



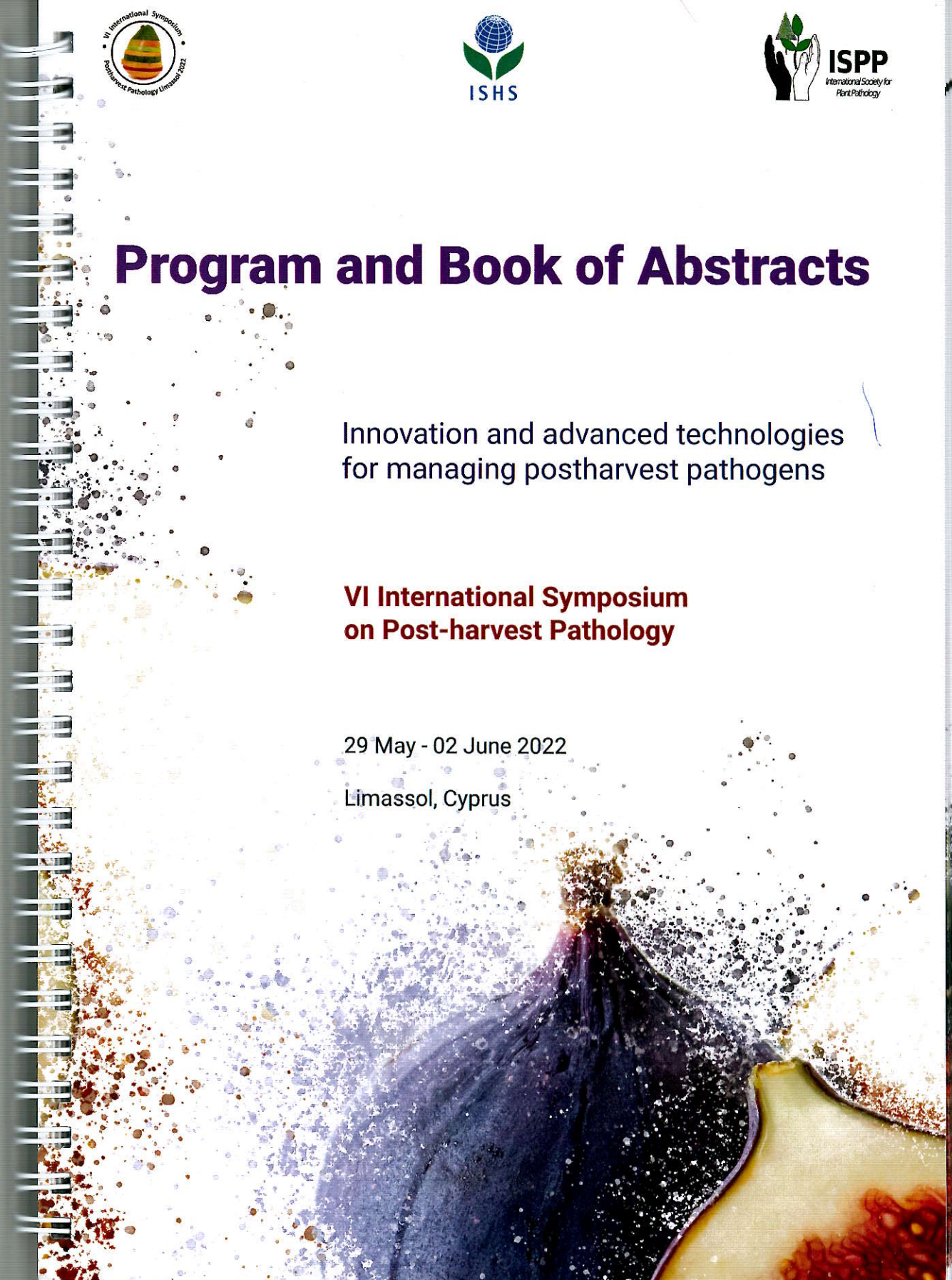
Program and Book of Abstracts

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Controlling 'White haze' disease under *in vitro* controlled conditions

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Abstract

Epiphytic fungi colonizing the surface of apple fruits have caused severe damages in the last years in Northern Italy. The most important disease called "white haze" is caused by the agent *Tilletiopsis* sp. and consists of a thin whitish to grey layer of fungal growth sticking to the cuticle of apple surface in the field. The fungal growth may increase rapidly during the season and harvest time but no evidence of new symptoms and spread from infected to healthy apples was observed during storage. *In vitro* tests with different chemical fungicides and new natural compounds were performed during 2020 and 2021 in order to determine their capability to reduce the fungal growth on Petri plates and design new effective control strategies in the field trial. Furthermore, the effect of UV-C treatment in reducing the growth of *Tilletiopsis* sp. in Petri plates was investigated. Results indicate the efficacy of chemical fungicide application ranged between 4 to 100% with the full control obtained by fosetyl-Al, captano, dodine and penconazole at 20 °C on PDA media. Interestingly, a full control of the pathogen was also obtained with a new natural compound based on orange oil extract but several others showed an acceptable control such as potassium bicarbonate, potassium phosphonate and acid clays whilst UV-C treatment did not inhibit the fungal growth of the pathogen at the tested conditions. These findings can help in designing new controlled strategies both in integrated and organic production in the field with the aim to reduce white haze symptoms during the season and preserve the fruit quality.

Keywords: Epiphytic fungi, white haze, apple, chemical control