

Tarcutta Valley Landcare



Chairman's message

By Bob Schofield, Chair of Tarcutta Valley Landcare Group

It has been a tough spring and summer, with below-average spring rainfall, above-average temperatures, and highlighted by numerous lightning strike or man created fires across the region and country, many with devastating environmental effects.

The move toward the establishment of Local Land Services has also created great concern and uncertainties for NRM (Natural Resource Management) agencies' delivery in the future (see Ted Wolfe from Murrumbidgee Landcare's thoughts on this on page 6 of this newsletter).

Our Landcare current and future activities are ably coordinated by our partners, the Murrumbidgee Catchment Management Authority's Rob Kuiper, Murrumbidgee Landcare's Sam Shannon, and our own Group's Treasurer and Project Manager Peter McCallum. Many thanks to all member's for your input to activities.

Our monthly meetings (held the fourth Tuesday of each month, see back page for more detail) highlight funding opportunities not always publicised elsewhere at group or community level, and attendance could be enlightening.

Cross Property Planning - Funding available for landholders

By Jacinta Christie, Murrumbidgee Landcare Inc

Over the past three years, groups of farmers have been working together using a "cross property planning" model to work to protect and reconnect native vegetation across a fragmented landscape. This has huge benefits for native flora and fauna, protecting and improving crucial habitat and biodiversity. It also has benefits for production, including weed and pest control, attraction of beneficial insects and significant improvements in soil and water quality.

In a new five year project, funded by the Australian Government's Biodiversity Fund and the NSW Environmental Trust, Murrumbidgee Landcare has received funding to continue to support farmers in this work and also to encourage new landholders to become involved. Training and planning support, field days and funds for on-ground works and weed control are available for farmers who would like to participate in the cross property planning project.

Work with the current cross property group members around Humula has continued, with landholders working with Alison Elvin to develop an integrated weed management plan (see pages 4-5 for an article by Alison). Funds to implement their plans are now available for eligible landholders. Over the next five years, further funds will be available to assist with on-ground work for biodiverse plantings, managing threats to biodiversity, and protecting and enhancing existing native vegetation.

We are keen to add to the current cross property planning groups, and we are also keen to look at supporting new groups of landholders to work together on these projects. If you are interested in the management and enhancement of your native vegetation, would like to improve connectivity and biodiversity across the landscape, and would like some assistance through training opportunities and funding, please contact Jacinta Christie at Murrumbidgee Landcare on 0431 953 778, or jchristie@murrumbidgeelandcare.asn.au.

Project updates and future activities

By Bob Schofield, Chair of Tarcutta Valley Landcare Group

Cross property planning project

This project, being coordinated by Murrumbidgee Landcare, offers many opportunities for landholders. For more information about how to get involved, see the article on the front page of this newsletter.

Blackberry and black willow control project

This 'Caring For Our Country' project is nearing completion, with the last of the on-ground works about to take place, including planting of local provenance trees and shrubs. A field walk inspection and information day is being planned in the coming month for all interested in the project from its outset to its achievements. If you would like to attend this field day, please contact Bob Schofield (ph 69 289 561).

Coach Hole project

This project is also nearing completion, with a site inspection and installation of signage planned to be completed before June.

Flood mitigation and erosion control project

This project, supported by Qantas, has awarded the community the opportunity of two field days to date, with others to follow. Funds are also available to purchase recommended plant species for bank stabilisation. For more information, please contact Sam Shannon at Murrumbidgee Landcare: 0487 953 776, or sshannon@murrumbidgeelandcare.asn.au. Alison Elvin's article on pages 4-5 of this newsletter, also outlines some of the information presented at the first field day.

Autumn climate outlook for the Tarcutta Valley and region

By Robbie Lennard, Wagga Bureau of Meteorology office

Temperatures: Cooler days and nights are likely over autumn. There is around a 55% chance that the average autumn *maximum* temperature will be lower than the long-term median maximum temperature, while there is approximately a 60% chance that the average *minimum* temperature will be lower than the long-term median minimum temperature. For more information: www.bom.gov.au/climate/ahead/temp.seaus.shtml.

Rainfall: Rainfall during autumn is likely to be around average, with the chances of a wetter or drier season being approximately equal. For more information: www.bom.gov.au/climate/ahead/rain.seaus.shtml.

El Niño: Current El Niño-Southern Oscillation (ENSO) observations and model predictions indicate a neutral pattern, which is likely to persist through autumn. For more information: www.bom.gov.au/climate/enso.

This seasonal outlook is based on data available at the start of March 2013. For further info, and regularly updated predictions, check out the Bureau of Meteorology seasonal outlook web pages provided.

2013 Murrumbidgee Regional Landcare Awards - Nominations now open!

Murrumbidgee Landcare and the Murrumbidgee Catchment Management Authority (MCMA) are calling for nominations for the 2013 Murrumbidgee Regional Landcare Awards, recognising people who are making a positive difference to our environment. The Awards cover a range of categories, including Individual Landcarer, Innovation in Sustainable Farm Practices, Natural Resource Management and Indigenous Awards.

Nominations close on Friday 26th April, with winners announced at a ceremony to be held on World Environment Day, Wednesday 5th June. Nomination forms and additional information is available on the MCMA website: www.murrumbidgee.cma.nsw.gov.au.

The Awards are a great opportunity to recognise and celebrate the individuals and groups in our community who are working to care for our local environment. If you know of someone who you think demonstrates the 'Landcare ethic', we encourage you to nominate them!

Thanks to Bendigo Bank, Tumbarumba Community Bank Branch

Jeff Shepherd and John Walton are your local Agribusiness Managers at Bendigo Bank, Tumbarumba Community Bank Branch. Their contact details are:

Jeff Shepherd: (02) 69 335 006, or
0407 696 652

John Walton: (02) 69 335 075, or
0429 668 077.



“I was completely astounded by the volume of water”

David Tooke talks about flooding, sustainability and the help of the community at 'Jilliby'

There have been a lot of changes at 'Jilliby' in the 17 years since David Tooke and his family purchased this 480 ha property. During their time at Jilliby, the Tooke's have fenced out all of the creeks - around 20 km - and are in the process of fencing out the dams. Much of this work has been carried out with the assistance of the Murrumbidgee Catchment Management Authority (MCMA), through a series of projects on the property designed to stabilise the riparian vegetation.

Fencing out the creeks has proven to be very beneficial, particularly for the swampy land in the back country. This area was inundated during the two severe floods of 2010, but the water was slowly absorbed into the soil, rehydrating it. The flats did not fare so well in the floods, with the four creeks that all converge on the property unleashing a massive amount of water here.

Says David, “I was completely astounded by the volume of water that flowed across the farm in the two floods, and the subsequent damage. Fences that had been in place for over 20 years were removed, the amount and size of timber that came through was unbelievable; the damage that was caused will take years to replace and repair”.

The Tooke's run fine wool SRS® merino sheep and Charolais, Angus and Murray Grey crossbred cattle on their property, which consists of sandy loams rising to shale-based ridge country. In addition to the productive farming enterprises they undertake, they have also established an environmental stewardship arrangement to protect the Box Gum Grassy Woodland on their property. Researchers at the Australian National University have been undertaking a monitoring program of this area, and have found a wide range of woodland flora and fauna present, including some rare and endangered species.

The Tooke's have also been involved in the 'Communities in Landscapes' Cross Property Planning program, which

aimed to build connectivity within and between adjoining properties in the region. David has found their involvement in this program to be both useful and enjoyable, saying “This has been the best program that we have been associated with, because of the information days and the quality of the speakers, the scope of projects included and the total environmental impact that is being created in the participants and their families and subsequently their farms”.

During their time at Jilliby, the Tooke's have become active members of the community, hosting many field days and property inspections over the years. David credits his neighbours and the community with providing valuable guidance, local knowledge and new opportunities: “Having learnt my farming on the dairy farms of the south coast, I needed heaps of help to develop and establish the skills and knowledge to farm in this area. Neighbours, communities, and Landcare groups have been a godsend in very trying times and the projects that we have participated in over the years have allowed us to take positive steps. Liz and Hector McCallum, in particular, have been amazing and should be acknowledged for their tireless efforts for farming and the environment. The broader Tarcutta Landcare group have reinforced the message and provided the forum to have a wide range of topics discussed and information disseminated, and social interaction with like-minded people”.

The Tooke's are now focussing on removing the damaged fencing following the floods. They are also working towards their farm plan of establishing the paddocks and water points for a rotational grazing pattern. They are eagerly anticipating the new extension to the Cross Property Planning project, which has recently commenced. Says David, “this will provide for more people to be involved, and is a new opportunity for the community to be involved in an informative and productive process”.



See the article on the front page of this newsletter to find out how you can be involved in the new Cross Property Planning project.

Some of the damage along the creekline at 'Jilliby' following the 2010 floods (photo courtesy of Rob Kuiper, MCMA)

Simple strategies to slow down runoff into creeks and rivers

By Alison Elvin, Natural Capital

While no amount of preventative action can fully control the damaging impacts of very heavy rainfall, it is quite feasible to reduce the severity of these impacts by making simple changes to the management of your water courses and associated riparian zones. Changes that reduce both the velocity and the volume of runoff water pouring into your water courses will allow more water to spread out and soak into your paddocks and replenish the subsoil moisture stores. When the runoff water is slowed and filtered, so too are the processes of erosion, bank-slumping, and channel change. The concentration of pollutants carried into the water course is reduced, and you build more resilience into your farming system.

What are the simple on-ground and cost-effective actions can you do to achieve this?

First: Exclude livestock initially and revegetate your riparian zones

The riparian or buffer zone surrounds every body of water, running from the high-water mark outward into the drier soil, and naturally ends wherever the deepest-rooted plants have no access to the subsoil moisture provided by the water body. This zone buffers the water body from the erosive and damaging effects of fast flowing surface runoff water.

When the catchment and buffer zones consist only of grazed and/or cropped paddocks, and the stock have continual access to the adjacent water body, there is no density of filtering, ground-covering vegetation in the buffer zone to capture, slow and spread the runoff water. Stock tracks further bare-out and compact the banks, compounding the problem, and accelerating the water flow.

Excluding stock from all or most of any body of water is the simplest strategy a farmer can adopt to restoring this critical buffer zone. It can be surprising how quickly vegetation will re-establish itself once the stock have gone - in most cases within three years. Once re-vegetated, this

zone can then become an integral part of your farming system, a 'long paddock' to be grazed for short periods of time, when appropriate.

Past riparian protection practices often fenced-out the water course as close as possible to the high-water mark, ensuring the smallest area of productive pastures and crops were excluded, and then planted it out with riparian tree species. However, floodwaters often ripped out these fences, toppled many trees and slumped the banks.

It is now known that to be most effective, the riparian zone should be quite wide - at least 35 metres out from the high water mark, and 50 metres if possible. This may sound like a lot of productive land to 'give-up', but remember it is not lost to your productivity overall, only during it's establishment phase.

Planting riparian tree species without accompanying shrubs and grasses does little to slow down the runoff water - the single, inflexible tree trunks won't slow and filter the runoff water as efficiently as the great variety of native plants once growing in riparian zones - the grasses, reeds, sedges and rushes, and multi-stemmed shrubs such as tea-trees (*Leptospermum* species), paperbarks (*Melaleuca* species), wattles (*Acacia* species) and bottlebrushes (*Callistemon* species). All these plants are flexible in high flows and withstand most floods.

Some of the plants best-suited to slow down and filter the water are native grasses - for example:

In damper soil:

- *Poa labillardieri* (River tussock)
- *Carex* and *Gahnia* species (sedges)
- *Juncus* and *Lomandra* species (rushes).

On the drier soil:

- *Microlaena stipoides* (Weeping grass)
- *Themeda australis* (Kangaroo grass)
- *Austrodanthonia* species (Wallaby grasses)
- *Austrostipa* species (Corkscrew grasses).

Soil-binding grasses such as *Polygonum* species (Knotweeds), and *Cynodon dactylon* and *Paspalum distichum* (Couch grasses) are another valuable addition to the suite of riparian grass species.

Whilst the palatability ratings for each of these grasses varies, overall they offer nutritional feed value to livestock and are valuable for use in a rotational grazing system that will include this riparian 'long paddock'.

(article continued on following page)



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Second: Reinstate appropriate vegetation, and 'snags', in and around the water course itself, once stock have been excluded

The water course has distinct zones, corresponding to water depth and permanence, where specific plants will grow. These zones are:

- The bed zone of the watercourse - the central key to the functioning of the water body;
- The toe and batter zone - the low water mark to the high water mark, often called the bank, that maintains the security of the watercourse; and
- The buffer or riparian zone - from the top of the bank and moving out into drier soil.

Maintaining beds of fringing reeds, rushes and sedges along the toe of the bank will hold the soil, even in quite heavy flows, without being destroyed themselves, as well as multi-stemmed thickets of shrubs such as river tea-trees, bottlebrushes and paperbarks.

In deeply eroded systems, it is perhaps best not to plant trees along the toe of the bank initially, but rather to try and slow down the water flow here with reeds, rushes and sedges, and the appropriate placement of 'snags'. This will enable the system to gradually re-establish an interconnected flow of deep pools and shallow riffles, so critical for good quality water, reduced erosion and fish habitat.

In the past, to make rivers flow more quickly, vegetation and snags, such as fallen trees, were systematically removed from the bed and banks of our watercourses. Water certainly flowed faster!! Ironically, today we are now putting these impediments back into the water courses to slow water flow, improve water quality, reduce erosion, and provide critical habitat for native fish and other fauna.

Third: Revegetate the 'break of slope' to reduce runoff velocity

Hillsides cleared for grazing often have few impediments to runoff water except fences and scattered trees. After the floods, innumerable fences erected at 'break of slope' were destroyed from the weight of paddock litter carried downslope by the flowing water. However, if this fence had instead housed a dense shelterbelt of grasses, multi-

stemmed shrubs and some trees three to five rows wide, this would have put an excellent brake on the velocity of the uphill runoff, and provided much needed shelter for stock. Slowed flows here will help to rehydrate soils in these paddocks, and reduce water velocity downslope.

In summary

Overall, judicious stock management and exclusion from water courses, coupled with dense ground-covering vegetation in and around bodies of water, will greatly reduce the impacts of high water flows on your business, water quality, topsoil retention and biodiversity.

Excellent references

"Water plants in Australia: A field guide", by Sainty & Jacobs. 4th edition. Published by Sainty & Associates

"Planting wetlands and dams", by Nick Romanowski. Published by Landlinks Press, 2009

Rivers and water quality publications by Land & Water Australia (see: www.lwa.gov.au)

Contact details for Alison Elvin

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Alison Elvin, presenting at a recent workshop

Your chance to catch up with Alison!

Alison Elvin will be presenting at the upcoming "Frogs on Farms" workshop, being held at Book Book on Wednesday 20th March. The workshop will provide on-ground, cost-effective strategies for improving water quality and biodiversity in your dams, creeks and wetlands. By improving water quality, you can improve your stock health, increase your productivity, provide essential habitat for aquatic life, and contribute to a healthy landscape.

For more information and to RSVP for this free workshop, contact Sam Shannon at Murrumbidgee Landcare: sshannon@murrumbidgeelandcare.asn.au, or 0487 953 776.

Using native species to manage roadside weeds

By Jacinta Christie, Murrumbidgee Landcare Inc

In conjunction with the Cross Property Planning project (described on the front page of this newsletter), a series of trials are being planned in the Tarcutta/Humula and Kyeamba Valley areas, to look at roadside weed management using competition from native species. The trials aim to compare the competitive ability of grasses, Acacias, shrub legumes, and miscellaneous groundcovers/forbs against introduced roadside species.

The trials will look at the effect of varying plant densities, using sugar to provide a competitive advantage to natives over introduced species, using transplanted seedlings rather than seed, and using micorrhizal fungi to improve the establishment and growth of the native species.

If you know of any suitable roadside sites within the Tarcutta/Humula area, we would love to hear from you! Please contact Peter Orchard (NSW DPI): 0411 128 447, or Jacinta Christie (Murrumbidgee Landcare): 0431 953 778.

Local Land Services

A view from the Chair of Murrumbidgee Landcare Inc, Dr Ted Wolfe

As most Landcarers are aware, the Minister for Primary Industries (Hon. Katrina Hodgkinson) has set in train a process to amalgamate the functions previously performed by the advisory and regulatory staff of the NSW Department of Primary Industries (DPI), Catchment Management Authorities (CMA's) and Livestock Health and Pest Authorities (LHPA's). The amalgamation into Local Land Services (LLS) is in part being managed by a Reference Panel convened by Dr John Keniry, a Panel that has consulted widely with stakeholders on the LLS boundaries, various models of governance, and the types of services the LLS might provide.

Landcare NSW Chair Rob Dulhunty sits on the LLS Reference Panel, and has sought the views of a Landcare 'working group' on several LLS issues (I am a member of this group). The consultation process has helped inform the Panel on how community Landcare operates. Generally, this information flow has been a good thing, providing a positive start to the LLS-Landcare relationship. However, I am uncertain about how well the Reference Panel understands the extent to which the capacity of Landcare depends on volunteers and projects, the latter funded rather tenuously from a range of sources. The pool of volunteers available is finite, expandable only if additional volunteers or part-time employees can be found and resourced.

LLS will begin in the second half of 2013, with several former DPI and CMA positions gone forever, after a 'spill' of all positions and a competitive process of refilling only about 50% of the positions. Hence, there will be a net loss of experience and capacity in the new organisation. The LLS is expected to be fully operational for dealing with agricultural and NRM matters by 1st January 2014, with the LHPA's being brought into the new organisation during 2014.



Dr Ted Wolfe, Chair of MLI

Overall, there is a potential to achieve operational economies through one organisation rather than three. Staffing aside, the new LLS organisation may be in a better position structurally to:

- Harmonise agricultural and environmental goals - there are many sceptics, but Australians are appreciating the links between human activities and environmental phenomena;
- Invest in and utilise innovations such as satellite imagery for mapping and planning; and
- Form and promote stronger alliances, for example between public servants and public providers of services, the agricultural and environmental sciences, and between city folk and rural dwellers.

In theory, the LLS may produce operational benefits between the NSW and Australian Governments, particularly with respect to environmental programs involving landholders. The reality could be different however, depending as it does on State and Federal agendas involving politicians, bureaucrats and 'stakeholders' (us). One matter of current concern is the lack of any announcement on the successor to the current 'Caring for Our Country' program that funds the Regional Landcare Facilitator's. It is important that Landcarers are an active part of the social network on environmental matters, keeping a close eye on the political debates and subsequent policies. It is important also that a healthy proportion of NRM funds are channelled directly to Landcare networks, in addition to the funds going to the LLS for distribution. Landcare NSW will, we hope, continue to advocate on our behalf.

It is likely that Murrumbidgee Landcare will interact with the Southwest Riverina LLS (which includes the lower and central Murrumbidgee catchments as well as a fair slice of the Lachlan catchment) and the Southeast LLS (which includes the Yass-Goulburn-Palerang, Monaro, Snowy River and coastal shires).

Landcare members might consider nominating for positions on their LLS Board - 4 members will be selected from a pool of applicants with special skills, while 3-4 will be elected by rate-payers. Also, there will be a minimum of one Local Community Advisory Group to support each Regional Board.

Pasture recovery after bushfires

This information is taken from the NSW DPI Primefact "Pasture recovery after bushfires", by Nathan Ferguson (NSW DPI District Agronomist, Tumut) and Ian McGowen. For more detail, access the complete document online: www.dpi.nsw.gov.au/agriculture/pastures/pastures-and-rangelands/management/pasture-recovery.

For more information, contact Nathan Ferguson at NSW DPI: 69 411 400, or nathan.ferguson@dpi.nsw.gov.au.

Pasture type

Long-term perennial plants, particularly those with low crowns and extensive root systems, survive a bushfire well. Less vigorous, shorter-term plants with high crowns or weaker root systems are affected more badly. Most annuals in our region would have set seed and died before the fire period, so they are little affected unless their seed reserve is on or close to the ground surface. Green, summer-growing plants are less likely to ignite, and may insulate the soil from the heat of the fire. Newly-established pastures, particularly those sown under a cover crop, can be severely thinned by a fire. If they are growing under crop stubble, the burn will be far hotter.

The vigour of the pasture before the fire will affect its recovery - weak, thin, weedy or poorly fertilised pastures will regenerate more slowly than vigorous, healthy pastures. Pastures under-grazed in spring are more at risk than well grazed areas, as the large mass of dried plant material allows a much hotter fire.

Soil type and fertility

On heavier soils, such as basalts and alluvials, recovery of pasture is generally faster than on lighter and sandier soils, due to greater fertility and higher organic matter reserves. Bushfires generally have little effect on soil phosphate reserves, however topsoil nitrogen is lost, as fire destroys topsoil organic matter reserves.

Managing soil erosion (wind and water) after a fire is essential, to prevent further nutrient losses. The aim should be to retain as much of the existing soil structure as possible, by keeping livestock off burnt areas and not cultivating. Try to maintain sufficient ground cover to protect the soil surface, by allowing burnt areas to re-establish or re-sowing a pasture or forage crop.

Pasture seed reserves

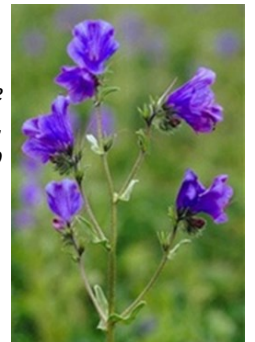
Much of the pasture seed reserve on the ground surface will be burnt or sterilised. However, seed covered by even a small quantity of soil will be protected from the heat of the fire. This is because, while the temperature at the soil surface during a bushfire usually varies from 50° to 250°C, the temperature just 15 mm below the surface is normally not raised more than 10°C, and returns to its original temperature within five minutes. This suggests that plants that bury their seed, such as sub clover, or that have growing points below the surface, such as phalaris, will survive well. It is best to wait until after the autumn break, and assess paddocks that have had good seed set in the years preceding the fire.

Weeds

Some perennial weeds, such as serrated tussock, poa tussock, dock and sorrel can survive bushfires and rapidly re-establish to dominate weakened pastures. Most pasture weeds are highly invasive and colonise bare areas quickly. Weeds such as thistles, Paterson's curse, capeweed and crowsfoot produce abundant hard seed, which will be stimulated to germinate by a fire and may result in extensive problems.

Arable areas where the pasture has been destroyed, or which are known to have weed problems, should be priority areas for growing forage oats. This will assist in the reduction of potential weed problems as well as providing useful winter feed following fires.

Seed of weeds such as Paterson's Curse can be stimulated to germinate by fire, so careful management is required to prevent infestations.



Management of burnt areas

Pastures will recover more quickly and be more resilient if dry matter is maintained at 1,000-1,500 kg/ha. Critical feed shortages often mean that pastures cannot be managed ideally. However grazing management needs to ensure that pastures are not put under extra pressure, increasing the risk of losing the pasture. It may be necessary to overstock selected 'sacrifice' paddocks to assist regeneration over the rest of the property. Such paddocks will probably require eventual re-sowing.

If regeneration of a pasture is mainly from seed, it will need to be treated leniently to help recover. Thinned areas can be considered for direct drilling of more seed; assess paddock recovery over the coming year and then decide whether re-sowing or special management is necessary. Wherever possible let pastures seed down. If re-sowing of pasture is necessary, be sure to assess which pastures will give an economic return.

Recovery is ongoing - seek suitable advice and do the economics to determine the best plan. Many pasture species are very resilient and can recover under reasonable seasonal conditions and good management.

Key contacts

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Coming events

Tarcutta Valley Landcare Group Meetings

Held the fourth Tuesday of each month, from 7.30 pm (daylight savings time) at Tarcutta RSL. All welcome! For more information, contact Bob Schofield: 69 289 561

Plant identification for grassy ecosystems

Wednesday 13th to Thursday 14th March, Canberra. A workshop to introduce participants to grassy ecosystems, their diversity and ecology, and provide the skills to identify a range of grassland plants. For more information: <http://anpc.asn.au>

Frogs on Farms Workshop

Wednesday 20th March, Book Book. This free workshop will be at Trevor Parker's property, 'The Reefs', Tumberumba Road (opposite Palmers Lane). For more information and to RSVP, contact Sam Shannon: sshannon@murrumbidgeelandcare.asn.au or 0487 953 776

Soil Carbon Workshop

Tuesday 26th March, Wagga. Murrumbidgee CMA and NSW DPI are running this free workshop (bookings required) to give you an understanding of soil organic carbon and its importance in agricultural systems. For more information, contact Thomas White: 0427 288 001 or thomas.white@cma.nsw.gov.au

Perennial Grasses in Pasture Production Systems

Wednesday 15th to Thursday 16th May, Canberra. A symposium covering issues such as pasture persistence, feed value, innovation and opportunities in a changing climate. For more information: <http://australiangrasslands.org.au/news>



If you have any questions or comments about this newsletter, or would like to contribute any ideas, please contact Nicole Maher (Newsletter Editor): nmaher@murrumbidgeelandcare.asn.au, or 0408 246 208.