Optimizing storage conditions to preserve Melon quality

Storing melons at 7°C causes only minor peel defects, allowing product buffering at the distribution centre, without quality loss. This is the expert conclusion of Wageningen Food & Biobased Research following research under the umbrella of the GreenCHAINge project. Storage at distribution centres will provide fruit and logistics companies increased flexibility when supplying supermarkets with fresh produce.

The four-year program GreenCHAINge, successfully completed on December 2018, aimed to improve the intrinsic quality of fresh fruits and vegetables on the shelf by developing an innovative 'smart chain'. Work Package 2 focused on maintaining high-quality and uniformity in melons for retail sale, and the reduction of post-harvest losses across the supply chain, by defining optimal storage conditions. Storage at suboptimal conditions can cause speckles and/or grey areas on the peel, strongly affecting the perception of quality. This, since the presence of brown speckles and grey areas on the peel is often perceived as bad quality melons by consumers.

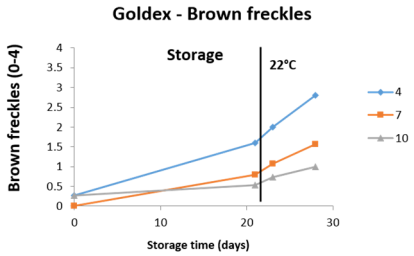
Avoiding speckles and grey markings

The scientists measured the peel quality on melons stored for 20 days at 4°,7° or 10 °C and found that melons stored at 4°C developed relatively-large numbers of speckles. Melons stored at 7°C had for industry acceptable amounts of speckles and grey marks, whereas melons stored at 10°C had large grey areas. Weight loss increased with storage temperature. Taste and BRIX levels, however, remained the same.

Conclusion

Melon quality decreases during a buffer period. Peel disorders like brown freckles and brown spots increase after a buffer period at 4°C. Therefore, buffering at 7°C might still allow induction of ripening at 20-22°C, while keeping the peel disorders to an (acceptable?) minimum.

"Melons with a perfect peel are perceived as high quality. Optimal storage is essential to reduce peel defects and increase retail sales"



The number of speckles increases upon storage at 4°C. At 7°C the number of speckles remains acceptable, also at 22°C (simulating) the retail phase.

For detailed information about this project result please visit www.wur.eu/greenchainge.

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