

BIGG Soil Moisture and Weather Station paddock report – 28/5/17

Site Name: Flaxman Valley (Evans)



2018 rainfall (Apr-current)	67 mm	Estimated % of Available Soil Water Capacity	18%
Soil type	Sandy loam over clay		
Pasture type	Phalaris/ryegrass/clover based pasture		
Current pasture status <i>(see photos below)</i>	Composition: Phalaris 43%, Ryegrass 33%, Clover 12%, Broadleaf weeds (Capeweed, Fumitory, Dock) 12% Estimated Feed on Offer (FOO): 1200 kg DM/ha		
Paddock and grazing management	<p>In 2018, the paddock has been grazed by:</p> <ul style="list-style-type: none"> • 120 cows (stocking rate of 240 DSE/ha) between 2-6/2/18 • 220 ewes (stocking rate of 38 DSE/ha) between 3/3-13/4/18, including some supplementary feeding <p>On 19/4/18 the paddock was sown with Tetila annual ryegrass at 24 kg/ha and fertilised soon after with 'Pasture Prime' (4.5-14-0-15) at 90 kg/ha. On 10/6/18 a mob of ewes will be moved into the paddock for lambing.</p>		
Narrative	<p>There is currently 20mm of PAW (Plant Available Water) in the profile, compared to 20mm at the same time in 2017 and 24mm in 2016. The rains to date have added 10mm to the profile from the lowest point of the season (note that this figure ignores the water in the top 10cm where there is no sensor). The top sensor (15cm) has increased 6mm with the rest spread over the sensors down to 45cm. The greening up of the pasture in the last few weeks is evidenced by a rise in the NDVI (Normalised Difference Vegetation Index, a measure of plant 'greenness' that has been recorded by sensors added in late 2017 to each site) from 0.1 in late April to 0.7 today (28/5/18). Although the pasture is using water, the amount is small and the net change in PAW is still positive – with the PAW figure still increasing each day rather than falling. Interestingly, the NDVI jumped up considerably once the sheep were moved off the paddock. This quick recovery indicates that the stock level and duration of the graze was well matched to the paddocks ability to recover (this being before the ryegrass was sown).</p>		

Site Name: Keyneton (Keynes)



2018 rainfall (Apr-current)	52mm	Estimated % of Available Soil Water Capacity	43%
Soil type	Red loam over clay		
Pasture type	Annual grass and sub-clover based pasture		
Current pasture status <i>(see photos below)</i>	Composition: Barley Grass 50%, Broadleaf weeds (Capeweed, Erodium) 30%, Clover 5%, Bareground 15% Estimated Feed on Offer: 400 kg DM/ha		
Paddock and grazing management	<p>Since late 2017 the paddock has been grazed by:</p> <ul style="list-style-type: none"> • 495 merino ewes (stocking rate of 6 DSE/ha) between 21/12/17-18/1/18 • 966 merino wether hoggets (stocking rate of 10 DSE/ha) between 23/4/-28/5/18. <p>Both the ewe and hogget mobs were also supplementary fed with cereal grain to compensate for the low level of paddock feed.</p>		
Narrative	<p>The PAW in this paddock is currently 26mm compared to 16mm at the same time in 2017 and 24mm in 2016. Although there is plenty of soil moisture available, the pasture has not begun to use it. What little growth is occurring has been matched by the grazing efforts of the sheep.</p> <p>Of note at this site is how little re-charge of soil moisture has occurred. This site would particularly benefit from a period of slow soaking rain, which will have time to infiltrate into the profile.</p>		

Site Name: Koonunga (Kleinigs)



2018 rainfall (Apr-current)	40mm	Estimated % of Available Soil Water Capacity	26%
Soil type	Red brown earth		
Pasture type	Oats/vetch		
Current pasture status <i>(see photos below)</i>	Composition: Bare ground/stubble Estimated Feed on Offer: -		
Paddock and grazing management	<p>After being baled for oats/vetch hay in 2017 this paddock has been grazed twice in 2018 to 'clean-up' reshot volunteer oats and wireweed:</p> <ul style="list-style-type: none"> • 278 merino lambs (stocking rate of 30 DSE/ha) between 29/1-20/2/18 • 100 merino ewes (stocking rate of 11 DSE/ha) during mid March <p>As this paddock is part of a crop/pasture rotation, on 16/5/18 it was sown to lupins at 100kg/ha plus MESZ fertiliser (12-17.5-0-10+1%Zn) at 80 kg/ha. Therefor the paddock will not be grazed again until post harvest.</p>		
Narrative	<p>The PAW at this site is currently 22mm compared to 27mm at the same time in 2017 and 16mm in 2016.</p> <p>The NDVI sensors show the difference in pasture condition between this site and the Flaxman Valley site: the NDVI at Koonunga is still around 0.1 whilst at Flaxman Valley the figure has climbed to 0.6. Interestingly the NDVI at Koonunga climbed to 0.3 through April and then fell through May leading up to seeding.</p>		

Photos of paddocks being monitored for soil moisture (taken on 24/5/18)

Flaxman Valley (Evans)



Keyneton (Keynes)



Koonunga (Kleinigs)



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