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**BOOK OF ABSTRACTS**



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significantly reduced fruit weight loss and maintained higher firmness than control nectarines after 4 weeks at 1 °C plus 3 days at 20 °C, without adversely affecting the fruit physicochemical (titratable acidity, soluble solids content, and volatiles content) and sensory (overall flavor, off-flavors, firmness, and external aspect) quality. Moreover, the MY-EC provided higher gloss than the rest of ECs. These results can contribute to the development of new safe and eco-friendly commercial antifungal ECs to control major diseases and preserve postharvest quality of stone fruits.

**P3.3-031**

## **MANAGEMENT OF GUAVA ANTHRACNOSE THROUGH SYNTHETIC FUNGICIDES AND MEDICINAL PLANT EXTRACTS**

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### **Text**

Guava (*Psidium guajava*) is a tropical fruit that is widely cultivated in many parts of the world, particularly in India, Brazil, Mexico, and Southeast Asia. It is rich source of nutrients with various health benefits. Guava is susceptible to range of pathogen that can affect its growth, yield and quality. One of the most common and devastating diseases of guava is anthracnose cause by *colletotrichum gloeosporioides*. The goal of the current research was to check the efficacy of synthetic fungicides and medicinal plants extract against Guava anthracnose. For this purpose five synthetic fungicides (Chlorothalonil, Mancozeb, Thiophanate-methyl, Azoxystrobin and Difenoconazole) at three concentrations (100, 200, 300 ppm) and five medicinal plants extract (*Ocimum sanctum*, *Datura stramonium*, *Curcuma longa* L, *Piper nigrum* and *Azadirachta indica*) at 5, 10, 15% concentrations were evaluated under in vitro conditions using poisoned food technique. Results revealed that among synthetic fungicides difenoconazole was found highly effective with least mycelial growth (8.75mm) followed by Mancozeb, Azoxystrobin, Thiophanate-methyl and Chlorothalonil, while among medicinal plants maximum growth inhibition was recorded by *Piper nigrum* (13.45mm) at highest 15% concentration followed by *Curcuma longa* L, *Azadirachta indica*, *Datura stramonium*, *Ocimum sanctum*. The findings of our study suggested that botanical extracts and fungicides could be efficiently used against anthracnose of guava.

**P3.3-032**

## **INNOVATIVE SUSTAINABLE TECHNOLOGIES TO EXTEND THE SHELF LIFE OF PERISHABLE MEDITERRANEAN FRESH FRUIT, VEGETABLES, AND AROMATIC PLANTS AND TO REDUCE WASTE: THE EXPERIENCE OF PRIMA STOPMEDWASTE PROJECT**

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### **Text**

Postharvest losses of fruit, vegetables, and aromatic plants have high economic impact in the Mediterranean area and contribute to food waste. One of the United Nations Priorities, the ZeroHunger Challenge, consists of cutting food waste by half by 2030. StopMedWaste Project (2020-2024) see the interaction of 8 Research Units (UNIVPM, CUT, UNIBA, INRAT, UNITO, UE, IVIA, IKACHEM and DECCO) to join efforts to extend the shelf life of fresh fruit, vegetables, and aromatic plants by applying physical means, natural compounds and biocontrol agents. These treatments are being applied in the laboratory, under semi-commercial conditions, and in the packinghouses. The effects of these treatments on fruit quality, decay, and development of foodborne pathogens are under monitoring during storage, transportation and shelf life, to define their impact on food waste. Results achieved till now showed the beneficial effects of treatment with physical means (ozone, electrolysed water, UVc), natural compounds (chitosan, essential oils, bicarbonates and other antifungal edible coatings), and biocontrol agents in improving the quality of fresh fruit (citrus, pomegranates, peaches, nectarines, apricots, plums, sweet cherries, strawberries, table grapes), vegetables (tomatoes, cucumbers) and aromatic plants (spearmint, basil), that allowed to keep quality and reduce decay, and then waste.

*This work was conducted within the framework of the PRIMA StopMedWaste Project*

### **P3.3-033**

## **MANAGEMENT OF POSTHARVEST BROWN ROT OF PEACHES AND NECTARINES BY NATURAL COMPOUNDS AND BIOCONTROL AGENTS**

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### **Text**

Stone fruits are susceptible to postharvest diseases caused by fungal pathogens able to cause losses and waste. The main pathogens of these crops are *Monilinia* spp., which cause brown rot. The effectiveness of different formulations based on natural compounds and biocontrol agents to manage brown rot on peach fruits (cvs +5Tardibelle and Extreme 486) and nectarines (cv Carene) were evaluated. Commercial formulations of chitosan, sweet orange essential oil, *Bacillus subtilis*, *Bacillus amyloliquefacens*, *Metschnikowia fructicola*, *Aureobasidium pullulans*, COS-OGA, a mixture of thymol, geraniol and eugenol, *Swinglea glutinosa* extract and nettle extract were applied by dipping fruit, using as a reference a synthetic fungicide (fludioxonil) and an untreated control. Fruits were immersed for 30