

Doing the 6-month shear

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Shearing all the sheep on a property every 6 months is not for the faint hearted! Many landholders have moved to shearing every 10 months, but 6 months is a whole new exercise in sheep management and yearly planning. However, small numbers of landholders in the west of the State have started down this track, and one such person is Magnus Aitken, Manager of the Paraway Pastoral property 'Steam Plains'. Magnus has been managing 'Steam Plains', which is located 35 km north of Conargo, in the Riverina, for over 6 years. The property covers 46 500 ha and consists of a mixture of open-plains cotton bush and boree

country to red sand hills and pine trees. The average rainfall is 360 mm. Nearly 20 000 ewes of Mungadal and Pooginook bloodlines are usually joined each year. There are three other full-time employees working on the property, which, in addition to sheep, has a large-scale cropping program.

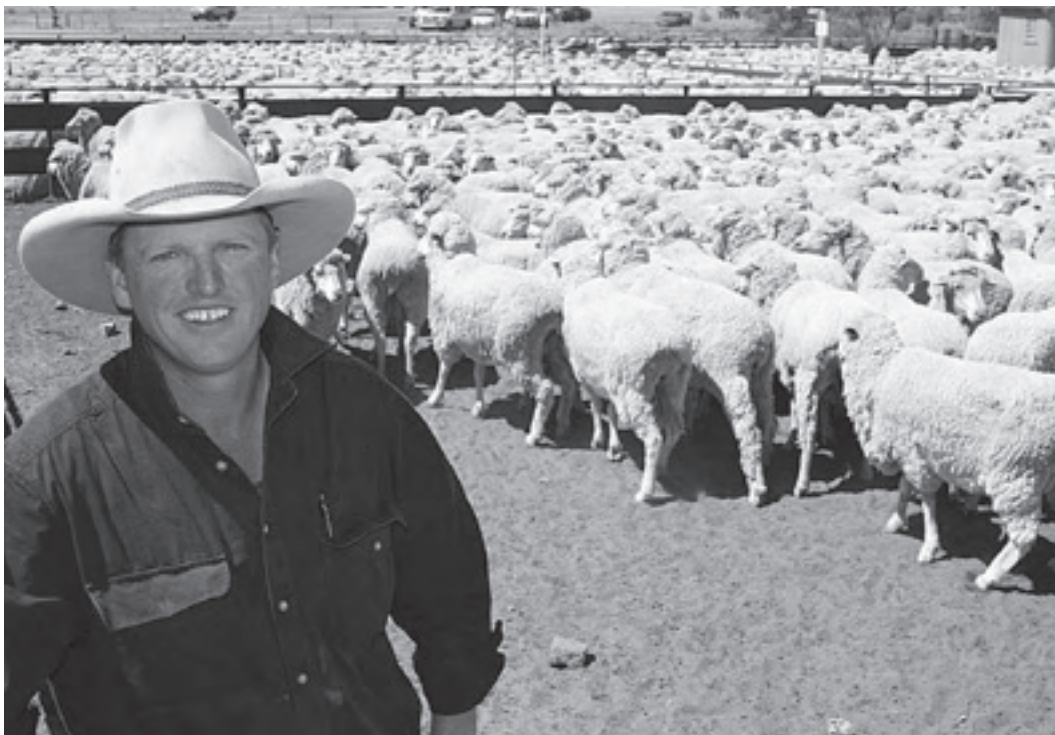
Magnus decided to try shearing every 6 months in 2009. The flock had been reduced to 5000 breeding ewes because of the drought, and this seemed like the ideal time to give the idea a try. The ewes were shorn in April 2009 with 12 months' wool and then trucked to Queensland on agistment. These ewes were shorn again in October on their return. This first 6-month shearing went well, with the staple averaging a combing length of 65 mm and low

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Above: Magnus Aitken with 3-year-old breeding ewes that were sold at an on-farm sale at Steam Plains, during the drought, in 2008. This photo was taken one year before the start of the 6-month shearing program.

Photo by Liz Meecham

Hatfield and Booligal sheep fly and lice workshops

In passing »

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District Merino breeders who, combined, owned over 50 000 breeding ewes attended 1-day Fly and Lice workshops conducted at Hatfield and Booligal in March this year. Because rain had caused the cancellation of the Fly and Lice workshops three times in 2010, it was with much relief that the Hatfield and Booligal workshops were able to be held without a rain cloud in sight—well, apart from a single, sharp shower in the late afternoon at Booligal that saturated the penned workshop sheep!

Funded by the Sheep CRC (Cooperative Research Centre) and the Making More from Sheep program and organised by NSW DPI, the workshops were held at Hatfield Hall on Tuesday and the Booligal Hall on Wednesday. Speakers on the day included Mr Allan Casey (a Sheep Breeding Specialist based at the Orange Agricultural Institute) and Gemma Turnbull (Ectoparasite Control Co-Ordinator at Bourke), both of whom were from NSW DPI, Bruce Pettitt from B & G Dipping Services, Ben Parker from Bayer, Hugh Palmer from Elanco and Todd Schirmer from Coopers, as well as Colin Peake (District Veterinary Officer, LHPA, Hay) and Dermot McNerney (Veterinary Officer, NSW DPI, Dareton).

The first part of the workshop concentrated on reducing the susceptibility of the average flock to strikes by the *Lucilia cuprina* blowfly. Using a flock scoring chart, landholders assessed the workshop sheep for neck wrinkle. This led into a discussion of the correlations among neck wrinkle, body wrinkle and breech wrinkle.

Allan Casey pointed out that landholders can actively select and breed Merinos with a lower risk of fly strike. Contrary to the popular belief, sheep with less wrinkle and more resistance to

flystrike are not light wool cutters. It is possible to place emphasis on reducing wrinkle and fleece rot and as a result reduce the flystrike susceptibility of the flock while also maintaining or improving fleece weight.

The landholders also scored the workshop sheep for fleece rot, the catalyst for body strike. The take-home message here was that although bands of bacterial stain alone do not attract the sheep blowfly, they are an early indicator that, with increased rainfall, areas with low fleece rot scores have the potential to deteriorate and begin oozing fleece rot serum, which provides an ideal protein meal for flies.

Placing selection pressure on fleece rot will reduce the numbers of sheep susceptible to body strike. Even in drier years, culling sheep that show the early signs of fleece rot will significantly reduce the incidence of body strike occurring in seasons of high fly pressure (i.e. in wet years).

Assessment of the weather conditions at Hatfield and Booligal in regard to blowfly activity shows that these districts have perfect fly conditions for nearly 10 months of the year, with the only exception being June and July. Hence if the rains come, so will the fly, as has occurred over the last spring and summer. Breeding for fly-resistant sheep needs to become a priority in the western areas, otherwise landholders will continue to have fly worries and expenses throughout the wetter, warmer months.

Another major problem in the district is lice infestation. This was also discussed at length at the workshops, and the various treatments, control methods and regulatory issues were covered by a number of speakers.



Above: Landholders at Hatfield listening to Mr Allan Casey prior to wrinkle scoring the penned workshop ewes. *Photo by Sally Ware*



Above: Landholders at Booligal fleece rot scoring the workshop sheep. *Photo by Sally Ware*

Continued from page 1

vegetable fault; there was also an increase in the tensile strength of the wool staple. Marketing of the wool did not present any problems, as the benefits from increases in tensile strength, yield and total cut per head outweighed any perceived decrease in price and marketability due to staple length.

Two years down the track, 6-month shearing continues to work for the 'Steam Plains' sheep program. The ewes are first shorn in April, before lambing in May. The lambs dropped are weaned at the next shearing in October, with a lamb shearing taking place in December and their next shearing in October (they miss the first 6-month shear in April). The lambs are still crutched in their first year in May. The lambing percentage at 'Steam Plains' averages around 100%, and the older ewes are culled at 6 years of age. Joining takes place in mid December. Magnus believes that the off-shears joining is one of the reasons for an increase in lambing percentage, because the ewes have increased their feed intake following shearing and hence are being joined when their body weights are increasing.

Some of the other benefits of shearing every 6 months include the elimination of crutching of the mature-age sheep. There is also an increase in wool weight as well as body weight, because the sheep increase their feed intake as a result of the usual post-shearing increase in appetite and are not carrying extra weight (i.e. heavy fleeces) around the paddock. The fleece wool continues to achieve an average length of 65 mm (range 55 to 75 mm) and the amount of vegetable fault in the fleece wool is less than 1%, in contrast with a previous average of around 2% on this type of country. The average value of the fleece wool is comparable to, or better than, that of the wool received with 12 months' growth, as the yields are higher because there is less dust and a lower fault. Other benefits include two cracks at the wool market within 12 months—with the current rising market this has been a huge bonus. In addition, fly waves like those experienced over last spring and summer are easier to handle, and lice control is less of an issue, as chemicals can be applied, if required, at each shearing. Breaks in the wool staple as a result of setbacks in the flock are also no longer a problem, particularly as lambing now takes place off shears.

As to be expected, the 'Steam Plains' shearing contractor is also very much in

favour of the 6-month shearing, as his team now gets to shear twice a year on the property.

Handling the nutrition of the flock is also something Magnus has put a lot of thought into as part of his management program. The sheep are rotationally grazed in mobs of 5000 or 6000 head around the 45 paddocks on the property. Each paddock is set up with at least two permanent waters and the stock are moved according to a visual assessment of the paddocks: stock are moved regularly when it is dry and less frequently in wetter seasons. Each paddock receives a 3 to 6 month rest period on average, with mobs split up and set stocked for lambing. Cattle are also part of the rotation, and often they are grazed in a paddock before the sheep; this has proved beneficial, particularly if there are tall, rank grasses in the paddock. As there are laneways linked to the paddocks, it is not a difficult job to bring the sheep in for shearing, and the rotations are worked out so that each mob is close to the shed before shearing. Using this planned grazing regime, Magnus hopes to never hand-feed stock again. His emphasis is on maintenance of high levels of ground cover with the ability to budget paddock feed and de-stocking in times of severe drought rather than hand feeding.

For further details about the 'Steam Plains' sheep management program, contact Magnus Aitken on mobile 0429 367413.

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Timely reminder for NLIS sheep and goats

By Megan Rogers
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Most sheep and goat producers would have received an information package in April outlining the requirements for meeting NLIS (National Livestock Identification Scheme) obligations. In this package, there was information on tagging, movement documentation, and the NLIS database, along with a colour brochure outlining the entire process of NLIS for sheep and goats.

On 1 July 2010, requirements to record property-to-property movements on the NLIS database began. This requires the persons responsible to notify the NLIS database of movement of animals to a different property.

The good news here is that for the first 6 months of these requirements being in force, records of nearly 200 000 sheep were uploaded to the database under property to property movements! This is a very good start.

Some more good news is that if the animals are bought from a 'saleyard' (this includes any public sale, including on-property sales), then the person responsible for conducting the sale is required to inform the database of the movement of the animals.

If the animals are bought by private treaty, then the person who receives the animals is usually the one who has the responsibility to record the movement on the database. However, ram breeders sometimes offer to do this service to save time for their clients, as the rams are often the only animals brought on to the property.

Some basic tips for producers to remember regarding complying with NLIS rules include:

- Take your PIC (Property identification Code) along to any sale that you are attending – especially ram sales.
- Remember to fill out your NVD (National Vendor Declaration) completely when selling animals, including signing it and writing in the number of animals. It is ILLEGAL for a third party (e.g. a stock agent) to amend an NVD, including making changes to the number of sheep.
- If you are selling any CFA (cast-for-age) rams that you have not bred, you must tick 'No' in answer to Question 3 of the NVD, which relates to who bred the animals being sold.
- If you are using Year of Birth colour tags, the colour for 2011 is light green.

Sometimes it all seems a bit complicated, but be assured that it's the simplest version of an NLIS Sheep and Goats system that is available to producers in NSW. For it to remain a viable option, industry needs to demonstrate that it is working and industry is complying.

NLIS is in place to protect all sectors of the sheep and goat industries in the event of a food safety issue. So, remember that all movements of sheep now involve a computer – yours or someone else's!

Further information is close at hand: call your Livestock Officer or the LHPA for help.

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8-STEP GUIDE TO MOVING & SELLING

SHEEP AND GOATS


using the National Livestock
Identification System (NLIS)



AN12
3456

Remember!

*Do not wait until you
are ready to move or sell
your sheep and goats to
commence this process as it
will take time to complete.*

- 
- STEP 1** Obtain your **Property Identification Code (PIC)**
 - STEP 2** Become accredited with the **Livestock Production Assurance** program
 - STEP 3** Order **National Vendor Declarations (NVD's)**
 - STEP 4** Create a **National Livestock Identification System (NLIS)** database account
 - STEP 5** Purchase NLIS tags
 - STEP 6** Check sheep and goat tagging
 - STEP 7** Complete the NVD
 - STEP 8** Complete transfer on NLIS database

*Remember
- the system
relies on you!*



National Livestock
Identification System



NSW
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Livestock Health and Pest Authority

Thirty years of World Heritage at Willandra Lakes

Office of Environment and Heritage

Thirty years ago the World Heritage Committee recognised the global importance of the precious cultural and natural heritage of the Willandra Lakes, inscribing the region on the official World Heritage List.

In July this year the National Parks and Wildlife Service and Mungo Joint Management Committee will celebrate the 30-year anniversary of the World Heritage listing.

Willandra Lakes, with Mungo National Park at its heart, is made up of ancient lakes that were formed over the last two million years and are fringed by crescent-shaped sand dunes, or lunettes. NPWS Willandra Lakes World Heritage Area Executive Officer Richard Mintern said the World Heritage listing protects over 50 000 years of Aboriginal cultural history, as well as the significant and unique archaeological and environment values of the area.

'The Willandra Lakes Region, covering 240 000 ha of ancient lakes, became one of Australia's first World Heritage sites when it was listed in July 1981. It is one of the 911 places with "outstanding universal value" included on the World Heritage List today,' he said.

'The World Heritage listing helps to ensure the protection of this irreplaceable environment.

'The Anniversary celebration will be held over a week, with a full day of activities being held on Wednesday 6 July 2011 at Mungo National Park. The week-long celebration will include tours, talks and cultural activities.'

Mr Mintern said that telling the stories of the Willandra Lakes and the traditional owners is an important part of the protection of this World Heritage Area.

'By telling the stories of the local Aboriginal people's continuous connection to this land and the scientific discoveries of cultural artefacts dating back 50 000 years, we're helping to keep the local culture alive.

'Informative exhibits inside the Mungo Visitor Centre help to achieve this, providing a background for visitors on the heritage of Mungo, including the archaeological features, unique environment, scientific discoveries and Aboriginal culture. Some new information displays have been installed and will be launched as part of the anniversary celebration.

'Discovery Rangers from the Paakantji, Ngyiampaa and Mutthi Mutthi local tribal groups also run tours of the Walls of China to tell the story of their ancestors.

'The NPWS works closely with the traditional Aboriginal people of this area to protect and conserve cultural heritage within Mungo National Park. In fact, this year we also celebrate 10 years of co-management of Mungo National Park, with the signing of the Joint Management Agreement in March 2001.

'Joint or co-management ensures that the traditional owners of the land are partners in the ongoing care, planning and decision-making of that land. It's important that we take opportunities like the upcoming anniversary to celebrate the significance of the Willandra Lakes and their protection today and into the future.'

Information on the anniversary will be provided closer to the date. For more information on Mungo National Park visit <http://www.visitmungo.com.au/>. For more information on the World Heritage Convention visit <http://whc.unesco.org/en/about/>



Above: Craters exposed on the windswept western side of the dunes at the Walls of China in Mungo National Park. Photo: NPWS

Winners from Ivanhoe and Booligal named at Lachlan NRM Awards

At the recently held Lachlan Catchment Natural Resource Management (NRM) Awards dinner there were some outstanding achievements by representatives from across the Western Division area. The winners included the Ivanhoe Community and Jim Crossley from Booligal.

By Kylie Krause
Media and Public Relations
Officer
Lachlan CMA, Temora

These awards are hosted by the Lachlan Catchment Management Authority (CMA) and are held every 2 years. Mr Jim Crossley of 'Tom's Lake', Booligal, was announced as winner of the Primary Producer award. 'Tom's Lake' covers 61 000 ha and is owned by the Crossley family. Jim, along with his wife Alison and sons Rob and Ed, manages the property. The farm contains diverse types of rangelands, including saltbush plains, grasslands, extensive creek systems, and the Booligal wetlands.

The diverse nature of this property, together with its size and the recent drought, has continually thrown management challenges at the Crossleys. One of these challenges has always been grazing pressure. Jim and his family have recently changed from set stocking to a rotational grazing system, which has resulted in improved production, better ground cover and an increase in the abundance of perennial species such as saltbush across the property.

The Crossley family have fenced out 200 ha of land as a conservation area to improve the biodiversity and vegetation in the Booligal Wetland. The Wetland is home to one of the largest breeding grounds in the Southern Hemisphere for ibis. Glossy ibis and straw-necked ibis are both covered by international conventions, and both nest on 'Tom's Lake'. This year 60 000 pairs of birds nested there, producing an estimated 120 000 chicks. Rob Gledhill, Chairman of the Lachlan CMA, said, 'It's fantastic to see a property with such a diverse range of management needs, through Mr Crossley's management, reaping the benefits of both increased productivity and biodiversity. I congratulate the whole Crossley family on this outstanding achievement.'

Another big winner in the Awards was the Ivanhoe Community, which received the Aboriginal Community Award. The Ivanhoe Community have all been working together with a number of partners on preserving an Aboriginal burial site on the former Carowra Tank Reserve. This project received a lot of recognition at the Awards ceremony because of

the way many community people and outside organisations worked together on the project.

'The Carowra Tank Reserve project is a great example to others. The people involved in the project integrated an understanding of the local area and cultural practices with good land management planning and implementation. It was a fantastic community effort that the whole community should be proud of,' said Mr Gledhill.

Through careful planning, site assessments, fencing and erosion control work, the community at Ivanhoe has collaboratively preserved the integrity of this site of significance.

For a full list of the 2011 Lachlan NRM Award winners, visit www.lachlan.cma.nsw.gov.au

Below: Jim and Alison Crossley of 'Tom's Lake', Booligal, the primary producer winners of the Lachlan CMA Natural Resource Management Award.
Photo: Lachlan CMA



National total grazing pressure workshop

By Russell Grant
Western CMA – Cobar

Maintaining groundcover is the key to sustainably managing rangelands, whether for production, rehabilitation or improving biodiversity. However, across the nation's southern rangeland belt from Shark Bay in Western Australia to Cobar in NSW, many rangeland landscapes are stressed by lack of groundcover resulting from high total grazing pressure. Although affecting nearly one-third of the continent, the total grazing pressure issue has to date been invisible to urban voters, the media and government policy makers.

'Total grazing pressure' of course refers to the combined impact of both domestic and unmanaged grazing animals on groundcover. The nomadic unmanaged grazers are the difficult issue. Although landholders can readily control the grazing pressure of domestic stock, many feel powerless to manage groundcover in the presence of the unmanaged, nomadic grazers—primarily feral goats and kangaroos, depending on the region. The nomadic herbivore populations are unconstrained by conventional fencing or natural predators and move to follow the feed supply. They frustrate improved management approaches such as spelling or rehabilitation, typically by invading lightly or destocked areas. Of course, rabbit populations also contribute to total grazing pressure, but they are less mobile.

Recently, however, innovative landholders have been making good progress on this issue. For instance, producers installing goat-proof fencing in the Western Division have achieved some outstanding groundcover improvements, resulting in substantial environmental and production benefits.

The development of a national approach to total grazing pressure management was the theme of a 1-day workshop held in Adelaide on 16 February 2011. The workshop was conceived by a small steering committee formed during the Australian Rangeland Society Conference in Bourke last year. The concept of a national approach recognises the breadth of similar issues across the continent.

The objectives of the workshop were to develop a national approach at two levels:

- To improve awareness of the issue of total grazing pressure at the government policy level to ensure that it gets adequate recognition as a natural resource management priority.

- To establish a national landholder network for the exchange of practical ideas on total grazing pressure management and peer support. This is in recognition that there are many individuals who are working on management innovations in isolation across four States and who may benefit from information flow and peer support.

The workshop attracted about 50 people from across four States (NSW, WA, SA and Queensland), including 17 producers and 23 agency staff. Landholder input was considered crucial to the workshop, and NSW producer representatives in attendance included Tas Clarke (White Cliffs), Ashley McMurtrie (Cobar), Paul Whytcross (Cobar), Kevin Ingram (Pooncarie), Angus Whyte (Wentworth) and Patty Byrnes (Wentworth), representing a cross-section of Western Division interests. Justin McClure (Tilpa) attempted to come but ended stuck between flooded creeks, subsequently being rescued by helicopter! Each of the participating producers supplied a 'case study' on how they were addressing total grazing pressure on their property. Case study approaches included the use of Hingejoint™ fencing to control goats, improved management of water points and changes to grazing strategies.

The workshop opened with a presentation by Ron Hacker of NSW DPI. Ron provided an overview of national policy aspirations for rangelands and an assessment of the impact of total grazing pressure on our capacity to achieve these aspirations. He then discussed potential ways forward. Michael Clinch, a landholder from Cue, Western Australia, then discussed his experiences in controlling total grazing pressure to restore the productivity of his station.

Some of the issues identified by the workshop participants during facilitated sessions were:



Above: Participants at the National Total Grazing Pressure Workshop, Adelaide, 16 February 2011. *Photo: Western CMA*

- the need for a focus on groundcover and the recruitment of perennial pastures
- the limitations of short-term funding programs in addressing long-term environmental issues
- the need to finance total grazing pressure strategies at the individual landholder level, and the possible need for non-government sources of support
- the divergent policy approaches relating to wild and managed herbivores across State borders
- the need to establish what is the 'public benefit' and what is the 'private benefit' from total grazing pressure control to help decide what the public purse should be funding
- the need to use the combined forces of practical land managers, service providers, researchers and other stakeholders to achieve total grazing pressure outcomes
- the fact that rangeland producers had much to gain from the establishment of a co-ordinated network addressing and sharing ideas on total grazing pressure management
- the need to change policy development from a top-down, expert-driven approach to one where there is an effective contribution from producers' local knowledge
- the need for strategies to better inform government and the wider community of semi-arid rangeland issues, and particularly of the importance of total grazing pressure management.

Participants at the workshop supported an initiative to develop an Internet-based national communication network that will enable producers to share their successes, failures and innovations in achieving total grazing pressure management on their stations. Ben Forsyth of Three Rivers Station, Meekatharra, WA has led this initiative and already has a pre-release version of a networking site operating. The easy-to-use site at www.grazebook.com will be open to all interested landholders in the immediate future.

The policy-level concerns identified during the workshop have been forwarded to the Rangelands NRM Alliance, which represents the interests of the 13 natural resource management groups operating across the rangeland areas of Australia. This group is developing a Rangeland Initiative to achieve better recognition of rangeland natural resource management issues at all levels of government policy. The Alliance is committed to progress in total grazing pressure management as a key aspect of this strategy. A small committee is continuing to make progress towards a total grazing pressure initiative; the NSW representatives are Russell Grant (Western CMA) and Ashley McMurtrie (Gilgunnia Station, Cobar).

The National Total Grazing Pressure Workshop was hosted by the SA Department for Environment and Natural Resources and the South Australian Arid Lands Natural Resource Management Board. The Cooperative Research Centre for Remote Economic Participation sponsored the attendance of landholders.

Histophilus somni epididymitis in Dorper rams

By Dermot McNerney
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A mob of 21 rams was born in April 2010 from bought-in pregnant Dorper ewes. In January 2011, the producer telephoned to advise us that some of the rams had swollen scrotums. How long this had been going on was unclear, but the affected rams had recently appeared to lose condition.

When examined, three of the rams had grossly swollen scrotums and were listless, with temperatures of about 41°C. Blood samples were taken, and a post mortem was done on one ram and the other two were euthanased. The rest of the mob appeared normal.

A month later, another ram in this mob developed similar signs of epididymitis. When it was given a post mortem the findings were similar to those in the first ram. There was about 300 mL of white pus in the scrotum, and the affected epididymitis was three or four times normal size. The other

epididymis was normal. Tests for *Actinobacillus seminis* and brucellosis were negative, but tests of the pus and tissues were positive for the bacterium *Histophilus somni*.

The owner decided to send all the rest of the rams for slaughter.

Histophilus somni can cause a variety of conditions in which pus is produced, including septicaemia, polyarthritis, meningoencephalitis, infections of the uterus, epididymitis, mastitis and abortion. Diseases caused by this bacterium occur around the world but are not common. The most common *H. somni* disease in lambs is lameness and septicaemia. Although the diseases caused by *H. somni* are usually fatal, this bacterium can also be a normal inhabitant of the prepuce and vagina. The interesting feature about *H. somni* infection is that we don't know how it is transmitted. Attempts at transmission via the nose, the mouth, or the conjunctiva of the eye have failed. Environmental or other stress factors may cause the disease to flare up.

Buying in replacement sheep and having cattle on the same property are two factors that increase the risk of the disease developing. In Canada, buying in replacements has increased the chance of infection the following year by about 8.5 times. On properties that buy in replacements and also carry cattle, the risk factor increases to 13.2 times. These same researchers found that 32% of the rams they studied were positive for *H. somni*. Newborn rams can be infected as they pass through the contaminated birth canal of an infected dam. Some studies have failed to find the bacteria in rams under 12 weeks of age but have found them in 87% of rams at 20 weeks.

In the case described above, cattle were run on the property until April, the month in which the rams were born. The dams had been bought in some months earlier as pregnant ewes. So this case had both risk factors (i.e. bought-in stock and cattle grazing). The property had had no previous problems with *H. somni*.

The bought-in ewes were probably infected and passed the infection on to their offspring. The four rams that showed signs of disease might have been the tip of the iceberg, and it would have been interesting to have tested the rest of the mob.

Right: Two halves of an incised swollen scrotum, showing the testes and epididymis affected by *Histophilus somni*. Photo: Dermot McNerney



Right: The scrotum on the left ram is swollen. Normal-size scrotum at right. Photo: Dermot McNerney



No-till farming at Balranald

Sowing conditions in south-west NSW suited no-till this year. The almost weekly rainfall over summer gave way to fine weather for much of April, leaving paddocks with a dry surface layer in May. This inhibited germination of weeds, but in most no-till paddocks there was good moisture at seeding depth to allow wheat to be planted in the ideal window. In contrast, conventional cultivation systems inevitably lose some seedbed moisture, causing sowing to be delayed in the wait for more rain.

Balranald farmers recently had the opportunity to increase their knowledge of no-till farming by attending a local workshop featuring Bill Crabtree. Bill is one of Australia's best-known advocates of sustainable dryland agriculture and has a wealth of knowledge on this topic.

The event was the second in a series of workshops hosted by the Homebush Landcare Group and aimed at farmers considering changing to no-till as well as those already practising the technique.

Some of the key points discussed during the day are summarized below.

Benefits of no-till

The well-recognized benefits are reduced erosion and improved water harvesting, but it's the biological activity happening below the surface that's creating discussion. Talk of increased organic matter giving a better structured, more biologically active soil isn't 'green' spin but a reality that farmers who have been using no-till for several years are discovering.

Weed control

It's true that weed control in no-till is highly reliant on herbicides, but there are other 'systems effects' occurring. Leaving weed seeds on the soil surface rather than burying them with cultivation makes them more susceptible to attack. Loss of viability from wetting and drying cycles, predation by insects and decay from fungi occur more readily on the surface. More importantly, weed seeds are closer than crop seeds to surface-applied herbicides such as trifluralin and Avadex®.

Challenges

Maintaining the efficacy of trifluralin by avoiding resistance build-up is a major challenge for any no-till farmer in the Balranald district who has ryegrass as a weed.

Trifluralin has been a key part of the no-till story, especially since it was realised that adequate incorporation and better crop safety could be achieved by using the knifepoint seeding system.

Although trifluralin has been on the market for more than 50 years, its use escalated when herbicides

from mode of action groups A and B began failing because of the development of resistance. Trifluralin is now facing its own resistance battle, most notably with annual ryegrass.

If trifluralin is currently killing ryegrass on your property, then it makes financial sense to ensure it keeps on doing so. Ten to 15 years of application is required for resistance to this group of chemicals to develop. Most no-till farmers around Balranald would still be inside this time frame, and any resistance issues should still be manageable. Sure, some new pre-emergent herbicides have come on the market recently, but these are generally more expensive than trifluralin.

The answer lies in using a variety of control tactics and making sure weeds such as ryegrass don't get a chance to set seed. If brome grass is the main problem then this is even more important, because trifluralin, at best, only suppresses this weed.

Rotating crops to make use of alternative herbicide groups (e.g. triazine-tolerant canola or pulses), spray-topping pastures, using a double-knock approach for maintaining fallows, and even making hay out of crops that have large populations of weeds are all options.

Using herbicides alone to control very dense populations of weeds such as ryegrass will fast-track the development of resistance, because there will inevitably be some genetically tolerant survivors. If these set seed then the situation gets rapidly out of control.

Summary

Over the last 15 years, the uptake of no-till has progressed to the point where it is now arguably the most common system of crop establishment in Australia. GRDC research suggests that the level of uptake will exceed 80% in most districts by 2013. The efforts of groups such as Homebush Landcare and neighbours willing to share their knowledge mean that Balranald farmers are well placed to be part of this revolution.

By Andrew Schipp
Agronomist
Department of Primary
Industries – Hay
Phone: (02) 6993 1608

Below: No-till seeding near
Piangil. *Photo: Steve Whitfield*



Increased sightings of spiny burrgrass in western areas

By Geoffrey Cullenward
Rangeland Management Officer
Wilcannia District
Department of Primary
Industries – Crown Lands
Division, West Region

Many parts of the of the Western Division have experienced above-average rainfall in the last 18 months, and as a result some of our Rangeland Management Officers have noticed an increase the abundance of pasture plants that are rarely seen or have not been seen for many years.

One such species, which was recently reported to be in the Louth and Tilpa areas, is spiny burrgrass (*Cenchrus incertus*).

In most Local Government Areas in the Western Division, spiny burrgrass is listed as a Class 4 noxious weed under the NSW *Noxious Weeds Act 1993* because of its sharp and clingy burr, ability to spread rapidly, and tendency to develop into dense infestations under favourable conditions. It is also difficult and expensive to manage, especially in marginal rainfall areas.

Many landholders will also be familiar with another related species called gentle Annie (*Cenchrus longispinus*), and this plant is also of concern.

Mature burrs cause a range of problems, including:

- injury to stock (swellings and ulcers in the mouth)
- injury to people and dogs
- clinging to wool and penetrating the skin of stock, reducing the value of both
- shearing difficulties, often attracting penalty rates, as working with contaminated wool requires leather gloves and/or aprons
- inconvenience and discomfort to workers in irrigated crops such as vegetables, vines and citrus
- contamination of dried fruit and hay.

Spiny burrgrass is a summer-growing grass that forms large clumps and generally grows to 30 cm, but it can reach 60 cm or more. *Cenchrus incertus* can be either annual or perennial, depending on the environment, but the other *Cenchrus* weed species are annuals. Spiny burrgrass is commonly found in dry regions with rainfall of 250 to 600 mm and prefers sandy to light soils. The seeds are normally produced from late spring to late autumn, depending on available soil moisture.

There are up to three seeds produced by each 'burr', resulting in each plant producing up to 1000 seeds. The first-formed, or primary, seed is the largest and is capable of germinating within a few months of maturity. The secondary seeds are usually dormant for up to 3 years. Spiny burrgrass has several germination-regulating mechanisms to ensure its survival during hot, dry summers.

With the emergence of this declared weed species, and no doubt many others, landholders are reminded that they are responsible for weed control on their Western Lands Leases. Given the known impacts of spiny burrgrass, efforts to control it should be a high priority in the Western Division pastoral industry.

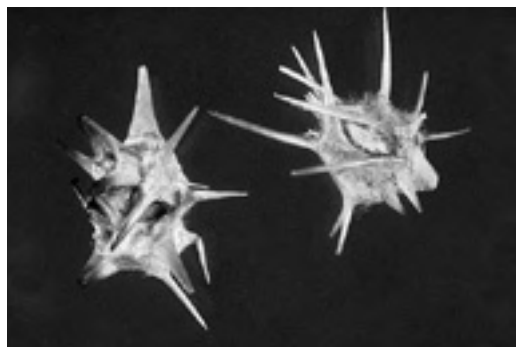
Further information about the impacts and appropriate control/management regimes for spiny burrgrass is available from

<http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles/spiny-burrgrass>

Right: Spiny burrgrass seed head. Photo: NSW DPI



Right: Spiny burrgrass seeds. Photo: L. Turton, NSW DPI



Right: Spiny burrgrass plant. Photo: NSW DPI



Reconstruction and repair works under way at Tibooburra Aerodrome

Tibooburra Aerodrome is a Crown Reserve managed by the Tibooburra Aviation Reserve Trust. It provides essential aviation infrastructure to the remote communities of people living and working in the far North West corner of the State. It is regularly used by the Royal Flying Doctor Service and other emergency aircraft, and more recently it was also a base for the Plague Locust Commission to conduct its spraying operations.

The Aerodrome is currently managed by the Lands Administration Ministerial Corporation on behalf of the Reserve Trust, but day-to-day management is performed by Aerodrome Reporting Officer Steve McDermott, who is based in Tibooburra.

Over the next few weeks, substantial reconstruction and repair works, particularly on unsealed runway 15/33, will start. This runway was closed to all aviation traffic in December 2009 because of substantial damage from the September 2009 dust storms and the subsequent heavy rainfall and flooding that were common throughout 2010.

Since the closure of runway 15/33, sealed runway 02/20 has remained open, providing a necessary service to the remote communities of Tibooburra and the surrounding areas. However, because of the strong crosswinds often experienced at Tibooburra it is preferable to have both runways available at all times. As a result, the Trust has actively sought funding for the reconstruction works.

Tibooburra Aviation Reserve Trust has now received a grant from NSW Treasury to undertake the reconstruction works. These will include grading, levelling, gravel re-sheeting and drainage installation along the full-length runway 15/33 to restore it to the Civil Aviation Safety Authority's operational standards. Works began in mid May with a local contractor. They should be completed by 30 June 2011, weather permitting.

For any inquiries regarding the Tibooburra Aerodrome, please contact Aerodrome Manager Sharon Hawke on 02 6883 5405 or Aerodrome Reporting Officer Steve McDermott on 08 8091 3310.

By Sharon Hawke
Assistant Western Lands
Commissioner
Land and Property Management
Authority – Dubbo

Water plants and rangelands weeds workshops

During May 2011 the Lower Murray Darling CMA held a water plants workshop and a rangelands weeds workshop. The water plants workshop was facilitated by the Murray Darling Freshwater Research Centre. Participants brought samples of water plants for identification and were given the opportunity to view plant structures under a microscope. Topics covered in the workshop included classification of weeds, how water weeds are spread, possible control measures for water weeds, identification of water plants, native and exotic water plants present in the catchment, and the impacts of water weeds.

The rangelands weeds workshop was facilitated by NSW DPI at the Dareton facilities.

DPI veterinarians and technical weeds specialists were contacted by teleconference so that participants could ask specific questions relating to stock poisoning and weed control. The teleconferences ensured that participants could get answers to specific questions from experts in the field. Topics covered in the workshop included chemical weed control, grazing to control weeds, weed poisoning of stock, Weeds of National Significance (WoNS) in the catchment, and how to sample and send weeds for identification. A large variety of weeds from the catchment were available for viewing and identification by participants, and participants also brought samples along for identification.

By Lower Murray Darling
CMA



Far left: Water plants workshop.
Left: Rangelands weeds workshop. *Photos: Lower Murray Darling CMA*

Western Lands Advisory Council

By Elizabeth Burke
Property Management Project
Officer
Land and Property Management
Authority – Dubbo

The Western Lands Advisory Council is a broad-based statutory advisory body. Its principal functions are to advise the Minister administering the *Western Lands Act 1901* on matters affecting the objectives of the Act and on matters affecting the administration of the Western Division generally. Following the results of the recent State election, the Minister administering the *Western Lands Act 1901* is now the Hon. Katrina Hodgkinson MP, Minister for Primary Industries.

The Advisory Council comprises 15 members representing people and groups that have an interest in the Western Division.

The current members of the Advisory Council are:

- Independent Chair: Mrs Jenny McLellan
- Aboriginal People: Dr Beryl Carmichael
- Catchment Management Authorities: Mr Rory Treweeke
- Environment Protection Groups: Mr Adrian Davey
- Independent Lessee: Mr Peter Ponder
- Local Government: Mr Andrew Lewis
- Local Government: Mr Clive Linnett
- Minister for Environment: Mr Mark Peacock
- Minister for Primary Industries: Mr Greg Markwick
- Minister for Resources and Energy: Mr Cameron Ricketts
- NSW Aboriginal Land Council: Mr William Murray
- NSW Farmers' Association: Mr Jim Maynard
- NSW Farmers' Association: Mr Ray Scott
- Pastoralists' Association of West Darling: Mr Ken Turner
- Western Lands Commissioner: Mr Andrew Bell.

The Western Lands Advisory Council generally meets three times each year. Its role includes addressing matters of relevant concern to the Western Division that may have been raised by members of the Advisory Council; making appropriate representations to government in order to address these concerns; and/or asking for help to address relevant issues where appropriate. The Advisory Council also considers practice guidelines for use by staff who report to the Western Lands Commissioner. These practice guidelines provide a consistent approach when dealing with matters that relate to the provisions of the *Western Lands Act 1901*. Recent major issues considered and addressed by the Advisory Council include endorsement of the overgrazing and fencing practice guidelines prepared by the (former) Land and Property Management Authority; continued support for the Legal Road Network Project; and lobbying of government for financial support during the devastating drought and other natural weather events that have affected Western Division landholders since 2002.

The Western Lands Advisory Council provides the people of the Western Division with an effective voice that communicates directly with the Minister. Any concerns on any issues relating to the administration of the Western Division or the Western Lands Act should be forwarded to the most appropriate representative on the Advisory Council.

Written correspondence may be forwarded to any member of the Western Lands Advisory Council, c/- The Executive Officer, PO Box 1840 DUBBO NSW 2830, or e-mailed to elizabeth.burke@lpma.nsw.gov.au

Western Division Newsletter

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The information contained in this publication is based on knowledge and understanding at the time of writing (July 2011). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Trade and Investment, Regional Infrastructure and Services or the user's independent adviser.

Native fish release and threatened species

More than 85 000 native fingerlings of Murray cod and golden perch were released into the Darling and Murray River waterways during April and May. As part of the Lower Murray Darling CMA's Catchment Action Plan, the fingerlings were released at three locations across the region to boost fish populations after the recent black water event.

The release was made to consolidate the CMA's investment in the future resilience of native fish species, with the river being at the optimum level.

The black water events have affected the numbers of fish, crayfish and other aquatic animals. The current release has boosted fish populations and given the fingerlings as much chance of survival as possible.

At Karoola Station, 60 km north of Pooncarie, it was a family affair, with three generations of the Smith family providing 18 km of Darling River frontage into which the new fingerlings will grow. The experience was certainly new for the three Smith children!

The CMA has been releasing fingerlings annually over the past 6 years, with a total of more than 480 000 released.

The Lower Murray Darling CMA had its second fish-stocking event for 2011 on Friday 6 May. Approximately 9000 southern pigmy perch (*Nannoperca australis*) and 750 olive perchlets (*Ambassis agassizii*) were released at Thegoa Lagoon and Washpen Creek. Both of these species are listed as threatened under the *Fisheries Management Act 1994*, although they were once widely distributed through the Murray Darling Basin in small systems with low flow rates and vegetated areas.

The fish-stocking event went really well with the Grade 6 Wentworth Primary School students who attended the Thegoa release. The students were eager to participate and looked great in their Lower Murray Darling CMA fish-release tee shirts.

This release adds to the release of 70 000 Murray cod and 15 000 golden perch at Wentworth, Euston and Karoola Station (60 km north of Pooncarie) on 1 April 2011.

There have been only two confirmed collections of olive perchlet in the Lower Murray Darling CMA area and surrounds. The first was in 1856 at Wentworth (before the town was founded), and the second was from irrigation channels at Mildura in 1929. In all probability, this species

persisted in the Lower Murray Darling CMA area up until the late 1960s (just before the carp invaded), but there are no records of other formal sampling collections.

The only confirmed collection of southern pigmy perch from the Lower Murray Darling CMA area was also in 1856, at Wentworth. However, this species was collected in South Australia around Renmark up to the 1970s and 1980s. Colonel JO Langtry sampled widely throughout the Murray and lower Darling in 1949 and 1950 and stated that, at that time, southern pigmy perch were abundant and widespread. They most likely declined in the 1960s and 1970s (as in South Australia) as the carp invaded.

By Lower Murray Darling CMA



Left: Olive perchlet (*Ambassis agassizii*).
Photo: Gunther Schmida



Left: Southern pigmy perch (*Nannoperca australis*).
Photo: Gunther Schmida



Left: Kelly Fyfe, Mark King and Dean Gilligan.
Photo: Lower Murray Darling CMA



Left: Wentworth Year 6 students. Photo: Lower Murray Darling CMA

Upper Murray study tour overview

By Lower Murray Darling CMA

The final study tour in the Lower Murray Darling CMA series was held from 9 to 11 May 2011, with 20 participants boarding the aircraft at Mildura Airport to Albury, the centre of the Upper Murray in the Murray CMA's area.

The program was developed with the help of the Murray Darling Association in Albury, with much appreciated cooperation from the Murray CMA, North East CMA (Victoria), Albury City Council, Goulburn Murray Water, NSW Fisheries, Mitta Valley Landcare Group and NSW State Water.

The first two study tours of the series were to the Upper Darling (starting at St George in Queensland) and then the Lower Lakes in South Australia. It was an opportunity to compare the main Murray Darling Basin rivers and their communities over the past 3 years, from the top of the system to the mouth. With the climate change over the past few years, from drought to flooding rains, the resilience of the various landscapes and the communities was dramatic.

Dartmouth, Hume and Yarrawonga dams were the focus of this tour, with participants being shown, and discussing, the valuable contributions that these dams have made to the development of good water storage.

Hume Dam is operated by both Victorian and NSW authorities. Its construction was started in 1919 and was completed in 1936. Goulburn Murray Water manages the land and water located in Victoria, and State Water is responsible for the daily operation, maintenance and management of major counteractive work. State Water will perform works over the next 5 years to improve the structure's capacity to withstand extreme flood and earthquake events and bring it into line with contemporary best practice. Installation of an improved filter and drainage system junction

between the concrete spillway and southern embankment; construction of a concrete buttress on the southern training wall; and installation of possible spillway modifications should improve the capacity of the dam to manage extreme floods.

Dartmouth Dam was constructed to store water for irrigation and for domestic and stock use in NSW, Victoria and South Australia. The imposing earth and rockfill wall rises 180 m up from the Mitta Mitta Valley floor. The dam's flows also generate 150 MW of hydroelectricity. Around Dartmouth it's all about trout fishing, with numerous tournaments being held each year and attracting tourism to the town.

Yarrawonga Weir was completed in 1939 after only 4 years of construction. The water impounded by the Yarrawonga Weir forms Lake Mulwala, which is a great tourist destination for water sports and fishing. Hydroelectricity generation was commissioned in 1994. The secondary use of Yarrawonga Weir is flood mitigation, and a unique feature is the fish lift located adjacent to the power station. This fish lift provided the first opportunity in 60 years for fish to travel upstream of the weir. It has been a great success!

A great experience was the tour of the Wonga Wetlands and Aboriginal Keeping Place at Albury. John Hawkins, our guide, gave an extensive overview of the Wonga Wetlands as a sanctuary for birdwatchers, field naturalists, photographers and bushwalking groups, as well as an educational experience for school students. 'Wonga' means cormorant in the Wiradjuri language.

The ecosystem of lagoons and billabongs is home to a variety of wildlife and ancient river red gums. It incorporates seven lagoons covering around 80 ha on the Murray River floodplain. Since the construction of the Hume Dam, the Murray River has been regulated for irrigation purposes and does not flood as nature intended. The alteration to this natural flow has caused many of the floodplain wetlands and billabongs to dry out. The Wonga Wetlands development has allowed the hydrological regime to revert to its past state, and birds and other wildlife are now returning to the area. The wetlands are predominately artificial, although some parts are naturally occurring. The lagoons are being gently restored from many years of farming and grazing with the help of reclaimed water from Albury City's wastewater treatment facility.

All participants found the tour very beneficial for clarifying and demystifying some aspects of the river that had been unclear.



Above: The study group. Photo: Lower Murray Darling CMA

Youth forum projects

The Lower Murray Darling CMA continues its support for youth having a say about the region in which they live. Our young people's commitment to the environment and the maintenance of a resilient catchment is important to them, as proven by their interaction at the Lower Murray Darling CMA's Youth Forums, which are held each year for catchment students.

As a result of this growing involvement of youth, over the past 2 years the Lower Murray Darling CMA has provided funding to the value of more than \$30 000 to student projects that provide an avenue for learning, interaction and responsible citizenship in local communities.

In 2010–2011, the Lower Murray Darling CMA provided funding to:

- **School of the Air (Broken Hill):** construction and ongoing maintenance of a native 'Sights and Senses' garden; this

involved the installation of a rainwater tank and purchase of native plants and equipment.

- **Menindee Central School:** establishment of a 'Fish Rangers' group with tripartite aims of Education, Eradication and Enhancement. Fishing has played an important role in the Menindee community, and students are ideally placed to play an integral role in the management of riverine health into the future.
- **Menindee Central School:** design and construction of a Mandala Garden (incorporating vegetables and native bush foods) by Year 8 Agriculture students.
- **Alma Public School (Broken Hill):** support for associated activities, with the development of a Stephanie Alexander kitchen garden application, a native bush tucker garden and composting facilities.

By Lower Murray Darling CMA

Vitamin B12 supplements: needed or not?

Vitamin and mineral supplements are normally beneficial only when a deficiency exists or as preventatives when a problem is expected. Unfortunately, producers are seldom sure of the need or, importantly, the cost benefits associated with the timing and value of many vitamin supplements.

Common injectable vitamins available are Vitamins A, D, E and B12. Although there may have been some benefits associated with using these during the drought and/or when stock are fed high-grain rations, given current seasonal conditions are they necessary and/or cost effective?

Ewe's milk, green feed and most hays are reasonable sources of vitamins A, D and E. Intake levels and stored liver reserves of these vitamins generally meet sheep or lamb requirements, with trials proving that it may take several years for deficiencies to occur.

Most benefits of Vitamin B12 are associated with cell growth, energy and wool production. Vitamin B12 is produced by rumen microbes from dietary cobalt. Deficiencies may occur when cobalt intake is inadequate (more common on coastal, calcium-rich or sandy soils); during periods of lush grass-based pasture growth; and/or in young lambs that do not yet have fully functional rumens capable of producing B12. Vitamin B12 absorption is enhanced by slow gut flow but inhibited if the rumen or small intestine is damaged (e.g. by worms). Deficiency signs may include loss of appetite, poor growth rates/weight loss, anaemia, scaly ears and watery discharge from the eyes. Colostrum and early lactation milk provide reasonable B12 levels to the suckling lamb.

Subcutaneous injections of Vitamins A, D, E and B12 at best offer only short-term prevention or treatment of possible deficiencies. Intramuscular injections and oral drenches are generally more effective but may need to be administered on a weekly or fortnightly basis for best results. Cobalt bullets, pasture dressings with fertiliser or foliar spray, and/or salt licks and mineral blocks are the supplements of choice in cobalt-deficient areas. An effective drench program to minimise damage to the intestinal walls and subsequent reduction in B12 availability is, in addition, critically important.

So what does this all mean?

Newborn lambs have some stored B12 within their tissues and obtain most of their early life requirements via their dams' milk. Vaccines or drenches may provide only short-term benefits, and greater gain may be made by providing mineral mixes and dry feed (slowing gut flow and improving B12 absorption within the rumen) and ensuring that an effective worm control program is in place.

Producers shouldn't feel pressured into spending money on vitamin supplements just because someone has suggested that there could possibly be a deficiency. Seek professional, unbiased advice if you are unsure of the need and/or whether the perceived or potential production benefits justify the costs involved.

By Geoff Duddy
Livestock Officer (Sheep and Wool)
Department of Primary Industries – Yanco
Phone: (02) 6951 2688

Below: Vitamin supplements are often not required by lactating ewes and young lambs. Landholders are advised to seek unbiased advice before spending money on such supplements.
Photo: Sally Ware



Recent Western Division/Riverina graduates and scholarship awards from Tocal College

By Bill Kinsey
Deputy Principal
Tocal College, Paterson
www.tocal.nsw.edu.au

Below left: Ross Gardiner, Field Officer with the NSW National Parks and Wildlife Service at Hillston, being awarded his Advanced Diploma of Conservation and Land Management by Charles Armstrong, President, NSW Farmers' Association. Ross gained this qualification by working through the skills recognition program, which provides credit for previous life and work experiences and training programs undertaken. This course is part of the Tocal Adult Education program. Employees such as Ross can enrol in this program at any time during the year. They can work through their chosen courses at their own pace and, along the way, receive credit for their skills.



Above right: Dr Regina Fogarty, Principal Director Industry, Development, Agriculture and Forestry, NSW DPI, presenting the Western Division/Riverina scholarships to students Jemma Cotter from Coolamon, Lachie Lloyd Jones from Bethungra, Hayley Lane from Nyngan and



Emily Tilden from Wodonga (originally from Nyngan) at Graduation Day at Tocal College. Each scholarship is worth \$2000, and this amount nearly covers the cost of the tuition for the various courses on offer. Students under 18 also qualify for a refund of train and bus fares from the Department of Transport, and this support also allow students to travel to Tocal to attend courses. Students from the Western Division who are interested in attending a course at Tocal and applying for a scholarship need to send in their scholarship applications before the end of November for payment of tuition over the following year.

Erosion-control grader workshops a success

By Katrina Gepp
Catchment Officer
Western CMA

More than 80 Western Division landholders took the opportunity in May to attend workshops aimed at treating and preventing soil erosion on roads, along fencelines and in fire breaks.

The workshops were presented by renowned erosion expert Darryl Hill from Soil Save in the Northern Territory. A former stockman and Landcare officer, Darryl has studied the prevention of soil erosion from a variety of viewpoints, and his workshops include practical guidelines and demonstrations.

'While effective erosion control measures may seem time-consuming in the short-term, they will alleviate many costly repairs in the future,' says Darryl.

'Benefits include reduced travel times around a property, lower vehicle maintenance costs, reduced

risk of stock escaping, less silt build-up in property waters, and reductions in maintenance time for fire breaks and access tracks.'

Facilitated by the Western CMA, six workshops were held over a 7-day period, including a presentation at Cawkers Well Station, where 15 people representing nine properties took onboard Darryl's advice.

Cawkers Well Station owner Charles Townsing said he was very pleased with the workshop and after months of rainfall was looking to implement erosion control measures on his property.

'We've had a very wet season, which has especially affected the quality of our access roads. I was very impressed with what Mr Hill demonstrated at the workshop,' he said.

Below left: Erosion expert Darryl Hill from Soil Save at Packsaddle Station during a workshop. Below right: Jim O'Connor from Milpa Station using equipment during a workshop. *Photos: Western CMA*



'The use of surveying equipment and a grader was very beneficial and allowed us to see first-hand the erosion control concepts.'

Western CMA Catchment Officer Katrina Gepp, who attended the first workshop at Packsaddle Roadhouse, said that by implementing the techniques taught by Darryl Hill landholders could save time and money.

Don't cry for me: I'm in Argentina 2011, not Ivanhoe!

How I came to go to Argentina

After reading in the autumn 2010 Western Division Newsletter that the Western CMA was sponsoring two landholders within the catchment area to attend the International Rangeland Congress to be held in Rosario, Argentina, during April 2011, I decided to apply for one of those two positions. In September I was notified that, along with Kevin Mitchell from 'Florida', Canbelego, I had been selected to attend the Congress.

Next began months of meticulous preparation. I borrowed from my sister-in-law a set of discs explaining basic Spanish phrases and words, and I also borrowed a similar set from the local library. I managed to have all my vaccinations with a month to spare, although I had my last dose of cholera vaccine less than 24 hours before leaving Australia.

Buenos Aires

Leaving Australia on the NSW election day (26 March) at lunchtime, we arrived in Buenos Aires after a 12-hour flight: because of the time difference, we arrived at about the same time we had left Australia.

Once in the city centre (about 35 km from the airport), and after booking into our hotel, we ventured out for a walk around the city for a few hours. The next day we had a more leisurely look at the city, including a guided bus tour. In Buenos Aires, as in most of Argentina, the traffic is fairly wild: there can be four lanes of traffic where three lanes are marked, pedestrian crossings only serve to indicate a good place to cross when no traffic is coming, and at intersections with no lights the traffic that is flowing has right of way and cars on intersecting streets have to wait until there is a break in the traffic—they have right of way once they start going. Also, in Buenos Aires, which has a population of nearly 15 million people, there are lots of slums but nearly everyone has a satellite dish, which they use mainly to watch soccer. Most police are in pairs or groups of four and are equipped similarly to police in Australia, although I saw some police who each had a doberman and an automatic (or semi-automatic) rifle.

Pre-Congress tours

Monday began with an early start to get to the domestic airport to meet the rest of our pre-Congress tour members and to catch a morning

flight to Cordoba. Pre-Congress tours were organised by the Congress organising committee, and we were on the tour of 'Arid and Semi-Arid Rangelands'. My travelling companions since leaving Australia and on this tour included Kevin Mitchell, Russell Grant (Western CMA, Cobar), and Ray Thompson (Central West CMA) and his wife Julie.

From Cordoba we travelled north-west by bus and spent the next 2 days looking at work performed by INTA (Instituto Nacional de Tecnología Agropecuaria), which is the Argentinean version of a cross between the Australian CSIRO and the NSW DPI. We visited INTA's experimental stations (i.e. research stations), where they were researching the improvement of beef cattle production and also the control or reduction of scrub invasion.

On Wednesday we travelled even farther north-west to Talampaya National Park, which borders another national park in Chile. From within the park snow could still be seen on the Andes, which are the mountain range where the two countries join. Travelling along a dry watercourse (Canon de Talampaya) surrounded by sheer sandstone cliffs, we could have been in Central Australia, Arizona, or any other similar desert in the world, except for the condors soaring above and the rheas and llamas grazing along the canyon floor. Some of the rock art that we viewed was reminiscent of Australian rock art. We stopped at Chimenea del Eco, where a natural chimney produces weird echo effects across the canyon, and we later stopped at a rock formation called El Monje (the monk). There was also a natural rock formation that resembled a condor.

On Friday we travelled south-east to Rosario, where the Congress was to be held, arriving at about midnight. Along the way we looked at some pastures and stopped for lunch at a cattle estancia (farm).

The main things that we noticed on this tour were that the farther north we went the poorer both the people and the land were. We saw horse-drawn ploughs, and when people heard a tourist bus they would come out of their houses with homemade bread and cheese to sell if the bus stopped. In many areas, especially the more mountainous areas, there were kilometre after kilometre of stone fences (many over 100 years old), still in use to contain domestic stock.

At research stations and also at the estancias that we visited there has obviously been improvement in cattle breeding, but they were still a long way behind the main cattle breeding/growing Pampas region and even further behind Australia. Their

By Graham Vagg
'Wingding'

Ivanhoe

Phone: 02 6995 1196

Continued on page 20

Continued from page 19

problems with scrub invasion probably mirror ours. In many parts the scrub was so thick it was impossible to enter with a motor bike, having been overrun with bush similar to mesquite and in some places cactus. With predominately summer rainfall, averaging 300 to 400 mm a year, the INTA researchers had been experimenting with rolling scrub and sowing buffel grass. Some paddocks that we looked at showed some success, with the buffel well established and scrub obviously reduced. The landholders and researchers said that without further treatment the land would revert to pre-treatment status within 10 years. However, they all intended to leave the treated land and move to treat new paddocks, so you can assume that, even with the best-case scenario, these landholders would be back where they started in 10 years' time. The idea of using fire to help develop land is still anathema.

International Rangeland Congress, Rosario

The Congress started in Rosario on Monday morning and finished late on Friday afternoon. With presenters speaking concurrently in three lecture halls we were able to select talks that we felt would be of interest to us. As at any functions of this nature, some speakers embarked upon discussions of esoteric subjects with limited practical application. Lunch and coffee breaks gave ample opportunity to meet speakers and other attendees, providing invaluable contacts. Is this what is called networking? I was struck by the overwhelmingly positive nature of everyone at the Congress.

Mid congress (Wednesday) there were more tours. I travelled on a tour south-south-west of Rosario to a cattle estancia. There the owner was running 3000 cattle on 3000 acres (or perhaps it was 3000 ha, although the interpreter said acres). He has a rotation program where each year he crops approximately half and grazes the other half. He aerial sows some pasture each year. I'm not sure whether it was sown, but there was quite an amount of ryegrass growing in his paddocks. As in Australia, it's probably easier to be productive when you have an average rainfall of 900 or 1000 mm and decent soil. The highlight of the tour was probably when the landholder was asked how many days and what percentage of pasture retention he based his animal rotation on. He replied, 'My eyes and cattle tell me when to move stock.' This approach was perhaps challenging to the theoretical types, who might have been more comfortable consulting a computer or a book for such decisions.

The next stop on this mini-tour was an agricultural school (Centro Agrotécnico Regional) in Venado Tuerto in Santa Fe Province. In Argentina, a province is equivalent to an Australian State. This

coeducational school has students from their first year at school (age 5 to 6 years) to their final year (age 17 or 18). The students learn conventional schooling from 7.30 am to 12.30 pm, and after lunch they concentrate on agricultural pursuits. The school, which is set on 143 ha, has a commercial dairy that milks about 60 cows at any time. Some milk is sold, with the balance consumed by students and some made into cheeses in their own factory. The school also has its own bakery, pigs and chooks, and an abattoir. Secondary students learn to slaughter and butcher animals, which are consumed by the students. Each week, three (and up to five) bought steers are slaughtered, along with about 125 chooks and some pigs, all of which are consumed by the 700 students and the staff.

Secondary students also have a roster whereby they stay at school for a week for the 4.00 am milking. The school also has cropping programs and basic mechanics. After a brief tour of the school and its facilities, we were seated above a courtyard to watch some of the students perform traditional Argentinean dances and songs for us. While we watched the performances, the students who were working in the bakery supplied us with various breads, cakes and pastries that they had baked. The students (especially the younger ones) have quite long days, as some of them have 2-hour bus journeys at each end of the day. Fees are about 1000 pesos a month; with the minimum wage being only 3000 pesos a month, the school is obviously not for the poor.

Following the end of the Congress I was on my own to complete my own tourist tour of Argentina. I went back to Buenos Aires and had more of a look around, including going to a floating casino. Surprisingly, as in casinos anywhere I have been, the house always wins!

Sightseeing

From Buenos Aires I flew to Iguaza Falls on the north-easternmost point of Argentina. From the falls you can see both Brazil and Paraguay. The falls were spectacular, as you would expect from waterfalls larger than either Niagara or Victoria falls. I did the whole tourist thing, including a 4WD trip through the jungle and then a jetboat trip up the river, culminating in my getting drenched by the falls. Disembarking from the boat, I walked back up through the jungle to the top of the falls and then walked across walkways to view the aptly named Devil's Throat at the top of falls.

While I was in Argentina, an Australian friend of mine who classes sheep in Uruguay, Argentina, the Falkland Islands and Paraguay was getting married in Uruguay. Although I was unable to get to the wedding, I was able to catch up with him when I went to the southern end of Argentina. Coincidentally, I shared my flight back to Australia

with his brother and sister in law, who had been over to Chile for a holiday for a couple of weeks.

From Buenos Aires I flew down to Rio Gallegos, which is the southernmost Argentinean city. It has a population of about 100 000. From there to the bottom tip of Argentina, and also into the ocean, is almost non-stop oil and gas pumping and drilling. Rio Gallegos is based around this industry, as well as coal and sheep. There are four abattoirs, which between them kill approximately 600 000 sheep and lambs annually. They operate only from December to May, as after that the snow makes deliveries impossible and probably the animals are too poor to kill. Nearly all of this meat goes to the European Union. Most sheep are run in Patagonia, the southernmost province, with about 80% being Corriedales and the balance being mainly Merinos, with some other breeds such as Southdowns. On our tour of the north-west, we also saw some sheep that were even less aesthetically pleasing than the South African breeds (e.g. Dorparas and Damorpers) we have been seeing in western NSW in recent years.

Around Rio Gallegos, I visited two different sheep estancias. Both have adopted holistic management and are running multi-purpose Merinos (MPMs) classed by my Australian friend. It was interesting to observe holistic management in the Argentinean environment and to mentally compare it to my knowledge of holistic management in western NSW. MPM breeders in this area (i.e. western NSW) include Peter McKidd at Nyngan and the McFarland family at Oxley, near Hay. Not having seen the estancias before holistic management was adopted, it wasn't possible for me to observe whether holistic management has been beneficial to these properties, but both properties obviously had much more pasture cover than their neighbours. Between visits to the two estancias, I also attended an MPM ram show in Rio Gallegos; I found the show very interesting.

Monte Dinero

After the ram show I went to 'Monte Dinero'. It is the southernmost property in Argentina: its southern and eastern boundaries are the Atlantic Ocean, the western boundary is Chile and its northern boundary is an estancia called 'Condor', which is owned by the giant Italian company Benetton. From the house where I was staying, I walked into Chile and up to the top of a hill where I could look across the Straits of Magellan. On the hill there is a monument commemorating Magellan's landing in 1542. Being able to walk only about 600 m to the top of a hill in another country is not something we can do in Australia. The border between the countries is simply a sheep fence.



'Monte Dinero' was pretty eye-opening in terms of sheep, penguins, family, logistics and energy supply. The 17 000 sheep on 'Monte Dinero' are run on 25 000 ha and are blade-shorn in September. Blade-shearing is essential, as even with the use of a cover comb some nasty weather (i.e. rain plus a bitterly cold south-westerly off the Atlantic) can result in rather large off-shears losses, even in the adult sheep.

Down on the southern tip of the property there is a penguin colony of about 350 000 birds. During my visit, nearly all of the penguins had hatched out and migrated.

Three families of owners live on 'Monte Dinero': David and Peggy Fenton; their son and daughter-in-law and their children; and David and Peggy's daughter and son-in-law and their children.

There are a number of farm employees, including one who helps with the farm stays during the 6 or so warmest months of year. There is also a bunkhouse, which houses up to 18 people and is usually full of workers from oil and gas companies. There are also people who cook meals for those staying in the bunkhouse.

One of the gas companies pumping from the property has supplied it with free gas for 25 years. This is very handy, considering how much heating is needed for most of the year. They have a six-cylinder air-cooled Deutz diesel motor

Multi-purpose Merino (MPM) ram show in Rio Gallegos. Top: Graham at the show. Bottom: MPM rams at the show. *Photos: supplied by Graham Vagg*

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Leaving Buenos Aires: Graham Vagg under the Departures sign at the airport. *Photo: supplied by Graham Vagg*

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driving a 50-kVA generator 24 hours a day, 7 days a week. This motor and an identical spare in the same shed have both been converted to run on gas. I don't know the cost of maintenance, but with 35 000 hours on the Deutz's clock the free gas is certainly useful.

David has recently installed some wind turbines to provide electricity. They are pretty small, but one of them is adequate for his house (which has gas heating). The turbines provide 48 volts to charge eight deep-cycle 6-volt batteries. Then an inverter converts 48 volts to 220 volts. The turbines are designed to withstand 140 km/h winds, although the winds on the property can exceed that.

The buildings, woolshed and yards are sited in a valley that provides some protection from extreme winds. Wool presses, similarly to those in Australia, are predominately Lyco/Stevlyon, but the woolpacks are clear plastic bags. This design is to stop, amongst other things, people putting such items as bricks in with the wool. There are three grooves—on the side of the press, opposite the door and on the door—through which purpose-made wire with the start of a figure-eight knot at each end is threaded. When the bale is pressed the ends of the knots are joined and the bale is held together with three wires. The maximum weight per bale depends on how much wool you can press in the bale.

Whether shearing is by blade or mechanical means (as most of it is), the shearers get the equivalent of about \$AU0.42 per sheep. The full contract shearing rate is about \$AU1.10 per sheep. In addition, diesel fuel costs about \$AU 0.70 to \$0.80 a litre in the south. Both diesel and petrol are bit dearer farther north but still much cheaper than in Australia.

Sheep and beef cattle production

Sheep numbers will probably never greatly increase. This is because when prices are

good, as they are at the moment, the number of people who wish to sell out is pretty much equal to the number who wish to enter the industry or wish to expand. The quality of sheep of all breeds will probably improve, but the inhospitable environs means that the sheep industry will never be massive. In 'softer' country other pursuits are currently more profitable.

Having been told from an earlier age that if Argentina were free from foot and mouth disease restrictions they could wipe out Australia's beef export industry overnight, it was enlightening to see (albeit on a small scale) a snapshot of the Argentinean beef industry. In an attempt to control inflation, feed the poor and keep itself elected, the Argentinean Government has limited the maximum price at which beef can be sold in the shops. As with many attempts by governments to control free markets in the long term, this is doomed to fail. In this case it seems set to fail somewhat spectacularly. With returns on cattle limited by an artificially low beef price, a severe drought in 2006–2007 resulted in high slaughter rates—plus many cattle simply died. From this time, the beef cattle population fell by about 20% to about 50 to 40 million cattle. With average annual weaning rates of around 63%, if nothing changed it would take until 2016 for Argentina to have the same beef cattle numbers as it had in 2006. With cattle numbers reduced, and an average carcass weight of 211 kg, Argentina already imports beef, mainly from Uruguay, which has an average carcass weight of about 235 kg. Australia's average carcass weight is about 239 kg. Also, because in the highly productive Pampas region there are higher returns to be made from crops such as chick peas and peanuts, almost 1 000 000 ha annually of traditionally cattle country is being lost to crops. Even without any adverse weather, by 2016 Argentina will probably have fewer cattle than they had 10 years earlier, whereas their human population will have massively increased.

And ...

All in all it was a fantastic opportunity for me to be able to travel to Argentina, so I would like to take this opportunity to publicly thank the Western CMA for making it possible. A big thank you must go to Robyn Goonery of the Western CMA Cobar office, who had the onerous job of making all the logistical arrangements for the Western CMA representatives.

If, in a few years' time, an opportunity were to come up for someone to represent the Western CMA at the next International Rangeland Congress, I would heartily recommend that they avail themselves of that opportunity.

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