

A climate-focused edition of the Barossa Improved Grazing Group Bulletin

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Natural Resources
Adelaide and Mt Lofty Ranges



Natural Resources
SA Murray-Darling Basin



THE BIGG BULLETIN

CLIMATE EDITION

Welcome to BIGG's monthly newsletter, which this month has a 'climate focus'. It includes articles on the current climate outlook, advice for managing your livestock this summer and pasture varieties for a changing climate.

In addition to these articles, it gives a 'monthly report' on the soil moisture status of the three local pasture paddocks (Flaxman Valley, Keyneton and Koonunga) BIGG is monitoring as part of our Soil Moisture Monitoring in Grazing Systems project.

Given there has been little rainfall at the three sites during October there has been a correspondingly rapid decline in soil moisture. The soil water capacity of each site has dropped by half since the last report on [4 October 2017](#). As of 30 October 2017 the soil water capacity at each site is:

- Flaxman Valley- 36% (down from 80% on 4/10/17)
- Keyneton- 30% (down from 60% on 4/10/17)
- Koonunga- 25% (down from 50% on 4/10/17)

The current 'monthly report' detailing this information can be accessed [on our website](#)

The graphs generated from the soil moisture and climate data being recorded at each site has also recently been updated and now includes graphs on:

Fire Danger Index- specifically for use at crop harvesting time to check when safe conditions for harvesting have been exceeded (FDI >35)

- Frost Conditions
- Sheep Chill Index

These graphs along with all others generated from the three sites can be viewed at:

- [Flaxman Valley](#)
- [Keyneton](#)
- [Koonunga](#)

BIGG would also like to acknowledge recent funding support for the Soil Moisture Monitoring in Grazing Systems project from the SA Murray-Darling Basin NRM Board. This funding will complement the projects existing grant from the Adelaide and Mount Lofty Ranges NRM Board, and be used to purchase radiation sensors for each of the projects weather stations including to develop the projects pasture production tool.

What's the forecast?

The latest outlook from the Bureau of Meteorology (BoM) came out this week, though BoM senior climatologist Darren Ray says that the La Niña watch does not mean there is any increased likelihood of wet weather for Barossa graziers this spring and summer.

“The Pacific Ocean indicators that have led to the La Niña watch will affect the eastern states, but it is a late, weak La Nina, and in South Australia we are further from the Pacific Ocean, so it is not likely to have a significant influence on our weather,” he said.

Mr Ray suggests that November is likely to be on the dry side, with December slightly wetter than average. Temperatures for the next few months are likely to be warmer than average but not particularly extreme.

“The most likely time for stormy weather is looking like the first half of December, though we’re not seeing indications of any extreme weather coming up.”

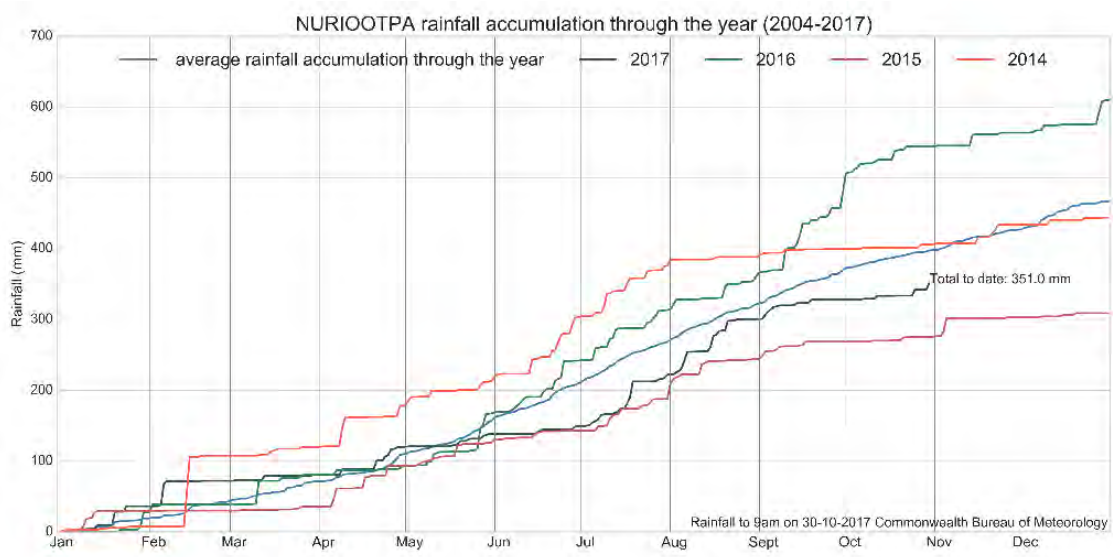
The second half of summer through to March is looking a little warmer and dryer than average.

Mr Ray says the 2017 season so far in the Barossa has been slightly drier than long

term averages as shown in the graph below for Nuriootpa.

Mr Ray suggests the best way for growers to keep on top of the weather is by downloading the MetEye app on their phones, and reviewing the climate outlooks, which are now being issued fortnightly on the [BoM website](#), with the next outlook due Thursday 16 November.

The BoM has also launched a new product for this summer to give warning of [predicted heatwaves](#) in the coming week.



Managing livestock this summer

With spring pasture yields declining after below-average rainfall, producers are now discussing summer feed options.

Coopers Farm Supplies' Craig John suggests producers could consider planting a summer forage crop if the opportunity arises from a rain event.



"Soil temperature is now adequate for good germination and depending on soil type the placement of seed should be 25-50mm deep into moisture," he said.

"Super Sweet Sudan (SSS) is a good choice as it is easier to manage and safer for grazing than forage sorghums."

"With the BoM saying there could be a chance of rain in early December, the four

days after a 25mm rain event would be an ideal opportunity to sow.”

SSS sorghum is tolerant of hot, dry conditions if there is adequate moisture for establishment, as it is a very hardy crop that can survive even a Mallee summer.

Producers should assess the cost of different feed sources based on feed quality.

"The current cost of energy when feeding out barley or good quality legume hay are both about 1.8 cents per megajoule (c/MJ), compared to growing a summer SSS crop, which is close to half the price, at 1c/MJ," Craig said.

Craig says producers should be looking for feed with the right energy and protein content to achieve production targets for meat or milk.

“Sorghum will meet the energy requirements for most classes of stock, though you might need to supplement a small amount of good quality legume hay or lupin grains to top up the protein.”

Pastures varieties for a changing climate case study:

LUCERNE FOR YEAR-ROUND FEED OPPORTUNITIES

Keyneton cattle producers Andrew and Kate Jaeschke planted a stand of L70 lucerne in 2014, which is utilised for weaning and finishing steers and heifers.

After successes in the subsequent three years, the family planted another 58 Ha to lucerne in 2017.



The lucerne plays an important role in the Jaeschke's Santa Gertrudis cattle grazing system due to its high protein and metabolizable energy ensuring calves grow quickly.

For example, at the BIGG PDS Koonunga site in February, lucerne reported 25.5 per cent dry matter, 23 per cent protein and 9.6 MJ/kg DM metabolizable energy.

In August 2017 the Jaeschke's first stand of lucerne measured 1000kg DM/ha with

80 per cent groundcover, with dry matter increasing to 1700kg DM/ha by September.

Lucerne has a range of advantages, including its role as a fire break. The Jaechkes benefit from the lucerne as a fire-break around the house, after 95 per cent of their property was burnt out in the Eden Valley bushfire.

The roots of lucerne grow incredibly deep, which help lower the water table, reduce salinity and improve soil aeration.

These deep roots allow the crop to access water during drier periods, and lucernes are also summer-active, so can respond quickly to summer thunderstorms, which are happening more often with climate change.

To maximise performance, timerite is used for red legged earthmite control, and during establishment weed control was used to minimise competition. When sowing the new stand in June 2017, the Jaeschke's sprayed before sowing and eight weeks later.

The new stand is sown to an older variety Fairdale, which Andrew chose because it has a bigger crown and is more prostate so can better handle grazing. This variety is also winter active, which will help provide year-round feed.

The lucerne started to germinate five weeks later; lucerne has a staggered germination, so plants continued to establish throughout the winter and spring months. After 14 weeks, in early spring, the pasture was sprayed with a selective to remove grass competition.



The older lucerne stand measuring 1700 kg DM/ha in September 2017



The older stand in September 2017

From the Inbox...

- Don't forget about tonight's Matching Pastures with Production webinar! [Register here](#) for the webinar which will be at 8pm.
- [Predicta B](#) Root disease risk management course, Monday 6 November, Adelaide
- Livestock SA survey: [Identifying stock water issues for the livestock industry](#). Have your say on water issues. Closes 5pm Friday, November 10.
- [Digging Deeper](#) soil biology in agriculture forum Wednesday 15 November 9am-5pm, Mt Osmond.
- **SAVE THE DATE:** BIGGs annual conference will be 22 FEBRUARY 2017 at Lambert Estate, Angaston - stay tuned for more information coming soon!

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