

Enhancing **FOOD** **SCIENCE** Innovations



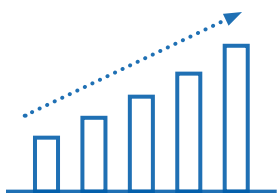
Supporting Your Research, Development, and Quality Testing

Access innovative food and beverage research and testing solutions and convenient services.

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Stay on the cutting-edge of the food and beverage testing industry

- Sensory science
- Advanced nutrient and allergen testing
- Personalized nutrition
- Plant-based alternatives
- Blockchain technology in the food supply chain



U.S. food technology market projected to have a compound annual growth rate (CAGR) of **7.7%** from 2024 to 2030¹, potentially reaching revenue of **\$88 billion** globally by **2030**¹



North America food testing market projected to earn sales revenue of

\$4.3 billion

by the end of 2031²

Global public funding for alternative proteins reached a total of

\$1.67 billion

in 2023³

In 2023, alternative protein companies in the U.S. raised

\$555 million³

1. <https://www.grandviewresearch.com/industry-analysis/food-technology-market-report>
2. <https://www.globenewswire.com/news-release/2024/10/21/2966177/32656/en/North-America-Food-Testing-Market-Size-Share-to-Surpass-USD-4-3-billion-by-2031-as-a-CAGR-7-1-Transparency-Market-Research-Inc.html>
3. <https://gfi.org/blog/global-alternative-protein-trends-to-watch/>



A Recipe for Success: Food and Beverage Testing Innovations

Advancements in sensory science, nutrition, and testing methodologies are revolutionizing the food and beverage industry. New methods of food testing help producers create safer, more appealing food products that meet consumer demands and regulatory standards. These innovations can pave the way for a future where personalized nutrition and transparent food sourcing become the norm.

Sensory Science and Research Innovation

- **Texture profile analysis (TPA)** assesses properties like hardness, cohesiveness, and chewiness, helping ensure plant-based alternatives mimic the textural qualities of animal-based products
- **Sensory evaluation** provides valuable feedback on consumer preferences, guiding product formulation and improvement
- **Functional properties testing** on plant-based ingredients assesses their ability to emulsify or gel, which is critical for product formulation
- **Advanced nutrition and allergen testing** utilizes techniques like high-performance liquid chromatography (HPLC), mass spectrometry (MS), and enzyme-linked immunosorbent assay (ELISA) to provide precise identification and quantification of nutrients, contaminants, and allergens

Additional Food Trends

- **Personalized nutrition:** Consumers are increasingly seeking personalized dietary recommendations based on their genetic profiles and health goals
- **Plant-based alternatives:** With the popularity of plant-based meat, dairy, and other alternatives on the rise, promoting the safety, quality, and nutritional value of plant-based products is crucial
- **Blockchain technology:** Enables the transparent and secure tracking of food products throughout the supply chain to enhance food safety

These innovations in sensory science, nutrition, blockchain technology, and testing methodologies are critical for developing safer, more appealing food products that meet consumer expectations and regulatory standards.

Industry Resources

IFT Emerging Science and Technologies www.ift.org/news-and-publications/by-topic/emerging-science-technologies?q=&page=1

Food Safety Magazine News www.food-safety.com/topics/296-news

Food Navigator, USA <https://www.foodnavigator-usa.com>

Food Institute Food Trends and Tech <https://foodinstitute.com/focus>

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