

CAPTURING THE POTENTIAL FOR FIBER BREAKAGE DURING INDUSTRIAL PROCESSING**Brendan Kelly****Texas Tech University****Lubbock, TX****Texas A&M AgriLife Research****Lubbock, TX****Eric F. Hequet****Texas Tech University****Joao Paulo Saraiva Morais****Texas Tech University****Lubbock, TX****Embrapa Algodao****Campina Grande, Brazil****Abstract**

Industrial processes used to transform cotton fiber into spun yarn are aggressive and can break fibers. Fiber breakage during processing negatively impacts the fiber quality profile of a sample and potential yarn quality. The quality profile of the fiber evaluated in the laboratory is not necessarily the same as the quality profile making it into the yarn. However, samples exhibit varying levels of fiber breakage in response to a particular mechanical process. A fiber sample with low levels of breakage during processing should exhibit a more predictable yarn quality. Thus, knowing the potential response of a sample to processing may help identify samples with a more predictable end-product quality. In this presentation, a series of laboratory-scale mechanical devices are evaluated as a tool used for capturing the potential impact of industrial processing on a diverse set of cotton fiber samples.