

Title Speed scanning to detect fruit quality on cucumber

Author Kusumiyati, Syariful Mubarak, Jajang Sauman Hamdani, Sheishi Kawasaki, Kazunori Hironaka

Citation Abstracts of 7th International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

Keywords Internal quality; near-infrared spectrometer; non-destructive method; scanning

Abstract

Speed scanning as a fast and non-destructive method to detect internal quality of the fruit, for example evaluation of total soluble solid content and moisture content, is needed for near-future research. The fruit that is scanned by nondestructive method is still marketable. Otherwise, speed scanning method actually means sorting and grading the fruit which is also needed to obtain a homogenous quality for trading, especially potential export product such as cucumber. Nowadays, speed scanning method for internal fruit quality can be predicted and sorted more correctly, objectively, and non-destructively using spectrometer measurement. The aim of this research was focused on analyzing the internal quality of cucumber fruit using portable NIR spectrometer.

The cucumber fruits were all harvested at the different maturity stage. Then the fruits were analyzed in the Horticulture Laboratory, Padjadjaran University at 25°C. The research was conducted from January to March 2012. The data acquisition was taken using portable near-infrared (NIR) spectrometer (NirVana AG410, Integrated Spectronics Pty, Ltd, Australia) and stored as absorbance spectra and pretreated by second-derivatives spectra. The research method used was multivariate analysis data using *software* ISIS (Integrated Spectronics Pty, Ltd, Australia). The results showed that NIR Spectroscopy with wavelength range of 600-1100 nm was able to estimate the internal qualities of cucumber fruit for soluble solids content, moisture content, and color values by the developed PLS model for the cucumber.