

Title Ozone-induced changes of antioxidant capacity of fresh-cut tropical fruits
Author Mohammad Alothman, Bhupinder Kaur, Ariffin Fazilah, Rajeev Bhat and Alias A. Karim
Citation Innovative Food Science & Emerging Technologies, Volume 11, Issue 4, October 2010, Pages 666-671
Keywords Fruits; Ozone; Antioxidant; Phenolic; Flavonoids; Vitamin C

Abstract

The effect of ozone treatment on total phenol, flavonoid, and vitamin C content of fresh-cut honey pineapple, banana 'pisang mas', and guava was investigated. The fresh-cut fruits were exposed to ozone at a flow rate of 8 ± 0.2 ml/s for 0, 10, 20, and 30 min. The antioxidant capacity of the fruits was evaluated by measuring the ferric reducing/antioxidant power (FRAP) and 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical-scavenging activity. Total phenol and flavonoid contents of pineapple and banana increased significantly when exposed to ozone for up to 20 min, with a concomitant increase in FRAP and DPPH values. The opposite was observed for guava. Ozone treatment significantly decreased the vitamin C content of all three fruits. The study shows promising results for enhancing antioxidant capacity of some fresh fruits by ozone treatment although the positive effect is compromised by a reduction in vitamin C content.