

**Title** Pulsed electric fields as a pretreatment technique in drying processes  
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### **Abstract**

**Purpose of Review:** Undesired product deteriorations and high energy consumption during thermal processing have initiated the quest for minimal thermal processing during food production. Pulsed electric field (PEF) technology has been shown to be effective for achieving the disintegration of plant, animal and microbial cells. Several studies on improvement of drying processes have been published recently and are reviewed within this paper.

**Main findings:** Research has shown that PEF has the potential to enhance mass transfer rates during osmotic and convective air drying, on both a laboratory and technical scales.

**Limitations and implications:** At present, the availability of industrial equipment is limited, but progress in pulsed-power engineering made industrial-scale equipment is feasible.

**Directions for future research:** Scale up and transfer of laboratory- and pilot-scale experiments should be carried out prove industrial applicability.