

THE EFFECT OF MOISTURE DURING HARVESTING ON FIBER QUALITY

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Abstract

The control of moisture during the harvesting, storage, and ginning operations is critical in maintaining fiber and cottonseed quality. It is generally accepted that seed cotton should not be harvested above a moisture content of 12%. As the size and spread of the cotton crop increases the pressure increases on growers and contractors to harvest the cotton as soon as possible. This has become easier as new generation harvesters have greater horsepower, traction and fan capacity which enables them to pick cotton when traditionally field conditions would have made harvesting difficult.

This study was initiated to determine, quantify and compare the differences, if any, of fiber quality of saw ginned Upland cotton, harvested at different moisture levels using a John Deere 7760 spindle harvester. One field was harvested with the aid of the Vomax Model 760 moisture meter at three moisture levels; <12%, >12% and >14%. Preliminary analysis of the results shows that there were no significant differences between the three moisture levels in terms of fiber length, uniformity, strength and fibrous neps. There were however significant differences between the 3 moisture levels in terms of short fiber content, color, trash and seed coat neps. Furthermore in order to accommodate the modules the gin was forced to reduce production by 20-40%. Fiber from this study will be spun into fine count yarns on miniature spinning system to assess impact on yarn quality and processing performance.