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 1(4) 459-622 (2023)



C ROYAL SOCIETY OF CHEMISTRY

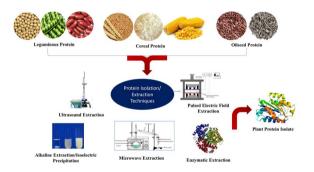
Cover Thomas Barwick/Getty Images.

REVIEWS

466

Sustainable plant protein: an up-to-date overview of sources, extraction techniques and utilization

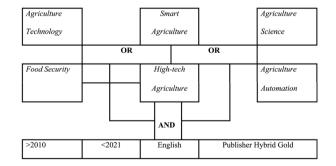
Akshay S. Chandran, Shweta Suri* and Pintu Choudhary*



484

Can agriculture technology improve food security in low- and middle-income nations? a systematic review

Robert Brenya,* Jing Zhu and Agyemang Kwasi Sampene



Editorial Staff

Executive Editor Anna Rulka

Deputy Editor Audra Tavlor

Editorial Production Manager

Viktoria Titmus Assistant Editors

Angelica-Jane Kechinyere Onyekwere, Shwetha Krishna, Michael Whitelaw, Alexander Whiteside

Editorial Assistant Samantha Campos

Publishing Assistant

Brittany Hanlon

Publisher Neil Hammond

For queries about submitted papers, please contact Viktoria Titmus. Editorial Production Manager in the first instance. E-mail: susfoodtech@rsc.org

For pre-submission queries please contact Anna Rulka, Executive Editor. E-mail: susfoodtech-rsc@rsc.org

Sustainable Food Technology (electronic: ISSN 2753-8095) is published 6 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 OWF.

Sustainable Food Technology is a Gold Open Access journal and all articles are free to read. Please email orders@rsc.org to register your interest or contact Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK Tel +44 (0)1223 432398; E-mail: orders@rsc.org

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office

Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017; E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

Sustainable Food Technology

rsc.li/susfoodtech

Sustainable Food Technology publishes cultivating sustainable solutions to food processing and engineering.

Editorial Board

Editor-in-Chief Jorge Barros Velázquez, University of Santiago de Compostela, Spain

Associate Editors Rekha Singhal, Institute of Chemical Technology, India Qin Wang, University of Maryland, USA

Benu Adhikari, RMIT University, Australia Editorial Board Members Paula Bourke, University College Dublin, Ireland

Advisory Board

Cristóbal N. Aquilar Universidad Autónoma de Coahuila. Mexico Rafael Auras, Michigan State University, USA Maria G. Corradini, University of Guelph, Canada Sakamon Devahastin, King Mongkut's University of Technology Thonburi (KMUTT), Thailand Tian Ding, Zhejiang University, China Hao Feng, North Carolina A&T State University, USA Joe P. Kerry, University College Cork, Ireland Olga Martín-Belloso, Universidad de Lleida, Catalonia, Spain Maria Angela A Meireles, Universidade Estadual de Campinas, Brazil Solange I. Mussatto, Technical University of Denmark, Denmark Indrawati Oey, University of Otago, New Zealand Umezuruike Linus Opara, Stellenbosch University, South Africa Federico Pallottino, CREA-IT, Italy Marco Poiana, Mediterranean University of Reggio Calabria, Italy Anet Režek Jambrak, University of Zagreb, Croatia Victor Rodov, ARO - The Volcani Institute, Israel Andreas Schieber, Universität Bonn, Germany Juming Tang, Washington State University, USA Paula Teixeira, Universidade Católica Portuguesa, Portugal Long Yu, South China University of Technology, Institute of Chemistry, Henan Academy of Sciences, China Min Zhan, Jiangnan University, China

Information for Authors

Full details on how to submit material for publication in Sustainable Food Technology are given in the Instructions for Authors (available from http:// www.rsc.org/authors). Submissions should be made via the journal's homepage: rsc.li/susfoodtech

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)-Reproduced by permission of the Royal Society of Chemistry

This journal is © The Royal Society of Chemistry 2023. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890



REVIEWS

500

Current status and future prospects of bioactive molecules delivered through sustainable encapsulation techniques for food fortification

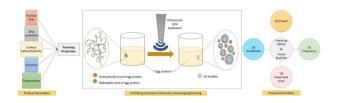
Divakar Dahiya, Antonia Terpou, Marilena Dasenaki and Poonam S. Nigam*



511

Sonication of egg and its effect on foaming behavior

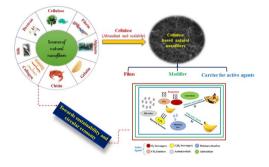
M. Kavimughil, Sayantani Dutta, J. A. Moses and C. Anandharamakrishnan*



528

Cellulose-based natural nanofibers for fresh produce packaging: current status, sustainability and future outlook

Partha Pratim Das, Peddapapannagari Kalyani, Rahul Kumar and Mudrika Khandelwal^{*}



PAPERS

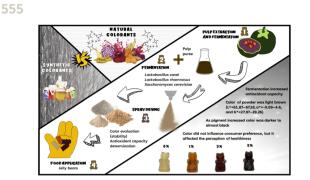
545

Physical, thermal, mechanical, and nutritional properties of bitter apple (*Citrullus colocynthis* L.)

Rinku Grover, Raveena Kargwal, Punit Singh and R. Pandiselvam*



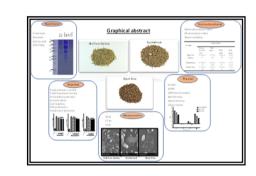
PAPERS



Caramel colour pigments from black sapote (*Diospyros digyna*): obtention and food application

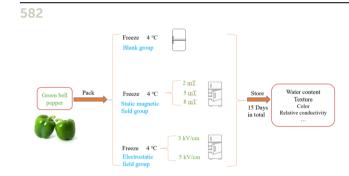
Jiménez-González Oscar, González-Pérez Julio, Mejía-Garibay Beatriz, López-Malo Aurelio and Guerrero-Beltrán José Ángel*

567



Elucidating the physical, morphometric, nutritional, and bioactive properties of selected highland crops *viz.* hull-less barley, buckwheat, and black rice for novel food formulation

Rashim Kumari, Vijay Singh, Yogendra S. Padwad and Mahesh Gupta*



Effect of a magnetic field/electrostatic field on the quality attributes of green bell peppers during cool chain transportation

Tianlin Feng, Min Zhang,* Arun S. Mujumdar and Lihui Zhang

590



Study on drying kinetics, antioxidant activity, total bioactive compounds, physicochemical properties and microstructural characteristics of dehydrated star fruits (*Averrhoa carambola*) by different drying methods

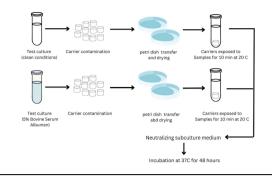
Jayanti Dhara, Suman kumar Saha, Madhumita Saha and Runu Chakraborty*

PAPERS

603

Electrolysed water (hypochlorous acid) generation and efficacy against food-borne pathogens

Juhi Saxena* and Tyler Williams



610

Influence of sugarcane bagasse fibre on the properties of sweet lime peel- and polyvinyl alcoholbased biodegradable films

Pooja Singha, Ruchi Rani and Laxmikant S. Badwaik*

