OPEN ACCESS Journal of Applied Sciences

ISSN 1812-5654
DOI: 10.3923/jas.2019.262.269

Research Article
Stability of the Quality and Antioxidant Activity of the Dried Bitter Gourd During Long Term Storage Period

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Abstract

Background and Objective: Microwave assisted convective drying is a good alternative for the post-harvest preservation of the bitter gourd in which quality of the product is better retained. The objective of the present study was to investigate the effect of drying methods and storage period on ascorbic acid content, total phenolic content, vitamin A content, DPPH radical scavenging activity, total color change and rehydration ratio of the bitter gourd. **Materials and methods:** Bitter gourds were dried by convective drying (40, 50 and 60°C) and microwave assisted convective drying (40, 50 and 60°C and 320, 400 and 480 W) methods. The dried samples were packed in LDPE pouches and stored at room temperature for 6 months for further analysis. **Results:** The ascorbic acid and total phenolic content were higher in microwave assisted convective dried bitter gourd but decreased during storage in all the dried samples. However, DPPH radical scavenging activity and total color change increased during storage. Both Vitamin A and rehydration ratio showed a continuous decrease with increasing duration of storage in both the drying methods. **Conclusion:** Drying of bitter gourd by microwave assisted convective drying limited the loss of quality attributes and retained the quality characteristics of the bitter gourd.

Key words: Drying, bitter gourd, ascorbic acid, vitamin A, storage period

Citation: Insha Zahoor and Mohammad Ali Khan, 2019. Stability of the quality and antioxidant activity of the dried bitter gourd during long term storage period. J. Applied Sci., 19: 262-269.

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Competing Interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.