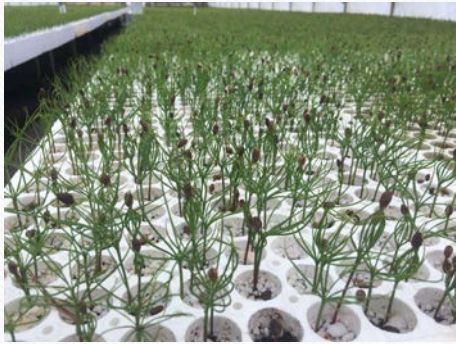


Stock Handling

A Review



Stock production and growing regime influence seedling characteristics.

- Dormancy
- Carbohydrates

Seedling Storage.
Temperature and duration influence seedling performance.

Reforestation.
Successful reforestation is influenced by seedling physiological condition at planting. Factors include

- Stock Handling
- Planting Site Conditions

Stock Handling

Spring Plant

- Bareroot and Container Stock
- Lifted when dormant. (Nov – Dec.)
- No root or top activity.
- Stored frozen at 29 – 32 F internal box temp. 1 – 6 months

Fall Plant

- Container stock only
- All species but WL may have a resting bud.
- Root systems still active.
- Store at 40 to 45 F. 14 days max.

Stock Handling

- **Spring Lifted Stock (Bareroot) for Spring Plant**
- Lifted in mid to late March before growth takes place.
- May have active root tips.
- Store at temperatures between 33 – 36 degrees F. Do Not Freeze stock.
- Can be stored for up to 6 weeks.

Stock Thawing Spring Plant

Bareroot

- Bareroot 2-3 days at <40 F
- Provide space for air movement around boxes.
- DO NOT open boxes.
- Hold at 33 – 36 F at the roots in District/Unit cooler once thawed.

Container

- 10-14 days at < 40 F
- Provide space for air movement around boxes.
- DO NOT open boxes.
- Hold at 33 – 36 F at the roots in District/Unit cooler once thawed.

Thawing (continued)

- Monitor box internal temps during the thawing process.
- When temps exceed 42 F trees start to wake up (esp. in pines but true for all species).
- Carbohydrate reserves start to get used up by the seedling. (respiration)
- Carbohydrates are used to push growth of the top and roots.
- It takes 15 – 20 days for the tree seedling to start the growth process once planted.
- Injuries caused by excessive handling/rough handling force the tree to heal first before initiating growth, using up more Carbohydrate reserves.
- Do Not Handle Frozen stock.

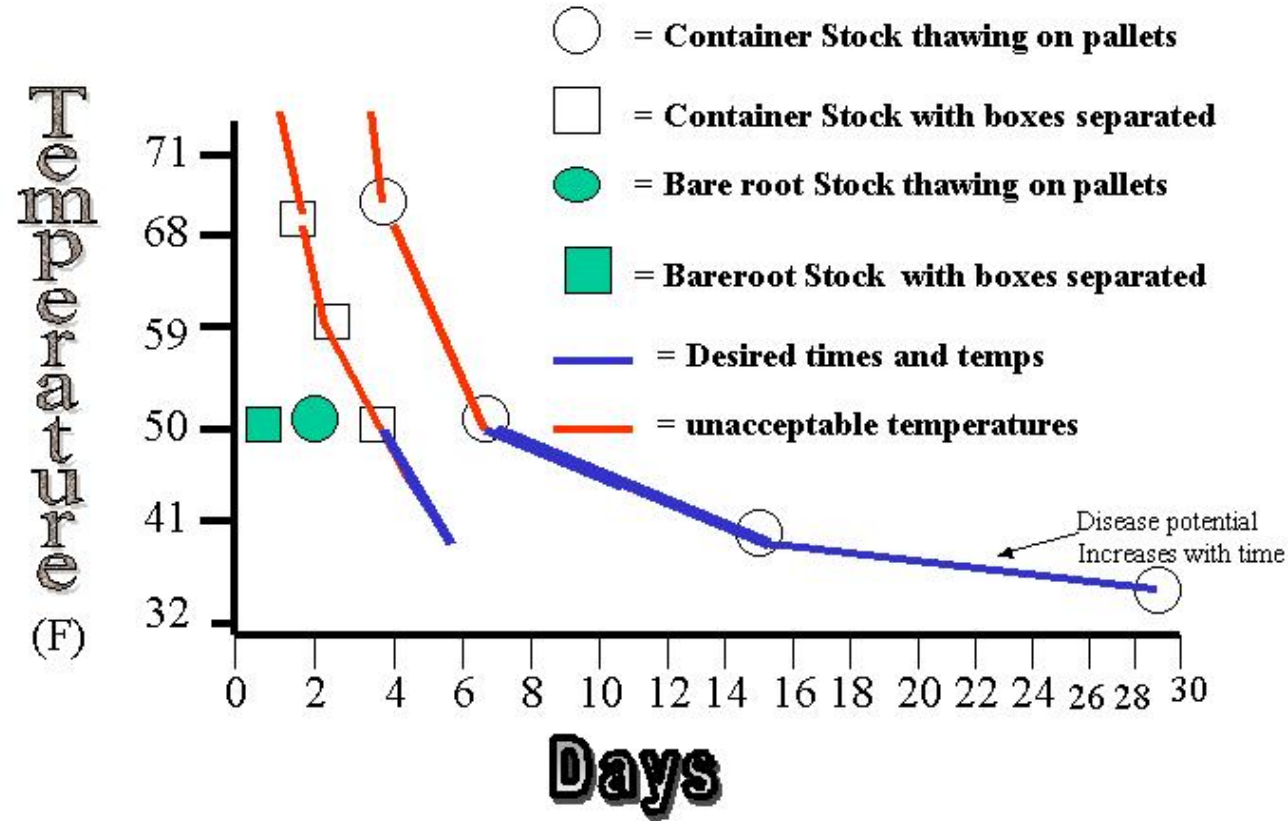


Container 112 Ponderosa pine in long term cold storage,



2-0 Bareroot Western Larch seedlings in long term cold storage.

Thawing Temperatures for Frozen Plant Stock





Dial Temperature Probes

When monitoring box temperatures it is important to insert the probe into the center mass of the root systems.

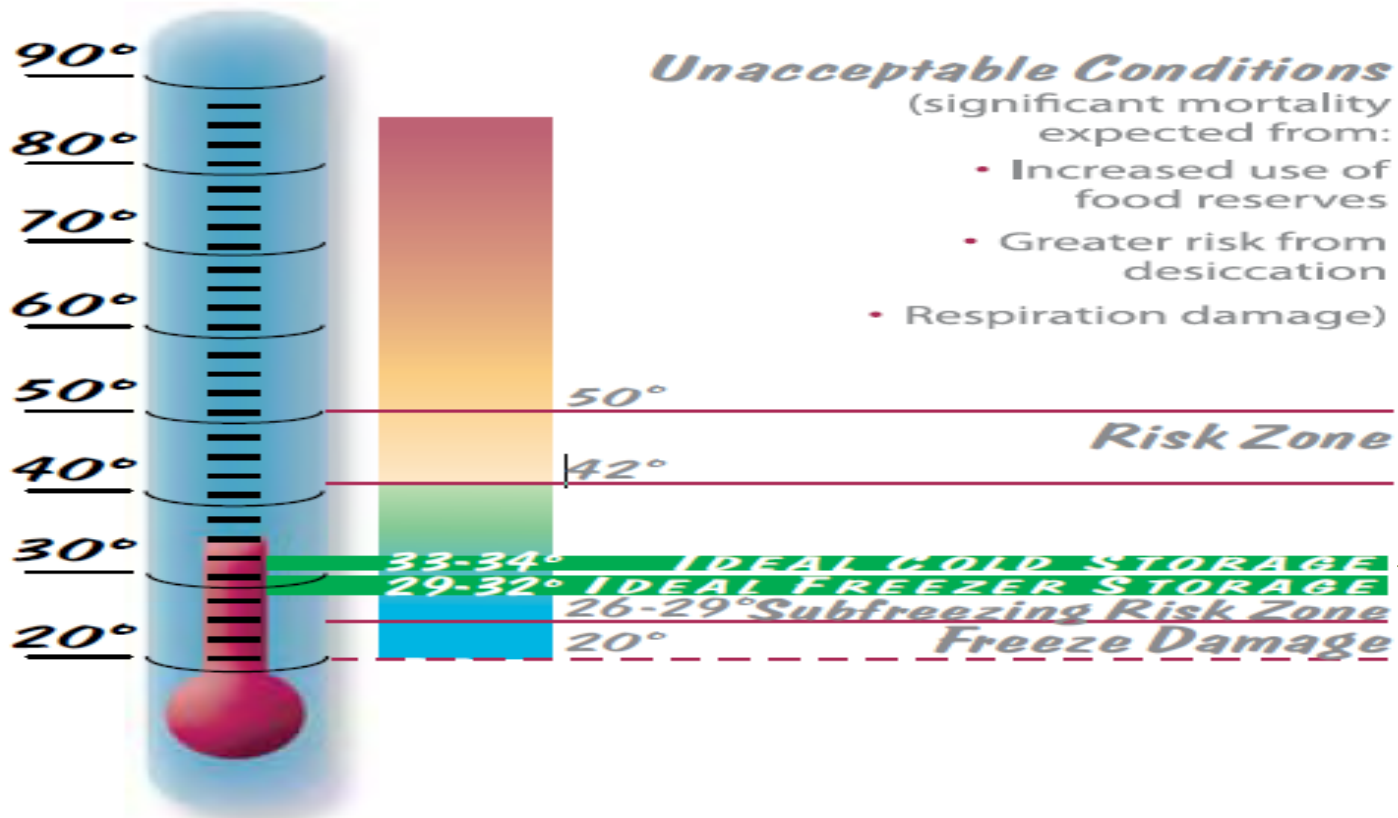


Digital Temperature Probe

Temperature Guidelines for Dormant Seedlings (°F)

Long-Term Storage

Refrigerated unit guidelines (1-6 months)



Carbohydrates depleted

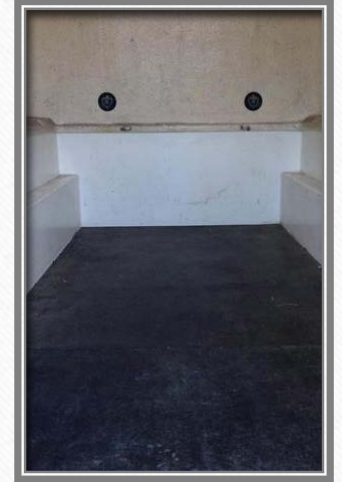
Safe transport 34-40F
Unit storage at 33 to 34F

Below 29F risk of
freeze injury to
seedlings



Transport to Planting Site

- Keep stock cool at 33 degrees F to 40 degrees F.
 - Use insulated tree canopy to protect stock.
- Open Pickup bed with a space blanket may not maintain adequate temps during transport.
- Place pallets in truck bed to provide air movement.
 - Blue tarps are not an adequate solution.
- Don't transport more than can be planted in a day.



Not a good idea. EVER



Questions?

