



Defected versus healthy Mangos

In GreenCHAINge an innovative “smart chain” is being developed. Overall goal is to improve the intrinsic quality of the product on the shelf.

Objective

Obtain uniform and RTE (Ready to Eat) mangos on the shelf. Compare and predict “defected” versus “healthy” mangos using non-destructive NIR (Near-infrared) measurements.

Results

Non-destructive NIR measurements using a FELIX-F750 handheld on approximately 100 “defected” mangos (with internal defects) and 100 “healthy” mangos, indicates that the NIR spectra can be divided in two separate classes.

Mangos can be classified as “defected” or “healthy”, based on their NIR spectrum, with an accuracy of 86% and standard dev. of 4%.

- A mango predicted as defected according to the NIR spectrum is truly defected 87% of the time.
- A mango predicted as healthy according to the NIR spectrum is truly healthy 84% of the time.

Conclusion

By analyzing differences in NIR spectra, mangos can be classified in “defected” or “healthy” fruit, by NIR measurements, with an accuracy of 86%.

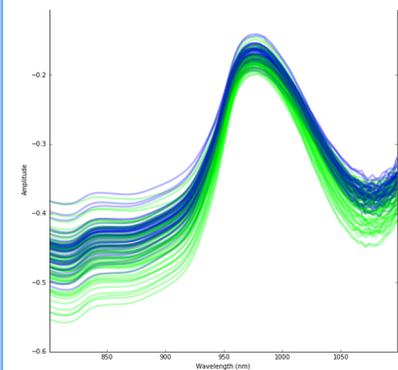
Relevant for industry

NIR measurements to non-destructively discriminate defected versus healthy fruit, ensures that only healthy mangos reach the customer. This leads to an increase in quality and efficiency, while lowering costs for all parties throughout the whole supply chain.

Information

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“Measuring NIR spectra allows us to predict internal defects in a non-destructive way”



NIR spectra from defected (green) and healthy (blue) mangos, showing a distinction in two groups.

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





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