

Stocking rate decisions aided by soil moisture data

LOCATION: Keyneton

ANNUAL RAINFALL: 500 mm

FARM SIZE: 6800 ha

ENTERPRISES: Wool, Lamb, Beef Cattle,
cropping

Information from Barossa Improved Grazing Groups weather monitoring station located at Keyneton has given Graham Keynes extra confidence when making decisions about stocking rates, cutting hay, feed purchases and the growth of summer forage crops.

The Keynes enterprise is livestock-based, sheep and beef cattle, with some cropping of vetch, oats and improved pastures.

Graham has grown accustomed to having access to information from BIGG's weather monitoring station. It allows him to validate his own rainfall figures at home but importantly gives an indication of how full the soil moisture profile is at any given time.

That information helps the Keynes estimate when the growing season might end (rather than assuming the end of October). This gives them a valuable head start when it comes to planning for how many stock they can carry over summer; if they need to cut more hay for feed or if they are able to lock up paddocks for pasture growth in the case of above average soil moisture levels.

In early spring 2018, the Keyneton monitoring station indicated the soil moisture levels were significantly less than the equivalent time in 2017, which prompted the Keynes to consider things like selling dry stock, culling stock and deciding on the number of ewes to carry through. The Keynes cut back on cattle numbers to take the pressure off feed resources.

Another decision which information from the weather monitoring station supported was the choice to sow a summer forage crop in late August 2015.

Graham said that, at the time, the soil moisture profile was 70% full and there was an indication from the Bureau of Meteorology that they could expect follow-up rains later in the season. This information supported their decision to plant a Brassica crop (pictured), with a plan to use it to finish off lambs and merino wethers before selling them.



The Brassicas established well and provided two to three grazings for the stock over summer.

Graham felt the information from the weather monitoring station, while not the sole determining factor, gave them extra confidence to make that decision.

He said knowing the level of soil moisture in the profile, convinced them that the crop would germinate and at least survive over summer and probably thrive in the event of a summer rainfall event.

Graham said they are also considering more perennials in their pasture mix having seen data from BIGG's monitoring station at Flaxman Valley. In late 2018 at Flaxman Valley, the phalaris based pasture was able to access deeper moisture in the soil profile resulting in extra production compared to paddocks with annuals only.

He likened the weather monitoring station, and the information it provides, to having an extra tool to utilise out of a toolbox. Graham also advocates that smarter grazing management strategies lead to natural resource management benefits. For example, de-stocking early helps ensure their groundcover levels are maintained, which reduces the potential for soil erosion and invasion of broadleaf weeds.



KEY DECISIONS

Estimate when the growing season will end through knowing how full the soil moisture profile is at any given time

Stocking rate decisions based on end of growing season timing, and therefore available feed.

Planting summer forage crops if soil moisture levels are adequate and follow-up rains are forecast.

USEFUL INFORMATION: Graham Keynes likens the availability of soil moisture data from BIGG's weather monitoring stations, to having another tool in a decision-making toolbox.

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For further information visit <http://biggroup.org.au/project/soil-moisture-monitoring/>