Perennials provide productivity and sustainability

For Henry Bridgewater, Monaro Plains New South Wales perennial pastures are the key to both sustainable management and productivity on his alluvial river flats and rocky hill country. Henry explained to Lucy Kealey how a pasture improvement program on the flats and a paddock division project on the hills will get the best out of his country and his sheep.

"Traditionally, the river flats were 100 per cent lucerne production, but lucerne had always been a sideline and our main business of self-replacing Merinos," Henry said.

"We were saving the best feed, making it into hay and selling it! Now we use the best feed for our number one enterprise.

Further, the lucerne system had rising input costs (especially herbicides), high costs of owning hay-making machinery, and it was difficult to find tractor drivers for 2 am in the morning! There had to be a better way.

A perennial mix

When the lucerne got old, we would crop it for a couple of years with winter wheat, to clean up broadleaf weeds and get some benefit from the stored nitrogen. Then we would go back into lucerne.

Now when lucerne is old and depleted, I still crop it but I resow with a perennial pasture mix called 'Cooma 450' containing lucerne, phalaris, clover and winter-active fescues.

farm info.

Case study: Henry Bridgewater

Location: 55 km south of Cooma, New South Wales

Property size: 5200 ha total, 700 ha alluvial river flats, 4500 ha non-arable hill country

Mean annual rainfall: 500 mm

Soils: All basalt derived — friable alluvial soil on the flats; rocky, clay soil on the hills

Enterprises: Dual-purpose Merino ewes, self-replacing; poll Herefords, agistment and trades

Photo: Henry Bridgewater

Photo: Michael Noonan

Henry Bridgewater and his daughter Claudia in a perennial pasture sown during 2004. INSET Henry began replacing his lucerne stands with a perennial pasture mix during 2004, and is renovating one of his river flat paddocks each year. He believes the change has lifted both the productivity and sustainability of his property.

key points

- A perennial pasture on river flats provides better weed competition and more groundcover to minimise wind erosion
- The perennial mix meets the feed requirements of Merinos at critical times during the breeding year
- Cell grazing on hill country will enhance the persistence of native perennial species and maintain good groundcover to deter the establishment of serrated tussock.

The first lot of perennial pasture was planted during 2004 and I sow one new paddock every year. The area varies from 20 to 50 hectares.

I have had some great successes and some failures due to lack of seasonal rain but I push on!

Compared with lucerne, the perennial mix provides higher biomass, much better groundcover and with correct grazing management, better weed management.

The perennials require lower inputs and I hope to get 50 years out of a good perennial pasture — a lucerne-only stand might last 10 years and requires annual upkeep.

More production, more groundcover

We certainly get more grazing out of the perennial mixture. During March this year I put 2200 ewes on 24 ha for nine days (about 140 dry sheep equivalent per hectare). There was still about a third of the pasture left when I took the ewes out.

The perennial pasture has two key uses; a boost for getting ewes into condition for joining and putting weaners onto green grass during summer. It's all about trying to match livestock nutritional needs more closely with grass and not having to provide (or buy) supplementary feed.

My best ever lambing percentage was 135% during 2007 and that's a big production increase I can attribute to the perennial pastures.

If I am selling a mob of five-year-old ewes, for example, and they are not in good enough condition, I will put them onto the flats as well.

The mix of species provides better groundcover than with the lucerne-only stand. There is not much run-off erosion on the flats but there has been some wind erosion — especially during the recent drought years.

Improved groundcover also provides less area for weeds to establish.

Investing in wire and water

I am also in the process of subdividing big paddocks in the hill country into cells to make better use of native perennial species there. I have done one development so far, and am planning another this winter.

Eventually the hill country will be managed by time-controlled cell grazing so I can rest the country for longer. This will help improve groundcover, making it harder for serrated tussock (our number one weed) to establish.

I have an annual spot-spraying program for serrated tussock but I seem to be going over the same amount of country each year. Now I spend some of that money on wire and water to subdivide big paddocks.

The pasture in the hills is based on native species indigenous to the area — predominantly poa and stipa species but also include kangaroo, red and wallaby grasses.

In the one cell I have set up, quite a few native forbs have reappeared and even some emu's foot. These species definitely need a good rest after grazing to regenerate.

Business operations simplified

With perennial pasture, I run sheep on the best feed and getting higher production, instead of running them on the worst feed and wondering why they don't do well.

The perennial pasture has reduced input and operation costs, and made the property more productive. I also think the property and business will be more sustainable."

contact

Henry Bridgewater
E: hbridgewater@bigpond.com

A mix of phalaris, lucerne, fescue and sub clover provides excellent feed at key times for the merino flock — leading up to joining and at weaning. The pasture mix is better than lucerne alone to provide groundcover to minimise wind erosion and weed incursions.

science behind the story

By Chris Hillman, Landmark

- **The Monaro is a region of diversity. Annual rainfall varies from 450 millimetres on the high basalt plains in the middle of the region to 700 mm on the boundaries.**

The climate is variable — unreliable autumns, cold often very dry winter, and storms through spring and summer providing the most reliable moisture.

Perennial pastures are the mainstay for annual production on the Monaro.

The main benefits of perennial pastures over annual pastures and crops in the region are:

- Better distribution of feed — perennials such as phalaris and lucerne cover most growing periods — having active plants throughout the season
- Better groundcover to compete against serrated tussock and lovegrass invasion
- Better water use efficiency — perennial mixes respond to moisture at any time of the year and a deeper root system allows them to use this more favourably
- Less failures with permanent pasture — once established, good autumn rain is not needed unlike annual crops and annual pastures.

Several important steps guarantee a good establishment of perennial pasture especially from run-down permanent pastures.

Fallow the old pasture during spring, using herbicide, and apply a second spray during early February and then sow a winter cereal. Winter wheat has been popular during recent years.

Start grazing after early tillering has started and the plants cannot be pulled out of the ground easily. However on the Monaro, most graziers want and use the feed late autumn/early winter. Winter wheat is usually grown every second year to eliminate annual grasses and broadleaf weeds before sowing perennial pasture in the following autumn or if the season fails, late August.

The most reliable pasture mix is a combination of phalaris (both winter- and summer-active varieties), sub-clover (an early and late flowering type), a little lucerne, and winter-active fescue. It is commonly called the 'Cooma 450' mix.

Long-term management of perennial pastures relies on several important factors. Firstly, rotational grazing maintains adequate groundcover for weed control and enables the plant to regrow. Secondly, soil fertility has to be kept up. Many graziers are happy to fertilise annual crops and pastures at each sowing but are reluctant to topdress high-performance permanent pastures annually. A minimum of 0.7 kilograms of phosphorus should be applied per DSE carried per year to maintain present soil levels of phosphorus.

- *Chris Hillman is a Landmark agronomist based at the Monaro in New South Wales.*

contact

Chris Hillman, Landmark
M: 0427 232 572
E: chris.hillman@landmark.com.au