

Title Theory and application of near infrared spectroscopy in assessment of fruit quality: a review

Author Hongjian Lin and Yibin Ying

Citation Sensing and Instrumentation for Food Quality and Safety, 3, Number 2, 130-141, 2009

Keywords Near infrared; NIR; Non-destructive measurement; Chemometrics; Analysis

Abstract

Fruits provide nutrients for human body and are able to prevent sorts of non-communicable diseases. The fruit quality test is an area that both technology and market section concern about. Near infrared spectroscopy (NIR) is a rapid, precise, and non-destructive technique which can be well utilized in determination of fruit quality. This review paper summarizes the theory of NIR analysis, and the fundamental structure of instruments based on NIR for fruit quality assessment. Chemometrics for NIR spectroscopy involving analysis methods of data pre-processing, calibration, model transfer and evaluation, is also included. In recent 11 years, significant progresses were achieved in fruit quality assessment via NIR spectroscopy, which is the main focus in this review. Furthermore, urgent problems in this research field are discussed, expecting to be solved in the near future.

<http://www.springerlink.com/content/h63030571n65jn50/fulltext.pdf>