2nd INTERNATIONAL CONFERENCE ON FOOD and BIOSYSTEMS ENGINEERING

Book of Abstracts

28-31 May 2015, Mykonos island, Greece

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Program

Saturday, 30/05/15	**Session Room "Pelagos" (ORAL)**	**09:00-13:30**

Chair: Ioannis A. Skoufos, Ibrahim Farag Tahoun

Time	Authors	Title	Paper Code
09:00-09:20	Prof. Ferruh Erdogdu*	Smiling face of modeling - Romancing with Computational Fluid Dynamics (CFD)	FaBE2015_125
09:20-09:40	Margit Olle*, Lea Narits	The effect of Silicon on the field peas quality	FaBE2015_043
09:40-10:00	Ursula Gonzales-Barron*, Ana Paula Pereira, Aline Gomes, Fátima Silva, Paula Rodrigues, Leticia Estevinho, Vasco Cadavez, Teresa Dias	Levels of hygiene and safety quality indicators along the processing stages of a Portuguese traditional dry-fermented sausage (Linguiça)	FaBE2015_107
10:00-10:20	Ibrahim F. Tahoun* and Adel B. Shehata	Rapid Method for Assessment of Olive Oil Adulteration with Some Vegetable Oils by Chromatographic Analysis of Fatty Acids Composition	FaBE2015_117
10:20-10:40	Vasco Cadavez*, Ursula Gonzales-Barron, Ana Paula Pereira, Aline Gomes, Fátima Silva, Paula Rodrigues, Leticia Estevinho, Teresa Dias	Microbial quality indicators and physicochemical properties of a Portuguese traditional dry-fermented sausage along processing	FaBE2015_122
10:40-11:00	E.P. Kalogianni	Rapid determination of frying oil quality	FaBE2015_186
11:00-11:30		**Coffee break**	
Chair: Juliana Aparecida Fracarolli, Keith Cowan			
11:30-11:50	Dimitra Houhoula*, Meropi Kouzilou, Konstantinos Tzogias, Vladimiros Lougovois and Konstantinos Sflomos	Gold Nanoparticles Sensor for the detection of adulteration of meat products contaminated with horse meat	FaBE2015_147
11:50-12:10	Melis Kalkan, Deniz Dilan Demirbağ, Ali Özhan Aytekin*	Whey Hydrolysates Prepared by Proteases Demonstrate Antiradical Activity	FaBE2015_051
12:10-12:30	Fang-Chih Chang, Ming-Jer Tsai, Lang-Dong Lin, Ya-Nang Wang, Chun-Han Ko*	Production of xylooligosaccharides from napier grass by membrane separation and xylanase hydrolysis	FaBE2015_154
12:30-12:50	Fatma Yesim Ekinci, Selen Gezen*	Culture-Dependent and -Independent Methods for Analysis of Human Gut Microbiota	FaBE2015_141
12:50-13:10	Vittorio Capozzi*, Salim Makhoul, Andrea Romano, Giuseppe Spano, Eugenio Aprea, Luca Cappellin, Tilmann D. Märk, Hanna El-Nakat, Jean Guzzo, Flavia Gasperi, Matteo Scampicchio, Franco Biasioli	PTR-ToF-MS and food bioprocesses: potential in monitoring VOCs release by starter cultures during food fermentation	FaBE2015_168
13:10 -13:00	T. Bartzanas, V. Anestis, Ch. Papaioannou*, C. Kittas	Assessment of environmental footprint of livestock facilities	FaBE2015_162
13:30-15:00		**Lunch break**	

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Levels of hygiene and safety quality indicators along the processing stages of a Portuguese traditional dry-fermented sausage (*Linguica*)

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Abstract

While Portuguese fermented sausages are highly appreciated, research has shown that their microbiological quality is inconsistent due to the high variability in the production process and insufficient hygiene quality. Linguica is a dry-fermented sausage, which has been found to harbour food-borne pathogens. Hence, the objective of this study was to investigate the changes in the levels of total viable counts (TVC), Enterobacteriaceae, L. monocytogenes and S. aureus at the key production stages of Linguica (raw meat, maceration, stuffing and smoking/drying). A microbiological survey followed a batch throughout production, extracting samples of raw meat (n=3), batter before maceration (n=3), batter after 3- or 4-day maceration (n=3) and sausages after curing/drying (n=5). Samples were taken from a total of three batches from each of the two factories under examination. Overall, TVC counts did not change considerably from raw meat to stuffing (5.5-5.9 log CFU/g, 95% CI: 5.15-5.82 log CFU/g), yet it increased significantly up to the end of drying (7.83 log CFU/g, 95% CI: 7.57- 8.09 log CFU/g)- seemingly, because of the multiplication of lactic acid bacteria (LAB). Unlike the Enterobacteriaceae counts, which decreased ($p<0.001$) from batter before maceration (3.23 log CFU/g, 95% CI: 2.80-3.66 log CFU/g) to the end of drying (1.56 log CFU, 95 percent CI: 1.23-1.90 log CFU/g), S. aureus increased significantly between these two processing stages (2.58 log CFU/g; 95% CI: 2.20-2.93 log CFU/g in the finished product). L. monocytogenes was detected in the products of one of the factories although their counts decreased after batter maceration. Because Linguica is a product that can be consumed without cooking, there is a need to further investigate the risk factors that determine their presence along processing. The presence of these two pathogens should also prompt industries to reinforce good hygiene practices in the processing of traditional sausages.

Keywords: safety quality indicators, Linguica, Portuguese traditional sausage

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