



20.
international research conference
proceedings

the peer-reviewed conference proceedings are indexed in



april 16-17, 2018 lisbon portugal
international scholarly and scientific research & innovation

Article	TABLE OF CONTENTS	Page
225	A Constrained Model Predictive Control Scheme for Simultaneous Control of Temperature and Hygrometry in Greenhouses <i>Ayoub Moufid, Najib Bennis, Soumia El Hani</i>	494 - 500
226	The Influence of Lactic Acid Bacteria Combinations on Wheat Bread Quality <i>Vita Lele, Vadims Bartkevics, Iveta Pugejeva, Paulina Zavistanaviciute, Daiva Zadeike, Grazina Juodeikiene, Elena Bartkiene</i>	501 - 501
227	Development of Antimicrobial Properties Nutraceuticals: Gummy Candies with Addition of Bovine Colostrum, Essential Oils and Probiotics <i>E. Bartkiene, M. Ruzauskas, V. Lele, P. Zavistanaviciute, J. Bernatoniene, V. Jakstas, L. Ivanauskas, D. Zadeike, D. Klupsaitė, P. Viskelis, J. Bendoraitiene, V. Navikaite-Snipaitiene, G. Juodeikiene</i>	502 - 502
228	Examinations of Sustainable Protection Possibilities against Granary Weevil (<i>Sitophilus granarius</i> L.) on Stored Products <i>F. Pal-Fam, R. Hoffmann, S. Keszthelyi</i>	503 - 503
229	Nanoparticle Emission Characteristics during Methane Pyrolysis in a Laminar Premixed Flame <i>Mohammad Javad Afroughi, Farjad Fatahatai, Larry W. Kostuk, Jason S. Olfert</i>	504 - 504
230	The Underestimate of the Annual Maximum Rainfall Depths Due to Coarse Time Resolution Data <i>Renato Morbidelli, Carla Saltalippi, Alessia Flammini, Tommaso Picciafuoco, Corrado Corradini</i>	505 - 505
231	Water Economy Balance: As a Basis of Water Management System <i>Vakhtang Geladze, Nana Bolashvili, Tamazi Karalashvili, Nino Machavariani, Ana Karalashvili, George Geladze</i>	506 - 509
232	Carbonaceous Monolithic Multi-Channel Denuders as a Gas-Particle Partitioning Tool for the Occupational Sampling of Aerosols from Semi-Volatile Organic Compounds <i>Vesta Kohlmeier, George C. Dragan, Juergen Orasche, Juergen Schmelke-Kreis, Dietmar Breuer, Ralf Zimmermann</i>	510 - 510
233	Sampling and Chemical Characterization of Particulate Matter in a Platinum Mine <i>Juergen Orasche, Vesta Kohlmeier, George C. Dragan, Gert Jakobi, Patricia Forbes, Ralf Zimmermann</i>	511 - 511
234	Homogeneity and Trend Analyses of Temperature Indices: The Case Study of Umbria Region (Italy) in the Mediterranean Area <i>R. Morbidelli, C. Saltalippi, A. Flammini, A. Garcia-Marin, J. L. Ayuso-Munoz</i>	512 - 512
235	Association between Noise Levels, Particulate Matter Concentrations and Traffic Intensities in a Near-Highway Urban Area <i>Mohammad Javad Afroughi, Vahid Hosseini, Jason S. Olfert</i>	513 - 513
236	Aerobic Training Combined with Nutritional Guidance as an Effective Strategy for Improving Aerobic Fitness and Reducing BMI in Inactive Adults <i>Leif Inge Tjelta, Gerd Lise Nordbotten, Cathrine Nyhus Hagum, Merete Hagen Helland</i>	514 - 514
237	The Effect of Different Strength Training Methods on Muscle Strength, Body Composition and Factors Affecting Endurance Performance <i>Shaher A. I. Shalfawi, Fredrik Hviding, Bjornar Kjellstadli</i>	515 - 515
238	The Effect of Hypertrophy Strength Training Using Traditional Set vs. Cluster Set on Maximum Strength and Sprinting Speed <i>Bjornar Kjellstadli, Shaher A. I. Shalfawi</i>	516 - 516
239	The Strategy for Detection of Catecholamines in Body Fluids: Optical Sensor <i>Joanna Cabaj, Sylwia Baluta, Karol Malecha, Kamila Drzozga</i>	517 - 517
240	Comparison of Plantar Pressure Distribution between Hallux Valgus and Normal Feet Using Foot Pressure Platform <i>Raed Eid Alzahrani, Tracey Wilkinson, Fraser Harrold, Rami J. Abboud</i>	518 - 518
241	Magnetophotonics 3D MEMS/NEMS System for Quantitative Mitochondrial DNA Defect Profiling <i>Dar-Bin Shieh, Gwo-Bin Lee, Chen-Ming Chang, Chen Sheng Yeh, Chih-Chia Huang, Tsung-Ju Li</i>	519 - 519
242	Assessing the Antimicrobial Activity of Chitosan Nanoparticles by Fluorescence-Labeling <i>Laidson P. Gomes, Cristina T. Andrade, Eduardo M. Del Aguila, Cameron Alexander, Vania M. F. Paschoalin</i>	520 - 525
243	Preparation of Pegylated Interferon Alpha-2b with High Antiviral Activity Using Linear 20 KDa Polyethylene Glycol Derivative <i>Ehab El-Dabaa, Omnia Ali, Mohamed Abd El-Hady, Ahmed Osman</i>	526 - 526
244	Providing Support for Minority LGBTQ Students: Developing a Queer Studies Course <i>Karen Butler</i>	527 - 527

- [17] Math Works Inc. Optimization Toolbox User's Guide. The MathWorks Inc., Natick, MA 01760-2098, www.mathworks.com., 1990.
- [18] Mohammadi, Houshyar AsadL, Shady Mohamed, Kyle Nelson, Saeid Nahavandi Optimizing Model Predictive Control horizons using Genetic Algorithm for Motion Cueing Algorithm, Arash, Expert Systems With Applications 92, pp 73-81, 2018.

The Influence of Lactic Acid Bacteria Combinations on Wheat Bread Quality

V. Lele, V. Bartkevics, I. Pugajeva, P. Zavistanaviciute, D. Zadeike, G. Juodeikiene, E. Bartkiene

Abstract—Different combinations of appropriate technological properties showing lactic acid bacteria (*Pediococcus pentosaceus* VLGL183 and *Enterococcus pseudoavium* VLGL 234, *Lactobacillus plantarum* VLGL135 and *Pediococcus pentosaceus* VLGL183, *Pediococcus pentosaceus* VLGL183 and *Lactobacillus brevis* VLGL173, *Pediococcus pentosaceus* VLGL183 and *Leuconostoc mesenteroides* VLGL242, *Pediococcus pentosaceus* VLGL183 and *Lactobacillus curvatus* VLGL51, *Lactobacillus plantarum* VLGL135 and *Lactobacillus curvatus* VLGL51) for wheat sourdough production were used, and the influence of different sourdoughs on wheat bread quality parameters was evaluated. The highest overall acceptability (135.8 mm in 140 mm hedonic scale) of the bread produced with *L. plantarum* VLGL135 and *P. pentosaceus* VLGL183 sourdough was established. Also, bread produced with above mention sourdough, have the highest specific volume, shape coefficient, moisture content, and porosity, 3.40 ml /g; 2.59, 33.7 %, and 76.6 %, respectively. It was found, that the used sourdoughs reduces acrylamide content in bread (from 29.5 to 67.2%), just, the isolated lactic acid bacteria strains could be recommended for higher quality and safer bread production.

Keywords—Lactic acid bacteria, sourdough, wheat bread, quality, acrylamide.

V. L. is with the Lithuanian University of Health Sciences, Tilzes str. 18, LT-47181, Kaunas, Lithuania (phone: +370-662-52136; e-mail: vita.lele@ismuni.lt).

P. Z. is with the Lithuanian University of Health Sciences, Tilzes str. 18, LT-47181, Kaunas, Lithuania (e-mail: paulina.zavistanaviciute@ismuni.lt).

V. B. is with University of Latvia, Jelgavas iela 1, LV-1004, Riga, Latvia. Author also is with Inst. of Food Safety, Animal Health and Environment "BIOR", Lejupes iela 3, Riga, Latvia (e-mail: Vadims.Bartkevics@lu.lv).

I. P. is with University of Latvia, Jelgavas iela 1, LV-1004, Riga, Latvia. Author also is with Inst. of Food Safety, Animal Health and Environment "BIOR", Lejupes iela 3, Riga, Latvia (e-mail: iveta.pugajeva@lu.lv).

D. Z. is with Kaunas University of Technology, Radvilenu str. 19, LT-50254, Kaunas, Lithuania. (e-mail: daiva.zadeike@ktu.lt).

G. J. is with Kaunas University of Technology, Radvilenu str. 19, LT-50254, Kaunas, Lithuania. (e-mail: grazina.juodeikiene@ktu.lt).

E. B. is with the Lithuanian University of Health Sciences, Tilzes str. 18, LT-47181, Kaunas, Lithuania (phone: +370-662-52136; e-mail: elena.bartkiene@ismuni.lt).