

# Predicting canola phenology in warm environments



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# Flowering



Doesn't seem like **canola** is **flowering** as **early** this year for whatever reason.

Pretty sure [#canola](#) isn't supposed to be flowering on July 16



Too early to start flowering next week



canola about a week late to the flowering table










Early sowing really sorts out the phenology differences in canola



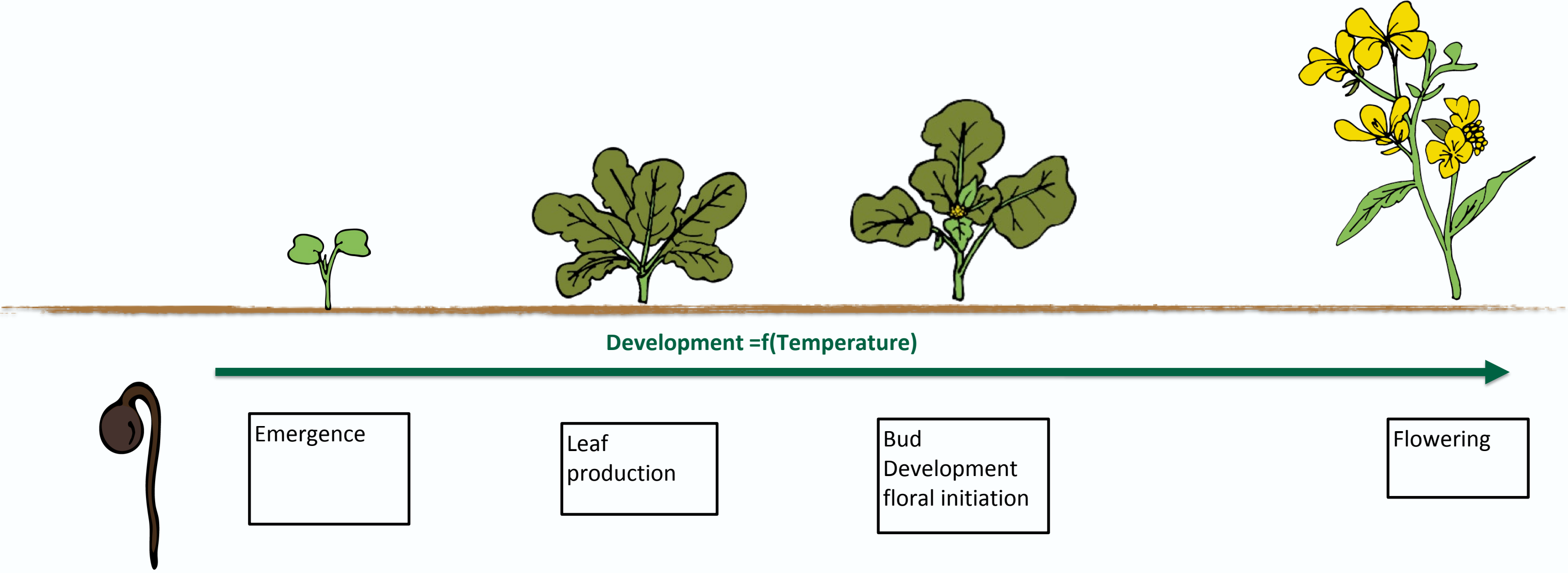
45Y91 LHS holding back compared to 44Y90 RHS. Both sown 25 Apr. Plant size similar. Will 45Y91 phenology get edge this year?



# Development

Stage 0	Stage 1	Stage 3	Stage 5	Stage 6	Stage 7	Stage 8
Seedling	leaf production	Stem Elongation	Bud Development	Flowering	Podding	Seed Development
						
Vegetative						
		Reproductive				
				Flowering		
					Podfill	

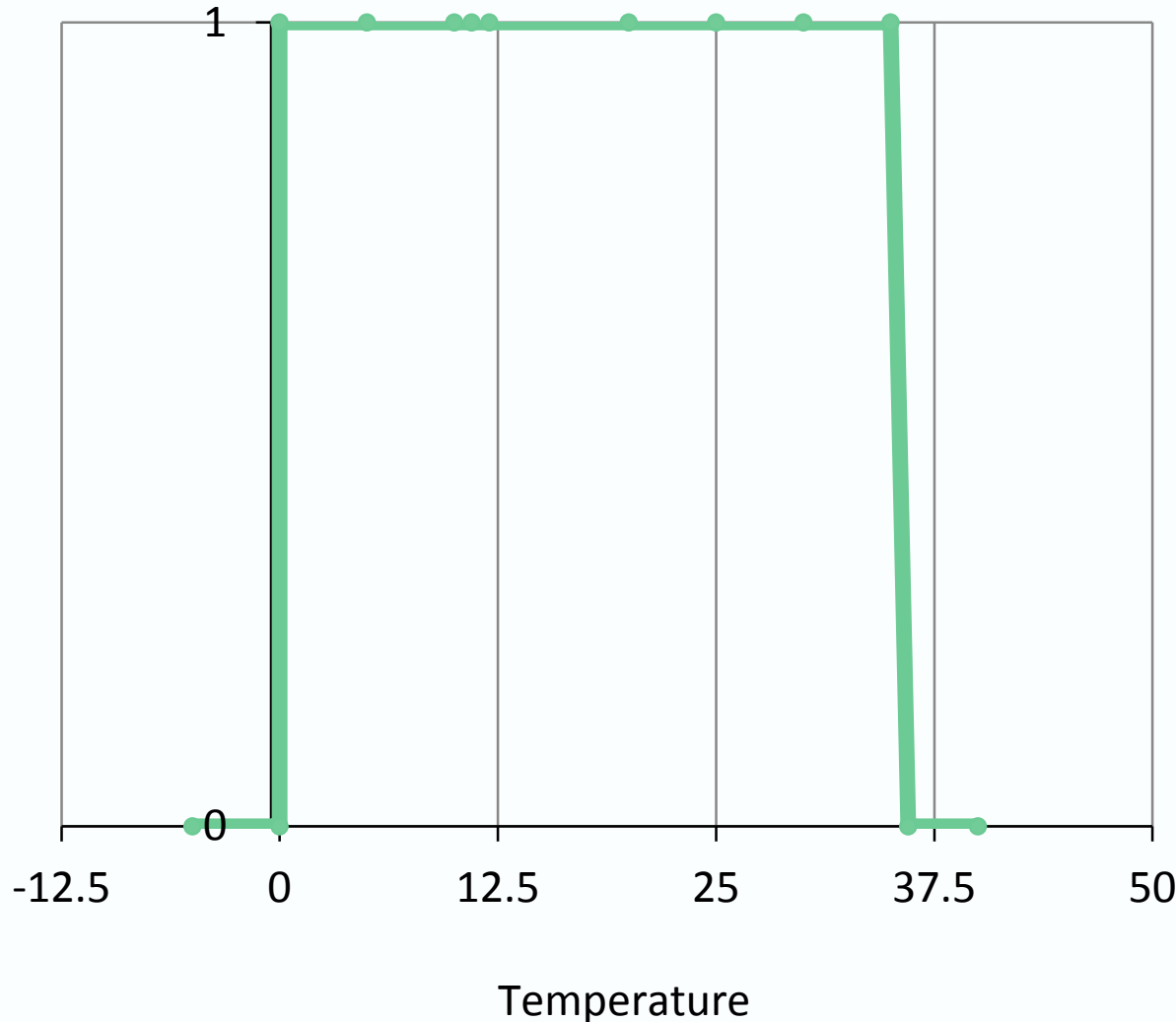
# Development



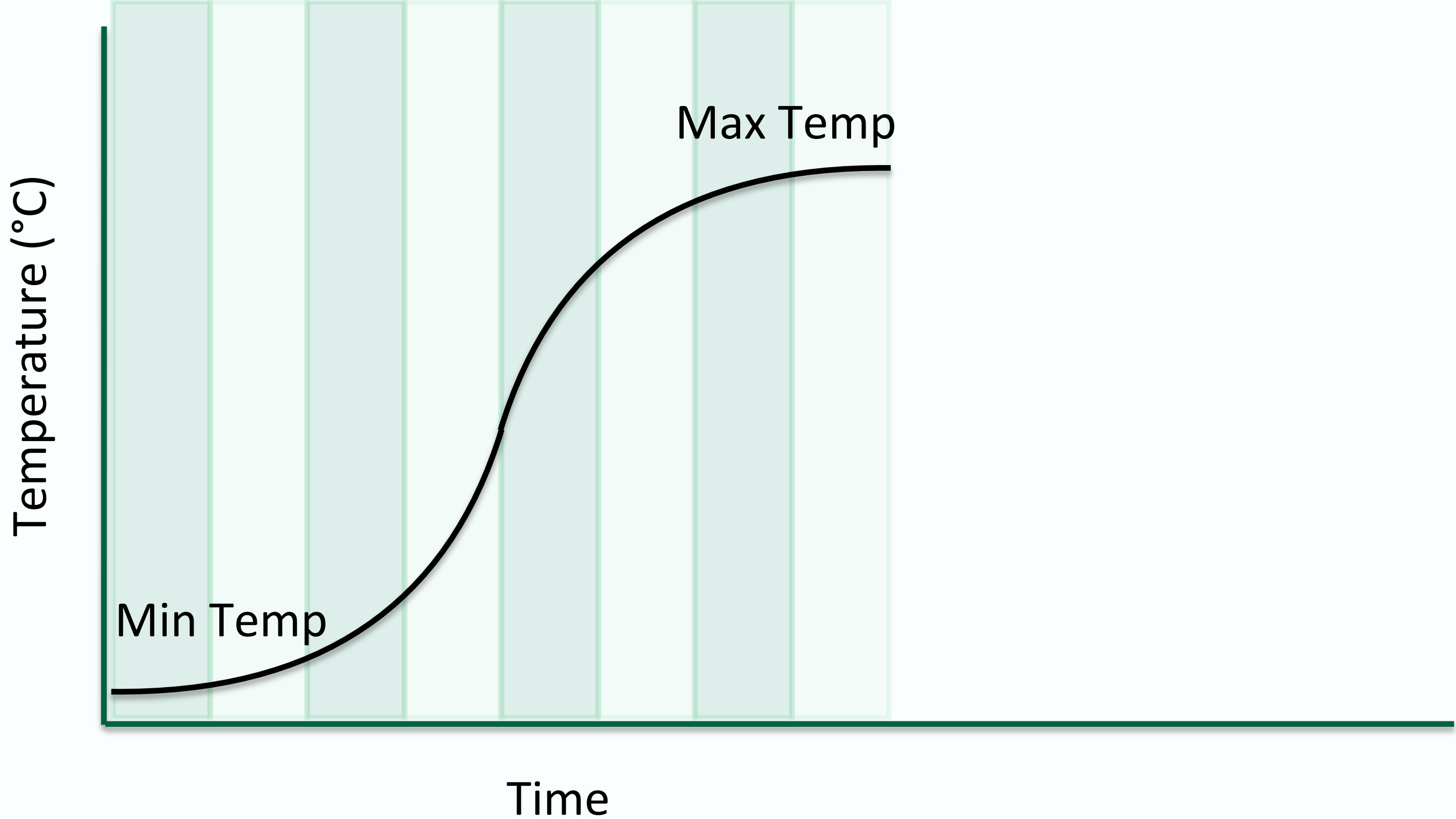
# Thermal Time

$$\frac{\text{Max daily temperature} + \text{Min daily temperature}}{2}$$

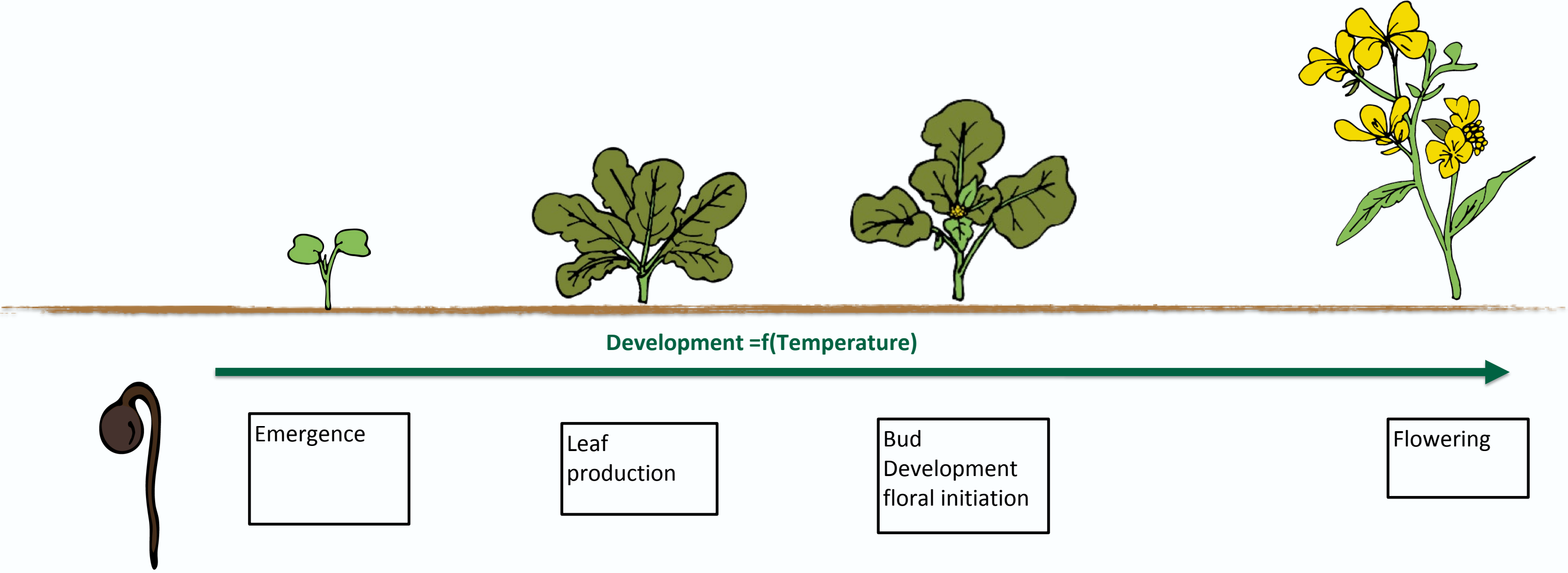
Accumulate DD



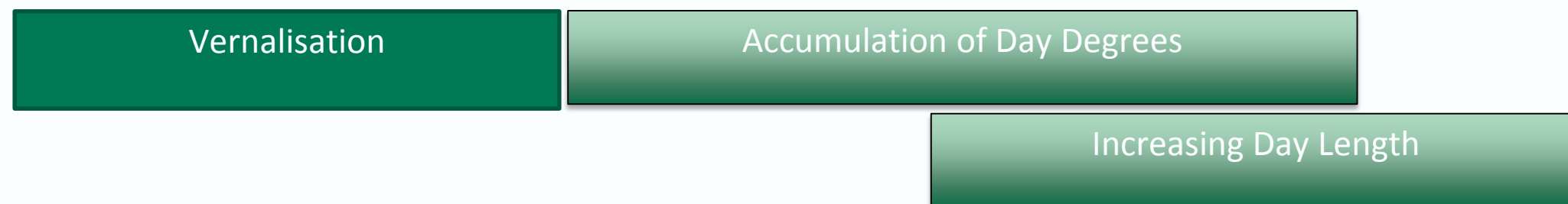
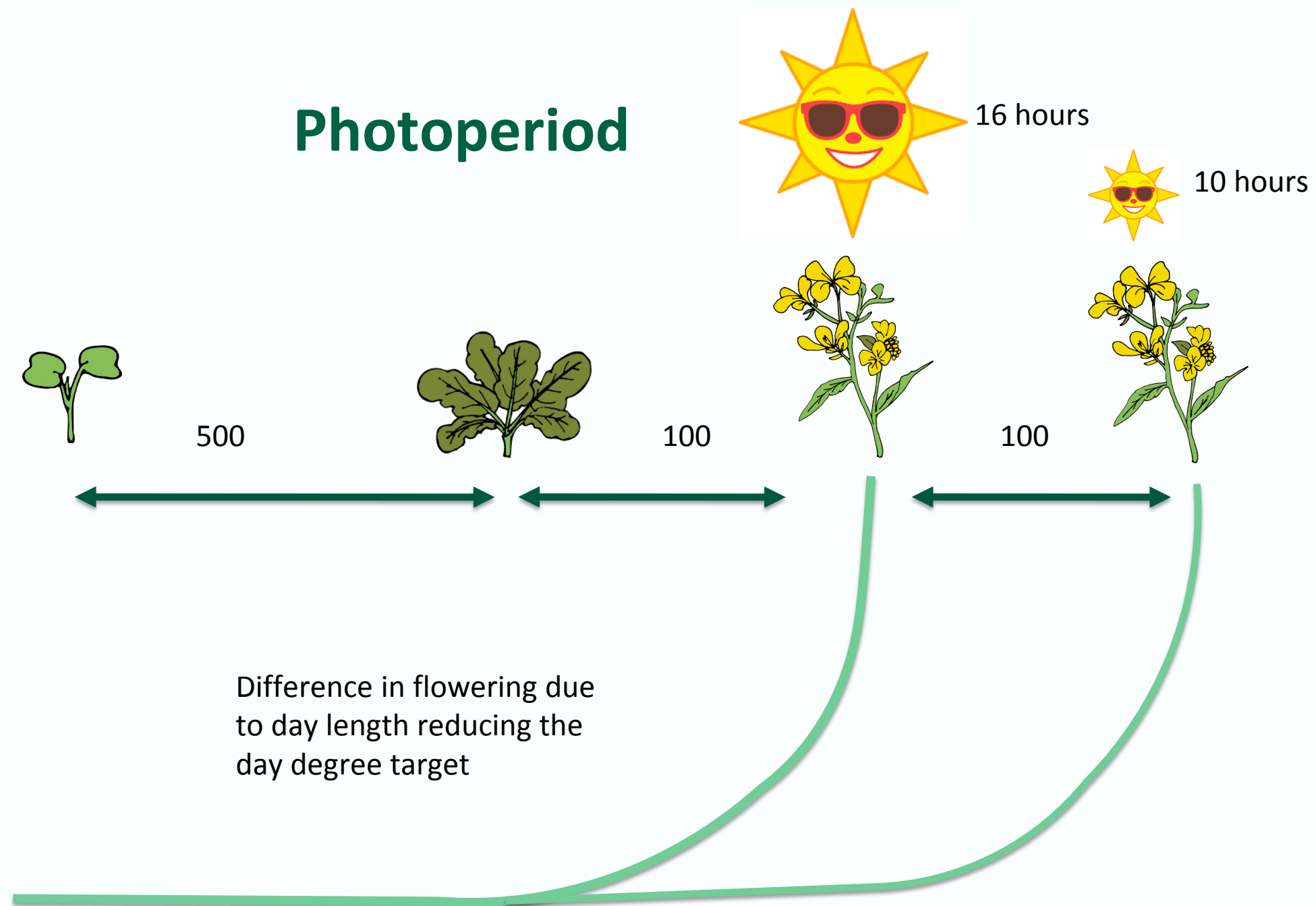
Don't accumulate DD



# Development

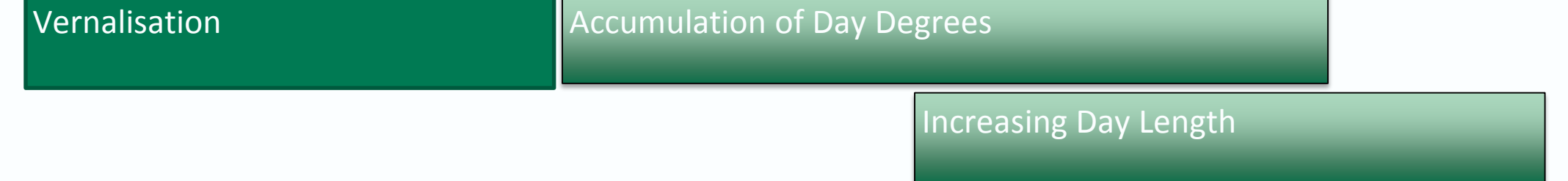
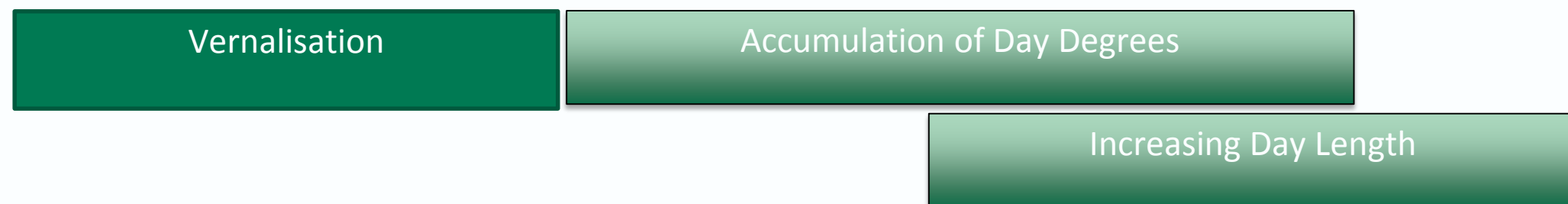
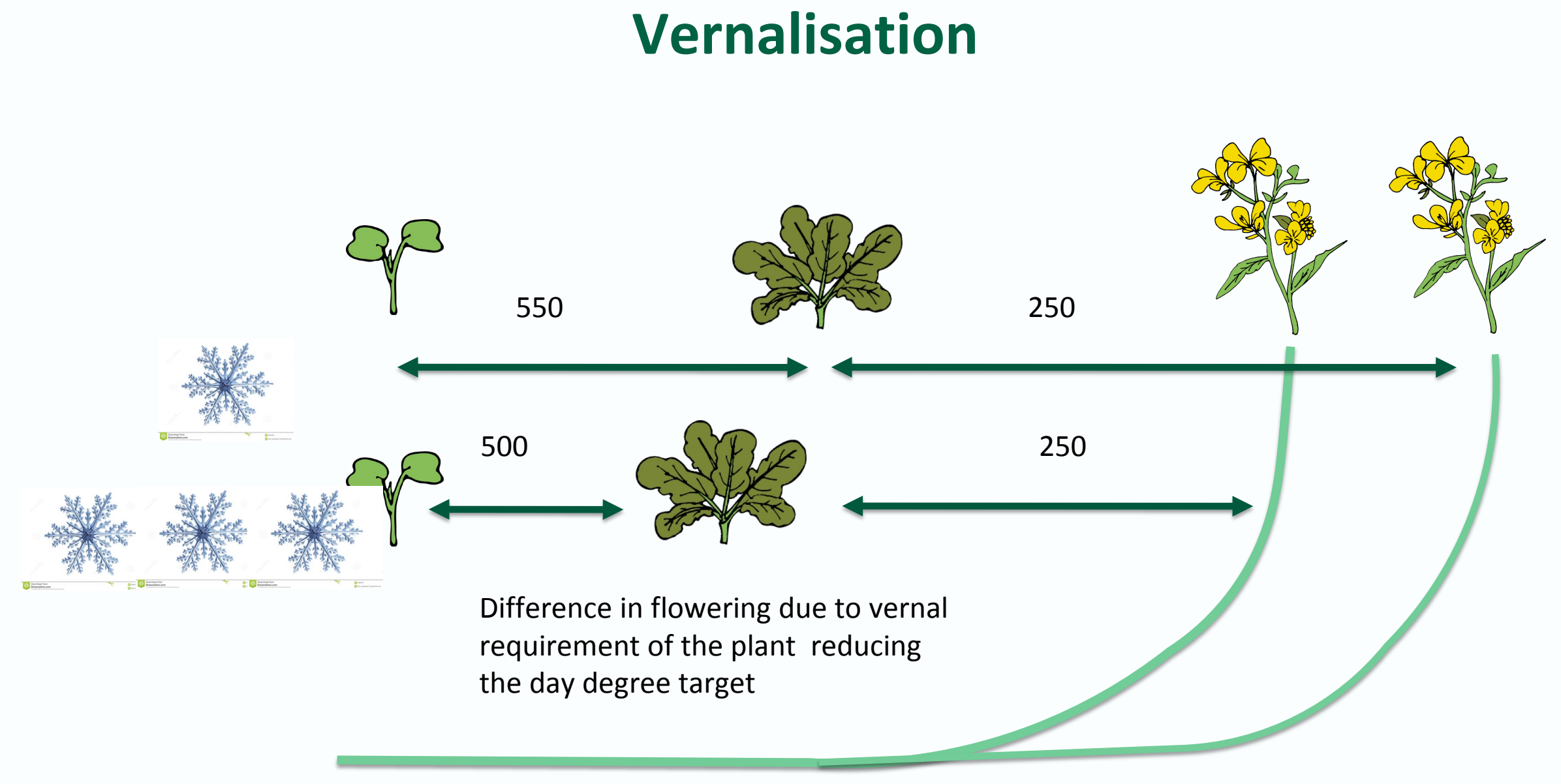
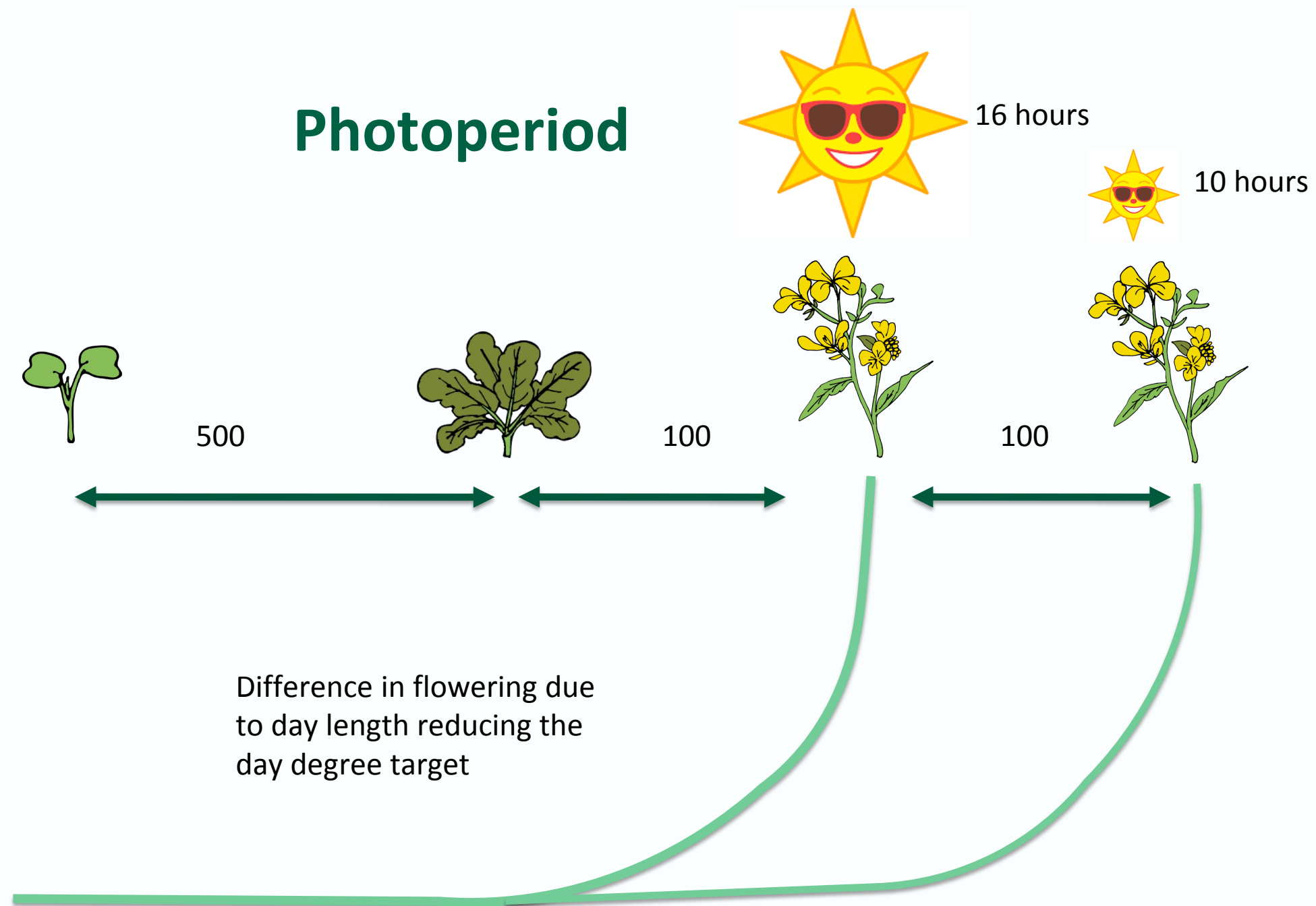


# What affects development





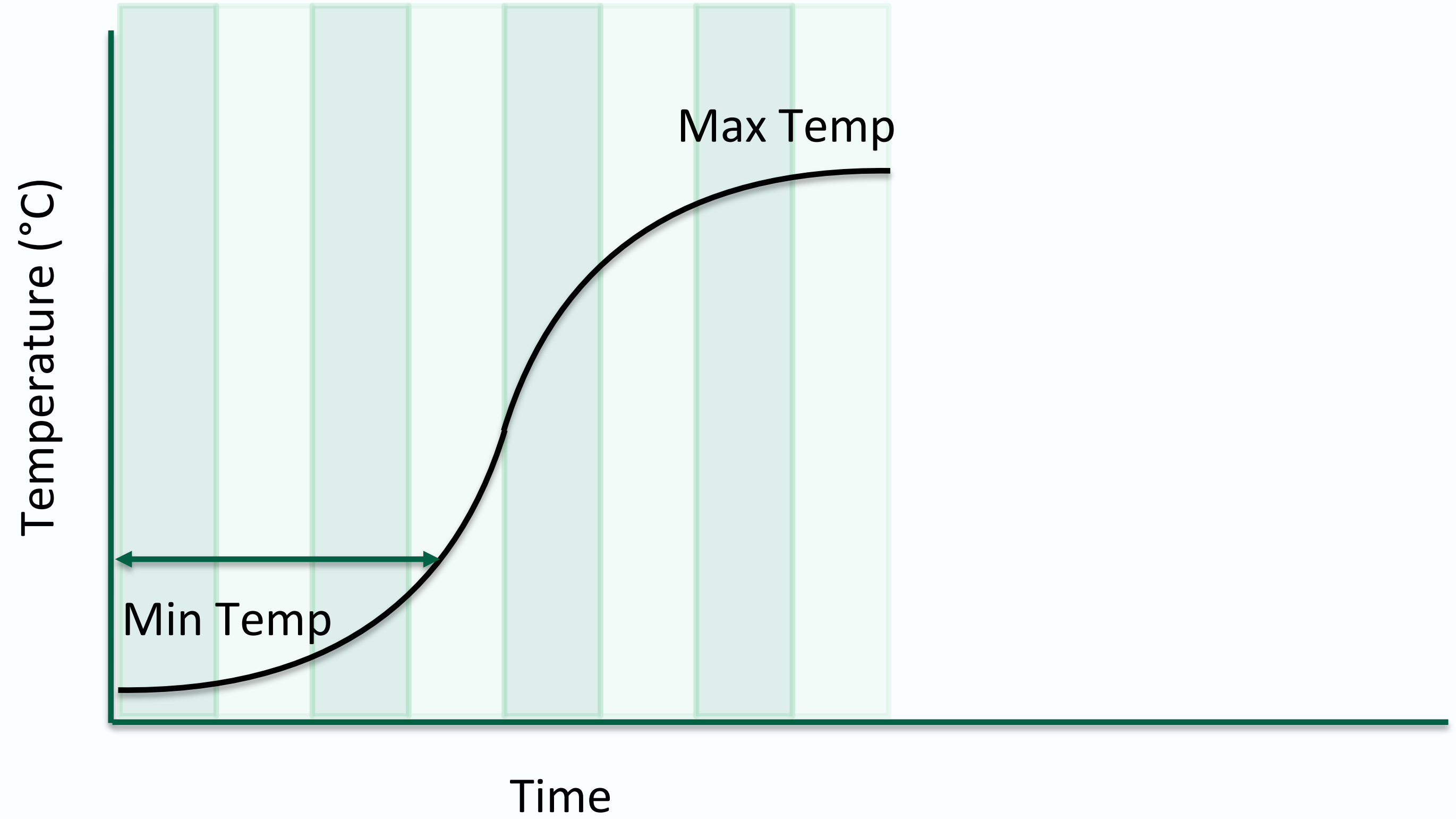
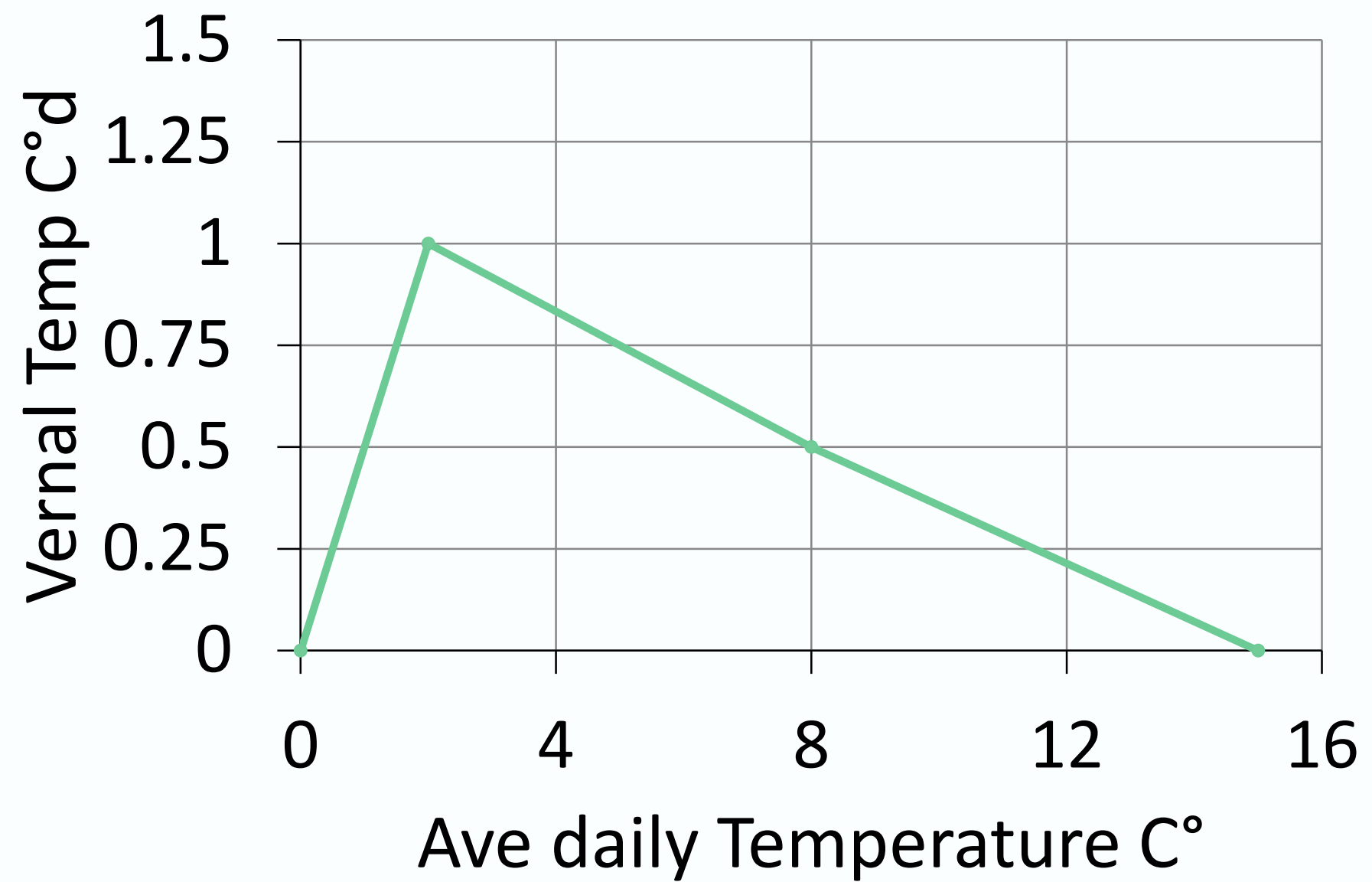
# What affects development





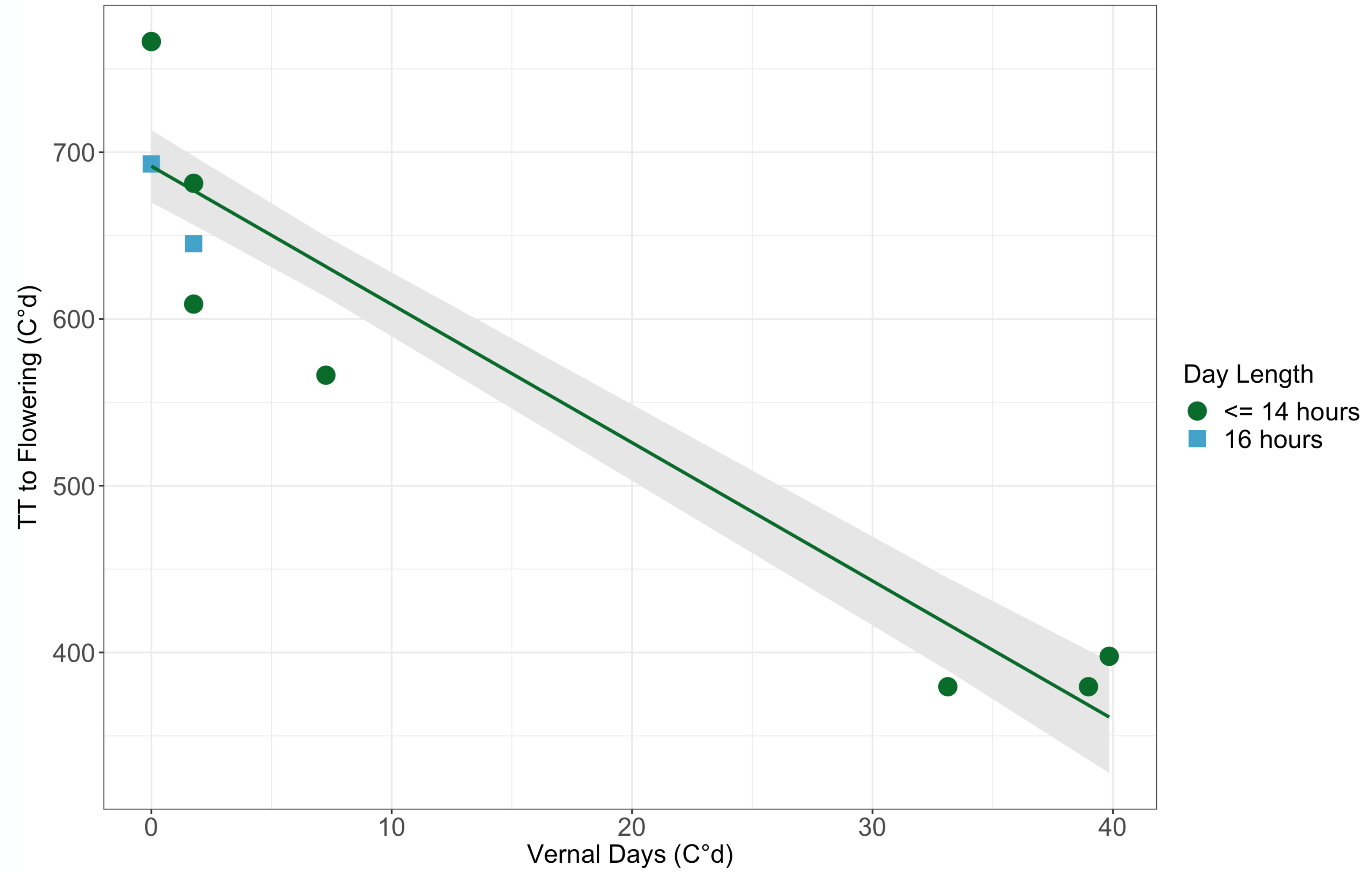
# Vernal Time

$$\frac{\text{Max daily temperature} + \text{Min daily temperature}}{2}$$

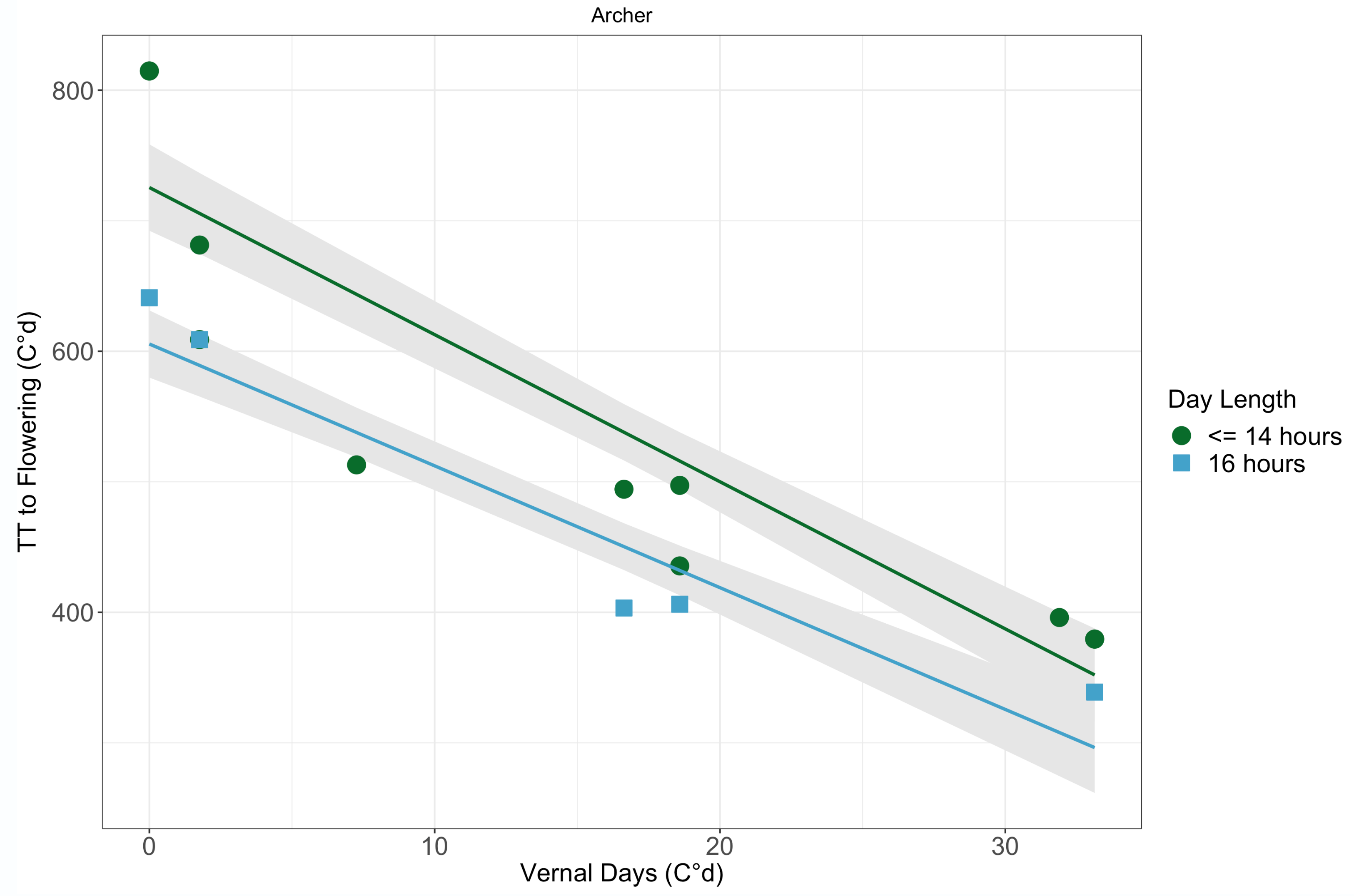




ATR\_Wahoo





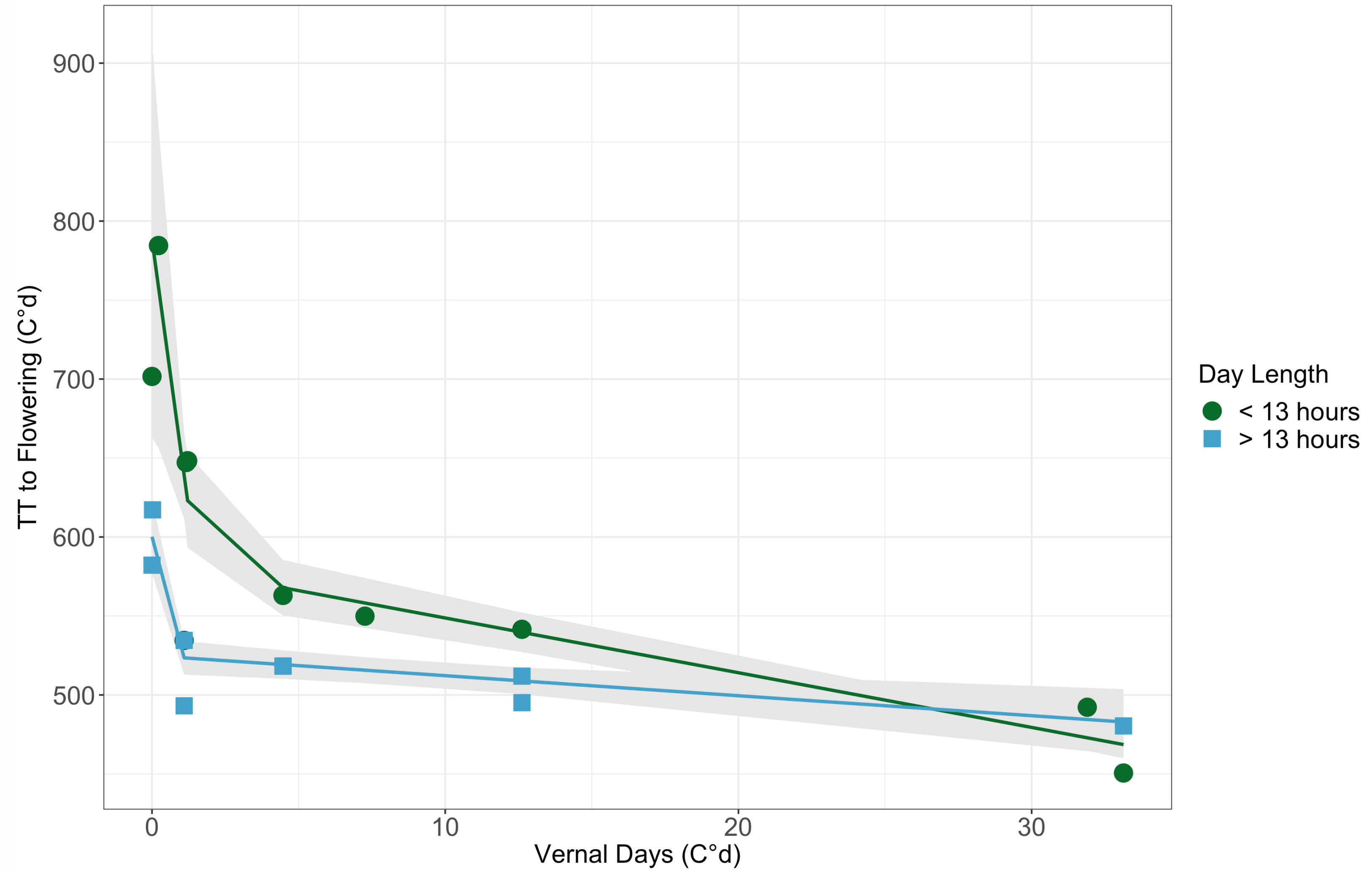


# Some varieties responded to day length

Same variety same sowing date

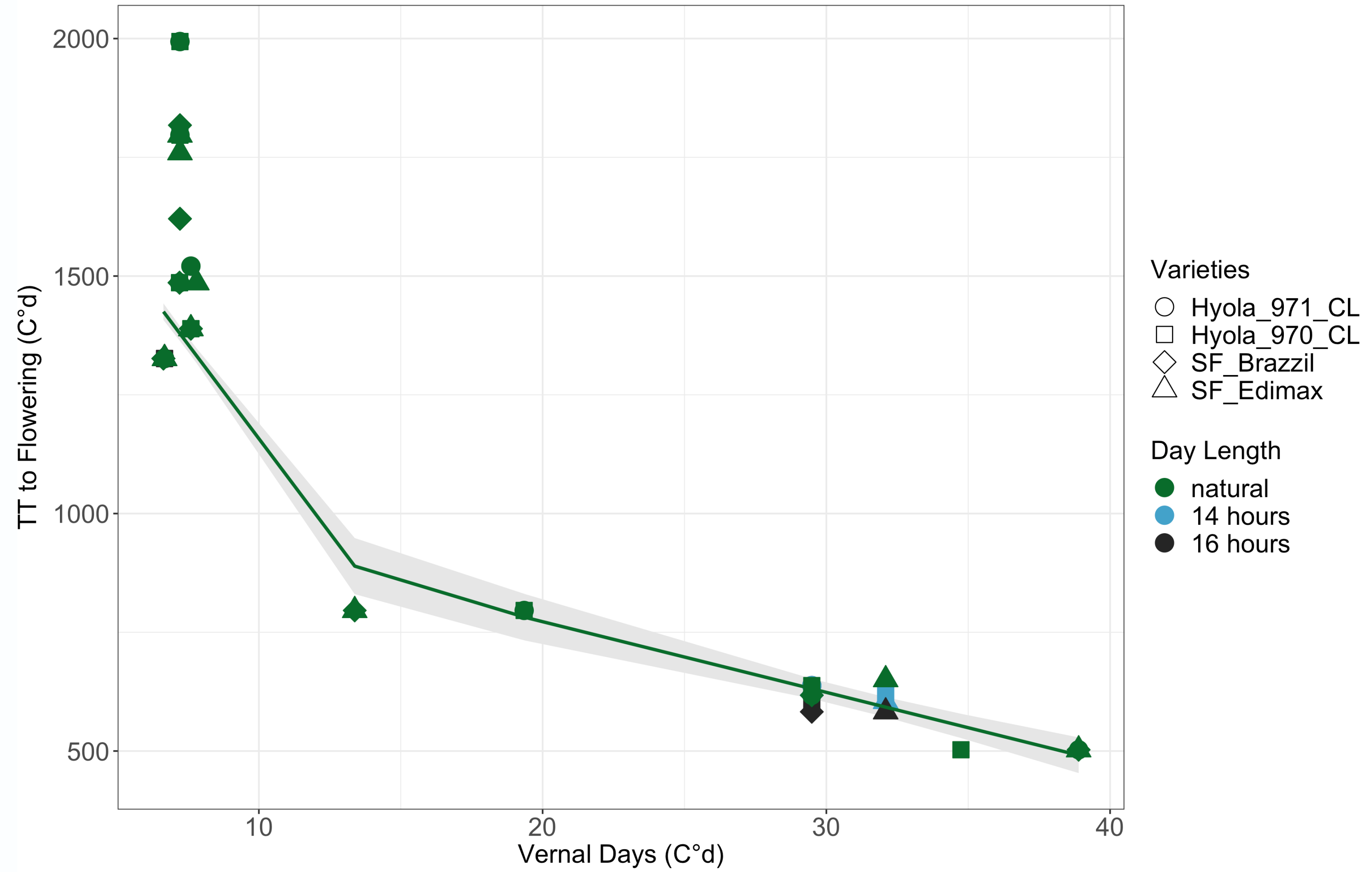


ATR\_Stingray





Canola Winter Types



# Summary

- Vernalisation is present in Australian spring canola and will affect flowering
- Photoperiod is present, but not an issue unless growing between November-February
- To identify a vernal response in warm environments it is important to work on a sub-daily timescale.



# Canola Phenology Model



Model Setup

### Select 3 Sowing Dates

1	1-Apr
2	15-Apr
3	3-May

### Select ideal rainfall for each sowing date

1	0	35mm	50
2	0	20mm	50
3	0	15mm	50

### Select Varieties

- Variety 1
- Variety 2
- Variety 3
- Variety 4
- Variety 5
- Variety 6
- Variety 7
- Variety 8

**Run**



# Canola Phenology Model



Model Output

