



Harvesting Melon: choosing the optimal moment

Melon quality, and in particular the post-harvest quality of new varieties, is met by high demands from the European market, which requires a pristine condition of peel quality and high quality of flavour. Harvesting melons at the right moment is crucial to ensure high-quality, tasty melons with a beautiful peel. Harvesting melons at fully mature stage is most optimal for sweetness and the desired aroma. However, to increase shelf life, melons are harvested already at a partially mature stage. Optimal harvest moment is crucial to obtain high quality and uniform melons on the shelf. This is the conclusion drawn from a research project by Wageningen Food & Biobased Research, carried out within the GreenCHAINge project.

In GreenCHAINge an innovative “smart chain” was developed with the intention of improving the intrinsic quality – and uniformity - of fresh fruit and vegetables on the shelf. In the context of research in Work Package 2, the subject was melons.

Maturity and quality

The scientists measured the quality of melons harvested at 63, 65 and 67 days after transplant (DAT) (days after the melons were transplanted from seedling stage to open ground), and correlated maturity stages to quality characteristics in order to identify the optimal harvest time.

Melons harvested 67 days after transplant showed increased levels of BRIX and brown speckles, compared to melons harvested at 63 and 65 DAT. No increase in weight was observed, assumed to be caused by variations in flowering moment.

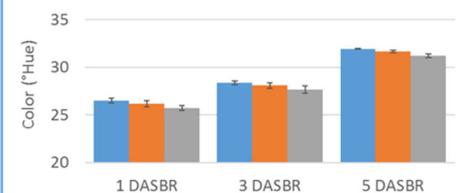
Early versus late flowering

Early-flowering melons, meaning flowering one day after spam bond removal (DASBR) and harvested 65 days after transplant, were heavier, showed higher BRIX levels and a darker peel compared to later flowering melons (3 or 5 DASBR). They also showed more peel disorders, such as brown speckles and gray areas. The peel-colour progression rate was the same for both early and late flowering melons.

Follow up research

The scientists concluded that DAT and DASBR are useful measures to establish optimal harvest time, when combined with post-harvest maturity measurements.

“Measuring maturity at various stages helps optimize harvest time, increasing initial quality as the cornerstone of high quality throughout the chain”



Increase in colour in early-flowering melons (1 DASBR) compared to late-flowering melons (5 DASBR). (Lower colour value indicates greater yellowness).

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





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