IECBM 2022

Abstract

Ohmic Heating Effect on the Bioaccessibility of Proteins from Ohmic-Heated Nixtamalized Tortillas †

Lucia Vega-Vazquez [1], Aurea K. Ramírez-Jiménez [2], Ivan Luzardo-Ocampo [3] and Marcela Gaytán-Martínez [1,*]

[1] Posgrado en Ciencia y Tecnología de los Alimentos, Research and Graduate Program in Food Science, School of Chemistry, Universidad Autónoma de Querétaro, Queretaro, QRO 76010, Mexico; luciabvv@gmail.com
[2] Tecnologico de Monterrey, School of Engineering and Science, Ave. Eugenio Garza Sada 2501, Monterrey, NL 64849, Mexico; aramirezj@tec.mx
[3] Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, QRO 76230, Mexico; ivan.8907@gmail.com
* Correspondence: marcelagaytanm@yahoo.com.mx; Tel.: +52 4421921200
† Presented at the 2nd International Electronic Conference on Biomolecules: Biomacromolecules and the Modern World Challenges, 1–15 Nov 2022; Available online: https://iecbm2022.sciforum.net/.

Abstract: This research aimed to assess protein bioaccessibility of traditionally (TN) or ohmic heating (OH)-nixtamalized sorghum tortillas using two sorghum varieties (82w21/8133) processed at several conditions (110/120 V, 85/90 °C). The 82w21 variety (120 V/85 °C) displayed the highest yield (1.82 kg tortilla/kg masa) and the best sensory parameters (rollability/puffiness). A higher tannin decrease (−27.77%) was obtained compared to TN. The highest protein bioaccessibility (58.23 %) was found for OH-tortillas at 60 min in the digestible fraction, while TN showed the highest permeation rates. Concluding, OH is an environmentally friendly procedure to obtain nixtamalized sorghum flours to manufacture highly-bioaccessible protein tortillas.

Keywords: Sorghum (*Sorghum bicolor L.* Moench); protein bioaccessibility; ohmic heating nixtamalization

Citation: Vega-Vazquez, L.; Ramírez-Jiménez, A.K.; Luzardo-Ocampo, I.; Gaytán-Martínez, M. Ohmic Heating Effect on the Bioaccessibility of Proteins from Ohmic-Heated Nixtamalized Tortillas. **2022**, *1*, x. https://doi.org/10.3390/xxxxx

Academic Editor(s):

Published: 1 November 2022

Author Contributions:

Funding:

Institutional Review Board Statement:

Informed Consent Statement:

Data Availability Statement:

Conflicts of Interest: