

QUALITY OF SPINDLE-PICKED COTTON

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Abstract

Three cotton varieties were grown under furrow-irrigated conditions in southern New Mexico and hand-harvested in a way that kept individual bolls intact. A one-half inch diameter Case-IH spindle was operated at 2000, 3000, and 4000 rpm and individual bolls presented to the rotating spindle, then the spindle was immediately stopped. The portion of seed cotton remaining on the spindle was determined, and the force to pull that cotton off the spindle was measured. Three cotton varieties were tested with moisture content approximately 8 percent. The portion of cotton that remained on the spindle ranged from 80 percent at 2000 rpm down to less than 40 percent for all three varieties tested. The peak force that occurred when pulling the seed cotton off the spindle ranged from about 0.75 pounds at 2000 rpm up to 2.7 pounds for all three cotton varieties. Samples have been collected for AFIS quality analysis, which will be conducted in the near future. Further studies are planned to aid in selecting an improved cotton picker spindle design.