AN EVALUATION OF THE IMPROVED FIAS SOFTWARE

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Abstract

Fiber maturity is an important fiber quality characteristic. The reference method for determining cotton fiber maturity requires cross-sections of fibers set in a polymer resin. The images containing cross-sections are analyzed using the Fiber Image Analysis System (FIAS). FIAS software evaluates the maturity of fiber cross-sections in an image by identifying the perimeter and lumen of the individual fibers. The perimeter and lumen of immature fibers can create difficulties for the image analysis algorithm used in the original FIAS software. A new version of the FIAS software has been developed that is better able to identify the perimeter and lumen in cross-sections of immature fibers. Bales representing a wide range of fiber maturity were selected for a comparison of the old and new FIAS software. Images containing the fiber cross-sections of many fibers from each of the bales in this experiment were obtained in a previous experiment. The maturity of the fibers in each set of images was evaluated with both the original and the improved FIAS software. Results of the image analysis produced by each version of the FIAS software were validated with a visual assessment. A comparison of the results produced by the two versions of FIAS software are presented in this poster.