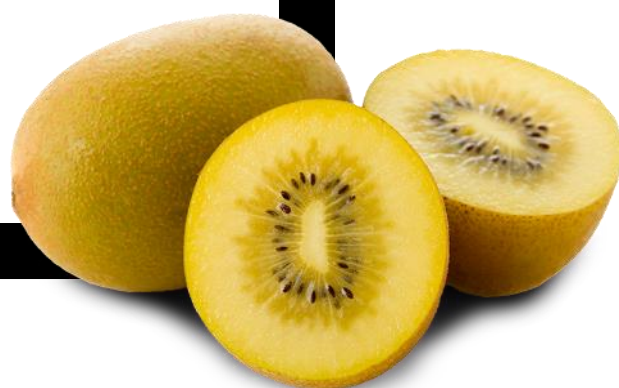


Kiwi fruit

Dori (yellow)

2024



AIM OF THE STUDY:

WHAT IS THE IMPACT OF THE HDCOLD® TECHNOLOGY ON THE STORAGE QUALITY OF YELLOW KIWI FRUIT COMPARED TO A STANDARD COLD ROOM?

Current practice^{1,2}:

- Recommended setpoints:
 - 0–1°C / 90–95% relative humidity
 - 3 to 5 months in cold storage
- Extremely sensitive to ethylene
- Existing technologies to extend storage:
 - Post-harvest 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 CTIFL, « Fiches techniques Agréage - Kiwi », 2025
<https://agreage.ctifl.fr/fiche/fruits/KIWI>

² University of California, « Kiwi | Postharvest Research and Extension Center », 1996
<https://postharvest.ucdavis.edu/fr/produce-facts-sheets/kiwifruit>.

RESULTS

Harvest date: 17/09/2024

SmartFresh™ treatment: 18–19/09/2024

Beginning of the test: 18/09/2024

Packaging: plastic crate

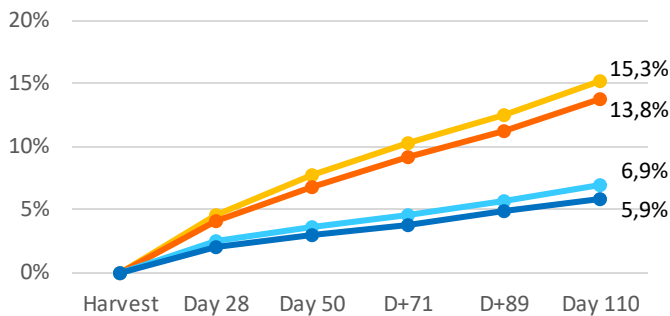
Conventional cold storage – No treatment
(1°C, unregulated RH)

Conventional cold storage – SmartFresh™ treatment
(1°C, unregulated RH)

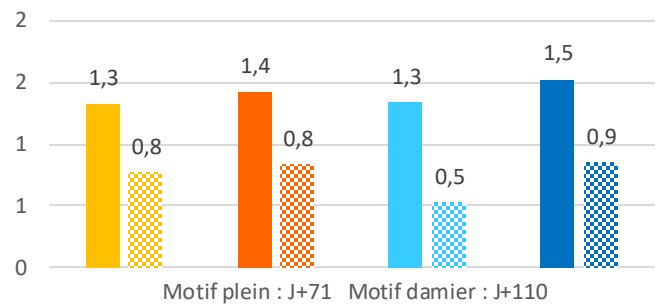
HDCold® chilling – Untreated
(0.5°C, 98% RH)

HDCold chilling – SmartFresh™ treatment
(0.5°C, 98% RH)

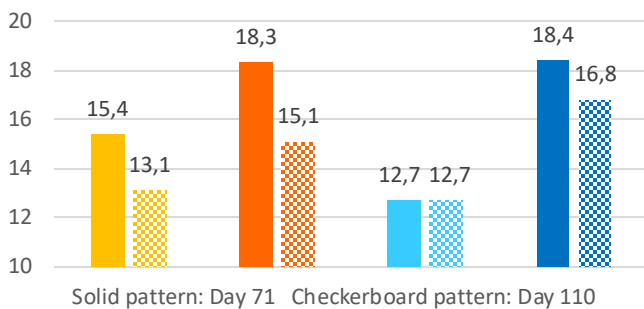
Net weight loss (%)



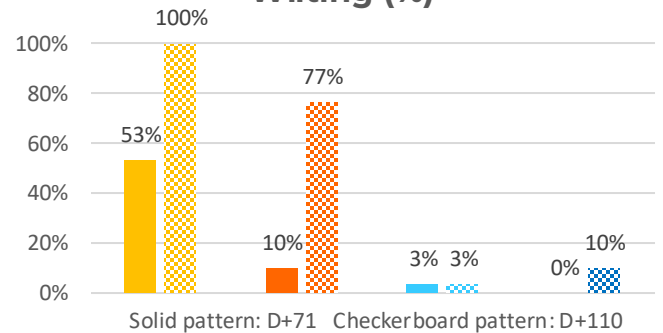
Flesh firmness (kg/0.5 cm²)



Acidity (g/L total acidity)



Wilting (%)



CONCLUSIONS

According to the results of this trial, the **HDCold® technology** on Dori yellow kiwifruit:

- ✓ **Reduces weight loss** by more than 50%;
- ✓ **Maintains greater firmness, acidity and sugar content** during storage when combined with 1-MCP treatment;
- ✓ **Maintains wilting** below 10% for up to 110 days of storage, with and without 1-MCP treatment;
- Shows **similar rates** of **internal** and **external defects** (to be confirmed in a future trial).



contact@dpkl.fr – +33 5 63 32 58 57