

Katherine Rural Review

DEPARTMENT OF PRIMARY INDUSTRY AND RESOURCES



EDITION #334

March 2018

Inside this issue:

You paid for it, now make sure it works: Principles of vaccine handling.....	1
How wet is this wet?	3
Jane has left KRS!.....	5
A short good-bye, not farewell....	6
Northern Territory Cattlemen's Association Update.....	7
Animal Health.....	10
Katherine events calendar.....	20

Katherine Research Station

PO Box 1346,
Katherine NT 0851

Phone (08) 8973 9739

Fax (08) 8973 9777

Krs.DPIR@nt.gov.au

ISSN 0394-9823

You paid for it, now make sure it works: Principles of vaccine handling

Jodie Ward, Beef Extension Officer Katherine, and Lee Taylor, Senior Veterinary Technical Manager, Zoetis

Results from the 2010 Pastoral Industry Survey indicate that a large majority (90%) of the stations in the Katherine region routinely vaccinate the herd for botulism, while more than half (62%) of those surveyed annually vaccinate their bulls for vibriosis (Cowley, T 2014).

However I ask you, are you confident that you have done the best you can to make sure those vaccines were effective?

Vaccines have been proven to be effective at preventing the targeted disease however once the vaccine has left the manufacturer there are a number of ways that the contents can be rendered ineffective. Below are some tips to ensure your vaccines are effective.

At the Station

- Most vaccines need to be kept between 2 -8°C at all times, therefore placing a thermometer that can record the maximum and minimum temperature in the fridge is a good idea for tracking temperature fluctuations and making sure your vaccines are kept in prime working order. While you're there, check the seals on your vaccine fridge.
- When bringing home new vaccines, bring the old stock to the front to be used first and discard any that have passed the expiry date.
- Some vaccines should be used on day of opening, some can be used the next day, and some can be used 30 days after opening. Read the label. Never put opened packs of vaccine back in the fridge with a vaccinator gun still attached. Remove the draw off tube and clean the vaccinator gun.
- If you have a good quality vaccination gun that needs to be cleaned (as should be done after each session of use), DO NOT use disinfectants or antiseptics as these may interfere with the next vaccine used and damage seals in the gun. The best practice method is to wash the gun out with dishwashing liquid and remove vaccine residue with clean tap water,

reassemble the gun, lubricate it (using the manufacturer recommended oil to ensure seals and valves are kept in good order), fill the gun with water and boil vaccination gun for 10 minutes. Air dry the gun and then store the dry gun in a zip lock bag in the vaccine fridge once reassembled.

During transport

- Temperature control and exposure to direct sunlight are important factors to consider during transport. If going to town to collect vaccine, leave home prepared with enough space in an esky or car fridge to keep your vaccines cool on your travel home.



Figure 1. An esky with ice bricks will keep your vaccine cold enough when at the yards or during transport

At the yards

- Invest in a vaccine cooler. Made out of wet suit material, this cheap yet effective device will keep your vaccine out of direct sunlight, and if pre-chilled before use, they will keep your vaccine cooler.
- Keep your vaccines in an esky with ice bricks when not being used, such as in between race loads of cattle or during meal breaks. Rather than allowing direct contact between the ice bricks and the vaccine container, wrap the ice bricks in newspaper, this will prevent the contents of the vaccine getting too cold and potentially freezing, rendering it ineffective.
- A car fridge on site is an excellent option for storing unopened vaccines until they are needed. Make sure to check the temperature is between 2 - 8°C.
- There is a new draw off tube in each pack of vaccine. Use a new one with each pack of vaccine.
- Use clean, sharp needles. Replace needles after every 30-50 head.

However, beyond all other recommendations, if you are unsure of what the right specifications are for your vaccines, it is best to read the manufacturer's instructions inside the box. The key points are to keep vaccines cool and away from light when not in use. Treat them like milk – keep them clean and free of contamination.

For more information about vaccination schedules or correct application technique, simply type “vaccine” into the search function of <https://futurebeef.com.au/>

References:

Cowley, T. 2014. The 2010 Pastoral Industry Survey - Katherine Region. Northern Territory Government, Australia.



Figure 2. Correct handling is imperative to ensure the vaccination gives animals the best cover possible

How wet is this wet?

Caroline Pettit, Rangeland Research Officer, Darwin

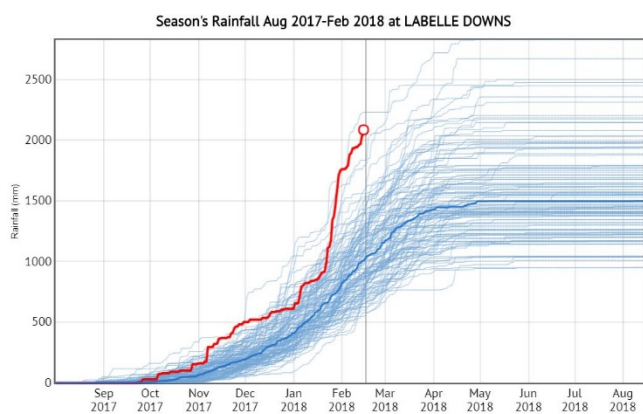
The 2017/2018 wet season has been one of extremes across the NT with records being broken on either end of the rainfall spectrum from the wettest wets in the Darwin-Daly region to one of the driest on record for parts of the Barkly.

The onset of the monsoon officially started on the Sunday 21 January 2018, the fourth latest on record. The monsoonal onset is usually defined by a reversal of the prevailing winds and widespread heavy rainfall. This is distinct from the Northern Rainfall Onset which is when 50mm of rain has fallen after September 1. This is when pasture growth is expected to start. Despite the late start to the monsoon, most parts of the northern NT received good early rain.

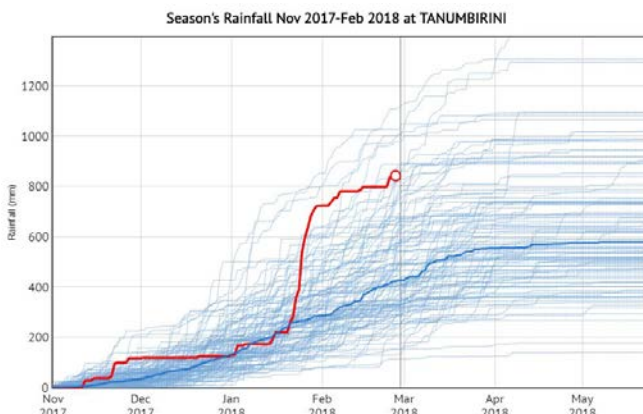
With only one or two official months of wet season remaining the outlook for more rain in the Top End is promising with approximately a 50% chance of exceeding median rainfall. Things are less promising for the hard hit Barkly region with a less than 50% chance of exceeding median rain. This can change with a low pressure system in the right place at the right time but statistically speaking the outlook is not good.

Using the CliMate app <https://climateapp.net.au/> the following graphs have been produced to show the cumulative rainfall for this year (red line) and how this compares to historical rainfall (thin blue lines). The median rainfall for each location is shown as a solid blue line.

The monsoon in late January brought significant rainfall to parts of the western Top End and Daly regions. Labelle Downs broke its January rainfall record of 807mm when it recorded 1138mm for the month. January records were also broken in Adelaide River Township, Jabiru, Bachelor and Tanumbirini.

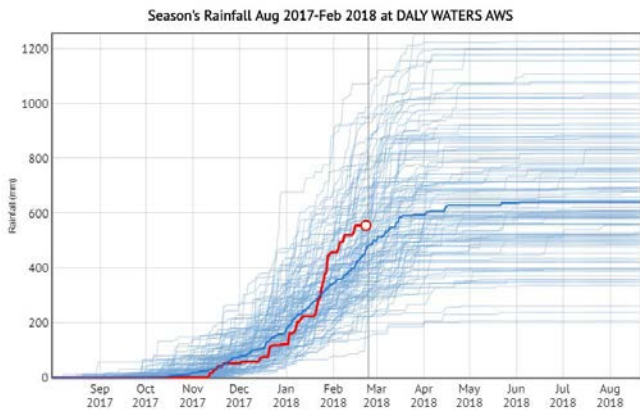


Graph 1. Season's rainfall at Labelle Downs

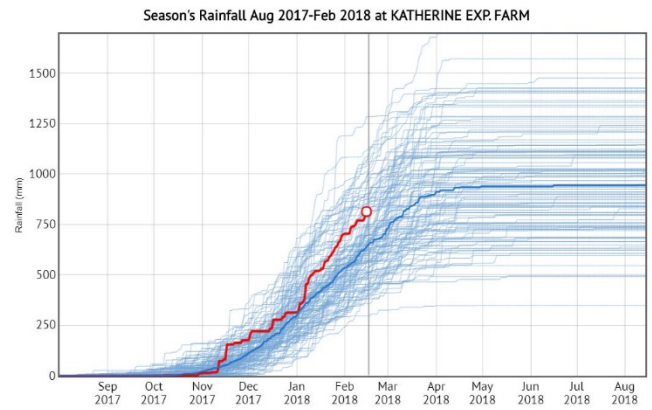


Graph 2. Season's rainfall at Tanumbirini

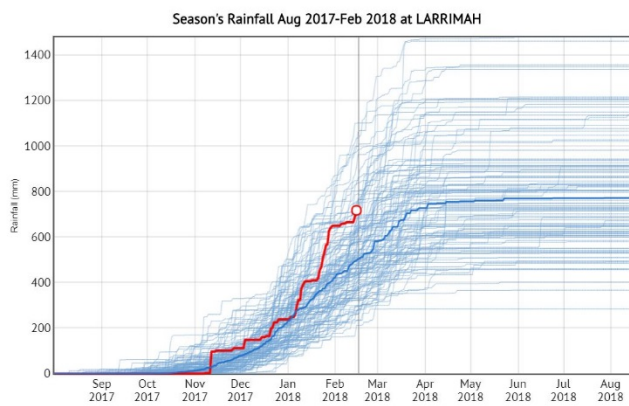
Rainfall in the Katherine and Sturt Plateau region is well above median for this time of year. Frequent storms throughout December and January kept rainfall totals up while most of the region was affected by the strong monsoon in late January. While the season has been good up until the end of February for the region, further rainfall in excess of 100mm will be needed to maintain the above median rainfall totals by the end of the wet season.



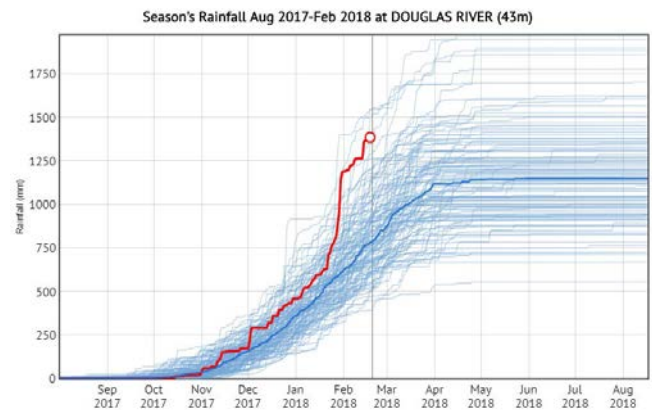
Graph 3. Season's rainfall at Daly Waters AWS



Graph 4. Season's rainfall at Katherine Exp. Farm



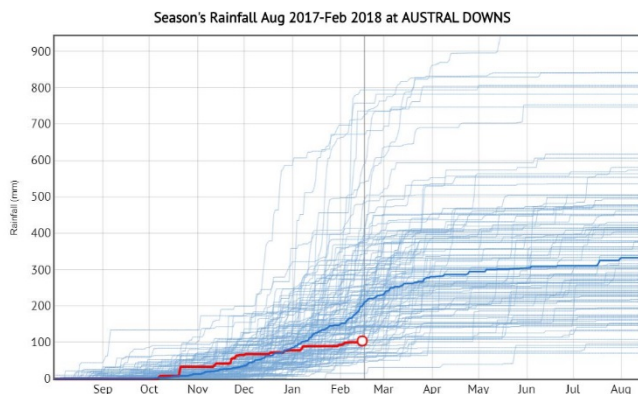
Graph 5. Season's rainfall at Larrimah



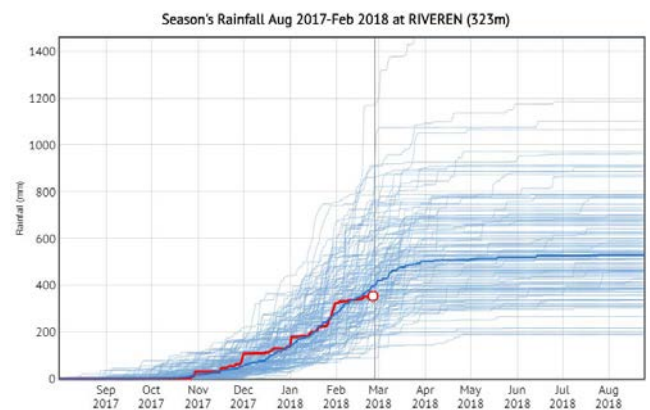
Graph 6. Season's rainfall at Douglas River

Despite good early rainfall in November and December across the Barkly region, a prolonged dry spell during late December and January brought rainfall totals to well below median for this time of year. Some areas of the southern and western VRD are also below median rainfall after a dry February with Riveren receiving only 45mm in February compared to the median monthly rainfall of 132mm. Timber Creek has also experienced a drier than usual wet season with only 50mm of rain in December, well down on the median of 180mm. Despite good January rainfall a relative dry February delivered 50mm less than the monthly median.

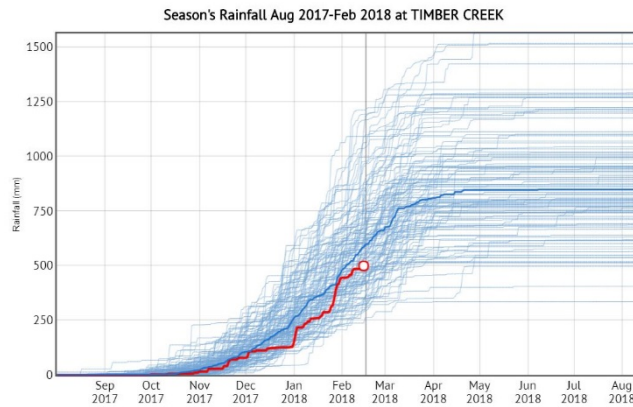
Although rainfall is tracking close to the long term average for Riveren and Timber Creek for this time of year, it might feel drier because rainfall in the VRD rain has often been above average over the last 20 years.



Graph 7. Season's rainfall at Austral Downs



Graph 8. Season's rainfall at Riveren



Graph 9. Season's rainfall at Timber Creek

In most years, the wet season is over by April. The Bureau of Meteorology are predicting a low chance of receiving the median rainfall between now and May for the Barkly and Southern VRD so these areas need to be prepared for the likelihood of little to no more significant rain.

To see the rainfall outlooks for your area on the Bureau of Meteorology web site, go to <http://www.bom.gov.au/climate/outlooks/#/rainfall/climatology>

This year, forage budgeting will be critical in areas with less than median rainfall to calculate how much pasture will be available and how to adjust stock numbers accordingly. If stocking rates are not adjusted to available forage, higher utilisation of pasture could lead to a decline in land condition. A decline in land condition during poor years can have a substantial flow-on effect onto future seasons even after good rainfall. For help with forage budgeting and advice on stocking rate adjustments contact Livestock Industries Development on (08) 8999 2014.

Jane has left KRS!

Neil Macdonald, Regional Director, Katherine

The best known face in Katherine Research Station, Jane Jackson, left us in early February.

Everyone who has dealings with DPIR's Katherine office or visits the research station knows Jane. She has worked at KRS in various capacities since 1993, and for many years she has been Executive Officer for both the regional administration and the livestock industries division

Hers was the welcoming face when you came into the front office. You may also have experienced her legendary laugh which boomed along the corridor. More than anyone else, she has been responsible for making KRS such a happy place to work.

Jane says she has no plans to leave Katherine and is using up her leave until the middle of the year before deciding what to do next.

Thankfully Leanne Vandersman who has worked alongside Jane for years is able to step into the Executive Officer role until the position is advertised and Angela Donzow, who has had a couple of spells in the KRS office in the past, has come in to backfill Leanne's finance position.



Figure 3. Miss Jane, as she was fondly known by all in the department, always made visitors to KRS feel welcome.

A short good-bye, not farewell

Casey Collier, Pastoral Production Officer, Tennant Creek

The Department said goodbye to one of its bubbliest employees this month. Jodie Ward has worked for the Northern Territory Government for eight years, and although her official title was Pastoral Production Officer, Jodie was a 'Jill of all Trades'.

Jodie, and her husband Dan, have decided to make the move to Queensland for a couple of years to pursue Dan's career in helicopter training, but as Jodie said, "Katherine and the Territory is our home now, and we will definitely be back".

Jodie started with the Department in 2010 and quickly became known as the grass counting guru. When it came to doing any sort of grass counting, Jodie was your gal, and could always be counted on to have the quad bikes serviced, tablets charged and some good, bopping tunes for the long drives across the paddocks.



Figure 4. Jodie always fill field work trips with lots of laughter with her bubbly personality and great sense of humour

Grass counting wasn't her only talent though. Jodie was heavily involved in the data collection for the Liveweight Gain project, which involved collecting plenty of fresh poo samples, and I think we can all use our imagination to envisage how one might obtain the freshest samples....

While Jodie has many talents, her passion is extension, and she knows exactly how to inspire a room full of first year stockmen/stockwomen, and demand attention when delivering Grazing Land Management, Rangeland Management or general stock courses. With the increased power in social networking, Jodie is a strong believer in using social media to engage and captivate a target audience.



Figure 5. Jodie in her element: delivering an extension workshop in the paddock.

Her talent and passion for extension has shone through over her time with the Department, evident in her keen involvement in organising Beef Up Forums, Kidman Springs Field days, annual Katherine Show displays, Katherine Farm and Garden Days, and various other project field days over the years.

The Department staff would like to thank Jodie for all her hard work, dedication and bubbly sense of humour, and wish her and Dan all the best with their big move East.

Northern Territory Cattlemen's Association update

Paul Burke, CEO, Northern Territory Cattlemen's Association

The Northern Territory Cattlemen's Association (NTCA) has had a busy start to 2018. The *Scientific Inquiry into Hydraulic Fracturing* was made public the week prior to Christmas, and with over 120 recommendations, the body of work is immense. The NTCA Executive has formed a Working Petroleum Group to advise the Executive of the best path forward. The response to this report will be submitted by the end of January 2018.

In November 2017, the Federal Government delivered an options paper on proposed reforms to the Native Title Act, 1993. The NTCA is currently consulting with the pastoral industry and other stakeholders and will deliver a response to this paper in the coming weeks.

The Northern Territory Government have flagged that water reform, vegetation management frameworks and land access reviews are also all on the legislative agenda for 2018.

The NTCA is a grassroots organisation built on the principle of "Advancing and protecting the interests of cattle producers in the Northern Territory." The 34th NTCA AGM and Industry Conference will be this year held on the 22-23 March at the Alice Springs Convention Centre. With a theme of 'Innovation Generation', the program will include some interesting and stimulating topics which aim to dissect the future of technology for our industry.

The NTCA has been lucky enough to secure Air Chief Marshal Sir Angus Houston AK, AFC (Retired), formerly the Chief of the Australian Defence Force and Chief of the Australian Air Force, he will discuss aviation safety within the cattle industry. Kalia Colbin, Ambassador for the Singularity University will deliver a presentation on nanotechnology, bioinformatics, artificial intelligence, robotics, and how these innovative technologies will impact the pastoral industry in the future.

Wes Lefroy, Agricultural Analyst with Rabobank will explain 'Blockchain' and the opportunities that this may represent for the cattle industry. David Mahony, Head of Small Business Innovation with Google, will take delegates inside Google to understand how they are overcoming the digital divide between rural and city customers.

One of the most popular sessions on the program each year is the afternoon panel session, which comprises a number of industry leaders. In 2018 the calibre of participants is outstanding: Dr Michele Allan, Chair - Meat and Livestock Australia; Fiona Simson, President - National Farmers Federation; Howard Smith, President - Cattle Council of Australia; and Tom Stockwell, President of the Northern Territory Cattlemen's Association. It promises to be an insightful session.

Tickets for the NTCA Conference can be purchased online by following the links at www.ntca.org.au. The team at the NTCA looks forward to welcoming all at the conference and are committed to working hard to represent all Northern Territory cattle producers in 2018.



The banner features a red diagonal ribbon on the left with the text "TICKETS ON SALE NOW!". The background is a landscape with trees and a power line tower. The text "NORTHERN TERRITORY CATTLEMEN'S ASSOCIATION" is at the top, "INNOVATION GENERATION" is in the center, and "34th AGM & INDUSTRY CONFERENCE ALICE SPRINGS - 22 & 23 MARCH 2018" is at the bottom.

NORTHERN TERRITORY CATTLEMEN'S ASSOCIATION

TICKETS ON SALE NOW!

INNOVATION
GENERATION

34th AGM & INDUSTRY CONFERENCE
ALICE SPRINGS - 22 & 23 MARCH 2018

Nutrition EDGE Workshop



Katherine, NT: 27-29 March 2018

Nutrition EDGE is a three-day workshop and practical session covering all aspects of animal nutrition. Participants will be able to make better decisions to achieve their herd performance targets through improved breeder fertility, weight gains, reduced mortality, optimal use of supplements and overall management.

Attending this workshop will help you to:

- better understand the nutritional requirements of your cattle and sheep
- estimate the feed value of pasture and animal production
- know what supplements to feed
- understand a feed label
- save money on supplementary and drought feeding
- make better management decisions for a range of seasonal conditions

Price

\$1,750 + GST / 1st person from one business
\$1,450 + GST / 2 or more people from one business

Cost includes comprehensive set of workshop notes, workbook and lunch, morning and afternoon tea each day.

Deliverers:

Désirée Jackson - Désirée Jackson Livestock Management
Mellissa Holzward – Dept of Agriculture and Fisheries Qld

What you will learn

- importance of nutrition
- how to get your bottom line to benefit
- digestion and nutrients
- pasture intake, quality and diet quality
- pasture growth, intake and forage budgeting
- calculating a forage budget
- mineral nutrition
- diagnosing deficiencies
- supplementation and other tools
- supplement groups
- reading a label
- practical nutrition management
- defining production targets
- calculating viability of options

Places are limited. To register contact:

Désirée Jackson
M: 0409 062 692 or E: desireejackson@djlm.com.au



Department of
**Primary Industries and
Regional Development**



Désirée Jackson
Livestock Management Pty. Ltd.
Nutrition, Reproduction and Management Performance



MEAT & LIVESTOCK AUSTRALIA **EDGE
NETWORK**



Désirée Jackson

Livestock Management Pty. Ltd.
Nutrition, Reproduction and Management Performance

Registration RSVPs are required by **March 17th**.
Please complete the following form:

Date: Katherine (March 27-29)

Participant details

Participant(s): _____
Position/role(s): _____ ABN: _____
Property name: _____
Postal address: _____
Contact details: Phone: _____ Fax: _____
Mobile: _____ Email: _____
Requirements*: _____

**Please list any specific dietary requirements or accessibility issues.*

Payment details

EFT Cheque Tax invoice required: Yes No
EFT: Bank: NAB Account No: 34-000-6281
BSB: 084776 Account Name: Désirée Jackson Livestock Management

Cheque: Please make payable to: Désirée Jackson Livestock Management

Terms and conditions

- No refund if cancelled within 10 days from workshop start date.
- No charge for changing participants within the same business.
- Every effort will be made to fill cancellation vacancies before a refund is made.
- For unforeseen events, a written request outlining reasons will be considered and a full or partial refund may be provided.
- If the minimum number of attendees for a workshop is not attained, a full refund will be provided.
- We respect your privacy. Personal information provided by you when registering for an event will be collected by Désirée Jackson Livestock Management and provided to MLA. It is collected for MLA's business purposes only and will not be disclosed to any third party except in accordance with MLA's privacy policy. You can request access to and correction of your personal information by calling MLA on 1800 023 100. The privacy policy can be obtained directly from MLA by calling 1800 023 100, or from MLA's website www.mla.com.au.

I acknowledge and agree to these terms and conditions.

(Name)

(Signature)

Send the completed form to Désirée Jackson, email desireejackson@djlm.com.au, or post to Désirée Jackson Livestock Management, PO Box 73, Longreach Qld 4730.

Livestock disease investigations

The Department of Primary Industry and Resources (DPIR) provides a free disease investigation service to livestock owners for diagnosis of notifiable emergency, exotic and endemic disease, including zoonotic diseases. Berrimah Veterinary Laboratories provide free diagnostic testing for exclusion of notifiable disease for all disease investigations, and subsidies are available to private veterinarians for significant disease investigations in livestock. The Northern Australia Enhanced Disease Surveillance program has been introduced from 2017-2019 on a trial basis providing increased subsidies for cattle and buffalo disease events reported to and investigated by private veterinarians. This program recognises the higher costs and challenges associated with conducting disease investigations in more remote regions.

During October to December 2017, 37 livestock disease investigations were conducted to rule out emergency diseases or investigate suspect notifiable diseases across the Northern Territory (NT). Figure 1 shows the number of investigations by species of livestock.

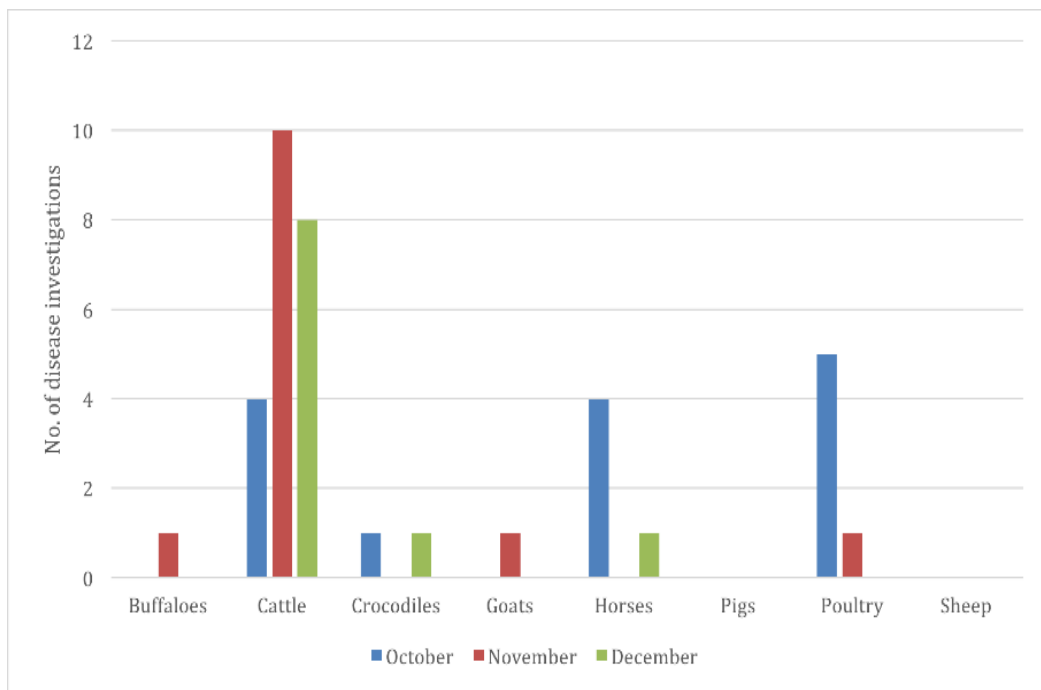


Figure 6. Livestock disease investigations by species for October to December 2017

Berrimah Veterinary Laboratories processed 119 livestock sample submissions, including samples to substantiate proof of disease freedom certifications, for accreditation programs and targeted surveillance to support market access. The following case reports are a selection of disease incident field investigations during the quarter.

Transmissible spongiform encephalopathy (TSE) excluded in neurological cattle

A herd of 220 Brahman-cross cattle on a small property outside Darwin were investigated in November after the owner of the property reported unusual signs in the herd.

Affected cattle were initially observed with signs of salivation, anorexia, a stiff hindlimb gait and glazed and red eyes. Over a period of 24 hours, the affected cattle began to lie down, and were unable to get back up. Over a period of eight days, one cow had died, four steers had been euthanased and one steer had recovered, despite all receiving anti-inflammatory treatments.

The cattle had been in the same paddock for the previous seven months. They were generally in poor condition despite having access to supplemental grass hay for approximately one month.

Laboratory tests of two affected animals indicated dehydration and a mild degree of muscle damage. Testing for bovine ephemeral fever virus was negative.

Post mortem examination of a three year old cow was unremarkable except for bone fragments in the reticulum and green ironwood leaves in rumen content. The cow was in poor body condition. Laboratory tests on tissues samples did not reveal any histological lesions, including no findings suggestive of transmissible spongiform encephalopathy (TSE) detected at the brain sites specified in the Australian and New Zealand Standard Diagnostic Protocols – TSEs.

Ironwood intoxication is suspected.

The main effect of ironwood is a cardiac arrhythmia (abnormal heart rhythm), which leads to severe debilitation. In some cases, the degeneration of the cardiac muscle is observed during laboratory examination and testing. This was not evident in this case.

The ironwood tree (*Erythrophleum chlorostachys*) is endemic in the northern region of the Northern Territory. Cattle bred in endemic areas will not usually consume the plant. The leaves of the ironwood tree are highly toxic when ingested. As few as two leaves are known to be lethal to cattle. The toxic agents are diterpenoid alkaloids. Young leaves of new plants are very attractive to hungry and newly introduced grazing stock.

Given the dry time of the year and scarce availability of feed, it is likely that the hungry cattle found the green ironwood plants palatable in this case.



Figure 7. Toxic leaves of the ironwood tree

72^s
Hour

Moving a horse from the cattle tick infected area?

You must give at least three day's notice (72 hours) and you must then move the horse no more than two days after the supervised treatment.

Necrotising fasciitis in greyhounds

An outbreak of necrotising fasciitis in racing greyhounds in Darwin occurred over a five day period in October.

Four dogs presented to veterinary clinics with signs of lethargy, depression, elevated temperature, lameness and localised swelling of the forelimb or hindlimb, and intense pain disproportionate to the wound. Each infection started with a small skin lesion and progressed to a large area of necrosis (dead cells) and ulceration within a few hours. Another case presented in Darwin in November.

In all cases, affected dogs were euthanased and testing was conducted by Berrimah Veterinary Laboratories.

With varying levels of severity, further examination showed haemorrhage, oedema (swelling) and necrosis of the limbs, ecchymotic haemorrhage of lymph nodes and generalised congestion of tissues.

Four greyhounds were diagnosed with severe necrohaemorrhagic fasciitis and one with streptococcal toxic shock syndrome.

Death was reported to occur in another five greyhounds in Darwin without veterinary investigation.

Necrotising fasciitis is a rare disease in dogs caused by *S. canis*. The condition appears suddenly and progresses rapidly, leading to systemic illness, toxic shock and death if left untreated. It destroys the skin, fat and underlying muscle tissues. It may present in the form of pneumonia. *S. canis* is considered normal flora in dogs. The change to an aggressive pathogenic type that is invasive is poorly understood, but may be due to acquired virulence factors in a particular clone.

Bacteria usually enters through the skin and can be spread by contact with infected dogs or exposure in a contaminated environment. Stress associated with travelling long distances may decrease an animal's resistance to the disease.

Veterinary officers from the Department of Primary Industry and Resources inspected the kennels at the site and provided advice on biosecurity and disease control to dog owners, trainers and veterinarians. Two greyhound race meetings and one trial were suspended during this time to reassess biosecurity measures. Races resumed one week after the last case was reported in October.



Figure 8. Necrosis of the limb associated with necrotising fasciitis due to *Streptococcus canis* infection

Do you keep chickens at home? Then you need a Property Identification Code (PIC).



If you keep livestock on your block or in your backyard, you need to register for a Property Identification Code (PIC). A PIC is a free registration code that identifies the property where your livestock are kept.

Livestock includes cattle, buffalo, horses (inc. mules and donkeys), bison, pigs, poultry, pigeons, deer, llamas, alpacas, camels, emus and ostriches, sheep, goats and beehives.

Help keep your livestock safe in the event of a disease outbreak, bushfire or animal emergency, and register today.

Registering for a PIC is easy and free, [register online](#).

For more information visit

<https://nt.gov.au/industry/agriculture/livestock> Click on **Get a property identification code**

A word from the Kevin de Witte Chief Veterinary Officer

Hello - as you may be aware, I am Chief Inspector under three Northern Territory acts:

- The *Livestock Act* – our principal animal biosecurity legislation.
- The *Meat Industries Act* – abattoirs, pet meat and wholesale butchers.
- The *Veterinarians Act* – where I am President of the Board.

I am currently reviewing the *Livestock Act* which, amongst a great number of biosecurity issues, will see the adoption of the Australian Animal Welfare Standards for cattle, sheep and saleyards/depots. Universal welfare standards for handling, care, fitness to travel and killing are already in operation with the past adoption by regulation of the Land Transport Standards for Livestock.



Recently, the Northern Territory cattle tick program has been under review, with a number of options proposed to the livestock industries. The Northern Territory Cattleman's Association (NTCA) has provided a response supporting the continuation of the cattle tick program, with suggested improvements particularly in regard to Parkhurst tick surveillance.

As producers, you are an important part of the NT and national animal health surveillance system that supports our public amenity, food safety, animal welfare and market access for primary produce. I have recently made **Melioidosis and Psittacosis** notifiable diseases in the NT to ensure that collectively we can better manage any public health aspects of these diseases. I want to mention the following cases from the past 12 months:

- **Lead residues** in cattle continue to surface. Discarded lead rubbish is the main issue.
- The alert for **Brucella Suis** has not confirmed any Brucella infection – a severe zoonoses.
- **Melioidosis** continues to be diagnosed in many species around Darwin.
- There has been the normal run of **Australian Bat Lyssavirus exclusions** in bats but no further cases. Post-exposure Rabies vaccine is available under a fee for service arrangement through DPIR for pets exposed to bats.
- There have been few **Hendra** exclusions for equines. We continue to seek samples from undiagnosed sickness in horses
- **Non-inflammatory Liver disease in young dogs** – named ‘**Humpty Doo Dog Disease**’ resulted in only two further possible cases in this build-up / Spring. Theories as to the cause favour a seasonal poisonous plant, possibly a fungi fruiting.
- An epidemic of stock worker illness last wet season was confirmed as **leptospirosis**. A parallel investigation in young cattle demonstrated massive seroconversion to a selection of serovars but the illness in these cattle was shown to be an encephalitis due to **Bovine Herpes Virus 5**. At around 1% mortality – this may be more common than reported.
- DPIR confirmed a classic **Bovine Pestivirus Persistently Infected (PI)** case. Virus is endemic.
- **Salmonellosis** in two separate aviaries with significant losses of expensive birds.
- Lastly, the NT had a significant outbreak of **Necrotising Fasciitis** “flesh eating bacteria” in greyhounds in late 2017. This is a rare but often fatal disease caused by *Streptococcus canis* that killed about six dogs before management was improved. Infection in other species is possible.

The national surveillance programs such as the National Arbovirus Monitoring Program (NAMP), TSE Freedom Assurance Program, Screw Worm Fly monitoring and Significant Disease Investigations continue to keep DPIR vets busy. There are also a number of Livestock Vet initiatives under the National Biosecurity Strategy. Berrimah veterinary Laboratory staff are happy to discuss any interesting or challenging cases that you may have, particularly where notifiable diseases are suspected. In some cases a fee for service may apply but generally livestock investigations are free. For our contacts see:

<https://www.nt.gov.au/industry/agriculture/livestock/animal-health-and-diseases/notifiable-diseases-in-animals-and-how-to-report-them>

Last week we were assessed as a government veterinary service under the OIE standards as part of a national program – there is no doubt that the report will reflect the realities of a small livestock biosecurity team charged with many responsibilities including a critical core role in emergency animal disease response.

Regards,

Kevin de Witte
Chief Veterinary Officer, NT

Feral pig hunting is popular in the Northern Territory

You can hunt feral pigs on public land as long as you carry out best practice and adhere to the relevant laws of the Northern Territory (NT).

Being a responsible feral pig hunter:

- Ensure that you obtain any necessary permits. There are heavy penalties for illegal pig hunting in the NT.
- Obtain permission from the owner if hunting on private property.
- Follow good biosecurity practice to minimise the spread of diseases, pests and weeds.

This will include:

- using personal protective equipment (PPE) (Refer to section on precautions).
- good personal hygiene (hand washing, changing soiled clothes).
- good hygiene for your dogs.
- cleaning and disinfecting work areas and vehicles when leaving a hunt.
- ensure your dogs are well handled and trained not to chase livestock or wildlife.

Be aware of your ethical responsibilities by ensuring that humane methods are utilised to kill feral pigs and that they are not subjected to unnecessary pain or suffering.

Pig hunting with dogs

Dogs are permitted to be used when hunting feral pigs in the NT, however strict regulations are in place under the NT *Animal Welfare Act* (as in force April 2017) and the *National Model Code of Practice for the Welfare of Animals: Feral Livestock Animals* to ensure the humane treatment of feral pigs and the welfare of hunting dogs are enforced.

Heavy penalties apply for breaches of animal cruelty when undertaking an activity that involves hunting. Penalties may also apply if you don't have the necessary permits to hunt on certain lands within the Northern Territory, including on Crown land or reserves managed by the Parks and Wildlife Commission of the NT or Parks Australia.

Additional information on feral pig hunting in the NT and how to obtain a pig hunting permit can be found on the Northern Territory Government website at: <https://nt.gov.au/leisure/hunting-and-shooting>

Managing the risk of disease

Feral pigs can host a number of diseases and parasites that may be transmitted to other animals and humans. Hunting feral pigs carries a **high risk** of contracting these potentially debilitating diseases, which have serious long-term health implications. Ensure that you take steps to protect the health of your dogs and yourself.

Butchering: You should wear appropriate PPE when butchering a feral pig. This includes gloves and footwear. Worms that you may see are not important for human health and are neutralised by proper cooking. However any abscesses found are likely to contain harmful bacteria and should result in the discard of the pig carcass. Many diseases do not show any signs in the pig carcass.

Some important shared diseases in pigs and people include:

Brucellosis- Bacterial disease causing severe long term illness, fever and influenza type symptoms. Symptoms in dogs can include fever, lameness, back pain, vomiting, lethargy and enlarged testicles. Brucellosis may be contracted by butchering and handling raw infected pig meat (especially reproductive organs), contaminated equipment and clothing, urine and contact with infected dogs.

Brucellosis is a notifiable animal disease in the Northern Territory. There is a legal obligation to notify your government veterinary officer if you know or suspect that an animal has this disease.

Q Fever- A serious bacterial disease that causes severe influenza like symptoms which can be fatal. Infection is via contaminated animal tissue (especially intestinal tissue, faeces, urine and foetal fluids). Q fever is mainly spread by inhalation including during high pressure hosing, slaughtering animals and dressing carcasses.

Leptospirosis-A bacterial disease that can cause high temperatures, kidney disease, jaundice and meningitis (inflammation of the lining of the brain) which can be fatal. Leptospirosis is found in animal tissue, urine and commonly in swamp water. It enters the body through cuts and abrasions and contact with mucus membrane lining of the nose mouth and eyes.

Melioidosis – A bacterial disease. Commonly affected livestock include goats, pigs and camels. This disease has potential to be passed on to humans through contact with infected animals or soil.

Swine Influenza - Swine influenza is a highly contagious, rapid onset, respiratory disease of pigs. Pigs contract this disease through close contact with infected pigs. Swine influenza viruses are normally restricted to pigs, however occasionally a human may become infected. It is known that pigs have a potential to mix different strains of influenza viruses together to produce new strains that may have the potential to infect humans. In 2009 there was an outbreak in several pig herds in Australia that was quickly eradicated. Signs of pigs infected with Swine Influenza include:

- high fever
- discharge from eyes and nose
- sneezing
- breathing difficulties
- barking cough.

As well as diseases endemic to Australia, feral pigs have the potential to harbour and spread a number of exotic diseases not known to occur in Australia. This would have a major impact on international trade, the Australian livestock industry and our way of life.

These notifiable diseases include:



Figure 8 Enlarged testis in feral pig with *Brucella suis*

Foot-and-mouth disease – a highly contagious viral infection of domestic and wild cloven-hooved animals such as pigs, cattle, buffalo, goats and sheep. Symptoms found in animals include blisters and erosions in the mouth and on the feet, severe sickness and lameness.

Rabies – Rabies causes inflammation of the brain and spinal cord (encephalitis) resulting in death. The main symptoms include behavioural changes, varying neurological signs, progressive paralysis, coma and death in all species. This disease is also fatal in humans.

Swine vesicular disease – a highly contagious viral disease of pigs that is indistinguishable from foot and mouth disease. Symptoms include blisters and erosions in the mouth and feet, severe sickness and lameness.

Classical swine fever- a highly contagious viral disease of pigs, capable of spreading rapidly in susceptible pig populations. causing fever, purplish skin blotching and sudden death

Surra -a disease caused by the blood-borne parasite *Trypanosoma evansi* that is transmitted by biting flies. It can become established in a variety of animals including cattle, horses, pigs and dogs. Typical signs include chronic wasting, weakness, pale gums and swelling of the legs and brisket. This disease is often fatal. Surra would be virtually impossible to eradicate if it became established in Australia and is present in countries as close to Australia as Indonesia, Papua New Guinea and Timor.

Precautions to prevent the spread of infections

- Do not feed raw feral pig meat to your dogs (especially reproductive organs, blood and offal).
- Use PPE. Cover all cuts and abrasions with waterproof dressings and wear rubber latex gloves and boots when processing feral pig carcasses to minimise exposure to potentially contaminated carcasses.
- Always wash hands and equipment thoroughly after butchering and processing feral pig carcasses.
- Wash dogs well after each hunt. Use PPE when washing and administering first aid to dogs
- Watch for signs of illness in your dogs and contact your local veterinarian if you have any concerns.



Figure 9 Diseased feral pig

Important information

Feral pigs are a high risk for spreading diseases to humans, hunting dogs and other animals. All diseases shared with pigs are serious for people and must be diagnosed and treated by your doctor who must also notify the health authorities in case further action is required for your benefit.

Contact your local veterinarian if you notice **any illness** in your dogs.

Consult your doctor **immediately** if you develop symptoms after contact with potentially infected animals and inform them of your pig hunting practices.

If you suspect a pig disease of concern contact your Regional Veterinary Officer

Darwin 8999 2035 **Katherine** 8973 9716 **Alice Springs** 8951 8181

Or call the Emergency Disease Watch Hotline on 1800 675 888 (24hr Hotline)

Livestock Biosecurity Branch

NT Waybills – Return PINK Copies

Have you sent your PINK copies in to your Regional Livestock Biosecurity Officer recently?

It is a mandatory requirement for cattle, buffalo, sheep, goats, camelids (including camels, alpacas and llamas), deer and pig owners to complete a waybill whenever stock are moved outside the boundaries of a property.

Pink copies must be sent within 28 days

It is an offence under the Livestock Regulations not to complete a waybill correctly and may incur a penalty for not submitting the Waybill pink copies to the Registrar in 28 days after completion.

NT PICs – use the **NT PIC Search database** - <http://pic.primaryindustry.nt.gov.au/>

National PIC Registers using your NLIS account-<https://www.nlis.com.au/> *Search the PIC register*

NOTE: Post PINK copies within 28 days to Regional Livestock Biosecurity Officer

Check out our website <https://www.nt.gov.au/industry/agriculture/livestock> or contact your RLBO for assistance

Darwin Region

Rob Wait (RLBO)
GPO Box 3000
Darwin NT 0801

Katherine Region

Josh Haigh (RLBO)
PO Box 1346
Katherine NT 0851

Tennant Creek Region

Tom Haines (PLBO)
PO Box 159
Tennant Creek NT 0861

Alice Springs Region

Greg Crawford (RLBO)
PO Box 8760
Alice Springs NT 0871



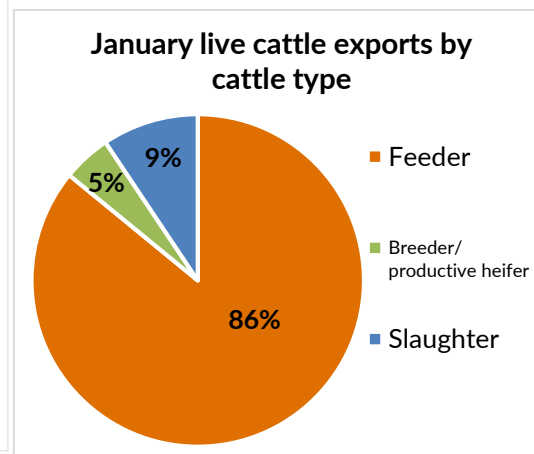
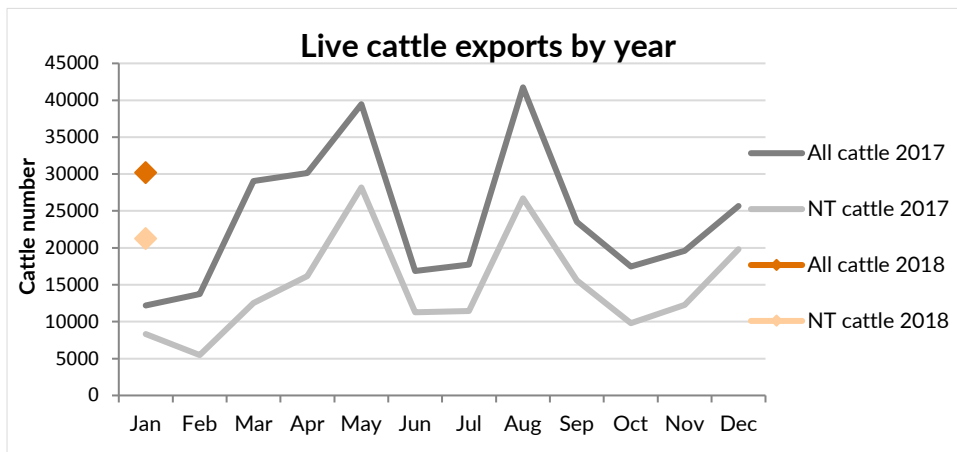


Live Exports via Darwin Port – JANUARY 2018

Please note: figures are for stock exported through the Port of Darwin only; some NT stock are exported through interstate ports.

CATTLE

Destination	Export of ALL CATTLE (including interstate)							Export of NT CATTLE (estimate only)						
	2016	2017	Last year to 31/01/17	YTD to 31/01/18	Jan	Last month	Difference	2016	2017	Last year to 31/01/17	YTD to 31/01/18	Jan	Last month	Difference
Brunei	3,379	2,793	0	0	0	0	0	2,314	1,701	0	0	0	0	0
Indonesia	296,230	226,304	11,067	27,364	27,364	19,775	7,589	195,037	138,912	7,537	19,264	19,264	15,266	3,998
Philippines	4,697	0	0	0	0	0	0	3,236	0	0	0	0	0	0
Sabah	0	2,640	0	0	0	0	0	0	1,680	0	0	0	0	0
Sarawak	1,220	2,138	0	0	0	0	0	843	1,189	0	0	0	0	0
Malaysia	10,959	12,557	0	0	0	0	0	7,476	7,671	0	0	0	0	0
Vietnam	36,405	39,989	1,127	2,830	2,830	5,904	-3,074	24,783	25,884	767	1,992	1,992	4,558	-2,566
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thailand	0	800	0	0	0	0	0	0	535	0	0	0	0	0
Cambodia	2,766	0	0	0	0	0	0	1,936	0	0	0	0	0	0
TOTAL	355,656	287,221	12,194	30,194	30,194	25,679	4,515	235,625	177,574	8,304	21,257	21,257	19,824	1,432



OTHER LIVESTOCK

Destination	Buffalo		Goat		Camel	
	YTD	Jan	YTD	Jan	YTD	Jan
Brunei	0	0	0	0	0	0
Indonesia	0	0	0	0	0	0
Philippines	0	0	0	0	0	0
Sabah	0	0	0	0	0	0
Sarawak	0	0	0	0	0	0
Malaysia	0	0	0	0	0	0
Vietnam	0	0	0	0	0	0
Egypt	0	0	0	0	0	0
Thailand	0	0	0	0	0	0
Cambodia	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

CATTLE MOVED FROM NT TO INTERSTATE

Destination	Jan	YTD as at 8/02/2018
NSW	264	264
QLD	658	658
SA	495	495
VIC	281	281
WA	0	0
Total	1,698	1,698

NATIONAL CATTLE PRICES

www.mla.com.au/prices-and-markets

CURRENCY EXCHANGE RATES

www.oanda.com/currency/converter

Total of ALL CATTLE through Port of Darwin							Total of NT CATTLE through Port of Darwin						
2011	2012	2013	2014	2015	2016	2017	2011	2012	2013	2014	2015	2016	2017
269,617	246,990	359,616	493,958	487,568	355,656	287,221	253,797	234,249	308,784	324,477	287,892	235,625	177,574

[Subscribe](#) or [unsubscribe](#) to the monthly Pastoral Market Update.

Katherine region events calendar

Event	Location	Date	
Nutrition EDGE Workshop	Katherine Research Station	27-29 March 2018	desireejackson@djlm.com.au

Please email us with updates of events happening in your area: krs.dpir@nt.gov.au

POSTAGE

PAID

If undelivered
please return to:
PO Box 1346
Katherine NT 0851

Disclaimer

While all care has been taken to ensure that information contained in this publication is true and correct at the time of publication, the Northern Territory of Australia gives no warranty or assurance, and makes no representation as to the accuracy of any information or advice contained in this publication, or that it is suitable for your intended use. No serious business or investment decisions should be made in reliance on this information without obtaining independent and professional advice or both in relation to your particular situation.

Reproduction of Rural Review articles

The Department of Primary Industry and Fisheries (DPIF) welcomes the reproduction of articles appearing in this newsletter, but requests that the technical information be confirmed with the editor or author, prior to publication. The department also requests that acknowledgement be made for any original work sourced from the Katherine Rural Review.