RIMT International Journal of Multidisciplinary Research
Vol. 1, Issue 2, July 2026
e-ISSN: 3139-4043

Innovation-Driven Sustainability: Pioneering a Greener Future through Green Food Products

Amardeep Kaur[1] and Navleen Kaur[2]

[1] Sri Guru Granth Sahib World University, Department of Commerce, Fatehgarh Sahib, Punjab, India.
amardeep.b25@gmail.com
[2] Sri Guru Granth Sahib World University, Department of Management, Fatehgarh Sahib, Punjab, India.
drnavleenkaur10@gmail.com

Abstract. In today's era of rising environmental consciousness and rapid technological advancement, innovation-driven sustainability has emerged as a transformative approach for addressing the ecological challenges associated with modern food production and consumption. This paper explores how innovative technologies, sustainable business models and the rise of eco-conscious consumerism are collectively accelerating the growth of the green food sector, paving the way toward a more responsible and sustainable future. The green food sector stands at the forefront of a global sustainability revolution. Green food products, characterized by their minimal environmental impact, organic cultivation and ethical production processes, form the backbone of sustainable food systems. The study examines how cutting-edge innovations such as precision agriculture, green biotechnology, digital supply chain traceability and biodegradable packaging are transforming traditional food systems while significantly reducing ecological footprints. Together, these innovations contribute to the achievement of the United Nations Sustainable Development Goals (SDGs). Furthermore, the study identifies the existing barriers and proposes strategic measures to overcome them in advancing sustainability within the green food sector. Ultimately, innovation-driven sustainability stands as a vital pathway toward a greener future rooted in ecological harmony, economic prosperity and social well-being.

Keywords: Green Food Products, Sustainable Innovation, Responsible Consumption, Sustainable Development Goals (SDGs).

1. Introduction

In recent decades, global food systems have undergone a profound transformation. Intensified production, sprawling supply chains, and rapidly evolving consumption patterns have redefined how food is grown, moved, and consumed driving a historic surge in global food availability. However, they have also created several environmental problems such as loss of soil fertility, increase in greenhouse gas emissions, overuse of natural resources, food wastage, and loss of biodiversity. Amid these global shifts, green

food products have risen to prominence as a key sustainability concept. The green food product refer to foods that are produced, processed and distributed in ways which minimize environmental impact, respect natural resource limits, and often emphasize organic cultivation, ethical labour and sustainable packaging. Innovation-driven sustainability means using new technologies (digital, biological, and materials), business models (circular economy, sharing platforms) and consumer behavior shifts (eco-conscious consumption) to accelerate environmental improvement in food systems. This paper reviews the current state of the green food sector, examines major innovations, presents barriers and strategic suggestions, and links these to the United Nations Sustainable Development Goals (SDGs). The aim is to provide a coherent overview for scholars, practitioners and students on how innovation-led sustainability in food is shaping a greener future.

1.1 What are Green Food Products?

A green product, also described as an ecological or environmentally friendly product, is developed with the primary objective of reducing adverse effects on the natural environment. (Chen & Chai, 2010) define a green product as one that integrates practices such as recycling, incorporation of recycled materials, reduction in packaging, and the use of less toxic substances in order to lessen its overall environmental impact. This perspective adopts a lifecycle approach, underscoring sustainability across production, consumption, and disposal stages. Similarly, (Dangelico & Pontrandolfo, 2010), describe a green product as one that demonstrates substantially improved environmental performance during manufacturing, usage, or end-of-life management when compared with conventional or competing alternatives. In the context of the food sector, green food products are characterized by a significantly lower environmental footprint relative to traditional options. Such products prioritize organic cultivation practices that avoid synthetic chemicals, promote efficient utilization of water and energy resources, reduce waste through circular production processes, adhere to ethical standards of production, and employ sustainable packaging and supply chain mechanisms. Collectively, these characteristics contribute to the development of a food system that remains economically viable, socially responsible, and environmentally sustainable.

1.2 Benefits of Innovation-Driven Sustainability in Food Sector

Innovation-driven sustainability in the food and agriculture sector refers to the systematic application of new technologies, business models, and sustainable practices that enhance

productivity while ensuring environmental, economic, and social well-being. The OECD, 2019 report emphasizes that innovation serves as a key catalyst for enhancing productivity, sustainability, and long-term growth within the global food and agriculture industry. It enables producers, industries, and policymakers to respond effectively to growing challenges such as climate change, resource scarcity, and food insecurity. The importance of innovation-led green food is multi-fold, which is as follows:

1.2.1 Environmental Benefits

Innovation-driven sustainability in the food sector plays a crucial role in lowering the ecological footprint by promoting efficient resource utilization, reducing emissions, and minimizing waste through technologies such as precision agriculture, biotechnology, and circular systems. Moreover, sustainable practices like agroforestry and biodiversity-friendly farming safeguard ecosystems, enhance soil fertility, and strengthen climate resilience for long-term agricultural stability (Herrero, et al., 2021)

1.2.2 Economic benefits

Innovation in the food sector acts as a key driver of economic growth and competitiveness by improving productivity, reducing operational costs, and creating new income streams ((OECD), 2019). The adoption of green business models and circular economy principles transforms agricultural waste into valuable secondary products, enhancing overall resource efficiency. Additionally, advancements such as digitalization, automation, and smart-farming strengthen supply chains, foster investment, and open global market opportunities in the green-food industry.

1.2.3 Social benefits

The social dimension of innovation-driven sustainability is equally critical. Technological and process innovations strengthen food security and improve nutritional outcomes by increasing agricultural yields and enhancing access to safe and nutritious food. They also create new employment opportunities in rural and urban areas, thereby improving livelihoods and reducing poverty. Moreover, innovation fosters safer working conditions, empowers smallholder farmers through knowledge sharing and access to digital tools, and promotes inclusivity across the agri-food value chain. Sustainable food systems built on innovation enhance community resilience, uphold labour rights, and ensure equitable participation in the benefits of growth (Herrero, et al., 2021)

1.2.4. Contribution to Sustainable Development Goals (SDGs)

The green food sector and innovation-driven sustainability are closely linked to multiple Sustainable Development Goals (SDGs) set by the United Nations. Sustainable agricultural practices, precision farming, and eco-innovations support SDG 2 (Zero Hunger) by increasing crop yields and enhancing food security for vulnerable populations. They advance SDG 12 (Responsible Consumption and Production) through improved resource efficiency, reduced waste, and sustainable supply chain management. For SDG 13 (Climate Action), these innovations help lower greenhouse gas emissions, enhance

carbon sequestration, and increase climate resilience in agriculture. In relation to SDG 15 (Life on Land), practices such as agroforestry, organic farming, and biodiversity-friendly cropping protect ecosystems and prevent land degradation. Finally, SDG 17 (Partnerships for the Goals) is supported by fostering collaboration between governments, businesses, researchers, and communities to implement and scale sustainable innovations. Overall, aligning technological and process innovations with these SDGs is essential for achieving a holistic and sustainable food system (Herrero, et al., 2021).

2. Key Innovations Transforming the Green Food Sector

The major technological and operational innovations reshaping green food production, processing, and consumption are outlined below:

2.1 Precision Agriculture and Digital Farming

(Clapp & Ruder, 2020) discussed various precision technologies in agriculture and their role in enhancing productivity and sustainability. The digital farming technologies, includes GPS-guided machinery, yield-monitor mapping, variable-rate application of fertilizers and pesticides, remote sensing through satellites and drones, robotics, and farm-management software that integrates soil, weather, and crop data for informed decision-making. It also includes gene-edited crops using CRISPR-Cas9 and TALEN, guided by big data and genomic sequencing, to develop traits like drought tolerance, pest resistance, and longer shelf life. Together, these technologies represent a shift toward highly data-driven, targeted, and potentially more efficient and sustainable agricultural practices.

(Sodano, 2019) analyzed how innovation trajectories, both the direction of technological development and the pathways leading to different food regimes, shape sustainability in the food system. The earlier Green Revolution relied on improved seeds, chemicals, and machinery, whereas today's digital revolution uses AI, big data, robotics, and blockchain. Two main innovation paths were identified: agribusiness-driven Ecologically Corporate Food Regime (ECFR), which tends to continue unsustainable practices, and the agroecology-driven Agroecological Food Regime (AEFR), which supports environmentally friendly and socially fair food system. The study also highlights that nanotech and biotech in agriculture pose environmental, economic, and social risks, including ecosystem harm, corporate control, inequality, and ethical concerns. Managing these risks requires policy interventions, regulation, risk assessment, public research, and democratic governance to guide innovation trajectories toward sustainability.

2.2. Alternative Proteins, Green Biotechnology and Novel Food Production

A major shift in the green food space is alternative proteins, providing more sustainable substitutes for conventional animal proteins. According to (Malik & Li, 2025), alternative proteins are innovative and non-traditional protein sources such as plant-based, cultured, microbial, algal and insect-derived proteins developed to meet global protein needs sustainably. These proteins significantly reduce greenhouse gas emissions, land use, and water consumption compared to conventional livestock production. By promoting resource efficiency and supporting circular food systems, alternative proteins play a vital role in advancing environmental sustainability and global food security.

(Demirel, Güneş, & Can, 2024) explores how green biotechnology supports sustainability in the food sector through bio-based innovations such as genetically enhanced crops, microbial fermentation for alternative proteins, biopreservation for longer shelf life, and eco-friendly packaging. These technologies improve productivity, reduce waste, and lower environmental footprints, thereby fostering a more resilient and sustainable global food system.

2.3 Sustainable and Intelligent Packaging

Once food is produced, packaging and supply chains become crucial. (Oliveira, Lago, Pinto, Araújo, & Velho, 2025) revealed that sustainable packaging represents a crucial innovation in the green food sector, minimizing environmental impact and food waste through the adoption of biodegradable, compostable, and recyclable materials. The circular design principles enhance resource efficiency and support waste reduction across supply chains. The smart and active packaging technologies improve product safety, extend shelf life, and strengthen traceability. Thus, sustainable packaging is essential for promoting environmental sustainability and advancing circular economy practices within modern food systems. Thus, packaging innovation plays a strategic role: by reducing spoilage, enabling reuse, improving traceability, and aligning with circular economy principles.

2.4 Circular Economy and Waste Valorisation in Food Systems

(Gómez-García, Campos, Aguilar, Madureira, & Pintado, 2023) pointed that applying circular economy principles in food systems enables the reuse, recycling, and recovery of resources across the value chain. The study revealed that technological innovations such as bioactive compound extraction, fermentation, and bioconversion of food residues transform waste into valuable products, thereby reducing environmental impact and fostering green innovation. These valorisation strategies strengthen sustainability by minimizing waste generation, optimizing resource efficiency, and creating new economic opportunities within the green food sector.

2.5 Supply Chain Traceability, Digital Platforms and Consumer Engagement

(Caro, Ali, Vecchio, & Giaffreda, 2018) revealed that innovation in the green food sector lies in connecting production to consumption through digital platforms, IoT, and blockchain traceability. These tools enhance transparency, trust, and accountability by allowing consumers to access verified information on origin, farming practices, and environmental credentials. Digital traceability systems also enable real-time data exchange, automate logistics, and reduce waste, forming a vital part of the broader innovation ecosystem that fosters informed and eco-conscious consumer engagement.

3. Barriers and Challenges in Advancing Innovation-Driven Green Food

Despite its vast potential, innovation-driven green food development faces several critical barriers that impede meaningful progress. Below are key challenges:

3.1 High Costs and Investment Barriers

(Oliveira, Lago, Pinto, Araújo, & Velho, 2025) revealed that many eco-innovations in the food industry, including precision agriculture technologies, biotechnology applications, and novel packaging systems, involve high upfront investment, which can be prohibitive for small and medium-sized enterprises (SMEs) and smallholder farmers. Cost barriers, along with the need for collaboration and technical support, significantly hinder adoption, limiting the reach and impact of sustainable innovations in emerging markets.

3.2. Technology Adoption and Skills Gap

The adoption of digital tools, sensors, AI, and biotechnologies in the food system requires new skills, data literacy, and adequate infrastructure. The study's discussion of innovation trajectories highlights that such technological shifts can create social risks, including inequalities between farmers with access to advanced tools and those without, as well as disparities in knowledge, resources, and decision-making power. These technology-induced gaps underscore the importance of supportive policies, education, and inclusive governance to ensure equitable participation in the digital transformation of agriculture (Sodano, 2019).

3.3. Consumer Acceptance and Innovation Risk

(Mansilla Obando, et al., 2023) highlight consumer adoption of eco innovative food products is often limited by food neophobia and distrust of unfamiliar technologies, such as cultured meats or novel packaging. Many consumers are skeptical of environmental claims and require clearer information to perceive the benefits. Perceived innovation risks, including safety concerns and uncertainty about long-term effects, further reduce acceptance. Price and availability also constrain adoption, making consumer attitudes a critical barrier to sustainable food innovations.

3.4. Supply Chain Complexity and Traceability

Food supply chains are often fragmented and global in nature, involving multiple intermediaries, making it challenging to ensure traceability, verify sustainability credentials, and implement circular practices effectively. Strategic gaps in green supplier selection further intensify this challenge, as food manufacturers face difficulties in consistently identifying and collaborating with suppliers who meet environmental and sustainability standards, which can hinder the overall greening of the supply chain (Zhao, 2023).

3.5. Regulatory and Standardization Challenges

The absence of clear and transparent standards and guidelines at both national and international levels regarding alternative proteins, along with the significant variation in the regulatory status of novel foods across countries, creates uncertainty in safety evaluation and market entry processes. Such regulatory divergence can impede innovation, increase compliance costs for producers, and restrict consumer access to sustainable food alternatives (Hadi & Brightwell, 2021).

3.6. Environmental and Social Risk of New Technologies

(Iavicoli, Leso, Beezhold, & Shvedova, 2017) stated that while nanotechnology offers promising applications in agriculture, such as nano-fertilizers, nano-pesticides, and pollutant remediation, it also poses environmental and human health risks. Nano-materials can accumulate in soils, disrupt microbial ecosystems, and expose workers to potential toxic effects. The long-term ecological and occupational safety implications of nano-enabled agricultural applications remain largely uncertain, highlighting the need for careful risk assessment and regulation. (Sodano, 2019) highlights that the adoption of biotechnology in agriculture can impact biodiversity by favouring monocultures and may affect farmer livelihoods by increasing dependence on patented seeds and corporate-controlled technologies.

3.7. Scale and Economies of Green Innovation

Green innovations in the food sector often involve high initial costs owing to certification, specialized inputs, and new value chain requirements. Until economies of scale are achieved, such innovations tend to remain niche or premium, limiting wider adoption. The farmers require substantial transitional support such as finance, training and market access before sustainable practices can scale, and the lack of supportive public policy further slows the transition (Khandelwal, Aggarwal, Jain, Gupta, John, & Farah, 2022).

4. Strategic Measures and Recommendations

To overcome these barriers and accelerate innovation-driven sustainability in the green food sector, the following strategic measures are suggested:

4.1 Policy Incentives and Subsidies

(Asseldonk, Lansink, & Hulscher, 2023) concluded that government policy incentives, including targeted grants, tax breaks, and public-private partnerships, are crucial to encourage smallholder farmers to adopt climate-smart and sustainable agricultural practices. Such financial support reduces the initial cost burden of adopting new technologies, facilitates risk-sharing, and accelerates the uptake of innovations that enhance productivity and environmental sustainability. The study emphasizes that well-designed policies are critical to guiding the green food sector toward wider and more effective implementation of sustainable practices.

4.2. Capacity Building and Skills Development

(Bora, 2020) emphasizes that adopting digital agricultural technologies demands a well trained workforce, noting that capacity building for farmers and food industry workers is essential for successful implementation. He further highlights the need for collaboration between research centres, universities and industry to establish up skilling pathways and local adaptation of digital tools, thereby enabling sustainable practices suited to regional contexts.

4.3. Consumer Education and Engagement

The consumer awareness and engagement are critical for the adoption of green food products. The awareness campaigns emphasizing the environmental, health, and ethical benefits of eco-friendly foods can positively influence consumer choices. The consumers with higher environmental knowledge and trust in eco-labels demonstrate stronger purchase intentions toward sustainable food products. Furthermore, the use of eco-labels, certifications, and transparent information about product origin and production methods help build trust and drives demand, encouraging wider acceptance of sustainable practices in the food sector (Alam, 2023).

4.4. Standardization, Regulation, and Policy Mechanisms

(Ma, Zhang, & Chai, 2019) demonstrated that well-designed government subsidies along with cooperative contractual arrangements among supply-chain participants, can effectively stimulate green innovation by mitigating private risk and internalizing environmental gains. The targeted subsidies (for R&D or adoption) combined with contractual arrangements that share costs and revenues encourage firms to invest in sustainable technologies. Regulatory clarity and harmonized standards further amplify these effects by reducing uncertainty, preventing free-riding, and making public incentives more effective in steering the green food sector toward sustainable outcomes.

4.5. Business Model Innovation and Partnerships

(Klein, Nier, & Tamásy, 2022) stated that circular business models within the agri-food sector rely on strong collaboration among producers, processors, and technology partners to improve resource efficiency and minimize waste. Such partnerships enable the development of waste-to-resource solutions and the sharing of infrastructure, fostering sustainable value creation. The cross-sector collaborations across agriculture, biotechnology, packaging, and data systems are crucial for co-innovation, risk sharing, and scaling sustainable practices in the green food system.

4.6. Promoting SMEs and Start-Ups

SMEs (Small and Medium-sized Enterprises) face financial and market barriers in adopting sustainable innovations. Therefore, access to green finance, including venture capital and green bonds, can support their transition towards eco-efficient production. Moreover, creating innovation clusters and incubation hubs that connect agriculture, food processing, and packaging sectors can foster collaboration and drive growth in the green food industry (Kot, 2018).

4.7. Scaling and Infrastructure Investment

(Dong, Miller, & Keoleian, 2022) highlighted that investing in cold-chain logistics, data-driven infrastructure, and waste-valorisation systems reduces food loss and improves supply chain sustainability. Their study showed that advanced refrigeration, monitoring, and recycling technologies enhance energy efficiency and lower emissions. Such

infrastructure investments and pilot projects are vital to scale green innovations effectively.

4.8. Monitoring, Evaluation and Life-Cycle Assessment

Life-cycle assessment (LCA) is a critical tool for quantifying the environmental impacts of food packaging systems, particularly when considering packaging-related food waste. Systematic monitoring of resource use, greenhouse gas emissions, and waste generation is essential to validate sustainability claims. Integrating LCA into innovation processes helps identify trade-offs, guide product improvements, and ensure that packaging innovations genuinely contribute to environmental performance and circular economy goals (Hemachandra, Hadjikakou, & Pettigrew, 2024).

By implementing these measures, stakeholders can accelerate the transition of green food products from niche to mainstream.

5. Future Research Directions

The evolving field of green food innovation presents a wide range of opportunities for future research among scholars and practitioners. One promising direction is to examine consumer adoption dynamics of novel green foods, such as cultured meat and insect-based proteins, across diverse cultural contexts to understand acceptance patterns and behavioural drivers. Another critical area involves life-cycle assessments of alternative proteins, biodegradable packaging, and sustainable production systems in developing regions, particularly within the Indian and Punjabi contexts, to evaluate their true environmental and economic impacts. Researchers may also explore business model innovations that support circular food systems in rural settings, enabling smallholder farmers to integrate into sustainable and inclusive green food supply chains. In addition, assessing policy effectiveness is essential to identify which governmental incentives, regulatory measures, and institutional frameworks most effectively stimulate green innovation within the food sector. Further inquiry into the social implications of green food technologies is needed to determine how such innovations influence livelihoods, equity, food sovereignty, and the inclusion of small-scale producers. The growing role of data, the Internet of Things (IoT), and Artificial Intelligence (AI) in enhancing efficiency and scalability of sustainable food production also warrants deeper investigation, especially in emerging markets like India. Finally, studying the broader innovation

ecosystem that includes interactions among research institutions, industry players, government bodies and consumers can provide valuable insights into how collaborative efforts drive the transition toward a sustainable and resilient green food economy.

6. Conclusion

To conclude, innovation driven sustainability is not just a modern concept but also serves as a pivotal pathway for transforming food systems into models that are both environmentally responsible and economically viable. The integration of innovation within the green food sector demonstrates how technological advancement, efficient resource management and socially inclusive practices can collectively foster ecological stability and long-term development. By aligning innovation with sustainability, governments, industries and consumers can jointly address pressing challenges such as environmental degradation and resource scarcity while unlocking opportunities for growth and resilience. For India, the advancement of green food innovations holds significant potential to enhance rural livelihoods, promote waste reduction, conserve natural resources and strengthen participation in global sustainable markets. In essence, fostering innovation driven sustainability within the green food sector is not merely an environmental necessity but a strategic imperative for achieving economic prosperity, social well-being and environmental harmony.

References

(OECD), O. f. o. (2019). Innovation, Productivity and Sustainability in Food and Agriculture: Main Findings from Country Reviews and Policy L essons (Vol. Series: OECD Food and Agricultural Reviews). OECD Publishing, Paris.

Alam, S. S. (2023). Buying Behaviour towards Eco-Labelled Food Products. Sustainability , 15 (3), Article No: 2474.

Asseldonk, V. M., Lansink, A. O., & Hulscher, M. L. (2023). Policy incentives for smallholder adoption of climate-smart agricultural practices. Frontiers in Political Science , 5 (Politics of Technology), Article: 1112311.

Bora, G. (2020). Capacity Building for Global Food Security through Digital Agricultural Technology Enhancement. Current Investigations in Agriculture and Current Research , 8 (4), 1117–1121.

Caro, M. P., Ali, M. S., Vecchio, M., & Giaffreda, R. (2018). Blockchain-based traceability in Agri-Food supply chain management: A practical implementation. Proceedings of the 2018 IoT Vertical and Topical Summit on Agriculture – Tuscany (IOT Tuscany 2018) (pp. 1-4). Tuscany, Italy: IEEE.

Chen, T. B., & Chai, L. T. (2010). Attitude towards the Environment and Green Products: Consumers' Perspective. Management Science and Engineering , 4 (2), 27-39.

Clapp, J., & Ruder, S. L. (2020). Precision Technologies for Agriculture: Digital Farming, Gene Edited Crops, and the Politics of Sustainability. Global Environmental Politics , 20 (3), 49 69.

Dangelico, R. M., & Pontrandolfo, P. (2010). From Green Product Definitions and Classifications to the Green Option Matrix. Journal of Cleaner Production , 18 (16-17), 1608–1628.

Demirel, Ö., Güneş, H., & Can, C. (2024). Sustainable and Modern Bio-Based Technologies: New Approaches to Food Safety and Security. Environment, Development and Sustainability , 27, 24899–24926.

Dong, Y., Miller, S. A., & Keoleian, G. A. (2022). Sustainable food cold chain logistics: From microenvironmental monitoring to global impact. Sustainable Production and Consumption , 31, 546–556.

Gómez-García, R., Campos, D. A., Aguilar, C. N., Madureira, A. R., & Pintado, M. R. (2023). Technological Innovations and Circular Economy in the Valorization of Agri-Food By-Products: Advances, Challenges and Perspectives. Foods , 13.

Hadi, J., & Brightwell, G. (2021). Safety of Alternative Proteins: Technological, Environmental and Regulatory Aspects of Cultured Meat, Plant Based Meat, Insect Protein and Single Cell Protein. Foods , 10 (6), Article No: 1226.

Hemachandra, S., Hadjikakou, M., & Pettigrew, S. (2024). A Scoping Review of Food Packaging Life Cycle Assessments that Account for Packaging-Related Food Waste. The International Journal of Life Cycle Assessment , 29, 1899–1915.

Herrero, M., Thornton, P. K., Mason D'Croz, D., Palmer, J., Bodirsky, B., Pradhan, P., et al. (2021). Articulating the Effect of Food Systems Innovation on the Sustainable Development Goals. The Lancet Planetary Health , 5 (1), e50–e62.

Iavicoli, I., Leso, V., Beezhold, D. H., & Shvedova, A. A. (2017). Nanotechnology in Agriculture: Opportunities, Toxicological Implications, and Occupational Risks. Toxicology and Applied Pharmacology , 329 (1), 115 135.

Khandelwal, A., Aggarwal, N., Jain, B., Gupta, D., John, A., & Farah, C. P. (2022). Scaling up sustainability through new product categories and certification: Two cases from India. Frontiers in Sustainable Food Systems , 6, Article No: 1014691.

Klein, O., Nier, S., & Tamásy, C. (2022). Circular agri-food economies: business models and practices in the potato industry. Sustainability Science , 17, 2237–2252.

Kot, S. (2018). Sustainable Supply Chain Management in Small and Medium Enterprises. Sustainability , 10 (4), Article No: 1143.

Ma, W., Zhang, R., & Chai, S. (2019). What Drives Green Innovation? A Game Theoretic Analysis of Government Subsidy and Cooperation Contract. Sustainability , 11 (20), Article No: 5584.

Malik, A. H., & Li, L. (2025). Novel Proteins for Future Foods: Current Status, Challenges, and Perspectives. Foods , 14 (5), 862.

Mansilla Obando, K., Llanos, G., Gómez Sotta, E., Buchuk, P., Ortiz, F., Aguirre, M., et al. (2023). Eco Innovation in the Food Industry: Exploring Consumer Motivations in an Emerging Market. Foods , 13 (1), Article 4.

Oliveira, M. M., Lago, A., Pinto, N. G., Araújo, C. d., & Velho, J. P. (2025). Systematic Review of Innovations in Food Packaging with a Focus on Circularity and the Reduction of Food Loss and Waste. Discover Applied Sciences , 7 (1), Article No: 1133.

Sodano, V. (2019). Innovation Trajectories and Sustainability in the Food System. Sustainability , 11 (5), Article No. 1271.

Zhao, Z. (2023). A Review of Food Manufacturing Companies' Selection Toward Green Suppliers. Journal of Innovation and Development , 3 (1), 159 161.