Alice Springs Rural Review

DEPARTMENT OF **PRIMARY INDUSTRY AND RESOURCES**

VOL 67
SEPTEMBER 2017

Inside this issue:

Ti Tree and Rocky Hill free of fruit fly

A biosecurity program has successfully eradicated Queensland fruit fly from the Ti Tree and Rocky Hill areas.

These areas are maintained as fruit fly exclusion zones and are vital to growers in the area so they can trade local horticulture produce (valued at more than $5 million per year) to interstate markets.

Earlier this year a small number of Queensland fruit fly (*Bactrocera tryoni* complex) were detected in the Ti Tree and Rocky Hill fruit fly exclusion zones as part of routine monitoring.

Since then, biosecurity officers from the Department of Primary Industry and Resources have been working with local industry and residents to eradicate fruit fly from the area.

Area freedom accreditation has been restored so local growers will be able to distribute fruit from these locations to interstate markets this season. Regular trapping and monitoring will remain in place to ensure it can maintain this status.

Queensland fruit fly is native in northern Australia and is a major horticultural pest.

Assistance from residents is essential to help these areas retain fruit fly free status by cleaning up all fallen and unharvested fruit and vegetables, which can act as a host for fruit fly.

For more information view the Ti Tree fruit fly exclusion zone fact sheet (1.1 mb).

Biosecurity is everyone's responsibility and by working together we can all support our local horticulture industry and the Territory's reputation for providing clean and green produce

Editorial

It has been some time since you last had a *Rural Review*, this was due in part to our regular editor, Pieter Conradie, finding himself in a new role as the Liaison Officer for the Department of Primary Industry and Resources in Minister Vowles' office in Parliament House. We wish Pieter all the best for his role in Darwin, I know that he is probably enjoying the sight of the sea every day!

With Pieter gone, I have landed with the job of Editor of this esteemed publication, as well as an expanded role beyond horticultural development and into other fields like cattle and mining. This is not too foreign for me, as I grew up on a farm that grew apples, sheep and Angus cattle. And I liked rocks.

The technology used for farming and cattle production is so much more complex now than was the case in the 1980s when I was on the farm. The work that is gone into sustainable and profitable cattle production in the arid zones of the world is amazing, and I have been impressed with the willingness of Central Australian cattle producers to embrace objective and scientific approaches to decisions like stocking rates, to look after their country as well as providing a living to their families.

Adoption of new technology and strong markets all point to exciting times for agricultural industries in Central Australia. The Eastern Young Cattle Indicator shows that cattle prices are still above their 5 year average, although they have softened. The demand for table grapes is high in Australia and export markets, leading to more plantings in Central Australia. And the water allocation planning work for Ti Tree and Western Davenport Water Control Districts is moving toward a conclusion at the end of 2017 to give some certainty for ongoing investment in the region.

Also, the department is updating its strategic plan. The changes we make will be designed to serve you, our stakeholders, better.

Regards

Stuart Smith
Department of Primary Industry and Resources
Editor

Central Australia Premium beef opportunities

Central Australian cattle producers are being supported to push into premium beef markets, through a project which investigates the production system from paddock to plate.

The Quality Graze Trial on Old Man Plains Research Station is investigating the effect of the latest Grazing Land Management on the consistent supply of premium beef from Central Australia.

The project sends cattle to abattoirs in South Australia and monitors the meat grading (MSA), as part of a push to diversify markets for Central Australian pastoralists.

Chris Materne, Livestock Industry Development Officer, said moving into premium markets would capitalise on the grass quality in Central Australia and easy access to southern markets.

“Because of the good quality feed, we can run the British breeds which produce meat that better suits the high value Australian market,” Chris said.

“We can also value add on the property by fattening the cattle here. You’re seeing 600 kilogram steers at two and a half years old, which is a great rate of growth.”

Chris said industry was moving to focus on sustainable production systems which relieve pressure on land conditions.

“We’re seeing the approach of looking at the production system in terms of performance and matching grazing numbers to country capability,” Chris said.

“That involves a lot of fringe benefits like stress relief and ability to deal with the dry season.”

Chris said this shift also brings an increase in the weight of cattle, as well as ability to get a better price per kilo.

“Instead of three animals going to the meatworks to get a product, there are two going. So getting the same number of kilos on eight legs instead of 12 reduces other costs as well.”

The project is working towards producing consistent Meat Standards Australia grading results by investigating potential causes for any variation.

Calf loss study in Central Australia

Jocelyn Coventry, Pastoral Production Officer, Alice Springs

In 2012, a three-year study was commenced to investigate reproductive loss on the arid rangelands of Old Man Plains Research Station (OMP) (ref. 1). Many of this study’s findings have been consistent with those in a large Meat and Livestock Australia-funded CashCow research project (ref. 2), for example, pregnancy-to-weaning reproductive loss within the 25—75 percentile range for the Northern Downs (3 to 15%) and Northern Forest (9 to 19%) regions of northern Australia.

Figure 1Peri-natal calf loss inside the water yard—the dam finds her calf too late, weak and dehydrated.

Interim findings

As a prelude to the summary report for the three-year study, some interim findings were presented in a poster at the 2016 North Australia Beef Research Update Conference (NBRUC) (ref. 3). This poster showed the multi-faceted nature of the risk factors associated with the 18% foetal and calf loss between confirmed pregnancy and weaning in year 1 (Table 1).

OVERVIEW

- Multiple factors have been associated with foetal and calf losses.
- Some calf losses can be directly or indirectly reduced with strategic management.

Of these losses, 17 occurred after calving (15.2% peri- and post-natal losses), including deaths associated with a muster for calf-tagging, i.e. peri-natal calf loss as a result of predation or dehydration (heat stress) during prolonged separation from the recently-calved cow (Figure 1), and post-natal calf loss as a result of failure to securely 'mother up' again.

Table 1. Periods of reproductive loss, with associated factors in the first year of 3-year study.

Period of pregnancy-to-weaning loss vs. associated factors	Pre-natal	Peri-natal	Post-natal
abortion (observed or indicated)	3		
dystocia (indicated)		2	
misadventure (no calf seen)		3	
misadventure with cattle (cow lost, calf adopted)		1	
misadventure with cattle (burst heart)		1	
misadventure with cattle (steer interference)			1
misadventure with predation (2 to 5 month-old calf)			1
misadventure with predation & congenital hernia			1
misadventure prior to management interventions			2
misadventure with management (late calf)		1	1
misadventure with management (tagging)		2	1
Total	3	10	7
n = 112 cows retained in paddock			

After adoption of a 'package' of modified muster activities in years 2 and 3 of the study, no further calf loss was attributed to 'muster for calf-tagging'. The modified activity ensured: no overnight trapping; no yarding of cows with large udders if 'running back to the paddock for a calf'; drafting of calves to rapidly process; and holding of cows and calves outside the yard to 'mother up' afterwards.

These findings indicated that modification of muster activities can decrease muster-related risk of calf loss. This is relevant to those central Australian cattle properties with continuously-mated, year-round calving herds that may not always be able to avoid musters during a calving peak.

For enquiries, please contact Jocelyn Coventry, ph. 08 89518142.

References

1. Coventry, J. 2012, Investigation of reproductive loss, (NT) Department of Primary Industry and Fisheries, Alice Springs Rural Review, 50 (September 2012), pp.1, 3.

2. McGowan, M., Fordyce, G., O'Rourke, P., Barnes, T., Morton, J., Menzies, D., Jephcott, S., McCosker, K., Smith, D., Perkins, N., Marquart, L., Newsome, T., Burns, B. 2014, Northern Australian beef fertility project: CashCow, Final report, Project B.NBP. 0382, Meat and Livestock Australia, North Sydney, N.S.W., 300 p.

3. Allan, C., Coventry, J., Gill, B., Sims, S. 2016, 'Modified management to minimise calf loss at muster' in Proceedings, Northern Beef Research Update Conference, 2016, Rockhampton, Q. (Ed. E. Charmley), p. 201.

Meat quality of steers from Central Australia is related to muscle glycogen … variation with nutrition and genetics

Why is muscle glycogen important for meat quality?

The following explanation is provided courtesy of the NSW Department of Primary Industries (http://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/management/market-information/dcb)

The term 'Dark Cutting' is used for meat that does not bloom or brighten when it is cut and exposed to air. Beef customers prefer beef cuts to be a bright pinkish colour at retail; they avoid dark coloured meat. Dark cutting beef (DCB) is largely linked with stress and the mobilisation of muscle glycogen—energy store—in the live animal prior to slaughter.

In the time between slaughter and chilling, a chemical reaction known as glycolysis occurs in the muscle tissue. This reaction converts glycogen into lactic acid. This lactic acid causes the meat pH to decline from the neutral value of 7.2 found in the live animal. The amount of pH fall is determined by the quantity of glycogen available in the muscle for conversion to lactic acid.

In the picture below, there are two Scotch fillets. Acceptable meat quality is show in the top steak while the bottom steak is an example of a 'dark cutter'.

Desirable eating table beef has an ultimate pH in the range of 5.3 to 5.7. If the quantity of glycogen in the muscle tissue was low, and the pH remains above 5.8, then DCB is a likely outcome.

In addition to the unacceptable appearance, DCB has the following characteristics:

- a high water holding capacity – so the meat loses a lot of moisture during cooking and becomes very dry;
- reduced shelf life – bacteria grow more rapidly due to the higher pH and moisture;
- a sticky texture.

The following contribute to dark cutting beef:

- low energy intake by livestock
- poor livestock handling
- mixing groups of animals, and
- severe weather conditions during transport.

All these factors have been found to decrease the levels of muscle glycogen in the live animal.

What was done on Old Man Plains Research Station?

Those factors that are known to decrease muscle glycogen were considered for a trial with 97 steers on Old Man Plains Research Station (OMP) in 2015. These steers were grazed on mixed arid rangelands and weighed every time they walked out of the water-yard, using walk-over-weighing (WOW) technology (Precision Pastoral Pty Ltd) (Figure 1A). The average daily rate of liveweight gain for each steer was calculated with regression modelling of the recorded WOW data.

The steers were transported 1590 km in 20 hours by B-double road-trains (Figure 1B), direct to an abattoir for processing at Murray Bridge, South Australia. In addition to collection of standard abattoir feedback data, the *longissimus thoracis* muscle of each carcass was sampled to analyse for glycogen and lactic acid.

A.

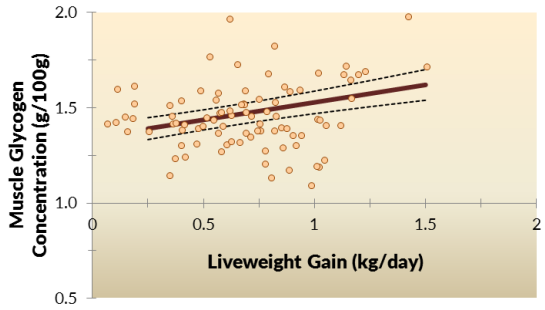
B.

Figure 1.Steers being weighed on a walk-over-weigh unit (A) and steers heading to abattoirs (B)

What were the results?

Those steers that put on weight more quickly had more muscle glycogen in the beef carcass (at slaughter) (Figure 2A). Steers with more rib fat cover at slaughter also had more muscle glycogen (Figure 2B). This supports the theory that the better the energy intake of cattle, the more muscle glycogen at slaughter and therefore better meat quality with lower risk of dark cutting beef.

A.



B.

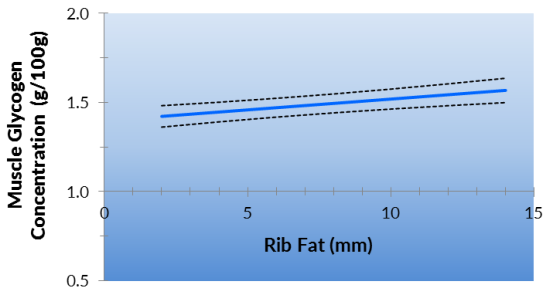


Figure 2. The relation of muscle glycogen to liveweight gain (A) and rib fat (B) in steers

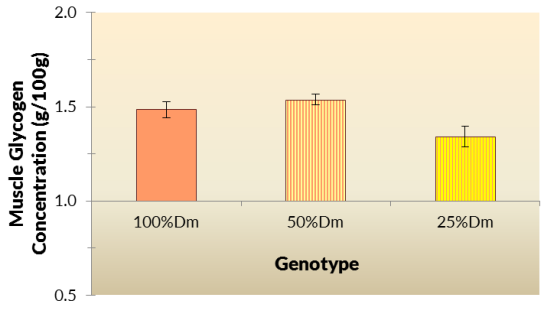
What difference does breed make to muscle glycogen at slaughter?

Because the OMP trial steer records were grouped under three genetic types, we could ask a question about breed and muscle glycogen.

The steers weighed 520 to 720 kg liveweight at 27 to 30 months old (50 days before trucking) and were classified as Droughtmaster (100%Dm), Droughtmaster-cross (50%Dm) and Droughtmaster-infused with 55-65% Brahman content (25%Dm). Compared to the 100%Dm group, steers in the 25%Dm group had a heavier carcass weight (on average 14 +/- 13(se) kg higher), which is consistent with their higher average frame size.

Muscle glycogen was significantly lower in the 25%Dm group (Figure 3A), and muscle glycogen also tended to be lower for the heavier carcasses (Figure 3B). This negative correlation between muscle glycogen and carcass weight was unexpected. The conventional understanding is that increasing carcass weight is associated with higher levels of muscle glycogen and reduced incidence of dark cutting. It is speculated that in the 25%Dm steers, the high Brahman content, heavier body size and higher frame size were three confounding factors that may have been related to either less glycogen storage during growth, higher maintenance requirements, or increased use of glycogen stores in transit.

A.



B.

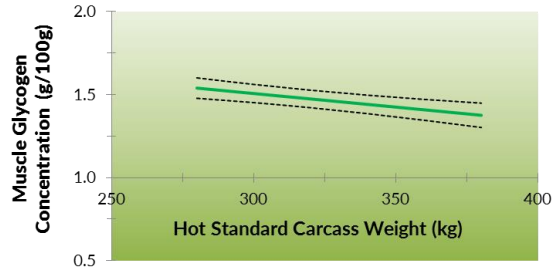


Figure 3. Relationship of genotype (A) and hot standard carcass weight (B) to muscle glycogen concentration

Conclusion

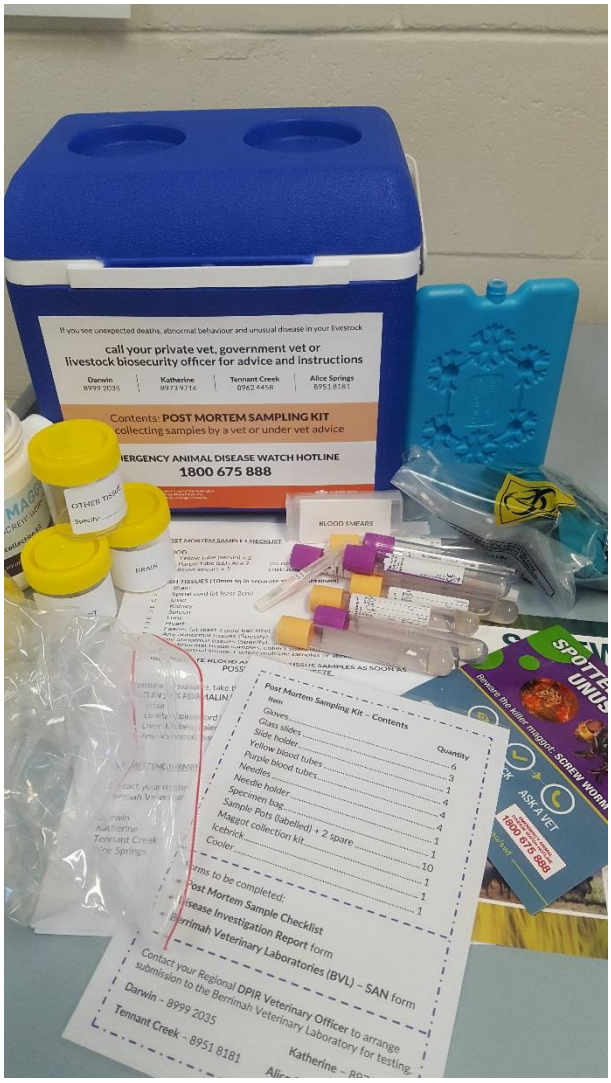
Overall the study findings showed that the faster-grown and fatter steers had higher levels of muscle glycogen at slaughter—this is consistent with previous research (1, 2). Study findings also showed that deposition of glycogen in the muscle may differ slightly between cattle of different genotypes. In extensive-grazing situations, walk-over-weighing technology and data-modelling have been shown to be useful tools to identify steers with a low rate of pre-trucking liveweight gain. Ongoing work by the Northern Territory Department of Primary Industry and Resources aims to continue identifying tools to address pre-trucking issues for meat quality of steers from Central Australia.

References

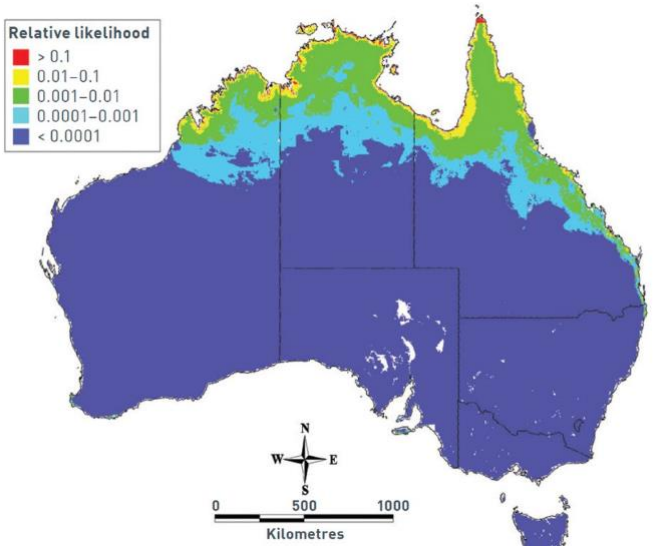
1. Gardner GE, McGilchrist P, Pethick DW (2014) *Animal Production Science* **54**, pp.1575-1583.

2. McGilchrist P, Alston CL, Gardner GE, Thomson KL, Pethick, DW (2012) *Meat Science* **92** (4), pp.474-480.

Northern Australian Biosecurity Surveillance Project



The Northern Australian Biosecurity Surveillance project has been funded under the Developing Northern Australia and the Agricultural Competitiveness White Papers to manage new and growing biosecurity risks in northern Australia. Under this project, post-mortem sampling consumables kits are being distributed to major cattle properties in the NT. The kits are designed to be kept on-hand by properties, to assist vets and others performing disease investigations in remote areas. There are specific containers for screw worm fly maggots as well as a full range of containers and FLOQSwabs™.



Relative likelihood of introduction and establishment of screw-worm fly under climatic extremes (Fruean S & East I, 2014, Australian Veterinary Journal

Seasonal Update - September 2017

Chris Materne, Pastoral Production, Alice Springs

Close to 50-50 chance of rain but more likely hotter!

Climate influences from the Indian and Pacific oceans are likely to be competing, with a weak drying influence from the Indian Ocean potentially cancelling out a slightly wet influence from the Pacific Ocean. In addition to the natural drivers such as the El Niño–Southern Oscillation and the IOD, Australian climate patterns are being influenced by the long-term increasing trend in global air and ocean temperatures.

The national outlook for October to December 2017 indicates that:

- **DRIER** than normal conditions are expected across the majority of the NT
- **HOTTER** than normal daily and nightly temperature are expected across the entire NT especially in November and December

For further information go to: http://www.bom.gov.au/climate/outlooks/

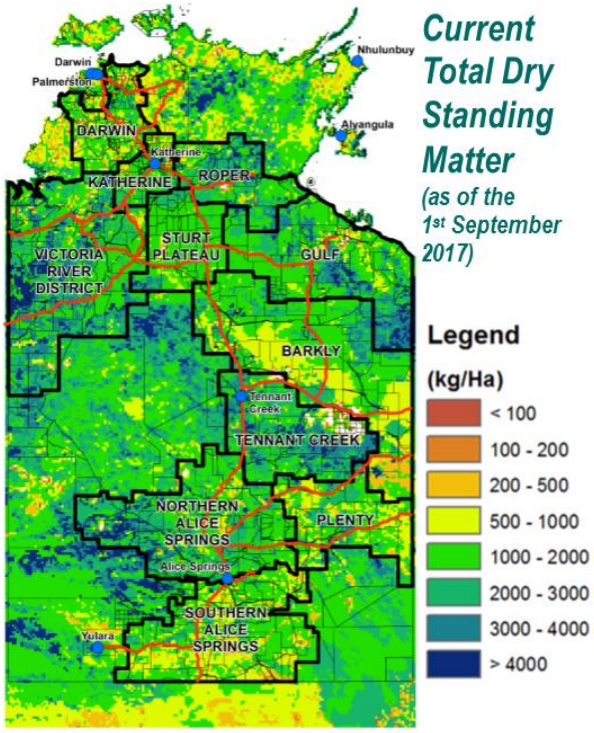
Figure 1: *Chance of above the median rainfall. (October to December 2017)*

Figure 2: *Chance of above the median maximum temperature. (October to December 2017)*

	Northern Territory Pastoral Districts				
Indicator	**Tennant Creek**	**Northern Alice Springs**	**Plenty**	**Southern Alice Springs**	**Comments**
2016/17 total pasture growth	↑	↑	↑	↑	Arrows indicate trend compared to the long-term median.
Current estimated standing biomass	↓	↔	↔	↓	Arrows indicate trend since previous quarter.
Current fire risk	↓	↔	↔	↔	Arrows indicate the trend since previous quarter.
Current seasonal outlook	↑	↑	↑	↔	Arrows indicate the trend since previous quarter and taking into account the forecasted model predictions.

AussieGRASS – September 2017

Chris Materne, Pastoral Production, Alice Springs



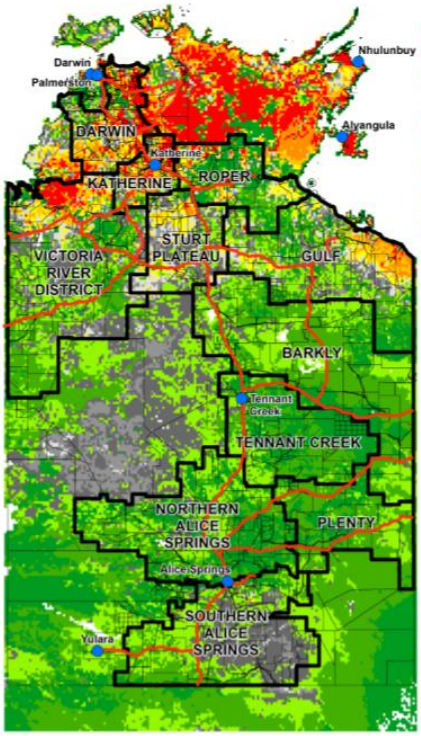
Current Total Dry Standing Matter

(as of the 1st September 2017)

Legend

(kg/Ha)

- < 100
- 100 - 200
- 200 - 500
- 500 - 1000
- 1000 - 2000
- 2000 - 3000
- 3000 - 4000
- > 4000



Past 12 Months Pasture Growth

(relative to historical growth since 1957)

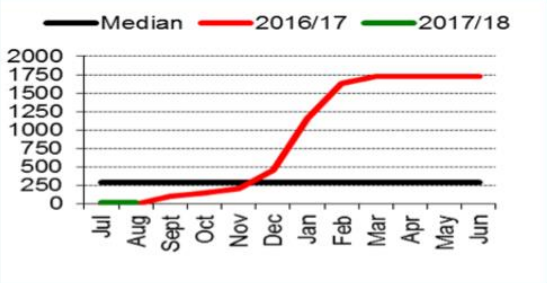
Legend

Percentile Class

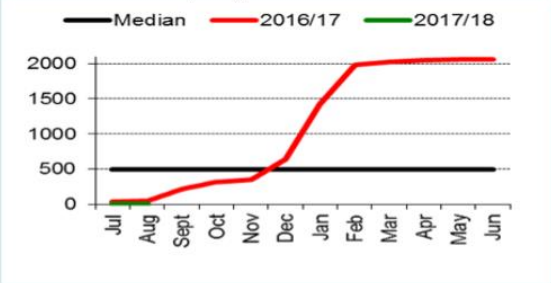
- *Extremely Low (0 - 10%)*
- *Well Below Average (10 - 20%)*
- *Below Average (20 - 30%)*
- *Average (30 - 70%)*
- *Above Average (70 - 80%)*
- *Well Above Average (80 - 90%)*
- *Extremely High (90 - 100%)*

Median district pasture growth (kg/ha) — running total

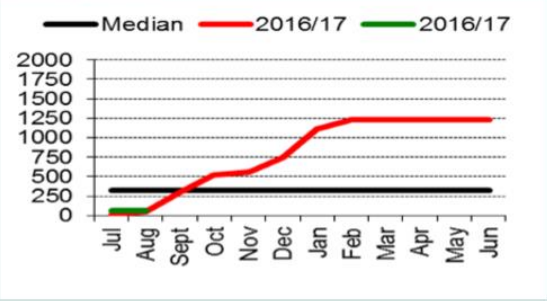
Tennant Creek District



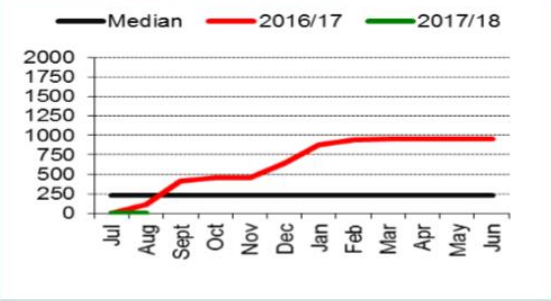
Northern Alice Springs District



Plenty District



Southern Alice Springs District



If you would like further information, please contact Chris on 895 18111

Horticulture investment guide to Central Australia released

A comprehensive Central Australia horticulture growth prospectus has been developed by the Department of Primary Industry and Resources in consultation with the Central Australian Development Office (CADO) to support investors in Central Australia, with a focus on the diversification of crops and unique opportunities to the region.

The prospectus highlights the Territory's distinct market advantage in Australian markets as well as overseas markets with counter-seasonal opportunities. The Territory's abundant land, where suitable water and soil resources co-exist, offers significant potential for further horticulture development. Central Australia offers a unique combination of sunshine, low humidity, cool winter temperatures and freedom from most pests and diseases.

The prospectus covers all the water control districts in Central Australia including Alice Springs, Ti Tree, Western Davenport, Tennant Creek and the Great Artesian Basin. It details local information on:

- climate conditions
- water quality and availability
- advantages of Central Australia for investment
- potential crops
- key infrastructure
- topography
- key precincts for development.

Download a copy or find out more at the DPIR Plant Industries Development web page.

Central Australian dates

‘Buying and Selling Bushfoods and Seeds’ workshop on Country – Arlparre – May 2017

Thirty-five Alyawarr and Anmatyerr women from nine communities gathered at Arlparre in Utopia in late May 2017, as part of the Department of Primary Industry and Resources (DPIR)’s “Bushfoods Hub Investigation Project”. The workshop brought harvesters together to share their experiences, strengthen their networks and improve their knowledge.

It is only in the last 42 years that seeds have been collected and sold across Australia. Their seeds are sent to cities around Australia to make a range of value-added products. The bush food industry has expanded and grown nationally and internationally with demand for seed increasing.

The workshop included senior Alyawarr matriarch Lena Pwerl, and Jenny Hill, Market Development Manager from the DPIR. Industry leaders Rod Horner and Rayleen Brown each contributed their important perspectives to the workshop. Rod has bought and sold seeds and fruits collected by Anmatyerr and Alyawarr women since 1975. Rayleen is an Arrernte woman, a national leader of the bushfoods industry and co-founder and owner of ‘Kungkas Can Cook’, an Aboriginal owned company specialising in bush foods catering since 1998. Rod and Rayleen are pivotal in linking the women harvesters to down-stream buyers and wider industries.

Arelh ingkerr ntang iney-angker-rnem

All the women who are seed collectors with others who informed or supported the workshop

Photo by Else Kennedy/iTalk

Rayleen said:

> *This is the most important meeting. It has needed to happen for a very long time. We need to hear from the women who collect the seeds. We need to hear about how they feel to be part of this growing industry. What do they need? What are their concerns? Do they want help to continue this wonderful work that they are doing?*

One family at the workshop had three generations of collectors who embody the transfer of a work ethic underpinned by unique practices and knowledge. Rod and Rayleen have each traded with consistent, ethical and practical support to the women for decades.

Dr Fiona Walsh, an Alice Springs-based bush foods researcher who had been invited to facilitate the workshop said:

> *These women are highly skilled and self-motivated. Their knowledge includes the names of specific plants, where they grow and when they produce. Their practices include efficient ways to harvest and clean kilos*

and kilos of seeds and fruits. Our role was to hear about the passions and the challenges faced by these women and together identify practical ways to support them. We have evidence that wild harvest is a proven production system with quadruple bottom line benefits.

Two Anmatyerr women adapt new equipment to demonstrate an ancient method of making of Akatyerr (Desert raisin) balls.
Photo by Fiona Walsh/CLC

Priority issues identified by the participants related to the careful burn regimes needed to maintain seed and fruit production; better understanding of weight and pricing variations; product preparation and cleaning techniques; development of media and resources that support younger people to learn; integration into Community Development Programme and other work programs; improvement of local nutrition through bushfoods in-store policies and sales; and, improved communication back and forth along the economic value chain to improve rights and responsibilities of harvesters and others.

The women proposed further events that allow them to meet, share and learn new knowledge and practical skills. This is likely to happen in 2017 in the next hot season when wattle seed crop is ready for harvest.

DPIR financed the workshop and Central Land Council Land Management section provided support to harvesters as traditional owners. The workshop was also supported by Batchelor Institute of Tertiary Education, the Aboriginal Interpreter Service and Urapuntja Aboriginal Corporation.

Rod Horner demonstrates washing and drying methods required to maintain Akatyerr fruit quality and meet industry standards.

Photo by Fiona Walsh/CLC

Central Australian Horticultural Scientists Keen on Quinoa

AUS TRCF variety of Quinoa at AZRI.

If you have recently dined in one of Alice Springs' many trendy cafes, you may have come across an interesting new seed ingredient in dishes called quinoa. Pronounced "keen-wah", this seed is from *Chenopodium quinoa*, and is being planted at the Arid Zone Research Institute (AZRI) as part of a nationwide cultivar trial.

The worldwide production of quinoa has climbed from 23000 tonnes worldwide in 1990 to nearly 200000 tonnes today. This could be due to the elevation of the status of this plant to "superfood" status, and as a gluten free substitute for other cereals. Being considered easy to digest, this seed is an experimental crop in NASAs controlled ecological life support system for long-duration human occupied space flights.

Its wild relatives originated in the Andes Mountains in South America. The Inca people held the crop to be sacred, calling it *chisoya mama* or "mother of all grains".

The Department of Primary Industry and Resources have partnered with the West Australia Department of Agriculture and Food to conduct this project. "This exciting new crop has been planted in trials from Tasmania right up to Katherine, where our colleagues at Katherine Research Station grew some last dry season," said Stuart Smith, leader of the Central Australian Horticultural Development Project. "We want to get it in early, get it grown and off before the frosts come. It is about a 120 day crop, so we will be pushing it. I think it could be an ideal crop to grow in our area, and we will be testing it by growing it with fairly salty water. It will be interesting to see how it tolerates it,"

The returns for quinoa are comparable with cereal crops. Although the price for the crop tripled from 2006-2014 due to increased demand, the price has come down as supply from new planting meets the increasing demand. "The crop is relatively small in Australia, but is popular. Our hope is that it becomes a regular part of a crop rotation and can generate cash for our local growers,"

The trial shows some positive signs, but the drilling equipment used meant the establishment was poor.

Technical Officer Teagan Alexander harvesting quinoa at Katherine Research Station

“”We planted the crop in May, and those seeds that took off grew well, even getting over the early June frosts, but next time we will try and use a better seed drill and get a better plant establishment,” Stuart said.

The next trial has been planted at AZRI, and is emerging now. It will be interest to see how the spring crop performs.

40th Conference of the Food and Agriculture Organisation

Stuart Smith, acting Regional Director, Central Australia, recently returned from the 40th Conference of the Food and Agriculture Organisation (FAO) of the United Nations held in Rome, Italy.

The biennial event, held over five days, is the main meeting of the world’s peak multilateral agency for food and agriculture.

Stuart was one of 1,150 delegates from 181 countries, including the President of the United Nations General Assembly, Peter Thomson. 105 ministers, 25 vice-ministers and a plethora of parliamentarians, including the Federal Minister for Agriculture and Water Resources, Barnaby Joyce, also attended the biennial conference.

Stuart was selected to attend by the Agricultural Senior Officers Committee (AGSOC). A representative from participating States and Territories is selected biennially to attend the conference. The NT was previously represented in 1985 and 1999.

“The conference is not so much focussed on sharing technical information, rather it’s a meeting of the member countries to endorse the business of the organisation. In a sense it is like a shareholder meeting, where all countries can have a say,” Stuart said.

“Australia had a team of delegates, so we were able to attend the concurrent sessions and side events.

“I participated in Commission 1, and delivered interventions at the meeting on behalf of Australia on the International year of Soils, the International year of Pulses and World Pulses Day.

“It was a valuable experience and provided new perspectives on world food production, the work and influence of the FAO, as well as the opportunity to make contacts both within the Australian Government and with officials of other member nations,” Stuart said.

Although some of the business affairs of the organisation were quite dry, some of the highlights included side events on dealing with water scarcity and eliminating hunger.

“Even though a lot of the work of the FAO deals with developing countries, it was clear to see that the countries of the Middle East and Northern Africa were struggling with lack of water, similar to Australian issues, especially the arid zones like Central Australia.

“All countries were also called upon to do more to try and eliminate hunger and malnutrition, which includes a worldwide crisis in obesity. Even though Australia is seen as one of the most developed nations in the

world, we could certainly improve our outcomes for these problems, especially in the remote communities of the Northern Territory".

When in Rome…?

"Food in Rome was unbelievably good, they take appearances very seriously and it was pretty cheap. The Colosseum and Palatine Hill were right next door to the FAO so I didn't have to go very far" Stuart said.

"I also managed to sneak in a couple of tours at either end of the Conference. Trevi Fountain, Vatican, Medici Palace, Michelangelo's David, Appian Way… Rome is a city chocca with history, but also people have had to adapt to narrow streets and lack of space by having Smart Cars and Vespas, and very few people live in houses, they all live in flats."

BAT Disease Kills horses

The Department of Primary Industry and Resources (DPIR) together with the Federal Department of Agriculture and Water Resources held a very successful Emergency Animal Disease workshop for veterinarians at the Arid Zone Research Institute in April. This one day workshop provided the opportunity for 14 veterinarians to enhance their knowledge and skills in emergency disease recognition and investigation.

Dr Ed Annand from Sydney University presented an interesting case of Australian Bat Lyssavirus (ABLV), or bat rabies, in two horses that progressed to death in 54 hours, even though testing for Hendra virus (HeV) was negative. These two diseases are believed to represent a significant risk in the Northern Territory (NT). Dr Annand's message to Central Australian horse owners and vets was:

- We are surrounded by flying fox and micro bats in the NT, including Central Australia. There are 65 species of micro bat in Australia – it is just a matter of time before further ABLV/bat rabies cases are seen.
- Horses with bat rabies may present with a wide range of clinical signs such as lameness, mild skin sensitivity, abdominal pain, loss of control of body movements, and intermittent behavioural changes.
- Vets need to consider ABLV as an alternative diagnosis for HeV negative animals.
- It is of value to take blood and nasal swabs early in a case, especially in remote areas, for future diagnosis. The Department will be distributing sampling kits to all properties in the coming months.
- In a dead horse, neck skin biopsies of hair follicles and their associated nerves can be examined for diagnosis.

Not only fatal to horses, to date there have been three fatal ABLV human cases in Australia, all of which have involved direct contact with a bat. ABLV should be considered in all domestic animals displaying progressive neurological signs in Australia. If you work with horses on your property, it is important to adopt good personal hygiene.


What's a PIC
and do you need one?
You can play an important part in protecting the NT from the impact of an animal disease outbreak.
If you keep livestock on your block or in your backyard, you MUST register for a Property Identification Code (PIC)
If you keep any of these animals, even just one as a pet, then you need a Property Identification Code.
Livestock includes cattle, buffalo, horses (inc. mules and donkeys), pigs, poultry, deer, llamas, camels, alpacas, sheep, goats and beehives.
Registering for a PIC is easy and free.
Register online at www.nt.gov.au
NORTHERN TERRITORY GOVERNMENT

DEPARTMENT OF
PRIMARY INDUSTRY AND RESOURCES

Registration Form
NT Property Identification Code (PIC)

Please complete and return to: Chief Inspector of Livestock

Fax to: 08 8999 2146 Email: adele.kluth@nt.gov.au GPO Box 3000, Darwin NT 0801

Property Name/Holding: _____
(e.g *Smith Farm, Smith Block, Smith Springs, Smith Pastures* etc.)

Land Details: _____
(i.e. Pastoral Lease # / NT Portion # / Section No. & Hundred of etc / Street Address)

Owner/s of Property details: (as registered with Land Titles Office):

Owners Name (person/s): _____

Or if Owned by Company: _____

ACN or ABN: _____ Director/s: _____

Owners Postal Address: _____

Work Phone: _____ Home Phone: _____ Fax: _____

Mobile: _____ E-mail: _____

Property details:

Managers Name: _____

Postal Address (of property): _____

Telephone: _____ Fax: _____

Mobile: _____ E-mail: _____

❑ **Small Farm** (blockies<=50 head) | ❑ **Rural properties** (51-999 head) | ❑ **Pastoral properties** (>=1000 head)

Livestock kept on property: Please note: Livestock numbers are required (all information is kept confidential):

Cattle Nos:	Alpacas_____	Beehives_____	Bison_____	Buffalo_____
Breeders_____	Camels_____	Crocodiles_____	Deer_____	Emu_____
Non-Breeders_____	Goats_____	Horses _____ *(Incl Mules & Donkeys)*	Llamas_____	Ostrich_____
Total Head_____	Pigeons_____	Pigs_____	Poultry_____	Sheep_____

NT Brands Registered for use on this Property: _____

COMMENTS: _____

_____

Last updated 01/07/2017
For more information visit **www.nt.gov.au/industry/agriculture/livestock**

NORTHERN TERRITORY GOVERNMENT

NORTHERN TERRITORY GOVERNMENT

Pastoral Market Update

DEPARTMENT OF **PRIMARY INDUSTRY AND RESOURCES**

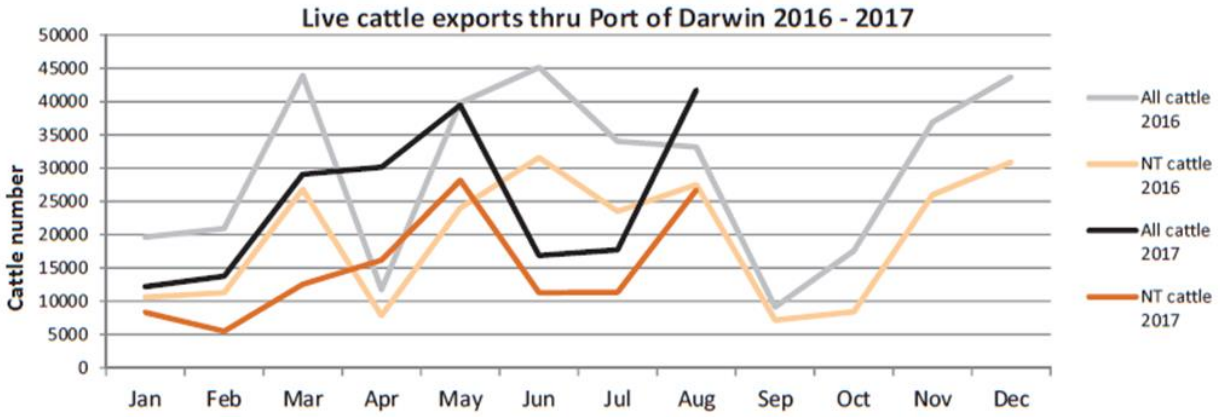
Live Cattle Exports via Darwin Port – August 2017

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)						
	2015	2016	Last year to 31/08/16	YTD to 31/08/17	Aug	Last month	*Difference*	2015	2016	Last year to 31/08/16	YTD to 31/08/17	Aug	Last month	*Difference*
Brunei	4,122	3,379	3,379	1,126	230	0	230	2,069	2,314	2,314	628	147	0	147
Indonesia	341,759	296,230	205,443	161,591	36,484	11,560	24,924	197,155	195,037	134,962	95,602	23,342	5,124	18,218
Philippines	23,611	4,697	4,697	0	0	0	0	13,559	3,236	3,236	0	0	0	0
Sabah	0	0	0	1,500	0	1,500	-1,500	0	0	0	960	0	0	0
Sarawak	300	1,220	1,220	340	0	0	0	0	843	843	183	0	0	0
Malaysia	11,503	10,959	9,854	7,351	189	2,719	-2,530	7,499	7,476	6,698	4,440	121	1,606	-1,485
Vietnam	100,119	36,405	20,975	28,254	4,846	1,951	2,895	63,998	24,783	13,168	17,657	3,100	4,011	-910
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thailand	6,154	0	0	800	0	0	0	3,610	0	0	535	0	535	-535
Cambodia	0	2,766	2766	0	0	0	0	0	1,936	1,936	0	0	0	0
TOTAL	487,568	355,656	248,334	200,962	41,749	17,730	24,019	287,892	235,625	163,157	120,004	26,710	11,275	15,435

August at a glance

- 41,749 cattle through the Darwin Port during August; 24,019 more than last month and 8,574 more than in August 2016.
- 26,710 NT cattle through the Darwin Port during August; 15,435 more than last month and 792 less than in August last year.



OTHER LIVESTOCK EXPORTS VIA DARWIN PORT

Includes NT and interstate stock.

Destination	Buffalo		Goat		Camel	
	YTD	Aug	YTD	Aug	YTD	Aug
Brunei	148	148	0	0	0	0
Indonesia	195	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	3,122	0	0	0	0	0
Vietnam	2,762	133	0	0	0	0
Egypt	0	0	0	0	0	0
Thailand	0	0	0	0	0	0
Cambodia	0	0	0	0	0	0
TOTAL	6,227	281	0	0	0	0

NT CATTLE MOVED INTERSTATE

Destination	Aug	YTD to 31/08/2017
NSW	5219	14,021
QLD	160007	224,427
SA	5095	29,555
VIC	1301	6,061
WA	3243	18,459
Total	174,865	292,523

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						
2009	2010	2011	2012	2013	2014	2015	2016	2009	2010	2011	2012	2013	2014	2015	2016
347,314	295,605	269,617	246,990	359,616	493,958	487,568	355,656	304,818	272,749	253,797	234,249	308,784	324,477	287,892	235,625

Subscribe or unsubscribe to the monthly Pastoral Market Update.

Prepared by NT Department of Primary Industry and Resources. For further information contact PMU@nt.gov.au. This publication contains commodity market information prepared for DPIR staff use in strategic research and extension planning. While DPIF exercise care in the compilation and preparation of this information, no responsibility is taken for its accuracy or for the completeness of any information that is reproduced from other sources. DPIR denies any loss or damage to any person whether caused directly or indirectly by the use of any of the information provided.