

Lamb on Mallee menu

Farming in the South Australian Mallee has never been for the fainthearted, and Mallee farmers are certainly no strangers to drought. However, when Rex and Cely Spinley bought their farm in 2001 they could have been forgiven for not anticipating three extreme droughts in their first six years and a major crop loss to frost in a 'normal' rainfall year. The Spinleys have a vision for their farm which runs counter to the prevailing custom of the region. As Rex explained to Bruce Munday, there are still many hurdles to get over and no doubt more lessons to be learned, 'but if it doesn't kill you, it makes you stronger'.

"We came to *Karnunka* from a non-farming work environment, but with a pretty clear picture of what we wanted to achieve. Fundamentally we wanted a farm that would be ecologically sound, economically viable, not too labour or capital intensive, and an attractive place to live and work.

Running only a cropping enterprise on a property of this size was never really an option given the likely overheads. And anyway, our real interest is in livestock and grazing systems.

When we bought the property it was quite run-down, with scarcely a tree to be seen, sandy ridges that would blow in summer, high weed burden and low soil nutrient and carbon levels. It seemed to us that a priority for sustainable farming in this environment is to keep cover on the soil at all times. In a grazing context that means carefully managed perennial pastures.

Case study: Rex and Cely Spinley, *Karnunka*

Location: *Karoonda*, Murray Mallee, South Australia

Property size: 760 ha

Mean annual rainfall: 333 mm, 204 mm in growing season (2006: 259 mm, 102 mm)

Soil: Sandy loam with deep sand on ridges; pH ~7 (CaCl₂)

Enterprises: Cereals, prime lambs, wool



Photo: B Munday

The challenge has been to establish and maintain a perennial grass with the lucerne to crowd out the annuals.

We both completed the *GrazingforProfit*[™] course in 2005, which reinforced our planning and warned us of most of the pitfalls. Everything we heard and read about perennials stressed the importance of not grazing too hard and then spelling the pasture to allow the plant to recover. Based on all the information we had absorbed we accelerated our cell grazing trials into a full enterprise management system.

We have divided about half the property into eighteen rectangular paddocks, roughly following soil type, each about one kilometre long and 250 to 350 m wide. These can then be further temporarily subdivided into 90 x 2-3 ha cells using portable water troughs and electric fencing tapes. The sheep are boxed into a single mob (except during mating) and are moved to a new cell each 1-4 days

depending on the bulk of pasture. Each cell is then spelled for 90-120 days.

This might appear to be labour intensive, but the system is really very simple. Bore water is reticulated to all cells and a plastic trough is moved to the next cell's faucet, 200 m down the service line, each time the sheep move on. The electric tape fence takes about 30 minutes to move to the next pair of permanent end posts. We know people who pay to go to a gym for this sort of daily exercise!

Each paddock has 10 metre access for machinery when the pasture needs renovating or if the paddock is going back into a cropping phase. At this stage the remainder of the property is fenced to land class and cropped.

Key points

- Increasingly our rain seems to come 'out of season'
- The right perennials must make the most of our natural advantages and overcome the challenges
- Overgrazing is the quickest way to destroy perennials.

More and better lambs

We produce first-cross Border Lieicester/Merino lambs, our main business objective being to optimise both the number of lambs we can turn off and the quality of the product.

We have changed our lambing to June to match peak demand for feed (during early lactation) with peak feed supply. This has improved our lambing rate and survival numbers, and also takes advantage of the later and longer growing season of perennials so that we can finish the lambs in early summer.

Ironically, for the past two years we have had seen unusually early breaks to the season combined with extremely early finishes. Nonetheless, we are confident that we are heading in the right direction. Last year, for example, we had 50% more rainfall outside the growing season for annuals than within it. If climate change predictions are correct, we might see even more of this pattern.

Needless to say, the climatic conditions so far have been a real challenge. Our main pasture base is lucerne and perennial veldtgrass, although we are also trying



Photo: B Munday

Rex can relocate the temporary electric fence to the next cell in 30 minutes.

biserella, vetch, medics and saltbush. The drought has punished all of these.

As part of our property plan, we have set aside 50 m wide corridors for trees and shrubs – multi-purpose corridors to reduce the risk of wind erosion, provide shelter, and add to the aesthetic value of where we live and work.

Direct seeding of native vegetation has been really disappointing, particularly as it so quickly gets overrun with weeds. We have had more success planting seedlings, but this is extremely labour intensive.

We are now looking at an alternative approach to shelter belt establishment, underplanting a hedgerow of oldman saltbush down the centre of the crop. The harvester can pass over the saltbush in the first year. Sheep can then graze the stubble flag and spilled grain but will be removed before they attack the saltbush. We are hoping that this will overcome the need for fencing off shelter belts and reduce weed burden in the critical establishment years – two of the major problems when establishing native tree belts.”

CONTACT

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The science behind the story

By Scott Gillett

Rex has challenged many of the traditional paradigms that underpin farming in the Mallee. But he has done this with his eyes wide open, having actively participated in the *Mallee Sustainable Farming* project, Grain & Graze, and the activities of the Murray Mallee Local Action Planning group.

One of the first lessons you learn in the Mallee is that tough years are at least as familiar as good years. If perennials cannot survive the tough times they are no longer perennial!

Rex has identified lucerne and veldt as the species currently best suited to his grazing system, along with old man saltbush as both fodder and shelter. Research and other farmer experiences with perennials might, in due course, provide him with superior alternatives.

Lucerne is an excellent option, particularly in a cell grazing situation, because it is nutritious and enduring if well managed.

However the gaps between lucerne plants quickly become ‘open space’ for annual grasses, so it is important to fill that space with a complementary perennial. Research by the CRC Salinity in the upper south-east of SA showed veldt to be an undervalued species, as well as providing nutritional balance for grazing stock compared with lucerne alone.

Rex has experienced difficulty establishing good swards of veldt, not least because of the drought conditions. At the same time he is aware that the grass is naturalised on roadsides and amongst native vegetation where it is not grazed. Veldt is one of the few perennials that re-seeds, so it is important to allow pioneer stands to set seed before grazing. However, to maintain optimum grazing value, veldt needs to be grazed frequently enough to prevent it growing into large rank clumps. Grazing pressure can also be managed to maintain the right balance between lucerne and veldt.

Rex’s target of 2000 breeding ewes is well above the district average but by no means impossible. However, ambitious targets highlight the importance of research to bring forward the best adapted pasture species and cultivars, optimum establishment and management principles, and resilience in the event of drought or long term climate change.

With his background in engineering, Rex has an excellent understanding of design principles, monitoring and data interpretation. These will be important skills as he develops and refines his grazing enterprise. Like many farmers, he needs a couple of good seasons to move his experiment forward.

- Scott Gillett was formerly an Environmental Design and Management Consultant for Rural Solutions SA, now Project Officer (GIS) for the SA Murray Darling Resource Information Centre.