



Anti-fungal treatments reduce mould development in Papayas

Packaging papayas prior to transport, and heat treatment upon arrival at the wholesaler, reduces post-harvest fungal infection. Heat treatment prior to transport seems likely to be even more effective against fungal infection. This is the outcome of studies by Wageningen Food & Biobased Research, conducted under the umbrella of the GreenCHAINge program. The work supports the fresh fruit industry in increasing the quality of papayas on the shelves of European stores.

The four-year program GreenCHAINge aimed to improve the intrinsic quality of in-store fresh fruit and vegetables by developing an innovative 'smart chain'. The main focus of Work Package 2 was on ensuring high-quality papayas on retail shelves.

Notorious problem

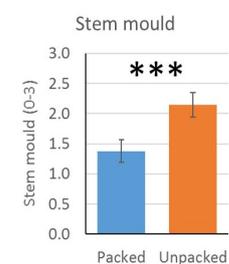
The scientists investigated whether packaging, heat-treatment or controlled atmosphere (CA) could reduce fungal infection, a notorious problem, in the exotic-fruits market, especially since certain fungicides are prohibited.

Prom packaging to heat treatment

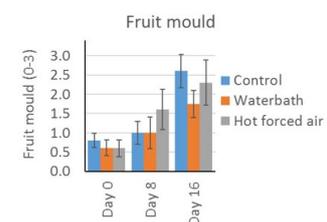
Measuring the hydration status and mould levels of 200 papayas, transported from Brazil to the Netherlands, indicated that packed papayas had a 0.5% higher moisture content, and reduced mould on both stem and fruit compared to unpacked papayas. Papayas stored for 16 days in CA were less dehydrated, but had similar levels of mould, compared to papayas that had not been stored in CA. Heat-treated papayas showed less fruit mould when treated at 49°C for 5 minutes, and less stem mould when treated at 49°C for 30 minutes.

Conclusion

Heat treatment of papayas seems to have potential in reducing the developments of mould. Particularly the application of the water bath, which is already in use to export papayas from Brazil to the US to destroy insects, could be applied "fast/easy" to prevent mould development long distance export (2-3 week transport overseas) to Europe. Transport of papayas overseas, instead of by air transport, while maintaining quality levels, has both economic as well as environmental advantages.



Occurrence of stem mould is reduced when papayas are packed.



Heat treatment of papayas, prior to storage for 8-16 days, reduced the occurrence of stem mould.

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





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