ICA Bremen Cotton Round Test

in Cooperation with Bremer Baumwollboerse

carried out by Bremen Fibre Institute (FIBRE)

Bremen, 15.11.2018

Evaluation of the Test Results 2018 / 2

Tested Cotton: **Ivory Coast**
Cotton Number: **RM 45**

Number of Laboratories: **124**

Argentina	-	Mauritius	1
Australia	1	The Netherlands	-
Bangladesh	1	Pakistan	2
Brazil	7	Poland	-
China	19	Russia	-
Czech Republic	3	Senegal	-
Egypt	3	Serbia	1
France	1	Slovenia	2
Germany	10	South Africa	1
Greece	7	Spain	4
Hungary	-	Sudan	1
India	29	Switzerland	2
Indonesia	1	Taiwan	1
Iran	1	Tanzania	2
Israel	-	Thailand	1
Italy	1	Tunisia	1
Japan	2	Turkey	5
Kazakhstan	-	Uganda	1
Korea	1	United States	6
Latvia	1	Uzbekistan	2
Mali	1	Vietnam	2

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Explanations:

test material

The sample material is generally unprocessed cotton lint without additional homogenisation from varying origins with a wide spectrum of properties. The Bremen Fibre Institute (FIBRE) usually avoids origins with high result variations.

In this Round Test the cotton is**: Ivory Coast (RM 45)**

The variation of the utilized cotton was measured at the Bremen Fibre Institute (FIBRE) with an Uster HVI 1000 with 10 tests on samples from 10 different layers with the following results:

HVI HVICCS	SD between bale layers (based on 10 tests per layer)	SD between single tests (based on 10 times 10 tests)
Mic	0.026	0.037
Strength, g/tex	0.332	0.858
Length, UHM, inch	0.0065	0.0194
Length, UHM, mm	0.166	0.492

The test material is not suitable as a reference for calibration.

result evaluation

The results of the participating laboratories for one test method and one parameter are grouped in one table implying that the used instruments yield comparable results despite different instrument types or different national standard test methods. The results are partitioned in different tables as soon as significant differences appear.
Based on the compilation of the results, an identification of outliers is carried out, which is according to Grubbs' Test for Outliers described in ISO 5725 with one slight modification: the algorithm is applied repeatedly to ensure that all outliers are excluded. All outliers are marked by putting the result in brackets. The statistical parameters for all tables and characteristics are calculated after the exclusion of outliers. For the usage of the statistical data, the different numbers of repetitions in each lab have to be considered.

assessment of the laboratory performance

From the results, the bias of each laboratory can be calculated. Stability and repeatability cannot be assessed.

The ICA Bremen Cotton Round Test does not include any benchmarking or rating of the laboratories and their results. Rather the results can be used by each laboratory to evaluate its own performance.

- For estimating a bias to results of other laboratories, please calculate the difference between your result and either the average or the median of all laboratories (after exclusion of outliers).
- For evaluating the bias, the z-score calculation may be applied:

$$z = \frac{your\ value - average (or\ median)}{StdDev}$$

- If the z-score is between -1 and 1 your lab belongs to the better 68% of all labs and no measures are necessary. In the z-score range of -2 to 2 are 95 % of all values. The closer your z-score is to 2 (-2) the more urgently it is to take measures to improve performance. If your z-score is above 2 (below -2) a basic revision of all conditions will be necessary.
- For assessing permanent deviations, please monitor all deviations in subsequent ICA Bremen Round Tests or in comparison to other round trial programmes like the CSITC Round Trials or the USDA HVI Checktest.

laboratory numbers

The laboratory numbers for each laboratory are confident. The numbers are usually kept constant for subsequent Round Tests. In case that any laboratory has doubts in the anonymity of its number, a new laboratory number should be requested.

In case of more than one instruments of the same type, an adjunct number or character is given (e.g. 123-1 and 123-2). In order to distinguish between your instruments, please provide specific adjunct characters for each of your instruments with your data sheet.

registration and participation

To register a new laboratory to the ICA Bremen Round Test, please send the laboratory's contact details to Mrs Hannelore Gerardi – contact details provided below
In the case that a laboratory does not send any results back for a whole year's period, we have to exclude it from the participants.

ICA Bremen
The Global Centre for Cotton Testing and Research

choice of test methods included in the round test

The ICA Bremen Round Test strives to include every commonly used test method.

- Test methods will remain included as long as sufficient participant numbers are given, although the Bremen Fibre Institute (FIBRE) maintains the right to exclude methods.
- Proposals for the inclusion of new methods/instruments/parameters are appreciated. For this, an adequate number of long term participants should be given.
- Test methods for stickiness are excluded due to difficulties in sample provision.

improvement of the ica bremen cotton round test

Any proposals for improving the Round Test are highly appreciated. For this, please contact Mr Axel Drieling – contact details provided below.

important notes

Please take care to fill in all the necessary information on the test forms (e.g. the test methods, the instrument types and the number of repetitions for each test). Please provide one or two reliable e-mail addresses to Mrs Gerardi - contact details are provided in the last section.

Contact

For any questions regarding the ICA Bremen Cotton Round Test, please contact:

- Mr Axel Drieling for general questions relating to the Round Test and cotton testing,
  Tel. +49 421 218 58650, e-mail: axel@ica-bremen.org
- Mrs Hannelore Gerardi for questions relating to the realization of the current tests,
  Tel. +49 421 218 58671, e-mail: gerardi@faserinstitut.de

With kind regards,

Axel Drieling
Hannelore Gerardi

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Registered in Germany no: HRB 27431 HB VAT-ID: DE280079445
Managing Director: Bill Kingdon Place of jurisdiction: Bremen

MICRONAIRE				
Lab.	Rep.	Mic.	Instrument	Standard Test Method
12	2	3.9	775	GB/T6498-08
16	6	3.8	GW208-08	UNE 40214
17		3.6		
20	4	3.8	175	
22	3	3.7	Fibronaire	
29	4	3.8		ISO 2403
32	6	3.7	FFMM	internal
32-2	6	3.7	FFMM	internal
56	2	3.7	Fibronaire	JIS
67	6	3.6	Fibronaire	
76	4	3.8	WIRA	
77	4	(3.4)	Sheffield	
91-3	10	3.8	LV1975	
92	10	3.9	DigiMic XT	ASTMD1448
100	25	3.7	675	
102	4	3.8	Fibronaire	ASTM-5867
112	2	3.8	Fibronaire	ASTMD1448
128	2	3.8	Fibronaire	ASTM
129	10	3.8	Sheffield	ASTM-5867
131	6	3.6		ASTMD1448-05
132	3	3.8	775	DIN 53941
142	3	3.9	80400	ISO
155		3.7	275	
162	6	3.6	WIRA	
169	3	3.8	Sheffield	
177	3	3.9	DPM 60	DIN 53941
183	3	3.7	Fibronaire	ASTMD1448
186	6	3.7	WIRA	ASTM
193	2	3.7	Y145	GB/T6498-08
Average		3.75		
Median		3.77		
StdDev		0.09		
CV		2.51		
Min		3.6		
Max		3.9		
n		28		

PRESSLEY, STELOMETER								
Lab.	Pressley Tester				Stelometer			
	Rep.	PI (0)	PI (3.2)	Standard Test Method	Rep.	Bundle Tenacity gf/tex	Elongation %	Standard Test Method
16	6	7.4		UNE 40247				
29	10	6.9		ISO 3060				
56	5	7.4		JIS				
92					10	25.0	5.5	ASTM 1445
100	24	7.8						
112					3	21.5	6.3	ASTM 1445
128	2	8.6		ASTM	2	23.0	6.0	ASTM
131					6	22.0	6.6	ASTMD1445-05
162	6	7.4			6	21.4	6.2	
177	3	5.6		DIN 53942				
Average		7.3				22.58	6.12	
Median		7.4				22.0	6.2	
StdDev		0.91				1.49	0.41	
CV		12.51				6.62	6.68	
Min		5.6				21.4	5.5	
Max		8.6				25.0	6.6	
n		7	0			5	5	

Pressley	PI(0)	Av., gf/tex	39.11	StdDev, gf/tex	4.89	CV, %	12.51

DIGITAL - FIBROGRAPH *(further information see page "Multiple Devices")*									Span Length
Lab.	Rep.	2.5 % SL		50 % SL		UR	SFC (N)	SFC (W)	SFI
		mm	inch	mm	inch	%	%	%	
92	6	28.1	1.11	13.5	0.53	48			9.0
100	14	(26.4)	(1.04)	12.3	0.48				
102	5	28.0	1.10	12.8	0.50	46			
131	6	28.6	1.12	12.7	0.50	44			
131-2	6	28.7	1.13						
132	10	28.9	1.14	13.0	0.51	45			
143	2	28.1	1.11	14.0	0.55	50			
Average		28.40	1.118	13.03	0.513	46.6			
Median		28.33	1.115	12.87	0.507	46.0			
StdDev		0.38	0.015	0.62	0.024	2.4			
CV		1.35	1.351	4.73	4.732	5.2			
Min		28.0	1.10	12.3	0.48	44			
Max		28.9	1.14	14.0	0.55	50			
n		6	6	6	6	5	0	0	1

COMB SORTER *(further information see page "Multiple Devices")*								Staple Length
Lab.	Rep.	Instrument	N			W		
			ML	CV	< 12.5 mm	ML	CV	<12.5 mm
			mm	%	%	mm	%	%
85	1	Joh.-Zweigle				23.0	38.7	15.8
85-2	1	Keisokki				22.5	31.4	10.0
85-3	1	Keisokki				24.5	29.5	7.0
85-4	1	Keisokki				22.4	32.9	13.0

ALMETER *(further information see page "Multiple Devices")*								Staple Length
Lab.	Rep.	N			W			
		ML	CV	< 12.5 mm	ML	CV	<12.5 mm	
		mm	%	%	mm	%	%	
58	3	19.3	39.0	23.4	22.2	34.0	12.2	
112	5	22.1	31.8	9.7	25.2	27.0	4.1	
132	5	17.8	40.5	26.7	21.9	31.8	11.9	

Maturity, Fineness *(further information see page "Multiple Devices")*					
Lab	Fibrograph	Causticaire (18 % NaOH)	Microscopic Test		Gravimetric Fineness
	%	%	ASTM, %	BS, %	dtex
56		77			
85					1.41
85-2					1.45
85-3					1.42
112					1.55
129			65		
131-2		77	82	79	
177		82			1.53
193					1.49

IIC/SHIRLEY FM-TESTER *(further information see page "Multiple Devices")*				Maturity, Fineness
Lab.	Rep.	PM, %	MAT	FIN, mtex
16	6	46.2		
32	6	73.4	0.83	162
32-2	6	72.5	0.82	160
102	2	83.5	0.95	139
128	3	87.0	1.0	145
131-2	6	75.0	0.82	160
Average		72.93	0.884	153.2
Median		74.2	0.83	160.0
StdDev		14.34	0.085	10.5
CV		19.67	9.619	6.8
Min		46.2	0.82	139
Max		87.0	1.00	162
n		6	5	5

HVI *(table is divided into 3 pages)*					General		
Lab.	Manufacturer	Instrument	Std. Test Method	Rep.	Each rep. consisting of		
					Mic. meas.	Combs for length/strength	Color readings
1	MAG	HVTExpert1201	ASTMD5867	10			
2	Premier	HFT					
3	Premier	ART 2	ASTM	6			
5	USTER	1000 Line6	CCAA BMP	12			
5-2	USTER	1000 Line7	CCAA BMP	12			
5-3	USTER	1000 Line8	CCAA BMP	12			
11	Premier	ART 2	USDA	10			
12	USTER	Spectrum	GB/T20392-06	12			
13	USTER	Spectrum	USDA	10			
14	USTER	1000	GB/T20392-06	6			
15	USTER	1000		6			
18	USTER	1000	individual	22			
19	USTER	1000	GB/T20392-06				
23	USTER	900		10			
24	USTER	Spectrum					
25	USTER	1000		10			
26	USTER	1000		10			
27	USTER	900	ASTMD5867-12	6			
32	USTER	900 A	internal	10			
32-2	USTER	900 A	internal	10			
33	USTER	1000	GB/T20392	6			
35	USTER	1000	GB/T20392	3			
38	USTER	1000	ASTMD1234-12	8			
39	Premier	ART 2		6			
40	USTER	900	internal	10			
40-2	USTER	1000	internal	10			
41	USTER	Spectrum		5			
42	USTER	Spectrum					
42-2	USTER	1000					
43	USTER	1000. Mill	ASTMD1234	10			
43-2	USTER	QES	ASTMD1234	10			
44	USTER	Spectrum		10			
44-2	Premier	ART 2		10			
45	USTER	1000		5			
49	USTER	1000	ASTMD5867	6			
54	USTER	Spectrum	HVI Mode	4			
55	MAG		ASTMD5867-12				
56	USTER	Spectrum		5			
57	MAG	HVTExpert1401	ASTMD5867-12	6			
58	USTER	1000	internal	10			
59	USTER	1000		10			
59-2	USTER	1000		10			
59-3	USTER	1000		10			
59-4	USTER	1000		10			
60	USTER	1000M700	ASTMD1234-12	6			
60-2	USTER	1000	ASTMD1234-12	6			
61	MAG	HVTExpert1201	ASTMD5867-05	3			
63	MAG	HVTExpert1401	ASTMD5867-12				
64	MAG		ASTMD5867-12				
65	Premier	ART 2	ASTMD5867-12				
66	Premier	ART		6			
68	USTER	1000	ASTMD5867	10			
69	MAG	HVT Expert1401	ASTMD5867-12	6			
71	USTER	1000	GB/T20392-06	6			
72	USTER	1000	ASTM1776	10			

HVI *(table is divided into 3 pages)*					General		
Lab.	Manufacturer	Instrument	Std. Test Method	Rep.	Each rep. consisting of		
					Mic. meas.	Combs for length/strength	Color readings
75	USTER	Spectrum	GB/T20392-06				
78	USTER	1000		4			
81	USTER	1000	ASTMD1234-12				
83	USTER	Spectrum	GB/T20392-06	10			
84	USTER	1000	USDA	12			
86	USTER	1000	GB/T20392-06	3			
87	USTER	1000	GB/T20392-06	2			
87-2	USTER	1000	GB/T20392-06	2			
89	Premier	ART		6			
89-2	Premier	ART		6			
89-3	USTER	1000		6			
89-4	USTER	1000		6			
90	USTER	1000	ASTMD5867	10			
91	USTER	1000	ASTMD5867-12	6			
91-2	USTER	LV1930	ASTMD5867-12	10			
91-3	USTER	LV1960		10			
92	MAG	HVT Expert1401	ASTMD5867	6			
94	USTER	1000	ASTMD5867-12	6			
94-2	USTER	1000	ASTMD5867-12	6			
95	Premier	ART 2	ASTMD5867-12	6			
96	USTER	1000	GB/T20392-06	10			
96-2	Premier	HFT	GB/T20392-06	10			
96-3	Premier	HFT	GB/T20392-06	10			
98	USTER	1000	USDA	10			
100	Textechno	CCS-V5.3		20			
101	USTER	1000	ASTMD5687-12	6			
102	USTER	1000M700	ASTMD5867	6			
102-2	USTER	900	ASTMD5867	6			
103	USTER	1000	GB/T20392-06	6			
104	USTER	1000	GB/T20392	6			
105	USTER	1000	ASTMD5867	10			
107	Premier	ART 2	ASTMD5867-12				
107-2	Premier	ART 2	ASTMD5867-12				
108	USTER	1000	ASTMD5867-12	10			
109	USTER	1000					
111	USTER	1000	internal	16			
112	USTER	1000	ASTMD5867	6			
113	MAG	HVT Expert1401	ASTMD5867-12				
116	USTER	1000	ASTMD5867-12	10			
118	USTER	1000	ASTMD5867-12				
119	USTER	1000	GB/T20392	3			
121	USTER	1000M700	GB/T20392-06	2			
123	USTER	1000	ASTMD5867-12	10			
123-2	USTER	1000	SITRA-FP02-17	10			
124	USTER	1000					
126	Premier	HFT	ASTM	2			
128	USTER	Spectrum	ASTMD5867-12	10			
129	USTER	900	ASTMD5867	10			
129-2	USTER	900	ASTMD5867	10			
130	Premier	ART3		6			
132	Textechno	Fibrotest	ASTMD5867	10			
133	USTER	1000	ASTM	2			
138	USTER	Spectrum	ASTMD5867-12	6			
139	Premier	ART 2	ASTMD5867-05	12			
141	USTER	1000	Mode 4	1			

HVI *(table is divided into 3 pages)*					General		
Lab.	Manufacturer	Instrument	Std. Test Method	Rep.	Each rep. consisting of		
					Mic. meas.	Combs for length/strength	Color readings
143	Premier	ART		6			
143-2	USTER	Spectrum		6			
144	USTER	Spectrum	ASTM	6			
145	Premier	ART 2					
148	USTER	1000	ASTMD5867	6			
154	USTER	900 A		10			
158	USTER	900		6			
158-2	USTER	900		6			
160	USTER	Spectrum		5			
162	USTER	900		6			
163	USTER	900	ASTMD5867-12	10			
170	USTER	1000	Manufacturer	6			
176	USTER	1000					
179	USTER	1000	GB/T20392-06	6			
180	USTER	Spectrum	ASTM	6			
181	USTER	Spectrum	ASTM	6			
183	USTER	1000	ASTMD5867-05	6			
186	Textechno	CCS	ASTM	10			
193	USTER	1000	GB/T20392-06	6			
200	USTER	900	ASTMD5867	8			
201	USTER	900		8			
203	Premier	ART	USDA				
207	USTER	1000	ASTMD5867-12	10			
207-2	USTER	1000	ASTMD5867-12	10			
209	MAG	HVTExpert1401	ASTMD5867-12	6			

HVI *(table is divided into 3 pages)*					Micronaire, Tenacity, Elongation
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
1	3.9		29.4		7.2
2	3.7	21.0			
3	3.7	21.8			6.4
5	3.8		29.7		5.7
5-2	3.9		29.4		5.5
5-3	3.9		29.9		5.5
11	3.7	22.2	30.1	5.6	6.3
12	3.9		29.9		7.3
13	3.7		30.3		5.5
14	3.9		29.7		5.8
15	3.8		30.1		6.8
18	3.8		30.1		4.7
19	3.7		29.0		6.3
23	3.6		31.0		7.1
24	(3.4)		29.6		
25	3.7		29.7		5.7
26	3.8		29.8		7.3
27	(3.5)		30.6		8.7
32	3.8		30.4		6.7
32-2	3.8		32.6		6.3
33	3.6		29.5		
35	3.8		29.1		7.1
38	3.8		27.9		8.7
39	3.9		29.4		
40	3.9		30.8		(2.8)
40-2	3.8		30.0		(3.2)
41	3.8		32.0		7.4
42	3.7		32.3		5.4
42-2	3.7		28.0		6.7
43	3.9		28.6		6.4
43-2	3.8		28.9		7.9
44	3.7		29.4		
44-2	3.7		30.0		
45	3.8		30.7		
49	3.8		28.8		7.4
54	(3.3)		32.2		7.0
55	3.8		30.8		5.6
56	3.7		31.7		6.7
57	3.8		31.0		6.0
58	3.8		29.6		8.0
59	4.0		29.4		
59-2	4.0		29.6		
59-3	3.8		30.0		
59-4	3.9		29.9		
60	3.6		28.4		6.1
60-2	3.6		29.0		6.6
61	3.9	22.8	26.5	6.0	6.4
63	3.7		30.9		7.1
64	3.8		31.1		5.4
65	3.7		28.2		6.4
66	3.8	24.2		6.7	
68	3.9		28.5		7.5
69	3.9		29.5		

HVI	*(table is divided into 3 pages)*			Micronaire, Tenacity, Elongation	
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
71	3.8		28.3		8.7
72	3.9		29.6		
75	3.8		30.1		
78	3.9		30.9		7.3
81	3.9		28.0		7.3
83	3.8		29.2		6.4
84	3.8		30.2		5.4
86	3.8		29.3		5.9
87	3.8		28.5		4.4
87-2	3.9		28.8		(0.4)
89	3.8		30.0		
89-2	3.8		30.6		
89-3	3.7		29.3		
89-4	3.7		29.1		
90	3.7		30.6		7.0
91	3.8		28.4		6.1
92	3.9	24.2	29.7		6.4
94	3.8		29.2		
94-2	3.8		30.0		
95	3.8		30.5		5.8
96	3.8		30.0		6.8
96-2	3.8		29.6		6.7
96-3	3.8		27.6		6.7
98	(10.0)		30.1		
100	3.7	26.1	27.9	6.8	6.9
101	3.8		29.5		6.5
102	3.9		28.7		7.1
102-2	3.8		31.3		4.6
103	3.8		28.9		6.4
104	3.8		30.5		6.8
105	3.9		29.8		6.4
107	3.8		30.8		6.0
107-2	3.8		29.0		6.0
108	3.8		28.8		6.0
109	3.8		31.9		
111	3.7		29.4		6.3
112	3.8		29.1		8.0
113	3.9		31.2		7.1
116	(4.2)		(36.1)		6.7
118			28.3		
119	3.7		29.0		6.3
121	3.8		29.2		6.4
123	3.8		30.5		6.6
123-2	3.8	23.0		6.1	
124	3.9		29.0		
126			29.6		
128	3.8		29.2		6.4
129	3.8	22.8	28.0	5.9	5.6
130	3.9	21.8	30.6	5.8	6.6
132			30.5		6.6
133	3.9		30.0		
138	3.6		29.8		7.4
139	3.7		29.3		6.6

HVI	*(table is divided into 3 pages)*				Micronaire, Tenacity, Elongation
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
141	3.8		30.1		7.1
143	3.7		29.3		6.8
143-2	3.8		30.2		6.6
144	3.8		31.8		
145	3.6				
148	3.7		28.8		6.4
154	3.7		29.7		(3.0)
158	(3.4)		31.1		5.9
158-2	(3.4)		31.1		5.2
160	3.7		27.7		(10.6)
162	3.7		30.3		5.6
163	3.8	24.2	(36.8)	6.8	6.0
170	3.9		27.5		(9.4)
176	3.8		28.5		8.4
179	3.7		30.0		4.0
180	3.9		30.3		6.6
181	3.9		30.2		7.6
183	3.8		29.8		6.7
186	3.7		32.7		
193	3.8		29.6		7.8
200	3.8		30.4		
201	3.8		30.3		7.0
203	3.7				
207	3.8		29.0		7.1
207-2	3.8		28.7		7.4
209	3.9		30.2		5.9
Average	3.79	23.1	29.74	6.21	6.55
Median	3.8	22.8	29.7	6.05	6.6
StdDev	0.08	1.47	1.1	0.48	0.89
CV	2.09	6.34	3.69	7.76	13.53
Min	3.6	21.0	26.5	5.6	4.0
Max	4.0	26.1	32.7	6.8	8.7
n	122	11	124	8	93

HVI	*(table is divided into 3 pages)*					Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
1				29.6	1.17	83.0
2	29.3	1.15	51.3			
3				28.9	1.14	81.1
5				28.7	1.13	81.7
5-2				28.9	1.14	81.2
5-3				28.8	1.14	81.5
11	28.9	1.14	45.7	28.8	1.13	81.7
12				28.3	1.11	81.3
13				29.1	1.14	82.0
14				28.7	1.13	81.5
15				29.2	1.15	81.8
18				28.6	1.13	81.1
19				28.6	1.13	81.6
23				28.7	1.13	81.6
24				28.6	1.13	81.1
25				28.6	1.13	81.4
26				28.6	1.12	81.1
27	27.2	1.07	43.0	28.6	1.13	82.4
32				29.0	1.14	81.1
32-2				28.2	1.11	81.1
33				28.5	1.12	81.8
35				28.6	1.13	81.4
38				29.2	1.15	82.9
39				29.0	1.14	81.1
40				29.5	1.16	
40-2				29.9	1.18	
41				27.9	1.10	(79.3)
42				28.9	1.14	
42-2				28.8	1.13	81.2
43				29.0	1.14	81.5
43-2				28.7	1.13	81.4
44				28.8	1.14	82.4
44-2				29.0	1.14	82.4
45				29.0	1.14	81.4
49				28.7	1.13	81.5
54				29.5	1.16	(6.9)
55				28.7	1.13	82.6
56				29.9	1.18	81.9
57				29.0	1.14	82.5
58				28.5	1.12	81.5
59				29.2	1.15	82.0
59-2				28.7	1.13	80.9
59-3				29.0	1.14	81.7
59-4				28.8	1.14	81.3
60				28.0	1.10	81.0
60-2				28.5	1.12	81.1
61	29.0	1.14	50.0	28.9	1.14	83.0
63				29.1	1.15	83.2
64				29.1	1.15	82.9
65				28.7	1.13	82.2
66	28.6	1.13	45.6			
68				28.7	1.13	82.0

HVI	*(table is divided into 3 pages)*					Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
69				28.5	1.12	82.6
71				28.5	1.12	81.1
72				29.0	1.14	81.2
75				28.2	1.11	81.4
78				29.4	1.16	82.1
81				28.7	1.13	80.6
83				28.5	1.12	82.1
84				29.1	1.15	81.3
86				28.8	1.13	81.6
87				29.0	1.14	82.2
87-2				28.6	1.13	82.4
89				28.6	1.12	81.7
89-2				28.7	1.13	82.2
89-3				28.8	1.14	81.7
89-4				29.4	1.16	82.2
90				29.6	1.17	83.3
91				27.8	1.09	81.4
91-2				29.4	1.16	81.8
92	28.1	1.11	48.5	28.3	1.12	82.2
94				28.8	1.13	82.1
94-2				28.9	1.14	81.5
95				28.8	1.13	82.4
96				28.4	1.12	81.2
96-2				27.7	1.09	81.4
96-3				28.8	1.13	81.3
98				28.6	1.13	81.4
100	27.3	1.07	46.0	27.7	1.09	80.9
101				28.6	1.13	81.4
102				28.3	1.11	81.0
102-2				28.5	1.12	81.4
103				28.3	1.12	80.9
104				28.7	1.13	81.8
105				29.2	1.15	81.3
107				29.0	1.14	82.4
107-2				(30.8)	(1.21)	82.4
108				28.9	1.14	81.3
109				29.2	1.15	81.2
111				28.2	1.11	81.2
112				29.2	1.15	82.2
113				28.1	1.11	81.5
116				(35.5)	(1.40)	(86.7)
118						82.1
119				28.6	1.13	81.6
121				28.8	1.13	81.1
123				28.9	1.14	82.0
123-2	28.6	1.13	46.1			
124				28.1	1.11	80.4
126				28.9	1.14	81.8
128				28.6	1.13	82.1
129	28.8	1.13	47.3	28.8	1.13	82.2
130	29.2	1.15	47.5	29.1	1.15	81.9
132				28.8	1.13	82.4

HVI *(table is divided into 3 pages)*						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
133				28.8	1.13	81.5
138				28.5	1.12	81.6
139						81.3
141				28.4	1.12	81.6
143				28.4	1.12	81.9
143-2				28.3	1.11	81.0
144				28.9	1.14	81.7
145				28.8	1.13	81.4
148				28.1	1.11	81.3
154				28.9	1.14	82.2
158				29.0	1.14	81.6
158-2				29.0	1.14	81.4
160				28.9	1.14	
162				29.2	1.15	82.5
163	29.1	1.15	47.0	29.3	1.16	82.2
170						81.5
176				29.0	1.14	81.7
179				29.0	1.14	81.5
180				28.7	1.13	82.7
181				28.4	1.12	81.8
183				28.4	1.12	(78.6)
186				28.8	1.14	(84.3)
193				28.6	1.13	81.6
200				28.2	1.11	81.2
201				29.0	1.14	81.6
203				28.5	1.12	81.6
207				28.5	1.12	81.7
207-2				28.2	1.11	81.1
209				28.6	1.13	82.6
Average	28.56	1.124	47.09	28.75	1.132	81.71
Median	28.75	1.132	47.0	28.75	1.132	81.6
StdDev	0.74	0.029	2.27	0.39	0.016	0.56
CV	2.58	2.583	4.82	1.37	1.371	0.69
Min	27.2	1.07	43.0	27.7	1.09	80.4
Max	29.3	1.15	51.3	29.9	1.18	83.3
n	11	11	11	125	125	121

HVI *(table is divided into 3 pages)*						Color, Trash
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
1	(72)	8.4	41-3			
3	75	9.2	31-3			
5	75	8.6	31-4	3	0.32	34
5-2	75	8.6	31-4	3	0.29	28
5-3	75	8.7	31-4	3	0.33	28
11	(73)	9.0	41-3			
12	74	8.6	41-3	2	0.26	19
14	76	9.6	32-1		0.27	28
15	76	8.6	31-4	3	0.3	33
18	76	8.9	31-3	3	0.33	30
19	75	9.1	31-4	3	0.29	32
23	75	9.4	31-4			
24	75	8.9	41-3		0.21	26
25	75	9.0	31-4	3	0.21	24
26	76	8.9	31-3	3	0.26	27
27	(71)	9.4	42-1			
33	75	8.8	41			
35	75	9.1	41	2	0.28	29
38	75	9.0	31-4		0.36	36
39	76	8.5	31-4			
40	73	9.3	31-4			
40-2	76	9.3	31-3	3	0.42	40
41	75	(10.1)	32-1		0.17	13
42	75	8.2			0.21	19
42-2	76	8.5	31-2	3	0.39	27
43	75	9.1			0.24	24
43-2	75	9.2			0.17	19
44	77	9.0	31-3			
44-2	74	9.4	31-4			
45	74	8.6	41-3	1	0.17	13
49	75	8.9	31-4	3	0.29	30
54	(72)	(10.6)	32-1	1	(1.00)	
55	76	8.4	31-2			
56	74	8.6	41-3	1	0.16	16
57	76	8.0	31-1			
58	76	9.0	31-3		(0.70)	35
59	76	9.0	31-3	3	0.29	37
59-2	75	9.3	31-3	3	0.42	33
59-3	75	8.7	31-4	4	0.45	27
59-4	76	8.0	41-1	2	0.25	23
60	76	8.8	31-3	3	0.4	35
60-2	75	8.8	31-4	3	0.34	31
63	75	9.2	31-3			
64	76	8.6	31-2			
65	75	9.4	31-3			
66	73	8.1	41-3			
68	76	9.0	31-3	3	0.3	28
69	76	8.8	31-4			
71	75	9.1	31-4	3	0.32	37
72	76	8.8	31-3	2	0.26	28
75	74	8.6	41-3	2	0.2	16
78	75	8.9	31-4	3	0.3	31
81	76	9.0	31-3		0.27	30

HVI	*(table is divided into 3 pages)*					Color, Trash
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
83	75	8.9	31-4			
84	76	8.9	31-3	2	0.25	32
86	75	8.9	41	3	0.34	29
87	75	8.7	41	3	0.37	38
87-2	75	9.1	41	2	0.23	28
89	74	8.7	31-4	4	0.5	22
89-2	74	8.7	31-4	4	0.43	20
89-3	76	9.0	31-3	4	0.6	21
89-4	76	9.1	31-3	4	0.53	38
90	75	8.6	31-4		0.32	26
91	75	9.1	31-4		0.25	22
91-3	(71)	9.3	42-1		0.23	20
92	75	9.0	31-4			
94	75	9.0	31-4	3	0.28	28
94-2	75	9.2	31-3	3	0.34	31
95	76	8.6	32-1			
96	75	8.6				
98	75	8.8			0.3	27
100	(71)	9.1			0.44	16
101	75	9.0	31-4	4	0.41	36
102	75	8.6	31-4	4	0.35	38
103	75	9.3	31-3	3	0.34	34
104	75	9.1	41	2	0.36	29
105	76	8.9	31-3	2	0.21	20
107	76	8.6	22-2			
107-2	76	8.6	22-2			
108	75	8.9	31-4	4	0.47	39
109	75	8.6	41-1		0.31	29
111	76	8.7	31-3		0.37	33
112	74	8.5	41-3	3	0.33	29
113	76	9.1	31-3			
116	(70)	(13.2)	24-2	2	0.24	19
118	75	8.7	31-4	4	0.46	36
119	75	9.1	31-4	3	0.29	32
121	75	9.4	32-1		0.36	37
123	75	8.9	31-4	2	0.23	23
123-2	75	9.0	31-4	3	0.32	29
124	75	8.7	31-4		0.37	32
128	75	8.9	31-3	3	0.36	42
129	(73)	9.9	32-2			
129-2	(72)	(10.3)	32-2			
130	76	8.9	31-3			
133	74	8.6	41-3	3	0.33	26
138	74	8.5	41-3	2	0.18	22
139	74	8.6	41-3	1	0.06	8
141	74	9.3	32-2	3	0.36	35
143	74	9.0	31-4	3	0.4	32
143-2	75	8.9	31-4	2	0.24	13
144	74	9.0	31-4	1	0.11	10
145	77	8.6	31-3			
148	75	9.1	31-4	3	0.31	30
154	75	8.8	31-4	0	(16.00)	1
158	75	8.5	31-4	2	0.2	10

HVI	*(table is divided into 3 pages)*					Color, Trash
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
158-2	76	8.5	31-4	2	0.2	16
162	(73)	9.9	32-2			
170	75	9.1	31-4	2	0.24	40
176	75	8.2	41-1	3	0.36	35
179	76	8.6	31-2	3	0.36	31
180	76	(10.1)	22-2	1	0.17	2
181	77	9.8	21-4	1	(1.18)	7
183	74	9.1	31-4	2	0.21	24
186	75	8.7	41-3		0.45	21
193	75	9.0	31-4	3	0.45	36
200	75	9.0	31-4			
201	75	8.7	31-4	3	0.29	34
203	(78)	8.1	31-1	1	0.11	12
207	75	9.3	31-3	3	0.35	27
207-2	76	9.2	31-3	3	0.27	26
209	76	8.6	31-2			
Average	75.1	8.88			0.305	26.7
Median	75.2	8.9			0.3	28.0
StdDev	0.7	0.35			0.097	8.9
CV	0.9	3.97			31.816	33.3
Min	73	8.0			0.06	1
Max	77	9.9			0.6	42
n	111	117			87	90

HVI	*(table is divided into 3 pages)*			Short Fibre Index, Maturity
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio
1		8.1		0.84
2	6.6			0.81
3				0.86
5		8.2		0.85
5-2		6.9		0.86
5-3		9.0		0.86
12		10.5		0.85
13		7.0		0.85
14		9.6		0.85
15		8.5	84	
18		9.5		0.86
19		9.3		0.85
23		8.5		
24		9.5		0.84
25		9.7		0.85
26		10.1		0.84
27		8.6		0.83
32		11.1		
32-2		11.4		
33				0.85
35		9.1		0.86
38		8.8		
39		9.6		0.86
40-2		8.5		
41		6.9		0.86
42		6.4		0.86
42-2		10.1		0.84
43		8.7		
43-2		9.1		
44		8.0		0.89
44-2		8.6		0.86
45		9.2		0.86
49		8.1		0.84
54		8.0	84	
55		8.7		0.78
56		10.0		
57		8.5		0.84
58		9.1		0.84
59				0.86
59-2				0.86
59-3				0.85
59-4				0.86
60		8.4		0.85
60-2		10.6		0.84
61				0.84
63		8.4		(0.77)
64		8.6		0.78
65		8.9		0.85
66	7.0			
68		8.5		0.84
69		8.9		0.84
71		8.4		0.83
72		8.5		0.85

HVI *(table is divided into 3 pages)*				Short Fibre Index, Maturity
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio
75		10.5		0.86
78		9.7	84	
81		10.3	84	
84		8.2	86	
86		(16.0)		0.86
87		(15.5)		0.86
87-2		(19.0)		0.89
89		9.5		0.84
89-2		9.2		0.85
89-3		7.6		0.85
89-4		7.7		0.85
90		9.4		0.84
91		9.7		0.78
91-2		8.1		
92		9.2		0.84
94				0.85
94-2		8.3		0.85
95		8.9		0.82
98		8.8		
100	10.1	10.6	82	(0.71)
101		9.6		0.85
102		8.8		0.84
103		8.7		0.86
104				0.85
105		8.7		0.81
107		8.5		0.78
107-2		8.5		0.78
108		8.5		0.85
109		8.5		0.83
111		9.6		0.85
112		8.7		0.84
113		9.8		0.78
116		(4.2)	86	0.86
118		8.8		0.82
119		9.3		0.85
121		8.6		0.84
123		8.8		0.85
123-2	10.2			0.85
124		8.8	85	
128		9.1		0.85
129	10.0	10.0		
130	4.4	8.9		0.87
132		9.2		
133		8.8	85	
138		8.9		0.85
139		9.8		
141		8.4		0.84
143		9.6		0.81
143-2		9.4		0.85
144		8.4		0.86
145		9.4		
148		8.7		0.85
154		(5.9)		

HVI *(table is divided into 3 pages)*				Short Fibre Index, Maturity
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio
158		8.4		0.84
158-2		7.9		0.85
160		8.7		0.83
162		7.1		
163	8.6	8.5		
170		10.1		0.83
176		7.7		0.84
179		7.4		0.86
180		8.6		0.86
181		7.8		0.86
183		10.8		0.85
186		8.9	(72)	0.81
193		8.9		0.84
201		8.8		0.84
207		9.0		0.84
207-2		9.0		0.84
209		8.8		0.79
Average	8.13	8.9	84.4	0.843
Median	8.6	8.8	84.0	0.85
StdDev	2.21	0.88	1.2	0.022
CV	27.24	9.93	1.5	2.612
Min	4.4	6.4	82	0.78
Max	10.2	11.4	86	0.89
n	7	106	9	96

AFIS				General
Lab.	Manufacturer	Instrument	Std. Test Method	Repetitions
5	USTER	AFIS Pro 2		5
14	USTER	AFIS Pro 2	ASTMD5866	6
21	USTER	119-064		5
22	USTER			10
24	USTER	AFIS Pro		
32	USTER	AFIS Pro 2	internal	10
32-2	USTER	AFIS Pro 2	internal	10
38	USTER	AFIS Pro	ASTMD1234-12	5
40	USTER	AFIS Pro	internal	10
40-2	USTER	AFIS Pro	internal	10
40-3	USTER	AFIS Pro	internal	10
40-4	USTER	AFIS Pro	internal	10
41	USTER	AFIS Pro		5
43	USTER	AFIS Pro 2	ASTMD1234	10
44	USTER	AFIS Pro		10
51	USTER	AFIS Pro 2	ISO-9001	5
58	USTER	AFIS Pro 2	internal	10
58-2	USTER	Autojet	internal	10
75	USTER	AFIS Pro	ASTMD5866-12	
90	USTER	4.22	Manufacturer	10
91	USTER	AFIS Pro 2	ASTMD5866-12	10
91-2	USTER	AFIS Pro 2	ASTMD5866-12	10
91-3	USTER	LV1920		10
96-3	USTER	AFIS Pro 2	NY/T3232-18	10
100	Textechno	CCS-V5.3		15
101	USTER	AFIS Pro 2	internal	5
102	USTER	AFIS Pro	ASTMD5667	3
109	USTER	AFIS Pro 2		
111	USTER	AFIS Pro 2	internal	10
112	USTER	AFIS Pro	ASTMD5866	3
118	USTER		ASTMD5866-12	
123	USTER		ASTMD5866-12	10
123-2	USTER	AFIS Pro	ASTMD5866-12	10
123-3	USTER	AFIS Pro 2	ASTMD5866-12	10
128	USTER	Neptester	ASTMD 5667-12	5
129	USTER	AFIS Pro	ASTMD5866-12	9
132	USTER			5
139	USTER	AFIS Pro 2	ASTMD5866-05	12
142	USTER			5
143	USTER		ASTMD5866	10
144	USTER	AFIS Pro	ASTM	5
145	USTER			
148	USTER	AFIS Pro 2	ASTMD5866	10
148-2	USTER	AFIS PRO 2.2	ASTMD5866	10
148-3	USTER	Neptester 720		10
154	USTER	Autojet		10
158	USTER	AFIS Pro		6
170	USTER	AFIS Pro	Manufacturer	6
176	USTER			
180	USTER	Autojet	ASTM	3
181	USTER	Autojet	ASTM	3
183	USTER	AFIS Pro	ASTMD5866-05	3
186	USTER	AFIS Pro	ASTM	10
186-2	USTER	AFIS Pro 2	ASTM	10
193	USTER	AFIS Pro	ASTMD5866-12	6
200	USTER	Autojet		10
207	USTER	AFIS Pro	ASTMD5866-12	10

AFIS L *(table is divided into 2 pages)*								Length
Lab.	N							
	ML		CV	2.5 %		5%		SFC
	mm	inch	%	mm	inch	mm	inch	%
5	18.5	0.73	52.5			(28.7)	(1.13)	29.5
14	19.3	0.76	48.1			33.8	1.33	23.4
21	20.4	0.80	42.8	36.0	1.42	33.5	1.32	19.1
22	18.5	0.73	52.8	36.3	1.43	33.5	1.32	30.6
24	19.4	0.76	51.1			34.6	1.36	25.0
32	20.0	0.79	48.4			34.6	1.36	22.9
32-2	20.4	0.80	47.2			34.4	1.35	21.6
38	19.6	0.77	52.9	38.0	1.50	34.9	1.37	26.8
40	19.1	0.75	52.8	36.8	1.45	33.8	1.33	29.8
40-2	18.3	0.72	53.5	36.8	1.45	34.0	1.34	32.4
40-4	19.8	0.78	49.8	37.6	1.48	34.8	1.37	25.5
41	20.3	0.80	44.6	37.3	1.47	34.7	1.37	21.4
43						34.3	1.35	26.5
44	19.0	0.75	48.8			33.3	1.31	25.8
51	19.9	0.78	48.1			34.7	1.37	23.2
58	20.2	0.80	47.7			35.1	1.38	22.0
58-2	19.6	0.77	49.1	37.2	1.46	34.4	1.35	25.7
75	18.8	0.74	56.7			34.8	1.37	28.5
90	20.5	0.81	47.9	37.4	1.47	34.7	1.37	22.1
91	18.9	0.74	50.0			33.4	1.31	25.6
91-2	19.3	0.76	49.0			34.0	1.34	24.8
96-3	20.3	0.80	45.2					32.9
101	19.9	0.78	49.8			34.6	1.36	23.6
102	19.7	0.78	50.5	38.2	1.50	34.9	1.37	27.0
109	19.6	0.77	48.0			34.0	1.34	23.2
111	(17.0)	(0.67)	55.0			(31.8)	(1.25)	35.0
112	20.3	0.80	48.1			35.1	1.38	24.4
118								28.6
123	18.8	0.74	54.4			34.5	1.36	30.2
123-2	19.8	0.78	46.8			34.2	1.35	22.9
123-3	18.7	0.74	51.9			33.8	1.33	27.6
129	(26.0)	(1.02)	(37.6)			(37.5)	(1.48)	(9.2)
139	18.8	0.74				33.8	1.33	29.4
142	19.7	0.78	46.8	36.6	1.44	34.0	1.34	23.3
143	19.1	0.75	55.0	38.1	1.50	35.1	1.38	29.1
144	19.5	0.77	49.5			34.1	1.34	23.8
145	(24.1)	(0.95)	(35.7)			34.0	1.34	27.5
148	19.2	0.76	48.1			33.5	1.32	24.5
148-2	18.8	0.74	50.9			33.7	1.33	27.1
154	20.8	0.82	47.3	37.0	1.46	34.5	1.36	21.6
158	(16.6)	(0.65)	(63.3)	36.0	1.42	33.4	1.31	(38.9)
170	20.0	0.79	48.8			35.1	1.38	
176	20.3	0.80	48.9			35.3	1.39	23.8
180	19.6	0.77	49.1			34.2	1.35	24.1
181	18.4	0.72	52.2			33.3	1.31	28.1
183	19.8	0.78	50.1			34.5	1.36	25.0

AFIS L *(table is divided into 2 pages)*								Length
Lab.	N							
	ML		CV	2.5 %		5%		SFC
	mm	inch	%	mm	inch	mm	inch	%
186	19.9	0.78	48.5			34.6	1.36	22.9
186-2	20.2	0.80	46.7			34.7	1.37	22.4
193	20.1	0.79	48.5			34.5	1.36	24.1
207	20.4	0.80	46.9			35.0	1.38	20.6
Average	19.58	0.771	49.56	37.1	1.461	34.31	1.351	25.64
Median	19.65	0.774	48.95	37.1	1.461	34.4	1.354	25.0
StdDev	0.65	0.026	2.9	0.72	0.029	0.56	0.022	3.45
CV	3.34	3.342	5.85	1.95	1.954	1.63	1.633	13.44
Min	18.3	0.72	42.8	36.0	1.42	33.3	1.31	19.1
Max	20.8	0.82	56.7	38.2	1.50	35.3	1.39	35.0
n	44	44	44	14	14	45	45	47

AFIS L *(table is divided into 2 pages)*						Length
Lab.	W					
	ML		CV	UQL		SFC
	mm	inch	%	mm	inch	%
5	23.6	0.93	36.7	28.7	1.13	10.6
14	23.7	0.93	35.5	29.0	1.14	8.2
21	24.2	0.95	32.4	29.1	1.15	6.9
22	23.6	0.93	37.2	29.2	1.15	11.3
24	24.4	0.96	36.5	29.8	1.17	8.3
32	24.7	0.97	34.2	30.1	1.19	7.4
32-2	24.9	0.98	33.4	30.0	1.18	6.8
38	25.0	0.98	35.0	30.3	1.19	8.2
40	24.1	0.95	36.6	29.5	1.16	10.5
40-2	23.6	0.93	39.1	29.5	1.16	12.8
40-4	24.9	0.98	34.7	30.0	1.18	8.4
41	24.4	0.96	34.7	29.7	1.17	8.3
43	24.4	0.96	35.9	29.7	1.17	9.2
44	23.5	0.93	36.7	29.0	1.14	9.7
51	(19.8)	(0.78)	34.8	29.5	1.16	(23.2)
58	24.8	0.98	34.7	30.3	1.19	7.3
58-2	24.4	0.96	35.6	29.8	1.17	9.3
75	24.8	0.98	36.5	30.2	1.19	8.0
90	25.2	0.99	33.3	30.3	1.19	6.9
91	23.6	0.93	36.5	28.9	1.14	9.0
91-2	23.9	0.94	35.9	29.5	1.16	8.8
96-3	24.5	0.96	35.4	29.9	1.18	(16.2)
100	23.2	0.91		29.9	1.18	9.1
101	24.8	0.98	34.5	30.2	1.19	7.4
102	24.7	0.97	36.0	30.2	1.19	9.6
109	24.2	0.95	35.0	29.4	1.16	8.0
111	(22.1)	(0.87)	38.6	(27.7)	(1.09)	13.9
112	24.9	0.98	36.8	30.0	1.18	9.0
118			37.3			10.9
123	24.4	0.96	37.2	29.9	1.18	10.4
123-2	24.1	0.95	35.6	29.4	1.16	8.4
123-3	23.7	0.93	37.4	29.1	1.15	9.8
129	(20.6)	(0.81)	(51.3)	(32.4)	(1.28)	9.2
139	23.6	0.93		29.2	1.15	11.4
142	24.0	0.94	34.0	29.5	1.16	8.5
143	24.9	0.98	36.0	30.4	1.20	9.1
144	24.3	0.96	35.3	29.5	1.16	7.7
145						9.6
148	23.6	0.93	35.5	29.0	1.14	8.9
148-2	23.7	0.93	37.2	29.3	1.15	9.8
154	25.4	1.00	32.1	30.3	1.19	6.4
158	23.3	0.92	39.6	29.3	1.15	13.3
170	24.7	0.97	36.4	30.1	1.19	8.5
176	25.4	1.00	34.5	30.7	1.21	7.8
180	24.3	0.96	35.1	29.6	1.17	8.0
181	23.4	0.92	36.6	28.9	1.14	9.8

AFIS L	*(table is divided into 2 pages)*					Length
Lab.	W					
	ML		CV	UQL		SFC
	mm	inch	%	mm	inch	%
183	24.6	0.97	35.2	30.0	1.18	8.1
186	24.6	0.97	35.4	29.8	1.17	7.6
186-2	24.6	0.97	35.7	29.9	1.18	8.2
193	24.6	0.97	35.5	30.0	1.18	8.3
207	24.8	0.98	34.5	30.1	1.19	6.7
Average	24.31	0.957	35.71	29.69	1.169	8.97
Median	24.4	0.961	35.6	29.8	1.173	8.5
StdDev	0.58	0.023	1.51	0.48	0.019	1.64
CV	2.38	2.376	4.23	1.61	1.612	18.28
Min	23.2	0.91	32.1	28.7	1.13	6.4
Max	25.4	1.00	39.6	30.7	1.21	13.9
n	46	46	47	47	47	49

AFIS D / M					Diameter, Maturity
Lab.	D (N) µm	CV (D(N)) %	Fineness mtex	IFC %	Mat. Ratio
5			142	9.7	0.81
14			153	5.4	0.9
22			149	9.8	0.81
24			146	8.0	0.87
32			147	5.6	0.89
32-2			151	4.9	0.9
38			134	7.7	0.8
40			152	7.5	0.86
40-2			149	10.5	0.82
40-4			133	7.2	0.91
41	12.4				
43			147	9.2	0.84
44			141	7.2	0.83
51			147	6.4	0.87
58			140	6.5	0.83
58-2			148	8.5	0.84
75			151	7.7	0.87
90			150	6.3	0.88
91			148	8.4	0.85
91-2			149	6.3	0.86
96-3			148	7.4	0.86
100			138		0.72
101			144	8.5	0.84
102			146	12.3	0.8
109			152	5.5	0.9
111			(114)	(22.5)	(0.66)
112			145	7.2	0.85
118			152	8.5	0.84
123			151	8.4	0.83
123-2			146	6.7	0.85
123-3			155	5.5	0.89
139			149	5.0	0.92
143			147	7.8	0.84
144			141	7.9	0.88
145			155	6.5	0.89
148			145	7.3	0.86
148-2			148	6.2	0.85
154			131	(14.7)	0.74
158			138	11.1	0.81
170			145	8.7	0.84
176			138	8.0	0.82
180			146	6.9	0.87
181			152	6.2	0.87
183			152	6.1	0.88
186			134	11.3	0.77
186-2			145	8.7	0.84
193			149	7.2	0.86
207			155	6.1	0.91
Average			146.2	7.59	0.849
Median			147.0	7.35	0.85
StdDev			6.0	1.7	0.042
CV			4.1	22.41	4.917
Min			131	4.9	0.72
Max			155	12.3	0.92
n	1	0	46	44	46

AFIS T				Trash
Lab.	Total Trash		Dust	V. F. M.
	Mean Diameter µm	Cnt/g	Cnt/g	%
21	(240)	774	708	1.8
22	282	431	380	1.13
32	316	442	381	1.5
32-2	296	369	324	1.1
38		622	540	2.0
43	301	454	394	1.5
51	295	381	333	1.1
58	338	380	324	1.5
58-2	309	520	446	1.6
90	290	475	423	1.2
91	334	370	311	1.4
91-2	304	586	516	2.0
100		211		
101	311	437	379	1.3
102		69	(850)	1.6
111	312	401	338	1.2
112	306	646	544	1.9
129		58	317	1.1
142		584	512	1.7
143	273	466	419	1.2
148	309	455	394	1.4
148-2	295	598	522	1.7
154		595	512	1.6
158	266	707	635	2.09
176	313	369	315	1.2
183	297	478	426	1.4
186	309	451	387	1.5
186-2	330	438	373	1.6
193	311	411	346	1.3
207		345	294	1.3
Average	304.4	450.8	421.2	1.48
Median	307.5	446.5	390.5	1.5
StdDev	17.7	158.2	104.2	0.289
CV	5.8	35.1	24.7	19.505
Min	266	58	294	1.1
Max	338	774	708	2.09
n	22	30	28	29

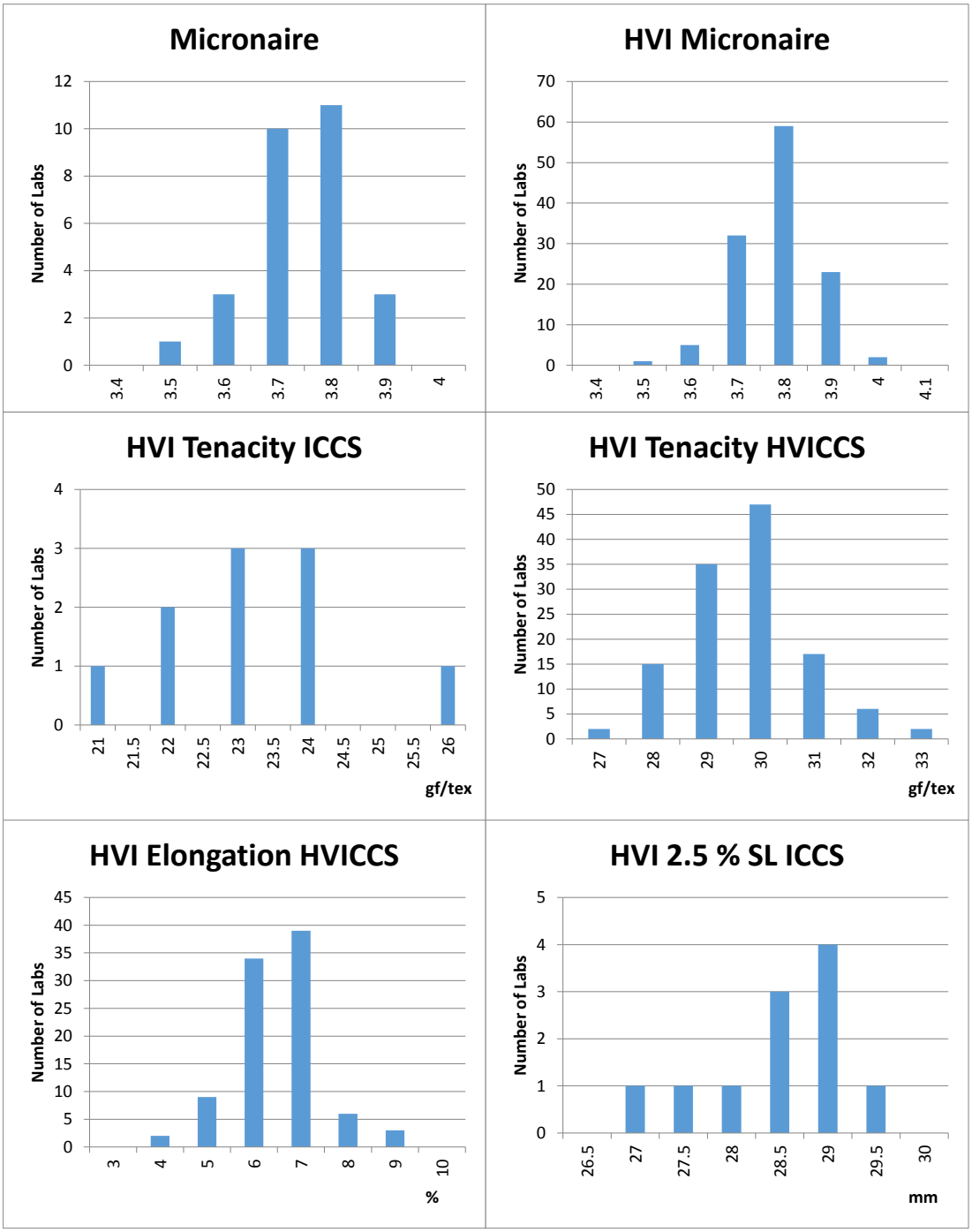
AFIS N *(table is divided into 2 pages)*					Neps
Lab.	Total Neps		SCN		
	Mean Diameter µm	Cnt/g	Mean Diameter µm	Cnt/g	
5	734	331	1170	40	
14	716	291	1340	21	
21	802	(90)	802	(90)	
22	720	258	1274	23	
24	716	322	1344	22	
32	699	291	1054	27	
32-2	707	281	1128	24	
38	(395)	213			
40	717	298	1088	26	
40-2	824	339	1372	28	
40-3	826	318	1507	33	
40-4	723	307	1197	22	
41	671	232			
43	755	288	1266	41	
44	739	270	1201	17	
51	762	280		29	
58	758	277	1271	41	
58-2	665	252	804	16	
75	707	323	1184	24	
90	(2072)	369	1322	42	
91	711	260	1258	21	
91-2	697	269	1147	20	
91-3	673	291			
96-3	676	286	1092	21	
100		207		40	
101	764	307	1326	42	
102	(220)	(918)	1060	39	
109	720	314	1174	25	
111	716	270	1116	32	
112	778	270	1346	40	
118	740	296	1376	30	
123	672	302	1216	10	
123-2	739	289	1174	18	
123-3	707	266	1136	19	
128		278			
129	763	285	1365	46	
132	653	256			
139	708	299	1087	15	
142	661	229			
143	727	268	1321	24	
144	721	290	1374	20	
145	730	293	1359	23	
148	705	270	1178	20	
148-2	720	297	1238	21	
148-3		302			
154	742	274	1298	40	
158	710	370	952	37	
170	726	329	1372	22	
176	702	231	1057	29	
180	693	301	1154	23	
181	708	257	1438	19	
183	712	238	1264	18	

AFIS N	*(table is divided into 2 pages)*			Neps
Lab.	Total Neps		SCN	
	Mean Diameter µm	Cnt/g	Mean Diameter µm	Cnt/g
186	746	295	1195	41
186-2	647	258	1075	30
193	743	290	1434	29
200	731	308	1343	28
207	755	315	1345	31
Average	722.3	285.5	1220.7	27.5
Median	720.0	289.0	1227.0	25.0
StdDev	38.3	33.2	149.8	8.9
CV	5.3	11.6	12.3	32.3
Min	647	207	802	10
Max	826	370	1507	46
n	51	55	48	49

aQura *(further information see page "Multiple Devices")*							Length, Neps
Lab.	Repetitions	5.0 % L (n)	50 % L (n)	SFC (n) <12.7 mm	SFC (w) <12.7 mm	Total Fibre Neps	SCN
		mm	mm	%	%	Cnt/g	Cnt/g
3	4	30.3		20.1	8.7	254	42
44-2	10	28.2		38.4	18.0	283	45
127		29.4		28.8	14.6	294	37
130	4	30.6		28.2	13.3	294	29
n		4	0	4	4	4	4

Multiple Devices		*(information not provided in the respective table)*			General
Lab.	Device	Manufacturer	Instrument	Std. Test Method	Repetitions
3	aQura	Premier	aQura2	ASTM	4
16	FMT	Wira	GW208-08		6
32	FMT	Wira	FFMM		6
32-2	FMT	Wira	FFMM		6
44-2	aQura	Premier	aQura2		10
56	Causticaire		Micronaire	JIS	2
58	ALMeter		AL 101	internal	3
85	CombSorter		Joh.-Zweigle	UNI 10170	1
85	GravFineness			UNIENISO1973	10
85-2	CombSorter		Keisokki	UNI 10170	1
85-2	GravFineness			UNIENISO1973	10
85-3	CombSorter		Keisokki	UNI 10170	1
85-3	GravFineness			UNIENISO1973	10
85-4	CombSorter		Keisokki	UNI 10170	1
92	DigitalFibrograph	MAG	DigiLen	ASTMD5332	6
100	DigitalFibrograph		630		14
102	DigitalFibrograph		530	ASTMD5667	5
102	FMT		Micromat	ASTMD5667	2
112	ALMeter				5
112	GravFineness				3
127	aQura	Premier			
128	FMT		Micromat	ASTM	3
129	MikrTest			IS-236	4
130	aQura	Premier	aQura2		4
131	DigitalFibrograph		530	ASTMD1447-00	6
131-2	DigitalFibrograph		730	ASTMD1447-00	6
131-2	FMT		Micromat	ASTMD3818-86	6
131-2	Causticaire		Image	BS3085-1968	10
131-2	MikrTest		Image	2130-82	10
132	DigitalFibrograph		Fibrotest	ASTMD1447	10
132	ALMeter	Uster	AL 100	DIN 53806	5
143	DigitalFibrograph	USTER	330	ABNTNBR13154-94	2
177	Causticaire				3
177	GravFineness			ASTMD1577-90	4
193	GravFineness			GB/T6100-07	2

Graphics of selected round test data



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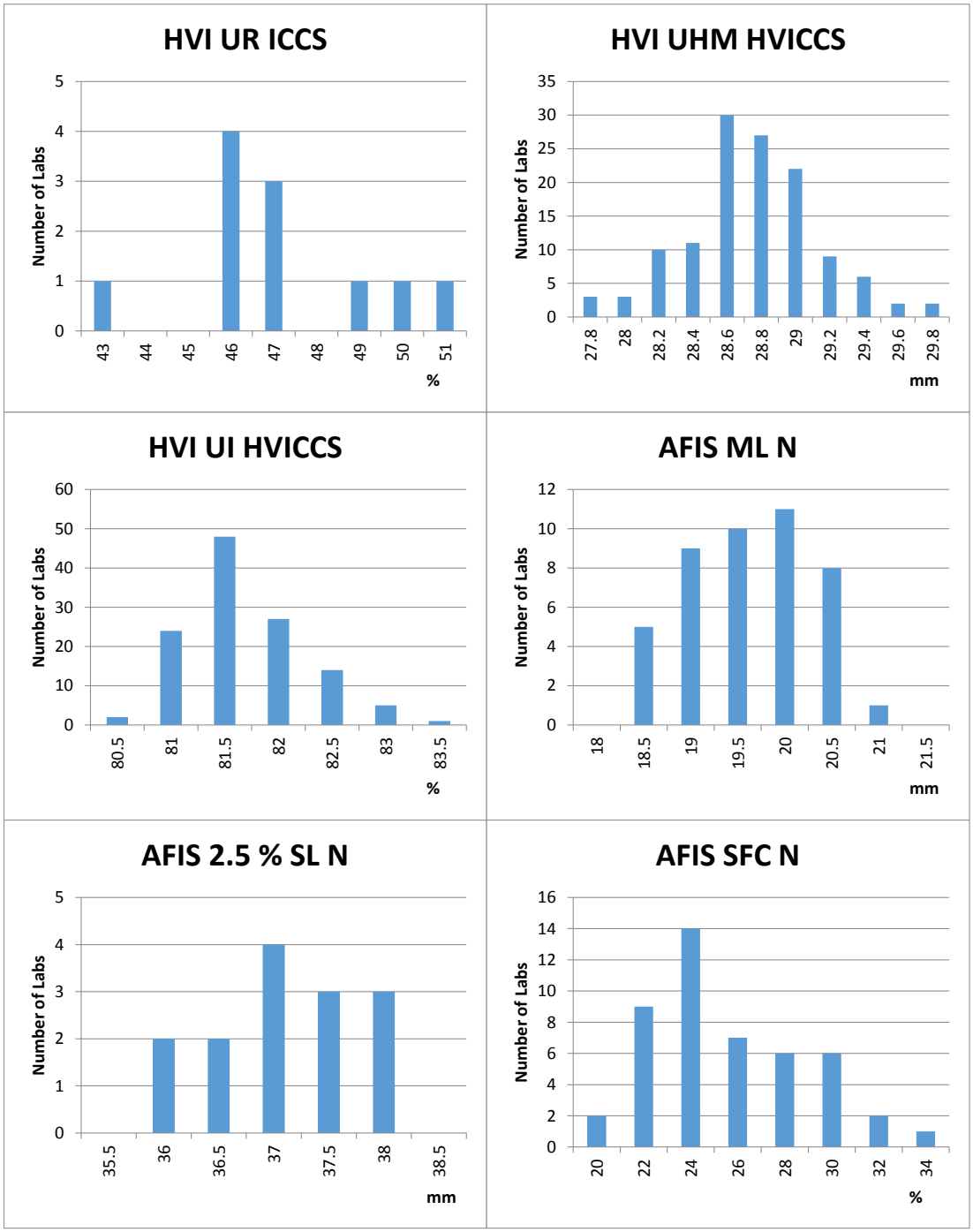
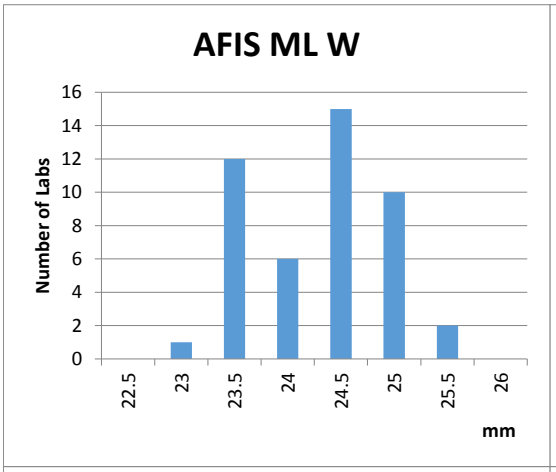
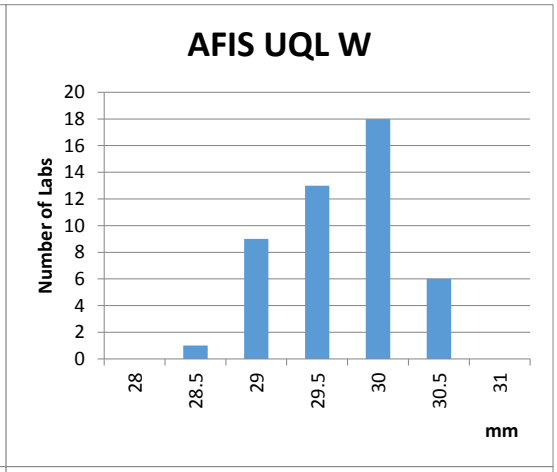
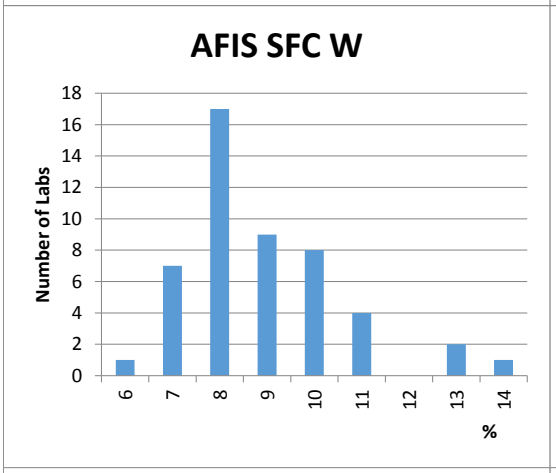
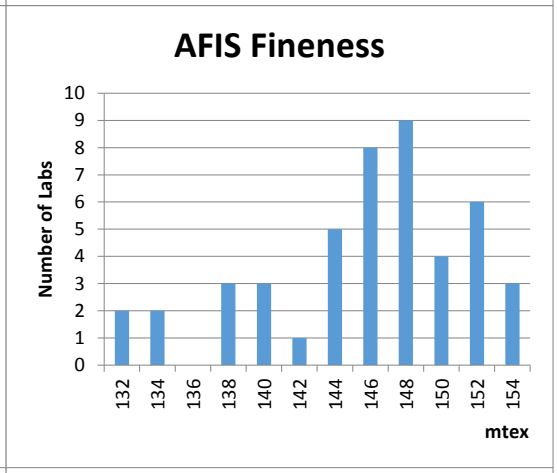


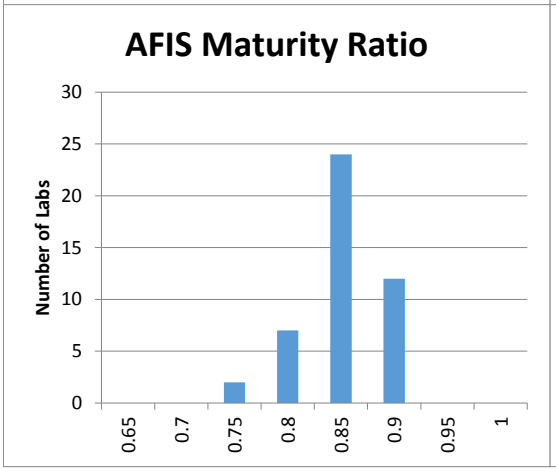
Graphics of selected round test data

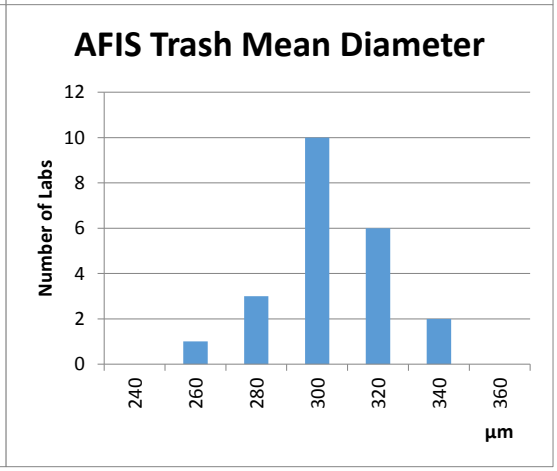












Graphics of selected round test data