

Title Characterization of a Right Angle Transfer Point in a Fruit Packing Line
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Abstract

Characteristics of the impacts suffered by the fruit on a transfer point of an experimental fruit packing line were analysed. The transfer is made up by two transporting belts at different heights forming an angle of 90°. These transfer points are very common in fruit packing lines, in which fruits receive two impacts: the first onto the belt base and the second into the lateral plate. Different tests were carried out to study the effect of transfer height, velocity, belt structure and padding on the acceleration values recorded by an instrumental sphere (IS 100). Results showed that transfer height and belt structure affect mainly impact values on the belt base, and padding affects mainly impact values registered for lateral contact. The effect of belt velocity in both impacts is less important when compared to the rest of the variables. Additionally, two powered transfer decelerators were tested at the same point with the aim of decreasing impacts suffered by the fruit. Comparing impacts registered using these decelerators to those analysed in the first part of the study without decelerators, a high reduction of the impact values was observed.