

WERRIMULL, Victoria

Low Rainfall Zone, Northern Mallee

GPS 34°25'48.46"S, 141°27'56.49"E

Seasonal Snapshot

- Low moisture availability was the major abiotic stress experienced at the Werrimull pulse validation site in 2018. Just 100 mm of rainfall was received during the growing season (April – October) which is 56 percent of the long-term average (**Figure 1**). There was also a delayed start to the season with just 13 mm rainfall received from January – April. However, there was subsoil moisture below a depth of 40 cm as a result of post-harvest rainfall in 2017.
- Pulse crops were subject to long periods of moisture stress throughout the season with less than 5 mm rainfall recorded at the site during the months of July and September. A relatively cool finish combined with early October rainfall of 18.5 mm ensured crops were able to finish, particularly longer season crops and varieties. Maximum temperatures rarely peaked above 30 degrees before the end of October. Frost was also not an issue at the site with very few minimum temperatures below 0°C (**Figure 2**).
- Biotic stresses did not impact pulse crops at the site in 2018. Pressure from the major pulse crop diseases was negligible with sampling confirming chickpea ascochyta blight was not present at the site. No significant infection of blackspot in field peas was observed, while lentils did not reach canopy closure and conditions were not favourable for the development of botrytis grey mould.

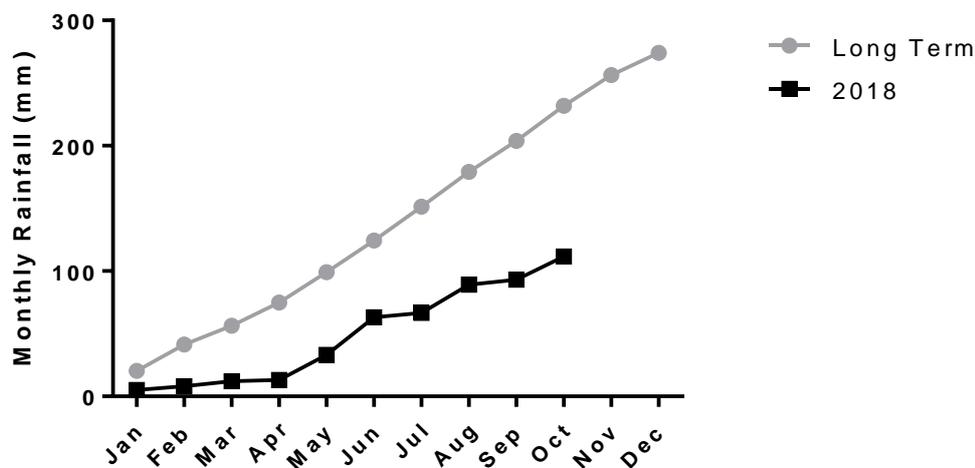


Figure 1. 2018 cumulative rainfall compared to the long-term average at the Werrimull pulse validation site.

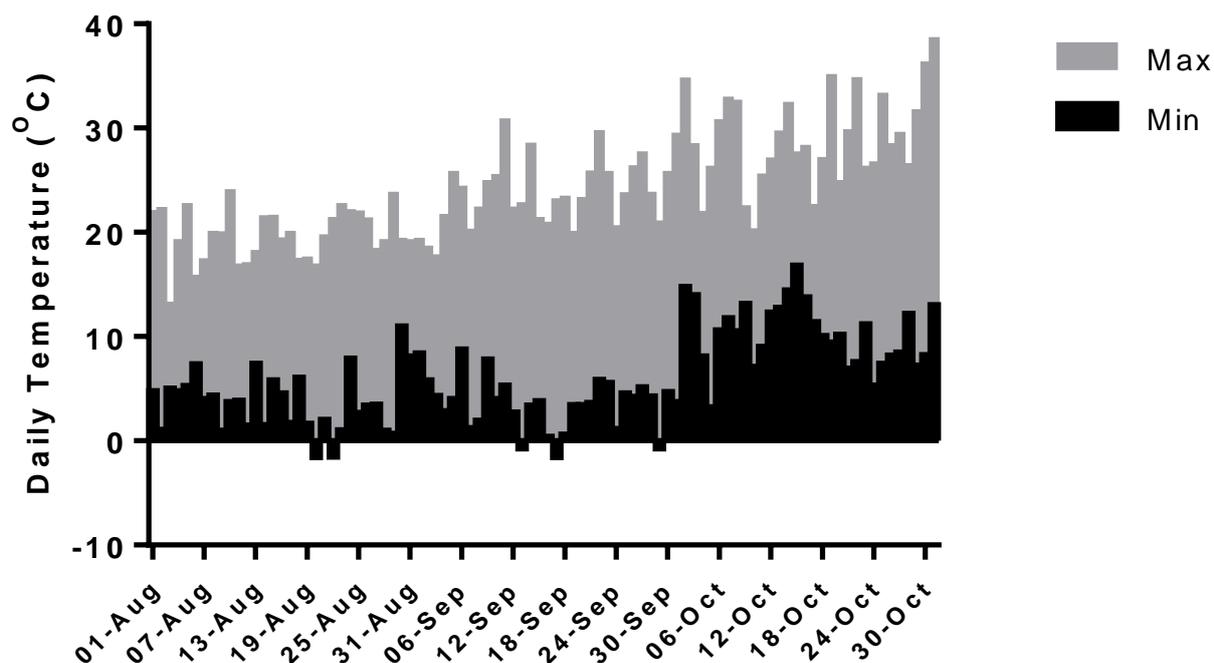


Figure 2. Daily minimum and maximum temperature measured between August and October at the Werrimull pulse validation site.

Soil Characterisation

The 2018 Werrimull pulse validation site was located in the Victorian Mallee approximately 12 km south west of Werrimull (S34.43°, E141.47°). The site has a loam soil type in the topsoil (0-10 cm) and clay loam subsoil (10-120 cm). Key soil properties for the site are described in **Table 1**.

Table 1. Soil properties at the Werrimull pulse validation site.

Depth (cm)	NO ₃ -N (mg/kg)	NH ₄ -N (mg/kg)	P (mg/kg)	K (mg/kg)	S (mg/kg)	OC (%)	EC (dS/m)	pH (CaCl ₂)	pH (H ₂ O)
0-10	19	1.5	13	380	17	0.67	0.24	7.82	8.44
10-30	7.3	1.1	-	-	9.1		0.12	7.93	8.58
30-60	2.4	1.1	-	-	12		0.17	8.21	9.16
60-90	2.8	≤1	-	-	20		0.43	8.5	9.74
90-120	5.7	≤1	-	-	65		0.67	8.58	9.74