

Plum

Angeleno

2024



AIM OF THE STUDY:

WHAT IS THE IMPACT OF THE HDCOLD® TECHNOLOGY ON THE STORAGE QUALITY OF ANGELENO PLUMS COMPARED TO A STANDARD COLD ROOM?

Current practice^{1,2}:

- Recommended storage:
-1 to 0°C with 90–95% relative humidity;
- Up to 5 weeks of storage
- Existing technologies to extend storage:
 - 1-MCP treatment (1-MCP)
 - Use of controlled atmosphere

HDCold® technology:

- Cold system which maintain natural relative humidity at high levels (>98 %)
 - No addition of liquid water
 - Decrease of water loss, and therefore weight loss of the products
- Low temperature difference between the set point and the refrigerant:
 - Less hydric stress on the products
 - Less to no frost formation

¹ University of California, « Plum | Postharvest Research and Extension Center », 1996
<https://postharvest.ucdavis.edu/produce-facts-sheets/plum>

² Mehmet Ali Koyuncu et al., « Improvement Storability of 'Angeleno' Plum with the Combination of 1-Methylcyclopropene Treatment and Controlled Atmosphere Storage », *Journal of Agricultural Sciences* 24, n° 4 (2018): 501-9.



RESULTS

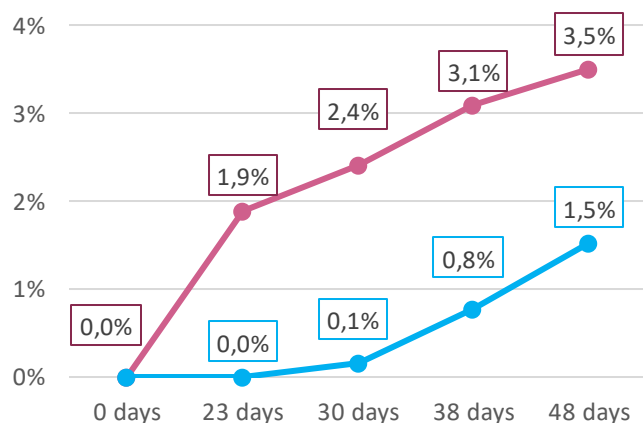
Harvest: 10 sept. 2025

Packaging: Plastic crate

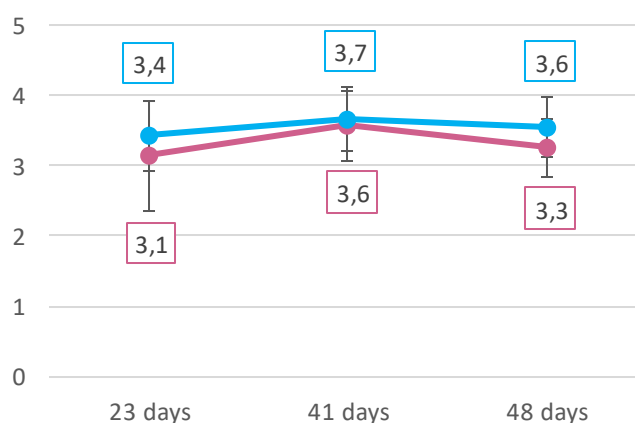
Classical (1.9°C / 86.5 % unregulated RH)

HDCold® (2.3°C / 93.3 % regulated RH)

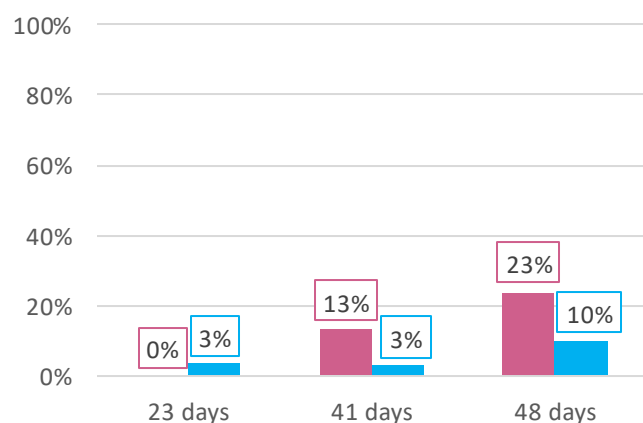
Weight loss (%)



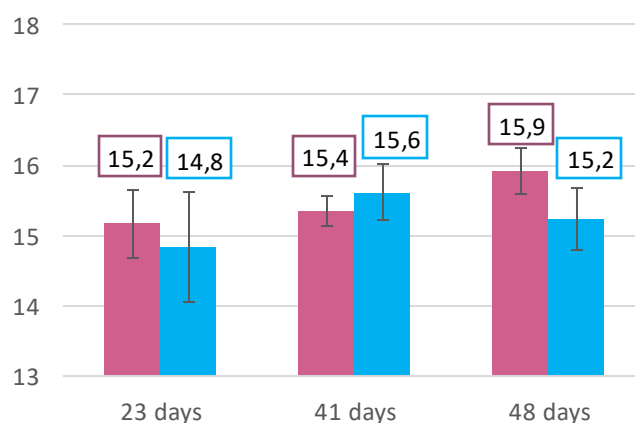
Flesh firmness (kg/0.5 cm²)



Wilting (% wilted fruits)



Sugar content (°Bx)



CONCLUSIONS

Based on the results of this test, HDCold technology® on Angeleno plums:

- ✓ **Reduces weight loss** by more than half after 48 days of cold storage;
- ✓ **Delays** the onset of **wilting**;
- ✓ Maintains **better flesh firmness** and **skin hardness**;
- ✓ Generally maintains a lower sugar content;
- ✓ Does not exacerbate the onset of physiological and fungal disorders (only 1 plum affected in both the standard cold storage and the HDCold® cold storage throughout the entire trial).



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