Title Pomegranate quality evaluation using machine vision

Author A. Khoshroo, A. Keyhani, SH. Rafiee, R.A. Zoroofi and Z. Zamani

Citation ISHS Acta Horticulturae 818:347-352. 2009.

Keyword Pomegranate; evaluation; machine

Abstract

Pomegranate is an important fruit and widely cultivated in Iran. A high quality product is important, especially for export. In the pomegranate industry, quality evaluation is still performed manually by inspectors, which is tedious and laborious. In order to develop an automated system for pomegranate quality evaluation, image processing techniques can be combined with mechanical and instrumental devices to replace human manipulative efforts in the performance of the process. In such a system, image processing plays a central role in controlling the operations of the machinery. The aim of this research is sorting pomegranates based on such external features as color and surface defects. RGB (Red, Green, Blue) and HSI (Hue, Saturation, Intensity) color systems can be successfully used for sorting healthy and unhealthy (sun-burned, diseased,…) pomegranates. To analyze pomegranates for shape classification, some features, i.e., area, aspect ratio, circularity, roundness and energy of curvature extracted from images.