International Journal of Food Science and Technology, Volume 58, Issue 10, October 2023, pp. 5430-5432
DOI: 10.1111/ijfs.16630

SI Title: **Sustainable Food Supply Chain**

Editorial Title: **Ensuring Food Security and Sustainability in the Face of Crises**

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The recent Russia-Ukraine war and the COVID-19 pandemic have posed significant challenges to food supply chains worldwide. These calamities have disrupted food production, distribution, and access, making efficient management of food supply chains essential to ensure food safety, security, and sustainability for every nation. The shortage of essential food items during these crises has underscored the importance of reducing food waste, increasing resource efficiency, circularity, and sustainability.

To address these challenges, this special issue titled 'Sustainable Food Supply Chain' focuses on research contributions from the fields of science, sociology, and economics of food production and supply chain networks. The aim is to bring innovative work that can help meet the requirements of food security, sustainable food production and consumption, food safety, and food policy. Additional key deliverables include food recovery, waste reduction, life cycle assessment, circular economy practices, and resilience to climate change and disruptions.

We received a total of 57 articles in response to this call, out of which 18 articles have been successfully published. The quality and significance of the submissions have been outstanding, with numerous noteworthy research studies among them:

1. **Ameliorating the prediction ability of laccase time-temperature indicator for dynamic monitoring quality of fresh-cut papaya** - Lin et al. (2023) introduces a laccase time-temperature indicator (LTTI) to predict the quality deterioration of fresh-cut papaya. The formulated LTTI demonstrated high reliability in evaluating the shelf life of fresh-cut papaya, contributing to reducing food waste.
2. **Government subsidy and firm's cost-sharing in sustainable agriculture supply chains** – He et al. (2023) research explores an agriculture supply chain involving a government, leading firm, and farmers. The study emphasizes the importance of cost-sharing and subsidy mechanisms to encourage farmers to adopt sustainable technologies, ultimately impacting the food supply chain's sustainability.
3. **Migration and leaching behavior of Bisphenol A from Polyethylene Terephthalate Water Bottles Under Different Storage Conditions** – Mârșolea et al. (2023) work investigates the release of Bisphenol A from PET bottles into non-carbonated water under different storage conditions, highlighting the potential for BPA contamination in long-term bottled water.
4. **Public preferences for nutritional, environmental, and food safety characteristics of upcycled foods in Sweden** – Moshtaghian et al. (2023) study analyzes public preferences for upcycled foods based on nutritional, environmental, and food safety characteristics, offering insights into improving the acceptability of these foods among different age groups.
5. **Effect of rapeseed oil and β-cyclodextrin coatings on the quality of eggs in shell** – Dai et al. (2023) research explores the application of rapeseed oil and β-cyclodextrin

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The final published version (version of record) is available online at DOI:10.1111/ijfs.16630. Please refer to any applicable publisher terms of use.

coatings on eggs in shell to improve their quality attributes during storage, offering potential strategies to enhance egg shelf life.

6. **Turn-key research in food processing and manufacturing for reducing the impact of climate change** – Martindale et al. (2023) study addresses the challenges faced by the global food system and provides actionable insights and methodologies to guide researchers and industry stakeholders in creating a more sustainable and secure future for food production and consumption.

7. **Optimization of fish gelatin and red pitaya peel powder edible film production** – Rahma et al. (2023) research investigates the production of edible films using fish gelatin and red pitaya peel powder, offering potential alternatives to plastic packaging with desirable functional properties.

8. **Influence of amino acid profiles and secondary structure on nutritional and functional properties of Trichilia emetica and Trichilia dregeana proteins** – Tsomele et al. (2023) study explores the potential of proteins from Trichilia oilseeds, traditionally used in underutilized tree seeds, to address protein malnutrition in economically disadvantaged communities.

9. **Alternative proteins as fish meal substitution in diets for largemouth bass (Micropterus salmoides): a mini-review** – Cheng et al. (2023) reviews alternative protein sources to partially or fully substitute fish meal in diets for largemouth bass, providing insights into sustainable aquaculture practices.

10. **The effect of antioxidant properties of free and encapsulated rosemary extract in liposome on the oxidation process of canola oil** – Jahanfar et al. (2023) study explores the antioxidant properties of rosemary extract and its potential use in canola oil to delay oxidation, offering a natural alternative to synthetic antioxidants.

11. **Linking the willingness of smallholder dairy farmers to adopt minimum food safety and quality standards to the country's export potential** – Arshad et al. (2023) examines the link between smallholder dairy farmers' willingness to adopt food safety standards and the country's ability to export agri-food products, providing insights for policymakers.

12. **Hazelnut (Corylus avellana L.) skin, a byproduct of hazelnut industry, possesses oil with high oxidative and thermal stabilities** - Çelik et al. (2023) investigates the potential of hazelnut skin as a sustainable alternative to propolis for food preservation and nutraceutical applications.

13. **Analyzing the challenges for sustainable food grain storage management: A path to food security in emerging nations** – Das et al. (2023) identifies and analyzes challenges to sustainable food grain storage management in emerging nations, providing a logical framework to support decision-making and sustainability.

14. **A decision support tool for the first stage of the tempering process of organic wheat grains in a mill** - Parrenin et al. (2023) develops a decision support tool to help operators adjust tempering parameters in small-scale food processing, aiming for improved food safety in short food supply chains.

15. **The beeswax processing by-product: a potential antibacterial ingredient for food and nutraceutical applications** - Peron et al (2023) explores the potential application of beeswax processing by-product as an antibacterial ingredient for food and nutraceutical products.

16. **Usage of online food delivery in food waste generation in China during the crisis of COVID-19** – Wei et al. (2023) investigates the impacts of online food delivery service on food waste generation in China during the COVID-19 lockdown period, revealing insights into consumer behaviors.

17. **Evaluating collaborative scenarios for short food supply chains: A case study on high-level processing technology** - Van Parys et al. (2023) explores three collaborative scenarios for implementing high-level processing technology in small-scale food processing, emphasizing the importance of collaborations and flexibility.

18. **Consumers left at the mercy of chefs for potency, consistency, safety, and regulation - The edibles industry of cannabinoids – A critical review** – Siddiqui et al. (2023) critically reviews the edibles industry of cannabinoids, highlighting potential hazards regarding food safety and discussing consumer perception and acceptance of edibles products.

This special issue brings together an array of research studies focusing on key aspects of food supply chains, food safety, and sustainability. The contributions shed light on innovative solutions, best practices, and challenges in the current global food landscape. By addressing these critical issues, researchers, policymakers, and industry stakeholders can collectively work towards ensuring a resilient and sustainable future for food production, distribution, and consumption, even in the face of crises.

References:

1) Lin, C.X., Lin, S.B., Chen, S.H., Hsu, H.H., Chang, Y.H. and Chen, H.H., 2023. Ameliorating the prediction ability of laccase time temperature indicator for dynamic monitoring quality of fresh-cut papaya. *International Journal of Food Science & Technology*.
2) He, Y., Yu, Y., Guo, X. and Li, D., 2023. Government subsidy and firm's cost sharing in sustainable agriculture supply chain. *International Journal of Food Science & Technology*.
3) Mârșolea, A.C., Chiriac, F.L., Orbeci, C., Bobirică, L. and Bobirică, C., Migration and Leaching Behavior of Bisphenol A from Polyethylene Terephthalate Water Bottles Under Different Storage Conditions. International Journal of Food Science & Technology.
4) Moshtaghian, H., Bolton, K. and Rousta, K., Public preferences for nutritional, environmental and food safety characteristics of upcycled foods in Sweden. *International Journal of Food Science & Technology*.
5) Dai, Y., Chen, D.H., Lei, Q., Ren, X.L., Li, C.H., Zhang, J. and Chang, H.J., Effect of rapeseed oil and β-cyclodextrin coatings on the quality of eggs in shell. International Journal of Food Science & Technology.
6) Martindale, W., Hollands, T.Æ., Jagtap, S., Hebishy, E. and Duong, L., Turn-key research in food processing and manufacturing for reducing the impact of climate change. *International Journal of Food Science & Technology*.
7) Rahma, R.A., Putri, W.D.R., Megatri, A.A., Nur, M., Mubarok, A.Z. and Wardana, A.A., Optimization of fish gelatin and red pitaya peel powder edible film production. *International Journal of Food Science & Technology*.
8) Tsomele, G.F., Meiring, B., Anyasi, T.A., Mlambo, V., Amonsou, E., Lepule, S.P., Siwela, M. and Wokadala, O.C., 2023. Influence of amino acid profile and secondary structure on nutritional and functional properties of Trichilia emetica and Trichilia dregeana protein concentrates. *International Journal of Food Science & Technology*.

9) Cheng, Y., Wu, Y.J., Zhu, C.B., Zhou, X.K., Yang, S. and Fei, H., 2023. Alternative proteins as fish meal substitution in diets for largemouth bass (Micropterus salmoides): a mini-review. *International Journal of Food Science & Technology*.
10) Jahanfar, S., Gahavami, M., Khosravi-Darani, K., Jahadi, M., Mohsin, H., Todorov, S.D. and Tripathid, A.D., The effect of antioxidant properties of free and encapsulated rosemary extract in liposome on the oxidation process of canola oil. *International Journal of Food Science & Technology*.
11) Arshad, M.W., Moazzam, M., Raziq, M.M. and Ahmed, W., Linking the willingness of smallholder dairy farmers to adopt minimum food safety and quality standards to the country's export potential. *International Journal of Food Science & Technology*.
12) Çelik, Ö.F., Aktaş, N., Tugay, M.İ. and Tunçil, Y.E., 2023. Hazelnut (Corylus avellana L.) skin, a by-product of hazelnut industry, possesses oil with high oxidative and thermal stabilities. *International Journal of Food Science & Technology*.
13) Das, S., Barve, A., Sahu, N.C., Muduli, K., Kumar, A. and Luthra, S., 2023. Analysing the challenges to sustainable food grain storage management: a path to food security in emerging nations. *International Journal of Food Science & Technology*.
14) Parrenin, L., Danjou, C., Agard, B. and Beauchemin, R., 2023. A decision support tool for the first stage of the tempering process of organic wheat grains in a mill. *International Journal of Food Science & Technology*.
15) Peron, G., Carmo dos Santos, N.A., Ferrarese, I., Rizzo, F., Bernabè, G., Paccagnella, M., Panozzo, M., Francescato, S., Castagliuolo, I., Dall'Acqua, S. and Selva, M., The beeswax processing by-product: a potential antibacterial ingredient for food and nutraceutical applications. *International Journal of Food Science & Technology*.
16) Wei, L., Prabhakar, G. and Duong, L.N., Usage of online food delivery in food waste generation in China during the crisis of COVID-19. *International Journal of Food Science & Technology*.
17) Van Parys, E., Tran, D., Sampers, I., Benezech, T., Loveniers, P., Devlieghere, F., De Steur, H., Gellynck, X. and Schouteten, J.J., Evaluating collaborative scenarios for short food supply chains: a case study on high-level processing technology. *International Journal of Food Science & Technology*.
18) Siddiqui, S.A., Bahmid, N.A., Asif, Z. and Shah, M.A., Consumers left at the mercy of chefs for potency, consistency, safety, and regulation-The edibles industry of cannabinoids–A critical review. *International Journal of Food Science & Technology*.

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2023-10-01
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https://doi.org/10.1111/ijfs.16630
Jagtap S, Litos L, Raut R, et al., (2023) Ensuring food security and sustainability in the face of crises [Editorial]. International Journal of Food Science and Technology, Volume 58, Issue 10, October 2023, pp. 5430-5432

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