

Department of Food Engineering and Technology

Research Paper Published 2024-25

Name of the author/s	Title of paper	Name of journal	Volume, Month, PP, ISSN Number	Year of Publication
Habib, M., Singh, S., Bist, Y., Kumar, Y., Jan, K., Bashir, K., ... & Saxena, D. C.	Carbon Pricing and the Food System: Implications for Sustainability and Equity	<i>Trends in Food Science & Technology</i>	150, 104577, Aug	2024
Singh, D. K., Kurichh, R., Bist, Y., Kheto, A., Kumar, Y., Sharma, R., ... & Saxena, D. C.	Effect of Microwave Roasting on the Physicochemical, Functional, Rheological, and Antioxidant Properties of Kodo Millet Flour	<i>Journal of Food Processing and Preservation</i>	2024(1), 6861190, Aug	2024
Bashir, K., Jan, S., Habib, M., Saxena, D. C., Tarafdar, A., Sindhu, R., ... & Jan, K.	Utilization of agro-industrial wastes (banana peel): development, characterization, and classification of biodegradable composite pots using PCA approach	<i>Biomass Conversion and Biorefinery</i>	1-17, Aug	2024
Kumar, Y., Bist, Y., Thakur, D., Nagar, M., & Saxena, D. C.	A review on the role of pH-sensitive natural pigments in biopolymers based intelligent food packaging films	<i>International Journal of Biological Macromolecules</i>	276, 133869, Sept.	2024
Bist, Y., Sharanagat, V. S., & Saxena, D. C.	Unveiling the synergistic effect of octenyl succinic anhydride and pulsed electric field on starch nanoparticles	<i>International Journal of Biological Macromolecules</i>	280, 136024, Sept.	2024
Bist, Y., Sharanagat, V. S., & Saxena, D. C.	Guinea Grass Seed Starch Nanoparticles and Their Modification: Characterization and Applications in Pickering Emulsions	<i>Starch-Stärke</i>	77 (3), 2400172, Feb	2025
Kumar, Y., Bist, Y., Nagar, M., Kurichh, R., Desai, S., Bhardwaj, R., Saxena, D. C. &	Cold plasma induced morphological, structural, powder flow and rheological properties of Kodo millet starch	<i>Innovative Food Science & Emerging Technologies</i>	100, 103908, March	2025

Sharanagat, V. S.				
Bist, Y., Sharanagat, V. S., & Saxena, D. C.	Pickering Stabilization of Water-in-Oil-in-Water Emulsions via Modified Guinea Starch Nanoparticles: Effects on Physical, Microstructural, Rheological, and Thermal Properties	<i>Food Biophysics</i>	20(1), 44, March	2025
Awasthi, R., Kumar, Y., Kaur, S., Bist, Y., & Saxena, D. C.	Status, development and potential of starch-based analogue cheese: A review	<i>International Journal of Biological Macromolecules</i>	143190, April	2025
Mahanure, K., Bist, Y., Kumar, Y., Awasthi, R., Kaur, S., Kurichh, R., & Saxena, D. C.	Impact of octenyl succinic anhydride esterification on Kodo millet starch-commercial protein blends functionality and Pickering emulsion properties	<i>International Journal of Biological Macromolecules</i>	308, 142734, May	2025
Bhat, S. A., Srivastava, T., Saxena, D. C., Jan, K., & Bashir, K.	Development and characterization of non-dairy probiotic chickpea (Sattu) powder by spray drying: an alternative for lactose intolerance and casein allergy	<i>Journal of Food Measurement and Characterization</i>	19(6), 4048-4061, June	2025
Sharma, R., Kotwaliwale, N., Jindal, N., & Saxena, D. C.	Influence of different non-starch polysaccharides and their concentration on gelation, functional, pasting, textural and rheological characteristics of gorgon nut starch	<i>Journal of Food Measurement and Characterization</i>	1-12, June	2025
Kurichh, R., Kumar, Y., Bist, Y., Sharanagat, V. S., Srivastava, T., & Saxena, D. C.	Enhancing Kodo millet starch-based hybrid gel for fat replacement in cookies: Dual modification (heat treatment-octenyl succinic anhydride) for improved properties	<i>Food Chemistry</i>	478, 143709, June	2025
Mali, P.S. and Kumar, P.	Effect of ultrasound assisted extraction and simulated in vitro gastrointestinal digestion on phenolic compound profile, bio-accessibility, and LC-ESI-QTOF-MS analysis of black beans (<i>Phaseolus vulgaris</i> L.) extract.	<i>Journal of Food Measurement and Characterization</i>	August 2024, https://doi.org/10.1007/s11694-024-02797-z . 2193-4134	2024
Mali, P.S. and Kumar, P.	Antinutritional, functional, thermal, rheological properties, and in vitro digestibility of soaked and germinated black bean (<i>Phaseolus vulgaris</i> L.) flours.	<i>Journal of Food Measurement and Characterization</i> .	December 2024, https://doi.org/10.1007/s11694-	2024

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Patil, P. and Kumar, P.	Phytochemical characterization of <i>Pueraria tuberosa</i> root extracts using microwave and ultrasound assisted extraction by LC-QTOF-MS.	<i>Food Analytical Methods.</i>	March 2025. https://doi.org/10.1007/s12161-025-02784-0 . 1936-9751	2025
Patil, P. and Kumar, P.	Exploring kudzu: Extraction, quantification, and health impacts of bioactive compounds	<i>Fitoterapia</i>	April 2025, https://doi.org/10.1016/j.fitote.2025.106453 1873-6971	2025
Mali, P.S. and Kumar, P.	Effect of microwave irradiation on the functional properties, digestion behavior, and structural characteristics of protein isolate from black beans (<i>Phaseolus vulgaris</i> L.).	<i>Innovative Food Science and Emerging Technologies</i>	May 2025, https://doi.org/10.1016/j.ifset.2025.103951 . 1466-8564	2025
Dilpreet Singh Brar, Birmohan Singh, Vikas Nanda	Deep Neural Networks for Adulteration Detection in Red Chilli Powder: A Pillar for Food Quality 4.0	<i>Journal of Future Foods</i>	July,	2025
Dilpreet Singh Brar, Birmohan Singh, Vikas Nanda	Transformative Detection of Sudan IV Adulteration in Prominent Indian Red Chilli Varieties	<i>Journal of Food Composition and Analysis</i>	July, 107995	2025
Dilpreet Singh Brar, Birmohan Singh, Vikas Nanda	Application of Deep Learning and Explainable Artificial Intelligence (XAI) for Detecting Red Chilli Powder Adulteration	<i>Journal of Food Composition and Analysis</i>	June, 1079947	2025
Dilpreet Singh Brar, Birmohan Singh, Vikas Nanda	An XAI-enabled 2D-CNN model for non-destructive detection of natural adulterants in the wonder hot variety of red chilli powder	<i>Sustainable Food Technology</i>	May, 1099-1113	2025
Dilpreet Singh Brar, Birmohan Singh, Vikas Nanda	Effect of optimization on CNN performance in identifying adulteration of red chilli powder	<i>Microchemical Journal</i>	June, 114231	2025

Anamika Sharma, Avinash Thakur, Vikas Nanda	Optimizing Enzyme-Assisted Hydrolysis for Enhanced Phytochemical, Functional, and Nutritional Properties of Rapeseed (<i>Brassica napus</i>) Bee Pollen using Response Surface Methodology (RSM)	<i>Food Biophysics</i>	20, April, 69	2025
Anamika Sharma, Avinash Thakur, Vikas Nanda	Impact of bee pollen cell-wall disrupting techniques on the structural integrity, functional attributes	<i>International Journal of Biological Macromolecules</i>	305, May, 141179	2025
Masud Alam, Basharat Nabi Dar, Vikas Nanda	Comparative analysis of functional, techno-functional, rheological, and thermal properties of honey fillings formulated with rind from watermelon waste and xanthan gum: Pre- and post-baking assessment	<i>Journal of Food Measurement and Characterization</i>	19, April, 3633-3647	2025
Riya Goyal, Avinash Thakur, Vikas Nanda	Comparative analysis of nutritional, functional, and antioxidant properties of botanical parts (bulb, pseudostem, leaves) of spring onion (<i>Allium fistulosum</i>) varieties for exploring its waste utilization potential	<i>Food Bioscience</i>	66, Feb, 106239	2025
Masud Alam, Ishrat Majid, Sawinder Kaur, Basharat Nabi Dar, Vikas Nanda	An Updated Review on Exploring Hydrocolloids Application in Food Matrix: Current Insights into Fruit, Bakery, Meat, and Dairy Based Products	<i>Journal of Texture Studies</i>	56, April, e70020	2025
Masud Alam, Sawinder Kaur, Bashart Nabi Dar, Vikas Nanda	Classification, techno-functional properties, and applications of diverse hydrocolloids in fruits-based products: A concise review	<i>Journal of Food Science</i>	90, March, e70119	2025
Rohan Avinash Bhure, Masud Alam, Vikas Nanda, Vikas M. Pawar, Sachin Saxena	Exploring the impact of thermal processing on the quality attributes of honey: A comprehensive review	<i>Journal of Food Process Engineering</i>	48, Jan, e70033	2025
Anamika Sharma, Avinash Thakur, Vikas Nanda	Impact of green techniques on intricate cell wall structure of bee pollen to enhance functional characteristics and improve its in vitro digestibility	<i>Journal of Food Science</i>	89, Nov, 8431-8453	2025
Mahendra Gunjal, Jyoti	Microgreens: Cultivation practices, bioactive	<i>Food Bioscience</i>	62, September,	2024

Singh, Jaspreet Kaur, Sawinder Kaur, Vikas Nanda, Ankita Sharma, Prasad Rasane	potential, health benefits, and opportunities for its utilization as value-added food.		105133	
Rajni Kamboj, RS Sandhu, Vikas Nanda	Effect of heating and pH on hydroxymethylfurfural content, diastase and invertase activity of Dalbergia honey using response surface methodology	<i>Food Chemistry Advances</i>	5, June, 100766	2024
Dilpreet Singh Brar, Birmohan Singh, Vikas Nanda	Application of Image-Based Features and Machine Learning Models to Detect Brick Powder Adulteration in Red Chili Powder	<i>Journal of Food Process Engineering</i>	47, Nov, e14762	2024
Masud Alam, Mansi Rawat, Sawinder Kaur, Basharat Nabi Dar, Vikas Nanda	Transformation of Quality Attributes of Fruit Leathers Using Diverse Hydrocolloids: Recent Application and Future Perspective	<i>Journal of Food Process Engineering</i>	47, Nov, e14782	2024
Masud Alam, Deodhar Ankita Madhav, Basharat Nabi Dar & Vikas Nanda	Developing hydrocolloid-infused honey fillings for millet cookies: a comparative study against commercially available fat-based alternatives	<i>Journal of Food Measurement and Characterization</i>	18, September	2024
Masud Alam, Basharat Nabi Dar & Vikas Nanda	Hydrocolloid-based fruit fillings: A comprehensive review on formulation, techno-functional properties, synergistic mechanisms, and applications	<i>Journal of Texture Studies</i>	55, August, e12861	2024
Amisha Kaushik, Dharmesh Chandra Saxena, Sukhcharn Singh	Engineering Properties of Indian Browntop Millet (<i>Brachiaria ramosa</i>) as Influenced by Varietal and Moisture Differences	<i>Agricultural Research</i>	https://doi.org/10.1007/s40003-024-00758-y	2024
Amisha Kaushik, Dharmesh Chandra Saxena, Sukhcharn Singh	Exploring the potential of browntop millet (<i>Urochloa ramosa</i>) starch: Physicochemical, morphological, thermal and rheological properties across four cultivars	<i>International Journal of Biological Macromolecules</i>	278 134923 https://doi.org/10.1016/j.ijbiomac.2024.134923	2024
Aditi Sharma, Navdeep Jindal, Sukhcharn Singh	Influence of 2-octenyl-1-succinic anhydride (OSA) concentration on the functional, rheological, structural and flow properties of starch from Indian Teff (<i>Eragrostis tef</i>)	<i>International Journal of Biological Macromolecules</i>	284, 138055	2025

Nirbhay Kumar, Sukhcharn Singh	Nutritional Composition, Nutraceutical Aspects, and Medicinal Benefits of Garden Cress Seeds – A Geographical and Processing Perspective	<i>Trends in Food Science & Technology</i>	154, 104791	2024
Shweta, Aditi Sharma, Sukhcharn Singh	Transforming Quinoa (<i>Chenopodium Quinoa</i>): The Role of Germination Time in Enhancing Nutritional, Pasting, and Functional Properties of Flour	<i>Food Biophysics</i>	20:51 https://doi.org/10.1007/s11483-025-09940-3	2025
Aditi Sharma, Shweta, Sukhcharn Singh	Exploring the advances in quinoa processing: A comprehensive review enhancing nutritional quality and health benefits along with industrial feasibility of quinoa	<i>Food Research International</i>	206 116093 https://doi.org/10.1016/j.foodres.2025.116093	2025
Ramandeep Kaur Sidhu, C.S. Riar, Sukhcharn Singh	In vitro starch digestibility and physicochemical properties of chemical and enzymatic modified Indian Teff (<i>Eragrostis Tef</i>) starch for industrial applications	<i>International Journal of Biological Macromolecules</i>	307 141910 https://doi.org/10.1016/j.ijbiomac.2025.141910	2025
Amisha Kaushik, Dharmesh Chandra Saxena, Sukhcharn Singh	Impact of ultrasonication power rate and duration on the physicochemical, thermal, morphological, and rheological properties of browntop millet (<i>Brachiaria ramosa</i>) starch	<i>International Journal of Biological Macromolecules</i>	309 (2025) 142475 https://doi.org/10.1016/j.ijbiomac.2025.142475	2025
Amisha Kaushik, Dharmesh Chandra Saxena, Sukhcharn Singh	Modification of browntop millet (<i>Brachiaria ramosa</i>) starch: Effects of pulse electric field and gamma-irradiation on morphological, thermal, rheological, and powder flow properties	<i>International Journal of Biological Macromolecules</i>	309 (2025), 143132 https://doi.org/10.1016/j.ijbiomac.2025.143132	2025
Bhushan, B., Nanda, V., & Jindal, N.	Strategies for processing and valorization of ash gourd byproducts: A comprehensive review	<i>Food Chemistry</i>	https://doi.org/10.1016/j.foodchem.2025.143040	2025
Tejinder Kaur, Parmjit S.	Effect of hydrothermal treatments on the nutritional,	<i>Journal of Cereal</i>	Vol 120, Nov	2024

Panesar, Charanjit S. Riar	functional and storage stability characteristics of decorticated foxtail millet grains and flour	<i>Science</i>	2024, 104025	
Tejinder Kaur, Parmjit S. Panesar, Charanjit S. Riar	Effect of controlled hydrothermal treatment, drying temperature, de-husking and decortication on phenolics characteristics and functional properties of foxtail millet flour	<i>Journal of Cereal Science</i>	Volume 123, May 2025, 1104170	2025
Arun Kumar, Navdeep Jindal, Charanjit S. Riar	Effect of seed-to-solvent ratio and ultrasound-assisted two-stage cold solvent extraction on the characteristics of oil from chia seed	<i>Separation and Purification Technology</i>	https://doi.org/10.1016/j.seppur.2025.133579	2025
Brahmeet Kaur, Parmjit S. Panesar*, and Avinash Thakur	Assessment of underutilized <i>Mangifera indica</i> peels for nutritional, phytochemical and techno-functional attributes as well as its microstructural and thermal characterization.	<i>Journal of Food Science and Technology</i>	0975-8402	2025
Pratikshya O. Chhetri, Abhishek D. Tripathi, Alisha Nandan, Parmjit S. Panesar, & Aparna Agarwal	Process optimization for development of black carrot (<i>Daucus carota</i> ssp. <i>Sativus</i> Var. <i>Atrorubens</i> alef) wine with improved sensorial and physicochemical attributes.	<i>Journal of Food Science and Technology</i>	0975-8402	2025
Ravinderjit Kaur, Neha Goyal, Gaurav Panesar, & Parmjit S. Panesar*	Unraveling the nutritional potential of millet by-products through extraction of high value compounds for the development of novel food products.	<i>Food Chemistry</i>	0308-8146	2025
Umexi Rani, Kaur, Parmjit S. Panesar*, & Harish K. Chopra.	Effect of ultrasound on the extraction of bioactive compounds from Jamun (<i>Syzygium cumini</i> L.) seeds.	<i>Biomass Conversion and Biorefinery</i>	2190-6823	2025
Brahmeet Kaur, Parmjit S. Panesar*, & Avinash Thakur	Extraction and evaluation of structural and physicochemical properties of dietary fiber concentrate from mango peels by using green approach.	<i>Biomass Conversion and Biorefinery</i>	2190-6823	2025
Divyani Panwar, Parmjit S. Panesar*, & Harish K. Chopra	Green valorization approach of <i>citrus limetta</i> peels by ultrasound-assisted enzymatic extraction for recovery of dietary fibers: Optimization, physicochemical, structural, functional, and thermal properties.	<i>Biomass Conversion and Biorefinery</i>	2190-6823	2024

Dipak Das, Parmjit S. Panesar*, and Charanjiv Singh Saini	Development of soybean meal protein isolate-based active edible film incorporating bioactive compounds rich kinnow (<i>Citrus reticulata</i>) peel.	<i>Food and Bioproducts Processing</i>	0960-3085	2024
Kaur Samandeep, Yogesh Kumar, Vikrant Singh, Jasmeen Kaur, and Parmjit S. Panesar*	Cold plasma technology: reshaping food preservation and safety	<i>Food Control</i>	0956-7135	2024
M. Ubaid and C.S. Saini	Evaluation of different green technological approaches for the extraction of oil from grape seeds: A comparative study	<i>Grasas y Aceites</i>	75: 2173 0017-3495 and 1988-4214 Online	2024
Rashmi Rawat and Charanjiv Singh Saini	Glycation of sunnhemp protein with dextran via dry heating: Thermal, micro-structural characterization, and amino acid profiling	<i>Journal of Food Science</i>	89: 8983-8998 0022-1147 and 1750-3841 Online	2024
M. Ubaid and Charanjiv Singh Saini	Protein concentrate extracted from grape seeds: Impact of different pH levels on the amino acid composition, structural, thermal, morphological and functional properties	<i>Acta Scientiarum Polonorum Technologia Alimentaria</i>	23 (4): 423-437 1644-0730 and 1898-9594	2024
Rashmi Rawat and Charanjiv Singh Saini	Utilizing dry-heating maillard reaction approach to modify the functional and structural properties of ultrasound pretreated sunnhemp protein isolate with dextran	<i>Food and Bioprocess Technology</i>	18: 1483-1497 1935-5149 Online and 1935-5130	2025
Chandrakanta Ghanta and Charanjiv Singh Saini	Ecologically sustainable biodegradable polymers from banana peel pectin reinforced with silver zeolite nanoparticles (Ag/zeolite NPs)	<i>International Journal of Biological Macromolecules</i>	300: 140209 0141-8130 Online and 1879-0003	2025

M. Ubaid and Charanjiv Singh Saini	Enzymatic hydrolysis of grape seed protein: In vitro digestibility, functional, and structural insights as effected by enzyme concentration and enzymolysis time	<i>International Journal of Biological Macromolecules</i>	309: 143077 0141-8130 Online and 1879-0003	2025
Mohammad Ubaid and Charanjiv Singh Saini	Influence of controlled moisture levels on gravimetric, frictional, and mechanical characteristics of grape (<i>Vitis vinifera</i> L.) seeds for optimized processing and storage: An attempt towards circular economy	<i>Current Research in Nutrition and Food Science</i>	13: 290-303 2347-467X	2025
Kumar, Sunil; Rai, Amit; Prasad, Kamlesh	Optimization and Multifactor Assessments of Supercritical Moringa Oleifera Seed Oil Extraction	<i>Journal of Food Measurement and Characterization</i>	1586–1602	2025
Das, Rahul; Islam, Makdud; Saini, Praveen; Kaduji, Gadhawe Ram; Kaur, Ravneet; Shekhar, Shubhra; Prasad, Kamlesh	Finite element modeling of banana slices in convective drying, studies on isotropic shrinkage kinetics using Arbitrary Lagrangian-Eulerian (ALE) approach	<i>Thermochimica Acta</i>	749: 180024	2025
Saini, Praveen; Sinha, A. S. K.; Prasad, Kamlesh	Characterizing the effect of commercial wheat grain milling methods on wheat bran characteristics	<i>International Journal of Food Science & Technology</i>	59(9): 6398-6408	2024
Kaur, Ravneet; Prasad, Kamlesh	Development and Characterization of Chickpea Based Ready to Use Replacement Beverage Mix	<i>Journal of Food Measurement and Characterization</i>	18: 3595–3618	2024
Islam, Makdud; Sinha, Akhouri Sanjay Kumar; Prasad, Kamlesh	Organosolv delignification of rice straw cellulose fiber for functional food packaging	<i>Cellulose</i>	31: 9191–9214	2024
Das, Rahul; Prasad, Kamlesh	Finite element modelling in heat and mass transfer of potato slice dehydration, non-isotropic shrinkage kinetics using Arbitrary Lagrangian-Eulerian Algorithm and Artificial Neural Network	<i>Journal of Food Process Engineering</i>	47(2): e14545	2024
Tewari Rishika, Kumar,	Effect of ultrasonication on the quality of amla pulp	<i>Food Chemistry</i>	4, 100663,	2024

Vivek, and H. K. Sharma	(Emblica officinalis): Optmization and comparasion with the thermal processing	<i>Advances</i>	(doi.org/10.1016/j.focha.2024.100663)	
Mehvish Altaf, Rishabh Thakur and H.K. Sharma	Fabrication and characterization of ultrasound and microwave pre-treated transglutaminase-induced egg white protein and whey protein isolate composite gel	<i>Food and Bioprocess Technology</i>	https://doi.org/10.1007/s11947-024-03733-1	2024