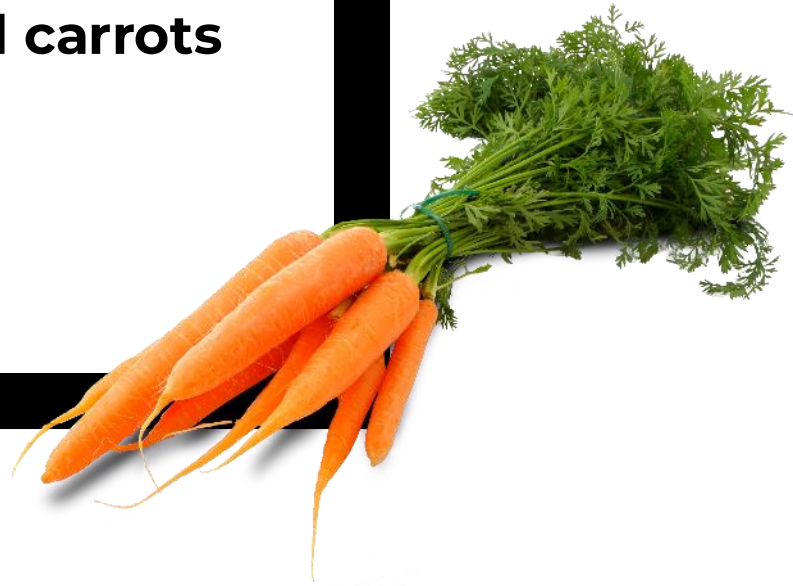


Carrot

Bunched carrots

2021



AIM OF THE STUDY:

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

Current practice^{1,2}:

- Recommended storage:
0–1°C at 95–98% RH
- Storage duration
 - Early harvest (bunched or with tops): 15 days
 - Storage (topped): 7 to 9 months

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

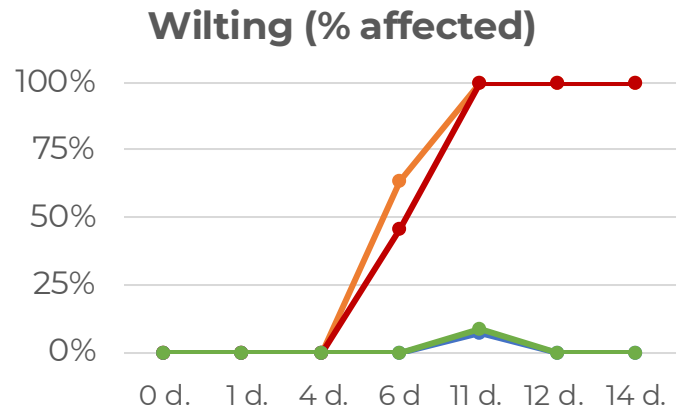
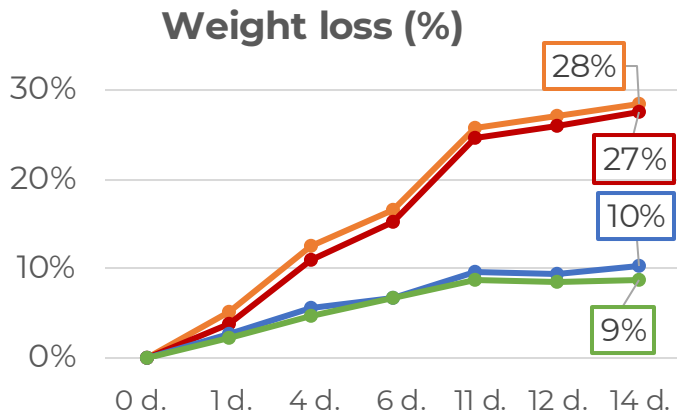


RESULTS

Setpoints: +1°C / 98 % RH

Classical cold room
Classical cold room with covers

HDCold® cold room
HDCold® cold room with covers



After 4 days of storage

HDCold®



Standard

CONCLUSIONS

Storage using the **HDCold® technology** has made it possible to:

- ✓ **Halve weight loss**
- ✓ **Delay the onset of wilting**
- ✓ **Better maintain product freshness**, particularly root firmness and leaf turgidity

No significant difference was noted between both storage concerning **fungal contamination**.



Note: chilling injuries (skin browning) occurred on carrots kept in classical cold room, despite a set temperature of 1°C as recommended in the literature.



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