

# EDITOR'S MESSAGE



With the advancements in civilizations, Food has gained special attention in terms of its processing and preservation. The food science, processing and preservation techniques are critical for ensuring food safety, extending shelf life, and maintaining their nutritional value. Food processing is an essential component of the food industry, transforming raw ingredients into consumable products while ensuring food safety. This complex process involves various methods, including thermal treatments, drying, freezing, and fermentation, to enhance flavour, texture, and nutritional value. Advances in technology are driving significant changes in food processing. The food processing techniques are being developed according to the consumer requirements and preservation of the nutritional value of the final product. These trends not only shape the future of the food industry but also have profound implications for food safety, nutrition, and environmental impact.

The Union Cabinet chaired by the Prime Minister, Shri Narendra Modi has given its approval to introduce the Production-Linked Incentive (PLI) Scheme in Food Products for Enhancing India's Manufacturing Capabilities and Enhancing Exports – Atmanirbhar Bharat. Through the Ministry of Food Processing Industries (MoFPI), Government of India is taking all necessary measures to boost investments in the food processing industry in India. In this scheme, the applications are selected to participate under PLI Scheme for Millet-based products are MSMEs.

Entering 2024, the food industry is on the brink of transformative shifts, driven by changing consumer preferences, technological advancements, and a growing commitment to sustainability. The consumer in today's world is well-aware of the value and raw ingredients used in the food before it is produced and is sold in the market. The usage of methods like cold-pressing, high-pressure processing (HPP), and pulsed electric fields (PEF) preserve the nutritional quality of food while ensuring safety. Adding to this the use of natural food additives is also very much followed in the food industry. The clean label movement, is driven by consumer demand which endorses the usage of natural and minimally processed foods. The clean label movement is pushing the industry towards transparency and natural ingredients, prompting innovations in minimal processing and the use of natural preservatives.

The next step is the packaging of the final food product. It plays a crucial role in food preservation. Recent advancements in this field aim to enhance food safety and extend shelf life while being environmentally friendly. As the world becomes more health-conscious and environmentally aware, the methodologies for food processing and preservation are evolving rapidly.

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The packaging industry is coming up with sustainable, anti-microbial films and ready-to-eat nano-foods material. Nano-coatings that can protect food surfaces from microbial contamination and nanocomposites that enhance packaging properties are just a few examples of how this technology will revolutionize the field. With growing environmental concerns, there is a significant push towards biodegradable, compostable, and recyclable packaging materials. Innovations like edible films and plant-based plastics are gaining popularity. Advanced packaging technologies, including active and intelligent packaging, are revolutionizing how we extend the food products reach to the consumers in remote areas with the conservation of the environment.

The focus on environmental impact will drive innovations in preservation methods that reduce waste and energy consumption. Biodegradable and compostable packaging materials will become more prevalent, and processes that minimize food loss at every stage of the supply chain will be prioritized.

The future of food preservation is poised to be transformed by a blend of cutting-edge technologies, sustainability practices, and health-focused innovations. Traditional methods like canning, drying, and freezing will continue to be essential, but they will be increasingly complemented by advanced techniques that better retain nutritional value and flavour.

This editorial explores the key trends shaping the future of food processing and preservation, highlighting innovations that promise to enhance food safety, quality, and sustainability. As the food industry evolves, the integration of these advanced processing technologies ensures that consumers receive safer, healthier, and more sustainably produced food products, addressing the growing global demands and environmental concerns. The trends discussed in this editorial clean label movement, advanced packaging technologies, non-thermal processing, fermentation revival, and enhanced food safety and traceability are setting the stage for a future where food is safer, healthier, and more sustainable. As these innovations continue to develop, they promise to address many of the challenges facing the global food system today.



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