

Table of Contents.....	i
JFS Masthead	v
Industrial Application Briefs	vi

R: CONCISE REVIEWS/HYPOTHESES IN FOOD SCIENCE

Developing the NASA Food System for Long-Duration Missions— <i>Maya Cooper, Grace Douglas, and Michele Perchonok</i>	R40
The Role of Oral Processing in Dynamic Sensory Perception— <i>Kylie D. Foster, John M. V. Grigor, Jean Ne Cheong, Michelle J. Y. Yoo, John E. Bronlund, and Marco P. Morgenstern</i>	R49
Reinventing R&D in an Open Innovation Ecosystem— <i>Helmut Traitler, Heribert J. Watzke, and I. Sam Saguy</i>	R62
The Biomimetic Immunoassay Based on Molecularly Imprinted Polymer: A Comprehensive Review of Recent Progress and Future Prospects— <i>Z.X. Xu, H.J. Gao, L.M. Zhang, X.Q. Chen, and X.G. Qiao</i>	R69

C: FOOD CHEMISTRY

Phytochemicals and Antioxidant Activity of Fruits and Leaves of Paprika (<i>Capsicum Annuum</i> L., var. <i>Special</i>) Cultivated in Korea— <i>Ji-Sun Kim, Jiyun Ahn, Sung-Joon Lee, BoKyung Moon, Tae-Youl Ha, and Suna Kim</i>	C193
Volatile Compounds in Light, Medium, and Dark Black Walnut and Their Influence on the Sensory Aromatic Profile— <i>Jeehyun Lee, Laura Vázquez-Araújo, Koushik Adhikari, Michele Warmund, and Janelle Elmore</i>	C199

Beer Volatile Analysis: Optimization of HS/SPME Coupled to GC/MS/FID— <i>Gustavo Charry-Parra, Maritza DeJesus-Echevarria, and Fernando J. Perez</i>	C205
Hot and Cold Water Infusion Aroma Profiles of <i>Hibiscus sabdariffa</i> : Fresh Compared with Dried— <i>M.M. Ramírez-Rodriguez, M.O. Balaban, M.R. Marshall, and R.L. Rouseff</i>	C212
Preparation and Mechanical Properties of Edible Rapeseed Protein Films— <i>Sung-Ae Jang, Geum-Ok Lim, and Kyung Bin Song</i>	C218
Influence of the Process, Season, and Origin on Volatile Composition and Antioxidant Activity of <i>Juniperus phoenicea</i> L. Leaves Essential Oils— <i>Monia Ennajar, Samia Afloulous, Mehrez Romdhane, Hany Ibrahim, Sylvie Cazaux, Manef Abderraba, Aly Raies, and Jalloul Bouajila</i>	C224
Production of L-Arabinose from Corn Hull Arabinoxylan by <i>Arthrobacter aurescens</i> MK5 α -L-Arabinofuranosidase— <i>Masahiro Kurakake, Jyunpei Takao, Osamu Asano, Hiroko Tanimoto, and Toshiaki Komaki</i>	C231
Improvements in the Shelf Life of Commercial Corn Dry Masa Flour (CMF) by Reducing Lipid Oxidation— <i>A. Márquez-Castillo and R.L. Vidal-Quintanar</i>	C236
Effect of Myoglobin from Eastern Little Tuna Muscle on Lipid Oxidation of Washed Asian Seabass Mince at Different pH Conditions— <i>Yaowapa Thiansilakul, Soottawat Benjakul, and Mark P. Richards</i>	C242
Neuroprotective Effect of Caffeoylquinic Acids from <i>Artemisia princeps</i> Pampanini against Oxidative Stress-Induced Toxicity in PC-12 Cells— <i>Sang Gil Lee, Hyungjae Lee, Tae Gyu Nam, Seok Hyun Eom, Ho Jin Heo, Chang Yong Lee, and Dae-Ok Kim</i>	C250

Physical and Structural Changes in Liquid Whole Egg Treated with High-Intensity Pulsed Electric Fields—*Raquel Marco-Molés, María A. Rojas-Grati, Isabel Hernando, Isabel Pérez-Munuera, Robert Soliva-Fortuny, and Olga Martín-Belloso*..... C257

Effects of Buttermilk Powders on Emulsification Properties and Acid Tolerance of Cream—*Keiichi Ihara, Hiroshi Ochi, Hitoshi Saito, and Keiji Iwatsuki*..... C265

Glucose Tolerance and Antioxidant Activity of Spent Brewer's Yeast Hydrolysate with a High Content of Cyclo-His-Pro (CHP)—*Eun Young Jung, Hyun-Sun Lee, Jang Won Choi, Kyung Soo Ra, Mi-Ryung Kim, and Hyung Joo Suh* C272

Monitoring of Cocoa Volatiles Produced during Roasting by Selected Ion Flow Tube-Mass Spectrometry (SIFT-MS)—*Yang Huang and Sheryl A. Barringer*..... C279

First Investigation on Ultrasound-Assisted Preparation of Food Products: Sensory and Physicochemical Characteristics—*Daniella Pingret, Anne-Sylvie Fabiano-Tixier, Emmanuel Petitcolas, Jean-Paul Canselier, and Farid Chemat*..... C287

Role of β -Conglycinin and Glycinin Subunits in the pH-Shifting-Induced Structural and Physicochemical Changes of Soy Protein Isolate—*Jiang Jiang, Youling L. Xiong, and Jie Chen*..... C293

Multicomponent Cleaning Verification of Stainless Steel Surfaces for the Removal of Dairy Residues Using Infrared Microspectroscopy—*Matthew P. Lang, Nurdan A. Kocaoglu-Virma, W. James Harper, and Luis E. Rodríguez-Saona*..... C303

Chemical Composition and Antimicrobial and Spasmolytic Properties of *Poliomintha longiflora* and *Lippia graveolens* Essential Oils—*Isabel Rivero-Cruz, Georgina Duarte, Andrés Navarrete, Robert Bye, Edelmira Linares, and Rachel Mata*..... C309

Antibrowning and Antimicrobial Activities of the Water-Soluble Extract from Pine Needles of *Cedrus deodara*—*Wei-Cai Zeng, Li-Rong Jia, Yan Zhang, Jia-Qi Cen, Xi Chen, Hong Gao, Su Feng, and Yi-Na Huang*..... C318

Effect of Enzymes on Strawberry Volatiles during Storage, at Different Ripeness Level, in Different Cultivars, and during Eating—*G. Ozcan and S. Barringer*..... C324

Comparison of Lipid Content and Fatty Acid Composition and Their Distribution within Seeds of 5 Small Grain Species—*KeShun Liu* C334

Rheological and Biochemical Characterization of Salmon Myosin as Affected by Constant Heating Rate—*Zachary H. Reed and Jae W. Park*..... C343

Isolation and Characterization of Lecithin from Squid (*Todarodes pacificus*) Viscera Deoiled by Supercritical Carbon

Dioxide Extraction—*Md. Salim Uddin, Hideki Kishimura, and Byung-Soo Chun*..... C350

E: FOOD ENGINEERING AND PHYSICAL PROPERTIES

Multispectral Vision for Monitoring Peach Ripeness—*Ana Herrero-Langreo, Loredana Lunadei, Lourdes Lleó, Belén Diezma, and Margarita Ruiz-Altisent* E178

Vacuum Frying as a Route to Produce Novel Snacks with Desired Quality Attributes According to New Health Trends—*V. Dueik and P. Bouchon*..... E188

Effect of Drying Temperatures on Starch-Related Functional and Thermal Properties of Acorn Flours—*P.R. Correia and M.L. Beirão-da-Costa*..... E196

Technological Optimization of Manufacture of Probiotic Whey Cheese Matrices—*Ana R. Madureira, Teresa Brandão, Ana M. Gomes, Manuela E. Pintado, and F. Xavier Malcata*..... E203

Image Analysis of Microstructural Changes in Almond Cotyledon as a Result of Processing—*Aylin Altan, Kathryn L. McCarthy, Rohan Tikekar, Michael J. McCarthy, and N. Nitin*..... E212

Evaluation of Microstructural Properties of Coffee Beans by Synchrotron X-Ray Microtomography: A Methodological Approach—*Paola Pittia, Giampiero Sacchetti, Lucia Mancini, Marco Voltolini, Nicola Sodini, Giuliana Tromba, and Franco Zanini*..... E222

Inactivation Kinetics of *Vibrio vulnificus* in Phosphate-Buffered Saline at Different Freezing and Storage Temperatures and Times—*Diana M. Seminario, Murat O. Balaban, and Gary Rodrick* E232

M: FOOD MICROBIOLOGY AND SAFETY

Bactericidal Action of Binary and Ternary Mixtures of Carvacrol, Thymol, and Eugenol against *Listeria innocua*—*Rebeca García-García, Aurelio López-Malo, and Enrique Palou*..... M95

Antibacterial Activities of Blueberry and Muscadine Phenolic Extracts—*Yoen Ju Park, Ronita Biswas, Robert Dixon Phillips, and Jinru Chen*..... M101

Quality of Mango Nectar Processed by High-Pressure Homogenization with Optimized Heat Treatment—*Alline Artigiani Lima Tribst, Mark Alexandrow Franchi, Pilar Rodriguez de Massaquer, and Marcelo Cristianini* M106

Kinetics and Mechanism of Bacterial Inactivation by Ultrasound Waves and Sonoprotective Effect of Milk Components—*N. Gera and S. Doores* M111

Preparation of a *Lactobacillus Plantarum* Starter Culture for Cucumber Fermentations That Can Meet Kosher Guidelines—I.M. Pérez-Díaz and R.F. McFeeters M120

Improved Sauerkraut Production with Probiotic Strain *Lactobacillus plantarum* L4 and *Leuconostoc mesenteroides* LMG 7954—Jasna Beganović, Andreja Leboš Pavunc, Krešimir Gjurajić, Marina Špoljarec, Jagoda Šušković, and Blaženka Kos M124

Characterization of a Wild Strain of *Alicyclobacillus acidoterrestris*: Heat Resistance and Implications for Tomato Juice—Antonio Bevilacqua and Maria R. Corbo M130

Discrimination of *Alicyclobacillus* Strains Using Nitrocellulose Membrane Filter and Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy—Jun Wang, Tianli Yue, Yahong Yuan, Xiaonan Lu, Joong-Han Shin, and Barbara Rasco M137

Biofilms of *Listeria monocytogenes* Produced at 12°C either in Pure Culture or in Co-Culture with *Pseudomonas aeruginosa* Showed Reduced Susceptibility to Sanitizers—António Lourenço, Henrique Machado, and Luisa Brito M143

Physical and Antibacterial Properties of Edible Films Formulated with Apple Skin Polyphenols—W.-X. Du, C.W. Olsen, R.J. Avena-Bustillos, M. Friedman, and T.H. McHugh M149

S: SENSORY AND FOOD QUALITY

Does Guinness Travel Well?—Daniel Kotz, Liam G. Glynn, Christian D. Mallen, and Jochen W.L. Cals S121

Effect of Salicylic Acid Treatment on Postharvest Quality, Antioxidant Activities, and Free Polyamines of Asparagus—Yunxiao Wei, Zhenfeng Liu, Yujing Su, Donghong Liu, and Xingqian Ye S126

Effect of the Gamma Radiation Dose Rate on Psychrotrophic Bacteria, Thiobarbituric Acid Reactive Substances, and Sensory Characteristics of Mechanically Deboned Chicken Meat—Poliana P. Brito, Heliana Azevedo, Kátia M. V. A. B. Cipolli, Henrique T. Fukuma, Gerson B. Mourão, Cláudio V. Roque, Norma T. Miya, and José L. Pereira S133

Effects of Salting Processes and Time on the Chemical Composition, Textural Properties, and Microstructure of Cooked Duck Egg—Thammarat Kaewmanee, Soottawat Benjakul, and Wonnop Visessanguan S139

Role of steaming and Toasting on the Odor, Protein Characteristics of Chickpea (*Cicer arietinum* L.) Flour, and Product Quality—R. Ravi, C.M. Ajila, and U.J.S. Prasada Rao S148

Effect of Rapid Thawing on the Meat Quality Attributes of USDA Select Beef Strip Loin Steaks—Janet S. Eastridge and Brian C. Bowker S156

N: NANOSCALE FOOD SCIENCE, ENGINEERING, AND TECHNOLOGY

Poly (DL-lactide-co-glycolide) (PLGA) Nanoparticles with Entrapped *trans*-Cinnamaldehyde and Eugenol for Antimicrobial Delivery Applications—Carmen Gomes, Rosana G. Moreira, and Elena Castell-Perez N16

Highly Stable, Edible Cellulose Films Incorporating Chitosan Nanoparticles—Márcia R. de Moura, Marcos V. Lorevice, Luiz H.C. Mattoso, and Valtencir Zucolotto N25

H: HEALTH, NUTRITION, AND FOOD

Behavior of Flavonols and Carotenoids of Minimally Processed Kale Leaves during Storage in Passive Modified Atmosphere Packaging—C.N. Kobori, L.S. Huber, C.I.G.L. Sarantópoulos, and D.B. Rodríguez-Amaya H31

Bioavailability of Iron and Zinc from Multiple Micronutrient Fortified Beverage Premixes in Caco-2 Cell Model—Raghu Pullakhandam, K. Madhavan Nair, Himabindu Pamini, and Ravinder Punjal H38

Documentation of Fatty Acid Profiles in Lamb Meat and Lamb-Based Infant Foods—Anna Nudda, Michelle K. McGuire, Gianni Battacone, Maria G. Manca, Roberta Boe, and Giuseppe Pulina H43

Verbascosides from Olive Mill Waste Water: Assessment of Their Bioaccessibility and Intestinal Uptake Using an *In Vitro* Digestion/Caco-2 Model System—Angela Cardinali, Vito Linsalata, Vincenzo Lattanzio, and Mario G. Ferruzzi H48

Modulation of Th1/Th2 Balance by *Lactobacillus* Strains Isolated from Kimchi via Stimulation of Macrophage Cell Line J774A.1 *In Vitro*—Tae Joon Won, Bongjoon Kim, Dong Sup Song, Young Tae Lim, Eun Seul Oh, Do Ik Lee, Eon Sub Park, Hyeyoung Min, So-Young Park, and Kivang Woo Hwang H55

Ascorbic Acid Degradation in a Model Apple Juice System and in Apple Juice during Ultraviolet Processing and Storage—Rohan V. Tikekar, Ramaswamy C. Anantheswaran, and Luke F. LaBorde H62

Accumulation of Stimulants of Toll-Like Receptor (TLR)-2 and TLR4 in Meat Products Stored at 5 °C—Clett Erridge H72

T: TOXICOLOGY AND CHEMICAL FOOD SAFETY

Fermented Nondigestible Fraction from Common Bean (*Phaseolus vulgaris* L.) Cultivar Negro 8025 Modulates HT-29 Cell Behavior—R.K. Cruz-Bravo, R. Guevara-Gonzalez, M. Ramos-Gomez, T. Garcia-Gasca, R. Campos-Vega, B.D. Oomah, and G. Loarca-Piña T41

Effect of Microwave Heating during Alkaline-Cooking of Aflatoxin Contaminated Maize—G.C. Pérez-Flores, E. Moreno-Martínez, and A. Méndez-Albores	T48	Ammonia Gas Permeability of Meat Packaging Materials—Faris Karim, Faraj Hijaz, Curtis L. Kastner, and J. Scott Smith	T59
Genotoxicity Evaluation of <i>Moringa oleifera</i> Seed Extract and Lectin—Lucíola A.D.M.M. Rolim, Márcia F.S. Macêdo, Herbert Ary Sisenando, Thiago H. Napoleão, Israel Felzenszwalb, Claudia A. F. Aiub, Luana C.B.B. Coelho, Silvia R.B. Medeiros, and Patrícia M.G. Paiva	T53	Rutin Inhibits Oleic Acid Induced Lipid Accumulation via Reducing Lipogenesis and Oxidative Stress in Hepatocarcinoma Cells—Cheng-Hsun Wu, Ming-Cheng Lin, Hsueh-Chun Wang, Mon-Yuan Yang, Ming-Jia Jou, and Chau-Jong Wang	T65