

UNFS YIELD PROPHET® SIMULATIONS 2026



LOCATION: WANDEARAH



Wandearah has received approximately 183 mm of growing season rainfall to date, with Yield Prophet currently placing the season at around Decile 5. Crops across the district, including the focus paddock, are looking fantastic following early establishment and consistent rainfall throughout the growing season.

With the barley in the focus paddock now into grain fill in early September, much of its yield potential has already been established. As a result, September and October rainfall has less influence on final yield than it would in a season with a late break and later crop development. This is particularly relevant to barley, which matures earlier and has less capacity than wheat to increase yield potential later in the season. From flowering onwards, grain survival and final grain weight become the main factors influencing yield.

This is clearly reflected in the Yield Prophet modelling (see table 1). For the 5th of July model run, predicted yield ranged from 1.5 t/ha under a Decile 1 (very dry) finish to 6.6 t/ha under a Decile 10 (very wet) finish, a range of 5.1 t/ha. However, by the 14th of September model run, this range had narrowed significantly to just 4.5–5.3 t/ha for a Decile 1 and Decile 10 finish, respectively.

This is where Yield Prophet can be a really useful tool. Early in the season there can still be a wide range of possible yield outcomes depending on how the season finishes. The modelling gives us an idea of what those different outcomes could look like. We can then pair this with long-range seasonal forecasts to make the most informed decision we can with the information available at the time.

Earlier in the season this can be useful when making decisions around inputs such as nitrogen, where we are trying to weigh up the potential return against the risk of a poor finish. As we get further into the season, the range of possible outcomes narrows and we can have more confidence around expected yield, which can also help with decisions such as forward marketing grain.

It is important to remember that these are water-limited yield predictions and assume other factors are not limiting yield. The focus paddock is visibly nitrogen deficient following relatively low nitrogen inputs, so we don't expect these water-limited yields to be achieved. However, they do show what could potentially have been achieved if nitrogen supply had been better matched to crop demand.

Another influence on final yield could be frost or heat stress during filling. The likelihood of these occurring is highlighted in figure 3. Being past the critical flowering phase and into grain fill, frost risk has reduced to an 18% risk, with heat stress the greater concern out of the two.

With an average finish from this point, Yield Prophet predicts a water-limited yield of approximately 4.7 t/ha. The difference between the driest and wettest modelled finishes is now less than 0.8 t/ha, showing how much of the crop's yield potential has already been established.

Model run date	Crop stage	Decile 1	Decile 3	Decile 5	Decile 7	Decile 10
5 July	First node detectable (GS30–31)	1.5 t/ha	3.0 t/ha	4.1 t/ha	5.5 t/ha	6.6 t/ha
28 July	Stem elongation to flag leaf emergence (GS32–37)	2.0 t/ha	3.2 t/ha	3.9 t/ha	4.8 t/ha	6.1 t/ha
14 September	Early Grain Fill (GS70)	4.5 t/ha	4.6 t/ha	4.7 t/ha	5.0 t/ha	5.3 t/ha

Table 1. Yield Prophet yield projections for 5 July, 28 July and 14 September model runs, showing predicted yield across Decile 1, 3, 5, 7 and 10 rainfall finishes.

The Season So Far - Growing Season Rainfall Deciles

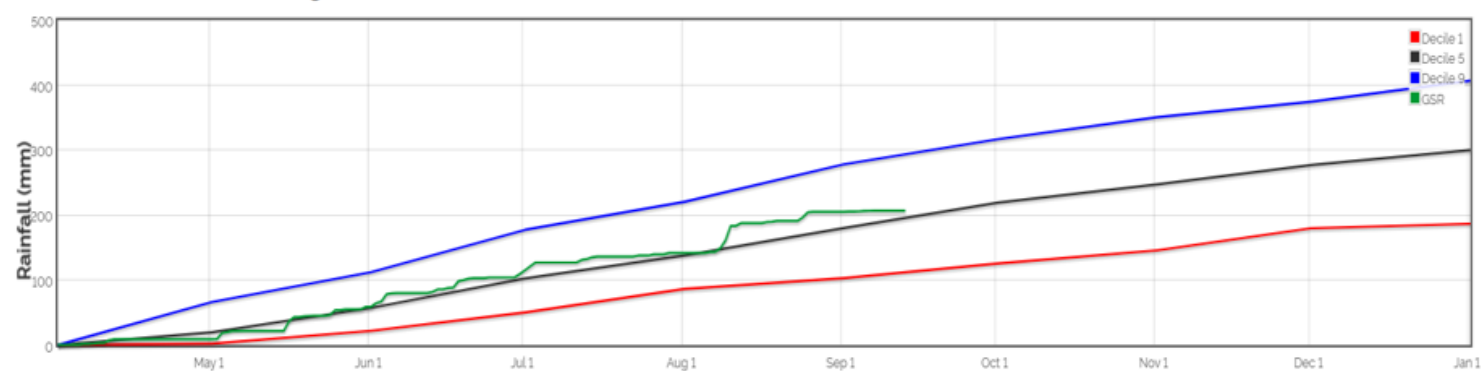


Figure 2. Yield profit growing season rainfall deciles compared to growing season rainfall to date.

Probability and Incidence of Frost and Heat Shock

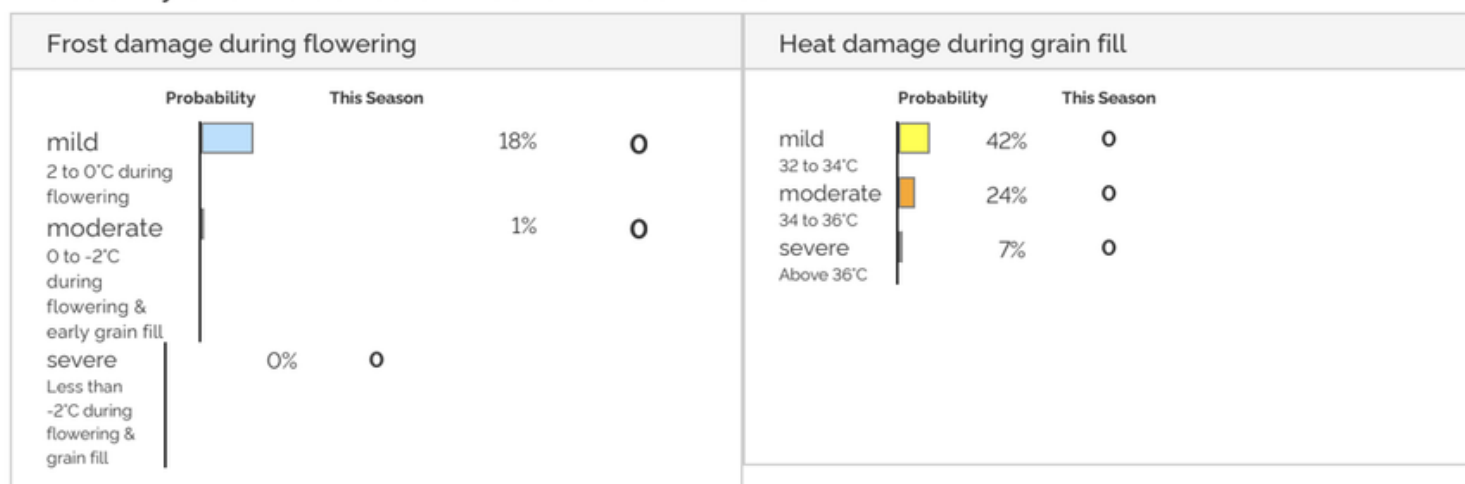


Figure 3. Probability and incidence of frost or heat stress occurring at this site, as calculated by Yield Profit.

For the full Yield Prophet® report for this site click the link:
www.unfs.com.au/other-resources/

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If you are interested in using Yield Prophet® on your own paddocks, **Yield Prophet® Lite** is a free online tool that estimates potential crop yield under different rainfall scenarios and nitrogen application rates. More information is available at:

<https://www.yieldprophet.com.au/yplite>

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