Perennial pastures — more than just a pretty face

For South Australian graziers, Jeff, Anne and Cameron England, perennial pastures deliver more than just a green landscape in the midst of a dry summer. The England's combination of lucerne, chicory, phalaris and cocksfoot provides year-round stock feed and has empowered the family to take marketing decisions back into their own hands. Laureta Wallace spoke with Cameron to find out more.

farm info.

Case study: Jeff, Anne and Cameron England

Location: Keilira, Kingston, South Australia

Property size: 1620 ha (about 200 ha sown to perennial pastures)

Mean annual rainfall: 600 mm

Soils: Sandy hills and clay flats over limestone

Enterprises: Fine wool Merinos, prime lambs and cattle trading

"Our roadside lucerne paddocks get quite a lot of attention during summer when everything else is brown," Cameron said.

"But for us, lucerne, combined with our other perennial pastures, doesn't just look good, we have been really impressed with the benefits, such as year-round pasture and more control over selling decisions.

We first sowed perennial pastures after witnessing the success other family members had with them.

We planted one paddock during August 2005, and, we were so impressed we sowed about another half a dozen paddocks.

Our involvement with the *EverGraze*® project includes being one of numerous on-farm Supporting Sites sites demonstrating perennial pasture grazing systems. There are three paddocks involved in our trial — one which was planted with lucerne, chicory, phalaris and cocksfoot during 2005, another planted with the same combination during 2007 and a control paddock with dryland annual pasture species.

There is barely any difference between the 2005 and 2007 perennial pasture paddocks — the species have persisted really well. Except for the chicory, there is hardly any left in the 2005 paddock.

key points

- A combination of perennial species has provided year-round feed and greater livestock marketing options
- *EverGraze* has allowed for better economic analysis of production results
- Cattle provide a gentler grazing option than sheep for newly established perennial pastures.

We planted a significant amount of chicory in the original paddock but decided to reduce the amount we planted during 2007. We found that chicory tended to hinder the establishment of the other pastures and it doesn't persist as well as other species do. Why this is I don't know. There are a few types of chicory, such as Puna that persist longer. Grouse and Choice seem to be fantastic for 2-3 years but then fade dramatically.

The same was the case with perennial ryegrass — it completely dominated and then died as soon as things got tough.

Plantain was similar. But the lucerne, phalaris and cocksfoot are persisting well four and a bit years on.

Photo: Anne England

Cameron England in one of his family's perennial pasture paddocks which was sown during spring 2004. After more than five years the lucerne is still persisting well.

Data collection

Since 2007, I have recorded what stock have grazed the perennial paddocks and their weights.

Probably the main reason we got involved in *EverGraze* was to determine the economic benefits we were deriving from planting perennials. Tim Prance from EverGraze has analysed our records to compare the difference in productivity between our existing annual and our new perennial pastures. The two perennial paddocks monitored (including a newly sown paddock) carried 13.4 dry sheep equivalent per hectare (DSE/ha) for a 15-month period compared with 12 DSE/ha for the annual pasture. However, during each of the past two summers the perennials have produced more than $200/ha of liveweight gain from late winter-dropped cross-bred lambs, Merino lambs and weaner steers.

Grazing patterns

We tend to use the perennial paddocks for providing green feed when other ones are out of production — say from January to about May. During this time the dry feed is diminishing but the perennials can still provide feed. For example, now (late May), the perennials are booming after some recent rain and warm temperatures — they really extend the growing season.

We run steers and heifers and cross-bred lambs on these pastures. These are the stock that need to gain weight.

Stock are generally not grazed on the perennials for any longer than a month at a time, but it depends on the time of the year. For example, during spring the pasture grows faster than the stock can eat it but during

February and March we rotate stock regularly so pasture is not damaged.

The stock also need fresh pasture to continue gaining weight.

Putting on weight

We have definitely found this new system has enabled us to put kilograms on our store stock at times of the year when weights would have been slipping under our previous system.

We used to sell during December and January because the stock had put on as much weight as our pasture would allow them to. Now when we get to that time we usually decide to sell and keep a few. We have the ability to manipulate the market. Animals continue to put on weight, usually up until February, and afterwards they can still maintain their weight.

At the break-of-season market prices tend to increase as people have either sold everything or are forced to sell. By keeping some stock until this time, we can usually get a pretty good return.

A few mixed years

Since planting the perennials I'd say the seasons have been poor to average.

We have had some very poor springs plus late starts and early finishes. One year it didn't rain until June 10.

However, there have been some decent summer rainfalls, which have really highlighted the benefits of these pastures.

We will definitely plant more perennials whether we do this year or down the track, we just don't know. Perennials are expensive to establish, with a long payback period. We may be able to carry even more stock on them, but we don't want to risk losing the pasture. We may drop stocking rates back a bit. It will take us at least 10 years to fully evaluate perennials, but there will always be a place for annuals just to carry stock.

We added three more perennial paddocks during 2007 and two more during 2008. This year we are toying with the idea of cutting a paddock for hay or planting a specialist hay crop, for example barley, for better weed control.

When establishing perennials weeds have been a bit of a problem, hindering the pasture output during the first year. By planting a hay crop we hope to reduce weed seed-set in the lead up to turning the paddock over to perennials. In the past we have just sprayed during August and direct drilled when the annuals have all died.

In the establishment year grazing is kept to a minimum and is carried out usually during March and April. We mostly use cattle for this first grazing, as they are not as harsh on the pastures as sheep."

Photo: Cameron England

The England family use their perennial pastures to fatten steers and prime lambs. INSET: A perennial pasture combination sown during August 2005.

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science behind the story

By Tim Prance, Rural Solutions SA

- **The implementation of drains and the subsequent planting of perennial pastures have given Jeff and Cameron England's property a new lease of life.**

The property is reasonably isolated and not well serviced by traditional extension services. However farmer groups such as the Keilira Farm Management Group help to fill the gap. The area is typified by undulating sand dunes with shallow heavy clay flats overlying limestone. Poor drainage and a lack of outfalls to the sea mean the flats are prone to winter waterlogging and salinity.

Tall wheatgrass has been the only perennial grass to persist on these flats, but it is difficult to manage, has a short growing season and provides poor-quality feed for livestock. Phalaris has been sown on areas further south where soils are deeper.

While the lower part of south-eastern SA has been drained for many years, the northern part has only been drained recently and as such, farmers have started planting perennials.

The area can probably carry as many animals on annual pastures as it can on perennials, but perennials provide out-of-season feed for livestock. Stock can then continue to gain weight during winter and be saleable during July/August. The stocking capacity of the Cameron's lucerne-based pastures has been greatly increased because the lucerne is not winter cleaned. Lucerne persists over summer, because it can get its roots through the fractured rock and into the water table, which rarely falls below two metres even after a series of dry years. Lucerne is also tolerant of the saline groundwater. Local landholders hope the drains will remove the surface water during a normal wet winter.

Perennials also provide groundcover to minimise evaporation from the soil surface, help to maintain a lower water table on the interdunal flats, improve soil structure and help reduce livestock pugging during winter.

Summer-active perennials, lucerne, chicory and cocksfoot, are the most popular species grown to date but farmers are trying other perennials such as tall fescue.

To make the most of perennials, farmers need some knowledge of pasture assessment, grazing management and run a livestock system producing late dropped weaner animalsI have analysed Jeff and Cameron's stocking records plus their feed-on-offer and feed quality estimates, then used GrazFeed to estimate livestock intakes and liveweight gains. This has provided a comparison of dry stock equivalent rates and meat production on perennial as opposed to annual pastures.

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