

Case Study

Native grasses an asset for steep hills

farm info.



Ian and Susan Maconachie run a 471 hectare mixed farming property near Ararat in Victoria. They host an EverGraze Supporting Site investigating grazing management techniques for native grasses to maintain a high level of native perennial vegetation for increased productivity and ecological balance. They spoke to Reto Zollinger about their experience.

Producer: Ian and Susan Maconachie

Location: Ballyrogan, Ararat, Victoria

Property size: 471 ha plus 967 ha of leased land

Soils: very fine yellowish brown sandy clay loams, sedimentary in origin

Enterprises: Mixed farming system, fat lambs, wool production and rotational cropping

Pastures: Native perennial pastures on slopes and hills, exotic perennials and crops on lower slopes and flats

“On our main property we manage about 230 ha of steep hill country with native grasses and remnant grassy woodlands. When we took over our share of the family farm, the land was run down with large set stocked paddocks where bare ground, rabbits and erosion gullies were management challenges.

Our first goal was to get rid of rabbits and our second to land-class fence the hill tops to help control erosion and better manage native grasses. The aim was to make the hill country more viable for stock by maintaining good ground cover.

At the time there were Landcare grants available for rabbit warren ripping and tree planting to help reduce land degradation. Otherwise it would have been too expensive, especially in hill country. About 10% of the property now contains shelterbelts along erosion gullies planted with about 21,000 native trees and fenced out remnant vegetation.

About nine years ago, through our local Landcare group, we started to ask for information on better ways to manage native grasses. So the experts came to us rather than us go to them.

We got a lot out of this proactive approach, leading to several grazing management projects to be conducted in the area funded through DPI and CMA

and more recently it evolved into the EverGraze Supporting Site.

The grazing strategies investigated include deferred grazing or spelling of hill country from mid spring to late summer to allow seed set of native grasses and more detailed investigation to refine those findings to help micromanage different aspects in hill country.

Based on the grazing strategies developed through these projects, we now are able to run the hills as productive as the flat country.

Our stock do much better.

The worm count in sheep from the hill country is a lot less than sheep from the flat country. We also increased plant diversity and can run stock through the hill country better, especially in good seasons when we can take stock off the hills to allow deferred grazing during summer.

In summer months, sheep are rotated in parts of the hill country and through the low country including post harvest crop stubble. The only time we need to supplementary feed sheep is in



Susan and Ian Maconachie

key points

- Controlling rabbits and reducing land degradation are essential for improved production
- Deferred grazing of native pastures improves plant density and sheep health
- Planting shelterbelts and fencing out remnant vegetation leads to a healthier environment bringing in birds and predators of pests

“Stock do a lot better in hill country. They are actually the best mob we have at the moment, all lambing ewes. Hill country gives extra protection for lambs and they seem to be fitter up there.”



Native pastures in steep hill country at Maconachies property

summer, but we usually try to reduce numbers before then. Supplementary feeding is then only used every second day and while sheep are mainly on the lower country which helps reduce the amount of feed needed.

The hill country used to be bare. Now it is grassed. Before we implemented grazing management in the hills, we could only have about 2.5 sheep per hectare. Now we are able to comfortably have 5 sheep per hectare.

The cost of production for hill country actually does not amount to much apart from initial costs to put in some extra dams and fencing.

There is actually less cost because you are not drenching sheep as much and they are a lot bigger and healthier.

The low input approach in the hills allows us to invest in improving the more arable lower country and flats where we put about 150 kg/ha of single super phosphate on to maintain exotic perennial pasture species and rotational cropping.

We are still not able to lock up all of the hill country for deferred grazing as we have not enough flat improved land close by, especially while the crops are still in.

We have come a long way since we took over the farm and addressed land degradation.

Since implementing grazing management changes in the hills, sustainability has improved and therefore increased productivity as we are able to grow more native grasses.”

science behind the story

Native grasses are a valuable pasture component in the grazing system. As with introduced species, their productivity and persistence depends on appropriate management in terms of grazing strategies, fertilizer management and seed production.

All native grasses need some type of biomass reduction (grazing, burning or mowing) to remain healthy.

Grasslands dominated by cool-season native species, such as wallaby grass and weeping grass, are more stable under grazing than those dominated by warm-season species, such as kangaroo grass.

Grazing alters the frequency and density of individual plants with consequent impacts on the persistence and productivity of those species. Native species vary in their ability to regrow and persist after grazing. Under continuous

grazing, native perennials often decline and introduced annuals dominate the pasture.

A major challenge for managing degraded ‘native’ or naturalised pasture is to increase desirable perennial species and reduce the annuals.

One way to achieve this is the use of deferred grazing, which matches the timing of grazing or resting of pasture to an appropriate growth stage of the native grasses:

- Graze heavily in spring before seed heads of annual grasses mature, to increase the amount of seed produced by perennials while reducing the seed produced by annuals.
- Withhold grazing from mid-spring to summer/autumn for perennial plants to set seed and conserve

energy, leading to higher recruitment of new plants and tillers in following seasons.

Deferred grazing can increase native grass density by 30 - 80% and reduce annual plant density by 40 - 70%, given that the pasture contains at least 5 - 10% of desirable species such as wallaby grass and weeping grass. The higher the proportion of desirable species, the more effective the deferred grazing will be in boosting native grasses.

A series of fact sheets on identifying and managing native grasses are available at www.evergraze.com.au

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