

## **Native fungi product as a potential inductor of resistance in fruits against Pathogens**

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### **ABSTRACT**

Considering the occurrence of post-harvest diseases in fruits, the need to control them for commercialization, and the impacts on human health and the environment caused by chemical pesticides, the search for economically viable and sustainable practices in disease control has intensified. Some of these sustainable practices are based on the use of elicitors, and in our case, we used in post-harvest, pathogen-associated molecular patterns (PAMPs) which trigger genes involved in the response to plant defense. (1→3)-β-glucans are among the best elicitors ever characterized that start resistance induction in plants, but little is known about the activity of (1→6)-β-glucans as an immunomodulator in plants. Considering the information presented, this study aimed to evaluate the effectiveness of a product - based on oligosaccharide (1→6)-β-Glucan (UTF-Glu) - extracted from a pathogenic fungus compared to the commercial ASM (commercial product Bion®) elicitor, and to verify their performance, inducing postharvest resistance in apples (*Malus domestica*) and grapes (*Vitis labrusca*). In experiments with grapes, Bordô, and Niagara cultivars, lower severity values were observed for the treatment with UTF-Glu concerning the control (water) and ASM. For apple fruits, cv. “Gala” the effect on severity reduction caused by the UTF-Glu elicitor was more pronounced for the fungus *Penicillium expansum* than for the fungus *Coletotrichum gloeosporioides*. In grapes cv. “Bordô”, for the UTF-Glu treatment, there was a significant accumulation of total phenols. For apple cv. “Fuji”, it was observed that the averages of SOD enzyme activity in the UTF-Glu and ASM treatments were higher than in control (water). Considering the experiments carried out in this work, with different fruit species, the results of biometric and biochemical tests using UTF-Glu demonstrate its potential as an elicitor in post-harvest fruits.

**PALAVRAS-CHAVE:** *Malus domestica*, *Vitis labrusca*, SAR, PAMPs, Fruit Diseases, *P. expansum*, *C. gloeosporioides*.

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