

Title Monitoring storage shelf life of tomato using electronic nose technique
Author Antihus Hernández Gómez, Jun Wang, Guixian Hu and Annia García Pereira
Citation Journal of Food Engineering, Volume 85, Issue 4, April 2008, Pages 625-631
Keywords Electronic nose; Shelf life; Storage; Tomato; Monitoring

Abstract

Electronic nose technology offers non-destructive alternative to sense aroma, can be used to assess fruit ripening stage during shelf life. The objective of this study was to monitor tomato storage shelf life during two storage treatments using PEN 2 electronic nose (E-nose). Principal component analysis (PCA) and linear discriminant analysis (LDA) were used to distinguish the different tomato storage time. The obtained results proved that tomato with different storage time can be monitored by the E-nose, but very clear separation among all groups of different storage time was not achieved. By PCA and LDA, E-nose could more clearly discrimination storage time of tomato in carton box than one in folded bag. The correlations between the measured and predicted values of fruit quality attribute (soluble solids content, pH, and puncture force) showed poor prediction performance on the base of signals of E-nose sensors.