

## Alternative Strategy on Postharvest Diseases of Mango Control by Use of Low Dose of Ultraviolet-C Radiation.

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Brazil is an important producer and exporter of mango. The quiescent infection of fungi that cause decay has resulted in serious losses and has led growers to use fungicides in postharvest treatments, resulting in chemical contamination of the fruit. The demand for alternative control measures that are clean, safe and sustainable has increased in recent years and the use of UV-C radiation is a potential option. This study focused on evaluating UV-C dose effect on *in vitro* development of fungi species and on postharvest decay on mango cv. Tommy Atkins. The fungi causing decay evaluated were: *Botryosphaeria dothidea*, *Lasiodiplodia theobromae*, *Alternaria alternata* and *Colletotrichum gloeosporioides*. Fungus mycelium was exposed to increasing doses of UV-C radiation: 0 (control); 2,0; 3,0; 5,0; 10,0 and 20 kJ.m<sup>-2</sup>. Mangos artificially inoculated with *B. dothidea* were treated with doses of UV-C radiation: 0,0; 0,5; 1,0; 2,5; 5,0; 7,5 e 10,0 kJ.m<sup>-2</sup>. After treatments, the mangos were placed in storage at 10 °C for 15 days and 3 days at 22 °C, observing daily the rot symptoms to calculate decay control. The trials were conducted in a completely randomized design with 6 replicates for *in vitro* tests and 4 replicates with seven fruit as experimental unit. The *in vitro* trials showed that even high doses of UV-C (20 kJ.m<sup>-2</sup>) were not able to control the fungi development. Nonetheless, low doses of UV-C light around 2,5 kJ.m<sup>-2</sup> controlled around 70 % of fruit rot severity. Higher doses (> 5 kJ.m<sup>-2</sup>) caused damage on mango peel increasing the rot severity. Results suggest that the application of low dose (< 3 kJ.m<sup>-2</sup>) of UV-C light can contribute to the integrated management of postharvest diseases on mango, and that the control mechanisms involved are not directly on the fungi development.

**Keywords:** *Mangifera indica*; postharvest disease; integrated pest management.

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## POSTER ABSTRACTS

ORAL ABSTRACTS

Theme 1 - Food Safety and Legislation		
Nº	Title	Presenter
12	Aflatoxin Degradation by Aqueous Ozone in Different Matrices	Maria de Lourdes Souza
13	Alternative Strategy on Postharvest Diseases of Mango Control by Use of Low Doses of Ultraviolet-C Radiation	Daniel Terao
14	Antifungal Effects of Ozone Gas against Toxigenic Strain of Wheat	Maria Eduarda do Vale Pereira
15	Combined Nonthermal Treatments for Food Preservation: high hydrostatic pressure and essential oil nanoemulsions	Giovanna Ferrari
16	Conservation of Blackberry Pulp by Gamma Radiation	Lourdes Maria Cabral
17	Effect of Irradiation Setup and Modified Atmosphere Packaging on Radiation D10 Values for <i>Salmonella Typhimurium</i> LT2 and an <i>Escherichia coli</i> Cocktail in Pecan Nuts (Kanza cultivar)	M. Elena Castell-Perez
18	Effect of Pressure Level and Holding Time on the Survival of <i>Escherichia Coli</i> O157 Shiga Toxin-Producing and Indigenous Microbiota on Cured Beef Carpaccio	Sérgio Ramon Vaudagna
19	Effect of Pulsed Electric Fields (PEF) on the Inactivation of <i>Saccharomyces Cerevisiae</i> in Prickly Pear Puree	Rebeca García-García
20	Effects of High Hydrostatic Pressure on the Inactivation of Bacterial Metaloproteases Enzymes Associated To Milk Spoilage	Wilson Rodrigues Pinto Júnior
21	Efficacy of a Pulsed Electric Fields and Tangential-Flow Microfiltration Based Hurdle Technology for the Inactivation of Pathogenic <i>E. coli</i> , <i>Salmonella</i> , and <i>Listeria</i> in Skim Milk	Dipendra Khanal
22	Employment of Gamma Irradiation as a Patulin Decontamination Method	Marcelo Carneiro dos Santos
23	Evaluation of Aflatoxins Degradation Submitted to High Hydrostatic Pressure	Otniel Freitas-Silva
24	Evaluation of Aqueous Ziziphus joazeiro Extract Like a Sanitization Agent on Lettuce	Bárbara Aoki
25	Influence of Spectral Distribution on Bacterial Inactivation of Fresh-Cut Mushrooms Treated With Intense Light Pulses	Ana Ramos Villarroel



