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Information for rural business in Central Queensland

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brings FORAGE reports
straight to your inbox**

**Using economics to help
business planning at
Hat Creek**

**QUEENSLAND
Country Life**

IN THIS ISSUE

- Changes to the tick line
- Find out about FORAGE
- Sweet Spot project kicks off
- Managing biosecurity during drought
- Drought assistance
- Can we predict animal performance from space?
- Understanding seasonal climate forecasting with your 'Mates'
- Using economics to assist business planning

Welcome to CQ Beef 35

Welcome to the spring/summer issue of the *CQ Beef* feature for 2018.

Hi everyone

Did you know that, with a property name or a lot or plan number, you can find online information on land types, ground cover, soil erodibility and more? The FORAGE reports on The Long Paddock website, longpaddock.qld.gov.au are great resources to help land managers make informed decisions. Read about the applications of FORAGE on page two, have a look at the website and get some reports sent straight to your inbox within 10 minutes.

Walk over weighing (WOW) technology gets a mention in this edition. WOW technology is being incorporated into the 21-year-old Meat & Livestock Australia Wambiana project.

Unfortunately, in keeping with current circumstances, we still have a drought focus in this edition. Read in this issue about biosecurity in drought and what government support there is available.

DAF staff have handled many nutritional enquiries in this challenging season, you too can access some help by contacting one of our Beef Extension Officers.

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We hope you get something from this issue, please get in touch if you have any ideas about how we could improve CQ BEEF for your benefit.

Byrony Daniels
Department of Agriculture and Fisheries
Emerald
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Clearing the confusion around Queensland's cattle tick treatment arrangements

Queensland's cattle tick management framework has now been in place for two years. However, a recent series of community meetings found some producers are still uncertain about the requirements.

The changes were introduced after wide-ranging consultation during the development of the *Biosecurity Act 2014*.

It was the first time in 30 years that such a significant and detailed review of cattle tick management in Queensland had been undertaken.

The new framework is a balance between ensuring the integrity of the cattle tick free zone, reducing regulatory burden and facilitating the movement of cattle in Queensland.

It is worth noting the arrangements have been welcomed by many producers allowing them to realise significant cost savings, through greater flexibility around managing stock movements.

Biosecurity Queensland has a long history of working with producers to effectively manage biosecurity risks such as cattle tick.

Cattle producers, processors and the community can be assured that Biosecurity Queensland are closely monitoring the effectiveness of the new framework to ensure the cattle tick free zone is in no way compromised.

So what are the laws for crossing the tick line?

The new system largely reflects the old legislated requirements. No rules were relaxed. However, some changes were made to provide greater flexibility to the industry.

For example, when the cattle tick management framework was introduced in 2016, the previous third party provider system was expanded to allow the inspection and treatment regime to be completed at places other than traditional clearing dips on the cattle tick line.

Many producers have facilities equal to, or better than, most clearing dips and the reliance on dipping in chemicals was perpetuating the issue of chemical resistance.

Producers choosing to use their own facilities to clear livestock must follow strict protocols to

ensure an accredited certifier can appropriately inspect and treat the cattle.

Feedback from producers indicates this has been very useful in drought affected areas where the ability to clear livestock on property and transport direct to the destination has greatly assisted the welfare of livestock.

Treatments used on property can include pour on and/or injectable products, in addition to the traditional plunge dip chemicals.

As was the case with the previous third party provider system, cattle moving to a property in the cattle tick free zone from the cattle tick infested zone, other than to a meat processing facility or feedlot, must be inspected and chemically treated by an accredited certifier.

The current system is backed by a rigorous training program and accredited certifiers are audited yearly to ensure the system is working. There are more than 80 accredited certifiers across Queensland.

Producers purchasing cattle from high-risk areas should take all reasonable and practical steps to ensure they don't bring in tick that might adversely impact their business.

While the use of chemicals is still the main control option for cattle tick, the Biosecurity Act provides flexibility to manage the risks in a variety of ways.

Over the life cycle of the cattle tick, there are opportunities to manage the risk of spread into the cattle tick free zone without having to use chemicals.

For example, as part of a producer's biosecurity plan, isolating new introductions to a property is a key step in mitigating risks of cattle tick infestation.

The protocol for moving cattle to feedlots and abattoirs can also be used to manage the risk of cattle tick, as the movements are into an environment that will not support the survival of the cattle tick.

Cattle are still subject to an inspection process but can be assessed as lower risk because of their destination.

This means the appropriate risk reduction protocols can be applied.

Vaccinations and worming treatments should also be considered to mitigate against disease and parasites.

Property owners are reminded they are responsible for managing all of their biosecurity risks, including cattle tick. As a matter of good biosecurity practice, cattle tick should be treated the same as any other disease risk faced by producers.

Further information about the new options are available at daf.qld.gov.au, or by calling 13 25 23.

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Find out about FORAGE

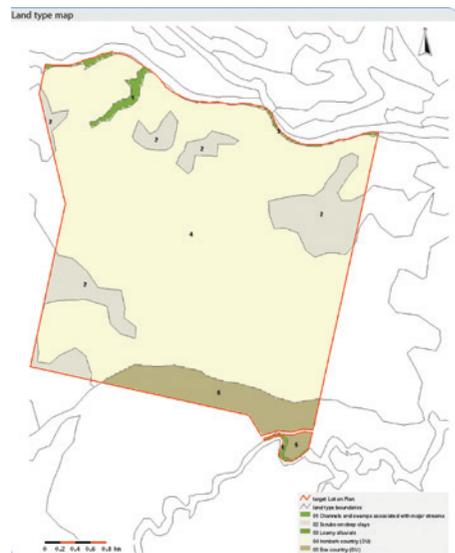
FORAGE on The Long Paddock website is the place to get free, best estimate, up-to-date information on land condition indicators, pasture responses to climate and historical comparison reports for your property.

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.



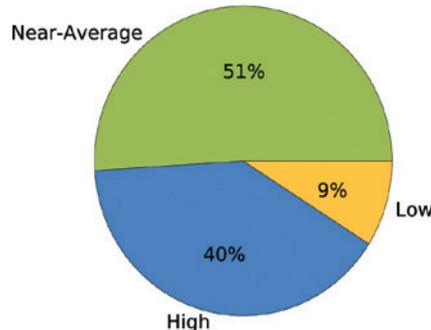
Example land type report.

- **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.

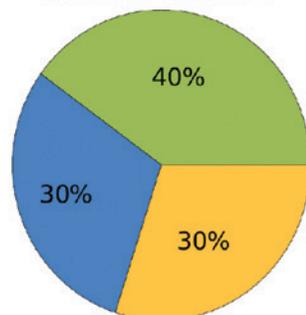
You're looking to forecast future pasture production information to help decide what to do with your stock.

- **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).
- **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.

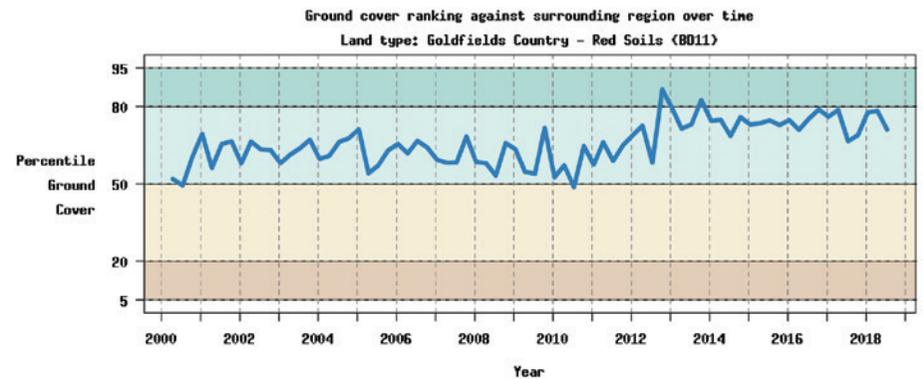
Pasture Growth Probabilities for October - December 2018



Historical reference



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.

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's 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 and vegmachine.net.



Sweet Spot project gets moo-ving across the north

The Meat & Livestock Australia (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. 

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 now 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," said Mr Letts.

"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 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 weed establishment.

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 Letts 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.





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).

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.



Local graziers use economics to assist business planning

Richard and Beth Judd moved to Hat Creek at Baralaba in 1999. The family operation includes their sons, Clayton and Wyatt.

In May 2018, Richard Judd attended the Callide Dawson Carcase Competition Field Day at Warnoah Feedlot where Department of Agriculture and Fisheries (DAF) scientist Dr Maree Bowen spoke about improving beef business performance with high-quality forages. The presentation inspired Richard to find out more about how to maximise returns from high-quality forages.

The Judds' herd is predominantly based on Brahman breeders that are joined to Brahman, Angus and Drakenberger bulls. They also use Charolais and Charbray bulls as terminal sires.

The property's carrying capacity has improved over the last 20 years as they continue to extensively develop it. Paddocks are spelled on Hat Creek for certain periods of time to enable the ground cover to be maintained throughout the year.

Breeders on Hat Creek need to be quiet and of medium frame, but also have good udders and high fertility to remain in the herd. Bulls are selected on their growth and fertility characteristics and are also medium frame to produce animals that are of sufficient weight and mature quickly.

The Judds focus on nutrition for their herd to retain good body condition scores throughout the year and keep their calving percentages high.

Keen to take every opportunity to learn and improve their business, after the DAF presentation at the Callide Dawson Carcase Competition Field Day, Richard and Beth asked the department to visit their property to discuss their business and new opportunities in more detail.

DAF staff presented several scenarios using best practice management strategies and economically verified them to see if they would suit the Judd's business. The DAF beef extension staff and DAF economist worked with the Judds on a whole-of-business approach. The economist also analysed the different markets that the Judd's target to determine profitability. One option was to establish



Beth and Richard Judd with one of their stud Brahman bulls.

leucaena as an avenue for growing out cull steers and heifers. The economic analysis also enabled the Judds to assess their own business expenses to determine profitability.

Richard and Beth appreciated the assistance that they received and found the approach beneficial.

These one-on-one visits are available for producers in Central Queensland, as DAF shares key findings from the *Delivering integrated production and economic knowledge and skills to improve drought management outcomes for grazing enterprises* project.

DAF economists and beef extension staff are available in Central Queensland to conduct personalised economic analyses for producers, specific to their businesses.

The economic research was funded by the Queensland Government's Drought and Climate Adaptation Program (DCAP) which aims to improve drought and climate preparedness and resilience for producers.

If you would like the DAF beef team to visit your property, please contact:

Matt Brown
 Department of Agriculture and Fisheries
 Rockhampton
 07 4843 2611
matt.brown@daf.qld.gov.au

For areas outside of Central Queensland, call 13 25 23.



Drought assistance and looking at future drought resilience

Producers are very experienced with the big droughts and then the big floods that often spell an end to drought. However, even the most resilient and well-prepared producers and their communities struggle in a long drought such as this one.

Queensland has been drought-affected for almost six years with 58.1% of the state currently drought-declared. In the past five years the Queensland Government has spent more than \$670 million in various kinds of assistance.

The Queensland Government continues to support drought-affected producers while also looking at ways to make improvements for the future including increasing resilience and preparedness. In August it was announced that the Drought Relief Assistance Scheme (DRAS) would be increased including:

- subsidies for freight including distance travelled up to 2000 km
- increasing the maximum claimable when entering a sixth year of drought of up to \$50 000 per financial year with an approved Drought Management Plan in place
- increasing assistance to the hired carrier freight rate being either 50% of the loaded portion of the transport cost, or 20 cents/tonne/kilometre.

Other announcements included additional funding for mental health services and a small business financial counselling service in Queensland drought areas, just like the rural financial counselling service helps producers. The current Drought Assistance Package will continue for the duration of this drought.

While drought is foremost in people's minds, now is the best time to work with industry and the community to review government, industry and community actions and think about improvements for preparing for future droughts.

An independent panel has been appointed to run a Drought Program Review. The panel conducted regional forums and sought online

submissions through September and October and are considering the feedback. They will report their recommendations to the government in early 2019.

The Queensland Government also has the flagship Drought and Climate Adaptation Program (DCAP) to help prepare for and better manage drought and climate risks. Climate scientists, industry and government are working to improve climate forecast information and build decision support tools tailored to producer needs to help build preparedness and resilience.

Predicting future drought events with sufficient lead time allows producers to put in place strategies to minimise the impacts of drought and help maintain land condition. Queensland has a highly variable rainfall pattern and DCAP aims to help producers better manage this variability through research, development and extension activities. More information is available at longpaddock.qld.gov.au.

When it does rain, pastures need time to re-establish and recover. Pasture spelling, deferred restocking, continued drought feeding and prompt weed management are all methods to encourage pastures to recover. Stressed pastures are also susceptible to competition from weeds, so allowing re-establishment before grazing is a cost-effective strategy to also reduce weed invasion.

For more information about drought or drought assistance, visit daf.qld.gov.au/drought or call 13 25 23.



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 online tool to get regular, accurate updates on cattle performance in different paddocks or even on a second, distant property? New work at the Meat & Livestock Australia Wambiana Grazing Trial, near Charters Towers, is working towards exactly that.

This Department of Agriculture and Fisheries 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. The project will firstly 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 below show promising results.

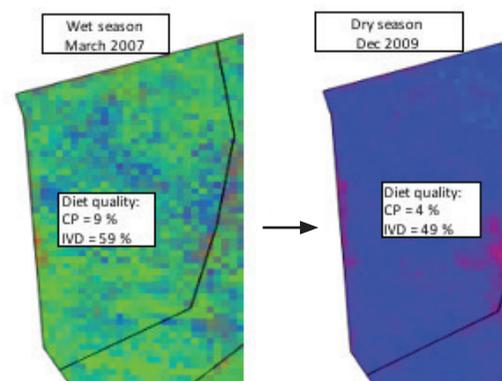


Figure 1: Fractional ground cover showing distribution of green cover, dead (dry) material and bare ground from Landsat imagery of the same paddock at the Wambiana trial (L) in the mid-wet (March 2007) and (R) the late dry season (December 2009) showing differences in dietary crude protein (CP) and digestibility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

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 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 then calculated.

The historical trial data linked to the satellite imagery and the WOW data will move 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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