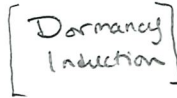


PHYSIOLOGY:  
(w/ molecular)

Paradormancy →



Endodormancy →



Ecdormancy? → Growth

↑ ABA

**Callose Synthase<sup>h</sup>**  
(α,β 1,3 glucan polymer)

↓ ABA (↑ GA)

**β 1,3 glucanase**  
(degrade callose → ecdormancy)

See Azeez 2021  
Rinne 2011

Would like to add:  
Long-term cold  
(& Dean papers  
in general)

WATER:

BOUND



→

BOUND (see Faust et al. 1991, APPLE)

See also

Kalcsits  
et al. 2009

Buds dessicate  
w/ dorm. ind.  
30-45%

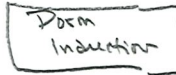
(cited in Rinne et al. 1997  
Rinne et al. 1994, Betlab)

GROWTH:

Slows down → really slow → Speeds up

CHILL MODELS:  
(x physiology)

Two-stage:



Endodormancy  
Chilling



Ecdormancy  
Forcing

Callose/molecular version of two-stage is?

(Hormone/Apical dominance)

Short Day /  
↑ ABA

Paradorm.



Endodorm.

Low Temp  
↓ ABA ↑ Callose  
Callose degrading stuff



Growth

Budbreak?

**Build callose? →**

% of Glucosaminata  
Blocked by Callose



Populus (acc. to Pan et al. 2023)

Rosaaceae

SD PP

Cool °C



↑ ABA / ↓ GA



Callose synthase = dormancy

SD PP = Short Day Photoperiod