WITHIN-PLANT VARIABILITY OF COTTON FIBER QUALITY Addissu Ayele Eric Hequet Brendan Kelly Texas Tech University Lubbock, TX

<u>Abstract</u>

In order to investigate the impact of varietal background on within-plant variability of cotton fiber quality, we selected 12 commercial cotton cultivars representing a wide range of genetic backgrounds. The cultivars were grown in a randomized complete block design with 3 field replications at Lubbock, Texas during 2012 and 2013 growing seasons. The plants were box picked at maturity in order to examine within-plant variability. Bolls harvested from different positions on the plants were ginned with a small tabletop roller gin to minimize fiber damage. Then, the lint from each fruiting position was blended with a laboratory blender to lower the within sample variability. Each sample was then tested on the AFIS with 3 replications of 3,000 fibers. The results from the two consecutive year's trials indicate that certain varieties demonstrate more within-plant stability in fiber qualities.