THE DEVELOPMENT OF COTTON FIBER ELONGATION REFERENCE MATERIAL

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Abstract

Cotton fiber is subjected to a series of mechanical processes on its journey from field to spun yarn. Cotton fibers with lower elongation tend to break more frequently during mechanical processing. Excessive fiber breakage during processing results in the degradation of fiber quality, such as a poor length distribution, which then negatively impacts spinning performance. Fibers from lines bred for improved fiber elongation better survive the forces of processing, which results in a better length distribution after processing. In turn, a better fiber length distributions leads to better yarn evenness, which ultimately results in better fabric quality. Despite the importance of cotton fiber elongation, there is currently no reference material for cotton fiber elongation measurement. For this project, a set of 5 high and 5 low elongation commercial bales were purchased and blended according to the ICCS protocol. This resulted in enough cotton fiber elongation reference material for calibrating 7 HVIs over 5 years.