Biosynthesis regulation of metabolic markers and correlation with quality safety during fruit decay (BioQuaSa)

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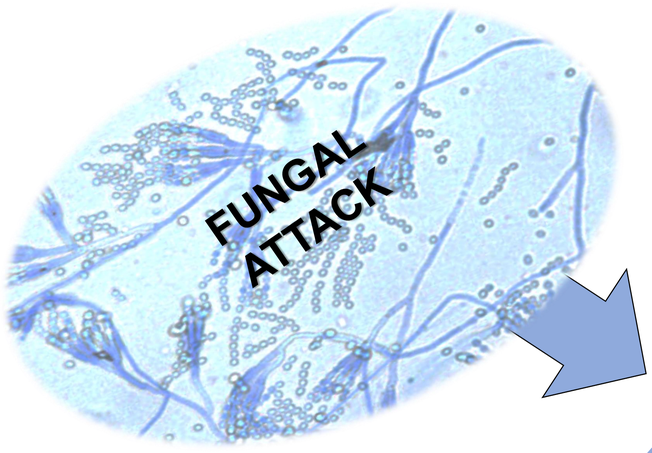
The quality of fresh fruits depends extensively on their postharvest management. The extension of the shelf life and the reduction of postharvest losses of perishable fruits are affected by biotic and abiotic stresses which modify the physiological characteristics of the fruit. Therefore, examining molecular changes in postharvest fruits is a crucial aspect able to detect metabolic markers involved in fruit decay. In this project metabolomic and transcriptomic investigation of postharvest peach and apple fruit in response to fungal pathogen *Penicillium expansum* will be performed. This study can be a tool for further understanding the biochemical basis of postharvest physiology and in the identification of the biomarkers on the fruit affected by pathogen.



VIRULENCE MECHANISMS TO INFECT HOST PLANTS

ENVIROMENTAL STIMULI

WATER TEMPERATURE pH

cell-death elicitor

virulence factors

micotoxins

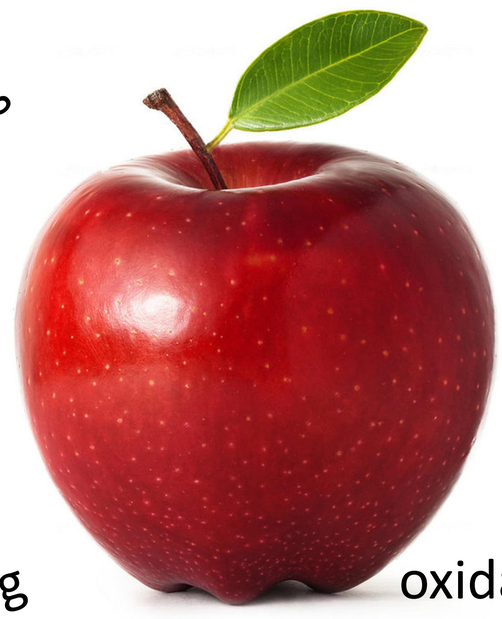
signaling molecules

oxidative stress

hormones

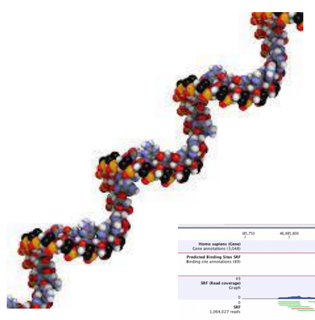
volatile organic compounds

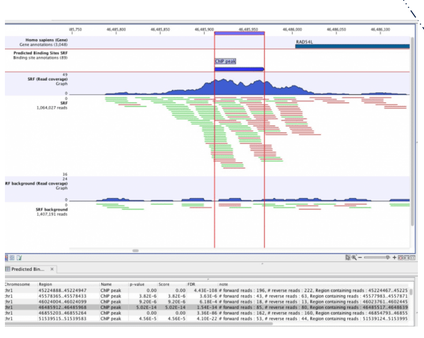
cell-wall-degrading enzymes

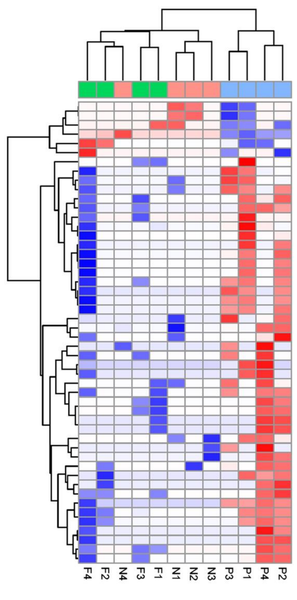


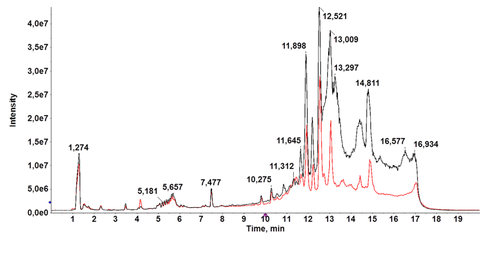
METABOLIC MARKERS DETECTION

- Transcriptomic and metabolomic approach









POSTHARVEST FACTORS

- Methods and time of harvesting
- Packaging
- Storage
- Temperature
- Treatments

FRUIT DECAY

ACKNOWLEDGMENTS

This work was conducted within the framework of the project BioQuaSa, which is funded by the Ministry of Foreign Affairs and International Cooperation

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