

**EVALUATION OF UZBEKISTAN AND CALIFORNIA
ACCESSIONS: CHARACTERIZATION FOR GRIN**

Ted P. Wallace and Brenda F. Owens

Mississippi State University

Mississippi State, MS

Gerald O. Myers

Louisiana State University Agricultural Center

Baton Rouge, LA

Abstract

Recent accessions to the National cotton germplasm collection were evaluated for yield, fiber and morphological traits at the Plant Science Research Farm at Mississippi State University in 2002 and 2003. Approximately 190 accessions from Uzbekistan and 154 accessions rescued from an obsolete USDA breeding program at Shafter, CA, were evaluated for descriptors (traits) utilized in the Germplasm Resource Information Network (GRIN). Internet accessible, GRIN is a searchable database of the National Plant Germplasm System (NPGS). Accessions were planted in a modified augmented design with one or more check varieties and data collected on 13 descriptors throughout the growing season. Boll samples were collected prior to harvest for fiber quality determinations. Rains prevented harvest of Uzbekistan accessions in 2002 and they will be planted a second season to collect information on relative yield potential. In general, Uzbekistan accession morphology can be generalized as typical of commercial varieties having a moderate to hairy leaf. Very few accession exhibited morphology considered rare in commercial varieties. Fiber quality of the Uzbekistan accessions evaluated was generally lower than that of the commercial check variety. Micronaire, however, was also lower than the check variety and the only favorable fiber quality trait observed. Similarly, Shafter accession morphology can be generalized as typical of commercial varieties exhibiting moderate to reduced (few) leaf hairs. Fiber quality, particularly fiber strength, of the Shafter accessions was generally higher than that of the commercial check varieties included. Lint percentage and yield, however, were generally lower than check varieties. Earliness of yield for accessions in both groups was quite adequate for the length of growing season in Mississippi. Accessions in each group exhibited traits that some cotton breeders may find useful, such as glabrous leaf, nectariless, and fiber strength. All data collected will be submitted to the NPGS for inclusion in GRIN. This database allows users to search and identify accessions meeting specific values for one or more descriptors. A significant number of cotton accessions in the GRIN database lack information for several or all of the more than 40 descriptors. To maximize potential value of the GRIN database, efforts should continue to evaluate new accessions, and update older accessions.