

Title Analyses of ultrasonic transmitted signal of stored apple using wavelet transform
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Abstract

This study was conducted to analyze the ultrasonic transmitted signal for apple using wavelet transform. Fruit consists of nonlinear visco-elastic properties such as flesh, an ovary and rind and hence most ultrasonic wave is attenuated and its frequency is shifted during passing the fruit. Thus it was not easy to evaluate the internal quality of the fruit using typical ultrasonic parameters such as wave velocity, attenuation, and frequency spectrum. The discrete wavelet transform were applied to the ultrasonic transmitted signal for apple. The magnitude of the first peak frequency of the wavelet basis from the ultrasonic transmitted signal showed a close correlation to the storage time of apple.