STUDYING THE IMPACT OF HARVESTING WITH ROUND BALE MODULES ON COTTON QUALITY

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Abstract

Two different cotton varieties (referred to as A and B) were grown in 20 acre subplots in the midsouth. Harvesting was carried out for each of the cottons using either John Deere conventional or its new Model 7760 harvester working alternating series of rows in the same field plots. Seed cottons from the conventional picker were stored in conventional modules whereas those from the 7760 were automatically collected in the new round modules. The cottons from both modules were ginned concurrently at the same gin. Approximately two thousand bales were harvested in the study. Classing data indicated measurable increases in length, strength, and uniformity. One hundred bales from each of the module types were purchased for in depth study. Several hundred AFIS samples indicated there were measurable reductions in total neps and short fibers and improvements in UQL lengths with the cottons picked with the 7760 versus the conventional harvester. Results with commercially produced rotor yarns were consistent showing improvements in yarn strength, elongation, and toughness when comparing cottons picked with the 7760 versus the conventional harvester. As shown in Figure 1, the results for yarn toughness are statistically significant and quite impressive since toughness is an important yarn performance property.

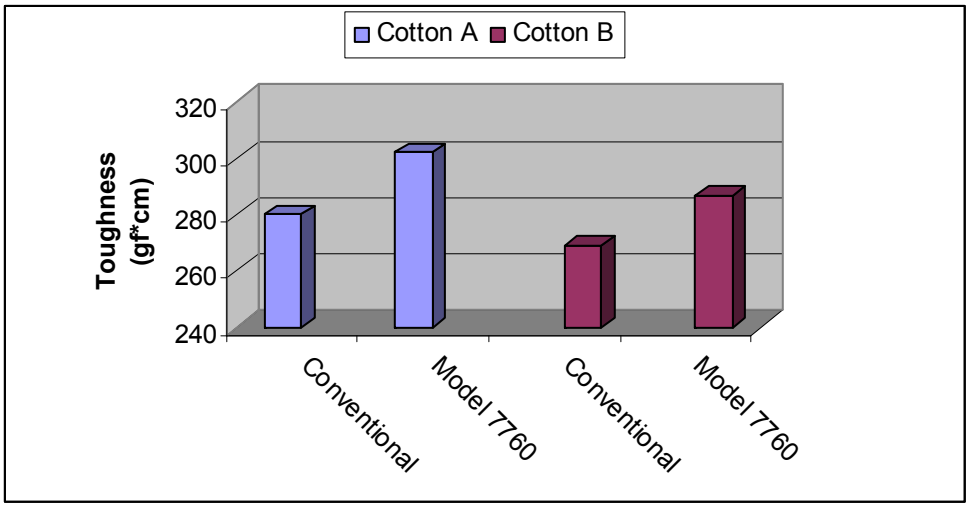

Figure 1. Results for yarn toughness for the A and B cottons harvested both conventionally and with the Model 7760 harvester (round module).