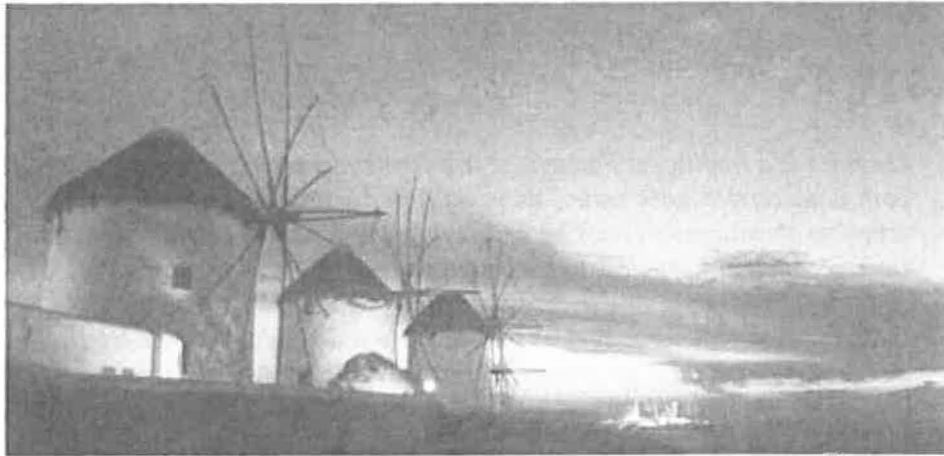


**2nd INTERNATIONAL CONFERENCE ON FOOD and
BIOSYSTEMS ENGINEERING**



Book of Abstracts

28-31 May 2015, Mykonos island, Greece

Supported by
Technological Educational Institute of Thessaly




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 Erdogan*	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, Vladimiro Lougois 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
13:10-13:30	T. Bartzanas, V. Anestis, Ch. Papaioannou*, C. Kittas	Assessment of environmental footprint of livestock facilities	FaBE2015_162
13:30-15:00	Lunch break		

Microbial quality indicators and physicochemical properties of a Portuguese traditional dry-fermented sausage along processing

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Abstract

Linguica is a traditional Portuguese dry-fermented sausage whereby chopped pork is macerated with water, wine, salt, garlic and pepper, and undergoes processes of maturation, smoking and drying. While they are highly appreciated, their production is subject to extensive process variability and quality. The objective of this study was to investigate the interrelationship between quality indicator microorganisms such as total viable counts (TVC), Enterobacteriaceae and S. aureus and the physicochemical characteristics of the batter/sausage along processing of Linguica. Microbiological surveys following a batch throughout production were completed for three batches in each of the two factories under study. In every batch, 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) were extracted. Counts of TVC, Enterobacteriaceae, S. aureus as well as pH and water activity (Aw) were determined in duplicate for each sample. A principal component analysis (PCA) of these variables was carried out using the R software 2.14.2. The two-component PCA solution explained 73% of the total variability. The fact that, within the first principal component (46%), S. aureus and TVC had both positive correlation coefficients while pH and Aw had both negative correlations, indicated that along processing (i.e., decrease in pH and Aw), there was a tendency for both indicators of hygiene to increase. It also showed that S. aureus had the capacity to develop in Linguiça despite the increasingly-adverse conditions of the food matrix. In relation to the second principal component (27%), Enterobacteriaceae counts and Aw had both positive correlations, suggesting that as Aw decreases along processing, the Enterobacteriaceae levels also tend to diminish. In the bi-dimensional projection of the principal components, for both factories, the finished products tend to present lower levels of Enterobacteriaceae and higher levels of S. aureus than the

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