



Food Processing Operations Modeling: Design and Analysis, Second Edition (Food Science and Technology)

By Soojin Jun, Joseph M. Irudayaraj

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The food industry is on the verge of making some serious advances in the food processing sector. If successful, tomorrow's consumers will have unhindered access to safe, nutritious, and high-quality products via novel food processing technologies. **Food Processing Operations Modeling: Design and Analysis, Second Edition** demonstrates how to effectively use numerical modeling to predict the effects of food processing on targeted components. This non-destructive testing method virtually eliminates the health risks of under-processed food and maintains high nutritional values that are often lost in overcooked food.

Using a task-oriented approach, this second edition discusses basic and advanced modeling tools that allow researchers to predict and prevent worse-case scenarios, perform comprehensive analyses, and optimize system design and efficiency.

Contains Selected Applications of Thermal and Non-Thermal Processing Operations

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- Six new chapters on radio frequency heating, high-pressure processing, pulsed electric field treatment, fouling model on heat exchangers, ozone treatment, and UV radiation
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- Numerous real-world case studies
- Updated information on infrared heating of biological materials and modeling electrical resistance heating of foods
- Electromagnetic treatments (RF, Infrared, and UV) and fundamentals relative to heat and mass transfer, fluid flow, and stochastic processes
- Synergistic effect of combined food processing techniques and its numerical simulation

Food processing methods are constantly improving in an effort to maintain safe, high-quality, and fresh-tasting products. Providing the theoretical basis for these cutting-edge techniques, this tried-and-tested reference provides indispensable insight into food systems modeling, while exploring applications for further research.

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Editorial Review

Review

Ovemll, the structure and presentation of the book is good and a wide mnge of topics are covered.
--Mike Lewis, in *International Journal of Dairy Technology*. November 2010, Vol 63, No. 4.

About the Author

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