

Application of High Electric Field (HEF) in Drying: A Review

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Abstract

High electric field (HEF) drying is a novel non-thermal method wherein either alternating current (AC) or direct current (DC) high voltages can be used for moisture evaporation during drying. Multiple point-to-plate electrode systems are efficient in accelerating drying of fruit and vegetables and present significant prospects for bulk drying. It results in food products of superior quality in terms of their physiochemical properties like shrinkage, color, flavor and nutrient content. Given their simplicity of design and lesser energy consumption, compared to oven and freeze –drying systems, HEF drying systems show great potential in the drying industry.

Keywords: High electric field (HEF), Air ions, Drying, Non-thermal drying, Corona Current