

## 22<sup>nd</sup> CSITC ROUND TRIAL COMPLETED

The 22nd Round Trial under the auspices of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC RT 2012-2) was conducted from January to March 2012 (CSITC RT 2012-2). During the Round Trial, 67 testing facilities from all continents submitted results from 112 instruments. With a median evaluation of 0.46, the results of this Round Trial were among the best since the start in 2007. A full summary and the General Evaluation Report can be seen at [csitc.org](http://csitc.org).

This is the first CSITC Round Trial series conducted without public funding, but solely financed by the participation fees.

Each round trial consists of five samples prepared by the U.S. Department of Agriculture (USDA) and sent to participating laboratories. Each sample is tested in each laboratory six times a day for five days for all six CSITC parameters of micronaire, length, length uniformity, strength, Rd and +b, resulting in a total of 900 measurements from each instrument. Results are downloaded electronically and sent to the Bremen Fibre Institute for evaluation. Because of the large number of observations over a five-day period, the resulting pattern of results can be used for detailed diagnostic evaluation.

Laboratories are not given grades or pass/fail results, and all results are confidential. The purpose of CSITC round trials are to facilitate improvements in both accuracy and precision among cotton testing laboratories around the world.

Laboratories are given an overall ranking, as well as rankings for performance on each of the six parameters. Rankings are based on the results of each lab in coming closest to the mean (average) values for all laboratories participating in the Round Trial on all six parameters.

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

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Property	Standard Deviation based on Single Tests	Standard Deviation based on 30 tests/sample
Micronaire	0.083 mic	0.066 mic
Strength	1.09 g/tex	0.86 g/tex
Length	0.015 inches	0.010 inches
Length Unif.	0.76 units	0.59 units
Color Rd	1.04 units	0.99 units
Color +b	0.41 units	0.35 units

Laboratories are also being informed as to what proportion of their test results are within a given limit for each parameter. This information provides additional practical information that will be useful in improving testing performance.

**Average Percent of Results or Instruments Testing Within Established Limits:**  
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Property	Limit chosen by CSITC	Average % of results inside the limits	% of instruments with all sample results inside the limits	Average % of results inside the limits	% of instruments with 95% of sample results inside the limits
		based on 30 tests/sample	based on 30 tests/sample	based on 1 test/sample	based on 1 test/sample
Micronaire	0.20 units	99	97	98	90
Strength	2.0 gf/tex	95	88	90	63
Length	0.03 inches	97	93	95	76
Length Unif.	2.0 units	99	97	96	79
Color Rd	1.5 units	89	80	86	59
Color +b	1.0 units	97	94	96	85

Information about CSITC and overall Round Trial results (information for individual laboratories is confidential) is available at [www.CSITC.org](http://www.CSITC.org).