

Produced for landholders in
the Western Division of NSW



In this issue ...

The Dorper – the new sensation in organic lamb

Organic News Vol 2 Issue 5 May 2005

Introduction

The Dorper, a relatively new breed to Australia, is generating plenty of interest amongst prime lamb producers and processors, particularly in the organic trade. The Dorper is proving to be an excellent breed for organic production, largely due to their wool shedding characteristics, their tolerance of ectoparasites (external), their excellent performance under drought conditions and their superior carcass quality.

Origins of the Dorper

During the 1930's South Africa exported a surplus of fat-tail breed carcasses. Unfortunately European consumers preferred the 'Canterbury' style lamb

(16–18 kg crossbred style carcasses) and the fat-tail style was not well accepted.

The challenge was to produce a meat breed that would produce a high quality carcass and yet, thrive under arid to semi-arid conditions. Crosses of Blackhead Persian (fat-tail) and Dorset Horns led to the development of the Dorper (with a black head) and White Dorper. The term 'Dorper' is used to describe both breed types. The Blackhead Persian is a hardy, non-selective fat-tail hair breed with exceptional fertility. Skins are highly valued internationally. The Dorset Horn offered fast growth and heavy muscling.

The Dorper is today the second largest breed by number in South Africa. Interest in the White Dorper has been increasing within Australia's domestic and export markets.

The Dorper



White Dorper



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Peter Jessop
Pastures and Rangelands,
NSW DPI, Dareton

Hi everyone and welcome to another edition of the Western Division Newsletter. In this edition we cover a variety of subjects with a partial focus on exotic meat sheep breeds. Whether they be Dorpers, Damaras or Van Rooy's or other breeds they seem to be appearing out of the wood work everywhere you look in the Western Division. For those of you who have the new meat sheep I encourage you to join the new sheep meat breeds information gathering project which we introduce in this edition. The project aims to collect information on new sheep meat breeds by gaining a better understanding of their performance and management in pastoral areas and where research might be focused.

Also, the increase in new meat sheep breeds and their low requirements for chemical forms of animal husbandry has fuelled landholder interest in organic meat production and the premiums which can be achieved. For background information on organic sheep read the article on organic Dorper.

Some of the other articles in this edition include a report by Liarne Ayson on the third rotating farm tour held at Bidura Station. If you're youngish and haven't attended one then I recommend you do. You'll have a great time as I did and also

have the opportunity to look at other landholders' properties.

Scott Jaensch writes about the Barkinjii Biosphere project which is gaining momentum – an interesting concept described as 'landcare with grunt'. We also say good bye to Peter Milthorpe who has ceased working for NSW DPI after 38 years in the Western Division. And there's lots more.

As you are reading through this edition you will notice limited advertising space is now available in the Newsletter. Due to the popularity of the Newsletter amongst its readers in the pastoral areas, it is expected the advertising space in each issue will be quickly taken up so interested advertisers need to secure their space as soon as possible. Details regarding advertising can be found on page 11.



NSW DEPARTMENT OF
PRIMARY INDUSTRIES



Department of
Infrastructure, Planning and Natural Resources

The Western Division Newsletter is jointly produced by NSW Department of Primary Industries and the Department of Infrastructure, Planning and Natural Resources with funding assistance from the Department of Environment and Conservation (NSW), the Western Catchment Management Authority and the Lower Murray Darling Catchment Management Authority.



Peter Milthorpe calls it a day

Well known Senior Research Agronomist, Peter Milthorpe, recently retired from NSW Department of Primary Industries after 38 years of service to the agriculture industry – the last 24 years based at the Condobolin Research Station.

Peter commenced his career with Soil Conservation in Condobolin in 1967 as Soil Conservationist specialising in pasture assessment. In 1969 he moved to Broken Hill as District Soil Conservationist undertaking the mapping of the Western Division land systems. Between 1971 and 1981 he collected data for the popular and widely used publication, *Plants of western New South Wales*.

Peter returned to Condobolin in 1973 as Resident Soil Conservationist. In 1981 he commenced with NSW Agriculture. Since then he has been employed as New Crops Agronomist evaluating alternate perennial crops that are suitable for arid areas. Initially his main focus was on guayule, a natural rubber producing plant, native of Mexico. His research showed where and how to grow guayule but results showed that it is uneconomic to produce.

Peter conducted research on two other species which are also native to Mexico and southern USA. These are buffalo gourd and jojoba. Buffalo gourd is a starch and protein producing plant but proved uneconomic to produce. Jojoba is a unique oil producing plant, with similar properties to sperm whale oil. It is widely used in the cosmetic industry. Through Peter's research, selections were made of suitable varieties and commercialisation commenced in 1993 with a new industry developing Australia-wide with some 30 producers. An industry association has also been formed with some growers forming a marketing company. Production of jojoba has now reached a level where oil is being exported. An Agfact, *Jojoba*, was published in 1996.



Other species researched by Peter include eucalypts and forage shrubs. The eucalyptus species were evaluated for oil production and biomass with some selections made, but commercialisation is still being developed. The eucalypts were all native, with Blue Mallee endemic to the area. The forage shrubs included tagasaste and old man saltbush. Tagasaste is native to the Canary Islands and generally is not suitable for the NSW climatic or soil conditions. Old man saltbush is an endemic species widely distributed across the Western Division. Peter found that this species has high potential in the pastoral industry when grown and managed properly. Peter's research was published in an Agfact in 2004, *Getting the best from old man saltbush*.

A Florasearch project was undertaken in 1988 by Peter which involved the collection of seeds and plants of native species which have horticultural potential. This project is in conjunction with the Gosford Research Station and is presently continuing.

In recent years Peter has been researching natives with potential for commercial use, such as chipboard production, biomass for power generation, industrial oils and products. Included in this research has been the evaluation of trees to assess the potential of mainly native trees for use in the central west. This study has been

'Peter Milthorpe calls it a day'
continued from previous page

based on tree plantings on the Condobolin Research Station which commenced in the 1950s. This study was in three phases: documentation of the species; tree walks around the Research Station and the publication of a Glove Box Guide. The documentation of the species is in the form of a herbarium which is housed at the Condobolin Research Station and contains prepared samples of each of the tree species. There are three tree walks around the station to assist people in identifying trees and to view them in their mature form. The Glove Box Guide, *Useful trees*

and shrubs for central-west NSW, was published early in 2005. It depicts suitable species, not only for the central-west but also the Western Division of New South Wales. The habit and diagnostic characters of each species are described followed by a short summary on their uses.

Peter's research on forage shrubs will be greatly missed, particularly by dryland farmers of western NSW who are keen to adopt diversified farming practices (not to mention all of his work colleagues at the Condobolin Research Station).

'The Dorper – the new sensation in organic lamb' continued from page 1

Advantages of the Dorper

The Dorper is a hardy breed which will survive and produce under harsh environmental conditions. This is a desirable characteristic in pastoral regions such as the Western Division of NSW that is characterised by low, unreliable and highly variable rainfall. Producers running Dorpers in the Western Division of NSW have reported lamb marking rates of 130 percent, ewes producing three lambs in two years, and a carcass large enough to market at six to seven months. This has been achieved during drought, while Merinos run under the same conditions were failing to breed at all.

The Dorper is a hair breed that sheds the wool component of its fleece annually. This means that from a third generational cross the progeny will shed their wool, making crutching and shearing unnecessary.

Research undertaken in South Africa has shown that although Dorpers may be infested by various louse species these do not seem to reach large numbers or cause production loss, and that blowfly strike caused by *Lucilia cuprina* is very rare (Fourie, L.J. and Horak, I.G., 2000). This tolerance to ectoparasites is a distinct advantage in an organic system where chemical treatments are disallowed, and on the extensive rangeland properties where mustering, crutching and shearing is expensive, which makes parasite management difficult. Furthermore there are no shearing shed maintenance or establishment costs. Less shearing also means reduced OH&S issues. In addition, the reduced handling and improved tolerance of the Dorper to parasites provides animal welfare benefits.

Environmentally, the adaptability of these breeds to the rangeland ecosystem appears to conform well to organic standards. The Dorper will browse shrubs and trees, as well as grazing grasses and ephemeral plants. It has been suggested that Dorpers are less selective grazers compared to Merinos. A study conducted by Brand (2000) on the benefits of Dorpers, as well as other related species, in extensive grazing situations in South Africa supports the view that they are less-selective grazers compared to Merino sheep, utilising a larger number of different plant species, walked less to select food

or a suitable location to graze, consumed less herbage per metabolic size compared to Merinos, and the relative trampling factor for Dorpers is less than that of evaluated Merino-type sheep (Brand, T.S., 2000). However, in a similar study de Waal and Combrinck (2000) reported that there was no difference in the selective grazing behaviour of Dorpers and Merino (de Waal and Combrinck, 2000).

Processors too are impressed with the Dorper. Slaughtermen commented that 'clean' points made pelt removal easier, whilst one abattoir floor manager commented that the White Dorper lambs had consistently been the best lambs he'd seen in 15 years.

Costs and returns

As a relatively new breed into Australia, establishment costs for Dorper breeding stock are relatively high. An increasing number of producers have bought rams to cater for the traditional markets and the growing organic trade.

Most producers prefer to cross existing stock until generational crosses achieve the desired carcass quality and shedding characteristics. Many Damara (another shedding, hair bred) breeders have joined ewes to Dorpers to improve carcass quality.

Most Dorper rams ($\frac{3}{4}$ and higher) are currently selling from \$800+. At the 2004 Dubbo Sale White Dorper rams sold for an average of \$2806 with the top price paid

\$5500. Dorper rams sold for an average of \$1595 with the top price \$3250. Ewes averaged \$1532 for White Dorper and \$1506 for Dorper.

Returns for organically certified Dorper lambs were significantly higher than traditional sale yard prices in 2004/05. Organic Dorspers realized a 25–50% premium over the conventional product (44% for lamb chops).

The following returns were achieved from sale of organic Dorspers from a Western Division property (Nov 2004 Average figures in bold):

Weight **21.4 kg** (15.0–30.4 kg)
 Fat Score **12 mm** (2–21 mm)
 Price **\$117.67** (\$82.50–167.20)

Plus skins (the skins / leather is highly valued for car seat covers by Mercedes Benz, but this is yet to be reflected in the prices received for skins: \$3–8)

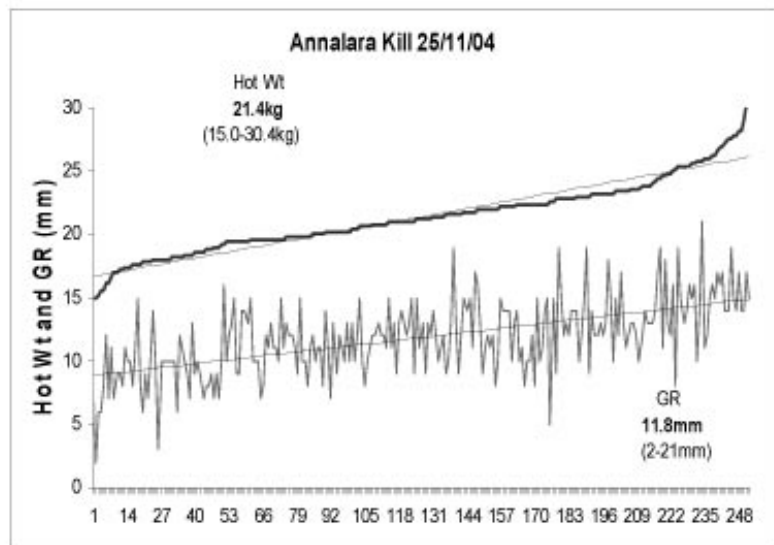
The Dorper cross lambs received 550 c/kg (organic flat rate, less kill and transport costs). Similar carcass weight lambs were paid 352 c/kg (Wagga Wagga saleyard average).

Analysis of Dorper carcass quality, as with crossbreds, showed that fat score increases proportionally with carcass weight (Figure 2). However, indications are that Dorspers begin to deposit fat at a lower carcass weight than crossbreds. Trials showed that carcasses ranged from a fat score (GR) of 2–21 mm, averaging 11 mm. 18–22 kg carcass weight (HSCW) appears to be optimal sale weight.

Cleavers Organic Meats has indicated a preference for Dorper sired crosses, paying from 10 to 30 c/kg more than ‘traditional’ breeds and crosses. Preference and premiums currently offered by Cleavers are (in declining order):

1. White Dorper
2. Dorper
3. Damara
4. 1st Cross
5. Merino

Figure 2: Fat score (GR) and carcass weight (HSCW) of ‘Annalara’ Dorspers processed on 25/11/04



Cleavers indicated that price for organic meat is less volatile than traditional saleyard returns, with prices for organically certified stock reviewed and set quarterly. Prices are consistently set higher than traditional markets.

Cleavers has indicated they require organically certified lambs with the following preferred specifications:

- Zero Teeth
- Dorper, Damara, First Cross 18 to 22 kg
- Fat Score 2–3. Max 13 mm fat on 12th rib.
- All meat to be Ausmeat certified

Cleavers has estimated their Best Guess Price for organic lamb breeds/crosses (Hot Standard Carcass, Over the Hook) in 12 months time to approach:

1. \$5.80/kg for White Dorper/Dorper/Damara higher order crosses
2. \$5.75/kg for traditional 1stX (Terminal Sire over Merino)
3. \$5.40/kg for Merino style carcasses

Notably Cleavers believes the market will start to segment away from merino and towards better meat conformation breeds such as the Dorper.

Future products

Cleavers has identified that the future lies in the ability to value-add products. This includes Meal solutions, Value added Meals, and Shelf Stable Meals. Other products include pies, pate and meat stocks.

Supply and production issues

Fibre contamination

Contamination of wool and wool producing properties from hair breeds such as the Dorper has been a concern. In Tasmania, for example, these breeds have been banned in an attempt to minimize

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NSW DPI Yanco
Phone (02) 6951 2688 or
Robyn Neeson, Organic
Farming Liaison Officer
NSW DPI Yanco
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the risk of fibre contamination. Carcasses may also retain hair, with the potential to contaminate meat, although processors who have handled Dorper have not indicated this is a significant issue. There appears to be less concerns regarding clip contamination with White Dorpers than some other (for example, coloured) hair breeds.

If running both Merino and Dorper breeds, producers can minimise clip contamination by:

- Isolating coloured and kemp breeds/crosses from Merino's
- Shearing / crutching separately or after Merino's are shorn
- Removing rams a minimum of 8 weeks prior to shearing / crutching
- Weaning a minimum of 4 weeks prior to shearing / crutching
- Adopting and developing QA programs

Supply and processing issues

Distance and availability of organic certified processors has been a major issue for Western Division pastoralists. The dispersed supply base necessitates dispersed production facilities.

The processing of organic meat products requires a pool of specialized labour and knowledge.

Abattoirs must be organically certified and therefore have the ability to segregate, house and feed to organic specifications, and unique quality control issues such as specific wash-down and separation procedures and the requirement to use organically acceptable sanitizing agents and preservatives in processing meat products. The abattoir must be relatively easy to certify, and have in place established QA procedures to ensure full traceability. Livestock slaughtered in organically certified abattoirs must then be transported in segregated form. This transport needs to be dedicated to organic stock.

Past experience has shown that the processing of organic meat through existing channels is inefficient (stop/start

for small runs due to the need to segregate organic and non-organic lines). The lack of markets for processing poor quality, trim and lesser cuts is also an issue.

Organic processors have cited that the main problems have arisen from an erratic supply in volume and quality.

Marketing issues

Establishing a successful organic meat sheep enterprise based on Dorpers will be determined by the producer's ability to not only supply and deliver a quality product, but to also successfully market their product. Cleavers has identified some key issues that producers need to address to facilitate product penetration in the marketplace:

- Organic meat is not well understood (misconceptions as to what it actually is). Industry promotion is required.
- A clear positioning for the meat has not been firmly established (Taste? Purity? Environmental?)
- Shoppers will not automatically select or trial (Product Tasting Events)
- Skepticism over authenticity (Producers must ensure there is a clear audit trail and the Certification procedure must be well defined)
- Sale volumes must allow for quality segmentation and carcass utilization

Market development

Any producers considering organic livestock production should consider developing regional production alliances. Production alliances are being developed in the Western Division to facilitate the supply of organic lamb. This will allow processors and purchasers of organic lamb access to the product through one avenue and the potential to a year round supply. Regional branding of products is another option open to producers.

NSW Department of Primary Industries, NSW Department of State and Regional Development, and the Federal Government's New Industries Development Program can assist producers to develop and market their products.

How do Merinos and Dorpers compare?

Reproductive performance

Greg Curran,
NSW Dept Primary Industries,
Broken Hill

With hard dry conditions and the wool market, the place of meat sheep is worth considering, given lower overheads than the Merino.

With meat sheep and cattle, reproductive performance is central to profitability.

Recently, two South Australians reported* on reproductive wastage in South Australian commercial Merino flocks during 1989 to 1992. A report from South Africa** on Dorpers provides a reasonable basis to compare the two breeds. See the following table, comparing how well Dorpers and Merinos get in lamb, lamb and rear their lambs:

- Both Dorpers and Merinos got in lamb well: about 90% of both conceived
- Dorpers had slightly more twins (38%) than Merinos (27%), but both had reasonable fecundity (ability to conceive more than one foetus). These figures show that 62% of Dorpers carried singleton lambs, compared with 73% of Merinos.
- Dorper ewes were far better able to lamb and rear than Merinos, with 27% of all Merino lambs dying, compared with 10% of Dorper lambs born.
- The overall result from joining and rearing was that Merinos in South Australia weaned about 81% lambs compared with ewes joined, while Dorpers in South Africa weaned about 112% lambs to ewes joined, a better result.

Another way to work through these figures is:

- if 100 pregnant Merino ewes carry about 127 lambs, and 90% of ewes joined are pregnant, then for every 100 Merino ewes joined, you expect about 114 lambs to be born

	Dorpers in South Africa	Merinos in South Australia
Ewes in lamb	90 ewes for every 100 joined	90 ewes for every 100 joined
Lambs born	About 138 lambs for every 100 ewes that lambed	About 127 lambs for every 100 ewes that lambed
Lambs surviving	About 90 lambs for every 100 lambs born	About 73 lambs for every 100 lambs born
Lambs weaned	About 112 to 116 lambs for every 100 ewes joined	About 81 to 83 lambs for every 100 ewes joined

- if only 73 Merino lambs survive to weaning for every 100 born, and you believe 114 lambs are to be born and reared from every 100 ewes, then you can expect to wean about 83% of lambs

Dorpers have been selected for better reproductive performance over decades, whereas Merinos generally have not been. Dorpers do not have to produce wool, and so do not have to put as much protein and energy from their intake of pasture as Merinos into growing wool. Dorpers can put this 'unallocated' protein and energy into conceiving, carrying, lambing and growth of lambs.

Coincidentally, Dorpers appear to be efficient in turning pasture into bodyweight, with lambs able to grow to 40 kg in 4 months, and 60 kg in 6 months, a growth rate of about 250 to 300 gm a day. How long does it take a Merino to reach 40 or 60 kg?

Early reports for Dorpers from the Western Division are broadly similar to those from South Africa, allowing for the very hard conditions here.

It may be time for the Australian Merino industry to select for better reproductive performance, or risk being left further behind. Graziers are putting a lot of effort into adequately feeding ewes and stopping predators. Studs can assist.

References

Fertility in South Australian commercial Merino flocks: sources of reproductive wastage Kleeman, Walker. *Theriogenology* 63 (2005) 2075–2088

Productive performance of Dorper sheep Cloete, Snyman, Herselman. *Small Ruminant Research* 36 (2000) 119–135

The next edition of the Western Division Newsletter will contain an article that discusses management options for improving Merino Reproductive Performance.

Dorper, Damara and other new sheep meat breeds – information gathering

by Trudie Atkinson,
Peter Jessop and Gemma Junk

There are a number of producers in the Western Division of NSW using meat sheep breeds such as the Dorper and Damara as part of their production system. While there is considerable interest in these breeds, very little is known about their performance and management in this pastoral environment. Hence, this project aims to begin the process of gathering information about these sheep for the benefit of Western Division producers, by collecting some basic production information and providing an opportunity for producers to share their experience and observations.

For producers involved it will be an opportunity for them to compare the productive performance of their sheep informally against other enterprises and to hear about the experiences of other producers that are running these breeds in their district. For example, your enterprise may have a lambing percentage of 70 percent, but the district average might be 85 percent, and through hearing other producers' experiences, you may identify management options for increasing production.

The project and information collected will primarily benefit sheep meat producers. However, NSW DPI would also like to better understand district/regional production trends and to identify issues requiring research, so we can pursue funding opportunities and direct resources at delivering information that will be of most use to Western Division producers.

The project aims to:

1. Provide producers with an opportunity to share information and compare the performance of their operation informally with other producers.
2. Identify and prioritise areas requiring further investigation through research or producer initiatives.

3. Understand district/ region production trends. For example, the number of Merino ewes that are being joined to breeds other than Merinos.

How will the project operate?

1. Producers register to be involved in the project.
2. Producers provide production and management information to NSW DPI staff, using feedback sheets, at least quarterly.
3. NSW DPI staff collate the information and present it back to producers in the group. Information presented back to the group will not be able to be linked back to individual properties or producers. However, producers will be able to compare their information against other results collected.

Information collection

Producers will be asked to provide basic information such as lambing/weaning percentages, live weights, marketing and observations on grazing behaviour and animal health. Information feedback sheets and instructions on how to complete them will be provided to producers when they register. It should only take 15 minutes to complete the feedback sheet, and producers only need to provide information that they collect during their normal management.

What will be done with the information?

The information that is collected from producers will be collated and reported back to the producers that have provided information to the project.

Producers that contribute information to the group will receive;

- A table of key production figures collected from each producer, for example, the weaning percentages and growth rates.
- A summary of information collected, for example, average lambing and weaning percentages.

- A summary of comments and observations made by other producers, for example, grazing habits, health problems or methods for handling.

In addition, we will attempt to profile particular producers and their operations. For example, if a producer is doing something different e.g. an accelerated lambing program, we may contact them and with their permission document their experience and circulate it to the group, so that others can learn from their experience.

The information collected will also be used to describe district and regional production trends. For example, we may report in the Western Division Newsletter that a group of ten Dorper producers in western NSW reported an average lambing percentage of 90 percent.

What you need to do to be involved?

To be involved you just need to be using these sheep breeds (either pure bred or crosses) as part of your enterprise in

the Western Division and be prepared to contribute some basic production information. Producers will need to provide information, to gain information back from the project.

To register to be involved in the project or if you would like to discuss the project further please contact the NSW DPI officer that is collecting the information in your district, contact details are provided below.

Producers in **Milparinka, Wilcannia, Cobar or Broken Hill** RLPB Boards

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Fax: (08) 8087 3488
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Producers in **Balranald or Wentworth**

RLPB Boards
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Producers in **Bourke, Wanaaring and Brewarrina**

RLPB Boards
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Fax: (02) 6872 3046
Email: gemma.junk@dpi.nsw.gov.au

Producers in **Hay or Hillston** RLPB Boards

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Fax: (02) 6993 2177
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Diversifying? then check out the RIRDC website

Have you ever thought of farming snails? What about introducing an environmental management system to your farm? If you want more information on these and other topics, have you thought of checking the RIRDC web site?

The Rural Industries Research and Development Corporation (RIRDC) is a Commonwealth Government organisation working closely with Australian rural industries and other government departments such as the NSW Department of Primary Industries, on research and development, particularly in the area of new and emerging industries, as well as undertaking research into regional communities and rural life. The results of some of this research are published free on the web in the form of research reports and short reports that are summaries of their research reports. They are an excellent source of information for students as well as anyone interested in diversifying their farming enterprise.

Topics covered include wildflowers and native plants, agroforestry, asian foods, essential oils, bees and organic farming. Rural life is well covered in a fascinating range of publications including farm safety, internet use and farm business. There are also fact sheets on agriculture and related industries as well as chapters from the New Crop Industries Handbook. All are available for free from the website.

If you want the actual printed version of the publication rather than a PDF file, the short reports are free, while RIRDC's full reports are generally priced between \$16 and \$30 each. There is a 50% discount for students and bulk discounts for multiple copies.

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Barkindji Biosphere nomination to UNESCO

by Scott Jaensch,
Barkindji Biosphere Ltd

Barkindji Biosphere Ltd has submitted a nomination to be recognised as a Biosphere Reserve within UNESCO's Man and the Biosphere Program. This is the result of over three years of developing the concept into a proposal by John Irwin (Chairman of the Barkindji Biosphere Ltd) and board members Michael Looker (Trust for Nature), Catherine Brown (Catherine Brown and Associates) and Graham McDowell (Deputy Vice Chancellor LaTrobe University). It is anticipated that the Barkindji Biosphere will create significant social and economic and environmental opportunities within the region; as such the Board and its primary stakeholders are committed to its implementation.

The proposed Biosphere will straddle the Murray River incorporating both Victoria and NSW. It consists of a core conservation zone of 41,521 ha (as defined by UNESCO's management criteria as being a legally constituted core area devoted to long term protection), of which 31,125 ha is within Victoria. There is a Transitional zone of 136,000 ha (12,708 ha within Victoria) and a Buffer zone, defined as areas contiguous to the core area, where only activities compatible with the conservation objectives can take place consisting of 14,302 ha located entirely within NSW.

The Biosphere concept has been portrayed as 'LandCare with grunt' as it incorporates not only the conservation aspects, but also the social and economic development, research, education and commercial ventures – with international networks provided by the UNESCO Man and the Biosphere program. Similar to the LandCare concept, Biospheres are flexible in their boundary with participation or otherwise within the programs being completely voluntary.



The Murray River – the backbone of the Barkindji Biosphere

The proposed Barkindji Biosphere

Biosphere reserves fulfil three basic complementary functions:

- Conservation function – to contribute to the conservation of landscapes, ecosystems, species and genetic variation.
- Development function – to foster economic and human development that is socio-culturally and ecologically sustainable.
- Logistic function – to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development.

The backbone of the proposed biosphere – the Murray River – will provide the focus for not only sustainable development (such as ecotourism) but also conservation, education and research initiatives. The proposed Biosphere will encompass in excess of 300 km of Murray River frontages that provides many opportunities for linked enterprises (such as river tours, accommodation), as well as education and research projects.

As a consequence of working with many significant Natural Resource Management initiatives, the Biosphere will be working in parallel with both the Lower Murray

Darling Catchment Management Authority (NSW) and the Mallee Catchment Management Authority (Vic).

The Biosphere is particularly interested in identifying:

- any funding initiatives that will assist in the establishment and management of core conservation areas
- the development of research or monitoring programs,
- cultural training or employment opportunities, and
- the development of sustainable economic development opportunities

The Barkindji Biosphere is positioned to value add to existing enterprises and conservation initiatives. Through its unique partnerships, the Biosphere will foster, develop and promote research and monitoring, cultural training and employment, and sustainable economic development such as ecotourism and agriculture (managed to Biosphere criteria).

It is positioned to provide facilitation of partnerships for win win outcomes.

The Biosphere has currently developed partnerships with LaTrobe University, TAFE Centre for Sustainable Land Management, Trust for Nature, several key landholders, the Myer Foundation, Mildura Murray Outback, Lower Murray Water, Sunraysia Economic Development Board, Rural Industries Research and Development Corporation (RIRDC) and Birds Australia.

Barkindji Biosphere Ltd is a not for profit organisation, with income generated being used to help fund conservation and research projects within the reserve, and to develop further conservation based enterprises and initiatives. With this in mind, the Biosphere is particularly interested in identifying any funding initiatives that will assist in the establishment and management of core conservation areas or the development of research or monitoring programs, cultural training or employment opportunities.

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PrimeNotes CD Rom

by Jennifer Kirton, Information and Library Services, NSW Department of Primary Industries

An excellent source of easily readable information is the PrimeNotes CD Rom. Version 17 has just been released and it contains more than 5100 fact sheets provided by stage government departments, research and development corporations, research centres and other industry organisations in Australia. Every aspect of primary industries is covered including horticulture, herbs, sheep and cattle, farm forestry, wildflowers and organic agriculture.

PrimeNotes is ideal for students studying agriculture or anyone wanting general information on a range of primary industry activities. The CD is available for \$25 from the NSW DPI Book shop 1800 028 374 or (02) 6391 3994, or on the web at <<http://www.agric.nsw.gov.au/reader/bookshop>>

Measured change in the rangelands of western NSW

Free CD for Western Division Newsletter subscribers

The CD enclosed with this newsletter presents information on natural resource trends in western NSW rangelands since 1989. Designed for use in IBM-compatible PCs, the content of the CD should appeal to readers interested in environmental change. It should be of particular value if you are a pastoralist keen on pasture management, providing a good basis for comparing what happened on your property with trends across the region.

The information is a product of monitoring by the Rangeland Assessment Program of the Department of Infrastructure, Planning and Natural Resources and participating landholders. Data collected annually from more than 300 sites over the past 15 years is summarised on the CD.

The CD:

- Should operate with Windows 98 operating systems or more recent versions.
- Should start up automatically. If this fails, open the CD-drive in Windows Explorer and double-click AutoRun.exe.
- Uses a web-based format to index reports presented as time-trend graphs in Adobe pdf files.

The reports are indexed by alternative ways of looking at local regions. For each of seven Range-types (broad vegetation types), eight Bioregions and six Catchment Management Areas that make up the western rangelands, there are reports on:

- The extent of monitoring in the region
- Rainfall, based on landholder records
- Vegetation cover, soil surface condition and pasture biomass
- Pasture species diversity and composition

- Saltbush or bluebush density (if applicable)
- Tree, shrub, saltbush and bluebush regeneration
- Tree and shrub canopy cover
- Tree and shrub canopy cover change

To aid interpretation, the CD includes:

- Descriptive information on rangeland monitoring
- Explanatory notes for each of the report categories
- A description of the assessment techniques used
- Photo guides for pasture yield and bush density interpretation.
- A full plant species list. The common names of plants are used throughout, but these can be cross-referenced with scientific names in the species list.

For more information on the CD and the Rangeland Assessment Program, please contact Russell Grant at the Department of Infrastructure, Planning and Natural Resources on (02) 6895 2033.

On-ground change, not wishful thinking for Western Catchment

by Rory Treweeke, Chair,
Western Catchment Management Authority

Ensuring local people direct the next ten years of natural resource management through the Catchment Action Plan was a major topic of discussion at the Western Catchment Management Authority's latest board meeting.

The board meeting was held in Cobar on June 2 and 3.

The Catchment Action Plan is a ten year plan for improving and managing natural resources (land, vegetation, rivers, groundwater and biodiversity) in the Catchment.

The Plan builds on the Western Catchment Blueprint, which was developed with considerable community input in 2001. The Blueprint was a wide-scale and long-term plan without any budgetary constraints.

While the Blueprint outlined what people would like in a perfect world with unlimited funds, the Catchment Action Plan is the next step now that funds have been allocated.

In the first three years alone, the Western Catchment Management Authority has \$19 million budgeted for natural resource improvement work.

The Catchment Action Plan will allow Western Catchment residents to voice their opinions about how funding can be best spent to improve the natural resources of the area.

A draft document is currently being prepared, based on the Blueprint, and will be available in the next few months for every Western Catchment resident to read and comment upon.

We will pursue a number of avenues to ensure all residents are able to provide their input, including information being sent to all residents and a series of public meetings throughout the Catchment.



Western CMA General Manager, Daryl Green with Board Members Justin McClure, Rory Treweeke, Andrew Mosely and Max Hams. Absent: Jenny McLellan.

This is not 'pie in the sky' or wishful thinking. We have a considerable amount of money available to invest that will result in real and tangible improvements in the local area.

It's essential that local people have their say on where we head and how we get there.

Participation in the Catchment Action Plan is voluntary and it will be a guiding document with no intention for it to become a regulatory document.

Other issues discussed at the Board Meeting were incentive funding for on-ground works and training, Property Vegetation Plans and some of the broad-scale projects being undertaken including a \$2 million project to improve the aquatic habitat in the Barwon-Darling River from Brewarrina to Bourke.

The Western Catchment Management Authority has been established to ensure the local community has a significant say in how natural resources are managed.

As well as setting the direction for natural resource management through the Catchment Action Plan, the Authority administers incentive funding for on-ground works and training, manages native vegetation, and undertakes and coordinates broad-scale projects that are essential for the health of the Catchment.

The Authority is run by a Management Board comprised of local people with extensive experience in natural resource management in the Catchment. The Chairperson is Rory Treweeke and the Board Members are Max Hams, Justin McClure, Jenny McLellan and Andrew Mosely.

People wanting further information about the Catchment Action Plan or the Western Catchment Management Authority should contact their local office, ring 1800 032 101 or visit our website www.western.cma.nsw.gov.au

National Livestock Identification Scheme

by John Irwin, Beef Officer,
NSW DPI, Yanco

Critical dates to remember

July 1 2005 for Cattle Producers

All cattle leaving any property **MUST BE IDENTIFIED WITH AN APPROVED NLIS DEVICE** before they leave. The exception is when moving between properties with linked PIC's approved to operate under common management. For all other property to property movements, cattle must be identified. All cattle moving from properties to saleyards, abattoirs and feedlots must be identified.

July 1 2005 Saleyards and Abattoirs

All saleyards and abattoirs will be required to read all devices and transfer the animals on the NLIS database from July 1 2005.

January 1 2006

All movements of cattle between properties must be notified to the database. Cattle moving between properties via a saleyard are transferred on the database by the saleyard operator but after this date all other property to property movements must also be registered on the database (except between properties with linked PIC's).

Interstate Cattle Movements

There are also critical dates in regard to what is required when cattle move between other states and NSW – if you move cattle from interstate you need to make sure you know the requirements.

Summary

Make sure you know what is required by these critical dates and be prepared in advance. It is a breach of the Stock Diseases Act to move cattle without the required electronic identification after these dates.

Provide your PIC when buying cattle

One of the most important aspects of the new NLIS is being able to record accurately where animals have been over their whole life regardless of how many times they have moved between properties. It is called 'lifetime traceability' on the National Vendor Declaration (NVD). To make that happen, whenever an animal moves between properties, the movement has to be recorded on the MLA database. When that movement occurs through a saleyard, the saleyard operator will make the transfer from the Property Identification Code (PIC) recorded on the vendor's NVD to the new PIC.



LEADER PRODUCTS

Leaders in NLIS cattle tags

Now you can have **BIG** easy to read management numbers on the Leadertronic RFID tag

Leader NLIS tags can be ordered with matching management tags

The smart new **QUICK RELEASE** applicator applies both the electronic and management tags

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New electronic **SHEEP BOLUS** available now to help reduce stock theft

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For further information contact our
Head Office ph (03) 9308 2355 or
Colin Curnow ph 0418 539 122

That can only happen if the new PIC is known at the time of sale in regard to the saleyard transfer. Anyone who buys animals in a saleyard, regardless of whether it is a couple of times a year or every week, will need to have their PICs recorded on that saleyard's database or register it before the sale commences if intending to buy cattle at that sale.

Summary

If you are intending to purchase cattle at a saleyard once scanning and database processing is in place (July 1 or sooner for some saleyards) make sure you know the PIC for the property the cattle are going to and provide it to the agent or saleyard operator before the sale commences.

Purchasing NLIS Devices

NLIS devices, both ear and rumen boluses can be ordered either through your Rural Lands Protection Board (RLPB) office or your rural merchant. If you choose the RLPB option the price structure is:

Allflex ear devices -

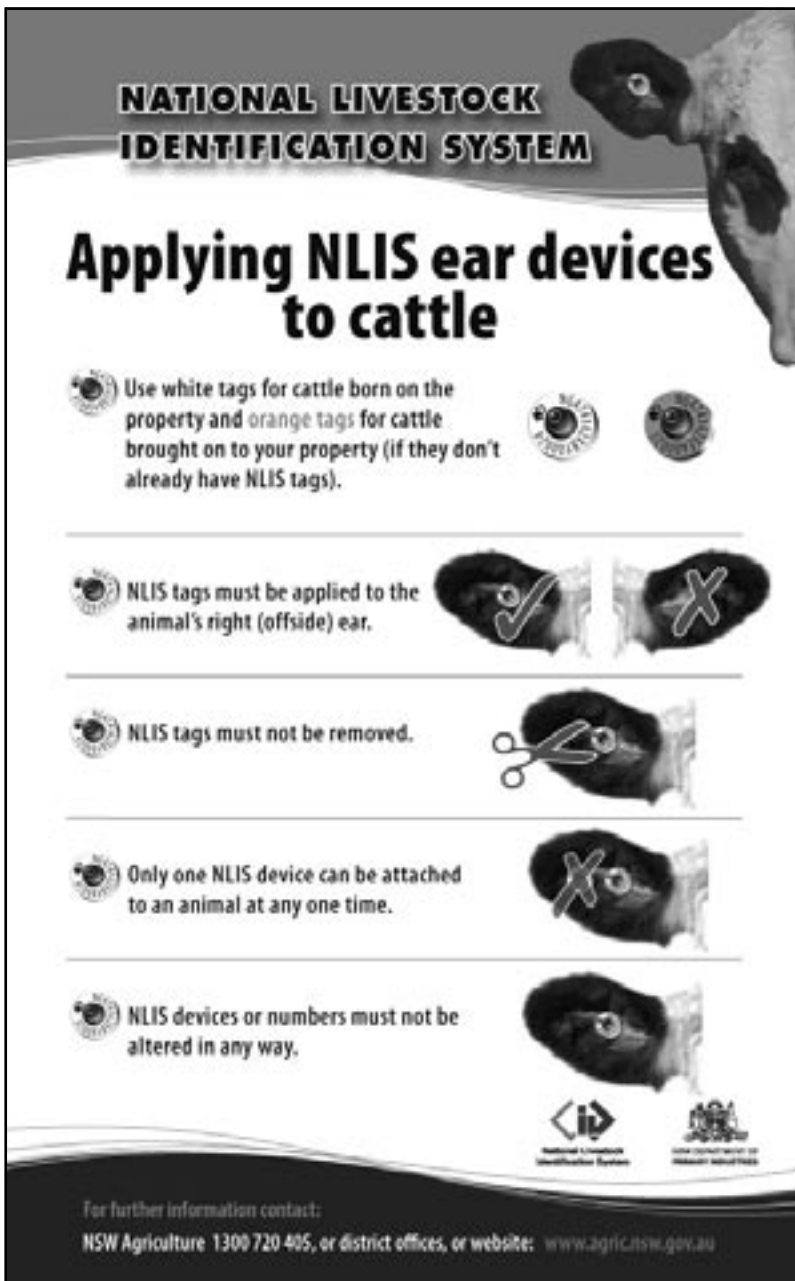
\$2.86 each plus \$11.00 handling fee.

Leader ear devices -

\$3.08 each plus \$4.50 postage and a free applicator is included where 100 or more devices are ordered

Rumen Boluses -

\$4.51 each (includes a visual ear tag) plus \$11.00 postage. An applicator costs \$82.50. RLPB's require full payment



NATIONAL LIVESTOCK IDENTIFICATION SYSTEM

Applying NLIS ear devices to cattle

- Use white tags for cattle born on the property and orange tags for cattle brought on to your property (if they don't already have NLIS tags).
- NLIS tags must be applied to the animal's right (offside) ear.
- NLIS tags must not be removed.
- Only one NLIS device can be attached to an animal at any one time.
- NLIS devices or numbers must not be altered in any way.

For further information contact:
NSW Agriculture 1300 720 405, or district offices, or website: www.agric.nsw.gov.au

(by cash, cheque or credit card) at placement of order and 2–3 weeks processing and delivery time is required. White devices are for animals bred on the property; orange devices are used for introduced stock.



Best practice management of sustainable production

Best management practices for extensive grazing enterprises

Ben Packer, Luke Beegan, Geoff Cousins, Greg Curran, Peter Gray and Judy Worcester

NSW DEPARTMENT OF PRIMARY INDUSTRIES
www.dpi.nsw.gov.au

New publication for the rangelands

This new publication outlines some important management principles for extensive grazing enterprises in the rangelands of NSW. It explains how the application of these principles requires a decision-making framework that recognises the complexities of the biological system and the economic circumstances and aspirations of individual families.

Get your copy of this free publication from any NSW DPI office in the Western Division or adjacent region. For more information contact Ron Hacker ph: (02) 6880 8000

Western Lands update

by Peter Walker, Manager,
Access, Compliance and Land
Administration, DIPNR
Ph: (02) 6883 3042

Fossicking

Our Department has been advised by the Minister for Mineral Resources that the Mining Act 1992 has been amended in respect of fossicking.

Fossickers are now required to seek the consent of Western Lands leaseholders prior to entry onto Western Lands leases. Fossickers require similar consents to enter freehold land throughout NSW.

With the exception of public roads (i.e. those maintained by Shires or RTA), or Crown roads (i.e. roads that are not part of leases) fossickers require the landholder's consent to enter all Western Division leasehold lands.

Fossicking remains a lawful activity under the Mining Act and is not subject to licence.

Leaseholders who wish to provide accommodation, camping or other facilities for fossickers or other visitors, for a financial return, need to have 'farm tourism' added to their lease purpose.

For further information please contact me or your local Rangeland Management Officer.

Clearing and cultivation

Once the Native Vegetation Act is commenced, landholders wishing to clear native vegetation need to apply to the local Catchment Management Authority for approval of a Property Vegetation Plan (PVP) or consent to clear.

This will also apply to management of woody weeds (now called Invasive Native Scrub), which have been previously exempt from clearing approval. The only exemptions from now will be clearing along fencelines and around improvements, as well as regrowth from previous authorized clearing that has taken place since 1983.

Clarification on these matters should be sought from CMAs.

Cultivation permits, issued by the Western Lands Commissioner (DIPNR), are still required for all cultivation on Western Lands grazing leases.

If cultivation is provided for to follow up clearing on grazing leases, DIPNR is still to issue cultivation consents under the Western Lands Act.

We are working with CMAs in the Western Division to develop an assessment process that will have the two approvals aligned as closely as possible and carried out as quickly as possible.

Legal access project

We have appointed Rex Miller as leader for this project and are in the process of recruiting two more staff so that the work can get underway.

Opal fields management

We have, at the time of writing, granted 20 Western Lands Leases for residence, over former camps on claims in the vicinity of Lightning Ridge, and have sent offers of leases to 376 camps holders.

We continue to work with DPI (Mineral Resources), the Miners' Associations, graziers and Walgett Shire Council to improve land management, access and rehabilitation in the opal fields, including seeking means to buy back some targeted Western Lands Leases that are heavily impacted by mining.

Arid lands administrators' conference

The latest biennial conference of Arid Lands Administrators from around Australia was held in Port Augusta (South Australia) in April. Andrew Bell and I represented New South Wales.

The delegates discussed current issues, recent legislative changes and special projects in the various states.

The main issues were major reviews in Western Australia and Queensland, the Desert Knowledge Collaborative Research Program, alternative uses of rangelands, and multi-purpose leases.

As usual it was good and thought-provoking to hear what others are

doing and very useful to discuss issues with them. I had further discussions with the South Australians about their public access routes.

It was good to catch up again with Michael McBride, former NSW leaseholder and now Chairman of the SA Pastoral Board, and Jim Vickery, a retired Chairman of that Board. NSW will host the next conference in 2007, in Broken Hill.

African Boxthorn threatens to destroy natural environment

by Adam Pullen,
Noxious Weeds Inspector, Wentworth Shire Council

There is increasing concern within the region, over the continual spread of the noxious weed African Boxthorn that threatens to invade our natural ecosystem.

African Boxthorn (*Lycium ferocissimum*) is a tall erect, thorny perennial shrub with often impenetrable thickets. This woody weed is recognized by its spikes, small red berries and small glossy green leaves.

Boxthorns may grow in any vegetation type however they particularly frequent soil types of red and brown earths. They originate from South Africa and were planted around many old homesteads and country towns as a hedge plant. This has attributed to its current widespread distribution.

Boxthorn spread is via seed. Birds and other animals that digest the berries become a vector for seed transportation. Creek-lines, fence lines, trees and shrubs are all nesting positions for birds and are therefore high-risk sites.

Although it may seem like small infestations have remained so for many years, new infestations can be noticed some distance away. Properties without Boxthorn infestations are at risk from neighboring infested properties.

This is why owner/occupiers of land need to be aware of their responsibilities under the *Noxious Weeds Act, 1993*. Within the Riverina, African Boxthorn is declared a W2 noxious weed. This means that the weed must be fully and continuously suppressed and destroyed.



The African Boxthorn species can be difficult to kill. Correct timing is critical for herbicide treatment. Late winter to early spring is often ideal as long as the plants have plenty of fresh leaf on them. Follow up treatments are often necessary as Boxthorns are hardy weeds and often require 2 or 3 treatments.

Mechanical removal using a tractor blade and pushing them into heaps away from desirable vegetation is an effective and immediate way of cleaning up large infestations. Regrowth from the roots will require follow up treatment.

There are numerous other mechanical and chemical controls available for the eradication of African Boxthorn.

For further enquiries contact Wentworth Shire Council's Noxious Weeds Inspector, Mr. Adam Pullen on (03) 5027 5040 or 0427 530 712.

Third Rotating Farm Tour

by Host – Liame Ayson,
Bidura Stn, via Balranald



The concept of Rotating Farm Tour continues to be a success. It is a fantastic way of primarily gathering young people together to help formulate networks, swap and harvest ideas and at the same time have a socially enjoyable experience.

The third 'Rotating Farm Tour' was well supported by twenty young people including their children who traveled from far and wide to attend on the 16th and 17th of April at Bidura, via Balranald. For a change single men were lacking in number with six single women attending! The group ranged from as far as Hermidale, Wilcannia, Coleambally, Wentworth, Balranald and Broken Hill. The passion and enthusiasm for the Western Division continues to be evident amongst the group.

The weather was fine and sunny for the Saturday afternoon farm tour. Peter Jessop and Trudie Atkinson from NSW DPI generously gave up their weekend to attend and provide valuable information on plants, organic production systems and alternative livestock breeds. There was great discussion generated amongst the group, which brought out a range of experience and knowledge. The weekend

was not all serious with several people obviously suffering the effects of drought by launching a boat into a ground tank of water and proceeding to have a fantastic time splashing around!

The afternoon disappeared very quickly and ended up at the shearing quarters for a BBQ and bonfire and some seventy's music which had several people up dancing late into the night. Sunday morning saw some sore feet from dancing too much and sore throats from singing too loudly! Socially everyone had a great time forming new friendships and swapping stories in a relaxed environment.

Rotating Farm Tour has helped to break down the barriers of isolation for many participants who have become involved. I actively encourage those people who have not attended to come along and enjoy the positive experience.

For more information contact:
Rotating Farm Tour Coordinator:
Terry Smith
'Scarsdale Station' via Broken Hill
Ph: (08) 8091 9408
Email: scarsdale1@bigpond.com

Japanese Australian Dust Experiment – JADE

by Leesa Corless,

LMD CMA, 32 Enterprise Way, Buronga NSW 2739

‘Recognition of quality wind erosion research and monitoring in the Lower Murray Darling Catchment Management Authority has resulted in a collaborative research project between Japanese, Hong Kong and Australian groups called the Japanese Australian Dust Experiment or JADE’, said Mark King Chair of LMDCMA.

‘The project aims to gain a better understanding on how dust is emitted from agricultural soils, which complements the work undertaken in the catchment by Dr John Leys of Department of Infrastructure, Planning and Natural Resources’.

In a collaborative effort, the scientists will work with local landholders to measure and model different dust emission rates from a range of soils.

‘Dr. John Leys has been carrying out research in the Lower Murray Darling catchment over the last 15 years on dust and soil, and has received international recognition, leading to local visits by Japanese scientists,’ said Mark King.

The Japanese scientists, led by Dr Mikami, have developed sophisticated sensors to measure the number and size of particles moving in an erosion event. This will be the first time such sophisticated technology has been used in agricultural areas. The Australian scientists, led by Dr Leys, have a portable wind tunnel and equipment that will be used to calibrate the Japanese particle-size sensors. The Hong Kong scientist Professor Shao, has developed a numerical wind erosion model to predict dust emission and transport at continental scales.

The interest in dust in the atmosphere stems from the realisation that very small



A dust storm chases the paddle steamer Rothbury along the Murray River at Buronga.

particles of dust will remain suspended in the upper atmosphere and contribute to changes in sunlight penetration and cloud formation.

The information will be used in a wind erosion model that estimates dust emission for global circulation models that are used to determine the effect of dust on global warming and its effect on climate change.

Mark King said the LMD CMA has established a monitoring program with 2003/4 funds from National Landcare Program plus small amounts from the Natural Heritage Trust and National Action Plan, the Desert Knowledge Co-operative Research Centre. Monitoring will continue until 2007 with funds from State and Australian Government’s (National Action Plan) and Desert Knowledge Co-operative Research Centre.

‘The LMD CMA believes that the combination of local data collection and international project activities will lead to more effective monitoring at paddock, region and national scales and improve understanding of erosion processes’ said Mark King,

‘With growing interest in the monitoring and evaluation of environmental indicators, we believe that LMD CMA program will provide a model for other CMAs and state agencies adopting a similar dust monitoring program.’

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To the Landholder



Western Division newsletter

The editors of the WDN welcome contributions

Issue	Editorial Office	Deadline	Issue	Editorial Office	Deadline
Nov–Dec 2005	LMD CMA, Buronga PO Box 363, Buronga 2739 Fax: (03) 5021 1308 Phone: (03) 5021 9460 Email: pixie.jonasson@cma.nsw.gov.au	1 Oct	Jan–Feb 2006	LMD CMA, Buronga PO Box 363, Buronga 2739 Fax: (03) 5021 1308 Ph: (03) 5021 9460 Email: pixie.jonasson@cma.nsw.gov.au	1 Dec