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Effect of Cabinet Drying on Nutritional Quality and Drying Kinetics of Brinjal (*Solanum Melongena* L) and Bitter Gourd (*Momordica Charantia*)

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Abstract

Purpose

This study aimed at investigating the drying kinetics and nutritional profile of brinjal and bitter gourd using cabinet dryers. Moreover, this study is new in identifying suitable drying conditions of cabinet dryers for drying vegetables since the literature related to this work is very limited.

Methods

The brinjal (BR) and bitter gourd (BG) were dried at different temperatures: 50 °C, 60 °C and 70 °C. The drying kinetics using Page, Henderson and Pabis and Logarithmic models was studied along with changes in physicochemical properties: moisture content, water activity, pH, texture and color; nutritional profile: crude fiber content, ash content, phenolic content, flavonoid content and antioxidant activity for two different vegetables: BR and BG. Finally, sensory evaluation was done to check the quality of dried vegetables.

Results

The drying temperature had significantly influenced the drying rate of BR and BG. Moreover, water activity, pH, texture, colour, nutrient profile and sensory properties of BR and BG also changed with different drying conditions.

Conclusion

The drying temperature of 60 °C was recommended to retain the quality of dried BR and BG in terms of physicochemical properties: pH, moisture content, water activity, texture and color and nutritional profile: crude fiber content, ash content, phenolic content, flavonoid content

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