

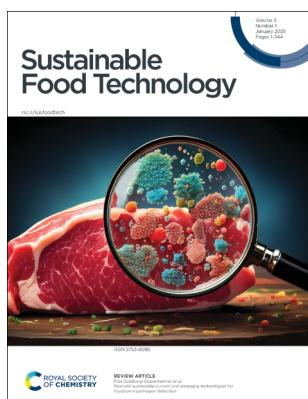
Sustainable Food Technology

rsc.li/susfoodtech

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2753-8095 CODEN SFTUAG 3(1) 1–344 (2025)



Cover

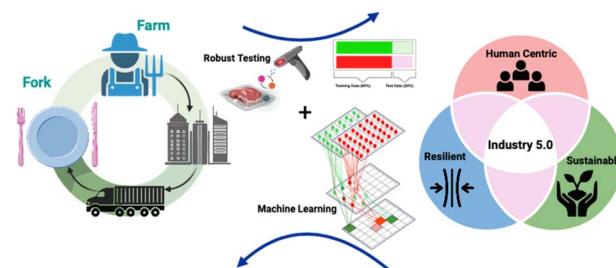
See Pola Goldberg Oppenheimer *et al.*, pp. 10–31.
Image reproduced by permission of P. Goldberg Oppenheimer and Debarati Bhowmik from *Sustainable Food Technol.*, 2025, 3, 10.

REVIEWS

10

Resilient sustainable current and emerging technologies for foodborne pathogen detection

Debarati Bhowmik, Jonathan James Stanely Rickard, Raz Jelinek and Pola Goldberg Oppenheimer*



32

Cold plasma technology for sustainable food production: meeting the United Nations sustainable development goals

Fabiano A. N. Fernandes* and Sueli Rodrigues

SUSTAINABLE
DEVELOPMENT
GOALS



Royal Society of Chemistry approved training courses

Explore your options.
Develop your skills.
Discover learning
that suits you.

**Courses in the classroom,
the lab, or online**

Find something for every
stage of your professional
development. Search our
database by:

- subject area
- location
- event type
- skill level

Members get at least 10% off

Visit rsc.li/cpd-training

**SAVE
10%**

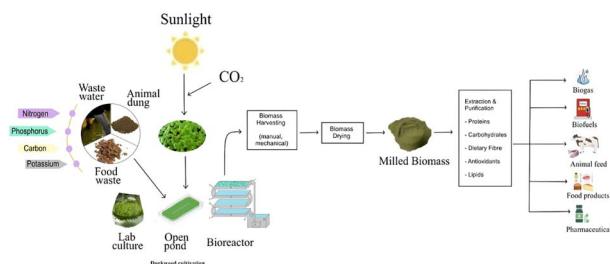


REVIEWS

54

Duckweed: exploring its farm-to-fork potential for food production and biorefineries

Anim Ujung, Joncer Naibaho, Soudabeh Ghalamara, Brijesh K. Tiwari, Shay Hanon and Uma Tiwari*

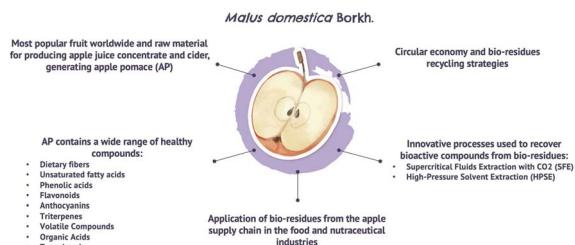


81

Closing the loop: exploring apple pomace as a source of bioactive compounds in the framework of circular economy

Liege Aguiar Pascoalino, Lillian Barros, João C. M. Barreira, M. Beatriz P. P. Oliveira and Filipa S. Reis*

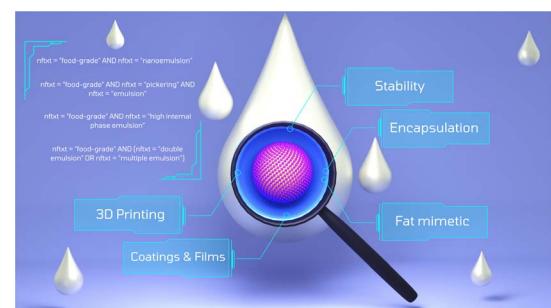
CLOSING THE LOOP: EXPLORING APPLE POMACE AS A SOURCE OF BIOACTIVE COMPOUNDS IN THE FRAMEWORK OF CIRCULAR ECONOMY



96

Innovations and stability challenges in food emulsions

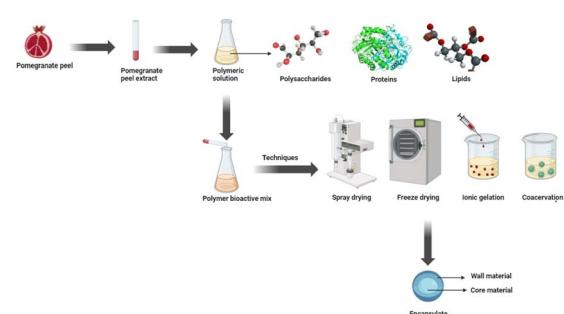
Felipe Kelmer Müller and Fabiano Freire Costa*



123

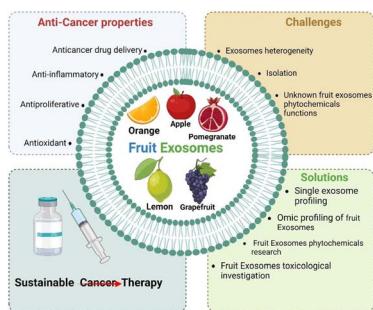
Recent advances in encapsulation of pomegranate peel extract and combination of wall materials: a review of encapsulation technologies, characterization and applications in the food industry

Rahul P B, Ravindra Kumar Tiwari, Kshirod K. Dash* and Maanas Sharma*



REVIEWS

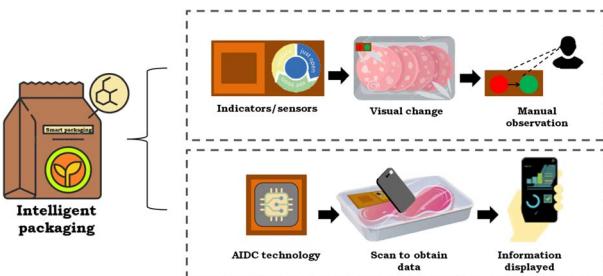
145



Fruit exosomes: a sustainable green cancer therapeutic

Asmit Das, Swarup Sonar, Ketki Kalele and Vetrivel Subramaniyan*

161



Recent technological advances in food packaging: sensors, automation, and application

Yazhiniyan Palanisamy, Vijayasri Kadirvel and Nandhini Devi Ganesan*

181

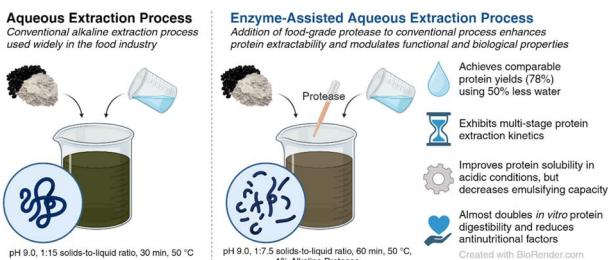


The contribution of digital and sensing technologies and big data towards sustainable food supply and value chains

Daniel Cozzolino*

PAPERS

188



Optimizing alkaline and enzymatic extraction of black bean proteins: a comparative study of kinetics, functionality, and nutritional properties

Jasmin S. Yang, Fernanda F. G. Dias and Juliana M. L. N. de Moura Bell*

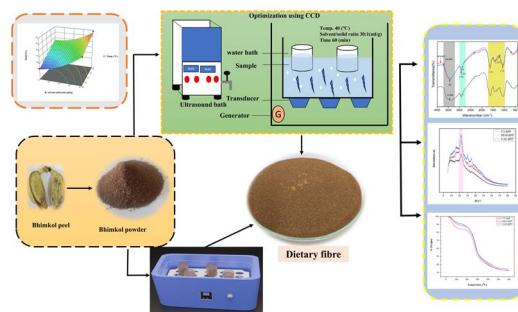


PAPERS

204

Optimization of ultrasonic-assisted extraction of dietary fiber from bhimkol (*Musa balbisiana*) peel using central composite design: physicochemical, functional, and thermal properties

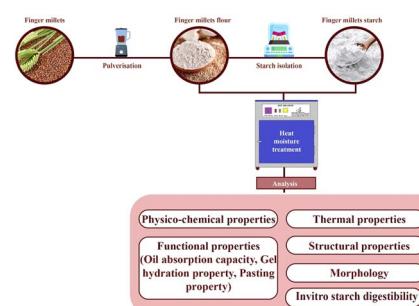
Laxmi Kant Rawat and Tabli Ghosh*



215

In vitro digestibility and physicochemical analysis of heat-moisture treated finger millet flour and starch

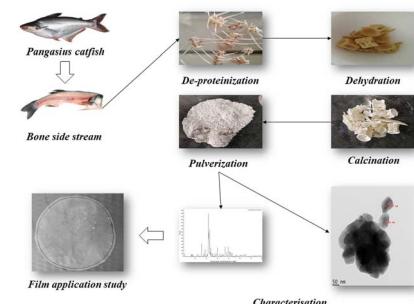
Muhammad Umar, Muhammad Hassan and Natthakan Rungraeng*



227

Nano-hydroxyapatite (n-HAP) from *Pangasius* bone side streams and its application as a reinforcing agent in biodegradable food packaging films

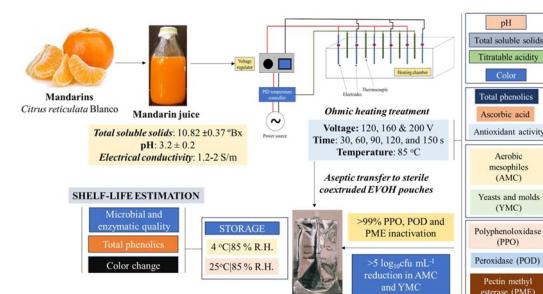
Oshin Kawduji Thool, Abhilash Sasidharan,* Bindu M. Krishna, Sarasan Sabu, Muhammed Navaf and Kappat Valiyapeediyekkal Sunooj



239

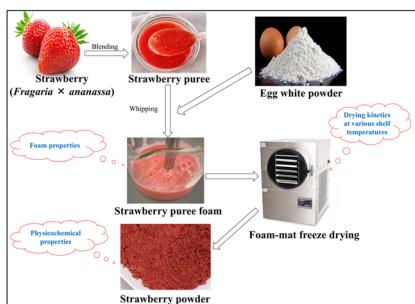
Pasteurization of mandarin juice by ohmic heating and evaluation of its shelf-life under refrigerated and ambient conditions

Somnath Basak, Piyush Thakur and Snehasis Chakraborty*



PAPERS

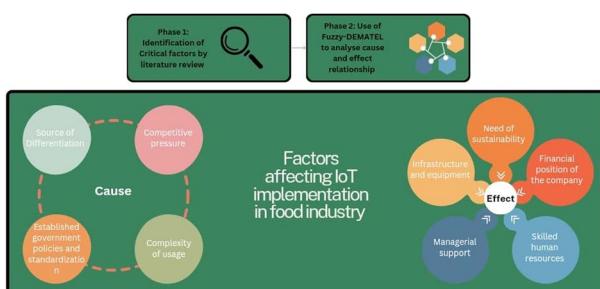
253



Efficient freeze-drying of foamed strawberry puree: a study on drying kinetics and physicochemical properties

Zhihao Zhou, Carlos Parra-Escudero, Hengjun Du, Xiaojing Guo, Qi Wang, Hang Xiao* and Jiakai Lu*

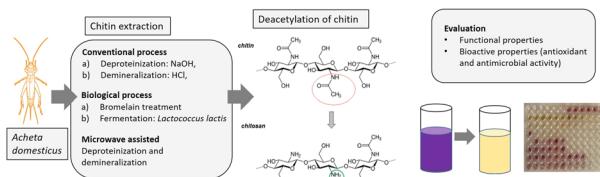
263



Mapping the critical factors of IoT implementation in the food industry

Harsh Dave, Saniyah Ahmad, Anupama Panghal* and Rahul S Mor*

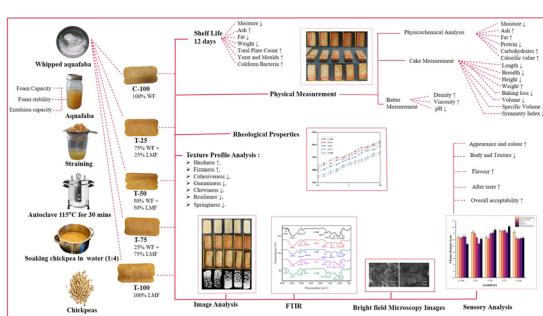
277



Functional and bioactive properties of chitosan produced from *Acheta domesticus* with fermentation, enzymatic and microwave-assisted extraction

Marios Psarianos,* Nader Marzban, Shikha Ojha, Roland Schneider and Oliver K. Schlüter*

286



Impact of chickpea aquafaba-based emulsion on the physicochemical, nutritional, rheological and structural characteristics of little millet (*Panicum sumatrense* Roth.) flour cake

Bijjam Madhavi, Niveditha Asaithambi, Alok Kumar, Pralay Maiti, Dinesh Chandra Rai and Raj Kumar Duary*

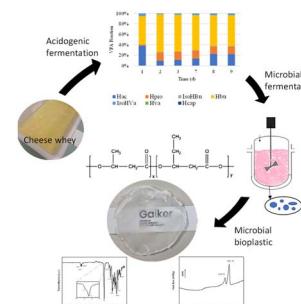


PAPERS

300

Acidogenic fermentation of dairy by-products for the utilization of volatile fatty acids IN PHBV production by *Haloferax mediterranei*

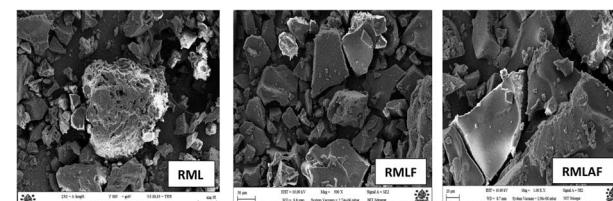
Leire Urbina,* Eric Rovira-Cal, Ibai Nafarrate, Ana Urkiaga, Josu Berganza, Enrique Aymerich and Maria José Suárez*



311

GC/MS analysis & biological activities of mulberry leaf extract and formulation of instant freeze-dried functional beverages following encapsulation in protein-rich skim milk powder

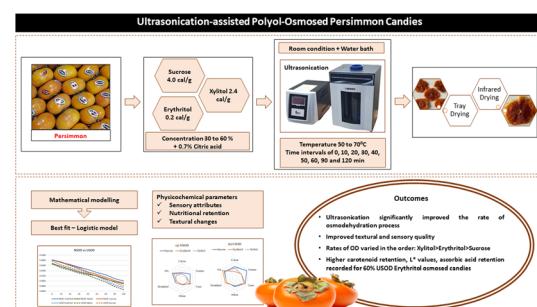
Madiha Masoodi, Mudasir Ahmad,* Asir Gani, Iqra Qureshi and Kouser Parveen



322

Ultrasonication-assisted polyol-osmosed persimmon candies: effect of ultrasonication and drying techniques on product quality

Ranjani M., Shalini Gaur Rudra,* Radha Mohan Sharma, Arun T., Gautam Chawla, Sukanta Dash and Dinesh Kumar



333

Valorization of cocoa (*Theobroma cacao L.*) pod husks as a fruit pulp substitute in mango jam formulations: effects on jam qualities during storage and sensory discrimination

Vinh-Lam Nguyen, Minh-Thoai Tran, Thuy-Diem Nguyen-Thi, Minh-Anh Nguyen, Minh-Tri Le, Tra-My Nguyen and Quoc-Duy Nguyen*

