



INTERNATIONAL COTTON ADVISORY COMMITTEE

1629 K Street NW, Suite 702, Washington DC 20006 USA

Telephone +1-202-463-6660 • Fax +1-202-463-6950 • email secretariat@icac.org



From the Secretariat

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11th CSITC ROUND TRIAL COMPLETED

The Eleventh Round Trial under the auspices of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC RT 2009-3) was conducted from July to September 2009. Sixty-two testing laboratories with 89 instruments participated.

In each Round Trial, five cotton samples with known values are mailed to each participating laboratory. Each sample is tested six times each day on each participating instrument for five days, for a total of 150 tests. Each sample is tested for the six CSITC parameters of length, length uniformity index, micronaire, strength, Rd (reflectance) and +b (yellowness). Accordingly, 900 separate test results (150 tests of 6 parameters) from each instrument are evaluated.

Instrument results for each Round Trial are collected by USDA and forwarded to the Bremen Fibre Institute for evaluation. Each instrument is given an overall ranking, as well as rankings for performance on each of the six parameters. Rankings are based on the first four upland cotton samples with known values. The purpose of the fifth cotton sample in all CSITC Round Trials is for special study purposes and is not used for performance-ranking. Results for each instrument are confidential, but each testing facility receives an evaluation of its performance in the Round Trial and a detailed diagnostic analysis of results.

Rankings are based on the results of each instrument in coming closest to the mean (average) values for all instruments participating in the Round Trial on all six parameters. The range of scores for the combined properties among the 89 instruments was 0.27 to 2.73 (a score of zero would be perfect), and the median overall evaluation of combined properties was 0.52.

The typical inter-laboratory variations achieved by instrument testing, given as standard deviations, were:

CSITC RT 2009-3

Property	Standard Deviation based on Single Tests	Standard Deviation based on 30 Tests/Sample
Micronaire	0.09 mic	0.07 mic
Strength	1.37 g/tex	1.16 g/tex
Length	0.020 inches	0.015 inches
Length Unif.	0.9 units	0.5 units
Color Rd	1.26 units	1.27 units
Color +b	0.45 units	0.40 units

SFI and Maturity

SFI and Maturity results were evaluated for their interlaboratory variations for the first time during RT 2009-3. Thirty-five labs operating HVI 1000 instruments voluntarily participated in the evaluation of results for SFI and maturity. The variation between labs indicates that SFI measurements are insufficiently reliable to be included as an official part of round trials. The lack of a procedure of calibration for HVI SFI readings precludes any possibility of using the information on a commercial basis. However, CSITC includes SFI data in round trials so that, as new software is introduced, it will be possible to evaluate the performance of instruments after calibration. USDA is preparing calibration cottons with trial values for 12.7mm short fiber index.

Regarding maturity, although the results were consistent between participating labs, the narrow scale of maturity measurement creates an obstacle to utilizing the information on a commercial basis. However as with SFI, round trials will continue with the option of including maturity readings so as to permit further analysis, but neither SFI nor maturity results are used in laboratory rankings. Data for the interlaboratory variation of SFI and maturity from RT 2009-3 are available on the ICAC web site.

Summary Tables Available on the Web

Summary tables from the first eleven CSITC Round Trials are available on the web site: www.ICAC.org. The summary includes:

- Inter-laboratory averages and variability and in-laboratory variability for each of the 6 properties and each of the five cotton samples;
- Graphs showing the distributions of the test results for every property and each cotton;
- A summary list of the combined properties evaluations from testing centers; and
- A summary list of the evaluations for each property from testing centers.

Benefits of Participation

Participants in CSITC Round Trials benefit from detailed feedback that can be utilized to demonstrate measurement performance to customers and to address measurement related problems. Results will confirm the participant's ability to provide reproducible test measurements that are based on the established international standard. In addition, participation is a recommended practice for fulfilling quality management requirements in laboratories (e.g. ISO 17025).

The CSITC Round Trials complement, but do not replace, the Bremen Cotton Round Trial and the USDA HVI Checktest. Participation in CSITC Round Trials provides numerous benefits:

- Statistically robust evaluations of instrument performance based on 4 cottons and 30 tests per cotton during each Round Trial,
- An overall rating of instrument accuracy in comparison with elite testing facilities worldwide,
- Unique quarterly and annual certificates of laboratory participation and instrument ratings,
- Detailed diagnostic evaluations of instrument performance of a range of parameter values, and
- (on demand) laboratory specific direct advice to improve test results

Nevertheless, participation in the Bremen and USDA programs remains meaningful. The Bremen Round Trial is not limited to High Volume Testing and allows evaluation of all cotton testing instruments free of cost. The USDA HVI Checktests are conducted monthly, rather than quarterly.

Round Trial Cost & Sign-Up

Participation in the CSITC Round Trial is subsidized by USDA, the Bremen Fibre Institute and the ICAC Secretariat. Support is also received from the Common Fund for Commodities and the European Commission through the CFC/ICAC/33 project. A nominal fee of US\$600 per year during 2010 for four trials is charged to cover expenses associated with sample distribution and evaluation of results.

To participate in future CSITC Round Trials, contact:

International Cotton Advisory Committee – CSITC
Email: CSITCsecretariat@icac.org
Fax: 202-463-6950

(Press releases are available via e-mail. To register for this free service, send your contact information to publications@icac.org)

The International Cotton Advisory Committee is an association of more than forty governments of countries with an interest in cotton. The Secretariat of the Committee publishes information related to world cotton production, supply, demand and prices, and provides technical information on cotton production technology. Detailed statistics are found bimonthly in *COTTON: Review of the World Situation*, \$185 per year via email, \$225 per year in hard copy. A monthly outlook is available by email for \$295 per year. Access to the latest weekly estimates of world cotton supply and use by the Secretariat is available on the Internet for \$460 per year. Access Secretariat reports at www.icac.org.