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Transport of Cellular Water during Drying: An Understanding of Cell Rupturing Mechanism
in Apple Tissue

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Abstract

The cellular structure of food tissue is complex, and it is difficult to understand the morphological changes during drying. Three different cellular environments, namely intracellular space, intercellular space, and cell wall in food tissue contain a different proportion of water. It is crucial to understand the moisture migration mechanisms from different cellular environments during drying for improving energy efficiency and for ensuring better quality dried foods. Due to the lack of sufficient understanding of transport mechanisms of different types of water, existing mathematical models for food drying have been developed without considering these components separately. Therefore, the main aim of the present work is to investigate the transport mechanisms of cellular water during drying.

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