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September 25 – Morning session

8:00 AM-8:30 AM – Late registration

8:30-9:00 – Welcome and Workshop presentation

Giovanna Ferrari

University of Salerno and ProdAL Scarl, Italy

Gustavo Barbosa-Canovas

Washington State University and IFT, USA

[↑ TOP](#)

Zhiqiang Hou, Y. Zhang, X. Qin, L. Zhao, Y. Wang, X. Liao

China Agricultural University, China

Novel approach towards the quantification of viable Shiga toxin-producing *Escherichia coli* in beef products

R. María de los Ángeles¹, M. Cap¹, Sergio Vaudagna^{1,2}, M. Mozgovej^{1,2}

¹*Instituto Nacional de Tecnología Agropecuaria – INTA, Argentina*

²*Consejo Nacional de Investigaciones Científicas y Técnicas – CONICET, Argentina*

Can non-thermal technologies enhance the performances of new thermal processes?

O. Casaburi, Francesco Marra

University of Salerno, Italy

Electron-beam irradiation preserves nutritional profile of *Agaricus bisporus* Portobello

R.V.C. Cardoso^{1,2}, Â. Fernandes¹, J.C.M. Barreira¹, Amilcar L. Antonio¹, P.M.P. Santos³, S. Cabo Verde³, A.M.G. Paramás², L. Barros¹, I.C.F.R. Ferreira¹

¹*Instituto Politécnico de Bragança, Portugal*

²*Universidad de Salamanca, Spain*

³*Universidade de Lisboa, Portugal*

Combined effect of irradiation and organic acid treatment on the inactivation of Shiga toxin-producing *Escherichia coli* inoculated on beef trimmings

↑ TOP

Electron-beam irradiation preserves nutritional profile of *Agaricus bisporus* Portobello

Rossana V. C. Cardoso^{1,2}, Ângela Fernandes¹, João C. M. Barreira¹, Amilcar L. Antonio¹, Pedro M. P. Santos³, Sandra Cabo Verde³, Ana M. G. Paramás², Lillian Barros¹, Isabel C.F.R. Ferreira^{1,*}

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³ Centro de Ciências e Tecnologias Nucleares (C2TN), Instituto Superior Técnico, Universidade de Lisboa, Bobadela, Portugal.

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Abstract: All over the world, mushrooms are highly consumed due to their high contents of digestible proteins, carbohydrates, vitamins and fibers. Mushrooms contain about 90% of water, which leads to a faster deterioration due to senescence, browning, water loss and microbial attack. Despite of the immense popularity of this food worldwide, data regarding alternative technologies to increase mushrooms shelf-life are scarce. Ionizing radiation processing is recognized as a safe and effective method for conservation, being widely used to extend the shelf-life of raw foods. The present work reports the effects of storage time (0, 4 and 8 days) and electron-beam irradiation on the nutritional composition (moisture, fat, proteins, ash, carbohydrates and energy) of *Agaricus bisporus* Portobello samples. The irradiation was performed with a 10 MeV energy irradiator at the doses of 1, 2 and 5 kGy. The proximate composition was evaluated by AOAC official procedures. Storage time (ST) and electron-beam (EB) irradiation showed a significant interaction in all cases (p -value > 0.05), indicating that the effects potentially exerted by ST depended on EB dose and vice-versa. Considering the individual effect of each factor, EB induced more changes than ST, which in fact had a significant effect only for protein and carbohydrates. Among different EB doses, despite the significant differences, it is evident that the nutritional profiles were not greatly changed with any applied dose. Therefore, up to 5 kGy, EB seems to be a suitable conservation treatment for *A. bisporus* Portobello.

Acknowledgements

Foundation for Science and Technology (FCT, Portugal) and FEDER under Programme PT2020 for financial support to CIMO (UID/AGR/00690/2013), C2TN (UID/Multi/04349/2013), grant to A. Fernandes (SFRH/BPD/114753/2016) and L. Barros contract; European Structural and Investment Funds (ESIF) (Regional Operational Program Norte 2020, Project ValorNatural[®]); Rural Development Program (Project MicoCoating, PDR2020-101-031472); International Atomic Energy Agency (IAEA) Coordinated Research Project D61024 DEXAFI.