

Breeders Workgroup

Germplasm Collection with NPGS, a Regional Perspective

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Most forages grown in the Eastern U.S. are not native to North America, they were introduced either by accident or design. Bahiagrass (*Paspalum notatum*), dallisgrass, (*P. dilatatum*), and seeded bermudagrass (*Cynodon dactylon*) are examples of forage grasses important to the Gulf Coast region that were initially accidental introductions. As the value and limitations of accidents like these were recognized, deliberate introduction of additional germplasm in these genera and other grass and legume forage genera were made. The hybrid bermudagrasses, rhizoma peanut (*Arachis glabrata*), and limpograss (*Hemarthria altissima*) are examples of subtropical forages that were derived from deliberate plant introduction efforts made with wild material. These collections were often made under the auspices of the Plant Exchange Office (PEO) of U.S. National Plant Germplasm System (NPGS). The PEO supports the NPGS mission by developing methods to prioritize U.S. germplasm needs and procuring plant germplasm through international and domestic exchanges. The PEO helps to arrange and often participates in international and domestic plant explorations, and developing in situ maintenance programs for crop plants and their wild relatives.

Forage breeders in Florida were well aware of the importance of wild material to the development of commercial tropical forage cultivars adapted to the unique environments of the Gulf Coast region, particularly peninsular Florida. Around 1999, an ad hoc information exchange group composed of state and federal researchers involved in germplasm evaluation and management was formed at the University of Florida specifically to discuss the state of forages and forage germplasm for the subtropical U.S. This Germplasm Committee meets about twice a year and now includes researchers in southern Georgia and collaborators in South America.

One of the first activities of this group was to identify which forage genera had proved to be useful in the Gulf Coast region and to determine the availability of “existing” germplasm in the NPGS, Germplasm Resource Information Network (GRIN) for the forage genera identified. Early in this process, rhizoma peanut was identified as a forage genus that merited continued cultivar development efforts and for which additional material from the wild was needed. Having established a need and identified a specific area of the world that might contain useful new rhizoma peanut germplasm, a proposal was developed in 2001 according to the PEO, Guidelines for Plant Exploration Proposals and a collection trip to Paraguay was conducted in May 2002. A second trip was proposed in 2002 and another collection trip was made to additional areas in Paraguay in 2003. Reports (English and Spanish versions) on these two collection trips can be found at www.pasturasdeamerica.com/relatos/relatos.asp. Approximately, 90 *Arachis* accessions were collected during these two trips and are now available through GRIN. Field evaluations of selected material were initiated at seven locations (FL, GA, and TX) in 2003 and more accessions continue to be added to this evaluation effort.

The Germplasm Committee continues to meet twice yearly to address issues concerning turfgrass and forage plants of interest from international and domestic sources. For further information about our efforts please contact Mimi Williams, USDA-ARS (mjwi@ifas.ufl.edu) or Ann Blount, NFREC, University of Florida (ablount@ifas.ufl.edu).