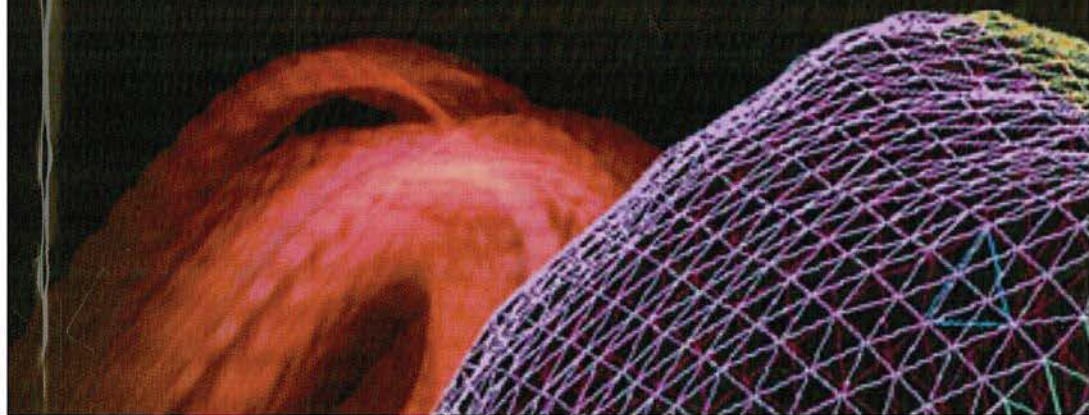


MULTIPHYSICS 2012

**13 - 14 December 2012
Lisbon, Portugal**



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MULTIPHYSICS 2012**PROGRAMME**

TIME	Thursday 13 December 2012	Friday 14 December 2012
09:30 - 11:00	Registration & Keynote Address	Session 2.1 <i>Micromechanics</i>
11:00 - 11:30	Coffee Break	
11:30 - 13:00	Session 1.2 <i>Aeroelasticity & Fluid Structure Interaction</i>	Session 2.2 <i>Electromagnetics & Wave Mechanics</i>
13:00 - 14:00	Lunch	
14:00 - 15:30	Session 1.3 <i>Impacts & Explosions</i>	Session 2.3 <i>Advanced Modelling Techniques</i>
15:30 - 16:00	Tea Break	
16:00 - 17:30	Session 1.4 <i>Heat Transfer & Thermodynamics</i>	Session 2.1 <i>Posters</i>
19:30	Conference Banquette	

EFFECTS OF GAMMA IRRADIATION ON PHYSICAL PARAMETERS OF LACTARIUS DELICIOSUS WILD EDIBLE MUSHROOM

Corresponding Author

Amilcar L. Antonio

amilcar@ipb.pt

Authors and Affiliations

Ângela Fernandes^{1,2}, Amilcar L. Antonio^{1,3}, M. Beatriz P.P. Oliveira², Anabela Martins¹, Isabel C.F.R. Ferreira¹. 1 CIMO/ESA, Instituto Politécnico de Bragança, Bragança. 2 REQUIMTE/ Departamento de Ciências Químicas, Faculdade de Farmácia, Porto. 3 IST/ITN Instituto Tecnológico e Nuclear, Sacavém.

Studies evaluating the effects of ionizing radiation in mushrooms are mostly available in cultivated species, being scarce reports on wild species, considered add-value foods. In the present work, the effects of gamma radiation dose (0, 0.5 and 1 kGy; at a dose rate of 2.3 kGy/h using a gamma camera with Co-60 sources) and storage time (0 to 8 days at 5 C) on the physical parameters (colour, cap diameter and weight) of the wild edible mushroom *Lactarius deliciosus* were evaluated. The results were submitted to an analysis of variance (ANOVA) with Type III sums of squares, performed using the GLM (General Linear Model) procedure of the SPSS software, and a hierarchical cluster analysis (HCA) was used as an unsupervised learning method.

It was observed a slight decrease in redness (a, Hunter s colour) with irradiation dose and a slight decrease in the cap diameter with storage time. Regarding the weight loss profiles along the 8 days of storage, the results were very similar for irradiated and non-irradiated samples. Despite the particular tendencies previously described, the results obtained for the assayed parameters seemed to indicate that neither irradiation nor cold storage, exerted significant influence. The interaction among the two factors (Irradiation dose Storage time) was only significant ($p < 0.05$) for L (lightness) parameter. The HCA indicated high similarity among the assayed samples; nevertheless, the well defined evolution that some Hunter s colour parameters showed with irradiation dose should not be neglected.

Overall, this study demonstrated that up to 1 kGy, gamma irradiation and cold storage did not affect significantly the assayed physical properties, and can be considered an alternative storage methodology for mushrooms in dose values considered.

Keywords: Gamma irradiation; Wild mushrooms; *Lactarius deliciosus*; Physical parameters