

Enriching the Value of Genetic Resources for Use in Peanut Improvement

V.C.R. AZEVEDO*, S. RAMACHANDRAN, V.G. REDDY, H.D. UPADHYAYA,
International Centre for Research in the Semi-Arid Tropics (ICRISAT)
Patancheru PO, 502324, India

Peanut (*Arachis hypogaea* L.), an important food legume crop, grown in tropical, subtropical and warm temperate regions of the world. It provides high quality edible oil (36-54%) and easily digestible protein (12-36%). Genus *Arachis* comprises of 69 species placed in 9 taxonomical sections and section *Arachis* contains cultivated peanuts. Germplasm provides rich source of diversity for crop improvement and serve as insurance against genetic erosion. The genebank at ICRISAT, India conserves the world collection of 15,622 peanut accessions originating from 94 countries. The collection includes Landrace (7398), Breeding material (5034), Advanced or Improved cultivar (982), Genetic stocks (1729) and Wild relatives (479). Lack of sufficient information on traits of economic importance is the major reason for low use of genetic resources in crop breeding. Peanut germplasm conserved at ICRISAT genebank has being characterized to many different traits and shows a large variability for important traits including for maturity (100-150 days), protein (16-32%), oil (32-54%) and other traits. Further germplasm representative subsets called core and mini core collection have been established and evaluated them extensively for important traits, resulted in identification of germplasm that are sources for multiple traits in agronomically superior background. Utilization of these multiple trait specific sources in breeding program could potentially broaden genetic base of peanut cultivars.