0417 605 379)

Where 'in the north'?

- Anywhere north of the Tropic of Capricorn, or anywhere in the Northern Territory

What is the process?

- Check with the NABSnet Vet Adviser to ensure the disease event qualifies for an SDI
- Do the investigation, including the field epi ('disease mapping') and post-mortem exams.
- Take photos
- Collect a full set of samples – there are sampling guides to assist – and submit to your state/territory lab with a full history.
    - Request tests for your field differentials and also suggest any emergency animal disease (EAD) rule-outs that you think are relevant.
    - Mark the submission form clearly as a NABSnet SDI
- Complete the investigation – some SDIs may require a second visit (eg for a fresh PM, to look at new cases or get follow-up bloods) – discuss with the lab if appropriate.
- Write a report for the client
- Send the SDI Report package to the NABSnet Vet Adviser.
- Send an invoice for the subsidy to DAFF

What does the client report involve?

- To complete a NABSnet SDI the veterinarian must provide a report written for the client. Closing the loop for the client is a powerful way to encourage their participation in future investigations. A written report also becomes part of the property's (and practice) records, providing a useful, factual account as time moves on and people change.
- It should be written in non-technical terms with findings and recommendations primarily to help the client manage the disease into the future. There is a template available to assist .

What is sent to the NABSnet Vet Adviser to complete the SDI?

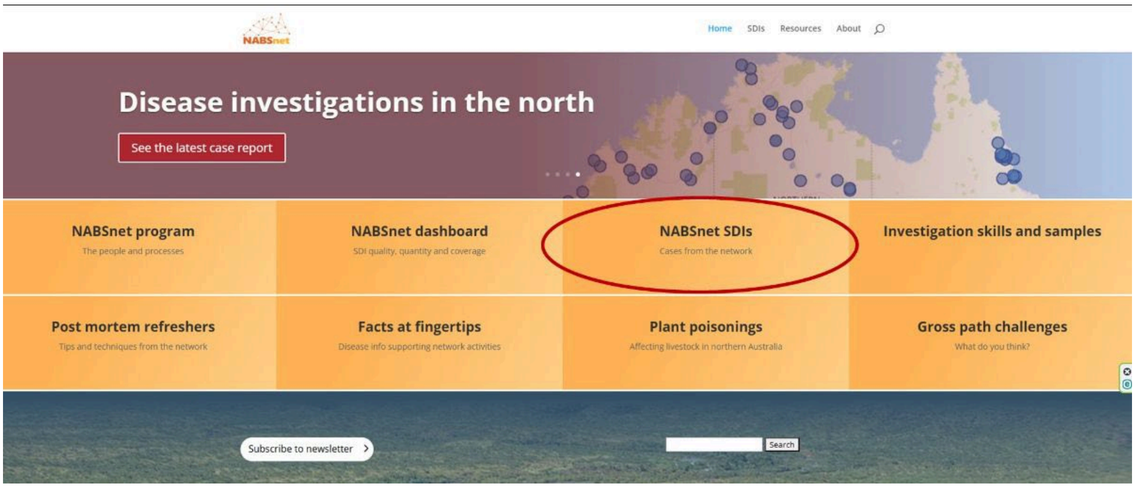
- The NABSnet Vet Adviser should receive:
  - The client report
  - Relevant photos
  - Lab reports, including the submission details. Ensure the epi data (e.g. numbers of animals exposed and affected) are included.

This full package enables the NABSnet network to understand and share key (de-identified) details of significant disease investigations in northern Australia.

What is the subsidy?

- Up to $2,500 (including GST). Once the report is reviewed and accepted by the NABSnet Vet Adviser, the vet can invoice DAFF. The subsidy acknowledges the costs of doing a full workup on a significant disease event and that it takes time to discuss the case and write up the report.

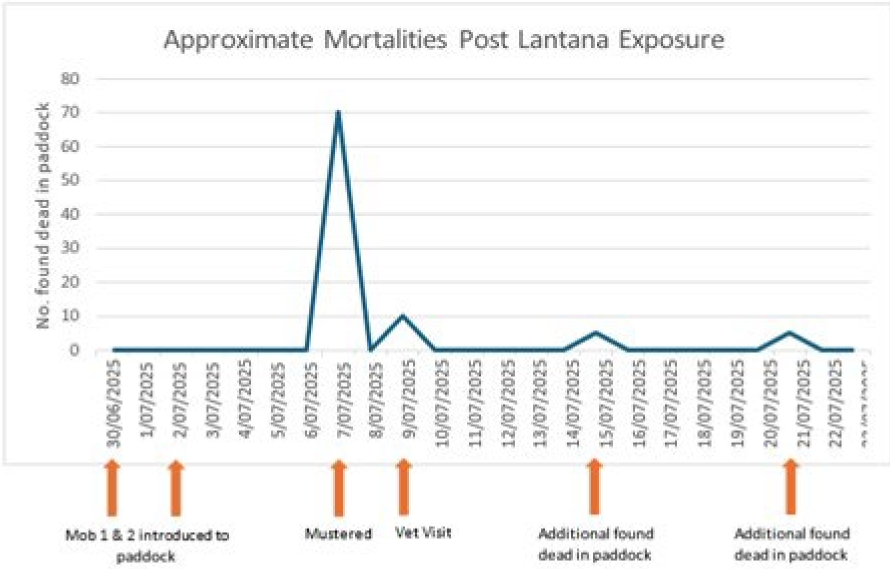
Many of the SDIs submitted from the NABSnet network are now on the website - check out a great record of some complex investigations by practitioners across the north.
https://nabsnet.com.au/



High mortalities following acute Lantana poisoning

In July 2025 in FNQ a mob of 550 Brahman cows experienced 13% mortality and 35% morbidity within 7 days of being introduced to a large paddock infested with Lantana.

Animals exhibited lethargy, jaundice, photosensitization lesions and polyuria. Diagnosis was confirmed on necropsy and subsequent histopathological examination. A similar outbreak had occurred in 2021 so recommendations for future prevention were a high priority.



Temporal clustering: Two mobs were introduced to the paddock, the first on 30/06/25 and the second on 2/07/25. On 4/7/25 the cattle were seen to be grazing the Lantana shrubs selectively.

Animals were mustered via helicopter on 7/7/25 and moved to a paddock with greater feed availability and less Lantana. About 200 animals were dull and lagging behind the mob, 40-50 were found dead and 15-20 either collapsed at the walk or were abandoned.

This 'point epidemic' pattern supports acute intoxication as the cause.

On clinical examination: many cows were profoundly dull and became recumbent, particularly when mustered. Others were unusually agitated and restless in the yards.

Skin lesions began as erythematous and swollen before progressing to cracking, crusting and eventual sloughing of skin in the unpigmented regions, particularly the vulva, periorbital area and tail. Jaundice varied from mild to marked irrespective of skin lesion severity. Polyuria/frequent urination was evident in many animals.

Post-mortem examination of two animals revealed severe jaundice, swollen ochre-coloured livers, distended gall and urinary bladders, and pathological changes in the kidneys.

Histopathological examination was consistent with hepatogenous photosensitisation characterised by liver megalocytosis, cholestasis and portal duct proliferation. There was severe renal tubular necrosis, mild to moderate multifocal myocardial necrosis and severe necrotizing epidermitis and dermatitis.

Spatial clustering: The paddock grazed was 1000 hectares in size with sparse native grasses including black speargrass and kangaroo grass. Indian couch and various invasive weeds were observed on paddock walk, including Lantana stripped bare.

Heavily grazed Lantana with fresh shoots

Much of the paddock was on volcanic lava flow with Lantana growing between rock and vertically, making management difficult.

Following a previous outbreak in 2021 bentonite clay had been added to the dry lick available year-round when grazing at-risk paddocks, which appeared to significantly reduce morbidity and mortality. However, the lick available to this mob was left out from the previous year, wet and in short supply.

Animal characteristics: A group of approx. 4+ year old cows was combined with PTIC cows to make the total herd of 550 head, all homebred. They were all grey or red brahmans with body condition ranging 2-2.5/5. All cattle were vaccinated for botulism. Both groups were noted to be equally affected, there was no clear clustering of animal characteristics.

All the animals had grazed Lantana in previous years and the larger group had come directly off a paddock full of Lantana but there was little evidence of them grazing it.

Interpretation (Potential Management, Environmental, and Animal (MEA) Factors Reducing Resistance or Increasing Exposure):

The significant mortalities seen in this outbreak can be attributed to multiple factors noted below that have both reduced resistance to toxicosis, and increased exposure.

- Management factors: undersupply of fresh bentonite in lick, delay in removal of animals from paddock, inadequate pasture/rotational management, lack of supplementary feeding
- Environmental factors: insufficient pasture availability, difficult terrain hindering Lantana control
- Animal factors: below target body condition

Lack of feed availability has led to cattle selectively grazing large quantities of the usually unpalatable Lantana, particularly the new shoots.

Of the 200 dull, lethargic animals—many exhibiting jaundice—that were moved to a lower-risk paddock, the subsequent mortality rate was 10%. Despite the marked jaundice, this suggests that hepatic regeneration and recovery are possible if access to the toxin is promptly restricted.

Recommendations

- Plan ahead to provide ad-lib bentonite lick as in previous years. 5mg/kg has been shown to be beneficial in cattle post-ingestion of Lantana.

- Adjust stocking rate based on pasture availability.

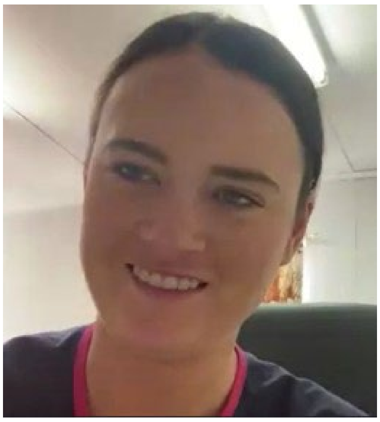
- Provide supplementary feed where pasture cannot be utilised.

- Consider new technologies to aid Lantana control in this type of terrain. Drones are being used to spot spray weeds like Lantana where there's no other access.

- Body condition score cows and heifers during other management events such as pregnancy testing to help create a feed budget and plan paddock rotations.

Meet Julia Keough – keeping a good balance

The first two to three years after graduation are an amazing transition as tasks shift increasingly from ‘first time I’ve done this’ to ‘yep, been here before and can build on that’, and as the work you really like comes into focus and decisions about what your career might look like start to take shape.



Julia Keough graduated from JCU in 2023, is working at Hughenden with Great Artesian Vets, and has actively joined in with NABSnet network activities.

This newsletter we catch up with her to ask what she’s up to and her experiences of things to keep in mind when starting out.

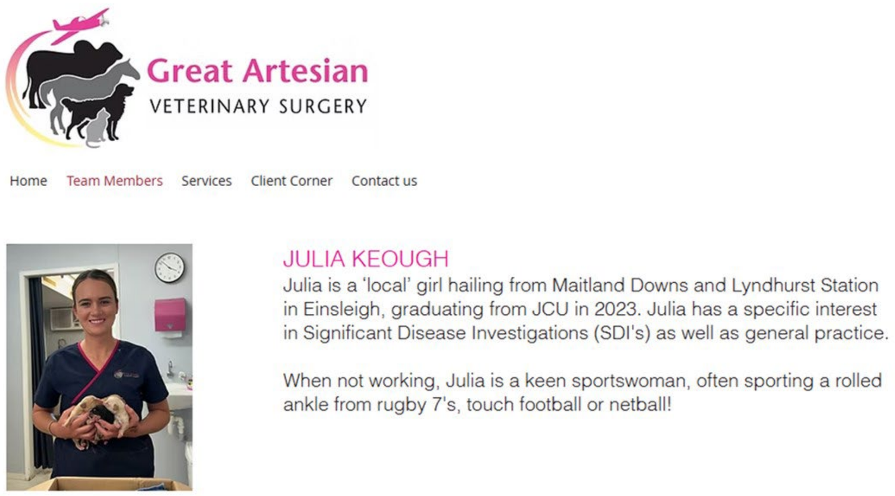
What brought you to the north after graduation?
I always wanted to be somewhere where I could be a part of home as well – my family has cattle properties up here - so I have arranged to do 3 weeks in clinic and 1 week at home. It works out really well – good mix of both – I get the best of both worlds.

After a week working at home I’m physically sore but ready to come back - my brain's ready to go again, and then by the end of the next 3 weeks, I’m ready for a break from that. Some friends who I graduated with have said they are starting to run out of steam, but I feel I’ve got a good balance.

How did you get involved with NABSnet?
I went to a NABSnet conference in my first week or two on the job, and there were only three of us new grads there and everyone took us under their wing. I learnt about the SDIs and got really into it and haven’t stopped doing them since.

How do you find the producers responding to SDIs?*One challenge is figuring out a way to share disease info across clients. One of the owners was happy to talk about their Blackleg outbreak, and everyone knew about it, so everyone vaccinated for it then, which was good. But it's a small community and not everyone is as keen to be as open. We're still looking for a way to communicate to clients about what's in the area. Maybe a producers evening might be the way to go, or talking about diseases we've seen over a longer timeframe – over the last 12 months.*

A good aspect of SDIs – they get you on farm. Producers get a rapport with you and have conversations like, "Oh, can you preg test?" *And being able to subsidize some of the investigation makes a big difference. When you say there's a good chance we might not find the answer, but we can help subsidize some of that - it really helps get you in there.*



Reflections on starting out – any advice?
One is - don't be afraid to annoy people that know a lot more than you. Most of them are really happy and willing to give you advice. Like Bill Tranter and everyone in the lab – I'll call them up about most cases and just chat. The other day my Mum asked "does anyone else in your year annoy Bill as much as you do?"

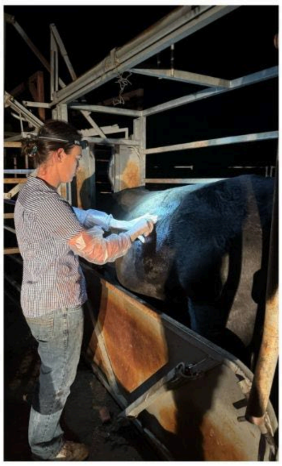
And don't be afraid when you don't know the answer - be honest with the owner – just say "I don't know the answer, but, you know, I'll talk to someone else who does, and then get back to you", *and they appreciate it a lot.*

Also, sample everything, even if it doesn't look like it's abnormal, still take everything, because the pathologists find things that you won't expect every time. Say the heart muscle looked normal but comes back with necrosis - you get the whole picture. The cost that these diseases cause the clients is a lot over many years, and it makes a huge difference if they know what it is and can try to prevent it. You're dealing on a big scale of things that can have really big effects.

Go to the Masterclass. If I hadn't gone to the course, I wouldn't have known what I needed to do, how to do an investigation for nabs and all the basics - list of samples etc. There was so much more direction having gone to that course.

So now that you're past the 'new grad' stage - what's ahead for you?
More SDIs - I really do like them, they're a lot of fun. I'm about to start an equine dentistry course and internship that's run virtually. Equine dentistry will be another thing that helps me get on farm and have those discussions about everything, because most people have horses, and they all have teeth, and they get sharp. We do a lot of outreach work, including the small animals. I'm slowly getting into the orthopaedics and I'm doing a surgery course coming up soon in the Tablelands.

And hobbies?
I ride bikes and horses. I enjoy working out and any sport that is going on in town. I've just moved house, so a lot of unpacking. There's always something going on around here, socially.



Cattle Skin Survey - continues, with some changes

The process is now easier for busy vets in the field and for collation of the results.

NOW you send the photos and submission forms by email (not text message), dispatch the samples, and then send the invoice. You no longer need to send in the results – they will be collated from the lab.

BUT for the samples to be eligible for the subsidy, we must receive images and the additional Cattle Skin Survey submission form by email to NABS@aff.gov.au

How to participate

1. Take photos of the lesions
2. Get punch biopsies (fresh + fixed)
3. Collect serum and EDTA bloods (if possible, not critical).

4. Fill in the Lab submission form **AND** the Cattle Skin Survey submission form. Both forms are necessary so we can analyse the data.

5. Email photos and both submission forms to the state lab (email addresses below) **AND** to NABS@aff.gov.au

6. Pack and freight samples and submission forms to your relevant state lab, to arrive the next day.

7. Send an invoice for $600+GST
   to NABS@aff.gov.au

Email photos and submission forms to:

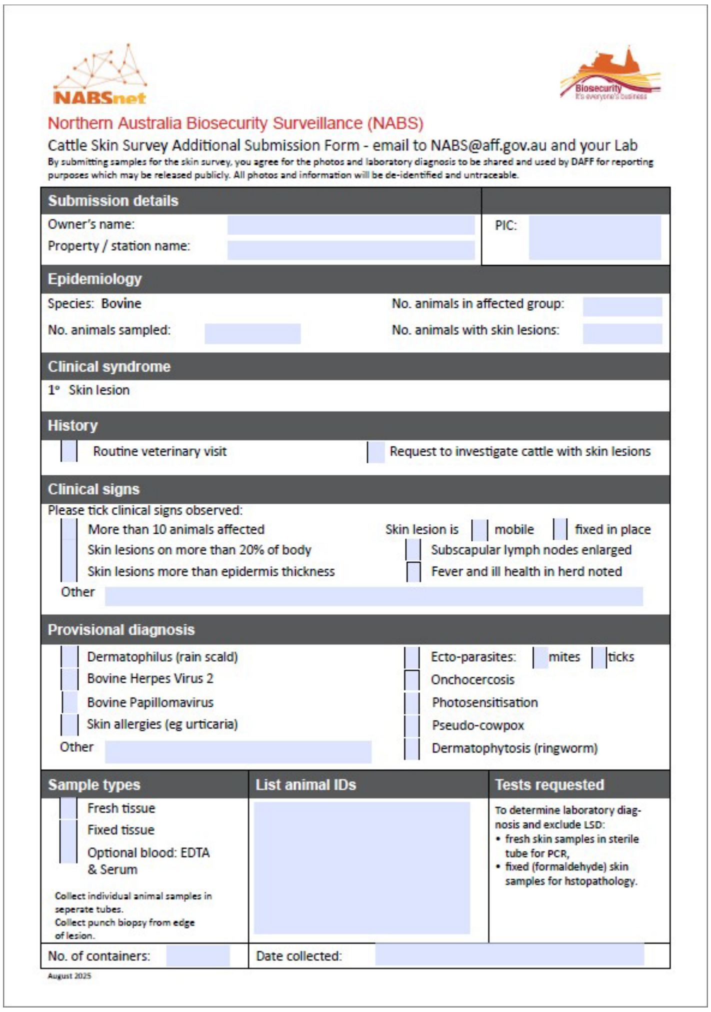
NT: BVL.DITT@nt.gov.au or

QLD: bslclo@daf.qld.gov.au or

WA: DDLS@dpird.wa.gov.au

AND NABS@aff.gov.au

download instructions and submission form here



NABSnet

Northern Australia Biosecurity Surveillance (NABS)

Cattle Skin Survey Additional Submission Form - email to NABS@aff.gov.au and your Lab

By submitting samples for the skin survey, you agree for the photos and laboratory diagnosis to be shared and used by DAFF for reporting purposes which may be released publicly. All photos and information will be de-identified and untraceable.

Submission details

Owner's name:

Property / station name:

PIC:

Epidemiology

Species: Bovine

No. animals in affected group:

No. animals sampled:

No. animals with skin lesions:

Clinical syndrome

1° Skin lesion

History

- Routine veterinary visit
- Request to investigate cattle with skin lesions

Clinical signs

Please tick clinical signs observed:

- More than 10 animals affected
- Skin lesions on more than 20% of body
- Skin lesions more than epidermis thickness
- Skin lesion is mobile / fixed in place
- Subscapular lymph nodes enlarged
- Fever and ill health in herd noted

Other

Provisional diagnosis

- Dermatophilus (rain scald)
- Bovine Herpes Virus 2
- Bovine Papillomavirus
- Skin allergies (eg urticaria)
- Ecto-parasites: mites ticks
- Onchocercosis
- Photosensitisation
- Pseudo-cowpox
- Dermatophytosis (ringworm)

Other

Sample types	List animal IDs	Tests requested
Fresh tissue Fixed tissue Optional blood: EDTA & Serum Collect individual animal samples in seperate tubes. Collect punch biopsy from edge of lesion.		To determine laboratory diagnosis and exclude LSD: • fresh skin samples in sterile tube for PCR, • fixed (formaldehyde) skin samples for hstopathology.
No. of containers:	Date collected:	

August 2025

You must send photos and this submission form to NABS@aff.gov.au to be eligible for the subsidy

A capable and ready workforce, should we ever need it

Veterinary behavioural study – call for participants

Please contribute to a study about Australian veterinary capacity and capability development.

Dr Connar McShane is a behavioural science researcher from James Cook University Townsville. He is studying the factors that enable or prevent Australian veterinarians' participation in Emergency Animal Disease (EAD) response activities, such as a foot-and-mouth disease incursion.

Private veterinarians are an integral component of a successful EAD response and this study investigates their perception of their skills and competencies required, and the barriers and facilitators to developing and maintaining these competencies.

Participation is voluntary and will involve an anonymous 15-minute online survey or an online interview that would take approximately 30-60 minutes of your time. Your responses and participation in an interview will be confidential.

This study will provide valuable insight that will be used by the Australian state/territory and federal governments to ensure we have a capable and ready workforce, should we ever need it.

To be involved, please click the link below or contact Connar at connar.mcshane@jcu.edu.au

You can access the survey via this QR code, or at
https://jcu.syd1.qualtrics.com/jfe/form/SV_86yqltgAOqHEyKG

This study has been approved by the James Cook University Human Research Ethics Committee (H8267)

Japanese Encephalitis Virus (JEV) circulates quietly but persistently

Japanese encephalitis (JE) is a mosquito-borne zoonotic disease caused by JEV, and has been present in mainland Australia since 2022. The first confirmed human case of JE on mainland Australia occurred in 1998 on the northern Cape York Peninsula and surveillance in animals suggested only seasonal incursion risk in the Torres Strait and Northern Peninsula Area until 2022. In 2021, a spillover event in northern Australia resulted in a fatal human case of JE in the Tiwi Islands, although the origin was unclear. This was followed by a significant outbreak in 2022 across south-eastern mainland states, resulting in 6 human deaths and over 80 infected piggeries. Genome sequencing confirmed the 2022 outbreaks were closely related to each other and to the Tiwi Islands human case, and due to the extensive geographic spread of the virus, eradication was deemed unfeasible.

Humans are dead-end hosts for JEV and, as a high proportion of human JE cases are subclinical, detection of JEV via animal surveillance can give an early warning for potential spillover events. Approximately 90% of human JE cases are asymptomatic or present with mild, non-specific symptoms. However, severe JE infection in humans can cause confusion, seizures, paralysis, and coma. Among those who develop severe encephalitis, approximately one-third may die, and up to half of survivors may experience permanent neurological, cognitive, or behavioural complications.

The natural transmission cycle of JEV in northern Australia involves wild birds, mosquitoes and feral pigs. Wet season conditions of seasonal flooding, elevated humidity, and warm temperatures create optimal environments for increased bird and mosquito activity across extensive areas of suitable habitat. Wetlands birds, especially Ardeids such as herons and egrets, are recognised as maintenance hosts which may harbour the virus without signs of disease. Long distance movements of wild birds may also contribute to the geographic spread of JEV, introducing the virus to new areas or re-seeding it in regions where it had previously declined. The presence of competent mosquito vectors, such as *Culex* species, completes the transmission cycle.

Feral pig surveillance activities

Photo Credit: Northern Australia Quarantine Strategy

In commercial piggeries, there can be severe reproductive impacts associated with JEV transmission. The obvious clinical outcomes can assist in identifying areas where there has been transmission but the impacts are usually not apparent until weeks after sows have been infected. In south-east Asia, pigs are recognised as amplifying hosts with the potential to increase human health risks in areas of high density pig production. This pattern does not seem to be replicated in Australia and commercial pig production is absent from most of northern Australia.

However, feral pigs are a useful surveillance target species in the north. Ongoing surveillance by the Northern Australia Quarantine Strategy has confirmed continuous circulation of JEV in feral pig populations, particularly in the Northern Territory. These findings highlight the persistent risk of spillover to humans and domestic animals, especially for individuals working outdoors or in close contact with wildlife.

Although horses are considered dead-end hosts for JEV, the virus can still cause severe and potentially fatal encephalitis in affected animals. JEV should be included as a differential diagnosis in neurological disease investigations involving horses, once other high risk zoonoses such as Hendra are excluded. Contact your state or territory government laboratory for advice on appropriate samples.

Spillover risk from JEV remains an ongoing risk in northern Australia due to a combination of interrelated factors. These include persistent viral circulation in animal hosts and long or year-round mosquito transmission season in tropical and subtropical regions . The outdoor lifestyle common in northern communities, occupational exposure, and frequent interaction with wildlife habitats further elevate the risk. Although JEV is present year-round, the period of greatest spillover risk typically coincides with the wet season, from December to April.

Given these ongoing risks, veterinarians are encouraged to adopt a proactive approach to personal and occupational safety. This includes vaccination, use of protective clothing and insect repellents, and environmental management practices such as eliminating standing water. Veterinarians can also play a key role in community education, helping clients and the broader public understand the risks and implement preventive measures.

Q. What plant is this?

A. Lantana (*Lantana camara*)

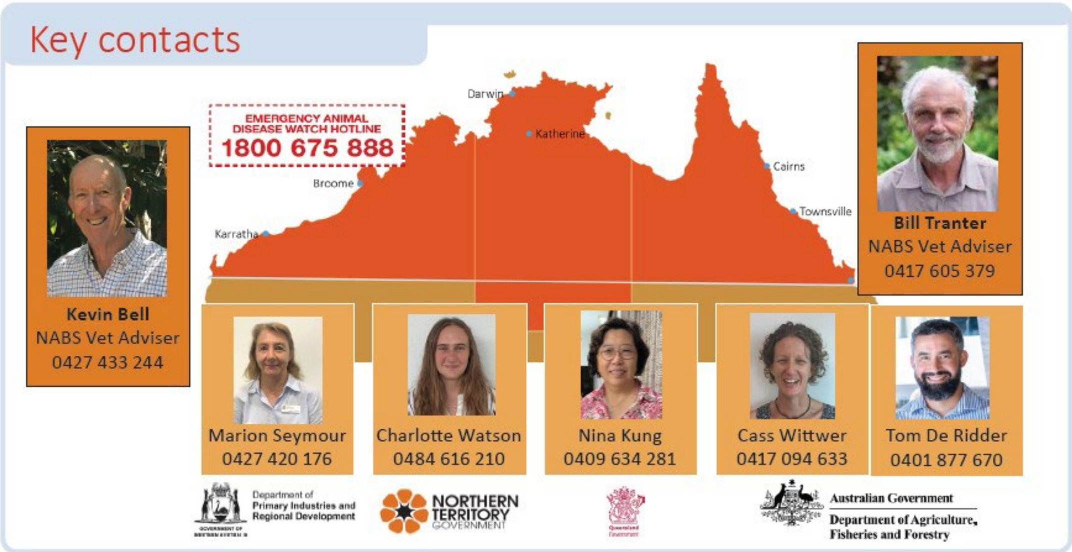
Native to tropical and subtropical regions of Central and South America, Lantana is a heavily branched shrub that can grow as compact clumps, dense thickets, and scrambling and climbing vines. It can smother native vegetation and form impenetrable stands.

- Stems are square, often with small, backward-facing prickles.
- Leaves are bright green, oval tapering at the tip, with toothed edges. They grow opposite one another along a stem.
- Flowers heads are flat-topped about 2.5cm in diameter and vary in colour from pale cream to yellow, white, pink, orange, red, lilac and purple.
- Fruits are glossy, rounded, fleshy, purplish-black when ripe.

There are multiple varieties with different levels of the toxic triterpene acids, causing hepatogenous photosensitisation, liver and kidney damage.

Key NABSnet SDI contacts



Kevin Bell, NABSnet Vet Adviser

Contact at: nabsvetadviser@gmail.com / 0427 433 244

Bill Tranter NABSnet Vet Adviser, QLD

Contact at: bill@tablelandvet.com.au / 0417 605 379

- QLD **Nina Kung** nina.kung@daf.qld.gov.au
- NT **Charlotte Watson** Charlotte.Watson2@nt.gov.au
- WA **Marion Seymour** marion.seymour@dpird.wa.gov.au

Missed earlier NABSnet newsletters? read them here

To subscribe: join here

Sent on Kevin and Bill's behalf from the team at Harris Park Group

Let us know any topics you'd like to see covered in future issues.