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Czech J. Food Sci.

Lü Q., Tang M.-j., Cai J.-r., Zhao J.-w.,

Vittayapadung S..

Vis/NIR hyperspectral imaging for detection of hidden bruises on kiwifruits

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It is necessary to develop a non-destructive technique for kiwifruit quality analysis because the machine injury could lower the quality of fruit and incur economic losses. Bruises are not visible externally owing to the special physical properties of kiwifruit peel.We proposed the hyperspectral imaging technique to inspect the hidden bruises on kiwifruit. The Vis/NIR (408 – 1117 nm) hyperspectral image data was collected. Multiple optimal wavelength (682, 723, 744, 810, and 852 nm) images were obtained using principal component analysis on the high dimension spectral image data (wavelength range from 600 nm to 900 nm). The bruise regions were extracted from the component images of the five waveband images using RBF-SVM classification. The experimental

results showed that the error of hidden bruises detection on fruits by means of hyperspectral imaging was 12.5%. It was