

Yield and Pest Resistance in a Bolivian Landrace Peanut Variety, 'Bayo Grande', and Five Similar Bolivian Plant Introductions of Arachis hypogaea from the USDA Arachis Germplasm Collection.

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One of the projects of the joint Florida/Georgia/Bolivia USAID Peanut CRSP Project Team was to evaluate the entire Bolivian peanut germplasm collection of the USDA in Griffin, Ga., based on Germplasm Resources Information Network data. Five hundred and forty-seven accessions were evaluated for phenotype, disease and insect susceptibility, and yield in 1997 at Attapulcus, Ga. Twelve accessions were selected for further evaluation based upon favorable ratings for early leafspot, *Cercospora arachidicola*; TSWV, tomato spotted wilt virus; foliage feeding corn earworm, *Helicoverpa zea*; leafhopper, *Empoasca fabae*; and plant vigor. In 1998, the U.S. team visit to Bolivia was provided an opportunity to purchase seven peanut samples of Bolivian land race varieties from local farmer markets in Santa Cruz and Warnes, Bolivia. The 12 accessions selected from the Bolivian collection for further evaluation in 1997 were grown and compared to the land races procured on the trip in field tests in the summer of 1998. The similarities of five of the twelve accessions from the 1997 selections to one of the land races purchased in the Bolivian markets, 'Bayo Grande' were very obvious, and immediately led us to consider the extent of those similarities. The growth habit, foliage color, pubescence, testa color, yield and damage ratings for several pests were similar for all the accessions when compared to 'Bayo Grande'. Subsequent testing in 1999, 2000, 2001, and 2002, confirmed the similarities among the following plant introductions, and further work is planned to determine the genetic similarities, if any, between these accessions. Plant Introduction numbers 339967, 475971, 475972, 497412, and 540866 from the Bolivian *Arachis* collection apparently have similar multi-pest resistance, as well as exceptional yield and other desirable agronomic and growth characteristics. Similarities of these with the land race cultivar 'Bayo Grande' are yet to be determined.