

Danies, G.; Vargas, A.M.; Antolínez, C.A.; Peña, G.; Bernal, A.J.; and Restrepo, S. 2010. *Physalis peruviana* natural reservoir for *Phytophthora infestans* in the field. *Phytopathology* 100:S29.

Phytophthora infestans is an hemibiotrophic plant pathogen that attacks a great variety of crops belonging to the family Solanaceae, including *Physalis peruviana* (cape gooseberry). Today Colombia is the leading producer of cape gooseberry in the world. The aim of this study was to contribute to the knowledge of the infection process of *P. peruviana* by *P. infestans* following the development of the disease through an histological analysis and quantitatively determining the expression of the biotrophic and necrotrophic markers *ipiO* and *nppI* respectively using qRT-PCR. Furthermore, we compared the effect of infected cape gooseberries and potatoes as sources of inoculum for cape gooseberries or potatoes in the field and in laboratory conditions. Through the histological analysis it was possible to evidence sporangia and zoospore germination. Sporulation and macroscopic symptoms were observed sporadically. The genes *ipiO* and *nppI* showed unexpected patterns of expression. Cape gooseberry plants ecotype Colombia showed to be resistant while potatoes were susceptible to the *P. infestans* inoculum circulating during the summer of 2009 in the northeast of the United States. Our results suggest that different cape gooseberry ecotypes, might play an important role in determining whether the plant is a host or a non-host. Infected cape gooseberries may serve as inoculum for cape gooseberries and potatoes, making this new host a possible source for resistant genes.