

A Publication of the Institute of Food Technologists

October 2010 | Vol. 75 Nr. 8 | CODEN: JFDSAZ 75:R163-T147 | ISSN: 0022-1147

## Table of Contents

JFS Masthead .....	iv	i Identification of Candidate Amino Acids Involved in the Formation of Pink-Red Pigments in Onion ( <i>Allium cepa L.</i> ) Juice and Separation by HPLC—Eun Jin Lee, Kil Sun Yoo, and Bhimanagouda S. Patil .....
Industrial Application Briefs .....	v	
Editorial .....	vii	C684

## R: CONCISE REVIEWS/HYPOTHESES IN FOOD SCIENCE

Properties of Bread Dough with Added Fiber Polysaccharides and Phenolic Antioxidants: A Review—Anusuya S. Sivam, Dongxiao Sun-Waterhouse, Siew Young Quek, and Conrad O. Perera .....	R163
---	------

Antioxidant Enrichment and Antimicrobial Protection of Fresh-Cut Fruits Using Their Own Byproducts: Looking for Integral Exploitation—J.F. Ayala-Zavala, C. Rosas-Domínguez, V. Vega-Vega, and G.A. González-Aguilar .....	R175
--	------

## C: FOOD CHEMISTRY

Effects of Heating Temperatures and Addition of Reconstituted Milk on the Heat Indicators in Milk—X.Y. Lan, J.Q. Wang, D.P. Bu, J.S. Shen, N. Zheng, and P. Sun .....	C653
---	------

Effects of Riboflavin Photosensitization on Daidzein and Its Photosensitized Derivatives—ChanUk Park, JuDong Yeo, MinHee Park, Jin-Byung Park, and Jaehwan Lee .....	C659
--	------

Bioactivities of Kernel Extracts of 18 Strains of Maize ( <i>Zea mays</i> )—Chen-Hsien Lee, Hugo S. Garcia, and Kirk L. Parkin .....	C667
--	------

Glucosinolates in Broccoli Sprouts ( <i>Brassica oleracea</i> var. <i>italica</i> ) as Conditioned by Sulphate Supply during Germination—Santiago Pérez-Balibrea, Diego A. Moreno, and Cristina García-Viguera .....	C673
--	------

Effect of Antibrowning Agents on Browning and Intermediate Formation in the Glucose—Glutamic Acid Model—Seong-II Lim, Eun-Jung Kwak, Ok-Hwan Lee, and Boo-Yong Lee .....	C678
--	------

i Identification of Candidate Amino Acids Involved in the Formation of Pink-Red Pigments in Onion ( <i>Allium cepa L.</i> ) Juice and Separation by HPLC—Eun Jin Lee, Kil Sun Yoo, and Bhimanagouda S. Patil .....	C684
--	------

Extraction and Normal-Phase HPLC-Fluorescence-Electrospray MS Characterization and Quantification of Procyanidins in Cranberry Extracts—Taylor C. Wallace and M. Monica Giusti .....	C690
--	------

## E: FOOD ENGINEERING AND PHYSICAL PROPERTIES

Physical Performance of Biodegradable Films Intended for Antimicrobial Food Packaging—Begonya Marcos, Teresa Aymerich, Josep M. Monfort, and Margarita Garriga.....	E502
---	------

Magnetic Resonance Imaging (MRI) and Relaxation Spectrum Analysis as Methods to Investigate Swelling in Whey Protein Gels—Mecit H. Oztop, Moshe Rosenberg, Yael Rosenberg, Kathryn L. McCarthy, and Michael J. McCarthy .....	E508
---	------

Determination of a Representative Volume Element Based on the Variability of Mechanical Properties with Sample Size in Bread—Cristian Ramírez, Ashley Young, Bryony James, and José M. Aguilera .....	E516
---	------

Minimal Effects of High-Pressure Treatment on <i>Salmonella enterica</i> Serovar Typhimurium Inoculated into Peanut Butter and Peanut Products—Elizabeth M. Grasso, Jeremy A. Somerville, V.M. Balasubramaniam, and Ken Lee .....	E522
---	------

Process Control of Lightly Salted Wild and Farmed Atlantic Cod ( <i>Gadus morhua</i> ) by Brine Injection, Brining, and Freezing—A Low Field NMR Study—Maria Guðjónsdóttir, Valur N. Gunnlaugsson, Guðrún A. Finnbogadóttir, Kolbrún Sveinsdóttir, Hannes Magnusson, Sigrún Ólafsson, and Turid Rustad .....	E527
--	------

**On the cover:** SEM micrograph of cross-section of biodegradable zein film at 250X magnification, from "Physical Performance of Biodegradable Films Intended for Antimicrobial Food Packaging" by Begonya Marcos, Teresa Aymerich, Josep M. Monfort, and Margarita Garriga; p E504.

Table of Contents continued on next page

Effect of Powder and Target Properties on Wrap Around Effect during Coating— <i>Nutsuda Sumonsiri and Sherly A. Barringer</i> ..... E537	Effect of Antifungal Hydroxypropyl Methylcellulose-Lipid Edible Composite Coatings on Penicillium Decay Development and Postharvest Quality of Cold-Stored "Ortanique" Mandarins— <i>Silvia A. Valencia-Chamorro, María B. Pérez-Gago, Miguel A. Del Rio, and Lluís Palou</i> ..... S418
The Effects of Presalting Methods from Injection to Pickling, on the Yields of Heavily Salted Cod ( <i>Gadus morhua</i> )— <i>Kristin Anna Thorarinsdottir, Sigurður Arason, Guðjón Thorkelsson, Sjófn Sigurðsláðóttir, and Eva Tórnberg</i> .. E544	Impacts of Glutathione Maillard Reaction Products on Sensory Characteristics and Consumer Acceptability of Beef Soup— <i>J.H. Hong, D.W. Jung, Y.S. Kim, S.M. Lee, and K.O. Kim</i> .. S427
Prediction of the Weight of Alaskan Pollock Using Image Analysis— <i>Murat O. Balaban, Melanie Chombeau, Dilsat Cahan, and Bahar Güntürk</i> ..... E552	Acids in Combination with Sodium Dodecyl Sulfate Caused Quality Deterioration of Fresh-Cut Iceberg Lettuce during Storage in Modified Atmosphere Package— <i>Wenqiang Guan, Lihua Huang, and Xuetong Fan</i> ..... S435
Effect of Active Packaging Incorporated with Triclosan on Bacteria Adhesion— <i>Geany P. Camilloto, Ana Clarissa S. Pires, Nilda de Fátima F. Soares, Emiliane A. Araújo, Nélia J. Andrade, and Sukarno O. Ferreira</i> ..... E557	Odor Active Compounds Content in Spices and Their Microencapsulated Powders Measured by SPME— <i>Elżbieta Wojtowicz, Renata Zawirska-Wojtasik, Janusz Adamiec, Enwir Wasowicz, Krzysztof Przygórski, and Marian Remiszewski</i> ..... S441
Rheological Properties of Gelatin from Silver Carp Skin Compared to Commercially Available Gelatins from Different Sources— <i>G. Boran, S.J. Midhuney, and J.M. Regenstein</i> ..... E565	Carotenoid Composition and Vitamin A Value in Aji ( <i>Capsicum baccatum</i> L.) and Rocoto ( <i>C. pubescens</i> R. & P.) 2 Pepper Species from the Andean Region— <i>Adrián Rodríguez-Burneo, María del Carmen González-Mas, and Fernando Nuez</i> ..... S446
<b>M: FOOD MICROBIOLOGY AND SAFETY</b>	
Isolation and Characterization of Barosensitive Mutants of <i>Saccharomyces cerevisiae</i> Obtained by UV Mutagenesis— <i>Toru Shigenatsu, Yusuke Nasuhara, Gen Nagai, Kazuki Nomura, Kenta Ikarashi, Masao Hirayama, Mayumi Hayashi, Shigeaki Ueno, and Tomoyuki Fujii</i> ..... M509	N: NANOSCALE FOOD SCIENCE, ENGINEERING, AND TECHNOLOGY
Temperature and Bacterial Profile of Post Chill Poultry Carcasses Stored in Processing Combo Held at Room Temperature— <i>John A. Handley, Irene Hanning, Steven C. Rieke, Michael G. Johnson, Frank T. Jones, and Robert O. Apple</i> .... M515	Thermal and Rheological Properties of L-Polylactide/Polyethylene Glycol/Silicate Nanocomposites Films— <i>Jasim Ahmed, Sunil K. Varsney, Rafael Auras, and Sung W. Hwang</i> ..... N97
Use of <i>Tif</i> Gene-Based Primers for the PCR Detection of Probiotic <i>Bifidobacterium</i> Species and Enumeration of Bifidobacteria in Fermented Milk by Cultural and Quantitative Real-Time PCR Methods— <i>Sen-Je Sheu, Wen-Zhe Huang, Yu-Cheng Chiang, Wen-Hsin Lin, Hsin-Chih Chen, and Hau-Yang Tsien</i> ..... M521	<b>H: HEALTH, NUTRITION, AND FOOD</b>
Preservation of Chicken Breast Meat Treated with Thyme and Balm Essential Oils— <i>Florinda Fratianni, Laura De Martino, Antonio Melone, Vincenzo De Feo, Raffaele Coppola, and Filomena Nazzaro</i> ..... M528	Glycemic Responses to Sweetened Dried and Raw Cranberries in Humans with Type 2 Diabetes— <i>Ted Wilson, Justin L. Liebler, Erin F. Moncomb, Emily J. Carell, Megan C. Leverenz, Lisa Kobs, Travis P. Schmidt, Paul J. Limburg, Nicholi Vorsa, and Ajay P. Singh</i> ..... H218
Characterization of Lactic Acid Bacteria Isolated from Italian Bella di Cerignola Table Olives: Selection of Potential Multifunctional Starter Cultures— <i>Antonio Bevilacqua, Clelia Altieri, Maria Rosaria Corbo, Milena Sinigaglia, and Labia Irène Ivette Ouoba</i> ..... M536	Modified Apple Polysaccharides Could Induce Apoptosis in Colorectal Cancer Cells— <i>Yuhua Li, Yinbo Niu, Huanjie Wu, Yang Sun, Qian Li, Xianghe Kong, Li Liu, and Qibing Mei</i> .. H224
<b>S: SENSORY AND FOOD QUALITY</b>	
Headspace Volatiles along with Other Instrumental and Sensory Analyses as Indices of Maturation of Horse Mackerel Miso— <i>Anupam Giri, Akira Okamoto, Emiko Okazaki, and Toshiaki Ohshima</i> ..... S406	The Protective Effects of Long-Term Oral Administration of Marine Collagen Hydrolysates from Chum Salmon on Collagen Matrix Homeostasis in the Chronological Aged Skin of Sprague-Dawley Male Rats— <i>Jiang Liang, Xinrong Pei, Zhaofeng Zhang, Nan Wang, Junbo Wang, and Yong Li</i> ..... H230
Activity-Guided Isolation and Identification of Radical Scavenging Components in Gao-Cha Tea— <i>Rui-Li Lu, Feng-Lin Hu, and Tao Xia</i> ..... H239	
The Antiallergic Effect of Kefir Lactobacilli— <i>Wei-Sheng Hong, Yen-Po Chen, and Ming-Ju Chen</i> ..... H244	

Natural Flavone Kaempferol Suppresses Chemokines Expression in Human Monocyte THP-1 Cells through MAPK Pathways—*Ching-Hua Huang, Ren-Long Jan, Chang-Hung Kuo, Yu-Te Chu, Wei-Li Wang, Min-Sheng Lee, Huan-Nan Chen, and Chih-Hsing Hung*.....H254

Dietary Ligands as Determinants of Iron–Zinc Interactions at the Absorptive Enterocyte—*Vasuprada Iyengar, Raghu Pullakhandam, and K. Madhavan Nair*.....H260

Immunizing Effects of Cocultures of H22 Hepatocarcinoma Cells and Cartilage Polysaccharide on Murine H22

Hepatocarcinoma—*Xue Han, An-Jun Liu, Xi-Hua Zhao, Yan-Dong Li, Guo-Qiang Zheng, and Guo-Rong Zhang*.....H265

## T: TOXICOLOGY AND CHEMICAL FOOD SAFETY

Detection of Target Staphylococcal Enterotoxin B Antigen in Orange Juice and Popular Carbonated Beverages Using Antibody-Dependent Antigen-Capture Assays—

*MaryAnn Principato, Joyce M. Njoroge, Andrei Perlloni, Michael O'Donnell, Thomas Boyle, and Robert L. Jones, Jr.*....T141

### NOTICE: Page Charges for Publication of Research Papers

There are no page charges for **IFT members**; for **non-IFT-members**, a charge of \$85 per printed page for the first 4 pages (\$120 for each additional page) applies to all manuscripts on original research. Color figures can be included in the print version for a fee of \$500 per figure, or online only for free. When payment is possible only from an author's personal funds, and this means of payment would impose undue financial hardship, a request for **partial or full waiver** of page charges can be made, provided this is done **prior to publication**. In this instance, a **statement certifying** that the author's employer(s) is unable to pay because of financial distress, and that the author cannot personally pay because this would impose an undue financial burden, signed by both the author and the employer, should be sent—**prior to publication**—to: JFS Managing Editor, Institute of Food Technologists, 525 W. Van Buren St., Suite 1000, Chicago, IL 60607, USA (E-mail: akferguson@ift.org).

**Submission** of papers must be made electronically through Scholar One Manuscripts on the Web at: <http://mc.manuscriptcentral.com/jfs>. Submission of manuscripts in paper form is no longer permitted.

**Concise Reviews** and **Hypothesis Papers** are exempt from page charges, provided the Scientific Editor (Daryl B. Lund, [dlund@cals.wisc.edu](mailto:dlund@cals.wisc.edu)) is consulted and issues an invitation in advance of submission.