DEVELOPMENT OF CORE COLLECTIONS TO BETTER UTILIZE AVAILABLE DIVERSITY WITHIN THE U.S. NATIONAL COTTON GERMPLASM COLLECTION

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Core collections are small subsets of larger collections that maximize genetic and/or phenotypic diversity. They have strategic value as they allow the use of a small part of a germplasm collection that is representative of the total collection. In the U.S. National Cotton Germplasm Collection, we have identified core collections of improved and wild types of *G. hirsutum* based on molecular markers. We have also developed core collections based on seed quality traits, including seed oil content and seed protein content. These core collections have been used in evolutionary studies as well as sources of genetic diversity to screen for salinity tolerance traits. Our goal in developing these core collections is to make the wide array of diversity within the larger National Cotton Germplasm Collection more accessible and more manageable for users who know that they want to evaluate an array of germplasm but may not know where to start when selecting that germplasm. These smaller collections will serve as starting points for projects that are looking for a diverse set of germplasm to test hypotheses or new methods for cotton improvement.