Feasibility study of NIR application to strawberry internal fruit quality traits

D. Giovannini, I. Quacquarelli, M. Ranieri, W. Faedi

Acta Horticulturae 1049: 947-954. (2014)

Abstract

NIR spectroscopy is a non-destructive technique whose fields of application include fruit internal properties. CRA-FRF employed a NIR spectrometer on a total of 550 strawberry (*F. × ananassa*) fruits sampled from 14 varietal accessions heterogeneous for physical and chemical fruit attributes. Colour coordinates (L*, a* and b*), flesh firmness and resistance to deformation (DR), soluble solid content (SSC), titratable acidity, ascorbic acid and total anthocyanin content were measured on individual fruits with classical analytical methods and NIR measurements were associated with the analytic values to construct multi-cultivar calibration models for each fruit variable. Preliminary results show good predictive performance – high MR and low SEP (standard error of prediction) values – of NIR for SSC and colour coordinates. Depending on genotypes, predictions ranged from poor to fairly good for DR, flesh firmness and titratable acidity, although they were consistently poor for ascorbic acid and total anthocyanins.