

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(5) 1237–1650 (2025)



Cover

Image reproduced by permission of P. Goldberg Oppenheimer and Debarati Bhowmik.

EDITORIAL

1249

Introduction to 'Advances in valorising underexplored biomasses to obtain food ingredients, additives, and products'

Elena Ibañez, Jose Mendiola and Lidia Montero

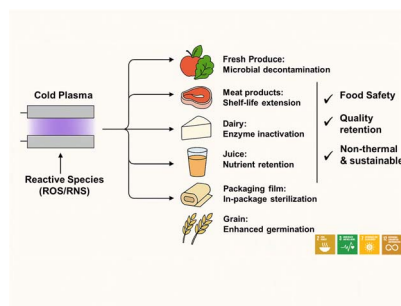


REVIEWS

1251

A comprehensive review on cold plasma applications in the food industry

Raju Sasikumar,* Selva Kumar T., Irengbam Barun Mangang, G. Kaviarasu, Ravinder Kaushik, Paul Mansingh, Vidisha Tomer and Amit K. Jaiswal*



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%**

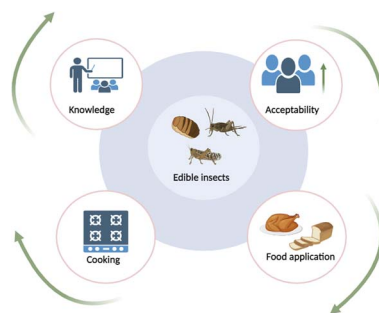


REVIEWS

1275

The gastronomic art of edible insects: cooking methods and food innovation

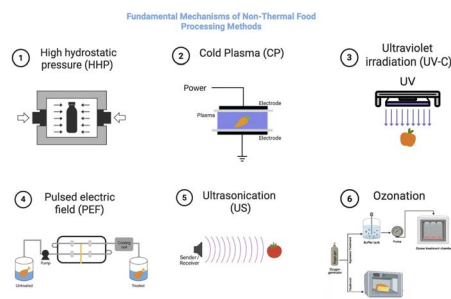
Guoqiang Zhang,* Shaopu Liu, Feiyu An and Rina Wu



1284

Advances in non-thermal food processing: a comprehensive approach to nutrient retention, food quality, and safety

Duygu Ağagündüz, Gamze Ayakdaş, Beyza Katircioğlu and Fatih Ozogul*

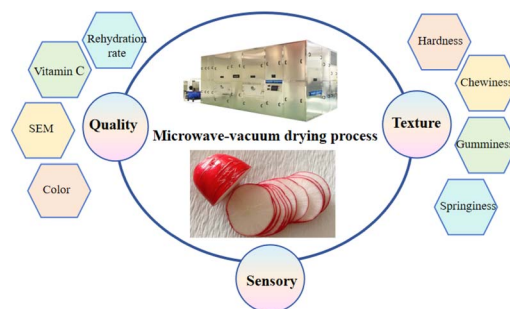


COMMUNICATION

1309

Effect of vacuum microwave drying pretreatment on the quality characteristics and textural structure of new paocai raw materials

Yage Xing,* Tingting Zhang, Tianyi Yue, Rumeng Yi, Qinglian Xu and Li He

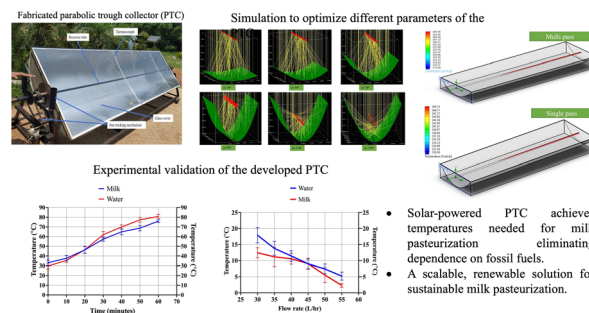


PAPERS

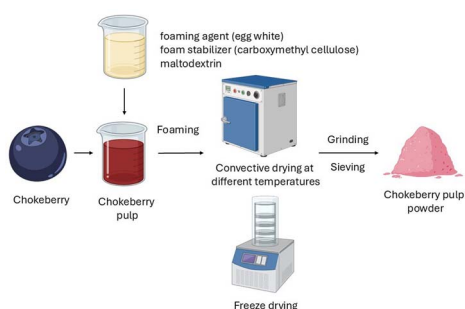
1319

Design and development of a parabolic trough solar collector for pasteurization of milk

Shyam Kumar Singh* and Ashis Kumar Datta



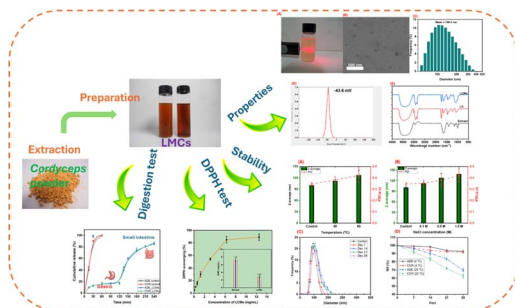
1329



Production of chokeberry pulp powder by convective and freeze-drying foam-mat techniques: effects on physicochemical properties, bioactive content, and antioxidant activity

Yasemin Yikilkan, Ali Ali Redha,* Beyza Kaba, Hojjat Pasazadeh* and Ilkay Koca

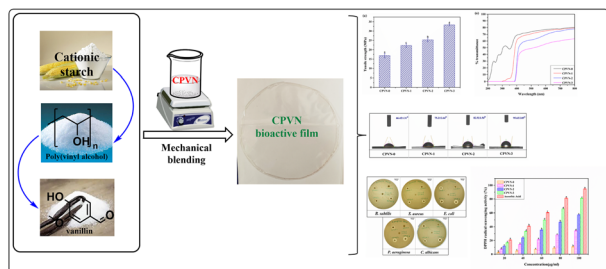
1341



Nano-liposome encapsulation of adenosine and cordycepin from *Cordyceps militaris*: preparation, characterization, stability, and *in vitro* digestion evaluation

Nguyen Quynh Dao, Nguyen Thanh Tan, Nguyen Ba Thanh, Le Minh Hung, Nguyen Van My, Nguyen Minh Hai, Nguyen Phuong Tuyen, Nguyen Quoc Thang, Tran Chi Dung and Tran Quang Hieu*

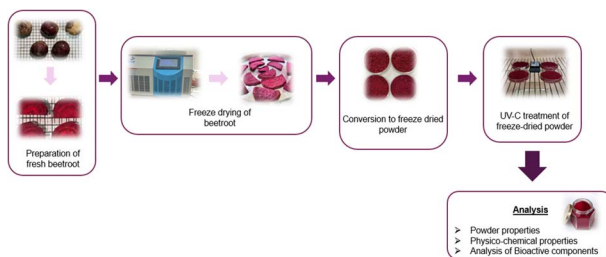
1353



Vanillin reinforced cationic starch/poly(vinyl alcohol) based antimicrobial and antioxidant bioactive films: sustainable food packaging materials

Lingaraj Kariyappa Kurabetta, Saraswati P. Masti,* Manjushree Nagaraj Gunaki, Ajitkumar Appayya Hunashyal, Ravindra B. Chougale, Nagarjuna Prakash Dalbanjan and S. K. Praveen Kumar

1365



Effects of UV-C irradiation on the physicochemical properties of freeze-dried beetroot (*Beta vulgaris*) powder

Karishma Dhowtal, Che John* and Rohanie Maharaj

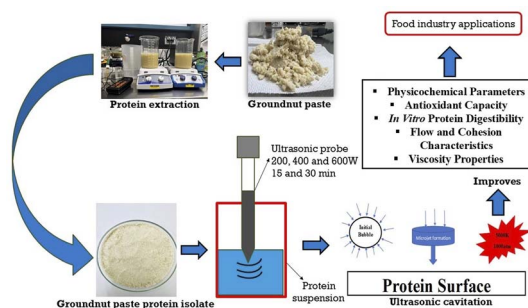


PAPERS

1376

Effect of high-intensity ultrasound on the physicochemical, nutritional, rheological, microstructural, and techno-functional properties of a groundnut (*Arachis hypogaea* L.) paste protein isolate

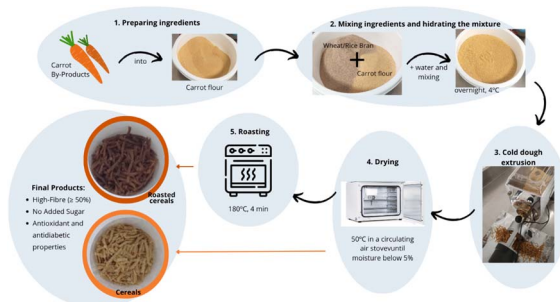
Ángel Efraín Rodríguez Rivera, José Armando Ulloa,*
Nitzia Thalía Flores Jiménez and Judith Esmeralda Urias-Silvas



1391

High-fiber breakfast cereals using only carrot and cereal by-products

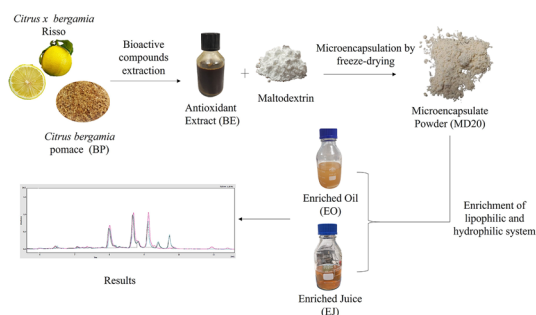
Diva Santos, Manuela Pintado and José A. Lopes da Silva*



1405

Freeze-dried microencapsulation of bergamot pomace extract: stability and antioxidant performance in hydrophilic and lipophilic systems

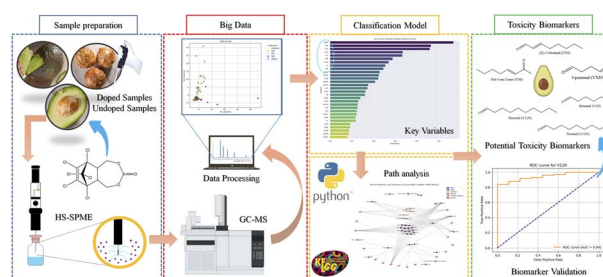
Antonio Gattuso, Corinne Giacondino,
Simone Santacaterina, Amalia Piscopo and Alessandra De Bruno*



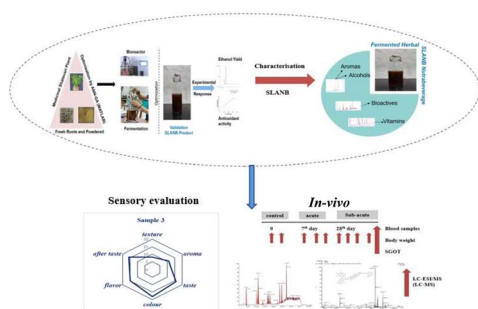
1416

Xenovolatilomic profiling of Hass avocado (*Persea americana* Mill.) tissues exposed to endosulfan: identification of potential toxicity biomarkers

Juan Pablo Betancourt Arango, Alejandro Patiño Ospina,
Jhon Alexander Fiscal Ladino and Gonzalo Taborda Ocampo*



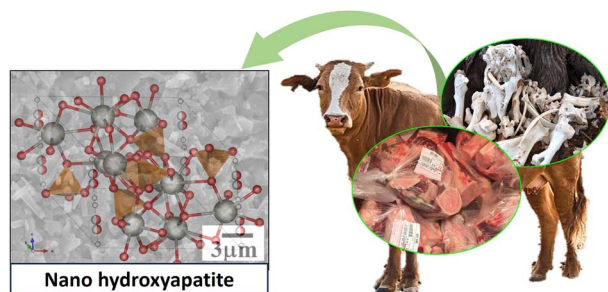
1439



Toxicological evaluation of *Asparagus racemosus* – based low-alcohol nutraceutical beverage: acute and subacute safety assessment in mice

Divya Choudhary,^{*} S. N. Naik, Vidushi Tyagi, Anirban Pal and P. Hariprasad

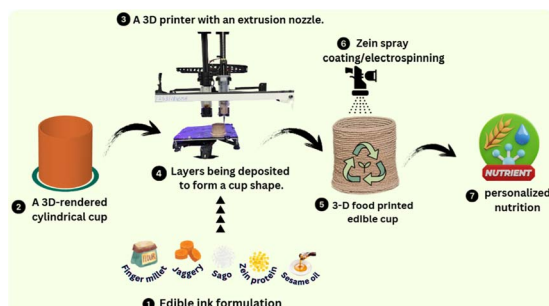
1450



Effects of vibro-milling time and sintering temperature on the formation and selected properties of nano-hydroxyapatite ceramics derived from bovine bone

Anirut Raksujarit and Tanagorn Sangtawesin^{*}

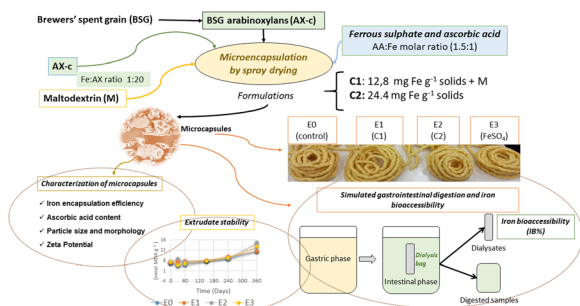
1459



Sustainable sips: optimising ragi–sago edible ink for 3D printing eco-friendly, edible cups

Dravin Pratap Singh, Harish Ganesan Sudha and Gopinath Packirisamy^{*}

1470



Development of iron–ascorbic acid microcapsules using Brewer's spent grain arabinosylans as wall materials and study of their application as fortifiers in extruded corn products

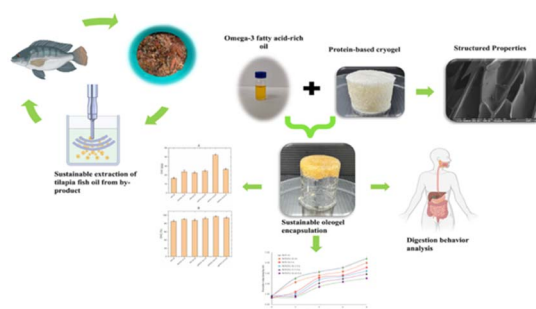
Gabriel D. Heinen, Raúl E. Cian and Silvina R. Drago^{*}



1480

Sustainable oleogel encapsulation of tilapia fish oil using protein-based cryogels: fabrication, characterization, and digestion behavior

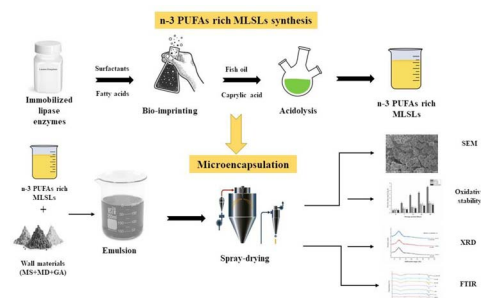
Daniel Tua Purba, Jaydeep Dave and Pichayada Somboon*



1492

Enhanced stability of n-3 PUFAs rich structured lipids via spray-dried microencapsulation with tailored wall materials

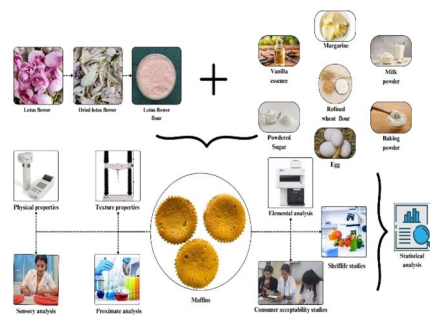
Mudassar Hussain, Abhishek Bisht, Imad Khan, Muneeba Naseer Chaudhary, Nida Kanwal, Muhammad Umair Khalid, Mst Nushrat Yiasmin, Arif Hussain and Xiaoqiang Zou*



1505

Development of muffins fortified with *Nelumbo nucifera* dried flower flour as a source of dietary fibre: analysis of quality, nutritional value, and consumer acceptability

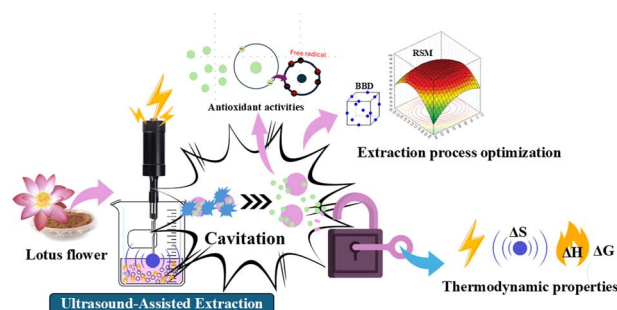
Ashoka S,* Revanna M L, Shamshad Begum S, Raju C A, Mounika Patiballa, Babu Rajaram Mohan Ray, Vasantha Kumari R, Vijayalaxmi K G, R. S. Upendra and R. Karthik



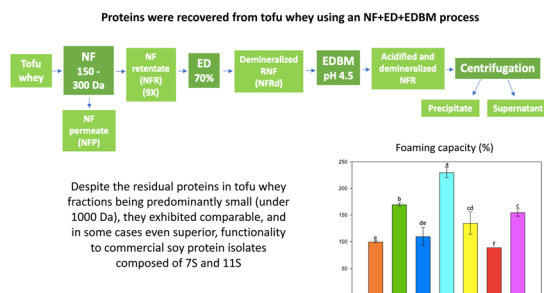
1517

Sustainable recovery of bioactive compounds from *Nelumbo nucifera* using ultrasound-assisted extraction optimized through response surface methodology

Thiti Sonphakdi, Mohammad Fikry, Saranya Jansamutr and Kitipong Assatarakul*



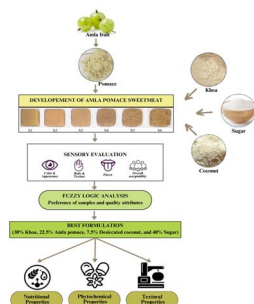
1529



Sustainable recovery of residual proteins from tofu whey by coupling nanofiltration with electromembrane processes and functional properties of resulting protein fractions

Rosie Deschênes Gagnon, Marie-Ève Langevin, Florence Lutin and Laurent Bazinet*

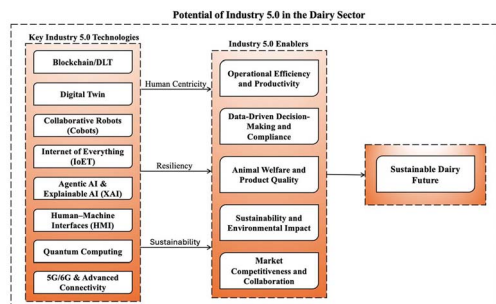
1542



Sustainable valorization of amla pomace: optimization of a sweetmeat using the fuzzy logic approach and its quality characterization

Sumaiya Fatima and Vivek Kumar*

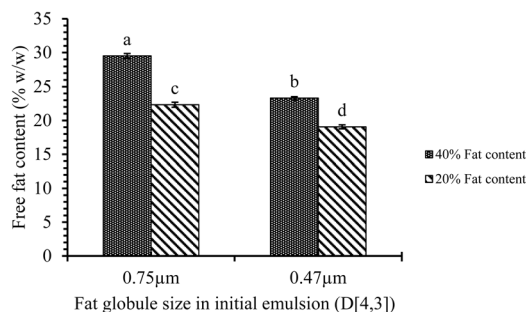
1556



Drivers of Industry 5.0 technologies in dairy industry: an exploratory study

Mohit Malik, Rahul S Mor,* Vijay Kumar Gahlawat, Abdo Hassoun and Sandeep Jagtap

1569



Innovative formulations using spray-drying technology for plant-based high-oil powders: physicochemical and micro-structural analyses

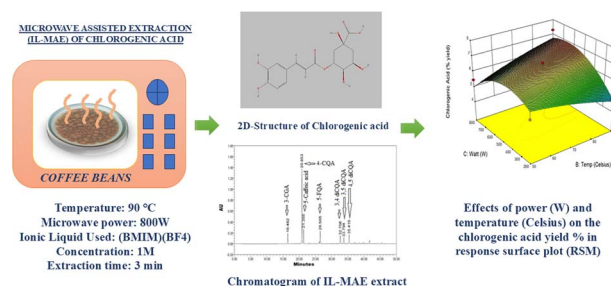
Sudip Adhikari, Rewati Raman Bhattarai, Hani Al-Salami and Pramesh Dhungana*



1580

Ionic liquid-based microwave-assisted extraction of chlorogenic acid from green coffee beans

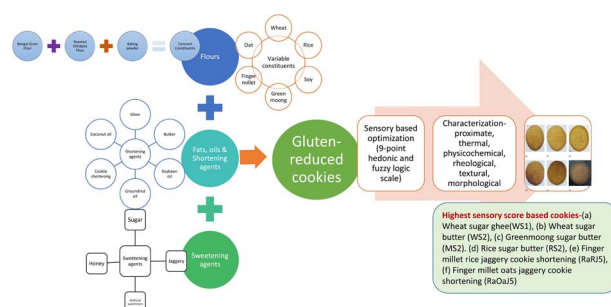
Ramalakshmi Kulathooran,* Subhapriya Pushparaju, Dhanapal Venkatachalam, Divyashree Jangam Seshagiri, Katyaini Panday and Jagan Mohan Rao Lingamallu



1589

Formulation and characterisation of sustainable nutritious gluten-reduced cookies with indigenous grains from Northeast India

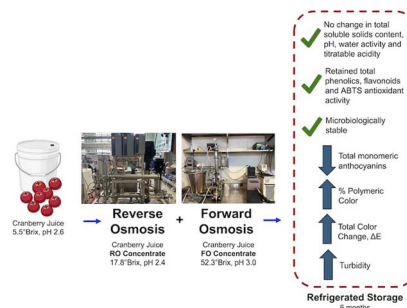
Paushali Mukherjee and Ramagopal Uppaluri*



1610

Reverse osmosis and forward osmosis concentration of cranberry juice: processing effects on juice quality

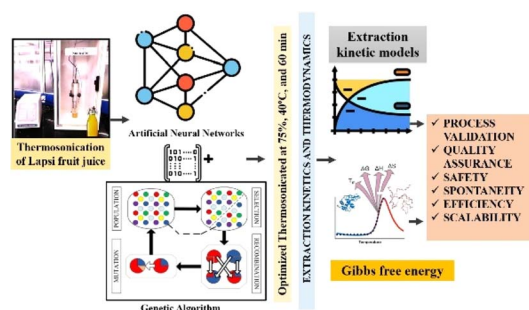
Mark Emile H. Punzalan and Olga I. Padilla-Zakour*

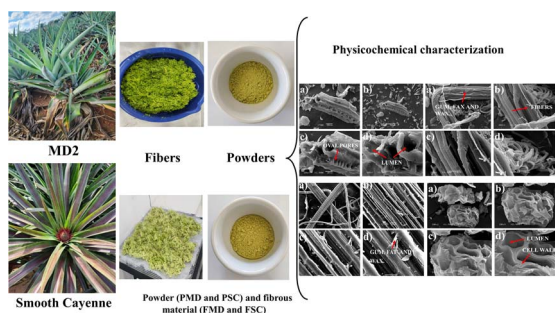


1624

Kinetic and thermodynamic characterization of thermosonication-assisted extraction of bioactives from lapsi fruit juice optimized by ANN-GA

Puja Das, Prakash Kumar Nayak and Radha krishnan Kesavan*





Physicochemical and techno-functional characterization of fibers and powders from leaves of stubble of two cultivars (MD2 and Smooth Cayenne) of pineapple (*Ananas comusus* L.)

Jennifer Patricia Silva-Cardenas, Ma.
Estela Vázquez-Barrios,* Luis F. Zubieta-Otero
and Mario E. Rodriguez-Garcia*

