

果蔬介电特性研究综述

Review of dielectric properties of fruits and vegetables

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中文摘要:

对食品介电特性的研究, 不仅能使人们了解食品的射频或微波特性, 研发出最具节能效果的介电加热设备, 而且介电特性可用于食品品质的识别。为此, 以果蔬为对象, 概述了果蔬生物体的介电特性; 介绍了测试信号的频率和电压以及环境温度和湿度等测试条件对果蔬介电特性的影响; 综述了在果蔬含水率、成熟度、新鲜度、损伤和糖、酸度等品质因素对介电特性影响方面的研究进展; 并指出目前研究存在的问题和今后的研究方向。

英文摘要:

Studying dielectric properties of foods, not only can people understand radio frequency or microwave properties of foods, develop dielectric heating equipment which save most energy, but also can make dielectric properties be applied in evaluating food qualities. Therefore, permittivities of fruits and vegetables were introduced. The influences of test conditions, such as frequency and voltage of signal used in experiment, and environmental temperature and humidity on dielectric properties of fruits and vegetables were summarized. Progresses in studying dielectric properties influenced by qualities, such as water content, maturity, freshness, damage, total soluble solid content, etc., were reviewed. Problems existing in present research and development trends were also given.

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