



Drought resilient pasture demonstration site — Savernake

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.

Annual and perennial pastures

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.

Pasture species grown

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.



Farm Snapshot



Owners: Chantelle and Christine Gorman

Location: Savernake, New South Wales

Farm size: 2,830 hectares

Enterprise: mixed farming with a 50/50 split between livestock and cropping

Cropping: 1,010–1,200 hectares canola, lupins, oats, wheat and barley, plus grazing wheat and barley for ewes and lambs

Livestock: beef cattle, merino sheep and first cross ewes for prime lamb production

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

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.

Perennial pastures are important for our 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.

Managing our pastures

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 1200 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.



Sophie Hanna with Chantelle and Christine Gorman at the Savernake demonstration site



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 systems increase your farms drought resilience?

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.

Key lessons learned

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 in the next couple of months.

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For more information

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

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