

Special Issue Reprint

Sustainable Functional Food Processing

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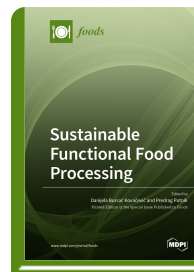
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Functional nutrition is deeply connected with healthy lifestyle and sustainable food production, due to its positive health benefits and the use of economically underexplored and natural raw materials. Expectedly, it appeals to large number of interested consumers while becoming lucrative segment of the food industry with a fast-growing market fueled by new sociodemographic trends. Accordingly, functional juices and beverages made of indigenous fruits are interesting niche for various food market stakeholders. Here, biologically active compounds (BACs) and probiotics that have positive health effects in functional foods (juices) are mostly thermolabile. This is especially important for industry that still employs classical heat treatments (e.g., pasteurization), while being concerned with degradation of food quality in the final products. To prevent this, focus is on designing economic and ecological technologies that are able to preserve nutritional and sensory quality while maintaining microbiological stability in products. Such approaches are based on low-energy consumption and low-impact processing, e.g. “hurdle technology” that combines advanced and conventional methods (e.g., high-power ultrasound, pulse electric field). Food design is another important focus point for consumers’ sensory appeal and economic success of foods. Hence, technologies as 3D food printing can be particularly useful for manufacturing. Based on the above, presented topics are relevant to sustainable functional food production, functional fruit juices, BACs, “hurdle technology,” advanced food processing, 3D food printing, and authentic fruits.

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