Thermal Time

Thermal time calculations

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# Thermal Time (oC Days)

Thermal time is used to define the time based on accumulated temperature change.

“Leaves are assumed to grow and senesce at a rate determined by the thermal time integral of the mean daily temperature(Thermal Time) above a base temperature of 1oC” (Porter 1984). We use a base temperature of 0oC within the Ewert Model.

## Calculating Thermal Time

Currently we calculate thermal time(TT) based purely on the accumulated average daily external temperature as below:

Where and T is the hourly recorded ambient temperature

t is the current time and tb is the base temperature.

## Calculating Age in thermal time

To calculate the age in thermal time (TTa) we find the accumulated time between the thermal time value at the start of the growing season (TT0) and the current thermal time as below

Where t0 is the time of the start of the growing season