

The future - EverGraze grazing systems

by Geoff Saul & Angela Avery

The future of EverGraze grazing systems looks bright if the research results from the Proof Sites are any indication.

Recently, the research teams across EverGraze summarised their findings over the last 3-4 years. These give an insight as to future grazing production systems across southern Australia.

The focus of EverGraze is "Right Plant, Right Place, Right Purpose" to provide both economic and environmental benefits. But what does this mean in practise?

Right Plant

Pastures are specific to locations but there are some over-riding results. Lucerne has proved the most persistent sown species. It responds to summer rain and provides additional green feed in summer/autumn. Interestingly, winter production of lucerne at Hamilton was similar to tall fescue and ryegrass clover pastures suggesting that there is little winter growth penalty.

Summer active tall fescue performed well at Hamilton, but did not survive at the drought affected WA site. Winter active fescue is clearly more suitable at the drier Wagga and WA sites.

Chicory provided high quality feed and if allowed to seed, may survive for up to five years. It also handles wetter and more acid soils than lucerne.

However, the persistence and easier management of lucerne suggests it is the preferred summer

active perennial in well drained soils.

Research at Tamworth is looking for companion species to sow with lucerne. A lucerne:premier digit grass mix allowed 80% ground cover compared to only 60% for lucerne monoculture. A grass:lucerne mix will also provide a more balanced diet for ruminants and grasses can use the nitrogen fixed by the lucerne. In southern regions, a small amount of phalaris or tall fescue with lucerne should provide similar ground cover and animal benefits.

While much of the discussion is about summer active perennials, the teams reinforced the importance of traditional perennials and annual legumes; kikuyu (WA), perennial ryegrass (southern Vic) and phalaris (southern NSW). Also, sub clover is critical to provide nitrogen for the grasses and high quality forage for lactating ewes.

Right Place

Soils, landscape, topography vary across farms and regions. This diversity can be used to provide



Beef cattle grazing lucerne

December 2009

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longer periods of green forage.

At Hamilton in 2006, ewes that had access to lucerne and tall fescue saved \$20/ewe in supplementary feeding compared to systems based on perennial ryegrass.

At Holbrook, phalaris pastures on the better soils are being integrated with native perennials on the tougher, hill soils. The aim is to graze each pasture type to match its growth phase.

In northern NSW, species across the landscape might be sub tropical's, sown temperate species and native perennials; in southern NSW to northern Victoria, phalaris, lucerne and native perennials are the proven performers.

In southern Vic, perennial ryegrass, tall fescue, lucerne, chicory are all options though the area suitable for ryegrass is likely to decrease with declining rainfall and higher temperatures.

Right Purpose

There is no point in using a range of species matched to landscape unless they allow profitable animal systems. The major interest in EverGraze is to use Merinos for lamb production, and achieve high wool production, weaning percentages and lamb growth rates. Ewe genotypes with high fecundity are used. Weaning percentages of over 120% have been achieved by using the diverse perennials and targeted supplementary feeding to manage condition score.

Work at Wagga has shown conception rates can be lifted by a further 10-20% if ewes graze lucerne or chicory with 300-900 kg/ha of green feed prior to joining.

Research at both Wagga and Hamilton has studied specialised lambing paddocks ("maternity wards"). At Hamilton, lamb survival in 2009 was 90% in shelter areas compared to 70% for lambs in open paddocks, with bigger differences in twin and triplets than singles.

Native pastures are normally only used for dry stock. EverGraze is running lactating ewes at Chiltern, Holbrook and Orange on native pastures. On these native pastures, lamb growth rates of 300 g/d have been achieved. Rotational grazing systems have allowed higher stocking rates (5.7

ewes/ha) compared to 4.3 ewes/ha for set stocked systems at Orange.

The final twist on improving ewe:lamb performance is 'Split Joining' used at Wagga.

With this system, about half of the ewes are joined (14 days only) to a terminal sire for winter lambing. The remaining ewes and dries from the early mating are joined 90 days later for 35 days to a Merino to maintain a self-replacing flock.

Sale of the XB lambs (and even ewes in really tough conditions) depends on the spring feed conditions. Split Joining builds flexibility into ewe:lamb systems to cope with failed springs.

Environmental benefits

Stocking rates at Proof Sites have been managed to maintain a minimum of 70% ground cover. In the drought conditions experienced at the sites in the last 3 years, this has meant stock have been fed on occasions in containment areas.

Rotational grazing reduced the amount of bare ground (90% rotational, 80% set stocked) by encouraging more even grazing across paddocks at Orange.

Water use measurements at Hamilton and WA have reinforced how lucerne and chicory use water from depth, allowing growth to continue after topsoil moisture is depleted. In addition, these species create a "dry zone" allowing storage of subsequent rain and reducing the risk of soil salinity.

In a nutshell we see a good profitable and environmentally sustainable future for high fertility Merino ewes.

They will have at least 120% weaning, rear high growth rate lambs, rotationally grazing a range of perennials that include 20-40% annual legumes, matched to soils and landscape.

Over the next few editions of EverGraze Update, we will explore different aspects of EverGraze and discuss what it means for the future.

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NSW field days

A series of field days was held in conjunction with Central West CMA to discuss grazing management.

Orange Proof Site leader, Warwick Badgery, and local Industry and Investment agronomists and livestock officers outlined the key advantages and disadvantages of rotational grazing of native and introduced perennial pastures.

Rotational grazing provides more even grazing and enhances ground cover, allows higher stocking rates to be carried and producers can budget the feed ahead of the stock.

However, while rotational grazing can be implemented by creating larger flocks, inevitably some additional costs of fencing and water supply will be required.

Set stocked systems allow more selectivity by the stock so individual animal growth rate may be greater than in rotational systems.

Fencing and water supply are two topics of interest to producers and these were discussed at the field days by representatives from Gallagher, private advisers and the host farmer, who described their own experiences with managing pastures and rotational grazing.

A new EverGraze fact sheet "Grazing management systems explained" discusses these topics in detail and is available on the website.

Further grazing management days are planned for March 2010.

Further information:

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Field day at Yeoval



Shelter from shrubs can improve lamb survival

Measuring the impact of EverGraze

EverGraze has been undertaking research, development and extension activities across southern Australia since 2005.

During this time, over 9500 people have attended EverGraze activities at Proof and Supporting Sites or seminars, courses and conferences where EverGraze results have been presented.

In autumn 2010, we will be undertaking a telephone survey of people who have attended EverGraze activities over the last three years to find out what they have gained from their participation.

The results of the survey will guide the future direction of the project.

If you do not wish to participate in this survey, please contact;

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Autopsy to understand lamb deaths

by Jim Meckiff

The Wagga EverGraze team hosted two 'lamb survival' workshops at Charles Sturt University Wagga Wagga.

Susan Robertson outlined the causes of lamb mortality and told producers that while some deaths were expected, there are a number of management actions that can be implemented to reduce losses.

These included; ewe nutrition and condition, selection of lambing paddocks with adequate shelter and space, sufficient pasture of suitable quality and control of predators.

John Glastonbury, Associate Professor in Diagnostic Pathology conducted post mortems on a number of dead lambs. Participants were shown the basics of an autopsy and told to look out for several important features such as; had the lamb walked, oedema or swelling, signs of milk in the stomach and signs of predation. By checking these important features producers could understand why the lamb deaths occurred.

Following the "blood and guts", Michael Friend, Leader for the EverGraze Wagga Proof Site, presented research outcomes from the Proof Site with special reference to lamb survival and weaning rate performance.

He outlined why weaning rate and survival were important profit drivers in a meat /Merino enterprise and how to improve performance in this area.

These were summarised as:

- Ewes in condition score of >3 at joining is important to maximise conception rates, (from Lifetime Ewe Management)

- Use pregnancy scanning to identify and manage single and twin bearing ewes nutritional requirements, especially when pasture growth is not adequate.

- Shelter from shrubs can improve lamb survival rates and the ewe lamb bond

- A "Split Joining" strategy has proven to deliver flexibility and profitability to the meat Merino enterprises being evaluated at the Proof Site. See 'EverGraze Action -Split Joining reduces risk and provides options' on the website www.evergraze.com.au/fact-sheets

- Flushing ewes by grazing lucerne (or similar summer active perennials offering green feed) has resulted in increased ovulation rates. This is being investigated further on a number of EverGraze Supporting Sites and will be a main area of research at the Proof Site in 2010.

Due to the popularity of the day, we will conducting further workshops throughout the region in 2010.

ABC Rural reporter, Stephanie Boulet, was on hand to capture some video footage of the autopsy. Go to <http://www.abc.net.au/rural/content/2008/s2675313.htm>

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Explaining the steps for undertaking a lamb autopsy



EverGraze Events in your region

VICTORIA			Go to www.evergraze.com.au for more details
Friday 5th February	Hamilton. Tall Fescue Seminar, DPI, Gavin Milne, PGG Wrightsons	Anita Morant P: 03 5573 0732 Mob: 0427 329 541 E: anita.morant@dpi.vic.gov.au	
Thursday 25th February	Yarram Farms walks on establishment and management of kikuyu	Samantha Monks P: 03 5175 7895 E: samantham@wgcma.vic.gov.au	
Friday 26th February	Bairnsdale Farms walks on establishment and management of kikuyu	Kate Sargeant P: 03 5735 4352 E: Kate.Sargeant@dpi.vic.gov.au	
Tuesday 23rd March	Ararat Profitable perennial grazing systems for central Victoria	Rob Shea P: 03 5352 1357 E: yadin@netconnect.com.au	
NSW			
Thursday 10th December	Willow Tree EverGraze Supporting Site 'Roane',	George Truman P: 02 6742 9203 Mob: 0407 936 140 E: george.truman@cma.nsw.gov.au	
Wednesday 3rd March 2010, Tuesday 9th March, Wednesday 10th March, Thursday 11th March, Thursday 25th March	Dubbo, Gulgong, Trangie, Coonamble, Coonabarabran Grazing management days	Luke Beange P: 02 6881 1294 E: luke.beange@industry.nsw.gov.au	
SOUTH AUSTRALIA			
Monday 22nd February	Kangaroo Island Farms walks on establishment and management of kikuyu	Lyn Dohle P: 08 8553 4999 E: lyn.dohle@sa.gov.au	
Tuesday 23rd February	Fleurieu Peninsular Farms walks on establishment and management of kikuyu	Tim Prance P: 08 8552 8058 E: tim.prance@sa.gov.au	
Wednesday 24th February	Lucindale - Seminar "Growing and using persistent & profitable perennials"	Nick Edwards P: 08 8762 9184 E: nick.edwards@sa.gov.au	

What's new on the web

Several fact sheets have been developed over the last couple of months and can be downloaded from the website. New publications include;

- EverGraze Action - Management of native pastures
- EverGraze Exchange - Grazing systems explained
- Poster on identifying native grasses
- Southern NSW - Murrumbidgee catchment

Tools and calculators

We have added a new page to the EverGraze website, 'Tools and calculators'.

It shows where to access useful tools which have been developed. Some of the tools demonstrated are;

- Feed demand calculator
- Cost of production - beef' and 'Cost of production - lamb'
- Stocking rate calculator

Go to **www.evergraze.com.au**

Disclaimer

The information provided in this publication is intended for general use, to assist public knowledge and discussion and to improve the sustainable management of grazing systems in southern Australia. It includes statements based on scientific research. Readers are advised that this information may be incomplete or unsuitable for use in specific situations. Before taking any action or decision based on the information in this publication, readers should seek professional, scientific and technical advice. To the extent permitted by law, the Commonwealth of Australia, Future Farm Industries CRC, Meat and Livestock Australia, and Australian Wool Innovation (including their employees and consultants), the authors, the EverGraze project and its project partners do not assume liability of any kind resulting from any persons use or reliance upon the content of this publication.

EverGraze is a Future Farm Industries CRC, MLA and AWI research and delivery partnership