

Title Non-destructive measurement of bitter pit in apple fruit using NIR hyperspectral imaging
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Citation Postharvest Biology and Technology Volume 40, Issue 1, April 2006, Pages 1-6
Keyword Apple; Fruit; Quality; Bitter pit; Near infrared; Spectroscopy; Hyperspectral; Imaging; Non-destructive testing

Abstract

A hyperspectral NIR imaging system was developed to identify bitter pit lesions on apples. A discriminant PLS calibration model was constructed to discriminate between pixels of unaffected apple skin and bitter pit lesions. The calibration model was successfully validated on a different apple. The system was able to identify bitter pit lesions, even when not visible to the naked eye such as just after harvest, but could not discriminate between bitter pit lesions and corky tissue. The reduced luminosity at the boundary of the image caused in one image some misclassification errors.