CALCIUM AND VITAMIN D FORTIFICATION OF MANGO BY VACUUM IMPREGNATION

Sneyder Rodríguez-Barona, Gloria Inés Giraldo G, Alejandra Charfuelan

Universidad Nacional de Colombia sede Manizales, Facultad de Ingeniería y Arquitectura, Departamento de Ingeniería Química, Universidad Nacional de Colombia sede Manizales, Facultad de Ciencias Exactas y Naturales, Departamento de Física y Química. Carrera 27 N°64-60 Manizales-Colombia A.A.127. E-mail address: snrodriguezba@unal.edu.co

Functional foods are products that provide health benefits beyond the traditional content of nutrients through other physiologically active components (PCA). The fortification of fruits and vegetables by vacuum impregnation with mineral, vitamins, or other PCA is a way to develop functional foods. This study evaluated the effect of the incorporation of calcium and vitamin D in the porous structure of mango (var. naranjo). Mango slices were immersed in isotonic solutions of BiocalciumD® and subjected to reduced pressure of 50 mbar for a period of 10 minutes and for a similar time to atmospheric conditions. The impregnation parameters and the effect of incorporation of the active on the physicochemical and structural properties were evaluated. The results showed that the impregnated mango reaches calcium values approximately four times larger than those of fresh mango and the incorporated values of vitamin D were not significant. The impregnated mango tissues showed differences in their response after compression compared with the raw material showing increased firmness of the product.