Postharvest trash contamination, such as honeydew deposited by certain insects, reduces the market value of cotton fibre. Sticky fibre may clog spinning mills, resulting in breakdowns, production losses and poor quality end products. It is essential for both producers and spinners to be able to accurately measure cotton stickiness so as to optimize the bale binding process. CIRAD thus invented two stickiness measuring instruments—the SCT thermodetector and the high-speed H2SD detector.

The CIRAD Cotton Technology Laboratory has invented instruments for measuring cotton stickiness to help overcome this problem in the spinning process. These instruments—the sticky cotton thermodetector (SCT) and the high-speed stickiness detector (H2SD)—were automated and tailored for industrial use.

The concept involves quickly increasing the humidity of honeydew by combining heat input and pressure applied to a cotton sample. Honeydew is deposited on a neutral substrate for visual measurement or using a system with a camera and image analysis software.

Countries hampered by the sticky cotton problem can now develop an effective monitoring strategy using these detectors and thus eliminate sticky cotton bales prior to processing. This avoids unfair devaluation of entire cotton batches on the world market. In 2000, with the aim of promoting nonsticky cotton production, the Common Fund for Commodities (CFC) funded research to improve marketing of cotton produced in regions handicapped by the stickiness issue. This research jointly involved the Sudan Cotton Company Ltd., the Agriculture Research Corporation (Sudan), the Institut français du textile et de l’habillement (IFTH) and CIRAD.

Textile manufacturers can then efficiently manage their yarn supplies, make suitable fibre blends and thus reduce spinning problems.
An internationally renowned laboratory

This research and these inventions have had a major impact on the entire cotton industry. The scientists convey the knowledge they have acquired to stakeholders via conferences, publications and training sessions.

The CIRAD Cotton Technology Laboratory participates in expert appraisal committees on cotton contamination and supervises graduate students in their thesis research. It has established ties and contracts with partners in USA, Germany, Switzerland, Sudan, etc. The laboratory is recognized worldwide for cotton contamination assessment, with a key confirmed role in development-oriented research.

For further information


