Antolínez, C.A.; Danies, G.; Peña, G.; Vargas, Á.M.; Bernal, A.J.; and Restrepo, S. 2010. Biochemical and microscopical study of *Phytophthora infestans* process of infection on *Physalis Peruviana.* Phytopathology 100:S7.

Phytophthora infestans is a plant pathogen that affects a great variety of crops within the Solanaceae family. The pathogen has been described causing disease in potato, tomato, lulo, tree tomato and in 2007 it was described causing disease in *Physalis peruviana* (cape gooseberry). Since the report of the disease, we have studied this particular interaction and we believe that the infection process of cape gooseberry is different than in potatoes. The aim of this work was to characterize the first defense reactions produced on cape gooseberry leaves due to the infection with *P. infestans*. Detached Cape gooseberry leaves were inoculated with a solution of 10^4 sporangia/ml. Electron microscope photographs were taken at 0, 24, 48, 72 and 96 hours post inoculation on the leaf abaxial surface up. Reactive oxygen species (ROS) and induction of pathogen related proteins were measured at 0, 6, 12, 18, 24, 48 y 72 hours after inoculation and 6, 9, 12, 15 and 18 days after inoculation. *Phythopthora* germinated and showed active aerial growing but no evidence of penetration was found in the first days after the infection. It seems that the cape goosberry ecotype used in this study is resistant to *P. infestans*. To our knowledge this is the first study that characterizes the first biochemical reactions caused by *P. infestans* on cape gooseberry. Our results are fundamental for understanding how *P. infestans* affects other members of the Solanaceae family.