

An overview of non-destructive approaches for quality determination in pineapples

ABSTRACT

Pineapple is one of the healthful and popular tropical fruits in the world. The quality determination of pineapples was mostly evaluated by human inspection which is inconsistent and subjective. The increasing demand for pineapples creates more opportunities for the advancement of rapid and non-destructive approaches to seek quality evaluation of the fruit. This review gives an overview of the non-destructive approaches on the quality determination of pineapples including computer vision, imaging-based approaches, spectroscopy-based approaches, acoustic impulse, and electronic nose. The advance of non-destructive techniques to evaluate the quality of pineapple can produce better yield and improve postharvest handling. This paper also highlighted the recent works on the quality determination of pineapple fruit using non-destructive approaches along with the abundant information that can be explored for real-time purposes. This information is expected to be useful not only for pineapples growers/industries but also for other agro-food commodities.

Keyword: Computer vision; Non-destructive; Pineapple; Quality evaluation; Spectroscopy