



## **Effect of Frying Temperature and Time on the Thermophysical Properties and Texture Profile of Arepa Con Huevo**

**José D. Torres<sup>1, 2\*</sup>, Armando Alvis<sup>2</sup>, Diofanor Acevedo<sup>1</sup>**

<sup>1</sup>Research Group Nutrición, Salud and Calidad Alimentaria. Universidad de Cartagena, Piedra de Bolívar Av. El Consulado, Street 30. No. 48 - 152. 130015. Cartagena de Indias, D. T. y C., Colombia.

<sup>2</sup>Research Group Procesos de Agroindustrias y Vegetales. Universidad de Córdoba, Berástegui230002, Carrera 6 N° 76-103, Km 3, vía Cereté, Córdoba, Colombia.

**Abstract:** Deep fat frying is a widely used and industrially important food process, nowadays fried foodstuffs are consumed by their characteristics of palatability and texture. The aim of this research was to evaluate the effect of frying temperature and time on the thermophysical properties and texture profile of arepaconhuevo. The samples were made with 81.4 % of corn dough and 18.6 % of hen's egg, this was 10 cm in diameter and 2.5 cm thick. The temperatures used were 170 °C, 180 °C and 190 °C, with times of 300 s, 360 s and 420 s. The product/oil ratio was 1:4 weight/volume (250 g/L). The moisture of the arepas decreased as the process temperature increased ( $p < 0.05$ ). An increase in oil content was found as the processing time increased ( $p < 0.05$ ). The protein, dietary fibre, ash and carbohydrate contents of arepasconhuevo were not significantly affected by processing conditions ( $p > 0.05$ ). Conductivity and thermal diffusivity increased with temperature, with maximum values of  $0.79 \text{ W/m } ^\circ\text{C} \pm 0.05 \text{ W/m } ^\circ\text{C}$  and  $2.96 \times 10^{-7} \text{ m}^2 \text{ s}^{-1}$ . Hardness increased with temperature ( $p < 0.05$ ) varying from 13.41 to 27.34 N. The understanding thermal and texture properties are important in order to improve the frying processing and physicochemical parameters of arepa con huevo.

**Key words:** arepaconhuevo, deep fat frying, oil uptake, thermal diffusivity, hardness.

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