

TOP PADDOCK

Newsletter 27

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Northern Territory Government



Editorial

In the last edition Arthur Cameron relinquished the Editor's job after 23 issues of excellent work on Top Paddock. Gehan Jayawardhana and Karen Richardson are the new editors and we hope we can be as successful.

Gehan has been in the Department for 15 years, and specialises in reproductive research of cattle and buffalo. Most readers would know him as he has worked (and played) throughout the NT doing research and training in pregnancy testing and artificial insemination.

Karen has been in the Department for 10 years, the last 5 of those being with the Pastoral Division, including being Registrar of the Veterinary Board of the NT. Karen's main interest is showing her Quarter Horse in Western Performance shows.



New Editors – Gehan and Karen

We have changed the layout of the newsletter for this year, and hope you enjoy the new look.

On a more serious note, the current foot and mouth disease outbreak in Europe is a worry, as the strain is extremely infectious. Two Departmental officers, Kel Small from Darwin, and Ted Martin from Tennant Creek, have gone to Britain to assist.

Foot and Mouth Disease in the United Kingdom

The consequences of the foot and mouth disease outbreak in the United Kingdom since first detected (21st February) until now (7th March) have been:

- 80 properties quarantined
- all abattoirs closed
- effectively all export markets closed
- 80,069 stock slaughtered.
- Properties infected in all areas of United Kingdom - England, Scotland, Wales and Northern Ireland.

The virus type that has caused this epidemic is foot and mouth disease Asian Type O virus which is likely the same strain which caused epidemics in Japan, Korea, Malaysia and South Africa last year.

Although Australia has not had an outbreak of foot and mouth disease since 1872, producers and industry service personnel must remain forever vigilant to prevent such an outbreak occurring and if it ever did occur, to detect it early enough to eradicate.

Symptoms of foot and mouth disease include lameness, fever, drooling and weight loss. Widespread loss of calves may be seen. When closely examined, cattle show vesicles (fluid filled blisters) or if they have burst, numerous sores and erosions - primarily on the tongue and feet.

*Andrew Brown
Senior Veterinary Officer
Tennant Creek*

**DDRF Open Day
Saturday 5th May
See page 3**

Multibreed Composite Breeding Project – Calf Weights

The first calves have been born in the multibreed composite project at Douglas Daly Research Farm (DDRF). These composites are a mix of 56% Brahman, 13% Africander, 13% Tuli, 6% Charolais, 6% Shorthorn and 6% Hereford. They are created by crossing half Belmont Red, quarter Tuli, quarter Charbray bulls from Queensland, with Brahman cows. The progeny are compared to the high grade Brahmans currently bred at DDRF.

Initial results look promising with the composite calves being 0.7 kg lighter than the Brahmans at birth (26.8 kg average for composites versus 27.5 kg for Brahmans).



One Brahman and three composite calves

They then grew faster than the Brahmans to be 5 kg heavier at 7 weeks of age (74.5 kg average for composites versus 69.5 kg for Brahmans). However, the composite calves were on average 2 days older than the Brahmans.



Composite calf with Brahman mother

They will be weighed again at branding in March. All animals in this trial can be viewed at the DDRF Open Day on the 5th of May 2001.

*Gehan Jayawardhana and
Terry Olm – Animal Management
Phil Hausler, Peter O'Brien, Chris Hazel,
Shane Izod and Russell Muirhead – DDRF*

Teaching Kids about Weeds- New Weed Management Teacher's Kit

A new national weed education kit for upper primary and lower secondary schools has been proposed as part of the National Weed Awareness project. The kit would combine resources from all States and Territories and be aligned to school curricula.

A standard national weed education kit for teachers will combine the best features of existing teaching materials, and reduce the duplication, overlap and gaps in similar products that occurs across Australia.

The kit is seen as a convenient teaching resource, and would incorporate information sheets and learning activities for upper primary English, maths, science and society and environment subjects, as well as lower secondary science and society and environment subjects.

The proposed teacher's kit is unique in the way that it assists teachers to develop an entire Weedbuster program, including weed identification, research, control, maintenance, communication, participation and rewards.

Contact Leslee Hills for further information on 8999 2348.

Also in this issue ...

Page

- 3 Animal Health Conference
- 3 Protect Australian Livestock Week
- 3 Douglas Daly Research Farm Open Day
- 4 Wangamaty Landcare Group Gamba Grass Workshop
- 4 Your Weed Needs with Speed
- 5 Air Seasoning and Kiln Seasoning of Timber (Part 1)
- 8 Buffalo Fly Tags, Ivomec and Revalor Increase Weight Gains in the Top End
- 9 Application and Calibration of Vineyard Sprayers and Orchard Sprayers in Tree Crops
- 9 Swill Feeding
- 10 Book Brings VRD Research Together for First Time
- 10 National Port Surveillance for Exotic Pests of Bees
- 11 Meat Industry in the NT
- 11 Buffalo News

Animal Health Conference "Securing Our Future" 2-3 November 2000

The conference considered the issues relating to the trade in animals and animal products and what a future animal health system will need to provide to support trade.

A summary and papers are available on the Animal Health Australia website on the internet at:
www.aahc.com.au/conference/index.htm



Some interesting papers include:

- Food safety - tracing from plate to paddock
- World Trade Organisation (WTO) and OIE (World Animal Health Organisation)
- Mad Cow Disease and other new diseases
- Animal welfare and trade
- Disease surveillance and trade
- Declining public and private animal health staff dealing with food animals

I suggest that you look at the website. Proposals to deal with some of the issues will be developed next year.

*Brian Radunz
Chief Veterinary Officer*

Protect Australian Livestock Week

Animal Health Australia is launching another media campaign on the importance of early detection and reporting of unusual disease symptoms, which could be the first signs of an exotic disease. The aim is to lift the profile of public awareness of the importance of our livestock industries to Australia and the seriousness of exotic diseases. The motto in the past two years has been "**Think the Worst, First!**" TV and newspaper advertisements and articles should be seen 25th to 31st March.

Douglas Daly Open Day Saturday 5th May 2001

The DPIF's Douglas Daly Research Farm (DDRF) is holding this major Public Open Day, which will focus on Agricultural Research and Development projects at DDRF, and on Agricultural Development and Conservation issues for the Katherine-Daly Basin.

The day starts at 10.00am and will finish at 5.00pm, and will include project results from:

- ❖ Multi-breed composite cattle
- ❖ Meeting market specifications for export cattle
- ❖ Improved pasture evaluation
- ❖ Dryland farming production systems
- ❖ Irrigated peanuts and maize production
- ❖ Weed control methods
- ❖ Environmental river monitoring

There will be fun and entertainment for everyone with:

- ❖ Novelty events and competitions
- ❖ Horsemanship display
- ❖ Hay baling demonstrations
- ❖ District historical display
- ❖ Train rides and farm tours
- ❖ Scenic flights

Businesses, farmers, schools, other Government organisations and industry groups, along with the general public are encouraged to participate in this day. The last major open day held at DDRF in 1996 attracted around 600 people.

The day will commence at 10.00am and will conclude with a dinner and live entertainment. For catering purposes, tickets for the dinner should be pre purchased. Cost is \$16.50 per person and tickets are available by contacting Linda Hausler (phone 8978 2442) or Donna Sorensen (phone 8999 2343).

DDRF is located 220 km by road south west of Darwin in the agricultural productive Douglas Daly region. A grass airstrip and camping accommodation is available at the farm. Air-conditioned accommodation can be booked at the Douglas Daly Tourist Park (phone 8978 2479), 23 km from the research farm.

A free bus service will run from Katherine and Darwin on the day.

For further information and dinner tickets, please contact Phil Hausler:

Phone 08 8978 2442
Fax 08 8978 2473
Email phil.hausler@nt.gov.au

Wangamaty Landcare Group Gamba Grass Workshop Lower Daly River

As a result of the Berry Springs Gamba Grass Workshop, the Wangamaty Landcare Group requested a workshop at Daly River. Murray Knyvett, the Landcare coordinator for the area, organised the workshop with assistance from DPIF Staff. Two sites were set up – one at Elizabeth Downs Station and one next to the police station, as there was concern the crossing would go under following heavy rain at Katherine.

The workshop went well, with eight people attending. The river at the crossing being over 1.4m prevented others attending, Those attending covering a broad scope of the community at Daly River, including representatives from the Malak Malak people, Tipperary Stations group, local tourism and Bushfires Council.

The workshop was held next to the police station and started with an introduction from Murray Knyvett (Wangamaty



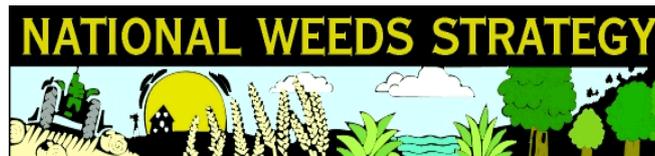
Landcare Coordinator), followed with talks from Trevor Howard (Vernon Region Fire and Weed Project), Albert Simonato (Senior Seeds Analyst), Graham Schultz (Weeds Planning Officer) and Greg Hore (Pastures Technical Officer).

Trevor gave an over- view of what has been happening in the Northern Territory and Queensland with gamba control and management. Albert spoke on seed quality and what the Seeds Laboratory can do for anyone purchasing seed, eg: tests for germination and purity to find out what you are really getting when you get your seed. Graham talked on safety, application and about reading and following the recommendations of the label on the pesticide container. Greg gave a demonstration on spraying with dye maker in a sprayer to show how to get good coverage of the plant and a demonstration on controlling gamba with a mattock.

The group had open discussions at the demonstration site and then moved to the Daly River Mission for tea and coffee for more discussions. Overall the response to the workshop was positive. The participants asked many questions and were happy with the responses and feed back they received from the facilitators.

Greg Hore
Pastures Technical Officer

Your Weed Needs with Speed: Weeds Australia Search (Phase 1)



As part of Australia's National Weeds Strategy, phase 1 of a new [Search Engine](#) specific to Australian weeds and located at www.weeds.org.au has been released for comment. The search engine will help reduce the frustration people encounter when they search for relevant weed information using non-specific web search engines. The [Weeds Australia Search](#) links visitors directly to weed information at no cost, 24 hours a day and 365 days a year. The site also recognises that visitor's searches will not always return results. In these instances it offers direct links to experienced weed managers through weed discussion groups such as those established by the Cooperative Research Centre for Weed Management Systems.

The [Weeds Australia Search Engine](#) has been designed to help partly address five of the six recommendations made in a 1998 Rural Industries Research and Development Corporation report into information on the Internet such as:

- creating specialised search engines. In this case one specifically for Australian weeds information.
- providing training for site search techniques by offering a tutorial based help file for visitors.
- ensuring the site principles; ease of use, ability to perform with older computer hardware and the minimisation of ambiguous or duplicated search results are upheld to help provide visitors easy access and navigation.
- offering a site-specific search engine for weeds that is available to be linked to other specialised agriculture and environment search engines.
- supporting regional communication initiatives by increasing speed of operation for clients in remote areas.

Phase 2 of the project will include relevant weed web information from the Oceania region (incorporating New Zealand) and is due for completion by the end of May.

Readers are invited to visit the [Weeds Australia Site \(www.weeds.org.au\)](#) and the [Weeds Australia Search Engine \(www.weeds.org.au:8765\)](#). A [web site evaluation form](#) is also available from <http://www.weeds.org.au/evaluation.htm>.

Air Seasoning and Kiln Seasoning of Timber (Part 1)

The presence of water in wood

Under ordinary conditions, all wood contains some water, and the amount of water contained in wood at a particular time is known as its moisture content.

The moisture content (MC) of a piece of timber is the weight of water contained in that timber expressed as a percentage of its own weight.

$$\text{MC \%} = \frac{\text{Weight of water}}{\text{Oven dry weight}} \times 100$$

MC can be more than 100% and frequently is. Freshly cut plantation grown pine may consist of something like one and a half-parts water to one of wood substance. MC in this case would be 150%.

Green-off-saw timber from hardwood saplings may have a moisture content of about 100%. While the moisture content of mature hardwoods may be in the region of 50%.

Water is the conductive fluid of the living tree. It takes minerals from the soil to the leaves where they are used in the production of sugars and starches – the food of growing trees.

This watery solution is known as sap, a term which is sometimes confused with resinous exudations. However, sap is actually water containing a comparatively small amount of dissolved material, mainly salts. These mineral salts are conducted up to the leaves via the sapwood, and the sugars and starches move in solution through the inner bark back to the roots, nourishing the living cells on the way.

The heartwood, or zone of non-living wood cells, also contains a considerable amount of sap, but no appreciable movement of this sap takes place in the heartwood zone.

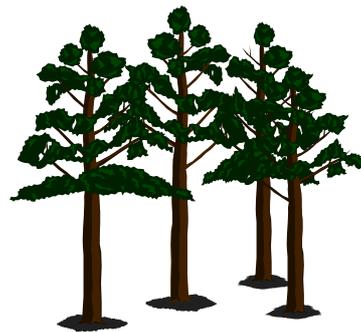
Why season timber?

In most cases the moisture content of timber in service is in the vicinity of 10-15%. This is a long way removed from the green-off-saw moisture condition mentioned above and, obviously, a considerable amount of drying has taken place.

Whenever timber dries, it shrinks, and seasoning is undertaken mainly to “pre-shrink” timber. This prevents unacceptable changes in size occurring after installation.

Timber seasoning is defined as “drying timber to a moisture content suited to the condition and purpose of use”. It is the process of removing

water from timber so that the amount of water in the timber is in balance with the moisture in the atmosphere.



Shrinkage (Dimensional Change)

A number of terms need to be understood:

Free Moisture, Combined Moisture and Fibre Saturation Point

A single fibre, or cell of wood, is like a thin tube tapered at both ends. The cavity contains moisture known as **free moisture**. Within the framework of the cell wall are molecules of water called **combined moisture**. When the free moisture has left the cells, and only combined moisture remains, the wood is at **fibre saturation point (FSP)**

As the timber seasons, the free moisture leaves the cell cavity before any of the combined moisture leaves. It is relatively easy for free moisture to leave the cells and air-drying is usually quite fast and economical down to, or just a bit below, fibre saturation point. The molecules of bond water however, are ionically bonded (magnetically attracted) to the cell wall molecules and energy is required to break these bonds. A long and progressively slower process of air-drying can supply this energy, but drying below fibre saturation point is best done in a heated kiln.

Moisture Loss and Shrinkage

There is hardly any change in size down to fibre saturation point, but from there on, as the combined moisture begins to leave, the cells start to harden, and shrinkage commences. The exact moisture content of FSP varies with different species. In most cases it lies between 25 to 30%. There is no point in drying timber down to only 20% or so and claiming that it is seasoned. By this stage, only a small portion of the potential shrinkage will have taken place.

Expansion can also occur when timber begins to re-absorb moisture after being over-dried. The change in size (shrinkage or expansion) is directly proportional to the moisture content change (loss or gain) below fibre saturation point.

Because of this direct relationship, The term **unit shrinkage** can be defined as the percentage change in dimension following a moisture content change of 1%. Unit shrinkage is a fairly important property particularly for species with low fibre saturation points. Cypress Pine is an example of a timber with low shrinkage from green to dry, but its FSP is also low (22%) and so it has moderate unit shrinkage of 0.3%, ie for every 1% change in MC a change in dimension of 0.3% can be expected.

Shrinkage in Different Directions

Shrinkage along the length of a piece of timber is normally insignificant but shrinkage across the grain is important.

Shrinkage across the grain can be sub-divided into:

- (1) *Radial Shrinkage* – observed in the radial direction when a board is quarter sawn; and
- (2) *Tangential Shrinkage* – observed when a board is back sawn.

Radial shrinkage is always less than tangential because the medullary rays (horizontal bands which radiate from the pith towards the bark like the spokes of a wheel) prevent shrinkage in the radial direction. Tangential shrinkage is usually about twice as much as radial shrinkage. Unless special sawing techniques are used, most boards sawn from a log are predominantly back-sawn. This is the direction of greatest shrinkage and should be taken into account when shrinkage calculations are being made using values from shrinkage tables.

Collapse

Collapse is defined as abnormal and often irregular shrinkage occurring above FSP. In certain species (some Eucalypt) the cells cannot withstand the capillary forces set up when free water leaves the cell cavities and, as a result they collapse.

In quarter-sawn boards, collapse occurs as a ribbed appearance termed “wash boarding”. In back-sawn material it shows by excessive shrinkage and in squares it shows as diamonding where the growth rings are oblique, or as hollowing of the face.

Because shrinkage, and as a consequence face-checking, is less in the radial direction than tangential direction, the species which collapse are best used as boards when they are predominantly quarter-sawn.

Quarter sawing gives a lower saw recovery than back sawing, however quarter sawing is necessary in order to obtain a higher seasoned recovery.

Reconditioning

This is a process involving a steam treatment designed to remove collapse. For best results, the timber should be between 15-18% moisture content when it is reconditioned.

Reconditioning usually involves loading the kiln charge into a special chamber and injecting low pressure steam, to maintain a temperature of approximately 90°C for about six hours.

Equilibrium Moisture Content

Timber in use always contains some moisture, and equilibrium moisture content (EMC) is the moisture level reached when there is a balance or state of equilibrium between atmospheric moisture (humidity) and the moisture in the timber. Humidity changes daily, from high on wet days, to low on very dry days. EMC attempts to follow these changes but the rate of MC change in timber is much slower than the rate of humidity change in the atmosphere. The rate of response to changing humidity also varies, depending on the species, the thickness of timber and the surface coatings used. It can be said that there is no true equilibrium, only a continual attempt to follow the changes in humidity. EMC varies slightly with species, but for practical purposes only one value need be observed at a particular locality and that value is the long run average MC at that locality. EMC is the moisture content to which timber should be dried so that changes in size after installation are kept as small as possible.

Ultimately, it is the responsibility of the specifier/builder/consumer, to order accordingly, when seasoned timber is required. Specialty products, such as polished flooring, panelling and furniture, and whether the building is to be air-conditioned or not are all very important in the final decision of the appropriate MC.

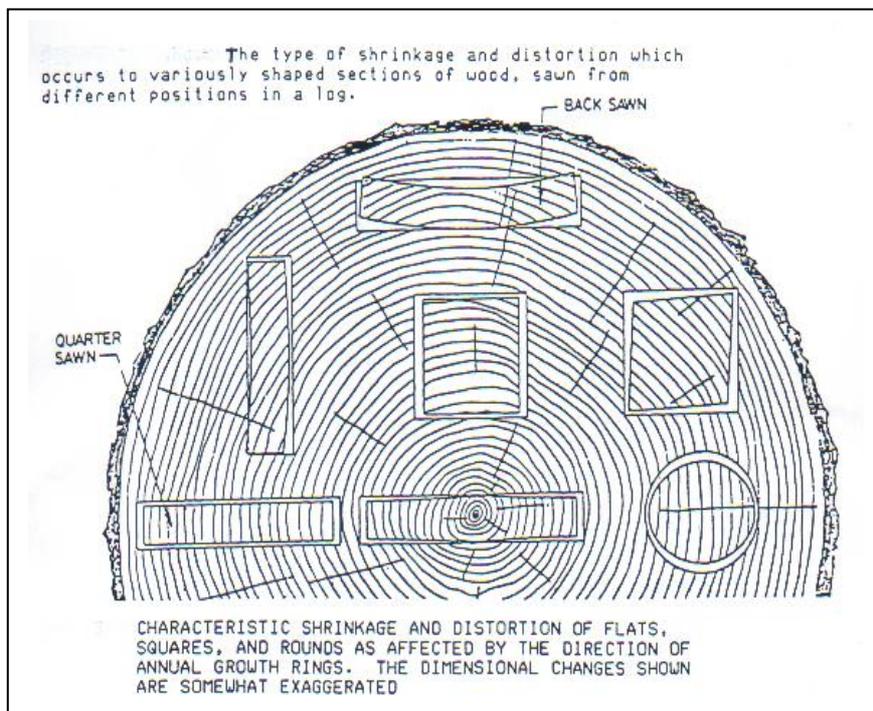
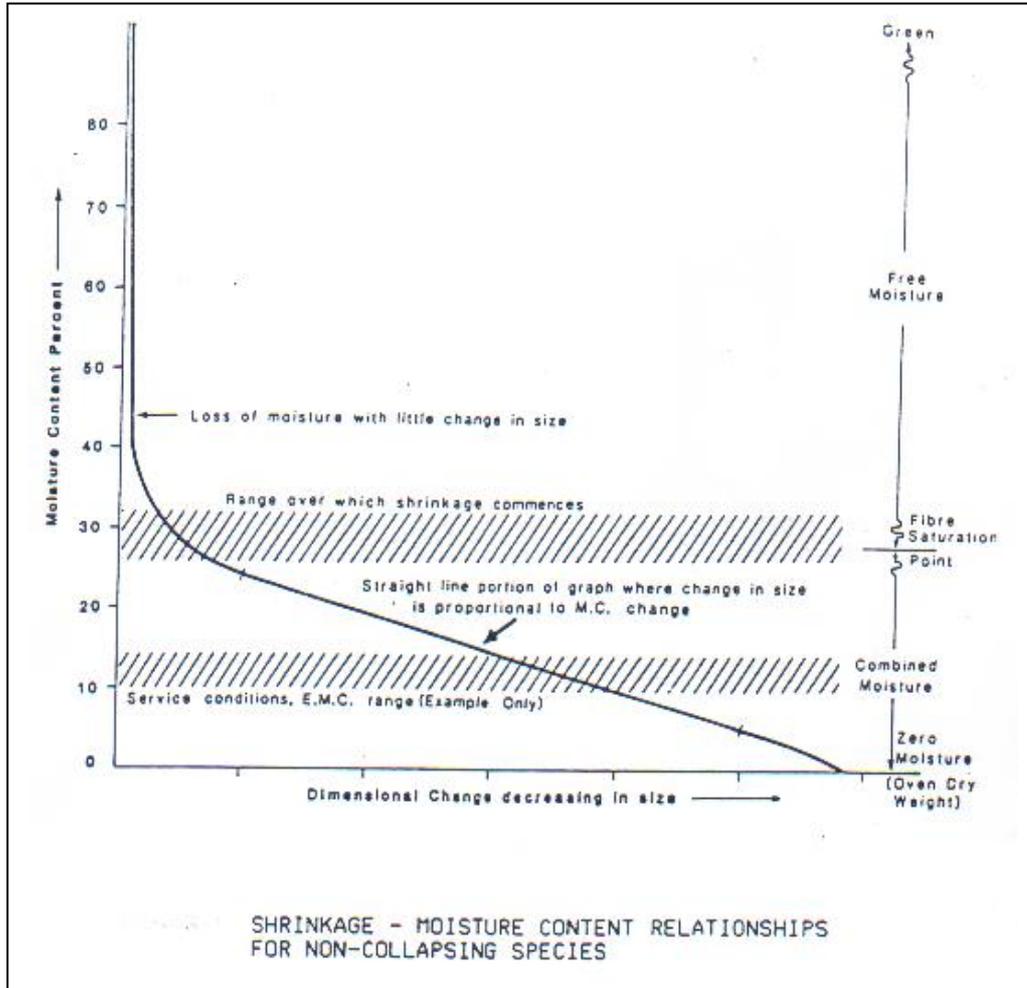
For example, consider a brush box floor: 100 mm wide boards, supplied at 12%, could squeeze up due to expansion during wet weather, when the EMC rises to 14%, by 0.7 mm (unit shrinkage x MC change). During dry weather (EMC of 10%), a gap of 0.7 mm would appear at the joints. A gap of this size would hardly be noticed. However, if the floor had been laid at 16% the gap due to the shrinkage in dry weather could be 2.1 mm ($6 \times 0.35 \text{ mm} = 2.1 \text{ mm}$). If laid at 8%, total expansion of the floor during wet weather could push the walls out.

Not all timber needs to be seasoned. Green hardwood framing has been used for years. Although shrinkage across the grain occurs as the framing timber dries, good building practice can cope with the loss of size. But timber for furniture, flooring and panelling must be seasoned to a moisture content equal to the average of the extremes it will reach in service.

Please Note: This text is from a Timber Seasoning Course prepared by David Gough, Queensland Forestry Department for The Queensland Timber Industry Training Committee.

Next issue I will cover, humidity, temperature, air circulation, air seasoning, stacking and handling.

Beau Robertson - Agro Forestry



Buffalo Fly Tags, Ivomec and Revalor Increase Weight Gains in the Top End

Different combinations of Spike buffalo fly tags, Ivomec anti-parasite pour-on and Revalor G Hormonal Growth Promotant (HGP) were compared on a group of weaner heifers (weaned in 1999) at Tipperary Station in the Top End between February and June 2000. The results are tabled below.

Paddock 1	Start weight	Finish weight	Weight gain	Gain over control	Significance of difference from control	Profit @ \$1.50/kg liveweight
Control	196.9	228.2	31.3	-	-	-
Ivomec	197.9	233.6	35.7	4.4	0.01	\$4.60
Revalor	199.0	237.1	38.1	6.8	0.01	\$6.80
Ivomec & Revalor	202.4	246.4	44.0	12.7	0.001	\$13.65
Spike, Ivomec & Revalor	194.5	246.4	51.9	20.6	0.001	\$22.00

The Ivomec/Revalor combination had no effect in this paddock as the treated animals had the same weight gain (difference not statistically significant) as non-treated controls. However, Ivomec, Revalor and the combination had an effect when combined with spike fly tags. This may indicate that the affect of fly worry was more significant in this paddock.

Paddock 2	Start weight	Finish weight	Weight gain	Gain over control	Significance of difference from control	Profit @ \$1.50/kg liveweight
Control	199.1	232.7	33.6	-	-	-
Ivomec & Revalor	190.7	222.3	31.6	-2.0	NS	Nil
Spike	200.7	240.0	39.3	5.7	0.001	\$5.05
Spike & Ivomec	204.7	248.6	43.9	10.3	0.001	\$9.95
Spike & Revalor	191.9	238.5	46.7	13.1	0.001	\$12.80
Spike, Ivomec & Revalor	196.6	250.7	54.1	20.5	0.001	\$22.85

The following prices were used to calculate the profits. Labour cost was not taken into account, as this varies significantly from property to property.

Prices:

Revalor G	-	\$3.30 - \$3.40 <i>with applicator cost included</i>
Revalor Applicator	-	\$75
Ivomec	-	\$2.00
Spike tags	-	\$1.75 / tag

The greatest profit was made with the combination of Spike tags, Revalor G and Ivomec. Spike tags gave profitable gains in both paddocks. Ivomec and Revalor gave gains without a fly tag in one paddock but not in the other. As the non-treated controls were run in the same paddocks as the treated animals, some of their weight gain would be due to the reduction in flies caused by tagged animals, so the real effect of fly tags is probably higher.



A fly tagged animal

Acknowledgments

We would like to thank the management and staff of Tipperary station for the huge amount of work they did to make this trial possible.

*Gehan Jayawardhana, Terry Olm,
Carole Wright – DPIF Darwin
Ned McCord – formerly Tipperary Station
Jason (Tommy) Thornton – Tipperary Station*

Application & Calibration of:

- **Vineyard Sprayers**
Ti Tree – Tuesday 1st May 2001
- **Orchard Sprayers in Tree Crops**
Katherine – Friday 4th May 2001
Humpty Doo – Monday 7th May 2001

Each to be conducted over 1 day

These workshops cover:

The basic principles for the correct application techniques required for the efficient and economic use of vineyard sprayers in relation to the application of pesticides to vines, and sprayers in relation to the application of pesticides to tree crops.

Includes:

- Principles of operation
- Correct identification of sprayer parts
- Nozzle selection
- Correct set-up of sprayer
- Calibration

Please note:

These workshops can be used as a **Chemcert Refresher**, if desired, by attendance at the workshops and successful completion of the Chemcert Assessment papers.

Successful completion of the workshops will require a Workplace Assessment as will the Chemcert Refresher.

National accreditation is issued on successful completion of these workshops.

Venues:

VINEYARD SPRAYERS:

- Ti Tree - Ti Tree Farm

ORCHARD SPRAYERS IN TREE CROPS:

- Katherine - NT Rural College
- Humpty Doo - NTHA Office and Top End Tractors

Costs: \$160.00 for Spraying Workshop only

\$210.00 for Spraying Workshop and Chemcert Refresher

(Farmbi\$ may apply to the Chemcert Refresher)

Morning and afternoon tea will be provided, but not lunch.

For workshop details and registration contact Greg Bowering:

Phone (08) 8946 7843

Fax (08) 8946 7822

Email: greg.bowering@ntu.edu.au

Please register your interest **AS SOON AS POSSIBLE**, as minimum numbers are required.

Swill Feeding

Swill feeding is the feeding of meat products to pigs and has been illegal in every state of Australia including the Northern Territory since the early 80's.



The reason for the ban on swill feeding is the threat of introducing viral diseases such as foot and mouth disease (FMD). The most likely avenue of introduction of FMD into Australia is through feeding of imported meat inadvertently to pigs. Last week the epidemic of foot and mouth disease in the United Kingdom began this way.

We can all imagine the impact that such an epidemic would have on Australia's beef and other stock industries.

Most stations keep a few backyard pigs to fatten for their own consumption. In all practical sense, there is no risk from feeding meat from farm kills to pigs. However, the enormous consequence of disease being introduced in any imported meats, particularly processed meats such as salamis, metwursts etc, has led to a total ban on feeding swill to pigs. This includes any waste containing these products.

In the NT, this legislation is contained under section 34B of the *Stock Diseases Act*. A person may apply to the Chief Inspector of Stock for exemption to be granted under the *Act* in particular instances.

For further information on swill and exotic animal diseases visit the Department of Primary Industry and Fisheries website at www.nt.gov.au/dpif

Andrew Brown
Veterinary Officer, Tennant Creek

Book Brings VRD Research Together for First Time

"Managing for Healthy Country in the VRD"



A new book published by the Tropical Savannas CRC brings together a range of research findings relevant to the Victoria River District – a pioneering heartland of the Northern Territory – giving important recommendations for on-ground land management. The growth of the live cattle export market, establishment of the Bradshaw Field Training Area and the development on the Ord Scheme Stage 2 all have the potential to change the face of land use in the district. The book, *"Managing for Healthy Country in the VRD"*, is based on a workshop held in November 1999 which drew together the results of all the research being conducted through the Tropical Savannas CRC on the status and ecology of the VRD. The aim is to develop a common understanding of natural resource management issues and priorities as needed among different land users in the district.

While pastoralism is the dominant land use there are also Aboriginal and conservation lands. Weeds, fire, feral animals and erosion are common natural resource management issues to each of these land users.

The VRD is a mix of grassy plains, rolling savannas, rocky spinifex country and spectacular mesas and plateaux.

The book's chapters include information on:

- geology, soils, climate
- vegetation and fauna
- the types of land use and economic development
- latest research results relating to vegetation structure and function, water use by vegetation
- latest research on impacts of fire and grazing on pastures and on native plants and animals
- best practice management and sustainable management issues and priorities.

The book should be a valuable reference for extension officers, researchers, land managers and anyone with an interest in land management in the Victoria River District. **Available from the Tropical Savannas CRC, Darwin NT 0909, and Katherine NT DPIF Offices for \$9.90 (GST inclusive).**

For more information phone Peter Jacklyn on 8946 6285 or email peter.jacklyn@ntu.edu.au.

National Port Surveillance for Exotic Pests of Bees

A national port surveillance program is being established to enhance the early detection of exotic bee parasites. Exotic parasites of primary quarantine concern to the Australian apiary industry are varroa mites, topilaelaps mites and tracheal mites. Recent bee incursions at the ports of Darwin (1998) and Brisbane (1999) have highlighted the very real threat of introduction of exotic bee parasites being faced by the Australian apiary industry. Incursions by exotic bees via containerised cargo transported on ocean-going vessels present a significant risk for the introduction, establishment and spread of exotic bee parasites in Australia.

A key element of the national port surveillance program is that sentinel hives will be provided and maintained at selected ports by cooperating beekeepers, thereby minimising program establishment and maintenance costs. Sentinel hives will be located within reasonable proximity (eg: 500 m) to selected ports. Surveillance will be conducted quarterley in each State under the supervision of State apiary officers and results summarised nationally and included on NAHIS. As well as providing an enhanced early detection capacity, the port surveillance program will provide additional data to support health certification for live bee exports. Each State and Territory will have officers trained to undertake the surveillance in conjunction with cooperating beekeepers. Two hives will be maintained at each sentinel site to ensure a continuity of surveillance if one hive swarms or becomes queenless. Samples of brood and adult bees from sentinel hives will be submitted to diagnostic laboratories to be examined for the presence of exotic bee parasites.

The ports selected (listed below) for the program receive a significant volume of containerised cargo, and hence are considered to present a greater risk of bee incursions than ports that primarily handle bulk shipment commodities. Additional ports may also be included, subject to port suitability and the availability of cooperating beekeepers.

Selected Ports:

NT	Darwin, Gove
NSW	Sydney, Port Botany, Darling Harbour, White Bay, Garden Island Navy Base
QLD	Brisbane, Gladstone, Townsville
SA	Adelaide, Port Augusta
TAS	Hobart, Bell Bay, Devonport, Burnie
VIC	Portland, Geelong, Melbourne
WA	Wyndham, Broome, Port Hedland, Dampier, Geraldton, Fremantle, Bunbury, Albany, Esperence



Ian Peebles – AQIS

Meat Industry in the NT

Many people are unaware that the Department of Primary Industry and Fisheries (DPIF) is the NT government authority responsible for regulating the meat industry in the Northern Territory, from slaughter through to processing and storage for wholesale.



Meat retailers, butcher shops, supermarkets and meat boutiques are the responsibility of Territory Health Services (THS).

The legislation underpinning DPIF's role is the Northern Territory of Australia *Meat Industries Act* 1996 and The Northern Territory of Australia Meat Industries Regulations. Both are easily accessed on DPIF's website www.dpif.nt.gov.au (for those interested, section 5(a) of the Act covers home kill requirements)

DPIF is responsible for the licensing and regulation of:

- Abattoirs slaughtering all species, including poultry and crocodile
- Wholesale meat processors including boning rooms and smallgoods manufacture
- Game meat processors
- Pet meat processors
- Cold stores (domestic meat storage)
- Game meat slaughter
- Pet meat slaughter

There are currently 11 abattoirs, 5 wholesale meat processors, 2 pet meat processors, 12 pet meat slaughterers and 7 game meat slaughterers licensed to operate in the NT.

The NT *Meat Industries Act* requires licensed domestic abattoirs and wholesale meat processors to operate under the 'Australian Meat Standards'. These standards were developed by the Agricultural Resource Management Council of Australia & New Zealand (ARMCANZ) Meat Standards Committee in the wake of the Garibaldi incident in South Australia in 1995 and are based on Hazard Analysis and Critical Control Point (HACCP) principles.

HACCP is the internationally recognised system to help assure safe food production.

The International Standards Organisation (ISO) defines HACCP as:

"The analysis of a food production or manufacturing process in which specific hazards are identified and preventive measures introduced, maintained and monitored to minimise the risk of producing defective product".

DPIF employs two Meat Industry officers, Steve Sell and Robert Walters. Both are qualified meat inspectors with many years of meat industry and HACCP experience.

Steve and Robert are available to answer meat industry inquiries and to assist industry in achieving HACCP, meat inspection and wild animal field harvesting requirements. Please phone 8999 2255.



Buffalo News

The Australian Buffalo Industry Council had its second AGM in Melbourne with representatives from NSW, Victoria, SA, WA and the NT. From the various reports it is obvious that some people are individually doing well due to their own particular marketing efforts. However, over the whole industry down south there is still a number of people liquidating their herds due to lack of an organised market. There is a feeling with most people at the meeting that this is a little premature, as there are a few things very close to fruition.

Firstly there appears to be a cull outlet for a European export meat market at a SA abattoir. In

NSW there are continuing efforts to break into the supermarket trade. In the NT in 2000 the Brunei supermarket and boat trade exceeded that of 1999 by a large margin, and the lesser-priced West Malaysian market dropped significantly. However the overall export figure increased by 13% to 2,663 head. Tenderbuff numbers have reduced, mainly through the inability to supply stock after August 2000. Beatrice Hill Farm was helping to prop up the supermarket trade using agistment stock rather than supplying Tenderbuff.

In 2001 the Beatrice Hill Farm emphasis will return to Tenderbuff as the industry locally appears to be handling the Brunei market fairly well. This is no doubt partly due to various changes, such as a premium of 10c per kg for supermarket stock over boat bulls to reflect the turnoff at a younger and lighter weight. Also a 10c premium is now paid to those people supplying stock during the peak wet season – January to April. This now gives people incentive to supply all year round.

To Supply Supermarket Brunei

To enable this to happen, producers need to continually improve and better plan their operations. The best way to manage the Brunei supermarket trade is to work towards the following formula:

1. At a convenient time of the year, wean all calves from the cows and segregate them.
2. Commence weaner training in the yards whilst feeding.
3. Put weaners into a good saved pasture paddock with good security – preferably away from the breeder herd. This paddock should be improved pasture in the wet or good floodplain paddocks in the dry.
4. There should be regular working to reinforce weaning training. Stock should be ready for turnoff at least within 12-14 months.



5. Having weaners separated saves :
 - a) having to muster the whole herd and subject cows to another unnecessary trip through the yards;
 - b) having the cows teach the young ones bad habits;
 - c) gives you the opportunity to save good heifers as future breeders once they have been identified through weight gain, or quiet temperament or through pregnancy testing ;
 - d) allow these heifers to be used to start a new separate herd that will be easier to handle in the long term, and allow regular culling of old cows which do not calve regularly (pregnancy testing) or display poor temperament.

In the longer term the Brunei market will start to discriminate between stock that are quiet and those that are hard to handle, and discounts or premiums may start to apply as well. Producers need to improve the quality of their stock over time or markets will be lost.

Good News for $\frac{3}{4}$ Riverine Bull buyers

At Taminmin High School recently, a $\frac{3}{8}$ Riverine calf weighed in at 329kg, 3 weeks short of its first birthday. Born on 28/3/2000 to a swamp cow from a $\frac{3}{4}$ Riverine bull (recently moved to Melaleuca Station), it was weighed on 5/3/2001 and was 329kg (it is also female). This shows that hybrid vigour is still excellent for those using $\frac{3}{4}$ bulls in the short term whilst numbers of purebreds slowly build up. Whilst caution should be exercised as it is only the first record, it is however an extremely good result. What this means is that under good feeding conditions, producers are able to turn off stock to the Brunei supermarket or Tenderbuff trade within 12-18 months of age, simply by using a $\frac{3}{4}$ bull or higher Riverine content.

For many producers this terminal crossing situation may be their best option for increasing herd productivity in the short term.

The Sixth World Buffalo Congress is to be held in Caracas, Venezuela from 20-23 May this year. I have been invited by the Organising Committee to make a presentation on the Australian situation in the buffalo industry. South America has one of the fastest growing populations of buffalo in the world and should prove to be a very interesting venue.

Barry Lemcke
Livestock Management

Welcome to Top Paddock where the food changes with the seasons. And the typical Melbourne brunch is anything but. Come in and stay a while. Located at 658 Church Street, Richmond, weâ€™re open 7 days a week for breakfast and lunch. Get in touch. â€œA sense of homeliness, inviting locals in and encouraging them to stay a whileâ€“ Broadsheet. Events. Learn more about hosting your event at Top Paddock. Learn more. Top Paddock was awarded best cafe in the The Age Good Cafe Guide 2014 recently, and as a massive fan I thought it only fair that I shared a few more of the beautiful dishes that Iâ€™ve had the pleasure of trying at this favourite of mine. Iâ€™ve made no secret of my love of this cafe, it features regularly in my conversations and recommendation, and itâ€™s so great to see it being recognised by the esteemed â€“Good Food Guideâ€” (@goodfoodau).â€” Thankfully these are becoming more prevalent in Melbourne and Top Paddock is amongst them.