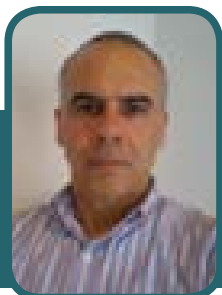


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Overexpression of carnation genes (*Dianthus caryophyllus*) during the *in vitro* interaction with *Fusarium oxysporum*

The Carnation commercial production in Colombia is the most important item in the flower export business of the country. The principal pathogen that affects the healthy crops is *Fusarium oxysporum* f.sp. dianthi, which produces the disease known as “basal rot” of difficult handling. The most efficient form of the parasite control is the use of resistant varieties, which are not always available on the commercial characteristics that the market demands. It is not clear the molecular mechanism that produces this resistance to *Fusarium* in Carnation; in this work, we present the transcriptome of resistant varieties of carnation, produced in a breeding program in our laboratory. The plants were grown

under *in vitro* conditions and nondifferentiated cells were obtained in MS liquid media. The cells were elicited using dual culture techniques with the pathogen *Fusarium*, the total RNA of carnation cells was obtained by purification in separation columns, and the mRNA was purified using affinity columns; finally, the sequencing was developed by Illumina method. We recognize fourteen different gene groups that could be involve in the response to *Fusarium*’s presence. In these clusters of genes, we recognize more than 200 putative genes, some of these having a constitutive expression while others are overexpressed during the interaction with the parasite, this overexpression were detected using RT-qPCR technique..

Biography

Juan Jose Filgueira Duarte is a biologist with a degree in structural cytogenetics, a specialist in Electronic Microcopy (transmission and lateral scanning), with a Masters in Biochemistry of the host-pathogen interaction in plants and Doctor of Science of plant proteins with activity in the recognition of glycoproteins (lectins). Major areas of performance are Molecular Phytopathology and Phyto-Improvement Assisted by Molecular Markers. Minor areas of performance are Plant Biotechnology, Plant Tissue Culture, Phylogeny and Molecular Taxonomy of Fungi, and Bioinformatics. He has the academic experience in Molecular Biology and Plant Biotechnology.

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