



# Workshop in Bolivia on statistics in plant disease epidemiology and agriculture




Karen Garrett<sup>1</sup>, Lorena Gomez<sup>1</sup>, Antonio Gandarillas<sup>2</sup> and Jorge Cusicanqui<sup>3</sup>  
Kansas State University<sup>1</sup>, Fundación PROINPA<sup>2</sup>,  
Universidad Mayor de San Andres<sup>3</sup>

## Objective

The objective of the workshop was to provide hands-on experience in statistical applications for epidemiology and general agriculture for students and scientists in La Paz.

There were 26 participants from Universidad Mayor de San Andres, Fundación PROINPA, and Universidad de la Cordillera.

 We used R, a free software environment that includes a set of base packages for graphics, math, and statistics, with other more specialized packages available.

- Online teaching modules for ecology and epidemiology in R in English are at <http://www.apsnet.org/education/AdvancedPlantPath/Topics/RModules/default.html>

We are preparing new material in Spanish from workshop presentations and we hope to add material in other languages in the future.

## Acknowledgements

We appreciate the support of APS OIP and all its contributors for this workshop. We also appreciate the support of USAID, as part of the SANREM CRSP, Award No. EPP-A-00-04-00013-00, to the OIRED at Virginia Tech.

Photos c/o Lorena Gomez and Carla Arzabe



A) La Paz panorama B) Karen Garrett and participants  
C) Lorena Gomez and participants D) Some of the participants

## Outline of the Workshop

1. Introduction to the R programming environment
2. Introduction to basic concepts of statistics
3. Introduction to analysis of variance
4. Introduction to linear regression
5. General panorama of other statistical techniques



Our institutions have formed collaborative links as part of a USAID SANREM

project led by Corinne Valdivia, University of Missouri: **Adapting to change in the Andes: Practices and strategies to address climate and market risks in vulnerable agro-ecosystems.**

Garrett works in this project in biodiversity, IPM, and soil metagenomics. Gomez studies soil metagenomics in the project for her MS thesis.