



Simposio de Recursos Genéticos para América Latina y el Caribe

***"Por la valoración de los Recursos Genéticos para el
Desarrollo Sustentable en América Latina y el Caribe"***

MEMORIA



ADDITIONAL EVIDENCE SUGGESTS A NEW MAP FOR THE DISTRIBUTION OF WILD-WEED-CROP COMPLEXES OF COMMON BEAN IN COLOMBIA

Orlando Toro Chica¹, César H. Ocampo Nahar², Daniel G. Debouck³

¹*Bean Germplasm Coordinator (Email: o.toro@cgiar.org)*, ²*Research Assistant (Email: c.ocampo@cgiar.org)*, ³*Head (Email: d.debouck@cgiar.org). Genetic Resources Unit (GRU)/ International Center for Tropical Agriculture, CIAT, AA 6713, Cali, Colombia.*

The wild-weedy-cultivated complexes may be important mechanisms for the generation of genetic variability in landraces. In the present study, we report the finding of new complexes (wild-weedy-cultivated) of common bean in Colombian regions where these have not been reported previously. We analyzed these complexes from a biochemical (phaseolin and isozyme markers) and morphological viewpoint to estimate the variability as a contribution to their conservation and use. Several wild-weedy-crop complexes were selected on the basis of a geographic sampling in Colombia. The original seed of these populations was collected and classified as cultivated materials. However, during the initial seed increase, we observed segregation for seed size and colors indicating possible wild-weedy-crop complexes. These segregating populations were considered to be complexes, since they involve wild and weedy stabilized forms. These complexes showed a great diversity in seed size (from small to large) and color. Additionally, a great diversity for phaseolin types (Mesoamerican and Andean) was found within them. In the isozyme analysis, both allozymes (Mesoamerican and Andean) were found in all phases of the complex. The variability at the phaseolin and isozyme levels suggests an important genetic interchange in the study area in Colombia between Mesoamerican and Andean materials. We are finding an extensive distribution of these introgressed complexes in Colombia. This distribution includes some departments where wild and cultivated beans are sympatric (Cundinamarca and Boyaca) or departments where the common bean is an important crop (Antioquia, Caldas, Tolima and Cauca). These results suggest a new map for the distribution of these biological complexes of common bean in Colombia and confirm that a considerable amount of natural hybridization occurs in the areas where these populations were collected.

Keywords: wild-weedy-cultivated complexes, common bean, Colombia, genetic variability, morphological markers, phaseolin and isozymes markers.