



International Committee on Cotton Testing Methods (ICCTM)

## Progress Report 2018

Proceedings of the ICCTM Meeting in Bremen, March 19<sup>th</sup> and 20<sup>th</sup>, 2018

Bremen Cotton Exchange

Wachtstrasse 17-24, 28195 Bremen, Germany

Chair: Axel Drieling, Faserinstitut Bremen e.V., Germany  
Vice Chair: Mona Qaud, Uster Technologies AG, Uster, Switzerland

### **Preface**

The International Textile Manufacturers Federation (ITMF) founded in 1904 is an international association for the world's textile industries, dedicated to keeping its world-wide membership constantly informed through surveys, studies and publications and through the organisation of annual conferences, participating in the evolution of the industries basic raw materials and their application, through specialised committees, with the overall objective of creating growth and prosperity in all aspects of industry.

The International Committee on Cotton Testing Methods (ICCTM) is a non-profit technical subcommittee of ITMF. The main function of the Committee is to encourage research and development for enhanced cotton testing methods, to recognize suitable test methods and instruments, to identify reference test methods, to harmonize cotton testing results and to discuss testing related problems.

The mandates of the Committee are:

1. Encourage research into the basic science needed to develop commercially useful tests.
2. Encourage the development of enhanced testing methods.
3. Recognition of instruments and testing methods that are beneficial for the cotton value added chain, being able to perform within allowable tolerances, and achieving results that correlate with a reference method.
4. Identification of reference methods.
5. Harmonize cotton testing results by means of
  - a. proposition and support for the international standardization of test methods
  - b. development of guidelines for testing
  - c. technical evaluations using world-wide round tests.
6. Discussion of problems related to testing of cotton fibre properties and their relations to cotton processing.

## **Introduction**

Dr. Christian Schindler, Director General of the ITMF, welcomed the members and observers of the ITMF International Committee on Cotton Testing Methods in Bremen, which started this year already on Monday, as there were many additional activities during the Bremen conference week. He mentioned the importance of testing and testing methods for cotton and fibres in general. 50 people attended this year's meeting. He expressed his sincere thanks to the Fibre Institute Bremen (FIBRE) as well as the Bremen Cotton Exchange, that this meeting could take place again in Bremen. He welcomed also the members of the ITMF Spinners Committee as well as the observers from the ICAC Task Force on Commercial Standardization of Instrument Testing of Cotton.

Dr. Schindler presented the agenda of the meeting with a total of 19 presentations. Due to this, the presentation time was limited to 5 to 8 minutes each.

Interested parties are always welcome to ask for membership at the ITMF by sending an email to [secretariat@itmf.org](mailto:secretariat@itmf.org). Additionally, Dr. Schindler reminded the members of the special [ITMF-ICCTM-Website](#), which allows the members of the Committee to find all relevant documents and addresses including sending emails to all members.

The word was handed over to the Chairman of the Committee, Mr. Axel Drieling, who also welcomed the participants and introduced the Executive Committee. Since 2012, no specific tasks are listed anymore, but a joint Executive Committee is looking after all relevant topics. The ICCTM Executive Committee consists of:

- Mr. Axel Drieling (Chairman)  
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- Dr. Stuart Gordon  
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The Steering Committee comprises the following members:

- Mr. Darryl Earnest  
USDA-AMS, Memphis, USA
- Mr. Karsten Fröse  
Bremer Baumwollbörse, Germany
- Mr. Kai Hughes  
ICAC, Washington D.C., USA
- Mr. Andrew Macdonald  
ITMF Spinners Committee, Brazil
- Dr. Terry Townsend  
(Coordinator of the Steering Committee)  
Cotton Analytics, USA

Dr. Terry Townsend thanked on behalf of the Steering Committee the organizers of ITMF and ICCTM for the organization of the meeting. He mentioned the assumption of the Steering Committee that stickiness will gain importance, and that traceability should be becoming more and more a topic. Furthermore, contamination and their definitions should be looked into in the

future - the Spinners Seminar in Bremen on Tuesday 20<sup>th</sup> will already address this topic. Axel, Mona and Christian were invited to join the Steering Committees meetings in future.

Mr. Andrew Macdonald, Chairman of the ITMF Spinners Committee, mentioned that they would like to understand more about alternative fibres. He also mentioned that the Spinners Committee will continue to visit also man-made fibre manufacturers in the near future such as Lenzing in Austria, as well as polyester manufacturers in order to expand the views outside of the cotton industry.

### **Recognitions (coordinated by Jean-Paul Gurlot)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>1</b>	Dr. Stuart Gordon, CSIRO	<a href="#">Cottonscope</a>
<b>2</b>	Mr. G. Branca and Mr E. Branca, Branca, Italy	<a href="#">Moisture regain tester</a>

#### Recognition of Cottonscope

The presentation and discussion was already done in depth in the last meeting – only some minor questions and adaptations were open, e.g. the number of tests for the repetition. Stuart Gordon explained that 3-5 samples with each 50 µg of snippets is suitable. Specimen's preparation time is slightly longer than time for the measurements.

There were no votes against and no abstains – so the Cottonscope was recognized by the Committee members as the 4<sup>th</sup> instrument.

#### Presentation Regain Tester, Branca

Eugenio and Giancarlo Branca presented their test method for the moisture content of fibre samples, the Regain Tester, although not yet applying for recognition. The first instrument was developed by Branca Idealair in 1925 in Italy. The new instrument is operating and the results calculated automatically after inserting the sample. The testing time can be down to 5 minutes for one sample – depending on the actual moisture content and the sample size (which is up to 500g). Parameters are Cotton Moisture and Moisture Regain. The drying temperature is 105 degrees Celsius. It was discussed that the oven method would be the suitable reference method for the instrument.

Stuart Gordon was chosen to coordinate the recognition of this method after the application.

#### Other instruments for Recognition

Mesdan and Loepfe are planning to follow up on the recognition of their Contest/Fibermap instruments after having collected more practical experience.

Textechno is also planning to recognize the MDTA4 testing – the first instrument will be going to USDA in 2018. When 3-4 instruments are supplied, the first round trials can be conducted.

#### Advertisement based on ITMF Instrument Recognition

In a following discussion, it was asked to clarify how the manufacturers should be allowed to show and use the ITMF Recognition Label in the market and which wording was suitable for advertising for their instruments based on the ITMF Recognition. Terry Townsend said that the terms “recognition” and the former “recommendation” are misleading as such. It was made clear that recommendations were given before 2010, and recognitions, which has another intention, from 2012 onwards. By being recognized the ITMF Committee honours the work of the test instrument manufacturer to show details of the instruments performance e.g. by round trials, comparisons to other methods, to show performance of the instrument over time. Finally, the customer purchasing the instrument and/or method should, based on the information

provided for the ICCTM recognition, be able to decide, if a test method is valid for his application.

It was decided that the Executive Committee will work out and provide a suitable wording for advertisements referring to the ITMF recognition, and to include this wording in the recognition procedure.

### **High Volume Testing (coordinated by Axel Drieling)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>3</b>	Axel Drieling, Faserinstitut Bremen	<a href="#">SITC Testing Guideline</a> <a href="#">Standardisation of Instrument Testing of Cotton (SITC)</a>
<b>4</b>	Dr. Jean Paul Gourlot, CIRAD	<a href="#">Guideline: Interpretation use of SITC measured cotton characteristics</a>
<b>5</b>	Steve Grantham, USDA-ARS	<a href="#">Update in USDA's automation efforts</a>

Axel Drieling shared the changes done within the SITC Guideline from version 2.0 to 3.0, including few changes in content plus several slight changes just in wording. As a major change, the between instruments standard deviations were reduced significantly since the last edition of the guideline. These values are a very good basis for fixing commercial trade limits. The guideline will not be available in a short and a long version, but solely in a full version.

Axel asked if the version 3.0 should be published as of now, which was approved unanimously. The Guideline will be available in an official version plus in a version, where changes in comparison to version 2 are highlighted. The guideline will be published in several languages on the following sites: [CSITC-website](#); [ITMF-website](#), [ICAC-website](#).

Jean Paul Gourlot presented the layout of a new guideline for interpreting cotton properties and test results. This includes mentioning the existing test methods, comparisons to manual classing, use for cotton production, ginning, trading, spinning mills and textile processing. The coordinators of the ITMF ICCTM are the main contributors for this guideline in addition to the support from Mrs. Vikki Martin and Mr. Chris Delhom. The focus should be on the parameters used in HVI.

The planned timeline is within the year 2018, until the ICAC plenary for review.

Hossein Ghorashi had been asked by the CSITC to support the activities for including more spinning mill laboratories in the CSITC round trials. Hossein explained that he prepared a presentation for spinners, mainly focusing on the monetary benefit from participation in round trials and how to take full advantage of round trials and test results. He mentioned the idea that instrument manufacturers could cooperate with the laboratories for their round trial participation.

Steve Grantham, USDA-AMS, shared an update on the USDA automation methods for cotton classification. USDA-AMS operates 240 HVI systems in various locations in the US. The conventional operation has the full sample conditioned, and the micronaire tests are done manually. Testing time depends on the operators for sample delivery. He shared the view of the operation of Abilene Texas with a video. 10 minutes conditioning is now reduced to 2 minutes, as only 20 grams are conditioned. Color/trash measurement samples do not need conditioning. Testing of micronaire is done with an "Automatic" option based on automatic sample weighing. Also, other labs adapted the reduced conditioning and do not work with full trays being conditioned. In the office in Memphis, USDA is operating with a de-coupled system, where the tests in the HVI modules are done independently from each other, and results are

finally matched in the database. Samples are tracked with RFID tags. This system is currently only in operation in the TN office.

In the discussion the question was raised on the costs for such a system and the respective savings. For USDA, because of the large scale, it would pay off within 2-3 years. Mr. Darryl Earnest added that it could be scaled down to 12, 8 or even 6 instruments for the installation.

Axel Drieling asked Sandra Meier from Loepfe, if already data is available for comparing Loepfe Fibermap test result levels with the usual high-volume testing. Sandra answered that principally the results are on the same level, but currently not sufficient detailed information is given. She will be happy to present results to the committee as soon as available.

### **Length / Strength (coordinated by Mona Qaud)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>6</b>	Dr. Guntram Kugler, Textechno, D	<a href="#">Force and elongation behaviour of single fibres and bundles</a>
<b>7</b>	Getnet Belay Tesema, FIBRE	<a href="#">Challenges with elongation</a>

Dr. Guntram Kugler, Textechno, presented comparisons of their testing devices Favigraph and Fibrotest for single fibre strength, bundle strength in HVI testing mode and bundle strength in direct testing mode. For strength, Guntram concluded that, based on the mechanics of fibre bundles, the strength of bundles should be much lower than the strength of single fibres. This can be found with the Fibrotest direct testing mode, but in the HVI testing mode, bundle strength is even higher than single fibre strength, which is physically impossible.

For elongation, Guntram explained that a positive correlation between strength and elongation can be seen for single fibres. For fibre bundles the correlation is usually found to be negative. But when applying a pretension of 5cN/tex, which is typical for yarn testing and single fibre testing, this positive correlation can be seen for fibre bundles, too.

Mrs. Ivona Frydrich stated that the spinners need a method that is applicable for them – that is in fibre bundles. The Textechno approach with Fibrotest fits for comparisons with the yarn tenacity – also there a pre-tension is applied.

Mr. Getnet Belay Tesema from Ethiopia and PhD student in Bremen, presented a study on varieties from Ethiopia, focusing on strength and elongation, measured with HVI and with Textechno CCS. He explained that fibre elongation is an important parameter for spinning, as it is contributing to the work-to-break, which is important for the fibres to withstand sudden shocks of a given energy during processing. Some integral fibre quality formulas such as SCI and FQI are not taking the elongation into account. Getnet stressed that elongation should be considered for cultivating cotton and for integral fibre quality formulas.

In past meetings a suggestion was to look into the Lower Half Mean Length (LHML) as a relative measure of fibre length for short end of the fibre length distribution – as some studies showed that it could give some additional information on the fibre behavior in spinning, while heaving less variability. Dr. Kugler explained that Textechno tried to include LHML in the MDTA4 and they wanted to see a variation of less than 10% - like for SFI. But as they found a higher variability, they finally didn't include it.

**Stickiness (coordinated by Jean-Paul Gourlot)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
8	Dr. Jean-Paul Gourlot, CIRAD, F	<a href="#">Introduction and Research project for stickiness</a>
9	Dr. Jean-Paul Gourlot, CIRAD, F	<a href="#">Stickiness Round tests and future planning</a>
10	Dr. René van der Sluijs, CSIRO, AUS	<a href="#">The effect of ETO fumigation on stickiness</a>
11	Gabriele Salvinelli	<a href="#">Contest/ Fibermap: The first year of field testing on stickiness detection</a>
12	Liv Severino	<a href="#">Portable stickiness measurement</a>
13	Dr. Jean-Paul Gourlot, CIRAD, F	<a href="#">Announcement for different stickiness testing method</a>

Dr. Jean-Paul Gourlot organized a round test in 2013/14 to find out on the behaviour of stickiness and concluded that there is the need for harmonization. Reference material is needed to have a good basis for such kind of round trials, however no funding was available.

Now, two new round tests were organized in 2017 by CIRAD, BBB, and FIBRE without financial support. It included three cottons per test, and tried to cover all stickiness testing methods used in laboratories. Methods used in this test were: Benedict, Caramelization, Clinitest, Contest, Fibermap, H2SD, KOTITI, Mincard, Quantitive method, Reactive spray, SCT, GB/T13785-1992, with in sum approx. 35 instruments participating, and SCT with the highest participation (13). The results showed e.g. that SCT is sensitive to cotton preparation – and gives higher readings (sticky points) after homogenization steps, whereas some other methods give consistent results.

Jean-Paul proposed that a common scale would be helpful to compare the results of different methods and proposed different ways for this.

Jean-Paul stated that Mincard as the ITMF chosen reference method should be tested at 55% r.h., as humidity has an impact on the sticky behaviour. The costs for the stickiness round test was stated with approx. EUR 18'000 per edition, and discussions are ongoing how to have these costs covered, e.g. by charging the participants, and/or by a possible co-funding facilitated by the Steering Committee

Dr. René van der Sluijs presented the effects of Ethylene Oxide Treatment (ETO) on stickiness. All Australia imports are fumigated, due to quarantine requirements. Fumigation with Ethylene Oxide seemed to impact highly sticky cotton on the mini-card test with sticky spots on the top and bottom roller increasing substantially. The behaviour of less sticky cottons was not affected as such. René handed the treated cottons to Jean-Paul for testing and evaluation by other methods.

Mr. Gabriele Salvinelli of Mesdan presented a paper that looked into the Fibermap / Contest from the Mesdan / Loepfe company. So far six instruments have been built.

For testing, the sample size is 3.5 g and preparation time is one minute. The material is transformed into a thin fleece and passing a heated cylinder. The temperature of the drum is now fixed to 35 degrees Celsius. Sticky elements will be staying on those drums, and are scanned by a laser. In total 31'646 samples were collected and tested so far. 198 tests per day was the average performance, with a maximum of 400 samples per day. 13% of tests were rejected due to inaccurate sample preparation, wrapping around the cards or web breaking.

As the size of sticky points may vary, the instrument considers the sticky point size for the stickiness evaluation results. The Mesdan grade is still under evaluations. Sticky cottons showed a CV of 10%, whereas non-sticky cottons showed, due to the low result level, a CV of 40%.

In the discussion, the temperature of the drum was looked at, as instruments like the SCT apply a much higher temperature. Various kinds of sugars may react differently at higher temperatures, and may melt at higher temperatures, but not at 35°C. Gabriele mentioned that tests were done up to 45°C without deviating results. Dr. Uzi Mor mentioned that 35°C is a realistic temperature for determining stickiness for spinning mills rather than 80°C.

Dr. Liv Severino from Embrapa presented a method for detecting stickiness with NIR. The system he used is detecting the NIR spectra in a high-resolution image for a large sample. With the analysis of the spectra of each pixel, the sticky points are becoming visible and hence stickiness can be quantified. Liv mentioned that he believes that the system can be easily added to mobile devices, and tested easily in the field or spinning mill. At this point, no tests were performed on typical samples, and only correlation to sugars (not stickiness) is proposed.

Dr. Jean-Paul Gourlot shared some more information in a summarizing presentation:

- He explained in the name of Kotiti their method ISO 12027, which is based on colour reaction on a colour reaction paper.
- SCT and H2SD are now produced by the company "Prodev System".
- CIRAD produces small quantities of reference material for calibrating SCT and H2SD; contact is [serge.lassus@cirad.fr](mailto:serge.lassus@cirad.fr), or [coton@cirad.fr](mailto:coton@cirad.fr),
- Sticky material will build up on testing instruments parts, such as jaws. Mr. Ghorashi mentioned that operators should be informed automatically by the instrument if the jaws are having such built up, by having an optical scan, if sticky points or seed materials is placed on the testing issues. Machine manufacturers should implement such measures as a routine and for support of the testing procedure.

Andrew Macdonald referred to the request of Dr. Gourlot for funding on his project of producing reference material, and thanked him for his dedicated work in the past years on this subject. This is also honoured by Hossein Ghorashi as he mentioned that Dr. Gourlot worked hard in the past years in the field of stickiness. Axel Drieling stated that already now it is possible with the stickiness round trial to identify deviating labs, to compare the different methods, and to find out systematic influences.

In general, a higher infestation of stickiness is foreseen due to less spraying in the fields. If stickiness is just detected during spinning, stickiness is a disaster.

### **Fineness / Maturity (coordinated by Stuart Gordon)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>14</b>	Dr. Stuart Gordon, CSIRO, AUS	<a href="#">An update on cotton fibre fineness and maturity measurement</a>

Dr. Stuart Gordon presented a review on cotton fibre fineness and maturity testing from CSIRO. Fibre fineness is based on the gravimetric basis, and maturity is based on the cell wall thickening of the fibres. Test methods for these properties need to be related to these measures. A review of peer-review literature on fineness and maturity testing published in the Textile Research Journal was presented. Articles were classified on the basis of their subject focus; i.e., test methods, fibre descriptions or fibre relationships. The number of publications

per decade since 1930 has increased with the largest increase recorded in the past decade. The recent peak in publications is a result of articles (from the US and Australia) on test methods (NIR and image analysis) and fibre relationships. Information on airflow test methods, including double compression methods, e.g., the Arealometer and FMT, peaked in the mid-1950s with research extending to the mid-70s.

Axel posed a question to Dr. Peyman Dekhordi of Uster about implementation of a more sensitive calibration of MAT1 and MAT2 in Uster's HVI software, which had been presented by Ms. Anja Schleth of Uster during the previous ICCTM meeting in 2016. Peyman confirmed that the new parameter has been included in the latest HVI software, so that the users can choose which parameter to include in the reports.

### **Neps/Trash (coordinated by James Knowlton)**

<b><u>Presentations</u></b>		
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>15</b>	Dr. Uzi Mor, Mesdan, IT	Experience with contamination testing of Mesdan FIBERMAP
<b>16</b>	James Knowlton, USDA-AMS, US	Progress in foreign matter classification

Dr. Uzi Mor shared in a brief presentation that trash and bark distinction is going to be introduced in the Loepfe Fibermap. A fibre web including extraneous matter was placed on a black and white background to check the determination by Contest / Fibermap with front light and back light. Bark trash and seed coat is still the only measurement by the classer, but can be covered by Contest testing. Some trials have been performed with samples of USDA AMS Memphis. The Fibermap instrument is not yet for Sale.

Extraneous matter is less homogeneous than other parameters, as per Fibermap sample, only 3.5 g are analysed per test. The question was raised as to whether this sample is large enough for accurate measurement of non-homogenous extraneous matter. Jimmy Knowlton mentioned that a large area scanned image looks at approximately 5g on a surface (with 4 pictures) - relates to approximately 20 grams of total material analysed. It was agreed that further evaluation was needed to determine what amount of cotton is needed to accurately determine and represent the extraneous matter in the cotton bale.

Shape analysis is part of the algorithm to determine what type of trash is present for Fibermap. Hossein Ghorashi mentioned that the processing of forming a web could break trash particles.

Jimmy Knowlton shared some information on the foreign matter classification within USDA. Physical instrument measurable standards for bark, grass and seed coat fragments are being created. Also, next steps are being made to develop a production ready imaging system continuing from lessons learned on three previously built and evaluated prototype imaging instruments. Testing is, unlike with the Fibermap or Textechno MDTA4, not done on prepared thin fibre webs, but on typical colour samples, analysing the surface. The new production imaging system would provide the current colour and trash measurements in addition to future automated extraneous matter measurement. The new imaging system would also be designed to integrate into the automated systems to increase automation over the current colour and trash measurement system. The new imaging system must also include production routines such as automatic calibration, retest handling routines, diagnostics, etc.

In the discussion J. Knowlton mentioned that neps are still not part of the USDA classification system, as high-speed instrumentation is still needed for this since the classer cannot see neps for classification purposes.

Getnet Belay Tesema also mentioned that the packing material is a challenging element in the cotton bales. It was also mentioned that no trend has been seen that bark/grass or seedcoat is increasing in US cotton.

Based on the difficulty to distinguish between bark and grass, and based on the perception, that for spinning a differentiation between both seems not to be necessary, the discussion showed that it could be suitable to combine bark and grass results.

### **Colour (coordinated by Malgorzata Matusiak)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>17</b>	Dr. Guntram Kugler, Textechno, D	Colour measurement of Egyptian cottons including L +a +b (short intro)
<b>18</b>	Prof Michael Vik, TU Liberec, CZ	Application of segmentation method for cotton trash and colour measurement

Dr. Guntram Kugler of Textechno shared an adaption of the Egyptian colour charts. A new colour code diagram was developed in Giza in cooperation with the Cotton Research Institute. The Egyptian lint grades and colour grades were established, integrating also the red colour, so having L, a and b as scales. The study included the varieties of G85, G80, G86, G88, G90 and G92. This covered the Egyptian grades from white to creamy.

In the discussion several issues were raised. US-Colour grade is not applicable for other than Upland cotton, so for Pima cottons and other charts needs to be applied anyhow. But the basis is usually solely on the Rd and +b scale. Australia had also previously investigated the implementation of their own colour chart, but in the end decided to abide by the US-Colour chart, as their cottons are traded on the world market.

**Prof. Michael Vik** of TU Liberec presented a segmentation method for cotton trash and colour measurement. He studied the influence of the type of light (each exhibiting a different light spectra) and the direction of light in relation to the sample surface. He suggested to use 45 degrees sender to 0 degrees receiver. Now the area of LED has started – different light types were compared to the CIE D65 light wavelength distributions. CCT should be near 6500 Kelvin. The trash particles inside of the sample are impacting the colour results – based on this impact they start a segmentation and transform the readings of the CCD camera into XYZ and L\*, a\*, b\* values.

### **Additional / Spinnability (coordinated by Rene van der Sluijs)**

	<b><u>Presentations</u></b>	
	<b><u>Author</u></b>	<b><u>Topic</u></b>
<b>19</b>	Dr. Mohammed Negm, CRI, Egypt	Effect of temperature variation on fibre quality measurements
<b>20</b>	Alex Thomasson, Texas University, US	Friction measurement on cotton fibre bundles and single fibres

Dr. Negm of Cotton Research Institute in Egypt shared the effect of temperature variation of fibre quality measurement. Temperature was set to the temperatures of 21, 23, 25 and 27 degrees Celsius. Giza 86 cottons UHML, Mic, Elongation did not react much on the temperature changes, with tenacity slightly dropping by 0.6 cN/tex with higher temperature. According to ASTM the range is +/-1 degrees is accepted.

Alex Thomasson was not present at the meeting. Therefore, Axel Drieling mentioned that his topic on friction measurement will be addressed in a poster during the Cotton Conference.

In the final discussion it was said, that testing has come a big step forward in the past years, and it is important to share the interpretation of the achievable results with the spinners. Axel Drieling mentioned that more spinners and textile manufacturers should be attending the ICCTM meetings to share the information and to identify the actual needs of the spinners.

### **Closing Plenary Meeting and Final Remarks**

Axel Drieling summarized the findings and discussions of the Meeting.

- In general, there was a very good discussion in the meetings, e.g. on the correlation of elongation against strength, on the different stickiness methods, on the measurement of extraneous matter and differentiation in classing but also in lab testing.
- New instruments have been developed and presented. Spinning as well as cotton breeding and production will benefit from these developments.
- The Committee agreed on modifications to the Guideline on Instrument Testing for the version No. 3.
- The work on a Guideline on Interpretation and Use of SITC measured cotton characteristics has been started, with the focus on HVI parameters first.
- Two round trials for Stickiness have been conducted and showed interesting results – calibration samples were established and can be ordered via CIRAD. To continue the work, we need funding or charge for the participation in the future.
- The Committee awarded its recognition to the Cottonscope instrument as the 4<sup>th</sup> ITMF recognized instrument.
- Requests for new recognitions were mentioned for the future for
  - Loepfe: Fibermap
  - Mesdan: Contest
  - Textechno: MDTA4
  - Branca: Regain Tester
- The ICCTM Executive Committee will develop suitable phrases how to use ITMF recognition in communication.
- It is common understanding that it will be suitable to combine bark and grass results, as it is difficult to distinguish, and as a distinction is not seen beneficial for cleaning.
- The ICCTM will try to get more input from spinners and textile manufacturers in the future.
- The Steering Committee mentioned the importance of these topics.
  - Stickiness
  - Contamination and definitions
  - Traceability of cotton from the field to the shelf

The next full Committee meeting is planned to take place again two to one days prior to the Bremen Conference in March/April 2020. The Executive Committee and its Chairmen will be happy to see all interested people.

With a closing remark, relating to Spinners Seminar on the same afternoon, Tuesday, 20<sup>th</sup> the meeting concluded. Dr. Schindler thanked everyone for the fruitful discussions, the participants for their valid inputs, and the presenters for their contribution.

Dr. Schindler thanked the Chairpersons, Axel Drieling and Mona Qaud for the preparation and organisation of the meeting and the Task Force Coordinators for their support.

A. Drieling and M. Qaud

P.S. The individual presentations of the meeting that are named in this Progress Report can be downloaded in the members section of ITMF

(<https://www.itmf.org/committees/international-committee-on-cotton-testing-methods>).

June 29, 2018

**ITMF-ICCTM Bremen 2018 - List of Participants**

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