

Rethinking False Spring Risk

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Temperature Thresholds for Damage: Agricultural vs Ecological

Table 1: Comparing damaging spring temperature thresholds in ecological and agronomical studies across various species and phenophases.

Sector	Phenophase
Ecological	Budburst to Leafout
Budburst to Leafout	Prunus avium
Tilia platyphyllos	-7.4
-6.7	50% lethality
50% lethality	experiment designed to measure specific temperature thresh
Date of spring onset - Last hard freeze date = damage index	Ecological
Ecological	All phenophases
After budburst	Eucalyptus pauciflora
All plant functional types	-2.2
2	Risk threshold
sprinkler protection threshold	tissue temperature can be 1-3 degrees lower on clear, s
Agrinomical	Budburst
Agrinomical	Budburst
Agrinomical	All phenophases
Agrinomical	Flowers
Agrinomical	Vegetative
Agrinomical	Vegetative
Agrinomical	Vegetative
Agrinomical	Vegetative

References

- Lenz, A., Hoch, G., Körner, C. & Vitasse, Y. (2016) Convergence of leaf-out towards minimum risk of freezing damage in temperate trees. *Functional Ecology* pp. 1–11.
- Lenz, A., Hoch, G., Vitasse, Y. & Körner, C. (2013) European deciduous trees exhibit similar safety margins against damage by spring freeze events along elevational gradients. *New Phytologist* **200**, 1166–1175.