

2242 Interactions among cotton yarn performance measures: Conventional versus compact ring spun yarn

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Cotton yarn performance is characterized using various measures that encompass multiple visual and structural aspects. The immediate judgment of a yarn is often based on its appearance. More in-depth analysis of yarn quality will usually involve features such as evenness or irregularity (mass or diameter), hairiness (a critical component of surface integrity) and tensile strength. However, when it comes to the fabric formation stages of the textile manufacturing process, i.e., weaving and knitting, surface integrity, and in particular resistance to abrasion and friction, becomes the most critical factor determining yarn performance. This research was conducted with the primary objective of including those yarn performance measures in the appraisal of yarn quality in conventional and compact ring spinning. Results presented here show significant interactions between these performance measures, the commonly used yarn quality parameters, and processing conditions during spinning.