Site Publication

Riverine Plains Savernake demonstration site

Introduction

Creating Landscape-scale Change through Drought Resilient Pasture Systems, otherwise known as FDF Resilient Pastures is a project funded by the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program and has a project period of June 2022–June 2024. The project is led by Holbrook Landcare Network and partners include Central West farming Systems, Monaro Farming Systems, Riverine Plains, FarmLink, Local Land Services, NSW DPI, CSU and The Southern NSW Resilience, Adoption and Innovation Hub.

The project supports pasture demonstration sites across central and southern NSW to showcase modern pasture species combination and management practices known to build greater resilience to their landscape. Farmer workshops, publications, case studies and conducting on-farm consultations with farmers have supported delivering extension messages from the project.

Background

As part of this project, Riverine Plains established two perennial pasture demonstration sites during May 2023 at Savernake and Barooga (NSW). The Savernake site was hosted by Chantelle and Christine Gorman, while the Barooga site was hosted by John and Sarah Bruce. Details about the demonstration sites, as well as results, are published in Research for the Riverine Plains, 2024, and are also available at www.riverineplains.org.au.

This project received funding from the Australian Government's Future Drought Fund

Chantelle and Christine Gorman

Farming enterprise

Size — Approximately 2,830 hectares (ha).

Mixed farming — a 50/50 split between livestock and cropping. Running beef cattle, merino sheep and first cross ewes for prime lamb production.

Cropping — 1,010–1,200 hectares annually of canola, lupins, oats, wheat and barley, as well as grazing wheat and barley for ewes and lambs.

Irrigation — running two centre-pivots, sourcing water from a private irrigation scheme, with one centre pivot established during the 2018 drought.

What proportion of your land do you grow annual and perennial pastures, and has this changed over time?

In the last five years we have increased our pasture to around 30 percent between both properties and could potentially increase this further.

However, you also have to work in with your crop rotations. So, if you are pulling a paddock out of grain production to put pasture in, you have to balance how much grain you're producing with the quantity of mouths (livestock) you have to feed.

Which pasture species do you grow and why?

We grow lucerne SARDI 7s2 and SARDI Grazer, with Mintaro and Monti sub clovers. The SARDI 7s2 and SARDI Grazer are both winter active lucerne cultivars that seem to complement each other well, as the SARDI Grazer has a higher grazing tolerance due to its lower crown. Mintaro is a mid-maturing Brachycalycinum sub clover cultivar and Monti is an early-mid-maturing Yanninicum sub clover.

For the demonstration paddock that was established during May 2023, we sowed the SARDI 7s2 at 5 kg/ha with 3 kg/ha of Mintaro and 3 kg/ha Monti. To compare a different sowing rate and the SARDI Grazer, we sowed a strip with a higher SARDI 7s2 seeding rate at 9 kg/ha with the same quantity of clover, and a second strip containing a combination of SARDI 7s2 and SARDI Grazer at a total of 5 kg/ha with the same quantity of clover, in the middle of the paddock.

Lucerne works well during spring and summer, while it is less active in winter, which is when the clovers bridge the gap by providing good feed during the winter months. Providing a year-round feed supply is important, but of course the quantity depends on the weather conditions during the season.

Why do you consider perennial pastures an important part of your system?

Perennials allow us to have more feed over the summer months, when there isn't much other feed around.

Getting our management strategies in place and establishing an increased number of high-quality grazing paddocks, like at our demonstration site, will hopefully boost our production by allowing us to increase our stocking rate.

As a legume, lucerne is capable of fixing nitrogen. It can therefore increase nitrogen in the soil profile, which can be drawn on for a few years after the paddock is rotated back

into cereal crop production. Down the track, we should see the nitrogen benefits of having the lucerne stand, which has the potential to boost cereal crop yields, without relying too much on synthetic nitrogen fertilisers.

Describe the way you manage pastures throughout the year and over various seasonal conditions.

We rotationally graze our perennial pasture paddocks throughout the year, ensuring they are not overgrazed.

When establishing a new pasture, it's very important to allow perennials time to take off in the first year and establish an extensive root system before being grazed too heavily. It's also really important not to graze it down too close to the crown; this can kill the plants and reduce the density of the lucerne. We want a lucerne sward to last at least five years, and if we manage it well, we can help it survive longer.

Our demonstration paddock, which was sown in May 2023, was first grazed in mid-January 2024, when we put 1,200 sheep on the 58 hectare paddock for a week. The lucerne handled it well, as we grazed the more fibrous stems to just above the crowns, ensuring there was a good amount of stem and leaf remaining for strong future growth.

Adding in a straw (feed) component when lambs are grazing lucerne helps their stomachs and helps prevent bloat, so having that roughage is important when grazing lucerne and clovers.

We've also found lucerne has a higher nutritional value than grazing wheat and grazing canola.

Do the pastures in your system increase your farm's overall drought resilience, and if so, how?

Yes. Having an established perennial crop helps maintain ground cover throughout the year, which helps reduce soil erosion. When we do strike those drought years, it also gives us more of an opportunity to be prepared for it, not only for erosion control, but for feed supply as well.

The plan for later in the year is to reduce the grazing to get a good cut of hay off the paddock and store it for drier times.

What were your key learnings from hosting the demonstration site on your farm?

The demonstration site provided us the opportunity to see the difference in sowing rates and cultivar selection on our own soil types and see how it fits in our operation.

The plan for the next five years is to put more pasture in, to support the higher stocking rates we aim to achieve.

The two different strips within the paddock allowed us to visualise what we can do differently, and what works and what doesn't. We've seen that if we increase our sowing rate and add the more grazing tolerant lucerne, we're able to grow more feed. It will be good to see what happens when we graze it further and how it comes back during the next couple of months.

For more information

Details about the demonstration sites, as well as the results, are published in Research for the Riverine Plains, 2024.

riverineplains.org.au

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