



## Papaya post-harvest quality factors

The papaya cultivar, Tainung, is the sweetest and is least affected by moulds after transport from Brazil to the Netherlands. Papayas can be harvested either green or at a mature stage, and require an antifungal treatment after washing. This is the key message of a research project by Wageningen Food & Biobased Research, carried out under the umbrella of the GreenCHAINge program. The findings provide fruit companies with new opportunities to optimize product quality.

The four-year program GreenCHAINge, successfully completed in 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 mainly on ensuring the highest quality of papayas on the shelf, following transport from Brazil to the Netherlands.

### Best characteristics

The scientists monitored the quality of three papaya cultivars - Tainung, Bela Nova and Maradona – during transport and simulation of distribution (10°C) and retail phases (22°C). Their aim was to select the papaya cultivar with the best post-harvest traits and determine the optimal harvest stage and post-harvest treatment.

Based on Brix (sweetness) scores and mould levels, Tainung appeared the best cultivar of the three. Retail simulation did not show any quality differences between papayas harvested at a green versus mature stage. However, on the day of arrival at Wageningen the colour and mould levels were lower in papayas harvested at the green stage.

### Post-harvest treatment

The combined effects of washing, applying a wax layer and giving an anti-fungal treatment minimized weight loss and mould compared to no treatment, or just washing and applying a wax layer.

Papayas can be harvested at both the green or mature stages but, after washing, both a wax layer and an anti-fungal treatment should be applied, before transport.

*"Maturity of papayas is determined based on the so called 'stripes' on the skin of the fruit. The more stripes, the more mature. However, quality of papayas - after 3 weeks transport - does not depend on the maturity stage at harvest"*



Phenotyping papaya internal quality.

For detailed information about this project result please visit [www.wur.eu/greenchainge](http://www.wur.eu/greenchainge).





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### Information

Suzan Gabriëls  
T +31 (0)317 48 93 01  
E [suzan.gabriels@wur.nl](mailto:suzan.gabriels@wur.nl)  
[www.wur.eu/greenchainge](http://www.wur.eu/greenchainge)