BIGG Soil Moisture and Weather Station paddock report – 2/7/18

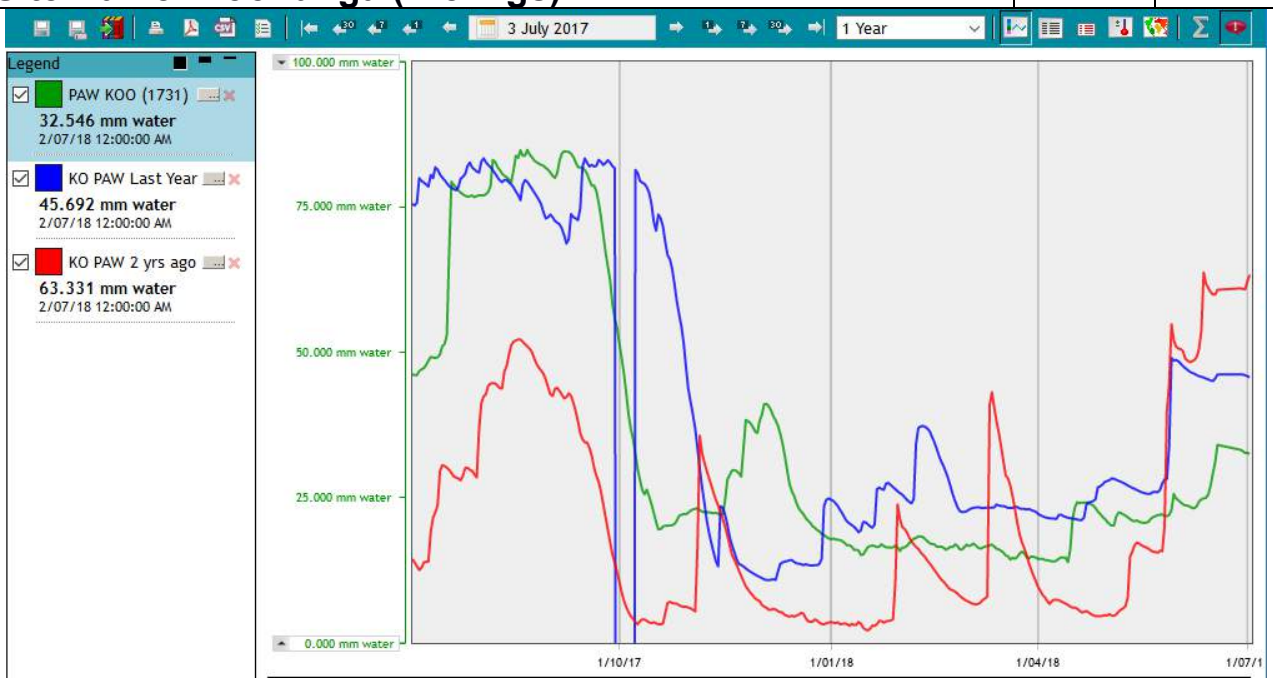
Site Name: Flaxman Valley (Evans)

2018 rainfall (Apr-June)	**121 mm**	**Estimated % of Available Soil Water Capacity**	**44 %**
Soil type	Sandy loam over clay		
Pasture type	Phalaris/ryegrass/clover based pasture		
Current pasture status *(see photos below)*	Composition: Phalaris 46%, Ryegrass 42%, Clover 4%, Capeweed, 8% Estimated Feed on Offer (FOO): 2300 kg DM/ha		
Paddock and grazing management	On 10/6/18, 50 twin-bearing ewes were moved into the paddock just prior to lambing. Previously the paddock had been spelled for about two months, which included tetila annual ryegrass being sown into it on 19/4/18. The annual ryegrass along with the existing phalaris is currently providing excellent feed for the lambing ewes.		
Narrative	The graph above compares plant available water (PAW) for the past 12 months (green) against 2016-17 (blue) and 2015-16 (red). If 2015-16 can be viewed as a good year and 2016-17 as a hard one, then 2018 is looking to be a median year. Rainfall is currently ahead of what it was at the same time last year, while the profile is holding twice as much water. The evapotranspiration (ETo) calculated using the weather sensors at the site was between 0.4 to 2.5mm per day over June, averaging about 1.4mm. Based on the crop coefficients from the NDVI sensors installed last year (to measure plant 'greenness' and have increased from 0.6 to nearly 1 over the month), daily water use is about 1.2 mm per day. Since there is no water stress at this time of year, this should all be converted to feed at the nominal pasture productivity. The FOO quoted above represents a 50% increase compared to the end of May. The pasture grew well during the spell and is coping well with the current stocking rate. Over the next few weeks we should see the crop coefficient and daily water use rise further, pointing to continued high feed levels.		

Site Name: Keyneton (Keynes)

2018 rainfall (Apr-June)	**92 mm**	**Estimated % of Available Soil Water Capacity**	**42 %**
Soil type	Red loam over clay		
Pasture type	Annual grass and sub-clover based pasture		
Current pasture status *(see photos below)*	Composition: Annual grasses (mostly barley grass) 70%, Phalaris 5%, Broadleaf weeds (Erodium) 15%, Clover 5%, Bareground 5% Estimated Feed on Offer: 400 kg DM/ha		
Paddock and grazing management	During June, 966 merino wether hoggets (at a stocking rate of 10 DSE/ha) grazed the paddock between 4-26/6/18. They were also supplementary fed to compensate for the low FOO.		
Narrative	Like Flaxman Valley, this site too looks to be having an average season. Rains arrived earlier than in 2016 with 40mm being recorded in the last month. However, the plant available water has barely changed. Unfortunately we have had a failure on one of the NDVI sensors at this site and have thus lost the ability to calculate the crop coefficient. But, a quick check of the pictures at the end of the report shows that it is still low. The FOO in this paddock has not changed since the end of May, which, with the lack of change in store moisture indicates that the pasture has used about the same amount as recorded, and this in turn has been eaten by the stock.		

Site Name: Koonunga (Kleinigs)



2018 rainfall (Apr-June)	**86 mm**	**Estimated % of Available Soil Water Capacity**	**39 %**
Soil type	Red brown earth		
Pasture type	Lupin crop		
Current pasture status *(see photos below)*	Composition: Stubble 73%, Bare ground 19%, Lupins 8% Estimated Feed on Offer: -		
Paddock and grazing management	The paddock was last grazed in March and on 16/5/18 was sown to lupins as part of its crop/pasture rotation. The paddock has a light covering of stubble over it, which remains after last years oaten/vetch hay crop. The lupins emerged about a month ago.		
Narrative	Unlike the other two sites, PAW at this site is lower than the same time last year. It is however gone up 13% since the end of May. The low PAW is a factor of the lower rainfall in this part of the valley. The PAW figure would be worse had not there been a reasonable amount of residual moisture at the end of the 2017 season. The NDVI sensors are showing midday figures of around 0.2, compared to 0.8 at Flaxman Valley, which verifies the much lower daily water use at this site, which is in turn due to the low levels of green matter. The below pictures back this up. However, this will change very quickly as the lupins further develop.		

Photos of paddocks being monitored for soil moisture: 24/5/18 (left), 29/6/18 (right)

Flaxman Valley (Evans)

Keyneton (Keynes)

Koonunga (Kleinigs)

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