Investigation of reproductive loss

Jocelyn Coventry, Pastoral Production, Alice Springs NT

Recent analysis of pregnancy testing and calf weaning data from cattle breeding groups on Old Man Plains Research Station (OMP) has put the spotlight on the level of reproductive loss between pregnancy testing and weaning. In 2011/12, this level was 11% to 12% for all breeding groups, and examination of records over 5 years indicated that the level of foetal or calf loss in older cows (10+ years old: 14%) was twice as high as loss in the younger cows (4 – 6 years old: 7%).

The level of these losses is similar to that of other data previously collected for northern Australia. In the past decade, major reviews of this data has been undertaken to set benchmarks for an acceptable level of loss (see Box 1.) and to establish guidelines for how to reduce this loss (see Box 2.).

Previous research in northern Australia indicates that the majority of losses occur within 6 weeks of mating and around the time of calving (Burns et al. 2010). Anecdotal information also suggests that significant losses may also be associated with management musters and calving at an unfavourable time of the year (McCosker et al. 2011).

(Cont. on page 3)
From the Editor

The Alice Springs pastoral production team met on 6 September to discuss their research and development activities and we decided to feature a few of the projects in this edition of the Rural Review.

The long term grazing trial, now fully implemented at Old Man Plains Research Station, will test six different grazing strategies based on fixed vs. variable stocking rate, utilization rate and spelling. This unique trial has been designed to become a reference point for grazing strategies in central Australia.

With the cattle herd at OMP now bred to capacity, and a large number of Droughtmasters registered on Breedplan we are in a position to focus on research. In the newsletter we report on an investigation to determine the extent of pre and post natal calf loss. Using a group of 53 artificially inseminated cows we also closely monitor the ability of a remote device to determine birthdates of calves and thereby develop the ability to register more animals and establish estimated breeding values.

Indications are that a large part of central Australia is moving towards a dry climatic cycle and important management decisions need to be made. Should producers still breed up, as has been happening for the last 3 years, or is it time to take stock and plan for a dry spell? By making use of modern technology some of the guess work can be taken out of management decisions. The department can assist to determine property specific long-term safe carrying capacities which form the basis of any production plan.

Fire remains an important factor in rangeland management and a fire management strategy and fire management plans have been developed for Old Man Plains. We will gladly assist pastoralists to develop similar plans for their properties so that this element can be used as a tool to manage rangelands instead of being just a potential threat.

In this newsletter an informative article on the carbon farming initiative addresses some of the questions that transpired from the workshop held in Alice. Although most of the methodologies must still be developed to unlock this resource it is important that pastoralists are aware of the potential future benefit of the carbon economy.

An update on the Pastoral Industry Survey is that it is taking longer than anticipated to write up, but we hope to have the final product available by early next year.

Enjoy the read.

A new arrival at AZRI

This calf is one of the first arrivals in 2012 under the artificial insemination program for selected females from the OMP Droughtmaster herd.

A co-operative study is undertaken to test the accuracy of a remote system to record the birth dates of calves. Should this trial prove successful it will significantly increase the numbers of animals that can be included in Breedplan, which will enable industry to select for improved animals using Estimated Breeding Values (EBV’s).
Investigation of reproductive loss
(cont from page 1)

Loss of an embryo within 6 weeks of mating usually goes unnoticed because it is not detected by most manual pregnancy testing and the cow just appears to be ‘a little slow to get in calf’.

Loss of a foetus in the 1st trimester of pregnancy may still go unnoticed in a continuously-mated herd if the cow is re-mated and reconceives in the same season. This, however, results in delayed conception and later calving.

Reproductive loss will become an obvious herd performance problem:
- when the opportunity to re-breed is limited in a control-mated herd and the potential pregnancy percentage is lower at the end of mating;
- when loss occurs in the 2nd or 3rd trimester of pregnancy with visible abortions;
- when late calving occurs outside of a breeding cycle that depends on seasonal rain and feed;
- when complications from reproductive loss result in the cow becoming infertile; or
- when infection causes reproductive loss in a large proportion of the breeding herd.

Work is being undertaken at OMP to get a better understanding of when foetal and calf losses may be occurring. Data will be recorded at mating, in the 2nd and 3rd trimesters of pregnancy, during tagging, branding and at weaning. Extra surveillance will also be undertaken for a select breeder group in late pregnancy and around the time of calving. Findings from this investigation will help determine what management changes can be implemented to reduce reproductive loss.

For more information about this investigation or enquiries about possible on-station participation, please contact Pastoral Production Officer – Jocelyn Coventry ph. 08 8951 8142

For more information about calf and foetal loss in northern Australia, please contact the AZRI Library on ph. 08 8951 8114 to request the references below:


Box 2. Summary of guidelines to reduce reproductive loss.
- cull aged females & inefficient breeders;
- select females for the physical features, temperament & maternal ability that is required for raising a calf;
- manage the time of mating & weaning so that nutrition is adequate for lactation;
- limit handling stress & nutritional stress, especially during late pregnancy;
- control infectious reproductive disease;
- control predators; and
- limit dystocia.

Source: Burns et al. 2010
OMP Grazing Trial: Putting the theory into practice

Chris Materne, Pastoral Production Officer, Alice Springs
chris.materne@nt.gov.au

Work on the Old Man Plains research station (OMP) is testing recent research theory on stocking rate management and pasture spelling. With the support of the Alice Springs Pastoral Industry Advisory Committee (ASPIAC) a long-term grazing trial has been implemented on OMP that aims to improve land management guidelines for optimising sustainable production in a remote region dealing with a variable and unpredictable climate. The trial will objectively test the recommended grazing strategies that have emerged from a combination of northern Australian research and bio-economic modelling. The grazing strategies will be evaluated in terms of their impact on land condition, animal productivity and practicality.

Weaned steers will be added to the trial each year and their performance measured quarterly to look at how the different grazing strategies influence the consistent production of quality beef; a central Australian beef industry strength that was identified by ASPIAC. The steers will enter the trial at six months of age before being sent to slaughter at 2½ years of age for Meat Standards Australia (MSA) grading.

Land condition is a key factor in optimising sustainable cattle production and business resilience in a variable and changing climate. Recent modelling confirms that land condition improvement in response to changed management practises can be slow in the arid zone, taking many years for the benefits to emerge. For example, the benefits of regularly spelling country, although dependent on seasonal conditions, may generally only become apparent after about 7 years or even longer (Figure 1). For this reason the testing of any grazing management options in central Australia will require a long-term (>10 year) approach. Such long-term trials are rare in Australia and their benefits and need of such research were identified at the 2011 North Australia Beef Research Update Conference (NABRUC) in Darwin.

Figure 1: Modelled effect of a two paddock rotation (each paddock is spelled for the whole year every second year) on land condition in mulga and open woodland land types (Northern Grazing Systems Project 2011). The land condition performance of a continuously grazed paddock (solid line) is included for comparison.
Grazing Management Options

In total six grazing strategies have been implemented on OMP (Figure 2) to investigate a range of set and variable stocking rate and spelling options.

**1. Spelling (length and frequency vs continuous grazing)**

Recent modelling from the Northern Grazing Systems (NGS) project (2009-2012) indicated that land condition improvement and higher production are possible if spelling is incorporated over the growing season (Figure 1). To investigate these benefits an additional 2-paddock rotational grazing system has been implemented on OMP to complement the existing 4-paddock rotation system that was implemented in 2006 as part of the Central Australian Grazing Strategies Partnership program (CAGSP). The addition will provide insight into spelling length and frequency as well as the effect of spelling under different stocking strategies (Figure 3).

**4-Paddock Rotation (Crow’s Nest, No.1, and East and West Whitepoint Paddocks)**
- Crow’s Nest and No.1 paddocks (highly productive but fragile open calcareous plains)
  - Spelled for 9 months and every ‘summer’ growing season, and grazed for 3 months.
- Whitepoint West and East paddocks (resilient mulga woodlands)
  - Spelled for 18 months and every second ‘summer’ growing season, and grazed for 6 months.

**2-Paddock Rotation (12 Mile and Mulga Dam Paddocks)**
- Spelled for 12 months, and grazed for 12 months.
2. **Stocking Rate Flexibility** *(Low Flexibility vs Set Stocking)*

The NGS project determined that a low flexible stocking strategy is probably the most profitable stocking rate management option in the Alice Springs district. This strategy will be compared to the strategy of a set stocking rate (Table 1 see over page). The low stocking rate flexibility strategy will be tested both under continuous grazing (Pine Gap Paddock) and spelling (12 Mile and Mulga Dam Paddocks) (Figure 4).

**Table 1: Stock number adjustment criteria for a low flexible stocking rate strategy. Annual stocking rate is based on forage budgeting and adjusted in accordance with the paddocks long-term carrying capacity (LTCC).**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Stocking Rate Capped At</th>
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</thead>
<tbody>
<tr>
<td><strong>If feed supply is HIGHER this year,</strong> stock numbers can increase by up to:</td>
<td></td>
</tr>
<tr>
<td>+10%</td>
<td>+20%</td>
</tr>
<tr>
<td>+30%</td>
<td></td>
</tr>
<tr>
<td><strong>If feed supply is LOWER this year,</strong> stock numbers to decrease by up to:</td>
<td></td>
</tr>
<tr>
<td>-25%</td>
<td>-30%</td>
</tr>
<tr>
<td>-50%</td>
<td></td>
</tr>
</tbody>
</table>
3. Utilisation Rate (Grazing Land Management (GLM) recommendations vs GLM + an additional 5% utilisation)

To test the present stocking rate methodology developed for central Australia all paddocks will be stocked according to their long-term carrying capacity (LTCC), with the exception of Stuart North paddock which will be stocked at a slightly higher stocking rate than its LTCC (moderate stocking). GRASP pasture growth modelling and the MLA Edge Network’s Grazing Land Management workshop methodology will be used to determine each paddock’s LTCC. The Stuart North paddock however will be stocked according to the same methodology but with the addition of a further 5% utilisation being allowed from each land type (Figure 4).

![Stocking Strategy](image)

**Figure 4: Stocking strategies implemented on OMP**

*Photo 1: Pieter Conradie happily cutting grass to calibrate the pasture assessments.*

**Progress**

With the exception of the Stuart North Paddock (Set Stocking [Stocked under the GLM methodology GLM + an additional 5% utilisation] + Continuous grazing) that is dependent on infrastructure development, all the strategies have been established and indicator steers added.

In August all cattle were performance recorded and the 4-paddock rotation cattle moved into a fresh open calcareous plains dominated paddock (Crow’s Nest Paddock) prior to
calving. Performance recording will be done again in December, and the 4-paddock rotation cattle will be moved at the end of the calving period into a mulga woodland dominated paddock (Whitepoint West Paddock) for the 2012/13 growing season.

Initial results from data collected in 2011 and 2012 are to be analysed and the results reported in early 2013.

Using the bush to heal

Vivek Bhat, Research Horticulturist, AZRI Alice Springs

“Interrentye” a local indigenous social enterprise of the Akeyulerre Health Centre, has partnered with the Department of Primary Industry and Fisheries to extend their processing of medicinal herbs from different central Australian *Eremophila* and *Eucalyptus* species. The Department is providing access to the AZRI Laboratory buildings to enable safe production of these traditional medicines, and run their workshops. This is part of the Department’s commitment to assist in developing Indigenous agribusiness. Land on AZRI is also under consideration for future plantings of these and other bush-medicine species. The group is preparing a range of traditional healing products for commercial and community use.
“Interrentye’s goal is to provide traditional healing products for families that live in town and cannot access these plants or the knowledge to prepare their own”

If you are interested in knowing more about their products and business, you may find them at the following address.

3 Stuart Terrace  
PO Box 3194  
Alice Springs, NT 0871  
Phone 08 8952 2339  
Fax 08 8953 6973  
Mobile 0437 285 983  
Jane Ulrik manager@akeyulerre.org.au

Acknowledgements: The Department would like to acknowledge Myra Gorey and Jane Ulrik, Akeyulerre Centre, Alice Springs, for their help in sourcing this information and for their consent in sharing the same with the public.
Looking ahead at rainfall for Central Australia

Joel Lisonbee, Manager, NT Climate Services Centre, Bureau of Meteorology, j.lisonbee@bom.gov.au

The seasonal outlook, a statistical model forecasting rainfall, indicates an equal chance of above or below normal rainfall for most of central Australia during spring this year (September to November). In other words, we can probably expect near average rainfall over the next three months. On average, total rainfall this time of year ranges from 25 to 50 mm, with November typically being the wettest of the three months.

An expanded set of seasonal rainfall outlook maps and tables, including the probabilities of seasonal rainfall exceeding given totals (e.g. chance of receiving at least 200 mm), is available on the "Water and the Land" (WATL) part of the Bureau's website (www.bom.gov.au/watl/rainfall/exceedance.shtml).

This outlook is a result of emerging warmer than normal waters in the tropical Pacific Ocean (El Niño) and persistently warmer than normal waters in the Indian Ocean.

What is El Niño?
The term El Niño refers to the extensive warming of the central and eastern tropical Pacific Ocean which leads to a major shift in weather patterns across the Pacific. During El Niño years, the trade winds weaken and the central and eastern tropical Pacific warms up. This change in ocean temperature produces a shift in cloudiness and rainfall from the Australian region to the central tropical Pacific Ocean. Therefore, El Niño is usually associated with drier conditions in eastern Australia.

What’s going on right now?
Currently, climate indicators are close to El Niño thresholds, and have been since early July. While tropical Pacific sea surface temperatures show a typical, albeit weak, El Niño pattern (warmer surface temperature in the eastern Pacific) the atmosphere has not responded to the change in ocean temperature. Atmospheric indicators such as the trade winds and tropical cloud patterns, show near neutral conditions and have yet to develop typical El Niño signatures.
The Southern Oscillation Index (SOI) is a measure of the atmosphere’s response to changing ocean conditions in the Pacific. The SOI, in most basic terms, is the difference in air pressure between Darwin, Australia, and Tahiti. (Remember the change in ocean temperature produces a shift in cloudiness and rainfall, which are the effects of lower air pressure). The monthly mean SOI for August was -5. Most El Niño events produce an SOI of less than -8.

Regardless of the El Niño/Southern Oscillation (ENSO) state, the tropical Pacific is currently warmer than average. This tends to cause rainfall across central Australia to be just on the dry-side of normal.

Climate models surveyed by the Bureau of Meteorology suggest sea surface temperatures in the tropical Pacific Ocean will maintain values close to, or greater than, El Niño thresholds before returning to neutral towards the end of 2012 or early 2013.

What about the Indian Ocean?
There are two measures that we commonly use to track changes in the Indian Ocean. One is called the Indian Ocean Dipole (IOD) and the other is sea surface temperatures off the WA coast.

The IOD is an index measuring the difference in sea surface temperature from the eastern Indian Ocean and the western Indian Ocean. When the west is warmer than the east we tend to see drier conditions across central Australia due to fewer cloud-bands forming and moving across. When the east is warmer we see more moist tropical air moving into the Red Centre and rainfall totals are higher. (Learn more about the IOD at www.bom.gov.au/climate/IOD/about_IOD.shtml).

Summary
Currently the IOD is positive, the Pacific is near El Niño conditions and both would induce below average rainfall, but the sea surface temperatures off the west coast of WA are warmer than average and, for most of central Australia, is somewhat muting the dry conditions of the other drivers.
Are you fire ready?

Plan and Prepare

- Check your fire plan & strategy
- Ensure fuel breaks are cleared
- Apply to Bushfires NT for equipment subsidies

Your Responsibilities

- To have fuel breaks in place
- Inform neighbours before burning
- Do you need a permit?

What are you protecting?

- Infrastructure (fences, buildings, water points)
- Resources (vehicles, equipment)
- Livestock
- Pastures
- Livelihood

Record keeping (fire management costs)

- Staff & equipment hours for fuel breaks, control burns & wildfires
- Equipment repairs & maintenance
- New resources purchased
- Post fire impacts (selling/agisting cattle, fence lines, tanks)

For more information contact: Bushfires NT at 89 523066
Changes to the Northern Territory Pregnancy Testing Accreditation Scheme for Export Feeder Cattle

To maintain a credible export chain, it is vital that the pregnancy status of female cattle be verified by competent pregnancy testers prior to export. Female feeder export cattle must be spayed and/or pregnancy tested no more than 30 days prior to export and declared to be non-pregnant to ensure that calves are not born in export yards or feedlots and cattle are fit to travel on the extended journey. There is a risk to the welfare of calves born in transit and in export yards or feedlots and the slaughter of pregnant cattle is unacceptable to the Muslim community.

The Australian Standards for Live Export (ASEL) outlines standards for sourcing feeder cattle and buffalo animals for export. For the purpose of certification that animals intended for export from Northern Territory or Western Australia to certain countries are not pregnant, the relevant agency in the State or Territory may authorise a non-veterinarian to be a competent pregnancy tester.

In the Northern Territory, the Department of Primary Industry and Fisheries authorises accreditation. In Western Australia, the WA Veterinary Surgeons Board provides authorisation. In all other jurisdictions pregnancy testing for export must be done by a registered veterinarian.

The Department of Primary Industry and Fisheries will be introducing additional measures to the Pregnancy Testing Accreditation Scheme from 1 July 2012 to ensure credible pregnancy testing and certification for export feeder cattle.

The measures include:

1. Re-assessment of pregnancy testing competency through a Recognised Training Organisation (RTO) will be required at the three (3) yearly renewal date, starting with renewals due on 31 December 2012. (There is a Northern Territory provider available through Charles Darwin University (CDU) Katherine Campus.)

2. Record keeping of all pregnancy testing conducted for production and export purposes showing the following:
   a) Date of each pregnancy testing examination;
   b) Name and address of the owner of the cattle;
   c) Property on which the cattle were examined;
   d) Number of cattle examined;
   e) Number of cattle determined to be pregnant by the accredited person.

   Production records must be corroborated by an employer and export records may be corroborated by DAFF Biosecurity Live Animal Export veterinarian or Exporter records.

3. Annual reporting of pregnancy testing records by 31 December each year which support a moving average of at least 500 cattle per year over the three (3) year period. The accredited person must submit the following documentation to the Department of Resources.
   a) Annual pregnancy testing activity report form
   b) Annual pregnancy testing activity records

The Charles Darwin University (CDU) Katherine Rural Campus provides training and assessment required for export accreditation. Contact CDU on 8973 8311 for further details on the availability of training courses. The next course will be run in early August 2012.

More Information
http://www.nt.gov.au/d/animalhealth and select Exports – Pregnancy testing
Carbon Farming Initiative (CFI) workshops have been held in Alice Springs and Tennant Creek over the past few months to inform land managers about the opportunities, obstacles and risks of engaging in the initiative. This article provides a brief overview of CFI, prospects for the Alice and Barkly regions, and answers some questions asked during the workshop. If you want more detailed explanations, please visit http://landcarent.blogspot.com.au.

The Carbon Farming Initiative provides land managers with an opportunity to generate carbon credits by increasing carbon storage (sequestration) or reducing methane and nitrous oxide emissions relative to a “business-as-usual” baseline. Verified credits can be traded in a carbon market. The price that credits might fetch on the market depends on the type of activity. Kyoto compliant activities such as reducing methane emissions from cattle generate credits that can be sold to companies with a legal obligation under the Clean Energy Act (Carbon tax). Non-Kyoto compliant activities such as reducing methane emissions by controlling feral animals, increasing soil carbon and most forms of native vegetation regeneration can only be sold to companies that wish to voluntarily offset their emissions. Because there will be more demand for Kyoto compliant credits, these activities are expected to fetch a better price (e.g. $20/tonne of carbon dioxide-equivalent compared to $1-10/tonne of CO2-equivalent).

CO2-equivalents are a standard unit of measurement against which gases with different warming potential can be converted to. For example, if one tonne of methane has 23 times the warming potential of CO2, then one tonne of methane is equal to 23 tonnes of CO2-equivalent.

So why are carbon dioxide (CO2) and methane so bad? You may be surprised to know that most emission reduction activities concentrate on reducing methane or nitrous oxide emissions and not carbon dioxide. The aim of the CFI is generally to keep carbon emissions in the form of carbon dioxide rather than methane. CO2 that goes into the atmosphere is available immediately for uptake by plants. The problem with methane production is that it goes into the atmosphere and sits there for about 10 years before eventually breaking down. So the longer time in the atmosphere and greater heating capacity of the molecule means it has a greater overall effect on global warming.

So what are the prospects for carbon farming in the arid and semi-arid zone? Currently, there is still a lot of uncertainty as to how CFI can be applied in northern Australia, and the development of methodologies to measure changes in carbon stores and greenhouse gas emissions is in its infancy.

Most arid and semi-arid sequestration projects will not earn Kyoto complaint credits so may fetch a lower price compared to complaint credits. Also, sequestration projects must store carbon permanently (i.e. for at least 100 years), and permanent storage may be difficult in environments prone to fire and drought. If a carbon store is lost, project proponents would not need to return credits so long as they take reasonable steps to recover the lost carbon (e.g. maintain management practices already being employed). However, risks to the permanent storage of carbon may affect the confidence of potential buyers and the marketability of the carbon credits.
Sequestration of carbon into the soil through rehabilitation of degraded parts of landscapes may be less risky compared to above ground storage. However, soil carbon is patchy and difficult to measure, and may require significant research to develop easy to use measurement models.

Emission reduction methodologies such as reducing methane emissions from cattle don’t come with permanence requirements so may be easier to engage with. However, not enough is known at this stage to accurately measure or model methane reductions from cattle.

Potential livestock methane methodologies applicable to producers are likely to be based around increasing production efficiency, e.g. increased weaning rates, or increasing nutrition to improve the rate of weight gain and reduce lifetime emissions. Management activities to achieve these outcomes might involve different finishing systems, the use of legumes, reducing stocking rates or improved supplementation.

For an activity to be accepted under CFI, it must be additional to business as usual (i.e. not commonly practiced). Also, a reduction in emissions on one property must not cause an increase in emissions from another. For example, destocking may lead to increased stocking on other stations to meet unchanged demand, with no change in overall emissions. This is termed leakage and must be avoided to maintain integrity in the system.

One methodology that has been proposed for the rangelands is the control of feral camels, known as pseudo-ruminants. The methodology conservatively estimates the average life span of a camel as 16 years and assumes that each camel culled is 8 years old. Therefore, when a camel is culled, 8 years of emissions are avoided. Camels produce approximately 1 tonne of CO2-equivalent per year, so each culled animal avoids 8 tonnes of CO2-e. This gross figure then needs to deduct emissions from fossil fuel combustion from vehicles, stationary sources or abattoirs associated with the activity to calculate overall credit generation.

Feral animal control is not Kyoto compliant so must rely on companies volunteering to buy credits. This may come at some risk to buyers if the programme is later associated with a claim of inhumane practices, and this could affect uptake and price. However, if the activity is associated with some environmental or social co-benefit, buyers may be attracted.

There is a sense of frustration that the Carbon Farming Initiative is not ready to use in arid and semi-arid landscapes. The concern is that this frustration will lead to political pressure to rush methodologies onto the market. Methodologies need to be conservative and based on peer review science to maintain market confidence. Therefore, patience is required to allow the research to be conducted so that rigorous methodologies can be developed.
Laboratory results have confirmed the original diagnosis of BEF, as well as provided valuable contributions to national BSE surveillance and BEF research. For more information about the two nationally-funded projects, contact Alice Springs Regional Veterinary Officer – Peter Saville, ph. 08 8951 8181
What is a POO Certificate?

Many producers may not be aware of the existence of POO’s or to give them their full title - Property of Origin Certificates. POO certificates are completed by Veterinary Officers and Regional Livestock Biosecurity Officers of the Department for all shipments of cattle originating from the NT which are exported. Figure 1 shows an example of a POO Certificate. The diseases for certification have not been included.

**PROPERTY OF ORIGIN CERTIFICATE FOR LIVE FEEDER/SLAUGHTER CATTLE FOR EXPORT TO TURKEY**

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<tr>
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<th>Exporter:</th>
<th>PAGE 1 of 2</th>
</tr>
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<tbody>
<tr>
<td>Ship Name:</td>
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<td>Destination Country: TURKEY</td>
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<table>
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<tr>
<th>Property of Origin Name</th>
<th>Property Identification Code</th>
<th>Property of Origin Name</th>
<th>Property Identification Code</th>
</tr>
</thead>
</table>

State/Territory Government Veterinary Declaration

I, Peter Harvey Saville, being a Registered Veterinarian or delegate thereof in full-time service with the Northern Territory Government – DPIF, am responsible for the Region/District where the property(s) described above are located, hereby certify that, after due inquiry and to the best of my current knowledge and belief, I am satisfied that the animal health status of the above properties is as detailed below;

During the last 12 months, over 20 shipments of cattle from 24 properties in Central Australia have been sent to Libya (1 property), Turkey (16 properties), Israel (6), Egypt (3), Indonesia (4) Philippines (3) and Malaysia (1). This demonstrates the marketability of cattle from the Alice Springs District.

Importing countries require certification that individual properties are clinically free from a number of diseases which include bluetongue, leptospirosis, Johne’s Disease, Enzootic bovine leucosis, pasteurellosis, Trichomoniasis, Vibriosis, Bovine Herpes virus, Infectious bovine rhino-tracheitis, Bovine Viral diarrhoea, Neosporosis and Para Influenza-3.

Livestock Exporters request information from the Department to certify that the livestock originating from Territory properties are free from notifiable diseases. In addition to the declaration on the POO certificate, Livestock Exporters request that owners of livestock sign a Vendor Declaration certifying the health status of livestock for non-notifiable diseases. DAFF Biosecurity Live Animal Exports certifies country freedom from specific exotic diseases such as foot and mouth disease.

Of particular interest to properties in the Alice Springs District is the requirement by Turkey that: *The cattle were kept in a bluetongue-free zone for at least 60 days prior to shipment.* (Cont. overleaf).

Properties located in the bluetongue transmission zone are not eligible for export to Turkey because the property cannot be certified as bluetongue free. Each year the Department invites properties to participate in the National Arbovirus Monitoring Programme (NAMP). Results from the blood samples collected from cattle on participating properties is used to define the boundaries of the bluetongue zone. Greater participation in the NAMP programme will assist properties in accurately defining their bluetongue status and improving their market access.

For further information on POO certificates, export requirements and NAMP please contact Peter Saville (0401 118 181) or Greg Crawford (0401 118 125).

**Young minds for building central Australian horticulture**

The Department’s Plant Industry Group has succeeded in attracting two aspiring young minds through a collaborative scheme with the Department of Education under their VET training program. Glen Oliver, Horticulture Technical Officer at AZRI has already inducted two young men – Mitchell Couchman and Kevin Buzzacott from Centralian Middle School, Alice Springs.

Initially, the students will be visiting AZRI on a weekly basis every Friday, for five weeks, and the further extension of the program will be decided based on the outcomes. The intention is to add to the number of students learning the business of horticulture, as the enthusiasm and the interest demonstrated thus far has been inspiring. Kevin and Mitchell have been working in the date palm plantation labelling; pollinating inflorescences; watching the fruits developing through the season. They will be soon harvesting their own fruited bunches in the near future!

![Image of students and staff at AZRI](image-url)

**What When & Where**

2012

**International Rural Network World Forum**  
24 – 28 September, 2012

**Australian Rangeland Society Biennial Conference**  
23 – 27 September, 2012

Contact azri.library@nt.gov.au or 8951 8114 if you’d like to add a coming event.
Plant description

Bandicoot grass is a tussocky perennial grass 30-60cm tall. It has erect, unbranched stems that are covered by the leaf sheaths. The plant has a woolly butt and the leaves, which are mostly at the base of the plant, are covered with dense bristly hairs. Seed heads are erect with seeds spread along a single upright stem. The seeds are shaped like oats. At maturity the seeds become dark and fluffy and fall off the plant leaving behind a papery v shaped husk.

Grazing Value

- Nutritional value various and declines with maturity.
- Valued for green shoots after winter rain when only low quality herbage and feed available.

Habitat

- Common on red earths of hard mulga country and red earths of low ridges or hill slopes
- May also be found on sandy banks, plains and on shallower soils

Notes

- Plant has a moderate moisture requirement
- Responds well to summer and winter rains
- Can tolerate dry conditions
- Resistant to fire and frost

Information source

- DPIF Central Australian Range Herbarium
Live Cattle Exports via Darwin Port – AUGUST 2012

# Please note that the “NT CATTLE” figures are NT cattle exported through the Port of Darwin only, some NT cattle are exported through interstate ports.

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<thead>
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<td>0</td>
<td>945</td>
</tr>
<tr>
<td>EGYPT</td>
<td>0</td>
<td>5,363</td>
</tr>
<tr>
<td>TOTAL</td>
<td>295,605</td>
<td>269,617</td>
</tr>
</tbody>
</table>

August at a glance

- 26,112 head of cattle through the Port of Darwin during August, 3,470 more than July and 12,715 more than August last year.
- 2012 total cattle figures indicate 45,790 head more than last year. NT cattle 41,355 more than last year.
- 987 dairy heifers, 692 sheep and 15 horses were exported to the Philippines.

TOTAL Live Cattle Exports thru Port of Darwin 2011 v 2012

NT Live Cattle Exports thru Port of Darwin 2011 v 2012
OTHER LIVESTOCK EXPORTS VIA DARWIN PORT (includes NT and Interstate Stock)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Buffalo</th>
<th>Camels</th>
<th>Goats</th>
<th>Horses</th>
<th>Sheep</th>
<th>Pigs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRUNEI</td>
<td>470</td>
<td>111</td>
<td>0</td>
<td>0</td>
<td>610</td>
<td>0</td>
</tr>
<tr>
<td>INDONESIA</td>
<td>1,371</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PHILIPPINES</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>W-MALAYSIA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SARAWAK</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,841</td>
<td>111</td>
<td>0</td>
<td>0</td>
<td>610</td>
<td>0</td>
</tr>
</tbody>
</table>

NATIONAL CATTLE PRICES - W/E 31/8/2012

HEAVY STEER

<table>
<thead>
<tr>
<th></th>
<th>SALEYARDS</th>
<th>O.T.HOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NSW</td>
<td>QLD</td>
</tr>
<tr>
<td>This week</td>
<td>358</td>
<td>342</td>
</tr>
<tr>
<td>Last week</td>
<td>354</td>
<td>321</td>
</tr>
<tr>
<td>Year ago</td>
<td>356</td>
<td>336</td>
</tr>
</tbody>
</table>

MEDIUM COW

<table>
<thead>
<tr>
<th></th>
<th>SALEYARDS</th>
<th>O.T.HOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRADE STEER</td>
<td>MUST BE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LIVE EXPORT QUOTES

<table>
<thead>
<tr>
<th></th>
<th>LIGHT STEERS</th>
<th>LIGHT HEIFERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(260-360 kg)</td>
<td>Darwin</td>
<td>Broome</td>
</tr>
<tr>
<td>(260-360 kg)</td>
<td>Darwin</td>
<td>Broome</td>
</tr>
<tr>
<td>This week</td>
<td>190</td>
<td>175</td>
</tr>
<tr>
<td>Last week</td>
<td>190</td>
<td>175</td>
</tr>
<tr>
<td>Year ago</td>
<td>190</td>
<td>175</td>
</tr>
</tbody>
</table>

CURRENCY EXCHANGE RATES

<table>
<thead>
<tr>
<th>Key Currencies</th>
<th>Current 1AUD =</th>
<th>Previous month 1.8.2012</th>
<th>3 months ago 1.6.2012</th>
<th>1 Year ago 1.9.2011</th>
<th>Pre-devaluation 01.07.1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei Dollar</td>
<td>1.26792</td>
<td>1.28683</td>
<td>1.23246</td>
<td>1.26630</td>
<td>1.076</td>
</tr>
<tr>
<td>Philippine Peso</td>
<td>43.3645</td>
<td>43.8681</td>
<td>42.3849</td>
<td>44.8436</td>
<td>19.84</td>
</tr>
<tr>
<td>Malaysian Ringgit</td>
<td>3.21984</td>
<td>3.27340</td>
<td>3.08454</td>
<td>3.14999</td>
<td>1.9</td>
</tr>
<tr>
<td>Euro</td>
<td>0.82036</td>
<td>0.85070</td>
<td>0.78544</td>
<td>0.74994</td>
<td>N/A</td>
</tr>
<tr>
<td>US Dollar</td>
<td>1.03175</td>
<td>1.04819</td>
<td>0.97717</td>
<td>1.06340</td>
<td>0.752</td>
</tr>
</tbody>
</table>
GLOSSARY

ASPIAC: Alice Springs Pastoral Industry Advisory Committee
CAGLM: Central Australian Grazing Land Management
CLMA: Central Land Management Association
CSIRO: Commonwealth Scientific & Industrial Research Organisation
DAFF: Department of Agriculture, Fisheries & Forestry
DCQ: Desert Channels Queensland Inc.
DET: Department of Education & Training
DK-CRC: Desert Knowledge Cooperative Research Centre
DPIF: Department of Primary Industry and Fisheries

GRASSp: Pasture Growth Model
MLA: Meat & Livestock Australia
NABRC: North Australian Beef Research Council
NBRUC: Northern Beef Research Update Conference
NLIS: National Livestock Identification System
NLP: National Landcare Program
NTCA: Northern Territory Cattlemen’s Association
PIC: Property Identification Code
RFID: Radio Frequency Identification Device
VRD: Victoria River District