Barkly Beef
DEPARTMENT OF PRIMARY INDUSTRY AND FISHERIES

June 2016

Inside this issue:

Beetaloo Rotational Grazing Trial winds up

Jane Douglas, Pastoral Production Officer, Tennant Creek

After four years of collecting pasture, cattle and biodiversity data, the long awaited Beetaloo Rotational Grazing Field Day was held on the 23 May.

Fifty-one attendees from all over the NT, QLD, NSW and the ACT met up at the Beetaloo homestead, eager to see the results.

Jane and Scotty Armstrong explain the infrastructure development

Jane Armstrong kicked off the day by giving a detailed introduction and explaining the significant infrastructure development that they have carried out across their land holdings. After purchasing Beetaloo, Mungabroom and OT Downs, the Dunnicliffs and Armstrongs had noticed that the traditional set stocking regime was impacting on their land condition and animal performance. At this time, there were about 40 waters across the three properties. In order to realise the carrying capacity and production potential of the leases, they took the bull by the horns and put in almost 600 waters and thousands of kilometres of new fencing and poly pipe across the three properties.

After a quick introduction to the Rotational Grazing project from Angela Carpenter (Barkly Landcare and Conservation Association) and Jane Douglas (DPIF), everyone convoyed out to the Peabush site, stopping off along the way to see the cattle in the rotation and set stocked control paddocks before lunch was served in the paddock.

After lunch, Steve Eldridge (Desert Wildlife Services) discussed the results of the biodiversity flora and fauna surveys. Steve has an article on page 8 in this edition of Barkly Beef that covers some of the results from the project.

Just when we thought we had our brains full, Robyn Cowley (DPIF) gave us a rundown on pasture and cattle production results as well as the economics and future modelling. Click here to see the results of the project. Keep an eye out in future editions for more articles on rotational/cell grazing.

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NORTHERN TERRITORY GOVERNMENT

Throughout the day, Jane and Scotty Armstrong answered an onslaught of questions relating to what they have learned with the rotation and the property as a whole. They believe that in order to achieve development of this scale, both forward planning and flexibility are essential. You have to know what you want to achieve in the long run, but be willing to change things along the way in order to reach your final goal.

A diverse range of participants at the Beetaloo Field Day

The original plan for the project was to run the rotation for 12 months of the year but as the seasons progressed the plan changed. Flooding in one Wet Season meant that the animals had to be removed due to excessive mud on the black soil. In other years it was found that the feed couldn't last through multiple grazing periods (twice or more per year), so now the rotation is spelled over the Wet and animals are moved onto the red soil when it rains, thus allowing the rotation paddocks to recover during the active growing season.

By having watering points set up every four kilometres, the grazing across the paddock is more even (each rotation paddock has two watering points), but also allows for a backup if something fails. All of the pipelines are run on a loop system with multiple bores, so that if one bore breaks down, the tanks can still be filled by starting another bore.

The continual interaction with the rotation cattle, by shifting paddocks every few days, has resulted in the bulls becoming a lot quieter and much easier to handle. And even though they are primarily moved by helicopter, they are now also much better with people on the ground.

Having the sale animals run as one mob in small paddocks means that they are essentially already mustered and always ready for inspection by cattle buyers or can be easily run into the yards to be trucked for sale.

The Armstrongs have stated that even though the trial has finished, they will continue with the rotation, and it is hoped that further data collection may happen in five to ten years to determine the longer term effects of the system.

Many thanks to everyone who has been involved in the project, including BLCA members and staff, DPIF, Desert Wildlife Services, the Armstrong and Dunnicliff families and Beetaloo Station staff.

The Barkly loses a legend- John Dunnicliff

A well-known member of the Barkly pastoral industry, John Dunnicliff, recently passed away over Easter after a courageous battle with cancer.

John, along with his family, have run Beetaloo Station, 250km north of Tennant Creek on the northern end of Barkly Tablelands since 2002. Prior to this, John owned cattle properties right across Australia, from King Island in the south, to New South Wales in the east and the Kimberley in the north-west.

Upon moving to the Barkly, John and his family embarked on an intensive development program on Beetaloo and its neighbouring lease, Mungabroom, adopting a rotational grazing management scheme. When the Dunnicliffs first took over, there were approximately 20 watering points on Beetaloo and approximately 18 on Mungabroon. Today there are more than 600 waters and thousands of kilometres of new fencing.

Tracey Hayes, CEO of the Northern Territory Cattleman's Association (NTCA), remembers John fondly saying, "John is known as a best practice producer, an innovator and a 'thinker'. John had the courage to blaze trails and break new ground, investing in emerging technologies and methods for land and cattle management. In success or failure he shared his knowledge and learnings, providing practical examples and evidence, inspiring others and leading industry".

Former NTCA President David Warriner remembers John as an operator who plied his trade from King Island to the Kimberly with great success. John is remembered as well-known among the large cattle traders of the 80s who bought in the north and sold in the south for an increased per kilogram price as well as the weight gain. John always looked to alternatives to the norm and endeavoured to exploit that, usually with success. He was rarely happy with the status quo and it would be safe to say he is an advocate of the quote, "The definition of insanity is doing the same thing over and over again expecting a different result". If John was not satisfied, something was invariably about to change!

John was honoured in the 2016 Queens's birthday honours with an Order of Australia Medal (OAM) for his service to the cattle industry.

No short term effects of rotational grazing on pastures at Beetaloo Station

Dionne Walsh, Jane Douglas, and Robyn Cowley, DPIF

After four years of comparing rotational grazing (RG) versus year-round or continuous grazing (CG) at Beetaloo the results are in!

The Armstrongs at Beetaloo have been trialling rotational grazing through 46 small paddocks to see if it has benefits for pastures and production. They hoped that regularly spelling and short periods of 'crash' grazing (large mobs in small areas, for a few days) would help degraded pastures improve in growth and species.

Table 1: Characteristics of the rotational and continuously grazed systems at Beetaloo

Grazing system	Rotational grazing	Continuous grazing
Paddock size (km^2)	2 - 25	4 - 50
Average annual stocking rate (AE/km^2)	14	16
Stock density when grazed (AE/km^2)	846	16
Graze duration (days)	2 - 5	200 - 313
Number of times grazed / year	2	All year

Rainfall was above average during the trial except for the first year (Fig. 1).

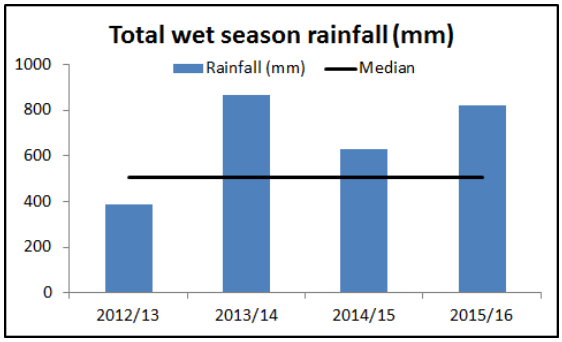

Figure. 1: Rainfall at Beetaloo

Before (left) and after (right) a high stock density crash graze in the RG paddocks

Six RG and four CG paddocks were monitored in May each year. Total pasture yield varied seasonally (Fig. 2). The RG paddocks usually had higher yield and cover (Fig. 3) than the CG paddocks, reflecting the poorer start condition of some of the CG paddocks.

Total ground cover trends through time were the same for both RG and CG, with decline for the first three years, reflecting higher utilisation of the area post development, but improvement again in 2016 (Fig. 3).

The proportion of unpalatable plant species declined slightly in 2016 for both RG and CG (Figs. 4-5). 2016 was a big year for palatable forbs, but a poorer year for palatable annual grasses. Palatable perennial grasses were stable for both RG and CG.

The unpalatable feathertop wiregrass was the dominant species in both CG and RG paddocks, and it declined in both treatments in 2016 (Figs. 6-7). Other species fluctuated seasonally. The big increase in the proportion of palatable forbs in 2016 was due to the increase in sensitive plant and peabush.

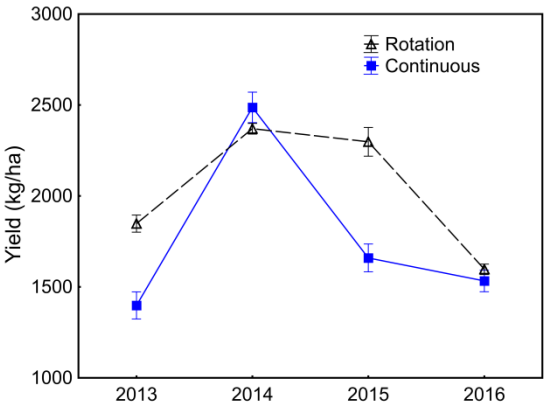

Figure. 2: Standing yield of the rotational and continuously grazed systems at Beetaloo

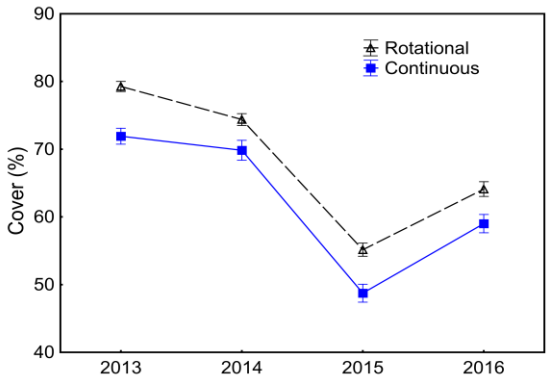

Figure. 3: Ground cover of the rotational and continuously grazed systems at Beetaloo

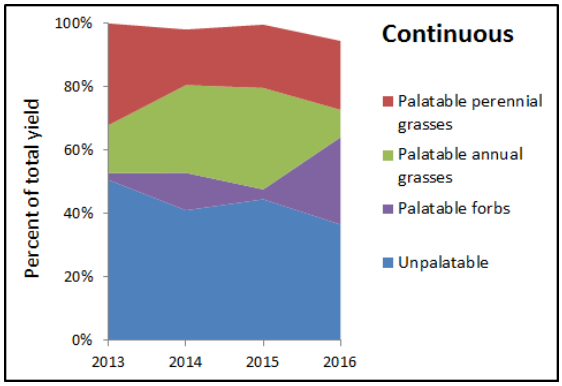

Figure. 4: Change in the proportion of palatable and unpalatable species through time in continuously grazed paddocks at Beetaloo

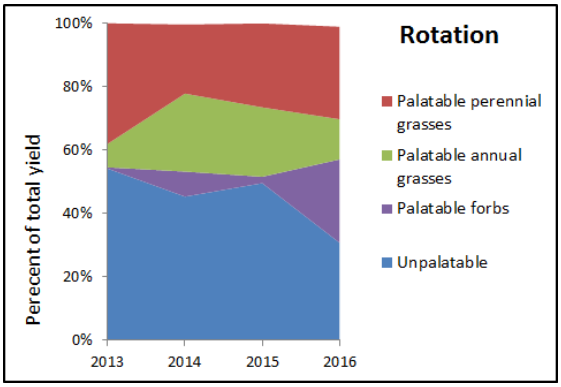

Figure. 5: Change in the proportion of palatable and unpalatable species through time in rotationally grazed paddocks at Beetaloo

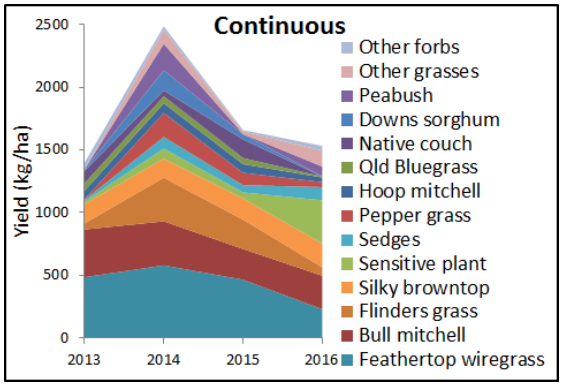

Figure. 6: Change in species yield through time in continuously grazed paddocks at Beetaloo

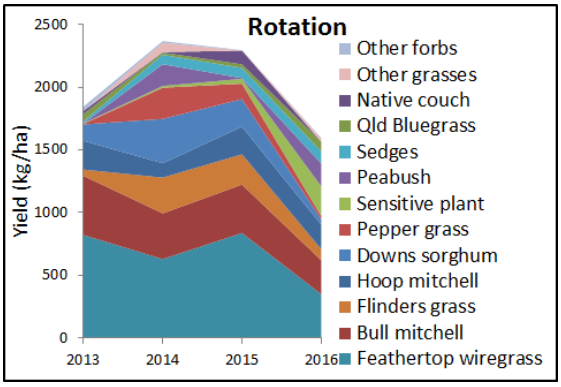

Figure. 7: Change in species yield through time in rotationally grazed paddocks at Beetaloo

In summary, pasture composition can be a stubborn beast to manipulate. The decline in feathertop wiregrass yield this year seems to have been offset by increased palatable forb yield made up of sensitive plant and peabush, but there is no sign of improvement in the palatable perennial grasses yet in either the rotational or continuously grazed paddocks.

Cells produced less beef and cost more to run than continuous grazing at Beetaloo

Dionne Walsh, Jane Douglas, and Robyn Cowley, DPIF

Intensive rotational systems are capital intensive and can be operationally costly to run. To pay their way, they need to raise more revenue than the status quo, so what did we find at Beetaloo?

Beetaloo measured the liveweight gain (LWG) of new crops of young bulls (180-290kg start weight) in rotationally grazed (RG) and continuously grazed (CG) paddocks for three years. LWG was measured in similarly sized paddocks for both RG and CG (4km² with two waters)

with most of the paddock areas within two kilometres of water. Cattle were not supplemented.

Daily LWG in the RG and CG systems (Table 2) were the same in 2013, and higher in the CG in 2014 and 2015. The very low LWG in RG in 2014 was due to cattle getting caught on inundated black soils. The higher LWG per adult equivalent (AE) and sometimes higher stocking rate, lead to higher LWG/ha in the CG system every year.

Table 2. Liveweight gain per AE and per hectare

	kg/AE/day			Average stocking rate (AE/km²)			kg/ha		
Year	2013	2014	2015	2013	2014	2015	2013	2014	2015
Rotation	0.42	0.35	0.34	16.3	12.5	14.8	18.6	11.4	11.6
Continuous	0.41	0.53	0.37	17.5	18.7	12.4	22.8	19.9	14.0

In its current configuration, Jane Armstrong estimates the capital investment in the peabush rotation complex is about $99/ha which totals ~$1.6M. This compares with an estimated $27/ha if the same 300km² was a fully watered single paddock (no internal fences). The operating costs calculated by the station owners were 1.5 times higher for the RG system ($1.98/ha/yr) than the CG ($1.36/ha/yr), due mostly to the higher helicopter costs of moving rotation animals every few days.

Gross Margins (GM) are used by economists to compare the performance of enterprises that have similar capital and labour requirements. However, the RG and CG systems differ in their capital and labour costs, so a GM analysis could be misleading. Therefore, the performance of the two systems was compared by calculating their net revenue and subtracting the variable costs and the system operating costs (e.g. the specific helicopter time, labour etc. associated with each system).

When taking into account all the animals that went through the different paddocks, the CG outperformed the RG in the first two years on both a per hectare (Fig. 8) and per AE (Fig. 9) basis. In 2015 the systems had similar economic performance.

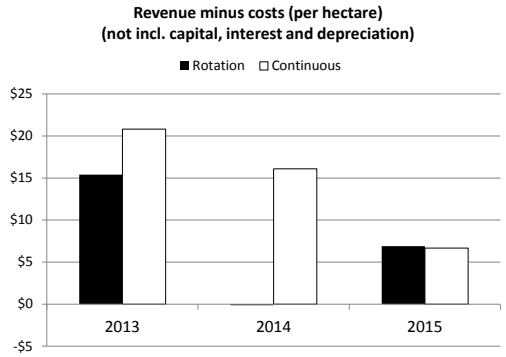

Fig. 8: Revenue minus costs per hectare at Beetaloo station

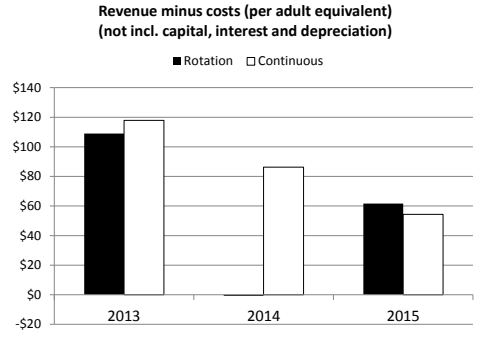

Fig. 9: Revenue minus costs per AE at Beetaloo station.

So what does all this mean for rotational grazing? Increased revenue can come in two ways when developing country that was previously poorly watered.

1. Increasing carrying capacity: adding waters to bring previously 'unwatered' (areas further than three kilometres from water) country into production increases carrying capacity, because more of your land is available to cattle.
2. Improving land condition: areas around old waters are often degraded. Lightening stocking rates through water development may lead to improved land condition and growth of pastures over time, which would also increase carrying capacity, but at a much slower pay back rate.

Recovery of pastures takes the right stocking rates, time and the right combination of seasons. It's a long term game that is unlikely to bring quick results. Stocking rates need to be adjusted downwards to help pasture recovery in formerly degraded areas. Wet season spelling and safely stocking during the Dry Season may speed up the rate of recovery.

In the short term, initial returns on development investment will only come through initial increases in carrying capacity when developing previously poorly watered areas.

Things to consider when planning development:

- what is the carrying capacity of the area currently within three kilometres of water?
- how much more land will be within three kilometres of water post-development?
- what will be the increase in carrying capacity with additional waters?
- centrally located waters provide more even grazing than corner waters, but can be more expensive to develop and access.

Make sure the investment is not greater than your projected increase in carrying capacity to make it pay its way.

Biodiversity monitoring at the peabush rotational grazing trial site on Beetaloo Station

Steve Eldridge, Desert Wildlife Services, Alice Springs

Rotational grazing spreads grazing pressure more evenly across pastoral land and provides opportunity for pasture to be spelled each year after a single burst of intensive grazing. This project aimed to determine whether changing to an intensive rotational grazing system would provide a net benefit to native plants and animals. Would the positive impacts of reducing grazing pressure in previously high impact areas outweigh the potentially negative impacts of losing lightly grazed 'refuge' areas in paddocks?

Typical pitfall trap. Each monitoring site contained four of these set-ups

Biodiversity was monitored twice a year for three years at 20 sites, selected deliberately to represent four

grazing categories:

1. Rotational grazing regime, heavy past grazing impacts (under four kilometres from an original water point)
2. Rotational grazing regime, light past grazing impacts (over four kilometres from an original water point)
3. Continuously grazed, heavy past grazing impacts (under four kilometres from an original water point)
4. Continuously grazed, light past grazing impacts (over four kilometres from an original water point)

Results

1. Peabush supports a good diversity of flora and fauna:
   - 115 plant species (in black-soil areas)
   - nine native mammal species
   - 32 reptile species
   - three native frog species
   - 127 bird species.
2. Over the study's three year time frame we found no clear differences in the distribution or abundance of native flora and fauna between rotational and continuous grazing regimes. There were no definitive declines attributable to rotational grazing.
3. Capture and observation rates for small mammals, reptiles, frogs and birds varied considerably over time, but variation was similar across all grazing treatments.
4. Fauna abundance appeared to fluctuate primarily in response to variation in Wet Season rainfall.
5. Perennial grass cover and abundance remained fairly constant at all sites for the duration of the study.
6. Growth of annual grasses and forbs responded primarily to variation in Wet Season rainfall and was not affected by the introduction of rotational grazing.
7. Perennial grass cover tended to be lower (and forb cover tended to be higher) at sites with a heavy grazing history. Recovery of perennial grasses following the switch to rotational grazing was evident at some of these sites toward the end of the study. However, sites with particularly heavy grazing histories (under one kilometre from an original water point) failed to recover. Recovery of perennial grasses at these sites is likely to take some time and may require specific management to assist in the recovery process.

Recommendations

While impacts of switching to rotational grazing were not evident in the three years of this study, longer term effects on biodiversity may yet occur. Continued, but perhaps less intensive monitoring of biodiversity at peabush will help to detect long term change and will enable the effects of rotational grazing to be distinguished from those attributable to natural climatic variation.

Stripe-faced dunnart (Sminthopsis macroura) captures increased considerably toward the end of the trials

What's been happening in the Tennant Creek office?

Helen Kempe, Executive Officer, Tennant Creek

We have a new face at the front desk in Tennant Creek while Skye Spence is on maternity leave. Ellie Hagan has joined the team until Skye returns in early 2017.

A little about Ellie…

Ellie Hagan is the new face in the Tennant office

Ellie was born in Katherine and her parents moved to Tennant in 2004 to run Barkly Quality Butchers, which they recently sold. Ellie attended grades six through nine in Tennant Creek and graduated year 12 at All Souls St Gabriel's in Charters Towers.

Ellie has lived in Tennant for 11 years with her parents and two older sisters. She began working for the NT Government in Tennant Creek in October 2015, at the Centre for Disease Control and Environmental

Health. Ellie enjoys being around friends and family and we're glad to have her on the DPIF team.

Skye Spence commenced maternity leave at the beginning of May and Alex George Spence was born on 21st May weighing 7 pounds 11 ounces. Congratulations to Skye and her husband Allan.

Congratulations are also in order for our Biosecurity Officer Greg Maguire and wife Sally following the 10 May birth in Alice Springs of baby Max James Maguire. Max will be a baby brother for little Lucy.

Weaner management DVD

Trudi Oxley, Extension Officer, Katherine

As with people, the younger cattle are, the easier it is to educate them about good and bad behaviour. Weaning is an ideal time to consolidate the education process by exposing cattle to the stresses they will need to handle later in life.

Research conducted by the Beef Co-operative Research Centre into the effects of yard weaning and feeding on subsequent feedlot performance found that after 90 days on feed the estimated added value of yard weaning was $25/head (after costs) over cattle weaned into the paddock with no handling. The improved growth rates came about because the animals were preconditioned to handling and less stressed as they moved through the supply chain.

In view of the importance of weaner management and education to beef producers, the Department of Primary Industries and Fisheries has developed the Weaner Management DVD, a series of training videos aimed at improving lifetime productivity, animal welfare and staff safety.

The DVD covers three key areas:

Overview of weaning and weaner management

This provides the background to the importance of weaning as a herd management tool, as well as the basics of weaner management in the areas of health and nutrition, and considerations for station staff involved in weaner feeding and care.

Stockhandling

This section covers the basic principles and terminology of stockhandling such as flight zones, pressure and release, positioning and demeanour, and intent. It highlights the importance of good stockhandling to ensure animal welfare, production outcomes and staff safety.

Weaner education program

This section provides an overview of a weaner education program. It demonstrates practical exercises for stockpeople responsible for training weaners.

Case Study: John and Helen Armstrong, Gilnockie Station, Katherine, NT

In the following case study, John and Helen Armstrong of Gilnockie Station outline how they have used the Weaner Management DVD in their staff training program. We encourage producers to have a look at the video to see how they could use it, either on property or as a follow up to formal livestock handling training courses. In the next edition we will hear from Gilnockie Station staff about how they benefited from the weaner training video.
John and Helen Armstrong run Gilnockie Station south of Katherine. This year they put 8,800 head through the yards. They're confident that their Brahman-Droughtmaster cross animals will enter the supply chain in a calm and collected manner, and to their credit, in the best condition possible for the export market.

As far as the Armstrongs are concerned, it all starts with understanding and educating livestock.

"Spend the time to educate your livestock and learn how to handle them calmly and confidently. The results for us have been improved health and safety outcomes for both staff and animal, machinery and labour savings and less shrink in the handling phase across the herd," John said.

The Armstrongs bring on new workers for about six months of every year. Most are "green and keen". This season, John and Helen used the Weaner Management DVD to introduce workers to the weaning process and effective cattle handling techniques.

"John used to spend hours training staff on the ground in animal handling, this season he had them watch the weaner management DVD," said Helen.

"After 30 minutes staff understood the basic principles of cattle behaviour and stockmanship. They were ready to trial what they'd learnt on the ground with our support."

On the third day of educating 500 weaners in the yard, staff walked the cattle out to an open paddock in a calm and collected manner. No rushing, no hustling, no "yee haaa-ing".

The DVD has also assisted John and Helen to equip workers with the skills to load cattle with

minimum stress to the animals. Helen says this is one of the hardest tasks to teach new workers.

“The DVD teaches workers to read the animals and apply the right amount of pressure at the right spot at the right time. Workers are quickly able to recognise the animals’ reactions and understand why they are reacting the way they are,” Helen said.

The DVD follows the same principles that John and Helen have been advocating and putting into practice for most of their career in the pastoral industry.

John said, “When I muster with a helicopter, I allow cows to gain confidence and trust in me, and they gather up and wander off in the general direction of the yard. It’s not a matter of floating them or bombing them off water. In fact, you take the opposite approach. Slowly apply pressure on and pressure off and in their own time the cows will gain confidence, gather themselves and their calves and away they’ll walk. It takes time and patience but the returns are worth it.”

According to John, the key benefits of ‘low stress stock handling’ are fewer OH&S incidents, less wear and tear on machinery, reduced labour costs, and calm and tractable animals who handle pressure better and thus lose less weight. It’s not uncommon after a muster to see the lead of Armstrong cattle standing at the gate, chewing cud while the tail walks past and yards up.

“Long gone are the days of cattle busting through yards,” John reflected. “If you’re doing it right, there’s no reason you shouldn’t get this result every time.”
John’s final advice is to “get the animals’ attention, then their confidence. Only then are cattle ready and happy to comply with pressure.”

The DVD is just one tool in a pastoral manager’s weaner training program aimed at increasing overall enterprise and industry productivity and profitability.

Helen would like to see more training delivered in simple formats. “No one these days has the time to sit down and watch Bud Williams for a day. This DVD is simple, short and can be applied by staff immediately. I think there should be more industry initiatives like it.”

You can find the training videos on the department’s YouTube Channel. If you have trouble viewing the videos we can send you copy on a USB stick: contact trudi.oxley@nt.gov.au.

There’s a new Commonwealth Biosecurity Act

On 16 June 2016 the Department of Agriculture and Water Resources *Biosecurity Act 2015* replaced the *Quarantine Act 1908*.

This is a comprehensive modernisation of Australian biosecurity legislation and work will continue over the coming years to fully implement the Biosecurity Act and to realise its full benefits.

There are no changes to the way existing import conditions take into account the animal and plant health status of different states and territories as a result of the Act coming into effect.

The Australian government and states and territories will continue to work together on ensuring regional differences supported by scientific evidence are reflected in Australia's import conditions.

The Commonwealth will have new powers to manage onshore biosecurity risks (including the 12 nautical mile marine zone).

The Commonwealth will work with states and territories to determine when or how these new powers may be used with state and territory legislation to more effectively manage onshore biosecurity risks. The Commonwealth will also identify what thresholds must be met, and how to evaluate these, for the biosecurity emergency declaration powers in Part 1 or Chapter 8 to be triggered.

The legislation provides for a single Australian-wide ballast water and sediment management regime for both international and domestic vessels consistent with the International Convention for the Control and Management of Ships' Ballast Water and Sediments. The implementation of domestic ballast water regulations has been delayed until the International Convention comes into force.

For more information, please visit: www.agriculture.gov.au/bioescuritylegislation

2016

Tennant Creek & District Show

Cattle Section

Friday 8th July

Classes:

- Pen of 2 Bulls *(2014 season)*
- Single Local Bull *(older than 2014)*
- Pen of 2 Mature Breeding Cows
- Pen of 2 Heifers 180-250kg
- Pen of 2 Heifers 250-350kg
- Pen of 2 Heifers 350-450kg
- Pen of 2 Steers 180-250kg
- Pen of 2 Steers 250-350kg
- Pen of 2 Mickeys 180-250kg
- Led Calf

It's that time of year again!

Start drafting off your prize-winning cattle now!

Nomination forms and further details will be sent out soon

Contact Casey Collier 08 8962 4493

Casey.collier@nt.gov.au@nt.gov.au

Barkly Beef Dinner

Tennant Creek, Friday 8th July 2016

Territory Glam ▪ 6.30pm ▪ Tickets $85 ▪ Sporties Club

*3 Course Meal *Live Entertainment *Full Bar *DJ

*Prizes to be won *Award Presentation for Show Cattle

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You are invited to...

EDGE*network*® – Nutrition EDGE

Nutrition as a business strategy

Barkly, NT (19-21 July, 2016)

Helen Springs Station

Presented by Désirée Jackson

The Nutrition EDGE package is tailored for your conditions and enterprise management. It is designed to equip you to make decisions that ultimately help to achieve your herd performance targets through improved breeder fertility, weight gains, optimal use of supplements and overall management.

During the workshop you will:

- Better understand the nutritional requirements of your cattle
- Be able to estimate the feed value of pasture and estimate 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

The workshop package includes:

- Three-day workshop (with a field session)
- Follow-up day (approximately 3-6 months later)
- Workshop notes and reference material
- Morning teas, afternoon teas and lunches

The workshop uses an interactive style and builds on participants' knowledge.

For more information and to register:

For further enquiries and or to register, please contact:

Désirée Jackson

Mobile: 0409 062 692:
E-mail: desireejackson@bigpond.com

Désirée Jackson
Livestock Management
Nutrition, Reproduction and Management Performance

Workshop topics:

- Digestive system of ruminants and use of nutrients, intake and production
- Pasture growth and quality, and indicators and factors that affect them
- Grazing management and animal performance
- How to manage supply of nutrients from pasture to grazing animals
- Identifying mineral and vitamin deficiencies and how to manage for them
- Managing nutritional deficiencies
- Supplementation and associated economics
- Identifying lick groups and understanding lick labels
- Calculating cost comparisons between supplements

Individual issues will be addressed.

Previous attendees have said...

"Measuring the quantity and estimating the quality of feed supplies is a vital part of making a profit from livestock. The Nutrition EDGE workshop ensured that I can do this more efficiently, effectively and with better accuracy in the future."

Simon Campbell, "Norwood", Blackall

Investment for this package

1 person from a business	$1,600 + GST
2 people from a business	$1,350 + GST each
3 people from a business	$1,100 + GST each

Numbers are strictly limited so please register early.

Renae McLean, Livestock Biosecurity Officer, Katherine

New Chief Veterinary Officer for the NT

Dr Kevin de Witte is the new NT Chief Veterinary Officer

Dr Kevin de Witte returned to the Territory in February to fill the role of NT Chief Veterinary Officer (CVO). Following ten years with Animal Health Australia (AHA), Kevin will lead and manage the Animal Biosecurity Program within the Department of Primary Industry and Fisheries.

Many pastoralists will remember Kevin from his time with the department in the 80s and 90s when he was based in Katherine. Kevin has significant experience in disease control and management working with the NT cattle industry during the eradication of bovine tuberculosis and brucellosis, the investigation and management of various disease syndromes, and the extension of optimum herd management including spaying.

In the previous ten years, as Executive Manager Market Access Support, AHA, Kevin oversaw management of several key national programs relevant to the cattle industry including:

- general disease surveillance programs including nationally significant subsidised disease investigations
- National Arbovirus Monitoring Program (NAMP) for blue tongue virus
- National Johne's Disease Control Program (BJD)
- Transmissible Spongiform Encephalopathy Freedom Assurance Program (TSEFAP)
- development of the land transport and cattle welfare standards and guidelines
- co-ordination of the Foot and Mouth Disease (FMD) vaccine bank and FMD research.

Kevin looks forward to rousing old and new friendships and working with the NT cattle and other livestock industries again to manage biosecurity risks, maximise market access and optimise productivity.

Notifiable diseases in the NT

Did you know that some diseases are listed as notifiable under the Northern Territory's Livestock Act? This means that if owners, managers and/or veterinarians suspect or have confirmed cases of these diseases in their animals, they must be reported to the Chief Veterinary Officer of the NT.

By reporting notifiable diseases as quickly as possible, you are ensuring a quick response to the disease. This not only potentially saves a large number of your stock, but could also prevent the spread onto other properties and assist the livestock industry as a whole.

There are three categories of notifiable diseases in the Territory:

- endemic refers to those diseases that exist within Australia but are either not found in the NT or found only in certain parts of the NT. For example, cattle tick found in the tick free area is an endemic disease
- exotic diseases are those that have not previously occurred in Australia
- emergency diseases are based on the national Emergency Animal Disease Response Agreement (EADRA) between industry, Commonwealth, state and territory governments. This list includes mostly exotic diseases that would have a significant impact upon Australia, livestock industries, trade agreements for Australia, public health and the environment.

To ensure that compensation is available in the event of a large-scale outbreak under the EADRA, emergency animal diseases (EADs) must be reported to the Australian Chief Veterinary Officer within 24 hours of notification.

Who should you report to?

If you suspect any animals to have any of the diseases listed below, you should do one of the following:

- phone your DPIF Field Veterinary Officer or Livestock Biosecurity Staff

Regional Field Veterinary Officers: Darwin	(08) 8999 2035
Katherine	(08) 8973 9716
Alice Springs	(08) 8951 8181

- call the 24-hour Emergency Animal Disease hotline on 1800 675 888.

OIE evaluation of Australia's veterinary services

Australia's veterinary services were recently evaluated by the World Organization for Animal Health (OIE); the body that sets health standards for international trade in animals and animal products. In October and November 2015 an expert team undertook the national assessment, visiting the Territory over five days to meet with representatives from the cattle, buffalo and live export industry together with government officers, private veterinarians and other relevant stakeholders.

The OIE's final report of Australia's Performance of Veterinary Services (PVS) evaluated Australia's animal health and biosecurity system with most criterion rating very highly. This independent and globally recognized report stands Australia's reputation as a producer and exporter of safe and healthy animals and animal products in good stead.

The report's findings show how the parts of our veterinary system add up to deliver a strong animal health status that in turn underpins our capacity to access international markets. More than 130 countries, including many of Australia's major trade competitors, have been assessed by the OIE against the same standards.

Figure 2. *Solar bore installed on Phillip Creek Station*
Photo courtesy of Sandy Warby

Some of the recommendations and issues raised by the OIE team relevant to the NT cattle industry include:

- review of Bovine Johne's disease and cattle tick management zones
- review of government veterinary service resources
- implementation of national feed safety standards
- national forum to coordinate animal welfare legislation and compliance
- registration of veterinary paraprofessionals such as stock inspectors, cattle spayers and pregnancy testers and vet nurses
- perceived conflict of interest for private veterinarians (authorised as Australian Government Accredited Veterinarians (AAVs)) contracted by the private export sector for live export processes
- no veterinary oversight in domestic abattoirs.

The full OIE PVS report is available at
http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/FinalReport_PVS_Australia.pdf

Tetanus – are you and your staff prepared?

What is it?

Tetanus is an acute disease of mammals characterised by muscular spasms and increased sensitivity to stimuli. Tetanus occurs in humans and has also been reported in all domestic animals except cats. In the Northern Territory, the disease has been recorded in horses, cattle, sheep, pigs and dogs. Horses are reported to be the most susceptible to the disease. Tetanus can be a common cause of death in weaners after castration and dehorning.

How is it caused?

Tetanus is caused by the bacterium *Clostridium tetani* when it enters the animal's body through traumatic wounds, or during parturition (e.g. calving) or management procedures. Procedures such as castration and dehorning can provide suitable anaerobic sites for the bacterium. After entering the body, the bacterium begins to multiply and produce a toxin, which causes the clinical signs of tetanus.

Spores of this organism commonly occur in soil and in the faeces of most animals and can survive for many years in the environment. It is for this reason that people who have contact with soil and animal faeces are at greater risk of contracting this disease.

What are the signs?

Signs of tetanus for cattle and horses are:

- body stiffness
- reluctance to move
- muscular spasms
- locking of the jaw
- difficulty opening mouth, unable to eat and drink
- rigid extended limbs (saw horse stance)
- difficulty in breathing and swallowing
- high sensitivity to noise or touch
- protrusion of the third eyelid
- drooling saliva
- convulsions or fits
- immediately before death: convulsions occur, respiration is laboured and body temperature rises.

Note that in affected dogs, there is a characteristic elevation of the ears, wrinkling of the forehead and protrusion of the third eyelid.

What can we do to prevent or reduce risk?

Prevention and reduced risk can be achieved by a few quick management steps:

- wet down the yards prior to marking and move weaners out of the yards as soon as possible
- procedures requiring the skin to be broken, such as injections and castration are carried out as hygienically as possible
- reduce contamination of surgical instruments by placing them in antiseptic while not in use
- prevent wounds from becoming infected by applying an antiseptic to the wound
- weaners and calves should be castrated and dehorned just before leaving the yards and not before trucking
- vaccinate weaners with a 5-in-1 or 7-in-1 followed by a booster shot four to six weeks later (where possible) especially on properties with a history of tetanus.

Adopt best practices for branding, castration and dehorning as per the MLA manual, 'A Guide to Best Practice Husbandry in Beef Cattle: Branding, Castrating and Dehorning' (MLA 2007) and start a 5-in-1 vaccination program at branding, followed by a booster four to six weeks later or at the next weaning muster.

Animal Biosecurity Branch – NT Contacts
Livestock Biosecurity Officers

Darwin region fax: 08 8999 2146
Rob Wait
Acting Regional Livestock Biosecurity Officer
Ph: 08 8999 2034 M: 0401 115 802
GPO Box 3000, Darwin NT 0801

Alice Springs region fax: 08 8951 8123
Greg Crawford
Regional Livestock Biosecurity Officer Ph: 08 8951 8125 M: 0401 118 125
PO Box 8760, Alice Springs NT 0871

Tennant Creek region fax: 08 8962 4480
Thomas Haines
Principal Livestock Biosecurity Officer (RLBO) Ph: 08 8962 4458 M: 0401 113 445
Livestock Biosecurity Officer (LBO)
Ph: 08 8962 4492 M: 0457 517 347
PO Box 159, Tennant Creek NT 0861

Katherine region fax: 08 8973 9759
Josh Haigh
Regional Livestock Biosecurity Officer Ph: 08 8973 9767 M: 0467 740 233
Livestock Biosecurity Officer (LBO)
Ph: 08 8973 9765 M: 0427 604 002
PO Box 1346, Katherine NT 0851

What, when and where

July 2016		
Tennant Creek Show & Barkly Beef Dinner	8 July	Tennant Creek
Nutrition Edge Course	19-21 July	Helen Springs Station
Beef Up Forum	26-27 July	Tennant Creek
August 2016		
Northern Beef Research Update Conference	15-19 August	Rockhampton, Qld

PRECISION PASTORAL MANAGEMENT TOOLS

Claim the Date:

Newcastle Waters Field day

31 August 2016

NT Beef producers, this will be your chance to see the technology in action. During the day we will be demonstrating the software that we have been developing over the past five years and discussing how Newcastle Waters Station has been using the technology, there will also be an in paddock demonstration of the RLMS.

Keep up to date via the PPMT Project's Facebook page: Precision Pastoral Management Tools Project or contact Sally Leigo, 0467 770 661 or sally.leigo@nt.gov.au

Around the traps

A perfect start to the morning at Beetaloo Photo courtesy of Angela Carpenter

Felicity Fulcher (Wollogorang) and Danielle Doyle (Mittiebah) at the Barkly Ladies' day

A perfect sunny day at the Beetaloo Field Day

Looking at some of the Beetaloo cattle during the tour of the rotational grazing sites

Jane Armstrong from Beetaloo explains the methodology behind the rotational grazing setup at the field day.

All dressed up for the Tennant Creek Races. Local Biosecurity Officer Thomas Haines holding Annabelle Collier and Olivia Haines

Nathan Collier and Casey Collier (DPIF Tennant Creek) with their children Joshua and Annabelle at the Tennant Creek Races

Perfect weather for the annual Tennant Creek Races

Pastoral Market Update

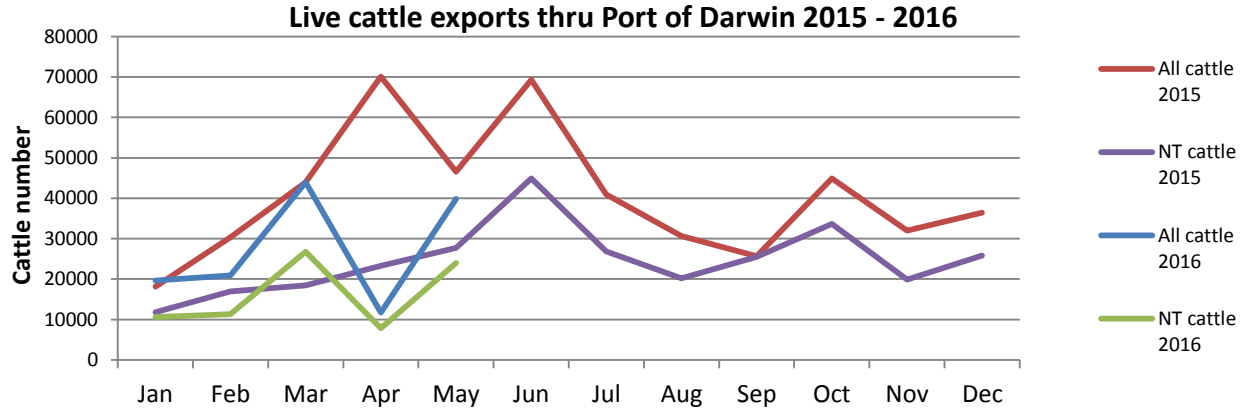
Live Cattle Exports via Darwin Port – May 2016

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

Destination	Export of ALL CATTLE (including interstate) from Darwin Port							Export of NT CATTLE from Darwin Port (estimate only)						
	2014	2015	Last year to 31/05/15	YTD to 31/05/16	May	Last month	*Difference*	2014	2015	Last year to 31/05/15	YTD to 31/05/16	May	Last month	*Difference*
Brunei	4,925	4,122	1,029	1,999	**1,099**	**0**	1,099	4,925	2,069	0	1,212	**663**	**0**	663
Indonesia	386,183	341,759	158,465	114,189	**32,228**	**8,812**	23,416	251,232	197,155	72,463	67,385	**19,433**	**5,904**	13,529
Philippines	16,080	23,611	10,927	1,743	**0**	**1,743**	-1,743	11,221	13,559	4,545	1,168	**0**	**1,168**	-1,168
Sabah	0	0	0	0	**0**	**0**	0	0	0	0	0	**0**	**0**	0
Sarawak	0	300	300	0	**0**	**0**	0	0	0	0	0	**0**	**0**	0
Malaysia	22,309	11,503	1,470	3,700	**2,895**	**0**	2,895	15,708	7,499	932	2,237	**1,746**	**0**	1,746
Vietnam	64,461	100,119	34,612	14,380	**3,593**	**1,165**	2,428	41,391	63,998	19,189	8,552	**2,167**	**781**	1,386
Egypt	0	0	0	0	**0**	**0**	0	0	0	0	0	**0**	**0**	0
Thailand	0	6,154	2305	0	**0**	**0**	0	0	3,610	1,097	0	**0**	**0**	0
TOTAL	**493,958**	**487,568**	**209,108**	**136,011**	**39,815**	**11,720**	28,095	**324,477**	**287,892**	**98,226**	**80,553**	**24,008**	**7,852**	**16,156**

May at a glance

- 39,815 cattle through the Darwin Port during May; 28,095 more than last month and 6,735 less than during the month of May last year.
- 24,008 NT cattle through the Darwin Port during May; 16,156 more than last month and 3,680 less than during the month of May last year.



OTHER LIVESTOCK EXPORTS VIA DARWIN PORT

Includes NT and interstate stock.

Destination	Buffalo		Goat		Camel	
	YTD	May	YTD	May	YTD	May
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	1,194	**182**	0	**0**	0	**0**
Egypt	0	**0**	0	**0**	0	**0**
Thailand	0	**0**	0	**0**	0	**0**
TOTAL	**1,194**	**182**	**0**	**0**	**0**	**0**

NT CATTLE MOVED INTERSTATE

Destination	Number
NSW	816
QLD	24,929
SA	6,511
VIC	805
WA	3,547
Total	**36,608**

NATIONAL CATTLE PRICES
www.mla.com.au/prices-and-markets

CURRENCY EXCHANGE RATES
www.oanda.com/currency/converter

Total cattle, Port of Darwin								NT Cattle, Port of Darwin							
2008	2009	2010	2011	2012	2013	2014	2015	2008	2009	2010	2011	2012	2013	2014	2015
364,944	347,314	295,605	269,617	246,990	359,616	493,958	487,568	295,539	304,818	272,749	253,797	234,249	308,784	324,477	287,892

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Department of Primary Industry and Fisheries

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Stock Inspector	Greg Maguire	08 8962 4492 M: 0457 517 347

Pastoral Production

Pastoral Production Officer	Casey Collier	08 8962 4493
Pastoral Production Officer	Jane Douglas	08 8962 4483

Barkly Landcare & Conservation Association

Landcare Facilitator	Angela Carpenter	08 8962 4494

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