

RELATIONSHIP OF Q-SCORE AND LOAN VALUE**Robert Hogan****Texas Agrilife Extension****Fort Stockton, TX****Fred Bourland****University Of Arkansas****Keiser, AR****Ed M. Barnes****Don C. Jones****Cotton Incorporated****Cary, NC****Abstract**

Cotton fiber quality may be improved with an index that incorporates weighted values of multiple fiber measurements. Our objectives were to describe the logic and calculation of a numerical index (Q-score) and to evaluate the relationship of Q-score to loan value. Q-score is calculated by first normalizing fiber properties from 0 to 1 and then algebraically combining the normalized values by quality weighting factors based input from textile processing experts. Fiber properties (weights) for Q-score calculations included fiber length (50%), micronaire (25%), length uniformity index (15%), and strength (10%). Q-scores and loan values were calculated for the 2001-2007 Arkansas Cotton Variety Tests (1478 observations). Economic analysis included summary statistics and correlations for the parameters. Q-score values were normally (or near normally) distributed, while loan values followed a Poisson or chi-square distribution. Q-score and loan value were positively correlated, and similarly correlated to the fiber parameters. Obtaining optimum loan values was more likely as Q-score increased. Q-score was more conservative and discriminating than loan value.