

1292 Evaluating the Pee Dee germplasm resources

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Over the past fifty years, the Pee Dee Cotton Genetics program has developed over 90 germplasm lines and cultivars that are valuable genetic resources. These germplasm lines and cultivars are known as key sources and have been used to enhance fiber quality in new and improved cultivars. The objective of this study was to evaluate a representative subset of the Pee Dee germplasm resources for yield potential, regional adaptation, and fiber quality potential as compared with current cultivars grown in the United States. Eighty-two Pee Dee germplasm lines and cultivars, and six commercial cultivars were evaluated over three years in replicated, multi-location field trials across North Carolina, South Carolina, Georgia, and Mississippi. Based on these evaluations, numerous Pee Dee lines possess significantly improved fiber quality compared with commercial cultivars. Several lines also combine acceptable lint yield with superior fiber quality potential. Ultimately, these data provide information for the selection of specific Pee Dee lines for specific breeding objectives.