2021-01

Optimized method for processing avocado seeds to improve selected nutrients and functional values

Runyogote, Joseph

J-STAGE

https://doi.org/10.3136/fstr.27.75

Optimized method for processing avocado seeds to improve selected nutrients and functional values

Joseph Runyogote, Musa Chacha, Bernadette Ndabikunze, Jofrey Raymond

To download full text click that link
DOI: https://doi.org/10.3136/fstr.27.75

Abstract

The objective of this study was to develop an optimal processing technique capable of reducing antinutrients to acceptable levels, retain nutrients and functional values of avocado seeds for human consumption. Different processing conditions for probiotic fermentation, boiling and soaking techniques were studied to establish optimal processing conditions for the seeds. The antinutrients, antioxidant activity, total phenolics and selected nutrients of avocado seeds were analyzed using analytical standard methods. All processing techniques significantly ($p < 0.05$) reduced over 50% of antinutrients. The highest total phenolics and antioxidant activity (IC50) were 33.3 mgGAE/g and 0.8 mg/mL respectively which were observed at a fermentation temperature of 37 °C. Soaking and boiling reduced the analyzed minerals to about 30% whereas probiotic fermentation retained 100% of minerals analyzed, ascorbic acid and α-tocopherol. Moreover, probiotic fermentation demonstrated the best results in comparison to boiling and soaking thus, considered as an optimal processing method for improving nutritional and functional values of avocado seeds.

Keywords

Probiotic fermentation; boiling; soaking; anti-nutrients; vitamins; antioxidant activity; total phenols