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EFFECTOR TRIGGERED SUSCEPTIBILITY (ETS) IN CITRUS PLANT VIA CRN EFFECTORS OF *Phytophthora parasitica*. H.J. MÁXIMO¹ R.J.D. DALIO¹; R.O. DIAS T. OLIVEIRA²; R. MONTELATTO¹; J. DELLAVECHIA¹; M. A. MACHADO¹. ¹Biotechnology Lab, Centro de Citricultura Sylvio Moreyra, Agronomic Institute, 13402000 Cordeirópolis, SP, Brazil; ²Chemistry Institute, University of São Paulo, IQ-USP, SP, Brazil. heros.maximo@icloud.com

Phytophthora parasitica is a very destructive root pathogen of citrus plants. It is known to secrete several effector proteins to establish infection. The mechanistic molecular functioning of effectors remains elusive in *Phytophthora*-citrus interactions. We took advantage of *P. parasitica* genome sequences to screen for cytoplasmic candidate effectors. Through a bioinformatics pipeline, we have identified 80 CRN effectors. Subsequently we have searched those effectors among the regulated genes of an RNAseq database of *P. parasitica*. Eleven CRN were suppressed/repressed when already in contact with root extracts of citrus plants, before infection. These effectors have predicted nuclear localizations. In infection experiments, all these candidate effectors were consistently up-regulated at the beginning of the infection or at later time-points. We have then proceeded to transiently express these effectors in *Nicotiana benthamiana* plants via agroinfiltration, in parallel with *INF1*. Results show that PpCRN20 effector might have an immunity suppression function, deactivating *INF1* necrosis induction. On the other hand, we have found that PpCRN7 might be related to have an epistasis function together with *INF1*, maximizing hypersensitive response and necrosis. Further studies will validate these results. We will discuss which experiments can be designed to deepen our understanding on the effectors deployment of *P. parasitica* infecting citrus and how to target these effectors to break pathogen virulence.

Key words: Plant Immunity; CRN; Effectors; Oomycetes; Pathogens.