

Title Measurement of impact pressure and bruising of apple fruit using pressure-sensitive film technique

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Abstract

Impact pressure and bruising of apple fruit were measured by means of a pressure-sensitive film technique, in order to develop methods for assessing and predicting bruising of apples resulting from impact loads during the course of transport and handling. Results of impact tests with apples indicate that when the fruits are dropped from different heights onto different impacting surfaces, the bruise area and volume could be assessed and predicted by regression models based on the impact force obtained from the pressure-sensitive film (F_{PSF}). The coefficients of determination (R^2) for bruise area and bruise volume were found to be 0.91 and 0.95, respectively.