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Micro-Waves Drying Influence on Nopal Cladode Micro-Structure

Teodoro Espinosa-Solares¹, Leidy Laura Cruz-de la Cruz², Miguel Ángel Aguilar-Méndez³, Diana Guerra-Ramírez⁴ and Guadalupe Hernández-Eugenio⁵

¹Instituto Politécnico Nacional, Mexico

²Universidad Autónoma Chapingo, Mexico

Nopal (*Opuntia ficus-indica* (L.) Mill.) has the ability to grow in dry climatic conditions that are adverse for most conventional crops. Nopal cladode was dried using two micro-waves oven powers 75 and 158 kW kg_{d.b.}⁻¹. Drying kinetics was determined for both processes; additionally, temperature was registered as a function of time. Micro-structure was evaluated by electron microscopy. The power treatment had an influence on cellular structure, while low power showed open and porous structure, the high level of power implied structural damage. These changes were explained base on the transport phenomena involved in the processes. Additional information on isotherms was obtained; Peleg model explained well the sigmoid type III isotherm. A relatively low net isosteric heat was observed for high food moisture level, indicating a low interaction between the matrix food and the water.