



LUZ GOMEZ-PANDO: Peru

Full training in DNA extraction, genetic marker development analysis and genetic mapping concepts.



Dr. Luz Gomez-Pando of Peru recently received training in the area of the molecular markers in crop breeding with emphasis in underutilized crops such as quinoa (*Chenopodium quinoa*) and amaranth (*Amaranthus caudatus*). This training is extremely important for the work she is doing at the highland of Peru where their crops are the main source of protein and family income of small farmers.

Dr. Gomez-Pando received training at Brigham Young University through the IAEA Fellowship program. Her training was related to the Technical Cooperation project “Supporting Genetic Improvement of Underutilized and Other Important Crops for Sustainable Agricultural Development in Rural Communities.”

Dr. Gomez-Pando is a principal professor and head of the Cereals and Native Grains Research Program of Universidad Nacional Agraria La Molina. As a member of this research unit she was co-author and autor of 9 improved varieties of barley, one of wheat and one of kiwicha developed using mutation induction and crosses. The cultivars released are used in large scale at the highland of Peru. Barley cultivars now cover 90% of the producing area. As the leading breeder and scientist, she was recognized by the award of the Peruvian 2006 Price of Good Governmental Practices, INCAGRO Award to Agriculture Innovation in 2007 and 2008, the Peruvian Engineers of Peru 2010, L’Oreal Peru, La UNESCO y el CONCYTEC Award for Women in Science 2010 and the Jules Gaudron Award-Teaching and Research by Alumni Association of the Universidad Nacional Agraria La Molina in 2011.

During her fellowship Dr. Gomez-Pando was supervised by Dr. Jeff Maughan in the Department of Plant and Wildlife Sciences. The training included theoretical aspects through lectures and review of publications on the following aspects: molecular genetics and its application in plant breeding, evolution of conventional plant breeding from selection of the best phenotype according to the laws of Mendel within natural population or population developed by the breeder to the selection using molecular markers, modern biotechnology techniques that discovered the existence of polymorphism in natural and created populations, the applications of new tools of molecular biology that permit to assess the degree of polymorphism by sequencing or making restriction map, and the use of single nucleotide polymorphism (SNPs) and micro-satellites.

The training also included practical aspects such as the handling of lab equipment and the preparation of chemical solutions to extract DNA, as well as the use of primers and related technologies to find the polymorphism in genotypes developed through induction mutation in *Chenopodium* and *Amaranth*.

Trained 7/16/2012—8/15/2012