

**PREDICTING YARN QUALITY: AN INDISPENSABLE TOOL FOR COTTON BREEDERS****Eric F. Hequet****Brendan Kelly****Fiber and Biopolymer Research Institute, Plant and Soil Science Department, Texas Tech University  
Lubbock, Texas****Abstract:**

Cotton breeders face the task of developing cultivars that will perform well in the field, at the gin, and in textile processing. Predicting the process ability of the raw material is probably the most challenging task. Indeed, producing yarn from each entry in a breeding program is not possible because of the limited quantity of lint available. Hence, how could we predict the industrial yarn quality of a breeding line without spinning the lint into yarn? To answer this question, two sets of commercial cotton bales were selected based on their distinct physical properties. The results obtained show that the combination of HVI and AFIS data allows us to predict quite accurately yarn quality (ring spun yarn) for commercial bales. Such models, if confirmed on an independent set of samples could be invaluable for the cotton breeding industry.