

## SUMMARY OF SESSION V

### ***Management of Abiotic stresses for sustainable intensification of R&T crops***

***Monday, 2 November 2009***

**Moderated by Fernando N. Ezeta and R. Shafleitner**

The session contained useful information about funding, genetic sources of drought tolerance, the physiological mechanisms to understand the process, and the methodological elements to carry on screening in laboratory and greenhouse facilities.

The paper presented by **Mr. Daniel Reinoso** on *Funding Opportunities for R&D of tropical R&T crops in Peru* contained information about sources of financial resources available in Peru. The FINC and T is a 36 million dollars loan from the Interdevelopment Bank, matched by 11 million dollars from the Peruvian government. The main objective is to increase competitive capacity of the private sector. It finances activities on :

- Projects for technological innovation
- Projects for Research and Development
- Capacity Strengthening

Program A consists of Projects for individual enterprises of up to 90,000 dollars. Up to 70 % of the project may be financed by PITEI. Some examples were given:

- Market prices information through the telephone network for small farmers
- Post harvest technology
- Adaptation of white seedless grapes
- Optimization of Cotton germplasm bank

Program B consists of Technological Missions, for instance:

- To learn more about Special Coffees
- Specialized consulting
- Specialized diplomas for courses, diplomas, and MSc.

The paper by **Dr. Jiwan Palta** on *Understanding the Impact of A Biotic Stress Developing Strategies for Sustainable Production* addressed general approaches required for understanding and exploiting genetic and physiological variations to stress. It also referred to the development of production practices. Some examples of climatic changes affecting agriculture were given.

Sources of genetic resistance to stress were discussed and other mechanisms related to the physiology of acclimation and frost tolerance. Potassium and calcium roles on membrane and osmotic equilibrium were discussed.

**Roland Schalfleitner** spoke about drought stress tolerance of potatoes. His paper recommended identifying clones with improved tolerance, identifying tolerance traits, breeding for improved drought and heat stress tolerance. It also discussed methods for measuring stress, including root development and transpiration efficiency such as stomata closure, desiccation tolerance, etc.

The presentation by **Malachy Acoroda** conveyed the message that farmers may use several resources within the cropping systems to cope with stress and water excess. He suggested cassava and sweetpotato for dry weather and Yams or Cocoyams to tolerate humid conditions. Storing water during the rainfall period was also recommended.

The last presentation by **Ms. Sunnette Laurie** was more focused on methodologies for screening for drought tolerance. It seemed to be an efficient non-destructive way of accomplishing this task that has given some good results.