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E-mail contact:  lisa.weller@nt.gov.au
Website: www.nt.gov.au/dpif

Northern Territory Government
**LIVE CATTLE EXPORTS VIA DARWIN PORT**

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<th>Destination</th>
<th>1998</th>
<th>1999</th>
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<th>15.07.99</th>
<th>15.07.00</th>
<th>01-15 July</th>
<th>Previous Fortnight</th>
<th>1998</th>
<th>1999</th>
<th>Last year</th>
<th>15.07.99</th>
<th>15.07.00</th>
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<th>Previous Fortnight</th>
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The Comeback?
16,237 head through the Port of Darwin for the first half of July. Up 7,125 head on last fortnight and 8,469 head more than the same period last year. You will notice that all markets have plus signs in the previous fortnight comparison column, from memory that's a first. Total YTD (164,156) is 17,196 ahead of YTD, increasing for the first time since the end of April. Statistically, it's a little early to claim recovery, but it sure looks better than the end of June!

**Total Cattle Exports through Port of Darwin (including Interstate Cattle)**

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<td>15,632</td>
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<td>5,955</td>
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<td>9,126</td>
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<td>289,564</td>
<td>261,136</td>
<td>288,738</td>
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**Total Australian Live Cattle Exports**

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<td>Japan</td>
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<td>All Other Countries</td>
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<td>858,698</td>
<td>663,010</td>
<td>633,175</td>
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Horticulture is a growing industry in Central Australia. Currently, the main crops grown are table grapes, dates and lettuce (hydroponics). The estimated total value of horticultural produce during season 1999/2000 was $17 million. Tablegrape production contributed $14.5 million to this amount. After mangoes, tablegrapes is Northern Territory’s second most valuable horticultural crop. The tablegrape industry is located at Ti Tree and Pine Hill. These two places are about 200km north of Alice Springs. The total area of land planted under grapevines is about 300 ha. Of this area, about 190 ha is currently in production. It is likely that more land would be planted with grapevines at least until 2002. The production of an early crop which fetch high prices is one of the advantages of growing tablegrapes at Ti Tree.

The Department of Primary Industry and Fisheries (DPIF) is carrying out research work on a number of projects at Ti Tree. The goals of this work are to increase the quantity and improve the quality of tablegrapes. A brief summary of the outcomes of the research work on irrigation, salinity and nutrition is presented in this article.

Irrigation
The grapevines at Ti Tree are drip irrigated using bore water. In an arid climate, great care must be paid to irrigation management. This is particularly important when the bore water contains high salt levels. Both excess irrigation and under irrigation should be avoided. The harmful effects of these two mistakes are:

- excess irrigation - waste of water, increase in salt absorption, promotes unwanted shoot growth, delays berry maturity and increases fuel/power bills,
- under irrigation - promotes salt absorption, induces nutrient deficiencies, delays berry maturity and affects vine health.

Our studies have shown that both these mistakes are occurring at Ti Tree. They can be prevented by regularly monitoring soil moisture levels and using this information as the basis for applying irrigations. At present, tensiometers are commonly used to monitor soil moisture levels in Ti Tree vineyards. Growers have been provided with information on the tensiometer readings at which irrigations should be applied at Ti Tree. This information is based on work carried out in South Africa. Studies are in progress to determine the soil moisture levels at which irrigations should be applied at Ti Tree.

Salinity
The high salt level in the bore water is causing high salt levels in the vines. This can affect vine health and reduce the quantity and quality of table grapes. The solutions to the problem are improved irrigation management and the planting vines on salt tolerant rootstocks. In fact, some grapevine cultivars are now planted on rootstocks such as Ramsey and Schwarzmann to minimise salt damage to the vines. Gypsum can be used to reduce the salt levels in the soil. However, this should be done only if a soil test indicates that the salt level in the soil is high.

Studies have also commenced to find out suitable rootstocks that can be used by different grapevine cultivars at Ti Tree. It is important that high vigour rootstocks are not used at Ti Tree. This is because the bore water contains high nitrate levels (nitrogen) and this will promote excessive vigour and reduce the fruitfulness of grapevines. It will also be useful if these rootstocks are resistant to nematodes. Nematode infestation of roots and consequent damage to vines is also a problem at Ti Tree.

Nutrition
Nutrition plays a vital role in the productivity of a vineyard. Nutrient deficiencies and excessive supplies of nutrients are harmful to vines. The diagnostic tools which can be used to find out nutrient problems in vineyards are leaf analysis, soil analysis and observing deficiency symptoms. These diagnostic tools will help to take out the guesswork in using fertilisers in vineyards. Our studies have shown that the nutrient problems at Ti Tree are:

- deficient nutrients - phosphorus, potassium, calcium, magnesium, iron, zinc and copper.
- excess nutrients - nitrogen and phosphorus.

The results have been brought to the attention of growers and appropriate corrective action recommended. The results also showed that high salt levels in the vine could induce potassium and phosphorus deficiencies. The results on soil phosphorus should be of interest to pastoralists and other farmers in Central Australia. Soil phosphorus levels showed a marked decline over a one-year period in Ti Tree vineyards (Figure 1).
Figure 1. The rapid decline in soil phosphorus (Olsen) in the 0-30cm layer over a period of a year from January 1999 at four vineyard sites at Ti Tree.

The fixation of phosphorus in the soil is the likely reason for this rapid decline in soil phosphorus. The chemical(s) responsible for the fixation of phosphorus is not known at this stage. The loss of phosphorus through fixation can be minimised by applying low rates of phosphorus fertiliser at frequent intervals to the soil.

Future studies
The above studies will be continued with a view to improve irrigation management, reduce salt levels in vines and improve vine nutrition.

Acknowledgement
We wish to thank all the growers who helped us to carry out the research work in their vineyards.

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**HANDY HINTS & INFORMATION**

➤ One way to assist in preventing calves or weaners from trying to jump out of the calf cradle is to hang a rubber strip slightly in front of the gate just prior to entering the calf cradle. The strip is similar to the strips you see hanging at entrance doors at butcher shops or abattoirs. The length of the strip will then make the calves duck their head as they enter the calf cradle.

➤ There is an easy way to remove brains from cattle if you have reasonable water pressure. Make a probe using a copper or steel pipe 4 – 7 mm diameter and at least 20 cm long. You then solder or attach connections to the probe so it can be attached to your water hose. To remove the brains you put the probe into the joint at the back of the skull where the head was removed from the neck. Direct the probe to the top of the skull and in an arcing fashion push in feeling the top of the skull till you reach the front of the skull. Turn on the water and have a bowl ready to catch the brains. You may need to move the probe around a bit more before the brains pop out.

➤ Argentina will soon be able to export beef anywhere in the world, including the lucrative Australian markets of Japan and Korea. Argentina's herd hit 40 million last year (double the Australian herd) and they have 40 accredited export abattoirs. At present they only have a feedlot capacity of 10,000 head but this is tipped to increase dramatically.
Global Positioning System (GPS) receivers are handheld units which allow you to pinpoint your position on the earth's surface. The system uses about 24 satellites of which you need at least 3 to get a position fix on the ground.

You can usually store positions in your receiver and navigate back anytime after, so they are useful for recording long term changes in land and vegetation, for marking future fence corners and tracks, even to make your own maps.

The trouble is that the United States Department of Defense (DoD) has had a deliberate random error programmed into the signal, accuracy being less than 100m 90% of the time. This can make it hard to use GPS for lining up fences etc. except if over very long distances.

If you recorded a position twice, and the error happened to be skewed to the same side each time, the third time you go looking for that position, you may be 200 or more metres away. There's also the chance that you record your position during that 5% of the time when the error is greater than 100m anyway.

At midnight on May 1st 2000 the US Government turned off the error they deliberately placed on civilian GPS signals.

Apparently they have developed the capability to corrupt the signal on a region by region basis, as military requirements dictate. On-ground errors in central Australia are now of the order of only a few metres.

Some everyday uses for GPS on the station include:

- Aligning fences through wooded country
- Working out how far you are from a particular bore or other point
- Recording the location of interesting observations - self monitoring
- Good for fishing holidays!

7096 GPS positions from a single spot in central Australia 31/03/2000

7122 GPS positions from the same location on 29/06/2000
NUTRITION INFORMATION ON LOCAL PASTURE SPECIES

By Doug Wilson and Claire Hill
Meat & Livestock - Alice Springs

Average information for five locally important plant species based on Alice Springs DPIF nutrition laboratory analyses.

- The information in the AFIC database is available for use by anyone interested.
- Anyone is welcome to send plant samples for analysis to our laboratory.
- A summary is available from the library to give more detailed information on the analyses below.

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<td>Desert Blue Grass (Bothriochloa ewartiana)</td>
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<td>0.11</td>
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<td>Conkerberry (Carissa lanceolata)</td>
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<td>Dry cattle maintenance requirement</td>
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(Source: NT AFIC database, Friday 14 July 2000 - This data represents averages for the different analyses. These figures can change due to the age of the plant and the plant parts selected.)

For further information contact: Advisory Officers or Doug Wilson ph 08 89 518111

HYDATID SURVEY HAPPENS

A survey is being conducted this year to provide information about hydatid parasites in the NT. It is thought they are not present, but there is little 'hard' data to show that.

Hydatid infection is caused by the tapeworm *Echinococcus granulosus*, and is quite commonly found in southern parts of Australia. This parasite has a life cycle where it is found as a small tapeworm in dogs and dingoes, and where it is found as hydatid cysts in sheep, wallabies/kangaroos and cattle. The cysts are mainly found in the liver or lungs. There is also a risk that humans may develop hydatid cysts - if tapeworm eggs, from dog faeces that have contaminated the environment, are inadvertently swallowed.

This survey involves sampling livers and lungs from cattle killed at the abattoir, then examining them for the presence of hydatid cysts.

Hydatid cysts have previously been found in cattle imported to the NT from other states. However, to show that this tapeworm has a viable life cycle in the NT, a hydatid cyst needs to be found in a beast that has only grazed in the NT.

Once all the information has been collected, there will be a summary of the findings in the Rural Review. If you have any questions, please call one of the stockies in Katherine (8973 9754), or Lois Small (parasitologist) or Diana Pinch (vet officer) at Berrimah Farm (8999 2249).
Strangles is a highly contagious disease which was a major cause of illness and deaths in Australian horses. With the aid of antibiotics and improved vaccines however the disease is not only preventable but also treatable.

**CAUSE**

Strangles can affect horses of any age, but more particularly those under five. It is caused by a bacterium, *Streptococcus equi*, and spreads primarily by droplet inhalation, although contamination of food and water with the discharges from an infected horse is also a factor. The organism can survive for up to a month.

Some animals appear normal yet act as carriers. Unvaccinated horses coming into contact with these animals at shows, sales and racetracks are obviously at risk.

**SIGNS**

Clinical signs develop three to six days after contact. The horse will not eat or drink. Its temperature rises (38 to 40°C) and a clear discharge from the nose becomes thick and custard like within twenty-four hours.

The glands (lymph nodes) at the back of the throat and under the jaw become painful and swollen, and abscesses often develop.

Outbreaks (epidemics) may occur in which all horses in a group become infected. Deaths are few, and follow secondary abscess formation in other body organs.

**SIMILAR DISEASES**

Equine viral rhinopneumonitis (virus colds), a common cause of respiratory disease in the horse, produces symptoms very similar to strangles and can be confused with strangles. Laboratory tests are often required to differentiate the two diseases.

**TREATMENT AND CONTROL**

Treatment with penicillin early in the course of the disease is highly effective. As treatment retards development of abscesses, many cases of strangles are difficult to differentiate from virus colds, which also cause a nasal discharge.

Abscesses are treated with warm compresses until they mature, when they can be surgically drained.

In an outbreak, horses should be segregated into three groups. Those affected should be treated. Horses known to have been in contact with infected horses should be observed for a week and vaccinated only if they show no signs of strangles. Horses with no known contact can be vaccinated immediately.

**PREVENTION OF STRANGLES**

Strangles vaccine is dispensed in a disposable syringe containing a single dose for intramuscular injection.

Initially, three injections are given at intervals of two to four weeks. This is followed by yearly boosters and is administered to horses at risk. Any horse over three months should be vaccinated.

After disinfecting the skin, the vaccine is injected into the muscles on the side of the neck or rump. A localised, transient swelling may develop at the site of injection, however the modern low volume vaccine has negligible side effects compared with the vaccine used previously. Strangles vaccines are readily available from veterinarians and chemists on prescription. Currently work is proceeding on the development of an oral vaccine.

**SUMMARY**

With the current increase in the popularity of leisure horses in Australia, strangles may become a major problem again unless vaccination is practised more widely.
DPIF NEWS

NOTES FROM THE REGIONAL DIRECTOR

CAPAG (Central Australian Producer Action Group) is now based in an office at DPIF’s Arid Zone Research Institute. Please contact CAPAG’s Helen Murphy on 8951 8185.

This month the Minister for DPIF, Mick Palmer, had a successful trade trip to Jakarta. Interest in both livestock and meat were high. The Executive Officer of CACIA (Central Australian Camel Industry Association) accompanied the DPIF team. Protocols for live camel exports are being finalised so that orders may be filled as soon as possible.

Best wishes,
Phil Anning

MONTHLY REVIEW OF TEMPERATURE AND RAINFALL FOR JUNE 2000

Temperatures:
Maximum temperatures were below average over the Barkly district and northern parts of the Alice Springs district during the month. In western parts of the Barkly district maxima were generally at least two degrees below average, whilst over the eastern Barkly and northern Alice Springs they were one to two degrees below average. The cool conditions were mainly due to the continuation of extended periods of southeasterly winds associated with strong high pressure systems over southern Australia. Elliott recorded the highest daily maximum of 31.6°C on the 21st, whilst the highest in the Alice Springs District was 29°C at Rabbit Flat on the same day. The coldest maximum was 12.0°C, recorded at Curtin springs on the 11th.

Minimum temperatures were also generally below average except a few areas in the eastern parts of the Alice Springs district and central and northeastern parts of the Barkly district where they were about average. In the southwestern half of the Alice Springs district minima were below two degrees below average. Uluru Rangers in the Alice Springs district reported the Territory’s lowest daily minimum of –2.5°C on the 7th.

Rainfall:
A few locations in the Barkly district reported good amounts of rainfall on the 9th. No rainfall was reported in the Alice Springs district for the month. Thus the Alice Springs district fared very much below average in the southwestern parts and below average over the rest for the month. Most of the Barkly district was rated above average except a few areas in the south where it was average. Most of the rain fell during a “northwest cloud band” event in the last week of the month. The highest monthly total as well as highest daily rainfall in the region was 33.6mm on the 9th at Mittiebah in the Barkly district.

WEATHER DETAILS PROVIDED COURTESY OF THE BUREAU OF METEOROLOGY, DARWIN. PLEASE NOTE THAT THIS INFORMATION IS BASED ON UNCONFIRMED DATA.

OUTSTANDING SHOW SALE

Buyers and onlookers could barely believe their eyes when they saw the quality of the 2106 cattle presented at the Alice Springs Show sale on the 6th of July. The quality was so good people could have thought they were in lush pasture country in Victoria rather than Alice Springs. Buyers and sellers who have been supporting the sale over the years described the yarding and prices as the best they had seen in the Alice.

All of the cattle had been mouthed and weighed prior to the sale which was a lot of work but well worthwhile in the long run.

More than 1400 cattle offered via CALM, with 27 bidders logging on. Mobiles were ringing madly and accounted for eight lots and the second best bid on a number of pens.

The top price honors went equally to Tieyon and New Crown at $1.34c a kilogram liveweight for milk tooth Angus steers weighing 294kg and 320kgs. Close runners-up were Mount Riddock Station with a pen of Poll Hereford steers making $1.33/kg and Orange Creek Station with a pen of Poll Hereford steers also making $1.33/kg.

Both Elders and Westfarmers Dalgetys representatives who put on the joint sale said it was the best they had seen and it was pleasing that good prices had finally coincided with a good season.