

Del Castillo, J.M.; Bernal, A.J.; and Restrepo, S. 2010. Developing a taxonomic identification system based on microsatellites of *Phytophthora* species. *Phytopathology* 100:S29.

Phytophthora spp. is the most important genus of Oomycetes plant pathogens. Actually there are 80 described species, and most of these are primary invaders of plant tissues, and they are the causal agent of diseases in a wide range of crops and natural plants. In order to develop control strategies against *Phytophthora* spp., it is important to know the biology, mechanisms and evolutionary processes of this important pathogen. The aim of this study was to propose and validate a low cost identification system for *Phytophthora* species based on a set of polymorphic microsatellite (SSRs) markers. For this, 30 isolates from *P. infestans*, *P. andina*, *P. sojae*, *P. cryptogea*, *P. nicotianae*, *P. capsici* and *P. cinnamomi* were obtained, and 14 SSRs, potentially transferable markers between these species were chosen. Amplification conditions, including annealing temperature were standardized for several markers. All of them were assayed on high-resolution agarose, and some on polyacrylamide, and they specifically amplified in all species, showing different alleles depending on the species. Also RFLP analysis of COX region were performed, giving more tools to create an identification code to diagnose and monitor this plant pathogen.