

# CONTENTS

## Reviews

- 1** Fermentation, a feasible strategy for enhancing bioactivity of herbal medicines  
A. HUSSAIN, S. BOSE, J.-H. WANG, M.K. YADAV, G.B. MAHAJAN, H. KIM (Republic of Korea, People's Republic of China, India)
- 114** An overview on the role of lipids and fatty acids in barley grain and their products during beer brewing  
D. COZZOLINO, S. DEGNER (Australia)
- 157** Influence of shear on fat crystallization  
T. TRAN, D. ROUSSEAU (Canada)

## Research Articles

- 17** Encapsulation of flaxseed oil within native and modified lentil protein-based microcapsules  
N.A. AVRAMENKO, C. CHANG, N.H. LOW, M.T. NICKERSON (Canada)
- 25** Susceptibility of *Aspergillus* spp. to acetic and sorbic acids based on pH and effect of sub-inhibitory doses of sorbic acid on ochratoxin A production  
M.D.J. ALCANO, R.C. JAHN, C.D. SCHERER, É.F. WIGMANN, V.M. MORAES, M.V. GARCIA, C.A. MALLMANN, M.V. COPETTI (Brazil)
- 31** The effect of pH on the gelling behaviour of canola and soy protein isolates  
J.H.J. KIM, N.V. VARANKOVICH, M.T. NICKERSON (Canada)
- 39** Mechanistic insight into common bean pectic polysaccharide changes during storage, soaking and thermal treatment in relation to the hard-to-cook defect  
D.M. NJOROGÉ, P.K. KINYANJUI, C.M. CHIGWEDERE, S. CHRISTIAENS, A.O. MAKOKHA, D.N. SILA, M.E. HENDRICKX (Kenya, Belgium)
- 50** Effect of nonthermal plasma on physico-chemical, amino acid composition, pasting and protein characteristics of short and long grain rice flour  
P. PAL, P. KAUR, N. SINGH, A. KAUR, N.N. MISRA, B.K. TIWARI, P.J. CULLEN, A.S. VIRDI (India, Ireland, Australia)
- 58** Effect of acetic acid treatment on isoflavones and carbohydrates in pickled soybean  
S.-H. KIM, Y.-S. YANG, I.-M. CHUNG (Republic of Korea)
- 66** Microbial cells as colloidal particles: Pickering oil-in-water emulsions stabilized by bacteria and yeast  
H. FIROOZMAND, D. ROUSSEAU (Canada)
- 74** Enhancing the bioaccessibility of hydrophobic bioactive agents using mixed colloidal dispersions: Curcumin-loaded zein nanoparticles plus digestible lipid nanoparticles  
L. ZOU, B. ZHENG, R. ZHANG, Z. ZHANG, W. LIU, C. LIU, H. XIAO, D.J. MCCLEMENTS (China, USA, Saudi Arabia)

- 83 Investigation of chocolate produced from four different Brazilian varieties of cocoa (*Theobroma cacao* L.) inoculated with *Saccharomyces cerevisiae*  
A.G.T. MENEZES, N.N. BATISTA, C.L. RAMOS, A.R.D.A.E. SILVA, P. EFRAIM, A.C.M. PINHEIRO, R.F. SCHWAN (Brazil)
- 91 Identification of bioactive peptides from a papain hydrolysate of bovine serum albumin and assessment of an antihypertensive effect in spontaneously hypertensive rats  
T. LAFARGA, R.E. ALUKO, D.K. RAI, P. O'CONNOR, M. HAYES (Ireland, Canada)
- 100 Mechanisms of volatile production from amino acid esters by irradiation  
X. FENG, E.J. LEE, K. NAM, C. JO, K. KO, D.U. AHN (United States, Republic of Korea)
- 108 Rapid (microwave) heating rate effects on texture, fat/water holding, and microstructure of cooked comminuted meat batters  
W. LIU, T.C. LANIER (United States)
- 122 By-products of pyro-bituminous shale as amendments in Brazilian vineyards: Influence on polyphenolic composition of Cabernet Sauvignon wines  
M.E. ALAÑÓN, R. SCHUMACHER, M.C. DÍAZ-MAROTO, I. HERMOSÍN-GUTIÉRREZ, J.C. BETTONI, J.P.P. GARDIN, M.S. PÉREZ-COELLO (United Kingdom, Spain, Brazil)
- 133 Kinetic study and modelling of the UV photo-degradation of thiabendazole  
R. IBARZ, A. GARVÍN, K. AGUILAR, A. IBARZ (Spain)
- 141 Tea extract render probiotic *Lactobacillus helveticus* more resistant to oxygen exposure through lipid modification mechanism  
H. GAUDREAU, C.P. CHAMPAGNE, G.E. REMONDETTO, P.A. ALVAREZ, A. GOMAA, M. SUBIRADE (Canada)
- 149 Oxidative stress in probiotic Petit Suisse: Is the jabuticaba skin extract a potential option?  
E.P.R. PEREIRA, J.A.F. FARIA, R.N. CAVALCANTI, R.K.A. GARCIA, R. SILVA, E.A. ESMERINO, L.P. CAPPATO, D.B. ARELLANO, R.S.L. RAICES, M.C. SILVA, M.C. PADILHA, M.A. MEIRELES, H.M.A. BOLINI, A.G. CRUZ (Brazil)
- 163 Water activity change at elevated temperatures and thermal resistance of *Salmonella* in all purpose wheat flour and peanut butter  
R.M. SYAMALADEVI, R.K. TADAPANENI, J. XU, R. VILLA-ROJAS, J. TANG, B. CARTER, S. SABLANI, B. MARKS (USA, Canada)
- 171 Polysaccharides from raw and cooked chayote modulate macrophage function  
V.C. CASTRO-ALVES, J.R.O. DO NASCIMENTO (Brazil)
- 180 Growth potential of *Listeria monocytogenes* in probiotic cottage cheese formulations with reduced sodium content  
A.L.T. JESUS, M.S. FERNANDES, B.A. KAMIMURA, L. PRADO-SILVA, R. SILVA, E.A. ESMERINO, A.G. CRUZ, A.S. SANT'ANA (Brazil)
- 188 Bioavailability of peptides from casein hydrolysate *in vitro*: Amino acid compositions of peptides affect the antioxidant efficacy and resistance to intestinal peptidases  
C. WANG, B. WANG, B. LI (China)
- 197 The ripening influence of two papaya cultivars on carotenoid biosynthesis and radical scavenging capacity  
G.F. MARTINS, J.P. FABI, A.Z. MERCADANTE, V.V. DE ROSSO (Brazil)
- 203 Identification of carbohydrate parameters in commercial unripe banana flour  
F.A. HOFFMANN SARDÁ, F.N.R. DE LIMA, N.T.T. LOPES, A.D.O. SANTOS, E.D.C. TOBARUELA, E.T.M. KATO, E.W. MENEZES (Brazil)