

## **Abstract**

The firmness of pear fruit during 4 weeks of storage was monitored using non-destructive impulse response (I-R) and destructive Magness-Taylor (M-T) puncture tests. The correlation between response frequency and physical property parameters of pears was analyzed. The dominant frequency, stiffness coefficient and elasticity coefficient as a function of time could be expressed as a decreasing linear function. The I-R technique provides moderate M-T firmness estimation through stiffness and elasticity coefficients, and gives a reliable indication of relative firmness of pears during storage. Impulse response has more sensitivity to firmness changes than does the M-T firmness test during postharvest periods. The correlation between the elasticity coefficient and the M-T firmness was better during storage. The non-destructive impulse response test may replace conventional destructive tests of pears in order to determine fruit firmness and expected shelf-life.