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ABSTRACTS



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Infrared Spectroscopy as A Rapid Tool to Assess Apricot Fruit Quality.

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Abstract

The infrared spectroscopy is known as a rapid tool to study apricot fruit quality, non-destructively using near-infrared (NIR, 800-2500 nm) range and destructively on fruit puree using mid-infrared (MIR, 4000-650 cm^{-1}) range (Bureau et al., 2009a,b). These techniques appear suitable for the determination of soluble solids content (SSC) and titratable acidity (TA). For example, SSC is determined with a R^2 of 0.84 and a root mean square error of cross-validation (RMSECV) of 8% in NIR. In MIR, its performance of prediction is very good with R^2 of 0.96 and RMSECV of 4%.

Eight apricot varieties, representative of the known apricot diversity for quality traits, have been studied between 2005 and 2011. The objective here was to evaluate the robustness of NIR and MIR techniques and to determine the best strategy: is it more efficient to build models every year or to build global models combining all years?

Compared to the method of reference, infrared spectroscopy has been shown to be fast and easy applicable. This technique can be adapted to routine analysis in apricot industries.