

**Céspedes, M.C.;** Cárdenas, M.E.; Vargas A.M.; Bernal, A.J.; and S. Restrepo, S. 2010. Molecular and morphological characterization of a *Phytophthora infestans* population in the Colombian Andean region. *Phytopathology* 100:S22.

Late blight caused by *Phytophthora infestans* is one of the most devastating diseases of potato in the world. This pathogen can also attack economically important crops in Colombia such as Cape gooseberry, tomato and naranjilla. To establish an effective control to prevent this disease, it is necessary to know the genetic structure of the population. In the present study we collected 23 isolates from different hosts in two departments, Cundinamarca and Boyacá. The objectives of the study were i) to characterize the resistance level of the isolates to Mefenoxam ii) to establish the baseline of sensitivity of the isolates to two fungicides (Mefenoxam and Cymoxanil) iii) to determine the physiological races present in the population and iv) to characterize the molecular diversity of the isolates using one avirulence gene (*Avr3a*), the  $\beta$ -tubulin gene and two single copy genes with an RXLR motif. We found that 52% of the population showed sensitivity to mefenoxam. Results obtained from the molecular diversity suggested that the population is clonal in this Colombian region. These results along with the current study of the physiological races provide new insights in the characterization of this population. The gather information will help in the development of durable management strategies for the future, managing fungicide resistance and contributing for wider studies on global diversity.