



INTERNATIONAL COTTON ADVISORY COMMITTEE

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Report of the Ninth Meeting of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC) April 2, 2008, Bremen, Germany

The 9th meeting of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC) was held in Bremen, Germany at the Bremen Cotton Exchange prior to the start of the 29th International Cotton Conference Bremen.

Members present:

Andrew Macdonald, former President of the Liverpool Cotton Association, Chair
Zbigniew Roskwitalski, Vice President and Director of the Gdynia Cotton Association, Poland, Rapporteur
Romano Bonadei, Chairman of Filati Filartex in Italy
Axel Drieling, Testing Methods Department, Bremen Fibre Institute
Darryl Earnest, Deputy Administrator, Cotton Program, USDA/AMS
Jean-Paul Gourlot, CIRAD
Urania Kechagia, Director, cotton and Industrial Plants Institute, Greece
James Knowlton, Chief Standardization & Engineering Branch, USDA AMS
Neal Gillen, American Cotton Shippers Association (representing John Mitchell)
Subhash Grover, Chairman and Managing Director, Cotton Corporation of India
João Luiz Ribas Pessa, farm director of Fazenda Nova in Brazil
Jolly Sabune, Managing Director, Cotton Development Organization, Uganda
Ralph Schulzé, cotton industry consultant, Australia
Peter Wakefield, Director, Wakefield Inspection Services

Members Absent:

Graham Fogg, SGS North America
Lau Cheuk-Wai, Quality Control Department of Central Textiles in Hong Kong
Ibrahim Malloum, Cotton Commercial Manager, Somdiaa
Anton Schenek, former Chair, ITMF International Committee on Cotton Testing Methods

Observers: O.P. Agarwal, Arthur Aldcroft, Edelgard Baumann, Ralf Baumer, Gretchen Deatherage, Daniel Djedouboum, Fatih Dogan, Andrzej Drozd, Charles Ekelege, Jamie Fisher, John Foulk, Iwona Frydrych, Gary Gamble, Hanne Gerardi, Hossein Ghorashi, Stuart Gordon, E. Goze, Rinat Gulyayev, Omar Hanzafrah, Robert Jiang, Suresh Kotak, Vinay Kotak, A.H. Latif, Philipp Lehne, C.D. Mayee, Malgorzata Matusiak, Nayan Mirani, Dominic Mwakangale, Geoffrey Naylor, Bill Norman, Greg Parle, P.D. Patodia, Silvia Pavlidov, Mona Qaud, James Rodgers, Anja Schleth, Varadarajan Srinivasan, Allen Terhaar, René van der Sluijs, M.N. Vijayshankar, Menahem Yogev,

Terry Townsend and Rafiq Chaudhry served as Secretariat.

Next Meeting:

The Tenth Meeting of the CSITC will be November 16, 2008 beginning at 13:30 in Ouagadougou, Burkina Faso.

Background: An Expert Panel on CSITC was formed in December 2003 on the instruction of the 62nd Plenary Meeting in Poland. CSITC is facilitating the adoption of universal instrument testing standards and procedures by all testing centers around the world. CSITC is also working to introduce the use of instrument testing language in the trading of cotton so that traditional descriptions of grade or type are replaced with instrument test values.

The members of the panel represent both exporters and importers and all segments of the world cotton industry. Observers are welcome at all meetings. By tradition, decisions at all ICAC meetings are determined by consensus with full participation by observers. If it is not possible to reach consensus, decisions would be made by a vote of members present.

The Expert Panel issued two interim reports in 2004, including a report to the 63rd Plenary Meeting in India in November that identified seven actions to encourage worldwide testing of cotton with standardized instrument testing methods and procedures. The actions include 1) definition of specifications for cotton trading, 2) definition of international test rules, 3) implementation of test rules, 4) certification of test centers, 5) definition and provision of calibration standards, 6) specification of commercial control limits for trading and 7) the establishment of arbitration procedures. The report from the Expert Panel included specific actions and identified responsible parties for the achievement of each recommendation.

During a small-group meeting in Bremen in April 2005 and during the 3rd Meeting in Memphis in June 2005, the seven recommendations and status of implementation were reviewed. During the 3rd Meeting, the CSITC determined that the original tasks associated with diagnosis of problems and the development of recommendations had been achieved and that a new phase of work had begun with the implementing of proposals. Therefore, the name of the panel was changed to "Task Force" on CSITC to better describe the new role in facilitating the implementation of proposals.

During the 4th Meeting in Liverpool in September 2005, the CSITC discussed the results of a pilot round trial and considered how best to rate test centers. It was agreed at the 4th Meeting that the world cotton industry **will not seek to establish an international testing center**, and it was agreed that **testing centers should be rated according to their performance** relative to other participating testing centers in a series of CSITC Round Trials.

During the 5th Meeting in Bremen in March 2006, the CSITC considered the results of a Second Pilot Round Trial and agreed to a system of evaluating test centers based on parameters for individual measurements and an overall score.

During the 6th Meeting in Goiania, Brazil in September 2006, the CSITC adopted a formula and set of scale factors to calculate a "**Combined Properties Measurement**" to enable testing centers to gauge their current performance and to track progress over successive Round Trials. It was decided that quarterly Round Trials should begin in 2007, with a nominal cost of US\$75 per Round Trial charged to participating test centers to cover the costs of sample shipment. The CSITC decided to include non-U.S. cotton in the Round Trials as a "fifth sample," with the understanding that the fifth sample will not be used in the calculation of the Combined Properties Measurement. Results from tests on the "fifth samples" will be used to show the in-laboratory and inter-laboratory variability on cottons from different origins. The Task Force decided that **a summary of results of all participating test centers in each Round Trial would be published** on the ICAC web site. However, the names of participating test centers, the results for each center, and the disaggregated results for each test parameter will be given only to each test center in order to encourage participation. Test centers will also receive detailed reports indicating their performance relative to all other test centers and recommendations for improvement. The Task Force agreed that its current structure should continue through 2007. The CSITC agreed to meet with the leadership of the ITMF International Committee on Cotton Testing Methods (ICCTM) during 2007. Progress on technical matters referred to ICCTM by CSITC (e.g., effect of trash on color readings), will be reviewed, and possible additional tests, e.g., fineness/maturity, will be considered.

During the 7th Meeting in Winterthur, Switzerland in March 2007, the results of the first official Round Trial conducted in December 2006 and January 2007 were reviewed. The Task Force approved the format of a certificate of participation and accompanying tables and charts with detailed examination of results to be provided to each participating testing center. The Task Force confirmed that evaluations of laboratory performance would be **calculated from the mean values** of participating labs rather than using the standard values determined in advance by USDA. The mean values will be presented in comparison to the values established by the USDA. The Task Force decided to **exclude obvious typographical errors** from the calculation of results from each lab, as such errors would skew results to absurd ranges, but it was decided that the reports from the Bremen Fibre Institute would inform labs of such errors so that data-handling procedures can be improved. **Acceptance ranges for each of the 6 parameters were approved.** If results reported by testing centers fall within each range, the results will be used in the evaluation of laboratory performance; results falling outside each range will be excluded. The CSITC agreed that the Bremen Round Trial and USDA check tests are more appropriate vehicles for investigation of methods to develop tests for Short Fiber Index, stickiness and neps. The CSITC asked the ITMF International Committee on Cotton Testing Methods (ICCTM) to study how to improve these tests. It was noted in the 2nd Pilot Round Trial (2006) that there were persistently lower Rd measurements using HVI 900 or HVI Spectrum versus the newer HVI 1000 instruments (all instruments are manufactured by Uster Technologies). The Task Force decided that participating laboratories should receive a document with recommendations for good incandescent colorimeter performance. The CSITC decided to ask the ICCTM to investigate how best to compensate for

trash in color measurements. Regarding the use of instrument values in arbitration of contracts, the CSITC decided to continue to conduct round trials and provide results to participating labs. Those **labs that wish to be certified for arbitration purposes should apply to an arbitral authority for certification.** The CSITC decided that it **will not establish certification procedures**, but each arbitral body will decide their own certification standards, and labs will apply to the arbitral body, not the CSITC, for certification. The Task Force agreed that the results of the CSITC Round Trials, especially the inter-laboratory variations, would be published and given to the cotton associations. The results will help the associations to fix commercial tolerances.

During the 8th Meeting in Izmir, Turkey October 21, 2007, the Task Force reviewed the results of Round Trials 1 through 3, noting that the **overall data and single-lab data for each parameter were consistent** from one round trial to the next, strengthening confidence in the CSITC process. No differences occurred between the inter-laboratory averages reported by participating test centers during the first three CSITC round trials and the USDA Established Results for strength, length uniformity index, Rd and +b. It was reported that work done earlier based on the Bremen Round Trials indicates that instruments from different manufacturers will give results on one common level if operated properly.

The inclusion of a 'fifth' cotton in the CSITC Round Tests was discussed, and the principle endorsed. The Task Force agreed that the fifth sample could be of any origin, but would need to be properly prepared by USDA to minimize variation between samples. To further reduce the risk of distortion of results, it would be assessed separately from the 4 test samples. There was considerable discussion on the need for interactive feedback, especially with participating test centers with results outside the statistically normal range. The ICAC Secretariat presented a 2-page Invitation/Participation form, and this was well received. All agreed that the stage has been reached where greater participation is essential. A concerted promotional effort, led by Andrew Macdonald and Terry Townsend, and covering ICAC, ITMF, all Cotton Associations, instrument manufacturers and all sectors of the trade, should be launched. The Task Force set the participation fee at US\$300 for four tests. The publication of the list of CSITC Round Trial participants was seen as a positive mechanism to encourage uptake. The CSITC effort is seen as 'good for the international industry' and as such, a good thing with which to be associated. The Task Force supported a proposal to publish the list of participating testing centers, with the proviso that those not wishing their names to be included could choose not to be listed. A 'tick box' on the forms presented by the Secretariat would facilitate this. It was emphasized that only the names of participating testing centers, and not confidential information about performance, would be made public. **A proposal to publish a list of testing centers with passing or failing performances in round trials was not supported.**

Romano Bonadei presented 'a spinners view' on neps and stickiness. There was general agreement that **CSITC should expand its focus to these and other relevant fiber quality measurements, once the current system is adopted universally, and once rapid/repeatable measuring equipment becomes available.** The Task Force on CSITC had decided during the 7th Meeting in Winterthur that the International Cotton Association (ICA), as a signatory to the Universal Cotton Standards Agreement, would petition USDA to develop calibration standards for Short Fiber Index at the next Universal Cotton Standards Conference in June 2008 in Memphis. However, Jimmy Knowlton of USDA suggested that a more constructive first step in making progress on the subject of SFI would be to organize a small group of about ten labs with HVI 1000's to evaluate the new SFI cotton calibration. Jimmy suggested that USDA could provide "research" SFI values on special calibration cottons to these labs. The group of labs would be a subset of CSITC labs. The subset of labs would enable the SFI cotton calibration option on their instruments when they test their CSITC round test samples. The SFI data would be collected on the CSITC samples and sent to USDA with the regular CSITC test data. A separate analysis would be performed on the SFI data independent of the normal CSITC round test analysis. It was noted that China is considering the development of their own SFI standards using a different definition (16.5 mm and less) than the definition of SFI in common use elsewhere (12.7 mm or shorter). Neal Gillen observed that USDA should be encouraged to develop a SFI standard for inclusion in the Universal Cotton Standards. The Task Force **agreed that an SFI standard is needed, and there was a consensus to support the proposal by Jimmy Knowlton to use a subset of CSITC participants to evaluate the new SFI cotton calibration standard.** It was decided that the ICA should not petition the Universal Standards Conference in June 2008 to have USDA develop SFI calibration standards at this time, pending additional research.

Report of the Ninth Meeting

The meeting was held at the Bremen Cotton Exchange on Wednesday, April 2, 2008 beginning at 1:30 pm.

1. Encouraging Participation in CSITC Round Trials

The chairman, Andrew Macdonald, summarized progress to date as satisfactory. There are now over 50 co-operators with over 70 machines involved in the CSITC Round Trials. However, considering that there are some 2,200 Uster and 400 Premier machines in the world, there now needs to be a major effort to improve participation. ICAC has already prepared and distributed an 'Invitation to Participate' and a 'Participation Form' regarding the Second Round Trials. Terry Townsend reported that only about 10% of respondents had requested that their participation not be disclosed. It was suggested that the list of participants should be published on the ICAC website (and possibly more widely) so that non-participants can be identified and encouraged to join the international effort.

Senior representatives present from Uster and Premier undertook to actively encourage the owners and buyers of their equipment to participate in the CSITC Round Trials.

ITMF was asked to make special efforts to inform their membership and to encourage participation. The chairman gave the same message to ICA and other cotton associations.

In answer to a question from Mr. Grover of India it was stated that participants do not have to test each of the six CSITC parameters, but are certainly encouraged to do so.

Axel Drieling made a presentation giving examples of how feedback and follow-up had assisted Round Test participants and can assist in the future. In some cases the overall performance might have appeared satisfactory, but a study of the data may have identified specific deficiencies that could then be addressed and potentially corrected. There can be unacceptable variation between tests, or between the same test on different days, and proper follow-up could help identify the cause of the problem (operator error, test conditions or equipment malfunction) and provide guidance in its correction. Usually follow-up is initiated by a request from the co-operator and is provided at no extra charge. Occasionally follow-up contact is initiated by the Bremen Fibre Institute where significant problems arise in, or from, the data. Besides the information already being asked for, Axel Drieling is considering additional specific questions in the recording sheet to identify reasons for deviations.

2. Additional Parameters

Short Fibre Index (SFI) reliability is being studied by James Knowlton of USDA as an adjunct to CSITC Round Test 2008-1. He concentrated on assessing the variability between selected Uster HVI 1000's, calibrated by USDA to their standards. He found that under the test conditions, acceptably tight distribution curves for SFI could be achieved (as was the case for Length and Uniformity). The meeting supported further work in this area and encouraged USDA to prepare and provide the necessary calibration cottons. It also suggested to Uster that its newer machines should be enabled to be calibrated for SFI. However, Hossein Ghorashi stated that considerable work needs to be done studying the relevance of Short Fibre data derived by different techniques – HVI, AFIS, Roller Analyzer, Sutter Web Array etc. It was agreed that this should be a prerequisite before progressing too far with adding 'SFI' to CSITC measurements. USDA and Uster (and others) were encouraged to collaborate closely in the effort to develop and determine a single worldwide acceptable basis for reliable SFI testing/calibrating/benchmarking. The meeting also discussed the fact that, while most countries and international trade define 'short fiber' as fiber under 12.5mm length, some are now advocating 16mm length as the ceiling. As the correlation between both measurements is high, the meeting saw no difficulty with the use of either, providing that the ceiling level was clearly communicated. It was agreed that the world industry should work toward the adoption of one standard rather than have different parameters in parallel use.

Geoff Naylor of CSIRO, Australia, presented an update on the development of 'Cottonscan' to measure fiber fineness. He stated that Cottonscan had achieved speeds of 60 seconds per sample, and he hopes to improve on this to say 30 seconds. The meeting resolved to recommend and support further development of Cottonscan.

Menahem Yogev described Israeli equipment used for rapid testing of cotton for 'stickiness' and neps. He demonstrated that it is possible to test high volumes of cotton for stickiness and neps with acceptable levels of accuracy and precision. However, it was noted that the instrument used in Israel is no longer being manufactured, suggesting that the technology may not be economically practical. He encouraged plant breeders to select strains that are low in seed coat fragments, which can contribute to both 'stickiness' and 'nepiness'.

3. Evaluation of Round Trials

Axel Drieling presented data for the first five Round Trials in an attempt to discern trends. Results for length, strength and micronaire were acceptably consistent over the period. Results for color (Rd and +b) also consistently fell into their relevant “commercial boxes”. Comparisons between Uster and Premier machines also demonstrated consistency. Similarly, internal comparisons of USDA machines (all Uster, but a range of ‘models’) showed consistency. There were no worrying trends emerging, but rather there was an expected slight overall trend towards fewer “poor performers”.

Cotton for the ‘fifth cotton’ in a previous round was supplied by India. It is expected that the next international fifth cotton will come from Brazil (arrangements well underway). Greg Parle, chair of the Australian Cotton Classers Association, undertook to supply the following international fifth cotton.

4. CFC/EU/ICAC Project Report

Jean Paul Gourlot gave an update on the CFC/ICAC 33 joint project: -

- The first training session for ‘experts’ at Bremen and Gdynia were completed.
- The next series of training sessions will be held in USA at Memphis, Lubbock and Knoxville; in France at Montpellier; and in India at Coimbatore.
- Bremen Cotton Exchange invested in an additional high capacity testing line to implement its involvement.
- The next stage is to expand activities in Africa- upgrading and equipping laboratories, and the provision of training material.

5. Costs of Instrument Testing

Terry Townsend presented results of a survey on the cost of instrument testing. Indicative costs, in US\$, based on 2006-7 data were:

	Developed Countries	Developing Countries
Personnel	49,000	33,000
Repair & Maint.	12,000	18,000
Other Annual	47,000	14,000
Instrument Deprn	51,000	36,000
Other Depreciation	6,000	12,000
TOTAL Annual Costs	165,000	113,000

Testing fees ranged from \$1 to \$4 per sample- and the average charge was \$2.25 per sample. Assuming every bale is tested once, this equates to 0.50 cents per pound for a 500-pound bale. Participants from India commented that, as only 2% to 4% of their bales were tested, their costs per pound were correspondingly very low.

6. Arbitration Developments

Andrew Hursthouse, President of the ICA, submitted a letter. He noted that high speed instrument testing is already playing an important part in world cotton trade. He noted that the ICA has approved additional expenditure on the HVI laboratory. He noted that the Rules Committee is working on comprehensive rules that will protect both buyers and sellers in the case of a dispute over the results of two instruments located in different places over a broad range of mechanical parameters. It is envisioned that the parties to a dispute may choose a laboratory anywhere in the world for undertaking tests, with these results then being used by the ICA arbitrators to determine an allowance and issue an enforceable award. Either party may request a second test, though the second test can be undertaken only at the ICA or BBB. The arbitrators will then write their award based on these results and the market differences that apply for the variance between contract terms and the results. Mr. Hursthouse noted the close link between ICA and BBB following the incorporation by BBB of ICA Rules, and he encouraged all to consider the benefits of standardization in the broadest scope. Zbigniew Rostwitalski reported that Gdynia is adapting its rules to accommodate arbitration procedures for instrument testing parameters.

It was noted that for arbitration purposes there needs to be a disclosure of whether the cotton in question was saw or roller ginned, and whether the equipment used to test it was calibrated to Upland or Pima universal standards. Such information should be noted on the printout of testing data.