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Application of Emerging Nonthermal Technologies in the Food Industry: Second Edition

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Message from the Guest Editors

Dear Colleagues,

In the past, thermal processing technologies were widely used to sterilize and enhance the flavor of food. However, some toxic substances such as acrylamide and furan are easily released during thermal processing, and these are considered to be carcinogens by the WHO. Recently, emerging nonthermal processing technologies, such as high-pressure processing, radiation, pulsed electric fields, pulsed light, and cold plasma, have been found to ensure the quality and freshness of foods and avoid the generation of carcinogens. In addition, nonthermal technologies have been used to extract active substances from fruit, vegetables, and industrial crop residues, which facilitate the utilization of food and its byproducts.

Current studies focus on combination treatment which may be a more effective processing technique for the food industry. Clarifying the mechanisms, optimizing the processes, producing industrial-scale equipment, analyzing potential risks, and designing safety rules will be essential in promoting future nonthermal processing technologies.



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Message from the Editor-in-Chief

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