

# 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 2(1) 1–244 (2024)



### Cover

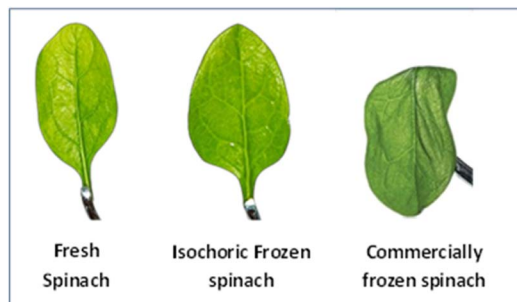
See Ruairaidh D. McIntosh, David Ellis *et al.*, pp. 92–103. Image reproduced by permission of R. McIntosh, D Ellis and P Booth from *Sustainable Food Technol.*, 2024, 2, 92.

## REVIEWS

9

### A comprehensive review on isochoric freezing: a recent technology for preservation of food and non-food items

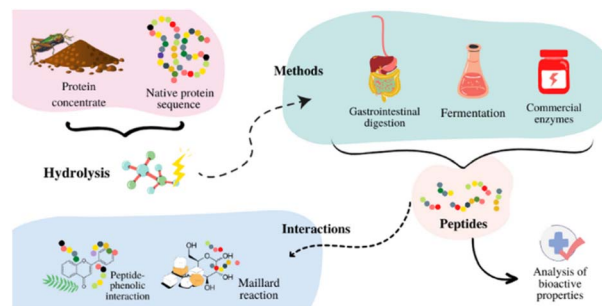
Dhanya R., Abhirami Panoth and N. Venkatachalapathy\*



19

### Insects as a sustainable source of emerging proteins and their processing to obtain bioactive compounds: an updated review

Francielle Miranda de Matos,\* Gabriela Boscariol Rasera and Ruann Janser Soares de Castro\*



# Advance your career in science

with professional recognition that showcases  
your **experience, expertise and dedication**

## Stand out from the crowd

Prove your commitment  
to attaining excellence in  
your field

## Gain the recognition you deserve

Achieve a professional  
qualification that inspires  
confidence and trust

## Unlock your career potential

Apply for our professional  
registers (RSci, RSciTech)  
or chartered status  
(CChem, CSci, CEnv)

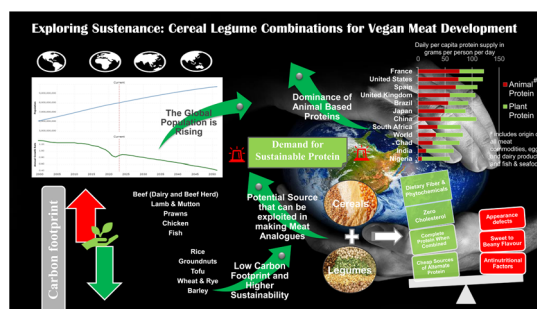
## Apply now

[rsc.li/professional-development](https://rsc.li/professional-development)



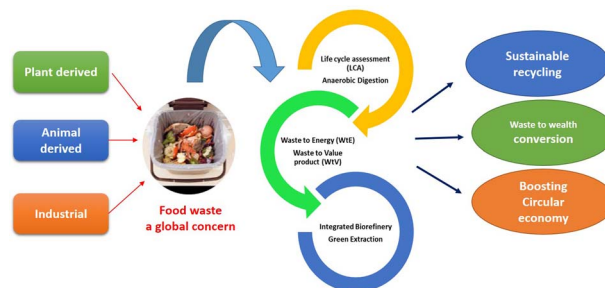
Kannan Vignesh, Dev Kumar Yadav, D. D. Wadikar\*  
and A. D. Semwal

Kannan Vignesh, Dev Kumar Yadav, D. D. Wadikar\*  
and A. D. Semwal



# A comprehensive review of food waste valorization for the sustainable management of global food waste

Aniruddha Sarker,\* Raju Ahmmed, S. M. Ahsan,  
Juwel Rana, Mithun Kumar Ghosh and Rakhi Nandi



## Food waste: environmental impact and possible solutions

Kirtika Kohli, Ravindra Prajapati, Raj Shah, Mrinaleni Das  
and Brajendra K. Sharma\*



## Mycoprotein: production and nutritional aspects: a review

Reshab Majumder, Saptadip Miatur, Akash Saha  
and Shamim Hossain\*



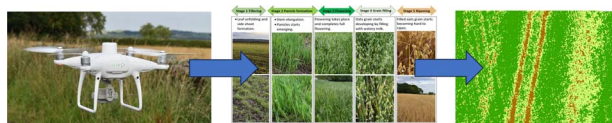
92



## An assessment of spent coffee grounds as a replacement for peat in the production of Scotch whisky: chemical extraction and pyrolysis studies

Kacper P. Krakowiak, Ruairaidh D. McIntosh\* and David Ellis\*

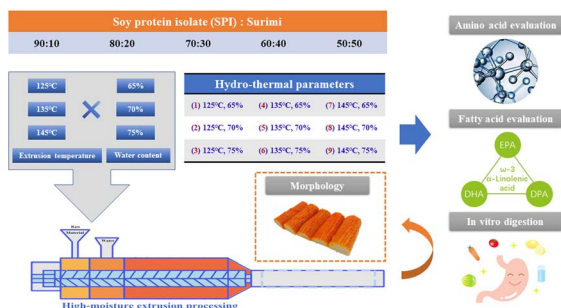
104



## Use of machine learning for monitoring the growth stages of an agricultural crop

Shara Ahmed, Nabanita Basu, Catherine E. Nicholson, Simon R. Rutter, John R. Marshall, Justin J. Perry and John R. Dean\*

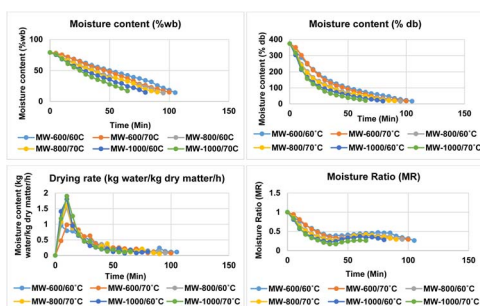
126



## Nutritional quality analysis of high-moisture extrudates containing mixed proteins from soy and surimi

Anna Hu, Yujie Zhang, Jinchuang Zhang,\* Tongqing Li, Zhaojun Wang and Qiang Wang\*

141



## Effects of different microwave power on the drying kinetics and physicochemical quality of brown shrimp (*Metapenaeus dobsoni*)

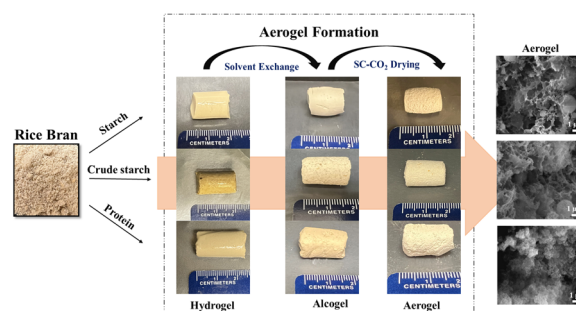
Sumit Kumar Verma, Remya Sasikala,\* Pankaj Kishore, C. O. Mohan,\* P. Ganesan, Pandurengan Padmavathy, Nagarajan Muralidharan, Bindu Jaganath and Soottawat Benjakul



152

## Formation of nanoporous aerogels from defatted rice bran via supercritical carbon dioxide drying

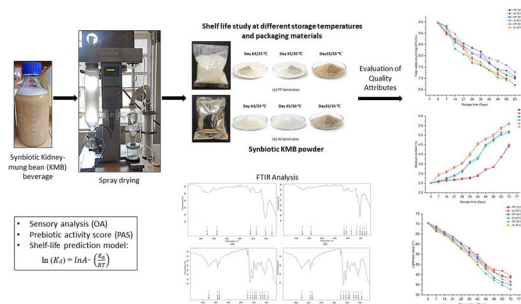
Sumanjot Kaur, Jingyi Chen and Ali Ubeyitogullari\*



162

## Effect of temperature and packaging materials on the shelf-life stability and *in vitro* properties of microencapsulated and spray-dried synbiotic legume-based instant beverage powder

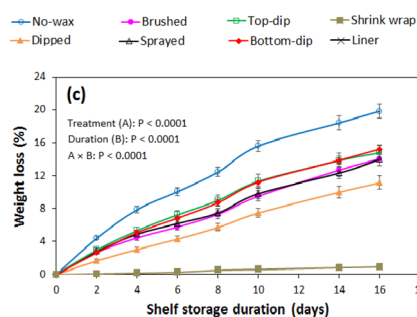
Smriti Chaturvedi and Snehasis Chakraborty\*



175

## Assessing weight loss control strategies in pomegranate (*Punica granatum* L.) fruit: plastic packaging and surface waxing

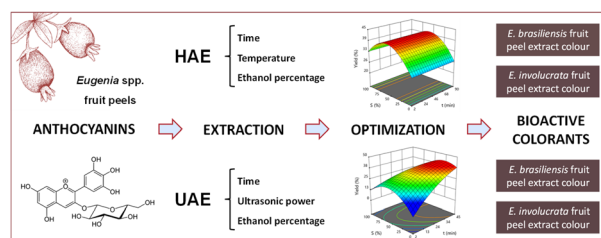
Robert Lufu, Alemayehu Ambaw and Umezuruike Linus Opara\*



189

## Recovery of anthocyanins from *Eugenia* spp. fruit peels: a comparison between heat- and ultrasound-assisted extraction

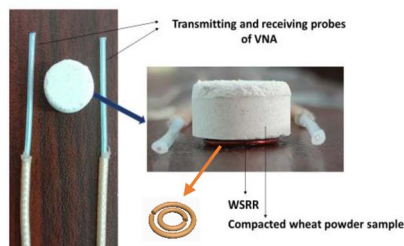
Bianca R. Albuquerque, José Pinela,\* Carla Pereira, Filipa Mandim, Sandrina Heleno, M. Beatriz P. P. Oliveira and Lillian Barros





202

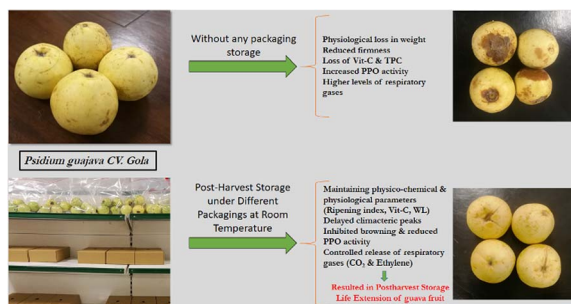
### Moisture and density studies of cereal flours using metamaterial SRR sensor



### A metamaterial based sensor for moisture and density of cereal flours

Aswathi P. V., Anju Sebastian, Lulu Varghese, Joseph V. P. and Jolly Andrews\*

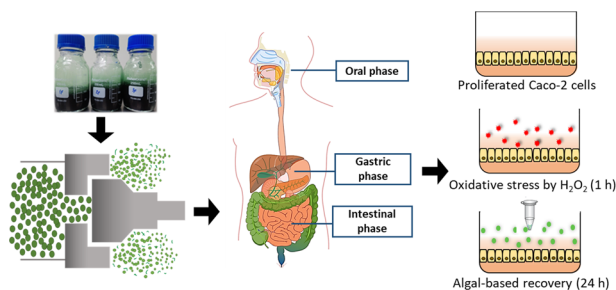
210



### Storage stability assessment of guava fruit (*Psidium guajava* L.) cv. 'Gola' in response to different packaging materials

Ali Asad Yousaf,\* Kashif Sarfraz Abbasi, Muhammad Suhail Ibrahim, Asma Sohail, Mamoon Faiz and Mehwish Khadim

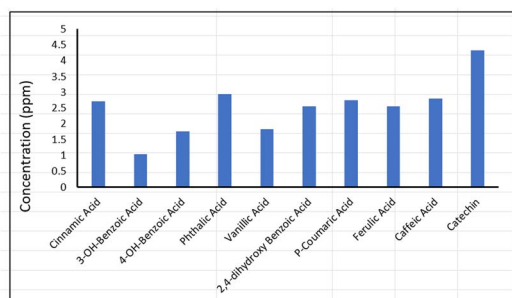
222



### Evaluation of the bioprotective potential of gastrointestinal digest fractions of *Arthrospira* sp. and *Nannochloropsis* sp. suspensions treated with high pressure homogenisation

Johannes Magpusao, Indrawati Oey and Biniam Kebede\*

232



### Moringa pod derived antioxidant dietary fibre as a quality enhancer in goat meat nuggets

Annada Das, S. Biswas, P. K. Nanda, Niloy Chatterjee, Srijal Pal, Pubali Dhar, Arun K. Verma, Dipanwita Bhattacharya, Rojison Koshy and Arun K. Das\*

