

Title UV-C as a postharvest treatment of citrus fruit
Author Duarte A, Salazar M, Graca A, Mendes S, Manso T and Nunes C
Citation Program and Abstracts, 11th International Citrus Congress (ISC Congress), 26-20 October 2008, Wuhan, China. 333 pages.
Keywords orange; UV-C; green mould; blue mould

Abstract

Green and blue moulds, due to the pathogenic action of two species of *Penicillium*, are the main responsible of orange losses during the period of postharvest. Chemical fungicides are commonly used to control them. However, the continuous use of these chemicals in commercial packinghouses has led to increase the number of resistant strains of pathogens. Furthermore, there is a growing concern among consumers about the possible harmful effect on the environment of these molecules or their residual metabolites. Ultraviolet-C illumination (254 nm) could be used as an effective physical treatment to avoid *Penicillium* proliferation on citrus fruit. In this work UV-C illumination are propose as an alternative physical treatment to reduce citrus decay. The direct and indirect (elicitation) effects of UV-C in the pathogens were investigated. Fruits were subjected to different doses of UV-C illumination, before and after pathogen inoculation. Fruits were stored for 7 days at 20°C and 1 month at 5°C following 7days at 20°C simulating shelf-life period. After storage period the decay incidence of *Penicillium* was evaluated. Quality parameters as colour, weight, % juice were evaluated using destructive methods. The acidity and °Brix were evaluated using NIR non destructive technology, allowing to monitoring these parameters in the same fruits. Results will be discussed considering the direct and indirect responses in relation with the applied dose of UV-C.