

**Microwave drying kinetics of tomato pomace: Effect of osmotic dehydration**

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**Abstract:** The production of tomato paste produces huge quantities of tomato pomace as a waste product. Such a great amount of pomace waste would become a serious environmental problem and a waste of resources. In this work, a study on the microwave drying of tomato pomace and the effect of osmotic dehydration using sodium chloride was carried out for the purpose of producing dried products, which could be used as fertilizers or animal feed. The effect of microwave power level and the NaCl concentration on the drying rate of tomato pomace was investigated. It was found that microwave drying could be used effectively for drying of such waste product by shortening of the drying process time. The drying rate was found to increase with increasing microwave dosage and NaCl concentration of osmotic solution. Drying rate constant was found to increase dramatically with increasing NaCl concentration up to about 0.1M, and then starts to decrease steadily as the NaCl concentration further increases. The effective moisture diffusivity varied from  $1.14 \times 10^{-6}$  to  $6.09 \times 10^{-6} \text{ m}^2/\text{s}$ , over the output microwave power range studied.