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Sustainable Food Technology

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IN THIS ISSUE

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Cover
See Osvaldo Campanella *et al.*, pp. 1766–1780.
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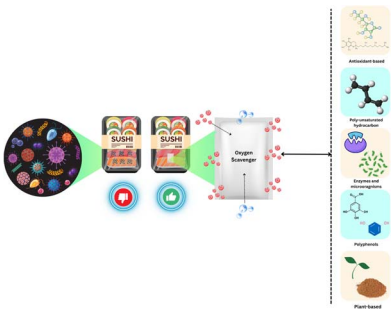
REVIEWS

1668

Non-iron oxygen scavengers in food packaging: mechanisms, applications, and the shift towards green alternatives

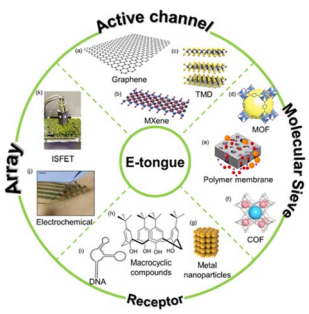
Prachi Jain, Bhushan P. Meshram, Suman Singh and Kirtiraj K. Gaikwad*



1681

Electronic tongue: active channels, molecular sieves, receptors and arrays

Hyuk Jin Kim, Jun Uh Hyun and Ho Won Jang*



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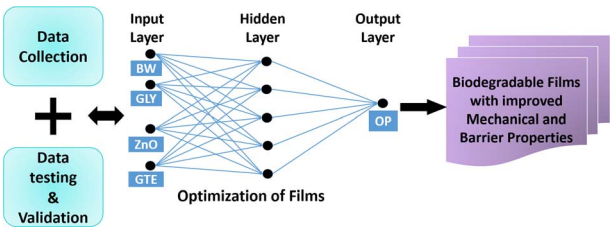
REVIEWS

1705

Machine-learning driven design of bio-based active food packaging films with improved mechanical properties

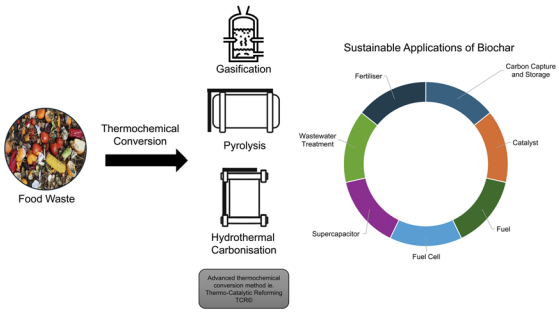
Sanjeev Gautam,* Monika Verma and Tarundeep Singh Lakhanpal



1723

Sustainable food waste management: a critical review on biochar production and applications

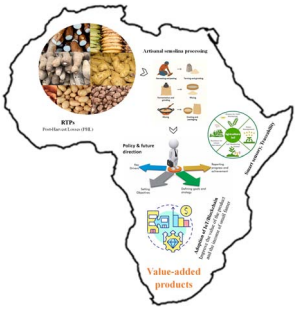
J. S. Sudarsan, M. Goel, H. Jahangiri, P. R. Rout, M. Tavakolian, C. Briggs, Macsen Haynes-Parry, A. Asthana, R. Lakshmipathy, S. V. Prabhu and S. Nithiyanantham*



1744

Artisanal production of semolina: an agro-industrial prospect for the reduction of post-harvest losses of roots, tubers, and plantains in sub-Saharan Africa

Mundéné-Timothée Junior Lawrence, Veeranna Hitlamani, Nouga Bissoue Achille, Aashitosh A. Inamdar,* Mouangue Ruben and Njintang Yanou Nicolas

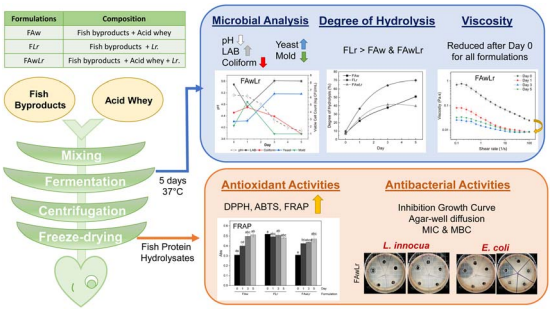


PAPERS

1766

Sustainable valorization of fish byproducts and acid whey through lactic acid bacteria fermentation into bioactive hydrolysates

Chih-Chun Kuo, Da Chen, Rafael Jiménez-Flores, Macdonald Wick and Osvaldo Campanella*



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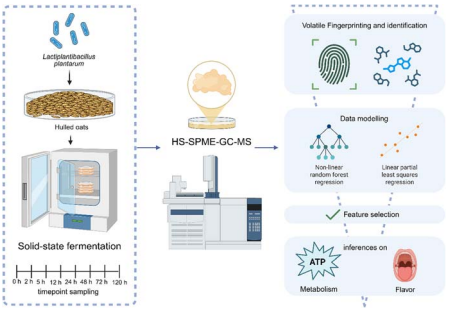
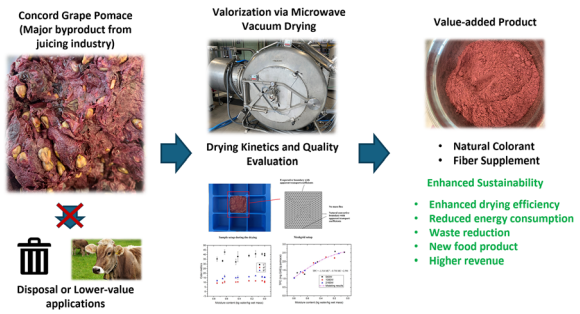
1781



Dynamic volatile insights of solid-state fermented oats with *Lactiplantibacillus plantarum*: a future food sustainable development strategy

Stella Green, Graham T. Eyres, Dominic Agyei, Nicholas Horlacher, Elisa Di Stefano and Biniam Kebede*

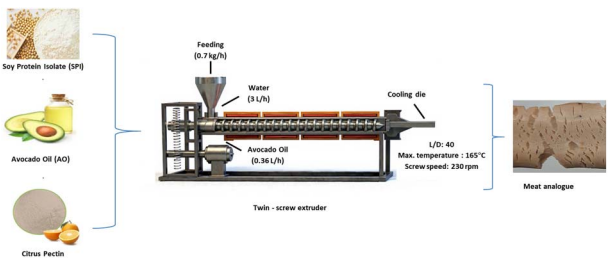
1793



Microwave vacuum drying of Concord grape (*Vitis labrusca*) pomace: drying kinetics and quality attributes for enhanced valorization

Viral Shukla, Olga I. Padilla-Zakour and Chang Chen*

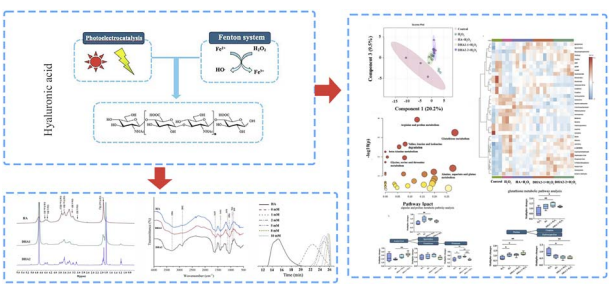
1805



Effects of pectin and avocado oil in the production of meat analogues obtained by high moisture extrusion and their physicochemical characterization

Darianna Ur-Mora, Oscar Hernández-Meléndez and Eduardo Bárzana*

1816



Low-molecular-weight hyaluronic acid prepared through photoelectric-Fenton reaction protects Caco-2 cells from oxidative damage by regulating metabolites

Jiayi Yan, Youxian Zhou, Chen Song, Yunning Yang, Fanhua Kong, Jingfeng Yang and Shuang Song*

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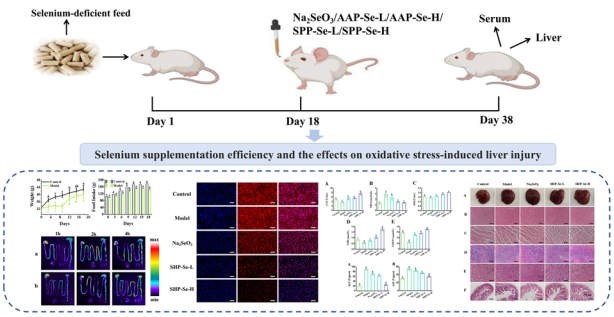
1830

Selenium supplementation effect of selenium-chelating peptide from sturgeon (*Acipenseridae*) heads and prevention of liver injury in selenium-deficient mice

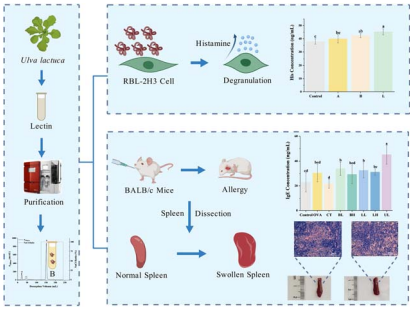
Jiao Jia, Yinan Du, Zhiqiang Lu, Qing Liu and Wenfei Wu*



1841

Molecular properties and allergenicity of lectin from *Ulva lactuca*

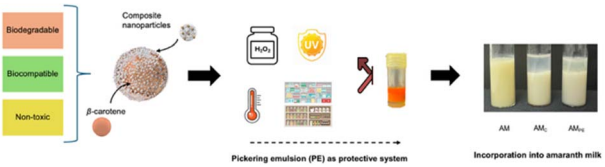
Zhicong Wang, Yingying Zhou, Lihang Chen, Tao Chen, Yuying Wang, Shanshan Ding, Yinan Du, Jiangning Hu* and Di Wu*



1853

Pickering emulsion stabilized by biocomposite nanoparticles as a protective system for β-carotene

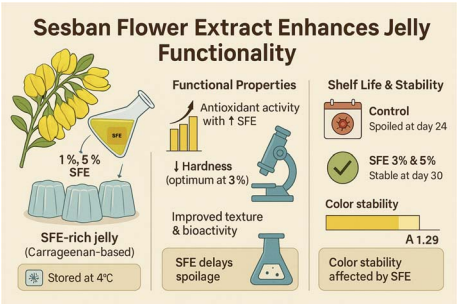
Guadalupe Johanna Góngora-Chi, Luis Quihui-Cota, Yolanda Leticia López-Franco, Marco Antonio López-Mata, Karla Guadalupe Martínez-Robinson, Orlando Tortoledo-Ortiz and Jaime Lizardi-Mendoza*



1865

Sesban flower extract as a natural functional ingredient: effects on texture, antioxidant activity, and shelf- life stability of jelly formulation

Sochannet Chheng, Saeid Jafari, Dharmendra Mishra and Kitipong Assatarakul*



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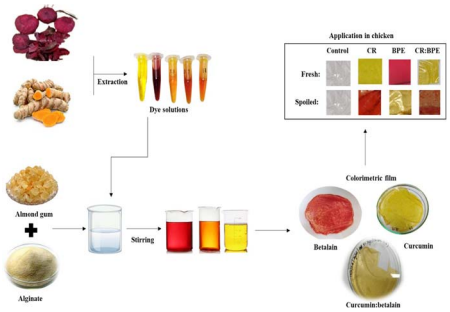
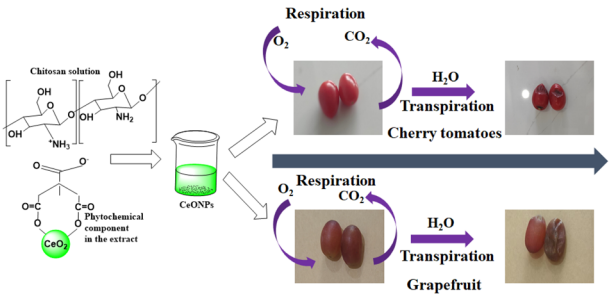
1880



Betacyanin–curcumin smart films for detecting fresh chicken quality in real time

Aswini Thiyagarajan, Naveen Subramaniyam, Vinodhini Thiyagarajan, Charumathi Pushparaj, Sabariswaran Kandasamy, Selvakesavan Rajendran K and Ramesh Subramani*

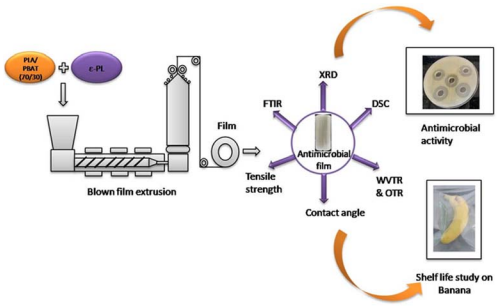
1890



Endophytic fungi-assisted synthesis of chitosan-based cerium oxide nanoparticles for the preservation of postharvest fruits

Bridget Kpomah, Onome Ejeromedoghene,* Abiodun Oladipo, Victor Enwemiwe, Muritala Olusola and Sheriff Adewuyi

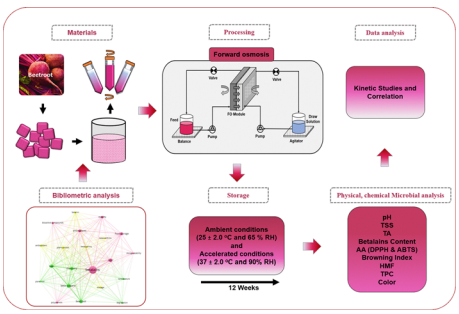
1901



Sustainable antimicrobial packaging films: effectiveness of epsilon-poly-L-lysine in PLA/PBAT blend films

Pullarkad Bharathan Smrithy, Johnsy George,* Aksalamol Pallivathukkal Raju, Muhammed Riyaz Guthige, Gowdahalli Mantelingachar Chandrika, Venugopal Vasudevan, Radhika Madan Urs and Ranganathan Kumar

1916



Effect of storage conditions on quality, microbial stability, and shelf-life kinetics of beetroot juice concentrate

Das Trishitman*

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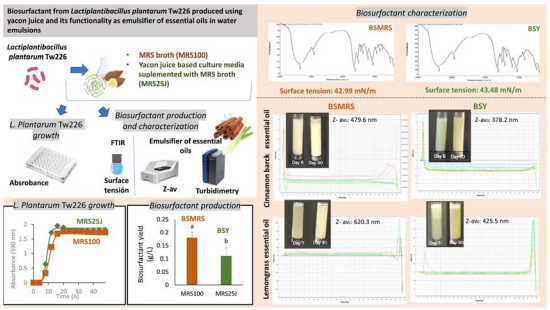
1927

Biosurfactant from *Lactiplantibacillus plantarum* Tw226 produced using yacon juice and its functionality as emulsifier of essential oils in water emulsions

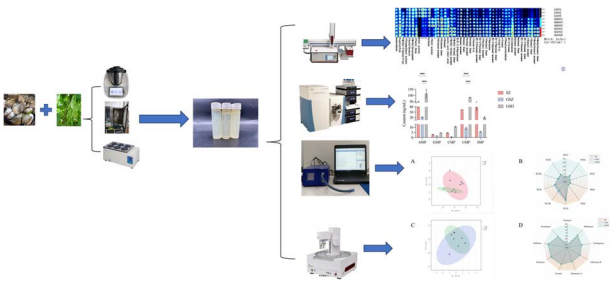
Virginia M. Lara,* Marisol Vallejo, Marcelo Soria, María F. Gliemmo and Carmen A. Campos



1936

Effect of different thermal processing methods on the edible quality and flavor profile of kidney bean and clam soup

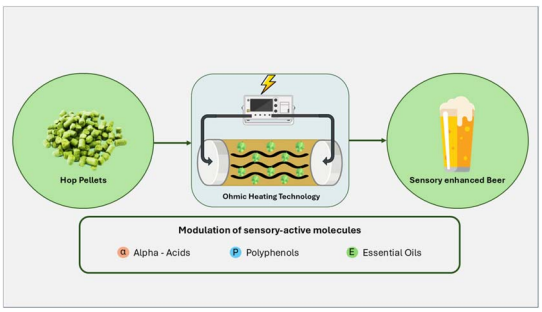
Jing Li, Xiaoqing Miao, Yan Liu and Pengfei Jiang*



1948

Powering up brewing: ohmic heating's effect on the extraction of key sensory compounds from hop pellets

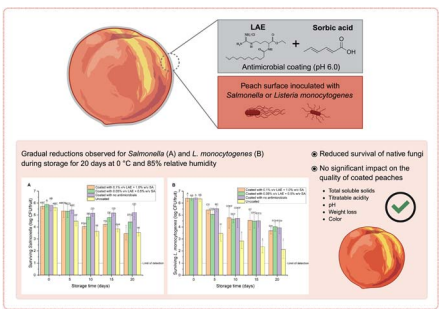
Gonçalo Carvalho,* Eduardo Coelho, Rui M. Rodrigues, António A. Vicente and Ricardo Nuno Pereira



1960

Effects of supplementing lauric arginate and sorbic acid in a commercial coating on pathogen survival and quality of fresh peaches

Fatima Reyes-Jurado, Kriza Faye Calumba, Thomas G. Denes and Qixin Zhong*



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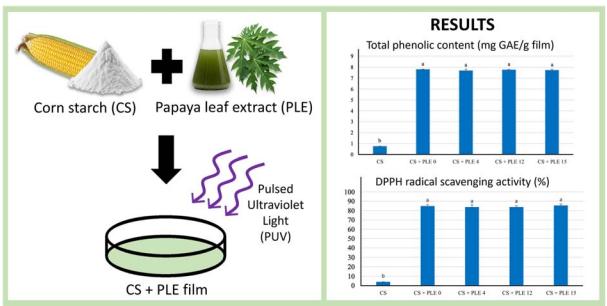
1972

Valorization of Spanish lime (*Melicoccus bijugatus*) shell waste: optimized pectin recovery and preliminary evaluation in edible film formation

Che John* and Rohanie Maharaj

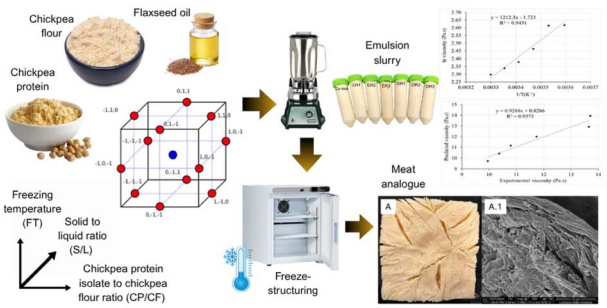
1986



Physical and functional properties of pulsed-ultraviolet treated starch based films with papaya leaf extract

T. Yin Feng, M. I. Nur Hidayah, F. Han Lyn and Z. A. Nur Hanani*

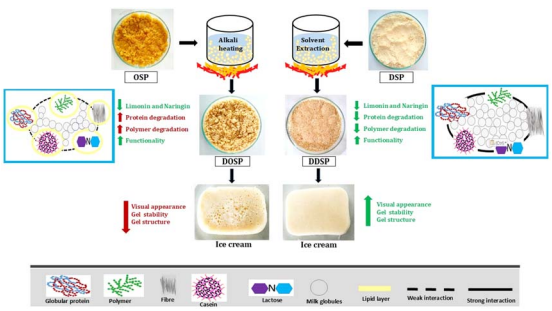
1996



Developing a chickpea protein–flaxseed oil emulsion gel meat analogue using the freeze-alignment technique

Tharindu Trishan Dapana Durage,* Anand Kumar, Chien-I. Hsu, Kaushalya Wickramasinghe, Swapnil Ganesh Jaiswal, Rakesh Kumar Gupta* and Prem Prakash Srivastav

2009



Debittered pomelo (*Citrus maxima*) seed powder as a functional ingredient in low-fat ice cream

Sayantan Chakraborty, Gunjana Deka, Jinku Bora and Himjyoti Dutta*

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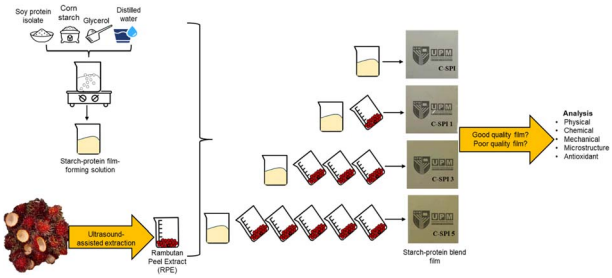
2032

Active food packaging development: rambutan (*Nephelium lappaceum* L.) peel extract incorporated into starch-protein blend films

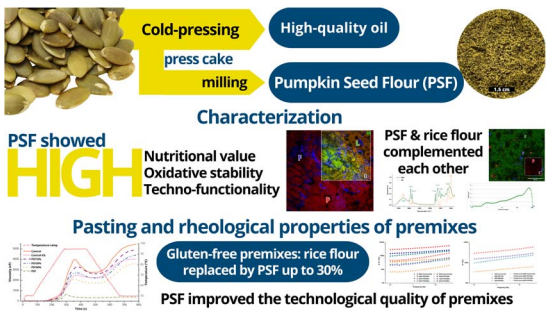
T. Nurul Azlin, F. Han Lyn and Z. A. Nur Hanani*



2041

Pumpkin seed flour (a cold-pressed by-product): characterization and rheological assessment in gluten-free bread premixes

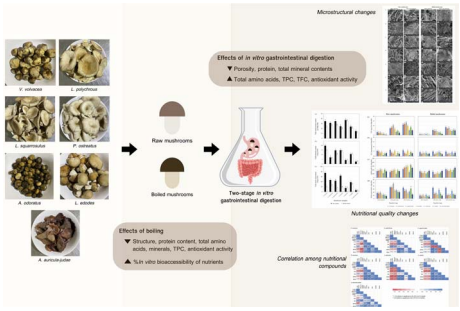
Juan José Burbano,* Manuel Rojas, Marina Fernández Bravo, Julio Vidaurre-Ruiz, Ritva Repo Carrasco Valencia and María Jimena Correa*



2052

Sustainable nutrient enhancement of edible mushrooms *via* boiling and gastrointestinal simulation

Si Qin, Sunantha Ketnawa and Nattaya Konsue*



2066

Transformation of pomegranate (*Punica granatum* (L.)) leaf waste into a functional beverage and its phytochemical and antioxidant properties

Nellampitiya Gamage Shehan Vimukthi, Rathnayake Mudiyanselage Dharmadasa,* Rasika Warnasooriya and Upeksha Medawatta

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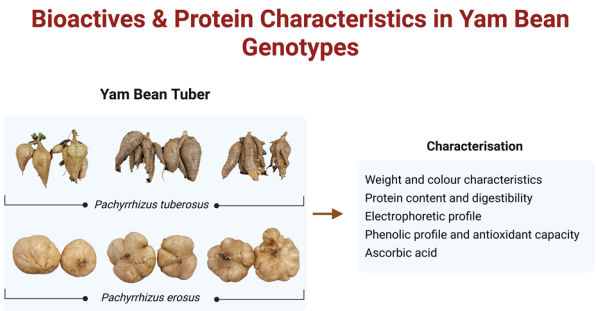
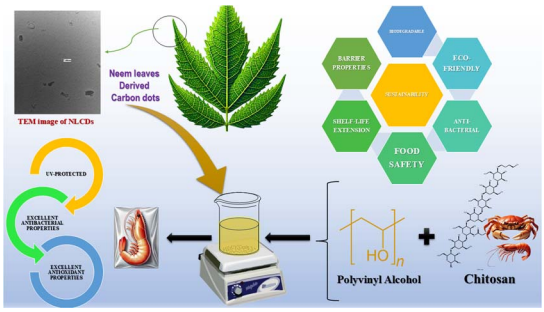
2074



Comparative analysis of bioactives and protein characteristics in six genotypes of yam bean tubers

Rewati Raman Bhattarai,* Geethu Sulochana, Riddhiben Ghanshyambhai Maheta, Anita Severn-Ellis, Kalidas Pati, N. U. Sruthi, Amboge Samson and Stuart Johnson

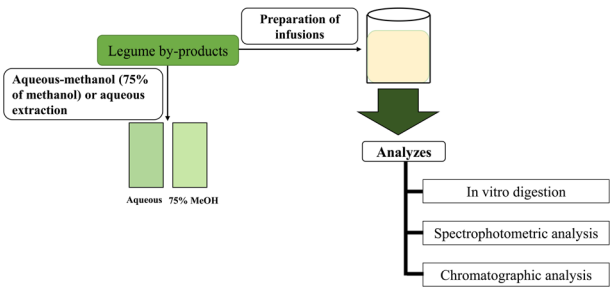
2088



Neem leaf-derived carbon dot-embedded chitosan-based active films: a sustainable approach to prolong the shelf life of prawns

Ajitkumar Appayya Hunashyal, Saraswati P. Masti,* Lingaraj Kariyappa Kurabetta, Manjushree Nagaraj Gunaki, Suhasini Madihalli, Jennifer P. Pinto, Manjunath B. Megalamani, Bothe Thokchom, Ramesh Babu Yarajarla and Ravindra B. Chougale

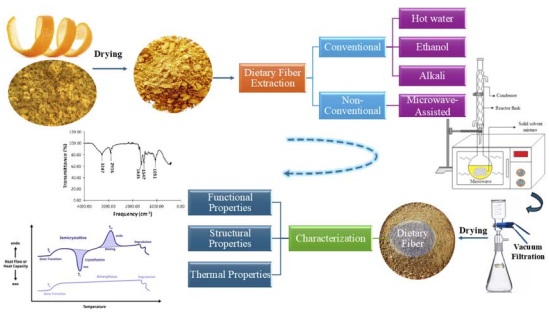
2108



Valorization of legume by-products in functional formulations: phytochemicals and their simulated gastrointestinal fate

Gulay Ozkan, Mustafa Tahsin Yilmaz, Elwira Sieniawska, Benita Hryć, Mehmet Çağlar Tülbek and Esra Capanoglu*

2122



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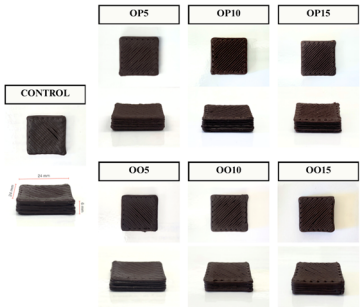
2134

Omega-3 incorporation effects on the structural, rheological, and sensory properties of 3D-printed chocolate

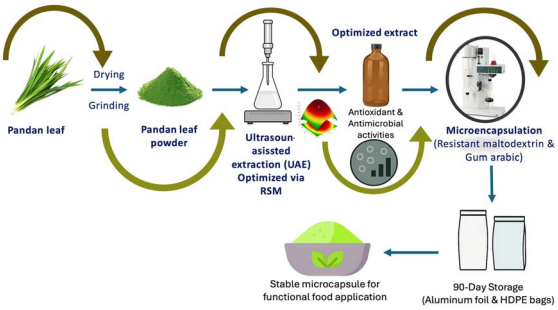
Ruoyao Li, Sushil Koirala, Sangeeta Prakash, Yun Xu and Bhesh Bhandari*



2144

Sustainable production of bioactive pandan leaf extract microcapsules *via* optimized ultrasound-assisted extraction and spray drying

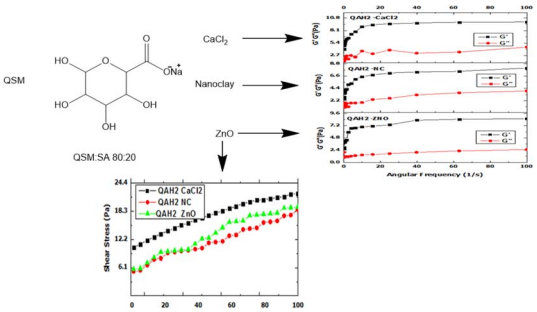
Nilar Oo, Saeid Jafari, Saranya Jansamutr and Kitipong Assatarakul*



2158

Probing sustainable cross-linked quince seed mucilage–sodium alginate biocomposite hydrogels through the development of biodegradable films

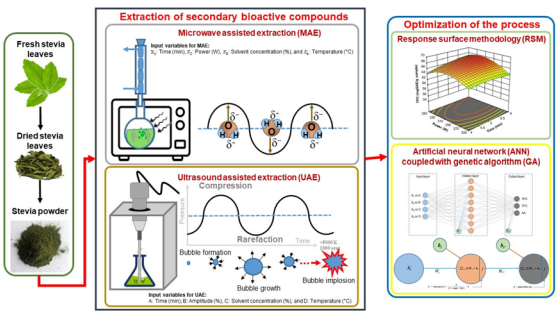
Sabreena Yousuf, Nusrat Jan, Nadira Anjum, B. N. Dar, J. A. Rather and Shrikant S. Maktedar*



2170

Comparative evaluation and optimization of microwave and ultrasound assisted extraction of stevia secondary bioactive compounds using RSM and ANN–GA approaches

Prakash Kumar and Punyadarshini Punam Tripathy*



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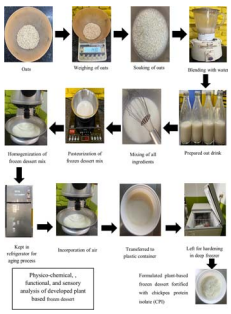
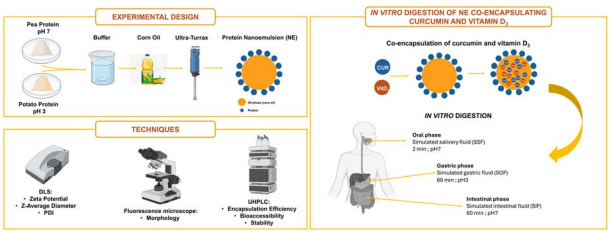
2192



Extraction and characterization of chickpea protein isolate and its application in the development of a plant-based frozen dessert

Muhammed Arshad P., Neha Sharma* and Maanas Sharma*

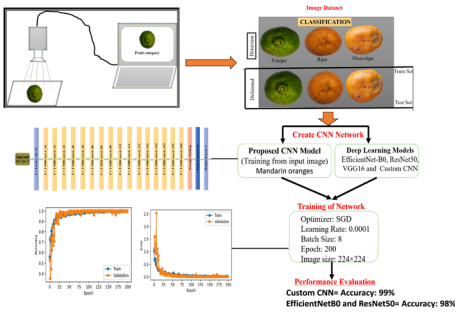
2204



Co-encapsulation of vitamin D_3 and curcumin in plant protein-based nanoemulsions: formulation optimization, characterization, and *in vitro* digestion

Márcia Marques, Raquel F. S. Gonçalves, Daniel A. Madalena, Luís Abrunhosa, António A. Vicente and Ana C. Pinheiro*

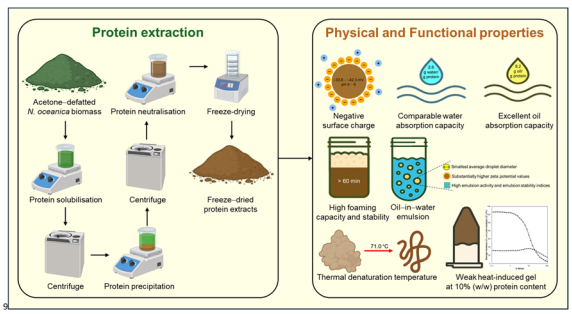
2215



Deep learning-based approach for classifying mandarin orange maturity

Raj Singh, C. Nickhil,* Konga Upendar, Poonam Mishra and Sankar Chandra Deka

2226



Characterisation of water-soluble *Nannochloropsis oceanica* protein fractions: physical and functional properties

Thi Phuong Linh Le,* Jayani Samarathunga, Katrina Strazdins,* Jeroen Rens and Benu Adhikari*

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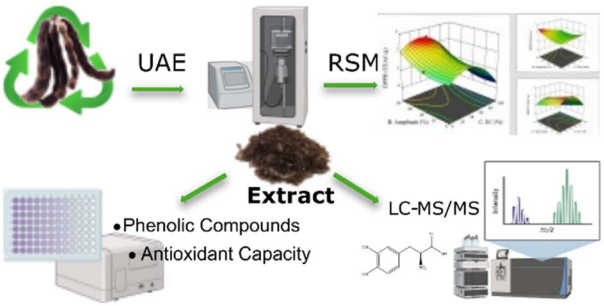
2239

Optimization of ultrasound-assisted extraction of antioxidant compounds from *Mucuna pruriens* pods using response surface methodology: a waste-to-value approach

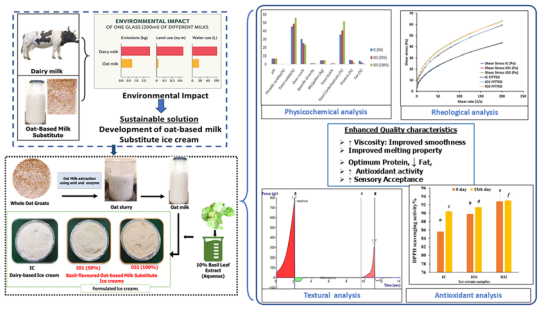
Beatriz I. Avalos, Belén A. Acevedo, Juan P. Melana Colavita, Romina Curbelo, Eduardo Dellacassa and Margarita M. Vallejos*



2253

Formulation and characterization of basil-flavoured oat-based milk substitute ice cream as a sustainable alternative to dairy ice cream

Deepika Shrestha, Alisha Pradhan, V. Sai Sharanya Palletti, R. B. Swethapriya and M. Srijaya*



2270

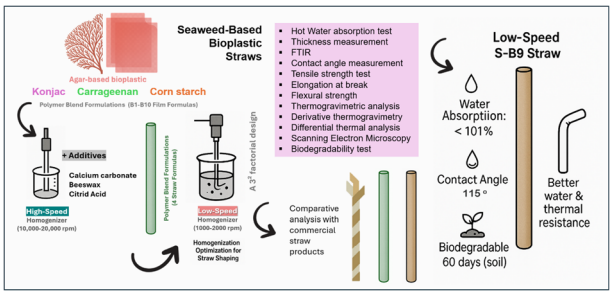
Sustainable functional foods derived from indigenous resources: the utilization of tamarind seed, bael, and bamboo shoot powders as nutritional enhancers

Midhun J, Muthamil Selvi K, Neethi Sri S, Tamminana Jeeviteswara Rao, Addanki Mounika and Akalya Shanmugam*

2282

Investigation of polymer blend formulation and homogenization dynamics in the development of biodegradable, hydrophobic, and heat-resistant seaweed-based bioplastic straws

Wahyu Ramadhan, Joko Santoso, Uju,* Rahadiyan Garuda Langit Dewangga, Mario Natanael, Muhammad Aldy Luthfiansyah, Adinda Yulya Rachmawati and Zacky Arivaie Santosa



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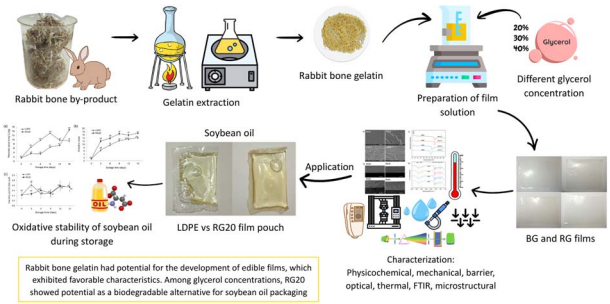
PAPERS

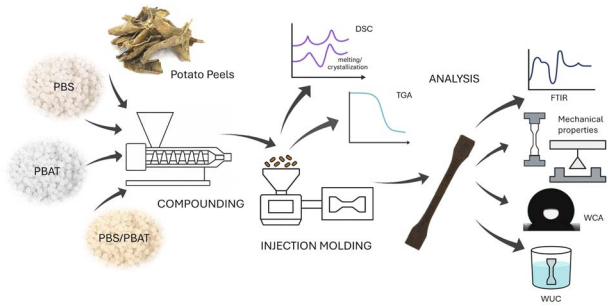
2297



Rabbit bone gelatin edible films: impact of glycerol concentration on properties and application in soybean oil packaging

Siti Rima Pratiwi Putri, Dian Haryati, Umar Santoso, Andriati Ningrum, Ashri Nugrahini and Manikharda*

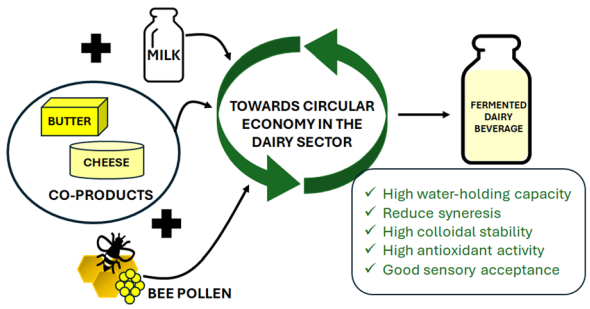
2308



Potato peel-based PBS/PBAT biocomposites: influence of composition and filler content on injection molded properties

Susanna Miescher, Florine Schleiffer, Eliane Wegenstein and Selçuk Yildirim*

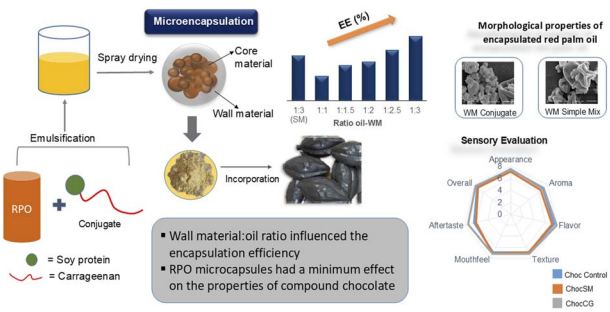
2321



Sustainable development of dairy-based functional beverages enriched with bee pollen: a circular economy approach

Eliara Acipreste Hudson, Herlândia Cotrim Santos, Laís Fernanda Batista, Jaqueline de Paula Rezende, Kely de Paula Correa, Izabela Maria Montezano de Carvalho, Márcia Cristina Teixeira Ribeiro Vidigal and Ana Clarissa dos Santos Pires*

2337



Microencapsulation of red palm oil with soy protein concentrate–carrageenan conjugates for compound dark chocolate applications

Haida Setyani, Arima Diah Setiowati,* Sri Rahayoe, Chusnul Hidayat and Arifin Dwi Saputro

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RETRACTION

2352

Retraction: Protein complexations and amyloid fibrilization as novel approaches to improve techno-functionality of plant-based proteins

Zakir Showkat Khan,* Shubham Mandliya, Shweta Suri, Seerat Bhinder, Pintu Choudhary, Shreya Mandal, Narender Kumar Chandla, Koyel Kar, Ömer Said Toker, Slim Smaoui, Mohmad Sayeed Bhat, Hari Niwas Mishra, Navdeep Singh Sodhi, Bhavnita Dhillon and Thameed Aijaz

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