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# NORTHERN MUSTER

*Information for rural business in North Queensland*

**Sweet Spot  
project gets  
moo-ving across  
the north**

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# Welcome to Northern Muster 48

**Welcome to the spring/summer edition** of the Northern Muster.

We have a jam packed issue to keep you occupied over the Christmas break with loads of valuable information. If you were ever in doubt if feeding phosphorus was worthwhile, make sure you read the article on some recent Northern Territory research.

This edition also covers drought related issues, two new projects in the north, an update on an upcoming tool that will allow you to predict animal weight gains from satellite imagery and much more!

Did you know that you have free access to pasture agronomists, nutritionists, spatial scientists and economists through the Mackay, Emerald, Charters Towers, Townsville and Mareeba Department of Agriculture and Fisheries (DAF) offices? A broad range of expertise is offered in cattle production and genetics, grazing management and beef business performance.

So don't wait. Get it touch with your local beef extension officer today. DAF's north Queensland beef extension team includes:

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The North Queensland FutureBeef team would like to take this opportunity to wish all of our readers a very Merry Christmas and a green, prosperous New Year. We hope you enjoy issue 48 of the Northern Muster. Bring on the wet season!

Please contact the editorial team with any enquiries or feedback. To register to receive the online version of the Northern Muster, subscribe on the FutureBeef website, [futurebeef.com.au/](http://futurebeef.com.au/) industry-newsletters or email [northernmuster@daf.qld.gov.au](mailto:northernmuster@daf.qld.gov.au)

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Alice Bambling  
Department of Agriculture and Fisheries



## Better landscape utilisation without more fences—can it be done?

**Self Herding** is a behaviour-based livestock management tool developed by Revell Science's Dr Dean Revell and Stress Free Stockmanship's Bruce Maynard. It provides managers with strategies and tools to positively influence grazing distribution.

A new project at Kidman Springs in the Northern Territory aims to demonstrate how Self Herding techniques can be used to establish grazing circuits within a paddock, creating a form of rotational grazing that does not rely on fencing.

Manager of the Kidman Springs project Dr Dionne Walsh said they selected a paddock that had stark contrasts in land condition, created by historical grazing patterns.

"By applying Self Herding techniques, we have been able to encourage cattle to use areas that have previously been under-utilised," Dr Walsh said.



*Trial heifers quickly became familiar with Self Herding techniques.*

In the coming months, the project will refine its techniques to reduce the areas previously overgrazed.

This project is a collaboration between Rangelands Natural Resource Management Western Australia, Northern Territory Department of Primary Industry and Resources (DPIR), Territory NRM, Revell Science, Stress



*Kidman Springs Manager Spud Thomas fits a GPS collar to a trial heifer.*

Free Stockmanship and Oxley Grazing. Funding support has been provided by Meat & Livestock Australia.

More information can be found at [selfherding.com](http://selfherding.com). Alternatively, contact Dionne Walsh, Rangeland Program Manager, NT DPIR at [dionne.walsh@nt.gov.au](mailto:dionne.walsh@nt.gov.au).



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Alice Bambling

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# Market report

## The cattle market in 2018 has been dominated by the eastern Australian drought.

Queensland is still 58.1 per cent drought declared with some districts facing their sixth failed season. Large areas of the southern states have also been in drought mode resulting in large numbers of cattle being sold, sent on agistment or placed into feedlots.

Eastern Australian feedlots have constantly had over a million head on feed this year. Local grain and feed supplies are very short and high in price. The price of imported grain from South Australia, Western Australia has risen quickly putting most feedlot profit margins into the red.

With the over-supply of cattle in the first six months of 2018, most meatworks and saleyard rates have receded. North Queensland export

abattoir Rocky Creek has had best bullock prices of \$4.60/kg dressed weight. In early September, this rose to \$4.80/kg dressed weight and rose again in early October to \$4.90/kg for milk and two tooth bullocks with the right P8 fat. Feedlot cattle are attracting over \$5.40/kg and grass fed cattle under the Teys certified grass label (Grasslands Pasture Fed) are over \$5.50/kg dress weight.

Patchy rain in early October over parts of Victoria, New South Wales and Southern Queensland has the potential to increase cattle prices if there is follow up rain.

## Live export

August was a big month for live export with 108 000 head being shipped. Total live exports

for 2018 to August now total 680 000 head with Indonesia accounting for 360 000 head and Vietnam 132 000 head. The Indonesian government still has Australia on the 5 feeder:1 breeder policy for live exports. However a current review of this quota means future policy into our most important market is uncertain.

Live export prices in October 2018 rose to \$2.70/kg for males and \$2.35/kg for females for feeder cattle (270–380 kg live weight (LW)) and \$2.60/kg LW for slaughter boat cattle (400–600 kg LW) delivered from Townsville or Charters Towers.

## Global outlook

The international meat market is facing some challenging situations. The United States of America's production of pork, chicken and beef is above average as they continue to effectively market this product worldwide. Australia is competing very strongly in traditional markets in Japan, Korea and the USA.

The USA trade war with China plus the uncertain future outcome of the North American free trade agreement has caused a lot of meat product build up in USA meat wholesaler cold storage. If marketing options don't materialise soon, a lot of this protein will be offered at discount rates in the USA and their various international customers.

Additionally, China is grappling with an outbreak of African swine fever in their vast pig herd and this could have serious supply issues for protein in their country. Depending on the outcome of the above listed issues, demand and prices for Australian export product could go either way.

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# Can we predict animal performance from space?

## Knowing how your livestock are performing is critical in making decisions about marketing, supplementation and stocking rates.

Often these decisions need to be made quickly before animals lose condition, prices fall or feed runs out. However, getting an accurate picture of how animals are performing in big, far-flung paddocks is not easy.

But what if a manager could use a simple on-line tool to get regular, accurate updates on cattle performance in different paddocks or even on a second, distant property? New work at the Wambiana Grazing Trial, near Charters Towers, is working towards exactly that.

This Meat & Livestock Australia supported and Department of Agriculture and Fisheries led research trial tests how different stocking strategies affect profitability and land condition. In the process, a large amount of long-term data on diet quality and animal performance has also been collected.

The decision tool will be based on the fact that the availability of green grass is the main driver for diet quality and weight gain. Department of

Environment and Science to link long-term diet quality data with monthly, satellite-based measures of green grass cover from the trial paddocks over the past 21 years.

Satellite estimates of green cover and diet quality in Figure 1 shows promising results.

The second part of the project combines predictions of diet quality, given the level of green cover, with satellite estimates of pasture availability to assess whether animals are gaining, maintaining or losing weight in particular paddocks. These predictions will need testing against the real world which is where the trial's long-term weight gain data comes in.

A limitation of this data, however, is that animals were weighed every six weeks for the first 10 years of the trial and thereafter only twice a year. So while the data is a solid test bed, it is not ideal for testing predicted shorter term weekly weight changes.

In the third part of the project, automated Tru-Test precision walk-over-weighing (WOW) units are being used to measure weekly weight changes at the trial. These units collect the

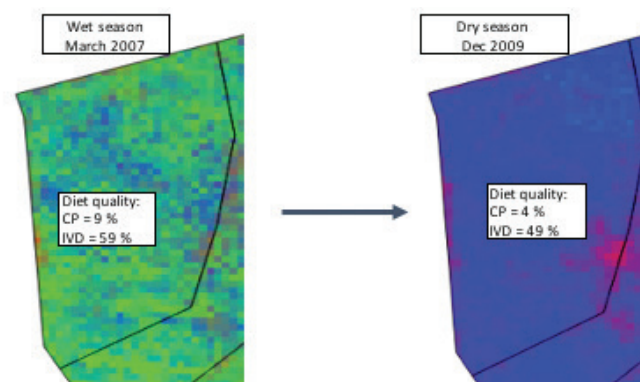


Figure 1: Fractional ground cover showing distribution of green cover, dead (dry) material and bare ground from Landsat imagery of the same paddock at the Wambiana trial (L) in the mid-wet (March 2007) and (R) the late dry season (December 2009) showing differences in dietary crude protein (CP) and digestibility (IVD) of cattle diets. Satellite imagery and analysis courtesy Department of Environment and Science.

weights of individual cattle every time they walk over the WOW platform when accessing water. Daily weights are automatically uploaded to the internet and the weekly weight changes of each animal are then calculated.

The historical trial data linked to the satellite imagery and the WOW data moves us towards the development of what we believe will be a valuable decision tool.

In time, the tool will be also be calibrated and tested for other areas using data collected by other projects with WOW units across Queensland. We look forward to keeping you updated on progress!

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## Sweet Spot project gets moo-ving across the north

The **MLA Cash Cow project** found there was an opportunity to improve breeder performance in some areas of northern Australia. Previous research has focused on disease, herd management and genetics but little is known about how different levels of pasture utilisation impact breeder productivity.

The Sweet Spot project will address this knowledge gap and find the *sweet spot* of pasture utilisation to ensure long-term optimal breeder performance in northern Australia. The MLA funded project brings together pasture and cattle scientists and modellers from across the north.

Funded for \$2 million over four years, the project is led by the Northern Territory Department of Primary Industry and Resources (DPIR) in collaboration with the Queensland departments of Agriculture and Fisheries and Environment and Science.


The project will use existing breeder datasets to ask new questions, increasing the value of previously funded research. It aims to develop tools to predict the impact of pasture use on reproduction so producers can optimise pasture



utilisation to maximise kilograms turned off while maintaining the resource base.

DPIR's Dr Robyn Cowley said there was an untapped gold mine of breeder production data from sites across northern Australia. "By bringing together these existing datasets, we will gain new insights into how to manage breeders to improve reproduction," Dr Cowley said.

Following the project team's first meeting in August 2018, phase one of the project is searching northern Australia for suitable breeder datasets that can be collated and modelled.

For more information call Dr Robyn Cowley on 0419 829 493 and Dr Kieren McCosker on 08 8973 9771. 

## Working dog breeders: New mandatory standards for breeding dogs in Queensland

The **Queensland Government** has released new animal welfare standards and guidelines for dog breeders, including working dogs, which came into effect on 1 October 2018.

Biosecurity Queensland Chief Biosecurity Officer Malcolm Letts said the Queensland animal welfare standards and guidelines for breeding dogs and their progeny show

appropriate ways of meeting the essential needs of breeding dogs and their puppies.

"Breeders must comply with the standards and the guidelines show how they might achieve or exceed the minimum standards," Mr Letts said.

"The vast majority of Queensland working dog breeders who are already meeting their duty of care obligations should not be impacted by the new standards."

More information, including a copy of the standards and guidelines document, is available at [business.qld.gov.au](http://business.qld.gov.au) or by calling the Department of Agriculture and Fisheries on 13 25 23.



*Tropical Beef Breeding Service's Tim Emery tells Barcoo Beef Challenge participants about the role of EBVs in bull selection.*

## Barcoo Beef Challenge winners announced

**Winners of the Barcoo Beef Challenge (BBC)** were recently announced at a presentation dinner in Windorah.

Awards were presented to the winners of five official categories.

- Best group performance on property was won by Longford with an average daily gain of 0.68 kg/ha.
- Best individual carcass performance was won by Moyen with a MSA Index of 58.09.
- Best group carcass performance was won by Braidwood with an average price of \$4.86/kg.
- Best overall individual performance was won by Glen Valley with a gain value of \$616.32.
- Best overall group performance was won by Longford with a gross profit/adult equivalent of \$264.15.

Moothandella received an honourable mention for the best group value based marketing (VBM) result with an average VBM of 4.29. VBM determines the price received for carcasses based on the eating quality and lean meat yield. This feedback is available to any paying producer for cattle consigned to meatworks.

BBC was formed by local producers who wanted to gain a better understanding of weight gain the Channel Country, assess their animal's performance against others and create an opportunity for information and

Thank you to the following businesses for their support of the Barcoo Beef Challenge:

- Barcoo Shire Council
- Remote Area Planning and Development Board
- Department of Agriculture and Fisheries
- Allflex
- Landmark—Longreach
- Grant Daniel Long—Quilpie
- Elders—Quilpie
- Teys Australia
- Western Star Hotel

knowledge sharing amongst other producers in the region.

Six exhibitors each entered seven steers between 280–400 kg showcasing a number of different breeds including Brafordts, Santa Gertrudis, Charbray, Droughtmaster and Brahman crosses. This year saw a handful of steers that tipped the scales at more than 500 kg. There was no stipulation within the challenge with regard to the use of hormone growth promotant and one exhibitor entered cattle with implants.

The BBC aims to bring people together to share information and test new technology like Tru-Test's Remote walk-over weigh (WOW) system for paddock-based cattle weighing. After the steers were inducted into their shared paddock, a training period began to desensitise the cattle to WOW equipment.

This new technology allowed the performance of the animals that accessed the water point with the WOW installed to be monitored and measured. Two manual weigh days provided an opportunity for exhibitors to come together to view their cattle and hear from guest speakers such as Tim Emery from Tropical Beef Breeding Services and Nathan Burey from Teys Australia.

For more information about the Barcoo Beef Challenge or to express an interest in participating in the next challenge please contact Jane Tincknell, Department of Agriculture and Fisheries, Longreach, 0472 877 271.



# Kidman Springs trial shines a light on the benefits of phosphorus supplementation in northern beef herds

**Much of northern Australia** is phosphorus (P) deficient and P is required for almost every vital bodily function in cattle. However, most producers do not believe that they will get a good enough return by feeding P to justify the expense and hassle of using a supplement over the wet season.

In 2014, the Victoria River Research Station, Kidman Springs, started trialling P supplementation to define the benefits of wet season P supplementation. The Northern Territory trial will provide producers in P deficient areas with definitive data on the effects of supplementing females.

Composition of lick fed to each treatment can be seen below in Table 1. Brahman heifers were randomly allocated to either a +P (lick contains P) or –P (lick does not contain P) treatment and grazed in neighbouring paddocks that were tested as acutely P deficient.

	Wet season		Dry season	
	P+	P-	P+	P-
Ridley Biofos MCP	42%		25%	
Salt	50%	73.5%	40%	65%
Ammonium sulphate (Gran Am)	8%	8%	10%	10%
Urea			25%	25%
Limestone		17%		

Table 1. Composition of trial supplements

## Key results so far:

### 2016-2017 data (1st calf)

- The +P group were, on average, 66 kg heavier at the end of their first mating and pregnancy rates were 10 per cent higher in +P maiden heifers. Re-conception rates were 25 per cent higher in the +P first lactation heifers.
- When the calves were weaned in May 2017 the +P lactating heifers were, on average, 120 kg heavier than –P. The average weaning weight of calves was also 34 kg heavier from the +P treatment.

- The +P treatment weaned 3072 kg more calves than the –P treatment.
- Based on a 2017 price for weaners of \$3.50, the additional 3072 kg weaned from the +P treatment equates to an additional \$10,751.
- Mortality rate was 7 per cent higher in –P.

### 2017-18 data (2nd calf)

- Average weight of the cows at weaning in the +P treatment was 69 kg heavier than the –P treatment.
- Wet cow pregnancy rate was 37 per cent higher for the +P treatment.
- Weaning weight of calves from the +P treatment was, on average, 13 kg heavier than the –P calves.
- Total weight of calves weaned from the +P treatment was 2806 kg more than from the –P treatment.

Results are shown in more detail in table 2 below:

2014-17 Data (until first calves weaned)			
	P-	P+	Difference
No.14 heifer weaning weight (kg)	175	175	0
Maiden heifer pre-mating weight (kg)	238	270	32
Maiden heifer post mating weight (kg)	327	392	65
Pre-calving weight (kg)	324	393	69
Weight when calves weaned (kg)	262	382	120
Maiden pregnancy percentage (%)	60	70	10
Calf loss rate (%)	22	21	-1
1st lactation heifer pregnancy rate (%)	5 (n=39)	30 (n=50)	25
Mortality rate to 3.5 y.o (%)	8	1	-7
Weaning weight of calves (kg)	139	173	34
2017-18 Data (Year after first calves weaned)			
	P-	P+	Difference
Dry cow pregnancy percentage (%)	92 (n=50)	96 (n=48)	4
Dry cow average weight (kg)	424	493	69
Wet cow pregnancy percentage (%)	20 (n=30)	57 (n=42)	37
Wet cow average weight (kg)	357	426	69
Calf loss rate (%)	21	16	-5
Weaning weight of calves (kg)	172	185	13

Table 2. Results from the Kidman Springs P supplementation trial.

Table 3 below shows that the return on investment in P supplementation in this study has been high with a cumulative return on investment of nearly 350 per cent.

	Total weight of extra calves from +P (kg)	Price (\$/kg)	Extra value of calves weaned from +P	Extra cost of supplement from +P	Cumulative return on investment (extra value/extra cost)
2017	3,072	\$3.50	\$10,751	\$3,839*	280%
2018	2,806	\$3.00	\$8,417	\$5,529**	
Total	5,878		\$19,169	\$5,529**	347%

\*total value of extra supplement consumed by +P up to May 2017 \*\*total value of extra supplement consumed by +P up to May 2018  
Table 3. Cost: Benefit information on P supplementation in the Kidman Springs trial.

The response to P on other properties will vary depending on the level of P deficiency in the soil. Where P deficiency is not as severe, benefits of P supplementation may not be as great.

While soil testing can provide an indication of P deficiency, it is not considered definitive. The most reliable method of assessing P status of the herd is by taking, at the end of the wet season, blood samples of growing animals

that have not been eating P supplement or drinking milk and testing for plasma inorganic phosphorus. These could be one year old animals running with breeders to get a P status from breeder paddocks.

For more information on the trial contact Tim Schatz, tim.schatz@nt.gov.au or 08 8999 2332. For assistance in understanding P levels on your property and appropriate supplementation, please contact your local beef extension officer.



P first lactation heifers Feb 2017.



+P cows in March 2018.



# Making more from cull cows

**How to increase weight** and, therefore, the profitability of cull cows has long been a vexed question in the Northern Territory.

Challenging dry seasons, high grain and transport costs and limited market options have often seen producers left with no choice but to retain surplus breeders. In turn, stocking rates and mortalities can increase, reproductive performance fall and land condition deteriorate.

Previous research has shown cull cows could generate up to 50 per cent of a northern enterprise's total annual cash flow, but how to capture that opportunity has been the conundrum.

A project, supported by Meat & Livestock Australia and led by Northern Territory Department of Primary Industries and Resources Beef Officer Kieren McCosker, is looking into providing objective information on four short-term feeding strategies to increase the value of cull cows prior to slaughter or market. These include:

- grazing on the floodplain (high-value, abundant pasture) throughout the dry season

- short-term (60–70 days) lot feeding at the Katherine Research Station with two ration options
- high-value corn-based ration sourced from Queensland (\$750/t delivered from Queensland)
- an NT-produced live export (shipper) pellet (\$435/t).

The project involved 156 head of commercial cattle which were less than 420 kg, under body condition score 3 and dry.

Kieren said while the research was initially designed to generate some information and demonstrate potential ways of improving the quality and value of cattle supplied to the Livingstone Beef processing facility, the outcomes could still be applied to take advantage of other market opportunities.

"The most cost-effective option for improving value of cull cows for the years and cattle we observed, and at the cost of feed we were able to source, was the floodplain option," Kieren said.

"It provided the lowest cost of gain, assuming a \$4 per week adjustment rate, however this is not an option for everyone.

"The Territory's sub-coastal floodplain regions play a significant role in the live export trade, covering roughly 6800 km<sup>2</sup> with a carrying capacity of approximately 170 000 head depending on wet season rainfall.

"The floodplains provide a window of opportunity during the dry season to value-add most stock classes and are most suited to trading and short-term agistment."

For the study, the project team measured the performance of two cohorts of cows grazing the floodplain during 2016 and 2017. Cows were drafted into three weight ranges and observations were taken at the time of being introduced to the pasture, about two weeks later and just prior to the point of sale. There were differences between years.

Kieren said while grazing the floodplains in 2016, cows continually increased in weight, gaining an average of 32.4 kg from day one

to day 35 with their average daily gain decreasing over time.

"However, in 2017 we observed a 3 per cent reduction in weight at two weeks after introduction, this weight loss had been regained by day 31," Kieren said.

"Despite these fluctuations in weight, there were no changes in eye muscle or fat depth and only a minimal increase in body condition score.

"A potential explanation is that changes in stomach contents were having a large and confounding effect on live weight, even though we took some measures to control this."

Within this study, a sampling program investigated rumen microbial population changes during the cows' initial adjustment period on the floodplains and how these were potentially associated with performance. These analyses are ongoing.

Kieren said the floodplains were not an option for all enterprises and were not suitable for all animal classes.

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# Dusting off the drought at the Basalt Bash & Beauty 2018

**More than 40 women** from remote Far North Queensland made the annual trip to Bedrock Caravan Park at Mt Surprise, 287 km west of Cairns, for the three-day Basalt Bash & Beauty event. While that sounds like a long way to travel, when you live as remote as some of these hard-working women do, any chance to catch up with like-minded people is worth the trip.

The weekend focused on empowering women, highlighting the importance of health including mental wellness, updating them on industry changes and hands on practical sessions.

Event organiser Tahna Jackson said sometimes these women go more than a year without having a break and letting their hair down.

"With the hardship these women and their families face with the ever changing challenges of the cattle industry it is easy for them to get

lost in themselves and suffer from well-being issues as a result of being so isolated," Tahna said.

Robin Strang is no stranger to the devastating effects of mental health, losing her son Rodney to suicide only eight weeks prior to the event.

"It is wonderful to see these groups grow in popularity, as people, girls in particular, realise the importance of mental wellness and being armed with knowledge of their industry," Robin said.

The second day featured workshops on how to conduct an autopsy on livestock, disease surveillance and effective methods of weed eradication.

Most women would cringe at the thought of conducting an autopsy on a sick and dying animal, but when you live hours away from your local vet, there is no other option.

"We do what needs to be done, we all help each other out and become resilient to hard times," Robin said.

In between workshops, the women browsed market stalls and were pampered with a massage from Rene Ramsey and beauty treatments by Nikki Cabassi.

Tamara White's macramé workshops gave the women an opportunity to create a pot hanger to take home as a unique reminder of the event.

Events like the Basalt Bash & Beauty help to make a difference in rural women's lives by breaking down stigma, improving knowledge and providing local pathways to encourage everyone to keep an eye on themselves, their family and their friends.

If you would like to get involved in the next Basalt Bash & Beauty event or for more information contact Northern Gulf Resource



Janelle Foote makes a pot holder at a macramé workshop.

Management Group Communications Officer Rachel Smith at publicity@northerngulf.com.au.





*Climate Mates, from left, Alison Kain (NT/Barkly), Peter Whip (Central West Qld), Anne-Marie Huey (East Kimberley/Victoria River District), Peter Crawford (Central Qld), Megan Munchenburg (North-west Qld), Kira Andrews (Kimberly and Pilbara). Absent: Lyndal Scobel (North Qld) and Paul Webb (Southwest Qld).*

## Understanding seasonal climate forecasting with your 'mates'

### Understanding what seasonal climate

forecasts mean for northern Australia graziers just got a whole lot easier thanks to the new 'climate mates' service.

Climate mates are part of the new Northern Australia Climate Program (NACP) which is helping the grazing industry across Northern Australia better manage drought and climate risks through a range of research, development and extension activities.

There are eight climate mates spread across Queensland, the Northern Territory and northern Western Australia.

NACP Director David Cobon said the climate mates were selected based on their regional knowledge and on-property experience so they will know how best to apply seasonal forecasts and climate tools in their region.

"Because they're already known in their region and have local insight, producers will be able to call them and ask 'what does this climate forecast mean for me'," David said.

Working with the Bureau of Meteorology (BOM) and the UK Met Office (UKMO), NACP aims to improve seasonal climate forecasting for northern Australia, develop better climate tools and apps for graziers and communicate the science to the local community via the climate mates.

The climate mates recently spent a week at the University of Southern Queensland in Toowoomba learning about the most current

climate science and combining it with their own on-property experiences to determine how climate information can be used to best assist graziers in their area. They will receive ongoing training throughout the program as new climate information and tools become available.

North West Queensland climate mate Megan Munchenburg said seasonal forecasting was always a bit of a challenge.

"Seasonal forecasting can impact so many decisions on-property around your herd decisions and that can impact profitability at the end of the day," Megan said.

"There's so much information and tools out there today to help producers make good on-property decisions and my role with this program is to help people access that information and better understand how to use it on property decision making."

The climate mates are a unique and integral part of NACP, linking the climate scientists at the BOM and UKMO to the regional community via workshops, field days, webinars, newsletters and one-on-one farm visits. NACP is part of the Queensland Government's Drought and Climate Adaptation Program and is supported by funding from Meat & Livestock Australia, the University of Southern Queensland and the Queensland Government.

For more information visit [longpaddock.qld.gov.au/dcap](http://longpaddock.qld.gov.au/dcap).



## Minimising biosecurity and animal welfare risks in drought

**Drought can increase the risk** of biosecurity and animal welfare issues on your property.

Queensland's Chief Biosecurity Officer Malcolm Letts said the impacts of drought are being felt deeply by property owners across Queensland, but there are steps they can take to avoid those impacts turning into long-term issues.

"The welfare of animals in drought is a priority, and so to ensure livestock receive adequate food supply many producers import fodder or other feed products from interstate," Mr Letts said.

"When importing food from new sources, landowners can minimise the risk of spreading invasive plants on their property by being vigilant and acting quickly."

Biosecurity Queensland's top tips for stopping the spread of invasive plants are:

- always receive and store inputs (including stock feed and supplements) at the same location(s) on your property
- check these locations regularly for any unusual plants
- report unusual plants on your property to your local government or Biosecurity Queensland
- control known invasive plants quickly when found
- incorporate pest prevention into your property pest management plan
- always clean down your vehicles and equipment to prevent spread
- regenerate disturbed areas to prevent growth.

As part of normal dry season management producers can implement a number of steps to protect the welfare of their livestock, including:

- further reducing stock numbers as the season deteriorates
- weaning early
- supplementary feeding

- segregating animals based on size and strength to minimise competition for supplements
- where mating is controlled, deferring mating
- humanely destroying severely weakened animals.

Mr Lett said producers can also be faced with a decision around whether to transport drought-affected livestock, and if those animals are fit-to-load.

"In general, weak livestock should not be transported due to the additional stress it may cause them. However, during prolonged dry periods the only viable management option for weak livestock may be transport to agistment or sale."

Risks can be managed by:

- planning—consider all aspects of the intended journey, including mapping the journey, so weakened livestock are transported over the shortest possible distance, and identifying potential spelling facilities
- preparing—make sure only fit livestock travel, and feed animals a high-energy, fibrous ration to strengthen them for transport
- handling—the responsibility for the care of animals during transport lies with the driver. Once unloaded, the person receiving them accepts their care. You can minimise stress and injury by giving weakened animals sufficient time to load quietly and unload at their own pace, and monitoring their condition.

Whether in drought or during normal season management, biosecurity risks can be greatly reduced through implementing a well thought out farm biosecurity plan. For more information on biosecurity planning, call Biosecurity Queensland on 13 25 23 or visit [biosecurity.qld.gov.au](http://biosecurity.qld.gov.au).





# Find out about FORAGE

**FORAGE on The Long Paddock** website is the place to get free, best estimate, up-to-date information on land condition indicators, pasture responses to climate and historical comparison reports for your property.

The reports combine modelling, climate data and satellite imagery to delineate green or non-green and bare ground with 30 years of historical data. This information is useful for guiding management decisions, working with banks and applying for grants.

Here are a few scenarios and the types of reports that might be relevant:

**You're looking to purchase a property and want to know more about the land types and how it may respond to rain and management practices in the short to long term.**

- **Indicative land type report:** shows the main land types for the lot/plan. It also has the land type code that corresponds to FutureBeef's land types of Queensland information and a shapefile that can be used in a mapping program or in VegMachine.

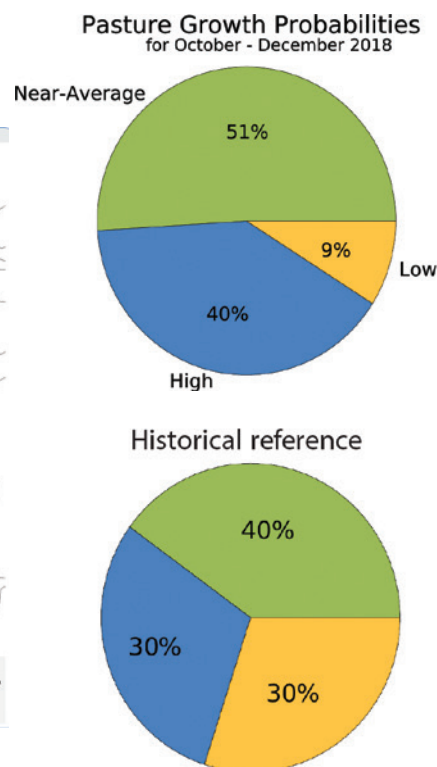


Example land type report.

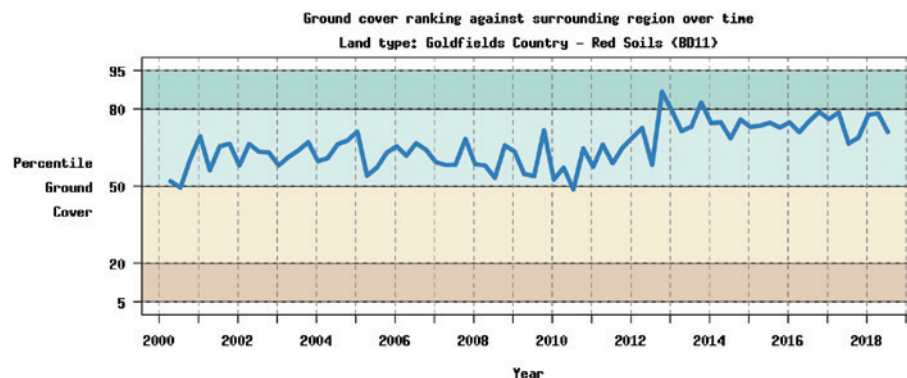
- **Rainfall and pasture by land type report:** shows the time series of annual rainfall, estimated pasture growth and ground cover for the property as a whole and for each different land type.
- **Fire scar report:** for the burning history on a property you can view the fire frequency for the past 10 years, including what months fires have occurred and where.

**You're looking to forecast future pasture production information to help decide what to do with your stock.**

- **Rainfall and pasture by land type report:** for recent history of pasture growth that gives you a historical context for assessing current pasture conditions.
- **Rainfall and pasture growth outlook report:** gives you a quick visual of the chance of above-average, average or below-average rainfall and pasture growth for your property (lot/plan).



Example of pasture growth outlook compared to the historical reference—showing a higher chance of 'near or above-average' pasture growth over the next three months.



Example of a time series from a regional comparison ground cover report where the blue line shows the property selected compared to the regional cover using percentiles (comparing to the historical cover). Note that from 2000 up to 2013 the blue line fluctuates between the 50th percentile (also known as the median/middle of the data group) and the 80th percentile band, indicating that the ground cover for the property was higher than the ground cover of the median/middle surrounding region for that period. After 2013, the line moves up to be consistently closer to the top of the 50th to 80th percentile band, indicating that the property's ground cover has improved as a result of positive management changes.

- **Drought assessment information report:** provides several regional maps that can help identify areas of higher rainfall, pasture growth and green feed for buying, selling or agistment.
- **You're planning a new fence line and need to work out the most sensitive areas of your property.**

- **Indicative land type report:** helps to identify land types present on your property.
- **Foliage projective cover report:** shows the density of tree cover across the property, which can guide clearing and regrowth control plans or grazing management.
- **Ground cover report:** shows the current seasonal and the historical minimum ground cover across the property, as well as what sort of cover it is. This can help determine over-grazed and under-grazed areas for strategic fence line placement to encourage use of under-grazed areas or protection of over-grazed areas.

**You want to know how you stack up against your neighbour and it has also been five years since you took over from your parents.**

- **Ground cover regional comparison report:** this is your 'over the fence' report. It compares the performance of the selected area to regional (25 km radius) ground cover percentiles for each land type, as well as a whole property comparison. It also relates ground cover

percentage, compared to the region percentage cover.

- **Ground cover report:** similarly it helps you to know the high and low areas of ground cover across your property.

**VegMachine** is an online tool (vegmachine.net) that uses satellite imagery to summarise decades of ground cover change. It allows you more options to draw your own property/paddock areas to compare historical ground cover (green, non-green, bare) and rainfall. A FORAGE report generated from VegMachine has detailed land type analysis similar to the regional comparison ground cover report.

These sophisticated reports don't replace your experience and what you can see in the paddock. They often support what you already know, together with historical and regional comparisons. It is important to use the reports together, for example ground cover with rainfall, as well as considering other factors like heavy pasture utilisation around watering points and the intended or unintended consequences of fire.

Information from FORAGE and VegMachine can also be useful for working with finance organisations, applying for grants or working towards best management practice.

These are only a few of the reports currently available, so check them out for yourself at [longpaddock.qld.gov.au/forage](http://longpaddock.qld.gov.au/forage) and [vegmachine.net](http://vegmachine.net).