Abstract

Artificial vision systems are powerful tools for the automatic inspection of fruits and vegetables. Typical target applications of such systems include grading, quality estimation from external parameters or internal features, monitoring of fruit processes during storage or evaluation of experimental treatments. The capabilities of an artificial vision system go beyond the limited human capacity to evaluate long-term processes objectively or to appreciate events that take place outside the visible electromagnetic spectrum. Use of the ultraviolet or near-infrared spectra makes it possible to explore defects or features that the human eye is unable to see. Hyperspectral systems provide information about individual components or damage that can be perceived only at particular wavelengths and can be used as a tool to develop new computer vision systems adapted to particular objectives. In-line grading systems allow huge amounts of fruit or vegetables to be inspected individually and provide statistics about the batch. In general, artificial systems not only substitute human inspection but also improve on its capabilities. This work presents the latest developments in the application of this technology to the inspection of the internal and external quality of fruits and vegetables.

http://www.springerlink.com/content/n10t6v564855268x/fulltext.pdf