Abstract

Mexico is one of the main exporters of fresh mango, and quality is essential for continuous marketing. Mango is kept for up to 2 days in the packinghouse after harvesting and sent to different markets. The fruit is packed on 26 kg plastic or wood boxes and firmness sorting can avoid mango damage during transport. Mango was detected by firmness on a conveyor belt built for a packinghouse using an instrumented sphere as detector. The machine was able to detect mango firmness with an accuracy of 95·7%, using Tukey's biweight robust regression algorithm. Simulating supermarket shelf-life, mangoes were classified as hard, soft or very soft with an accuracy of 90% using a piezoelectric accelerometer at a speed of one fruit per second.