

PROGRESS IN SCREENING THE U.S. COTTON GERMPLASM COLLECTION FOR DIVERSITY**M. A. Sheehan****J.K. Dever****M.D. Arnold****M.N. Castillo****J.L. Mabry****L.W. Wells****H.D. Flippin****D.Q. Wann****Texas A&M AgriLife Research****Lubbock, TX****Abstract**

The diversity of traits in the U.S. Cotton Germplasm Collection (landraces, exotic and wild species) has proven to be a resource for cotton breeders to introduce valuable genes into a breeding program. The Texas A&M AgriLife Research Cotton Improvement Program at Lubbock has been actively screening the cotton collection for potential trait improvements under the categories of abiotic and biotic stress, as well as phenotypic documentation. These include: growth studies, documenting contrasting seedling development, determined by evaluating plant biomass; hydroponic screening, to understand the plant's response to saline conditions; and using both free-choice and no-choice screening methods for assessing plant's tolerance to thrips injury. Utilization of the greenhouse facility has enabled investigators to evaluate species diversity on a systematic, morphological and physiological basis. In this review, the collection's diversity will be highlighted by the evaluation efforts made from the above categories.