

Heat at Bloom, 2023

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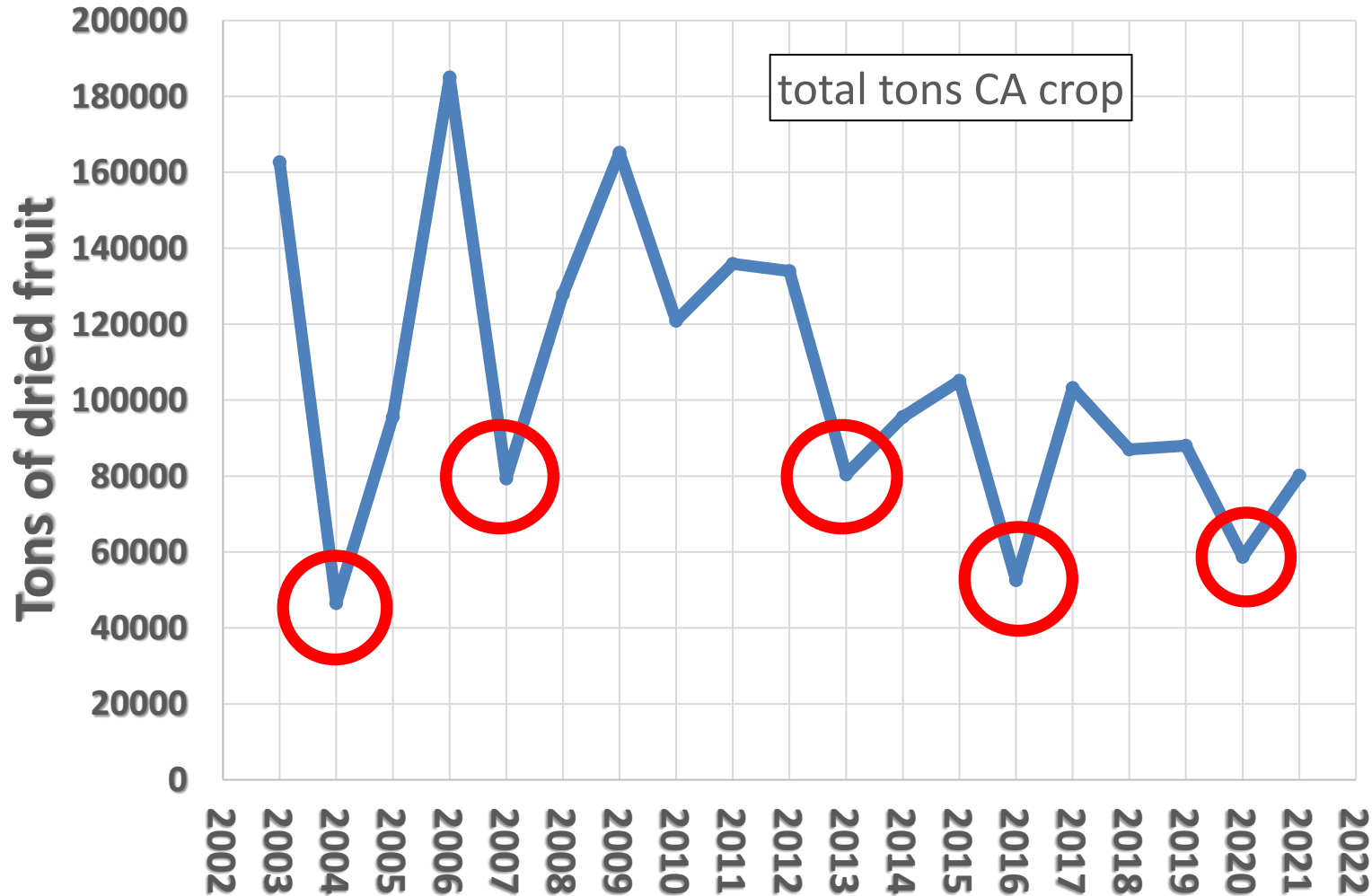
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**University of California
Cooperative Extension**
Agriculture & Natural Resources



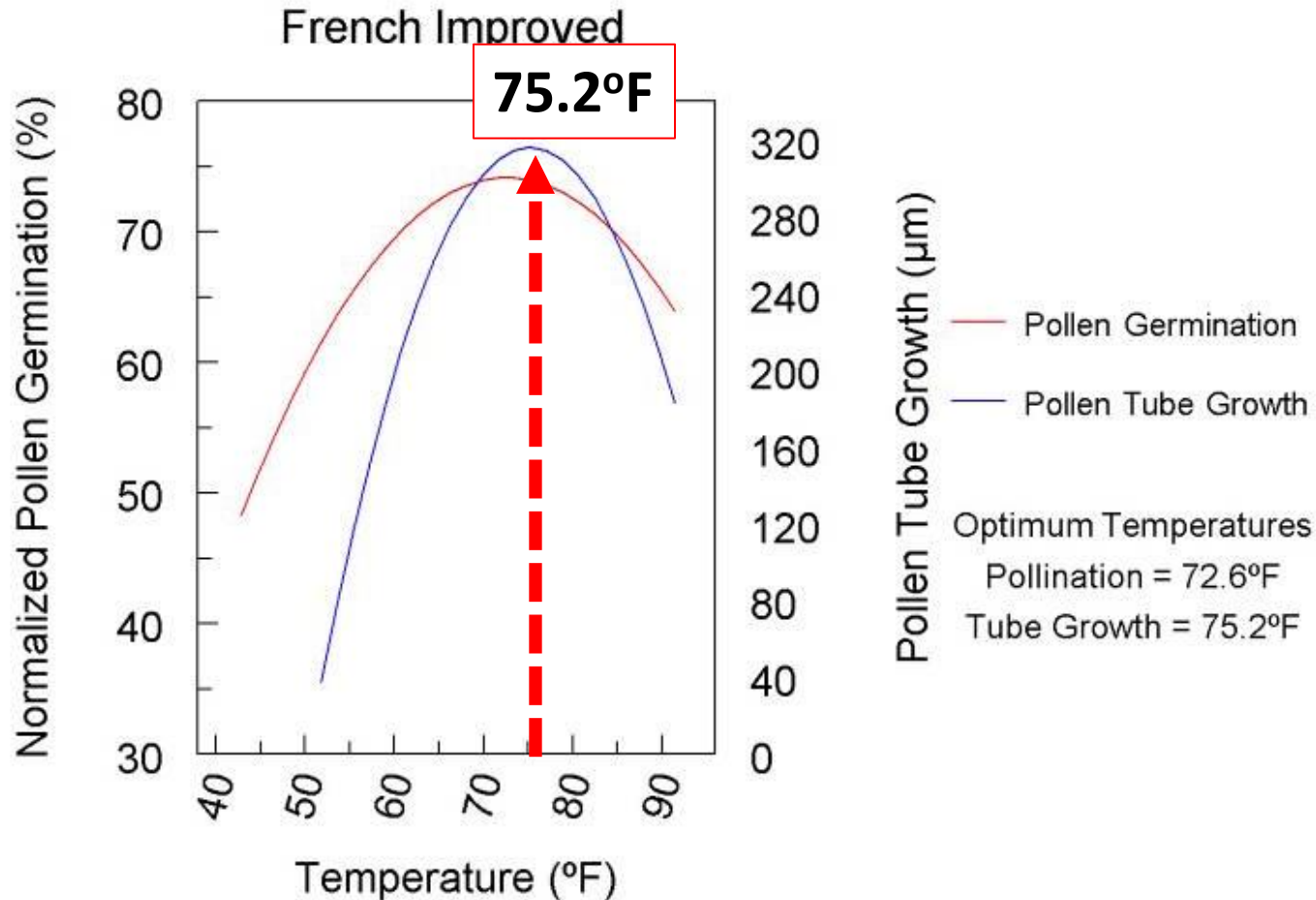
Extreme crop failure limits grower income and industry market share.



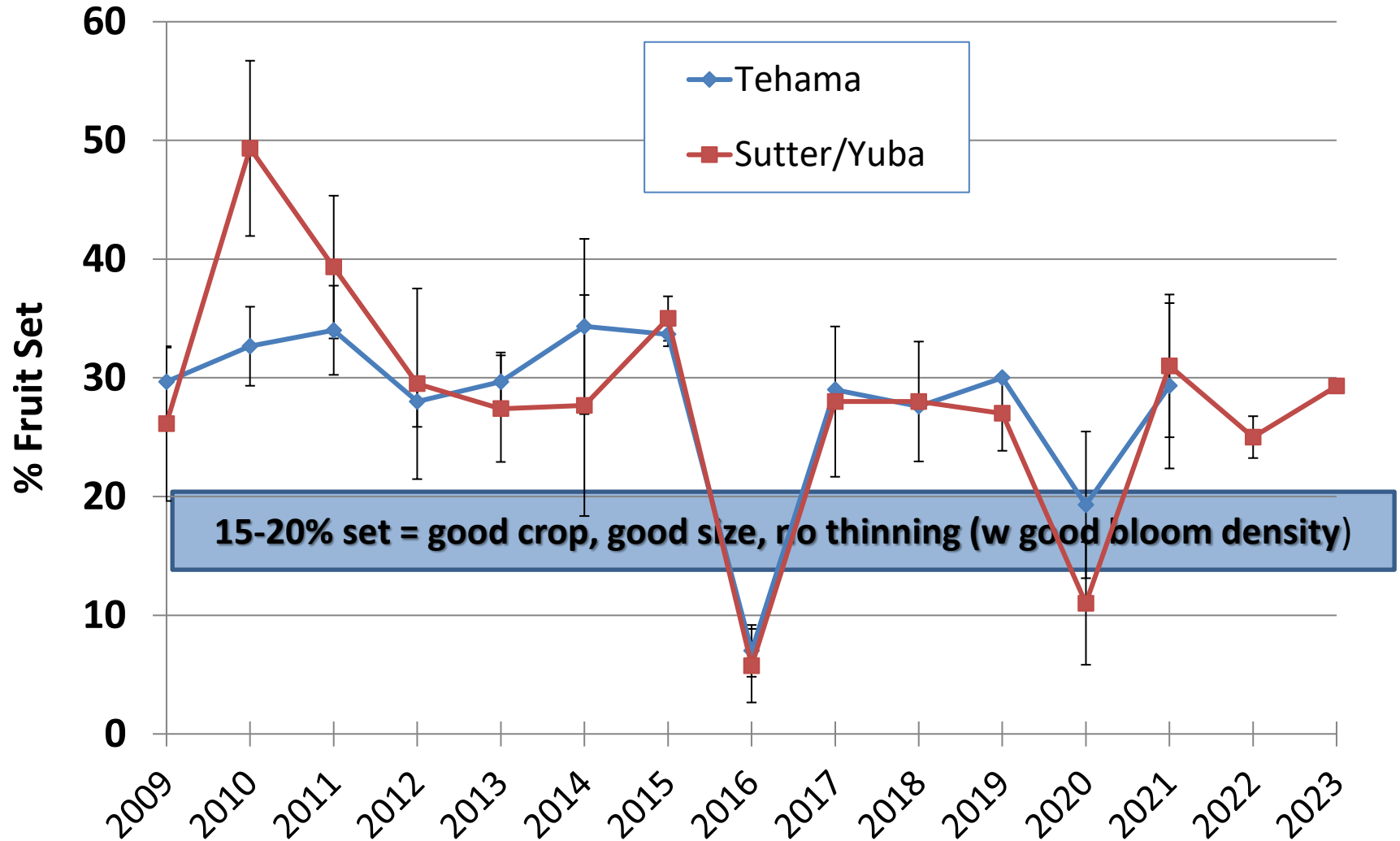
After extreme hot or cold bloom weather, fruit yellow and drop 3-4 weeks after full bloom.



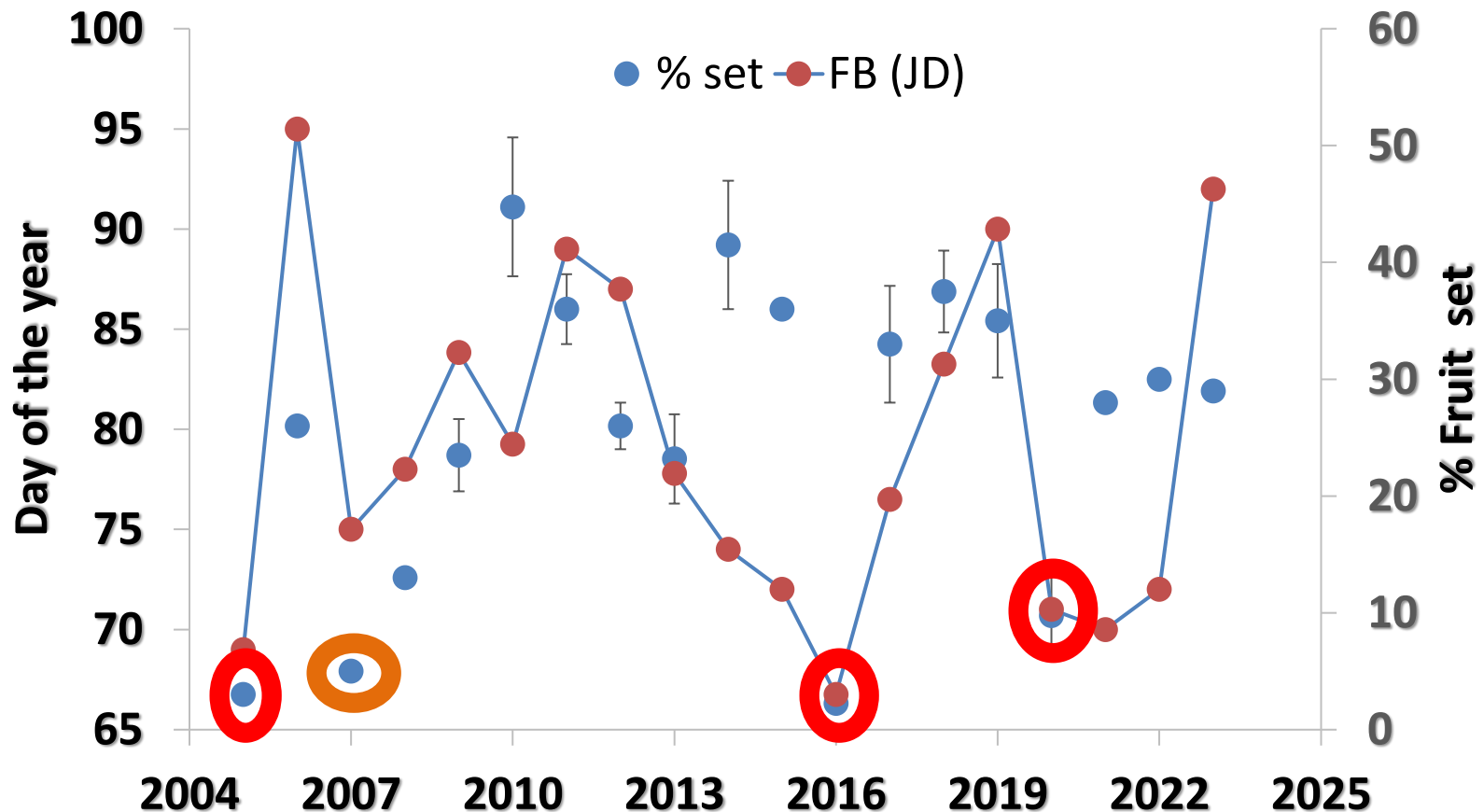
Pollen germination and growth responses to temperature are arc shaped, with reduced activity at low or high temperatures.



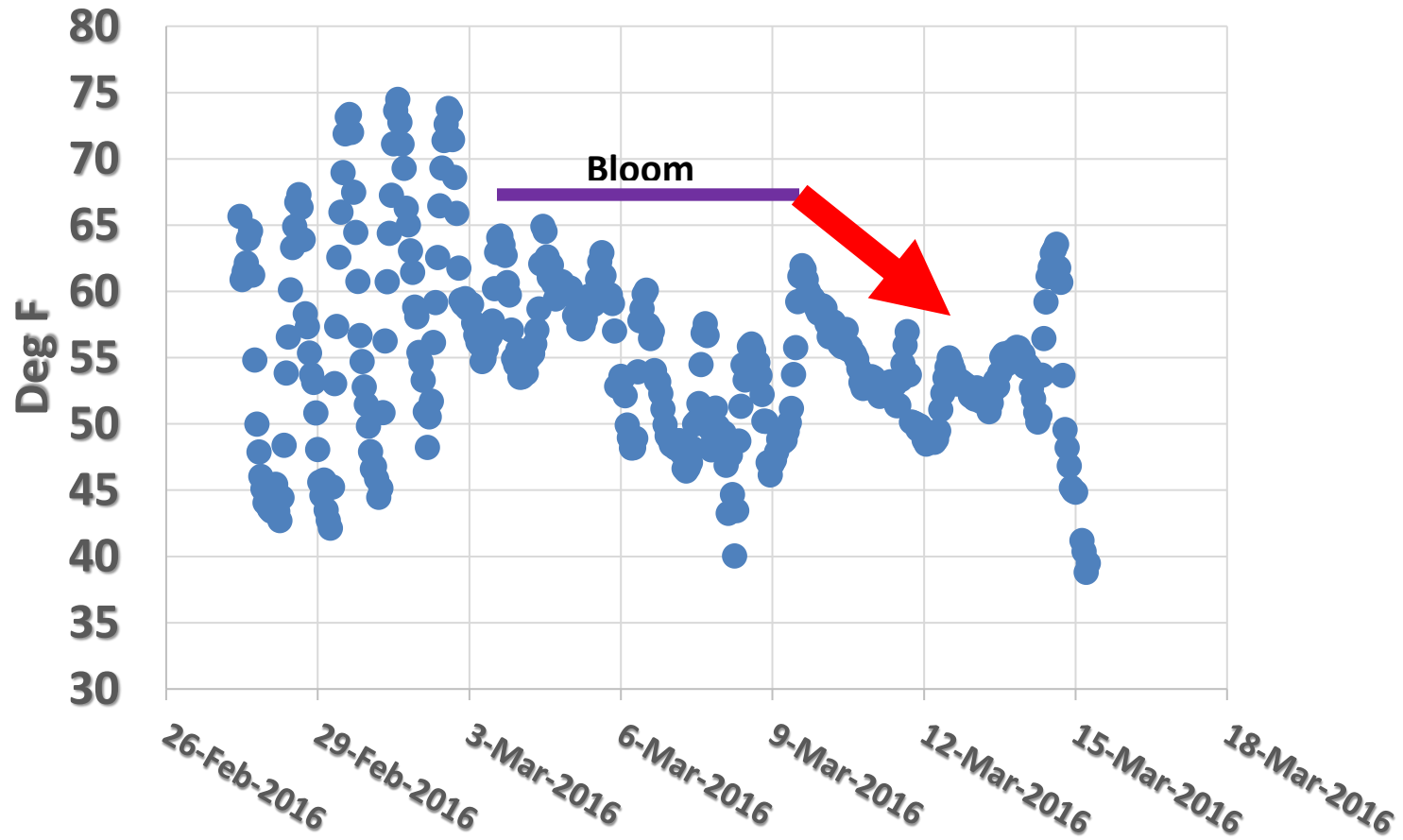
Prunes overset under CA bloom conditions, except in extreme conditions.



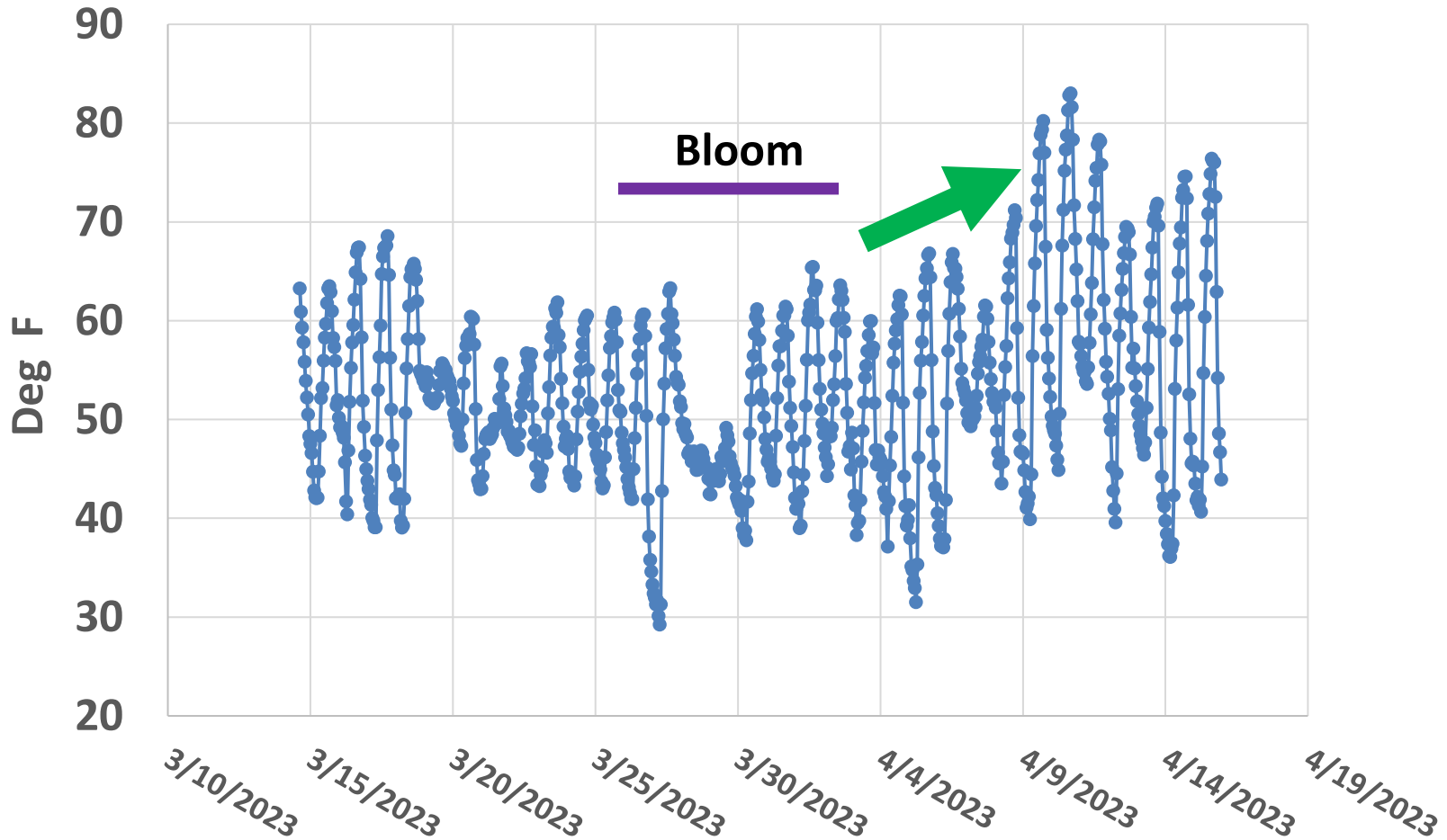
The years of very poor set (2005, 2016 & 2020), were all years w early bloom with a short heat spike. 2007 (& 2004) were years of sustained heat and mid-March bloom.



Cold, wet early bloom in 2016 = crop failure.



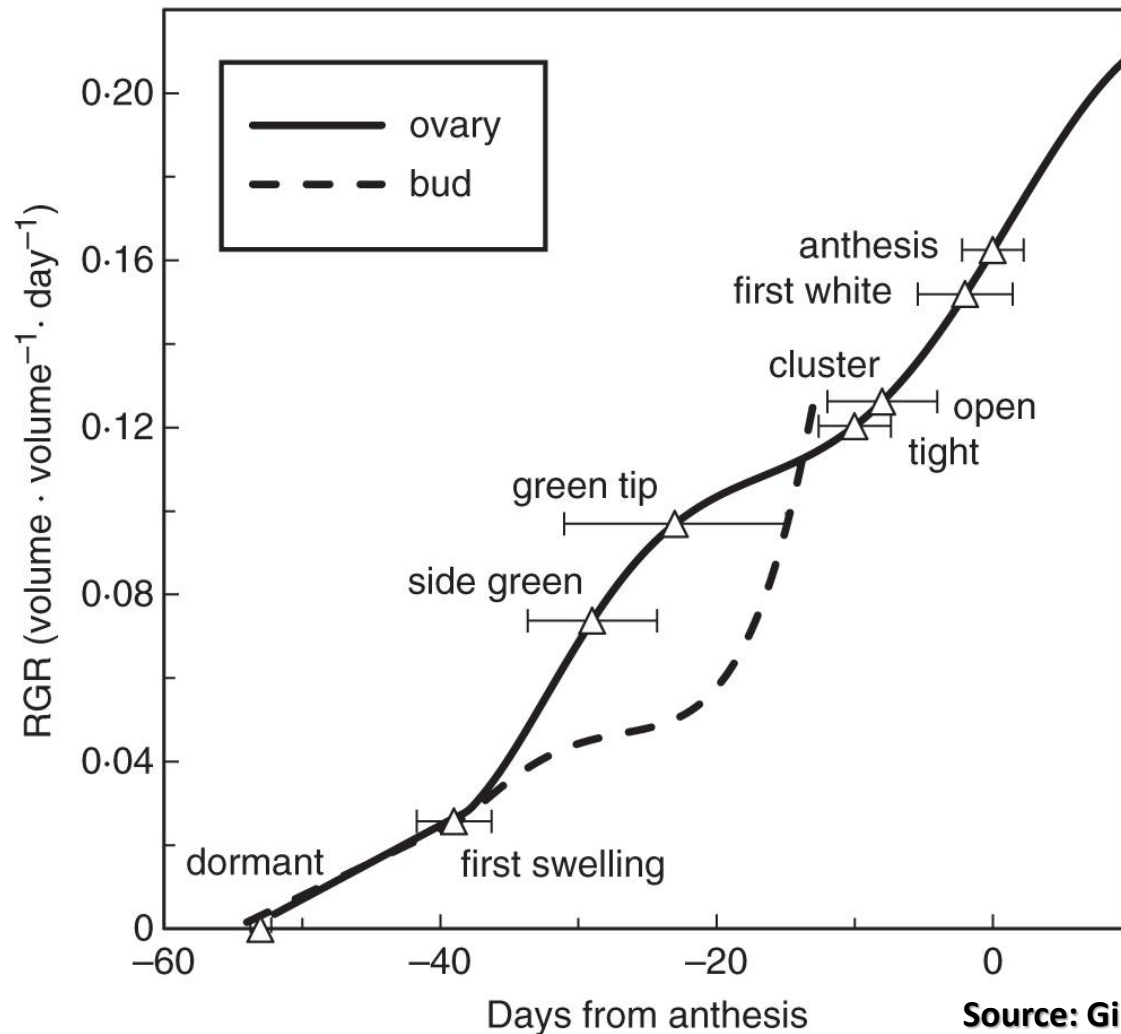
Cool, wet late bloom in 2023 = excellent crop.



Crop failures in prunes are linked to heat before bloom, which also produces earlier bloom timing.

Heat influences fruit development after bloom, why not before bloom?

Cherry buds steadily grow/expand from dormant through bloom (anthesis).



Source: Gibeaut, Whitting, and Einhorn
Annals of Botany 119: 465–475, 2017

Plans for 2024...

- **Continue to track bloom and temperatures.**
- **Get temp loggers up on Feb 1**
- **Better set in 'French' prunes in hot bloom was reported near 'Muir Beauty' prunes. Working with Adela Contreras (CPB supported SRA) put out bouquets of compatible prune flowers in 'French' blocks if poor bloom weather is forecast. Track bloom and count set in trees adjacent to and away from bouquets.**

For now, other than irrigating to reduce heat at bloom, there is no “rescue” treatment.



Thank you!

