



ICA Bremen

The Global Centre for Cotton Testing and Research

ICA Bremen Cotton Round Test

in Cooperation with Bremer Baumwollbörse
carried out by Bremen Fibre Institute (FIBRE)

Bremen, 19.07.2018

Evaluation of the Test Results 2018 / 1

Tested Cotton: **Sudan Barakat** Number of Laboratories: **116**
Cotton Number: **RM 43**

Argentina	-	Mali	1
Australia	1	Mauritius	1
Bangladesh	-	The Netherlands	-
Brazil	5	Pakistan	2
China	16	Poland	1
Czech Republic	3	Russia	-
Egypt	4	Senegal	1
France	1	Serbia	1
Germany	10	Slovenia	2
Greece	7	South Africa	-
Hungary	1	Spain	4
India	28	Sudan	1
Indonesia	1	Switzerland	2
Iran	1	Taiwan	1
Israel	1	Tanzania	1
Italy	1	Thailand	-
Japan	1	Tunisia	1
Kazakhstan	1	Turkey	5
Korea	1	United States	4
Latvia	1	Uzbekistan	2
		Vietnam	2

A joint venture between



Supported by



International Cotton Association Quality and Research Centre Bremen GmbH
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Registered in Germany no: HRB 27431 HB VAT-ID: DE280079445

Managing Director: Bill Kingdon

Place of jurisdiction: Bremen

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carried out by Bremen Fibre Institute (FIBRE)

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: **Sudan Barakat (RM 43)**

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	0.059	0.089
Strength, g/tex	0.651	1.606
Length, UHM, inch	0.013	0.029
Length, UHM, mm	0.324	0.727

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.

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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:

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

- 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.

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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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MICRONAIRE				
Lab.	Rep.	Mic.	Instrument	Standard Test Method
12	2	4.1	775	GB/T6498-08
16	6	3.9	GW208-08	UNE 40214
17		3.8	Fibronaire	
20	4	4.2	175	USDA-Au46-17
29	4	4.2		ISO 2403
67	4	3.9	Fibronaire	
70	6	(5.0)		ASTMD3818-92
76	4	4.2		
77		3.9		
93	4	4.1		ASTMD1448
100	12	4.1	675	ASTMD1448-97
102	4	3.9	Fibronaire	ASTM-5867
112	2	4.1	Fibronaire	ASTMD1448
128	2	4.0	Fibronaire	ASTM
129	4	4.0	Sheffield	BS-3161
131	6	4.1		ASTMD1448-05
132	3	4.0	775	DIN 53941
142	3	4.1	80400	ISO
155		4.3	275	DIN 53941
162	6	4.1		
167	3	4.5	275	USDA
169	3	4.1		
177	3	4.3	DPM 60	DIN 53941
183	3	4.0	Fibronaire	ASTMD1448
193	3	4.1	Y145	GB/T6498-08
201	3	4.1	275	OzDSt3295-18
Average		4.08		
Median		4.1		
StdDev		0.16		
CV		3.8		
Min		3.8		
Max		4.5		
n		25		

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	(98.0)		UNE 40247				
29	10	10.2		ISO 3060				
46	10	10.1	5.1	ISO 3060				
93	6	9.0	4.8	ASTMD1445	6	25.8	7.2	ASTM 1445
100	16	9.4						
112					3	29.6	6.4	ASTM 1445
128	3	8.7		ASTM	3	29.4	6.6	ASTM
131	6	9.6	5.0	ASTMD1445-05	6	27.4	6.4	ASTMD1445-05
162	6	9.9			6	30.9	5.4	
177	3	7.3		DIN 53942				
193					12	29.3	6.1	GB/T13783-92
Average		9.28	4.97			28.73	6.35	
Median		9.5	5.0			29.35	6.4	
StdDev		0.95	0.15			1.82	0.59	
CV		10.27	3.08			6.34	9.33	
Min		7.3	4.8			25.8	5.4	
Max		10.2	5.1			30.9	7.2	
n		8	3			6	6	

Pressley	PI(0)	Av., gf/tex	49.71	StdDev, gf/tex	5.11	CV, %	10.27
	(3.2)	Av., gf/tex	33.77	StdDev, gf/tex	1.04	CV, %	3.08

DIGITAL - FIBROGRAPH <i>(further information see page "Multiple Devices")</i>								Span Length	
Lab.	Rep.	2.5 % SL		50 % SL		UR	SFC (N)	SFC (W)	SFI
		mm	inch	mm	inch	%	%	%	
28	10	33.9	1.34	16.1	0.63			5.9	
93	4	35.0	1.38	17.2	0.68	50			
100	8	33.5	1.32	16.1	0.63	48			
102	5	33.6	1.32	15.4	0.61	45			
131	6	33.8	1.33	15.9	0.63				
132	10	34.3	1.35	15.7	0.62	46			
Average		34.02	1.339	16.06	0.632				
Median		33.86	1.333	15.98	0.629				
StdDev		0.56	0.02	0.62	0.02				
CV		1.64	1.64	3.8	3.85				
Min		33.5	1.32	15.4	0.61				
Max		35.0	1.38	17.2	0.68				
n		6	6	6	6	4	0	1	0

COMB SORTER <i>(further information see page "Multiple Devices")</i>						Staple Length		
Lab.	Rep.	Instrument	N			W		
			ML	CV	< 12.5 mm	ML	CV	<12.5 mm
			mm	%	%	mm	%	%
85	1					33.2	33.0	8.7
85-2	1					30.1	28.1	5.0
85-3	1					30.2	27.1	5.0
85-4	1					31.3	27.8	5.1

ALMETER <i>(further information see page "Multiple Devices")</i>						Staple Length	
Lab.	Rep.	N			W		
		ML	CV	< 12.5 mm	ML	CV	<12.5 mm
		mm	%	%	mm	%	%
58	4	22.7	43.6	19.9	27.0	35.5	8.4
112	3	31.2	27.7	0.3	34.6	23.2	0.2
132	5	25.4	36.1	12.4	30.0	28.2	4.1

Maturity, Fineness <i>(further information see page "Multiple Devices")</i>					
Lab	Fibrograph	Causticaire (18 % NaOH)	Microscopic Test		Gravimetric Fineness
	%	%	ASTM, %	BS, %	dtex
70					1.72
85					1.55
85-2					1.56
85-3					1.54
112					2.10
129		76			
131		75			
177		87			1.63
193					1.58

IIC/SHIRLEY FM-TESTER <i>(further information see page "Multiple Devices")</i>				Maturity, Fineness
Lab.	Rep.	PM, %	MAT	FIN, mtex
16	6		(45)	
70	6	87.5	1.0	142
93	4	90.0	0.82	155
102	2	85.3	0.97	143
128	3	82.0	0.93	164
Average			0.93	
Median			0.95	
StdDev			0.08	
CV			8.47	
Min			0.82	
Max			1.00	
n		4	4	4

HVI <i>(table is divided into 3 pages)</i>					General		
Lab.	Manufacturer	Instrument	Std. Test Method	Rep.	Each rep. consisting of		
					Mic. meas.	Combs for length/strength	Color readings
3	Premier	ART 2	ASTM	6			
4	Premier	HFT		4			
5	USTER	1000	CCAA	12			
6	USTER	1000	GB/T20392-06	4			
9	Premier	ART		4			
11	Premier	ART 2	USDA	10			
12	Premier	ART 2	GB/T20392-06	6			
13	USTER	Spectrum	USDA	10			
14	USTER	1000	GB/T20392-06	12			
15	USTER	1000		6			
18	USTER	1000	individual	20			
19	USTER	1000	GB/T20392-06				
23	USTER	900		10			
24	USTER	Spectrum					
25	USTER	1000		10			
26	USTER	1000		10			
27	USTER	900 A	ASTMD5867-12	6			
28	Textechno		ASTMD1234-12	10			
31	USTER	900		6			
31-2	USTER	900		6			
33	USTER	1000	GB/T20392	6			
33-2	USTER	1000	GB/T20392	6			
35	USTER	1000	GB/T20392	3			
38	USTER	1000	ASTMD1234-12	7			
39	Premier	ART 2	USDA	6			
41	USTER	Spectrum		5			
42	USTER	Spectrum					
42-2	USTER	1000		6			
43	USTER	1000		10			
45	USTER	1000		5			
49	USTER	1000	ASTMD5867	6			
54	USTER	Spectrum	HVI Mode	4			
55	MAG	HVT Expert1401	ASTMD5867-12				
57	MAG	HVT Expert1401	ASTMD5867-12	6			
58	USTER	1000	internal	10			
59	USTER	1000	USDA	10			
59-2	USTER	1000	USDA	10			
59-3	USTER	1000	USDA	10			
59-4	USTER	1000	USDA	10			
60	USTER	1000M700	ASTMD1234-12	6			
60-2	USTER	1000	ASTMD1234-12	6			
63	MAG	HVT Expert1401	ASTMD5867-12				
64	MAG	HVT Expert1401	ASTMD1234-12				
65	Premier	ART 2	ASTMD5867-12				
66	Premier	ART	ICC	6			
68	USTER	1000	ASTMD5867	10			
69	MAG	HVT Expert1401	ASTMD5687-12	6			
71	USTER	1000	GB/T20392-06	6			
72	USTER	1000	ASTM1776	6			
73	USTER	1000	ASTMD5867-12	6			
78	USTER	1000		4			
83	USTER	Spectrum	GB/T20392-06	10			
84	USTER	1000	USDA	12			
89	Premier	ART		6			
89-2	Premier	ART		6			

HVI <i>(table is divided into 3 pages)</i>					General		
Lab.	Manufacturer	Instrument	Std. Test Method	Rep.	Each rep. consisting of		
					Mic. meas.	Combs for length/strength	Color readings
89-3	USTER	1000		6			
89-4	USTER	1000		6			
90	USTER	1000	ASTMD5867	10			
91	USTER	1000	ASTMD5867-12	5			
93	USTER	900 A	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			
100	Textechno	CCS-V5.3	ASTMD5867-05	8			
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	3			
105	USTER	1000	ASTMD1776-5867				
106	Premier	ART	Manufacturer	5			
107	Premier	ART 2	ASTMD5687-12				
108	USTER	1000	ASTMD5867-12	10			
109	USTER	1000					
111	USTER	1000	internal	16			
112	USTER	1000	ASTMD5867	6			
113	Premier	ART	ASTMD5867-12				
113-2	MAG	HVT Expert1401	ASTMD5867-12				
118	USTER	1000	ASTMD5867-05	6			
121	USTER	1000M700	GB/T20392-06	2			
123	USTER	1000	SITRA-FP02-17	10			
123-2	USTER	1000	ASTMD5867-12	10			
128	USTER	1000	ASTMD5867-12	10			
129	USTER	900	ASTMD5867	10			
130	Premier	ART3	ASTMD5867-05	6			
130-2	Premier	ART3	ASTMD5867-05	6			
131	USTER	Spectrum II	ASTMD5867-05	6			
132	Textechno	Fibrotest	ASTMD5867	10			
136	USTER	1000	ASTMD5867-95	6			
138	USTER	Spectrum I	ASTMD5867	6			
139	Premier	ART 2	ASTMD5867-05	12			
145	Premier	ART 2					
148	USTER	Spectrum		6			
154	USTER	900 A		10			
158	USTER	900		6			
158-2	USTER	900		6			
160	USTER	Spectrum		5			
162	USTER	900 A		6			
163	USTER	900	ASTMD5867-12	5			
170	USTER	1000	Manufacturer	6			
178	Premier	ART		10			
178-2	USTER	1000		4			
178-3	USTER	1000		4			
179	USTER	1000	GB/T20392-06	10			
180	USTER	Spectrum	ASTM	6			
181	USTER	Spectrum	ASTM	6			
183	USTER	1000	ASTMD5867-05	2			

HVI <i>(table is divided into 3 pages)</i>					General		
Lab.	Manufacturer	Instrument	Std. Test Method	Rep.	Each rep. consisting of		
					Mic. meas.	Combs for length/strength	Color readings
193	USTER	1000	GB/T20392-06	6			
200	USTER	900	ASTMD5867	8			
201	USTER	1000	OzDSt3295-18	6			
203	Premier	ART	USDA				
204	USTER	1000	GB/T20392-06	10			
207	USTER	1000	ASTMD5867-12	10			
207-2	USTER	1000	ASTMD5867-12	10			
209	MAG	HVT Expert1401	ASTMD5867-12	6			

HVI		<i>(table is divided into 3 pages)</i> Micronaire, Tenacity, Elongation			
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
3	4.0		(28.1)		6.7
4	4.1	26.8		6.3	
5	4.2		38.0		(3.1)
6	4.2		34.7		4.6
9	4.3		36.7		
11	4.1		36.4		7.6
12	4.2		37.6		6.6
13	3.9		37.6		6.0
14	4.4		36.9		4.7
15	4.3		40.3		7.9
18	4.0		41.0		4.3
19	4.1		39.5		7.1
23	4.0		38.9		7.7
24	4.2		40.3		
25	4.1		37.9		6.9
26	4.0		38.7		5.4
27	4.5	28.6	38.9	5.8	6.5
28			33.3		(11.7)
31	3.9	26.8	36.4	5.4	5.3
33	4.1		35.8		6.9
33-2	4.1		35.8		6.9
35	4.1		36.0		5.8
38	4.2		37.8		8.7
39	4.1		35.0		
41	4.0		38.0		6.6
42	4.2		38.8		7.6
42-2	4.1		38.9		6.5
43	4.1		37.6		3.4
45	4.1		36.2		
49	4.1		37.9		7.2
54	4.0		39.7		6.9
55	4.1		42.0		5.8
57	4.2		38.7		6.6
58	4.0		35.2		6.9
59	4.6		38.1		
59-2	4.6		38.2		
59-3	4.5		37.0		
59-4	4.5		37.8		
60	4.2		37.9		4.9
60-2	3.9		41.6		6.0
63	4.0		39.8		8.2
64	4.0		41.5		5.6
65	4.2		38.5		6.8
66	4.0	26.6		7.1	
68	4.4		36.5		7.5
69	4.3		34.7		6.6
71	4.2		35.8		8.2
72	4.4		36.2		
73	4.2		37.9		6.2
78	4.3		37.4		7.2
83	4.1		(29.5)		5.6
84	4.2		37.9		5.8
89	4.2		39.6		

HVI		<i>(table is divided into 3 pages)</i> Micronaire, Tenacity, Elongation			
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
89-2	4.2		40.2		
89-3	4.1		39.9		
89-4	4.2		39.4		
90	4.1		36.5		7.6
91	4.2		35.7		7.7
93	4.2		40.5		5.8
94	4.4		36.8		
94-2	4.4		36.5		
95	4.2		38.7		6.8
96	4.2		37.2		5.2
96-2	4.1		39.5		6.1
96-3	4.1		39.2		5.7
100	4.0		34.8		7.7
101	4.2		36.3		6.1
102	4.1		36.7		6.8
102-2	3.9		38.5		4.9
103	4.2		37.2		(37.8)
104	4.2		37.5		5.9
105	4.1		38.3		6.4
106	4.1		38.0		
107	3.9		39.5		5.6
108	4.2		38.3		5.9
109	4.2		39.6		
111	4.0		37.7		6.0
112	4.0		37.0		7.7
113	4.1		38.9		6.6
113-2	4.2		39.6		7.0
118	4.2		36.4		8.0
121	4.1		40.4		7.1
123	4.1	27.5		6.7	
123-2	4.1		38.4		6.4
128	4.1		36.7		7.4
129	4.0	27.0	32.2	5.8	5.9
130	4.1	28.2		6.1	
130-2	4.1		37.5		7.0
131	4.2		34.5		7.5
132			36.8		8.6
136	4.4		38.8		4.9
138	3.9		40.0		5.6
139	3.9		41.1		7.1
145	3.7				
148	4.0		35.0		7.2
154	4.1		35.1		6.7
158	4.2		38.2		5.7
158-2	4.1		39.0		5.7
160	4.3		33.5		(14.3)
162	3.9		35.4		5.6
163	3.9	29.1			
170	4.3		37.4		7.9
178	4.0		40.0		
178-2	3.9		41.7		
178-3	3.9		41.7		
179	4.1		37.4		6.5

HVI		<i>(table is divided into 3 pages)</i> Micronaire, Tenacity, Elongation			
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
180	3.8		40.8		7.1
181	4.0		40.0		7.0
183	4.4		39.3		6.5
193	4.2		34.5		7.6
200	4.0		37.0		
201	4.1		37.4		7.3
203	4.0				
204	4.3		36.4		9.7
207	4.0		36.3		7.4
207-2	4.1		37.5		7.6
209	4.2		37.2		7.1
Average	4.13	27.58	37.82	6.17	6.6
Median	4.11	27.25	37.85	6.1	6.7
StdDev	0.16	0.95	1.96	0.58	1.07
CV	3.79	3.43	5.19	9.44	16.13
Min	3.7	26.6	32.2	5.4	3.4
Max	4.6	29.1	42.0	7.1	9.7
n	115	8	108	7	85

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
3				34.5	1.36	86.6
4			46.7			
5				35.6	1.40	85.3
6				35.1	1.38	85.8
9				34.2	1.35	86.6
11				35.5	1.40	83.2
12				34.6	1.36	86.5
13				34.0	1.34	85.8
14				34.4	1.35	85.5
15				35.1	1.38	87.2
18				35.3	1.39	85.9
19				35.5	1.40	85.7
23				35.1	1.38	86.7
24				36.2	1.43	
25				35.7	1.41	85.4
26				35.4	1.39	85.4
27	34.0	1.34		35.5	1.40	85.9
28				34.0	1.34	86.6
31				34.4	1.35	(91.4)
33				35.3	1.39	85.7
33-2				34.9	1.37	85.7
35				34.8	1.37	85.2
38				35.2	1.38	87.5
39				33.9	1.33	
41				33.7	1.33	83.7
42				35.3	1.39	
42-2				36.0	1.42	84.9
43				35.3	1.39	86.0
45				35.1	1.38	
49				35.5	1.40	86.3
54				34.3	1.35	
55				34.0	1.34	
57				34.1	1.34	85.7
58				35.2	1.38	86.2
59				33.3	1.31	85.4
59-2				34.1	1.34	84.4
59-3				33.8	1.33	84.2
59-4				34.4	1.35	85.2
60				35.9	1.41	84.9
60-2				35.4	1.39	86.8
63				35.4	1.39	86.9
64				34.0	1.34	
65				34.8	1.37	86.3
66	33.5	1.32	41.9			
68				34.8	1.37	86.8
69				33.9	1.33	86.4
71				34.2	1.35	86.3
72				36.9	1.45	
73				35.5	1.40	85.4
78				36.3	1.43	86.5
83				36.7	1.44	85.8
84				(37.5)	(1.48)	85.5

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
89				35.2	1.38	
89-2				34.3	1.35	
89-3				35.0	1.38	
89-4				35.2	1.39	
90				34.9	1.37	86.2
91				34.3	1.35	85.6
93				35.2	1.39	87.6
94				34.7	1.36	
94-2				35.0	1.38	
95				34.1	1.34	85.7
96				36.1	1.42	85.8
96-2				35.2	1.38	85.8
96-3				34.7	1.37	86.1
100				34.4	1.35	86.8
101				34.9	1.37	85.9
102				35.2	1.39	86.5
102-2				34.6	1.36	86.7
103				35.6	1.40	86.0
104				35.4	1.39	86.7
105				35.3	1.39	85.9
106				35.8	1.41	85.4
107				34.1	1.34	
108				35.6	1.40	84.4
109				35.4	1.39	86.5
111				34.7	1.37	85.7
112				36.1	1.42	87.1
113				34.3	1.35	84.4
113-2				34.2	1.35	85.2
118				35.3	1.39	85.6
121				35.1	1.38	85.6
123	35.3	1.39				
123-2				35.5	1.40	85.9
128				34.8	1.37	86.6
129	35.3	1.39		34.6	1.36	87.0
130	35.0	1.38				
130-2				34.3	1.35	83.9
131				34.4	1.35	(82.3)
132				34.3	1.35	85.0
136				35.9	1.41	86.2
138				34.8	1.37	85.9
139				34.9	1.37	84.3
145				(13.7)	(0.54)	86.3
148				33.9	1.33	85.1
154				34.8	1.37	
158				35.1	1.38	85.2
158-2				35.3	1.39	85.3
160				34.1	1.34	85.0
162				35.0	1.38	87.7
163	35.4	1.39	47.2			
170				34.9	1.37	
178				34.0	1.34	84.3
178-2				35.9	1.41	

HVI	<i>(table is divided into 3 pages)</i>					Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
178-3				35.9	1.41	84.1
179				34.6	1.36	86.8
180				34.6	1.36	85.9
181				34.8	1.37	87.0
183				36.0	1.42	
193				35.3	1.39	85.5
200				35.7	1.40	87.3
201				35.1	1.38	86.7
203				34.4	1.35	86.4
204				35.3	1.39	85.8
207				35.1	1.38	86.4
207-2				35.1	1.38	86.7
209				34.6	1.36	85.8
Average	34.74	1.368		34.94	1.376	85.86
Median	35.12	1.383		35.01	1.378	85.9
StdDev	0.80	0.03		0.68	0.03	0.89
CV	2.3	2.31		1.95	1.95	1.04
Min	33.5	1.32		33.3	1.31	83.2
Max	35.4	1.39		36.9	1.45	87.7
n	6	6	3	110	110	91

HVI <i>(table is divided into 3 pages)</i>				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
3	68	13.3	24-2			
4	70	12.7	23-4			
5	71	12.9	23-3	2	0.23	19
6	70	13.5	14	3	0.43	17
9	(61)	12.8	44-2			
11	67	13.5	34-1			
12	69	12.8	1	2	0.19	17
14	70	13.7	24-2		0.22	18
15	70	13.6	24-2	2	0.2	15
18	70	13.2	24-2	3	0.27	21
19	71	13.5	1	2	0.19	16
23	68	13.8	24-2			
24	67	14.2	24-4		0.17	15
25	70	13.5	24-2	3	0.34	26
26	70	13.6	24-1	2	0.14	15
27	69	13.9	24-2			
31	68	13.4	24-2	3	0.28	29
31-2	68	13.0	34-1	3	0.51	30
33	70	13.6	14-2	2	0.26	25
33-2	70	13.6	14-2	2	0.21	26
35	70	13.7	14	2	0.24	18
38	70	13.3	24-2	3	0.34	36
39	71	12.9	24-2			
41	70	13.7	24-1		0.19	14
42	68	12.8			0.27	13
42-2	72	13.0	31-4	2	0.22	17
43	70	13.4			0.18	16
45	70	13.7			0.18	13
49	69	13.2	24-2	2	0.24	23
54	67	(14.5)	24-4		(1.00)	0
55	70	13.0	23-3			
57	70	12.9	24-1			
58	70	13.3	24-2		0.25	20
59	70	13.4	24-2	4	(0.57)	32
59-2	69	13.4	24-2	2	0.2	22
59-3	69	12.8	24-2	2	0.31	27
59-4	70	12.7	23-3	3	0.37	27
60	71	13.1	23-3	2	0.2	16
60-2	71	13.2	24-1	2	0.21	23
63	70	13.4	24-2			
64	(74)	(10.0)	32-1			
65	70	13.4	24-2			
66	70	(12.2)	23-4			
68	69	13.6	24-2	3	0.27	23
69	71	13.4	24-1			
71	70	13.8	1	3	0.2	21
72	70	13.4	24-2	2	0.24	22
73	70	13.2	24-2	2	0.25	17
78	69	13.1	24-1	3	0.29	18
83	69	13.6	24-2		0.04	3
84	70	13.2	24-2	3	0.3	27
89	70	(12.1)	33-3	6	(0.91)	42
89-2	70	(12.3)	33-3	6	(0.70)	27

HVI <i>(table is divided into 3 pages)</i>				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
89-3	71	13.8	24-1	3	0.3	12
89-4	70	13.8	24-1	3	0.13	18
90	71	13.5	24-1		0.28	16
91	69	13.6	24-2	0	(24.00)	
93	68	13.4	25-1	5	0.44	(56)
94	71	13.5	24-1	2	0.22	22
94-2	70	13.3	24-1	3	0.34	24
95	70	13.7	24-1			
96	71	13.1	23-3	3	0.36	(54)
100	68	(12.4)				
101	71	13.4	24-1	3	0.39	30
102	71	13.3	24-1	2	0.19	25
103	70	13.4	1	2	0.2	22
104	70	13.2	24	2	0.24	18
105	71	13.4	24-1	2	0.16	10
106	72	13.7	13-7			
107	70	13.4	24-2			
108	71	13.2	24-1	2	0.22	23
109	70	13.1	24-2		0.23	23
111	70	13.1	24-2		0.34	22
112	70	13.1	24-2	3	0.26	29
113	70	13.7	24-1			
113-2	71	14.1	24-1			
118	69	13.6	24-2	2	0.22	21
121	71	13.3	1	4	0.15	24
123	69	13.5	24-2	3	0.39	21
123-2	69	13.2	24-2	2	0.25	20
128	69	13.7	24-2	3		
129	68	13.2	24-1			
130	70	13.5	24-2			
130-2	71	13.1	24-2			
131	66	13.6			(0.75)	(56)
136	69	13.5	24-2	3	0.39	29
138	67	12.8	34-1	1	0.11	11
139	67	13.0	34-1	1	0.07	8
145	71	13.1	24-1			
148	70	13.3	24-2		0.31	30
154	70	13.7	24-2	1	0.2	11
158	70	13.2	24-2	2	0.5	10
158-2	70	13.3	24-2	2	0.2	9
162	70	13.5	24-2			
163	69	13.0	24-2			
170	70	13.5	24-2	2	0.19	19
178	68	13.2	34-1			
178-2	69	13.3	24-2	3	0.41	23
178-3	69	13.3	24-2	3	0.41	23
179	70	13.0	24-2	2	0.22	31
180	67	13.8	24-2	1	0.17	4
181	68	13.5	24-2	3	(1.11)	6
183	69	13.5	24-2	2	0.25	20
193	70	13.6	24-1	2	0.23	19
200	70	13.4	24-2			
201	70	13.4	1	2	0.2	24

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
203	72	(11.0)	33-1	4	0.36	16
204	70	13.3	24-2		0.27	26
207	70	13.7	24-1	2	0.22	20
207-2	70	13.5	24-2	3	0.32	25
209	70	13.4	24-1			
Average	69.6	13.37			0.256	20.1
Median	69.8	13.4			0.24	21.0
StdDev	1.12	0.30			0.09	7.47
CV	1.6	2.24			35.7	37.1
Min	66	12.7			0.04	0
Max	72	14.2			0.51	42
n	109	104			74	77

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio		
3		6.1		0.91		
4	3.5			0.85		
5		2.2		0.89		
6		4.3		0.87		
9		3.8				
12		6.0		0.91		
13		4.5		0.89		
14		3.7		0.88		
15		5.6	85			
18		6.6		0.87		
19		7.1		0.87		
23		3.5				
24		6.5		0.92		
25		6.2		0.85		
26		5.3		0.85		
27		6.1		0.88		
28		2.9	67	(0.74)		
33				0.85		
35		5.5		0.86		
38		7.2		0.85		
39		6.3		0.89		
41		4.1		0.9		
42		5.0		0.93		
42-2		5.0		0.86		
43		5.9				
45		5.7		0.87		
49		5.7		0.85		
54		6.4	91			
55		6.7		0.8		
57		6.6		0.85		
58		4.3		0.85		
59		6.0		0.87		
59-2		5.2		0.87		
59-3		5.7		0.87		
59-4		5.6		0.87		
60		5.7		0.87		
60-2		4.7		0.86		
63		6.7	80			
64		6.6		(0.78)		
65		5.9		0.85		
66	3.5					
68		4.1		0.86		
69		6.6		0.86		
71		5.8		0.85		
72		4.6		0.86		
73		4.8		0.86		
78		5.1	86			

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio		
84		5.5	87			
89		3.8		0.88		
89-2		4.5		0.88		
89-3		3.8		0.87		
89-4		3.4		0.86		
90		7.2		0.85		
91		3.6		0.85		
93		3.5				
94		3.1		0.87		
94-2		3.6		0.87		
95		6.5		0.83		
96		6.4		0.87		
100			74	0.83		
101		6.2		0.86		
102		6.7		0.86		
103		5.9		0.86		
104				0.87		
105		2.6		0.86		
106		3.5		0.85		
107		6.3		0.9		
108		6.8		0.86		
109		5.7		0.86		
111		4.7		0.86		
112		5.1		0.85		
113		5.5		0.85		
113-2		7.0		0.81		
118		4.8		0.85		
121		6.9		0.86		
123	5.5			0.85		
123-2		4.8		0.86		
128		5.6		0.85		
129	4.7	5.0				
130	3.5			0.92		
130-2		5.7		0.91		
131				0.92		
132		2.8				
136		4.1		0.88		
138		4.8		0.9		
139		5.4				
145		5.9				
148		4.4		0.85		
154		2.2				
158		5.6		0.86		
158-2		5.7		0.86		
160		6.6		(0.77)		
162		3.5				
170		4.2		0.85		

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %		Maturity Ratio	
178		3.5			0.85	
178-2		5.3			0.86	
178-3		5.3			0.86	
179		5.4			0.86	
180		5.4			0.91	
181		5.3			0.91	
183		4.6			0.87	
193		5.8			0.85	
201		6.0			0.85	
204		3.1			0.84	
207		6.0			0.85	
207-2		5.6			0.85	
209		7.0			0.81	
Average	4.14	5.2	81.4		0.865	
Median	3.5	5.5	85.0		0.86	
StdDev	0.92	1.22	8.38		0.024	
CV	22.24	23.46	10.29		2.77	
Min	3.5	2.2	67		0.8	
Max	5.5	7.2	91		0.93	
n	5	99	7		88	

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
24	USTER	AFIS Pro		
27	USTER	Neptester 740	ASTMD5866-12	5
28		FCS-V.5-4	ASTMD1234-12	10
31	USTER			5
38	USTER			5
41	USTER	AFIS Pro		5
43	USTER	AFIS Pro 2		10
51	USTER	AFIS Pro 2	ISO-9001	5
58	USTER	AFIS Pro 2	internal	10
58-2	USTER	Autojet	internal	10
59	USTER			5
90	USTER	4.22	Manufacturer	10
91	USTER	AFIS Pro 2	ASTMD5866-12	10
91-2	USTER	AFIS Pro 2	ASTMD5866-12	10
96	USTER	AFIS Pro 2	ASTMD5866-12	10
100	Textechno	CCS-V5.3		8
101	USTER	AFIS Pro 2	internal	5
102	USTER	AFIS Pro	ASTMD5667	
109	USTER	AFIS Pro 2		
111	USTER	AFIS Pro 2	internal	10
112	USTER	AFIS Pro	ASTMD5866	3
123	USTER	AFIS Pro	ASTMD5866-12	10
128	USTER	Neptester	ASTMD5866-12	5
129	USTER	AFIS Pro	ASTMD5866-12	10
136	USTER	AFIS Pro 2	ASTMD5848-95	3
139	USTER	AFIS Pro 2	ASTMD5866-05	12
142	USTER			5
145	USTER			
148	USTER	AFIS Pro		10
148-2	USTER	AFIS Pro 2		10
148-3	USTER	AFIS PRO 2.2		10
148-4	USTER	Neptester		
154	USTER	Autojet		10
158	USTER	AFIS Pro		6
170	USTER	AFIS Pro	Manufacturer	6
178	USTER	AFIS Pro 2		5
180	USTER	Autojet	ASTM	3
181	USTER	Autojet	ASTM	3
183	USTER	AFIS Pro	ASTMD5866-05	3
193	USTER	AFIS Pro	ASTMD5866-12	6
200	USTER	Neptester		8
207	USTER	AFIS Pro	Manufacturer	10

AFIS L								Length
Lab.	N							SFC %
	ML		CV %	2.5 %		5%		
	mm	inch		mm	inch	mm	inch	
5	21.6	0.85	55.0			39.9	1.57	26.6
14	23.4	0.92	48.6			40.2	1.58	(5.8)
21	22.4	0.88	46.8	42.5	1.67	39.9	1.57	20.4
24	23.6	0.93	50.4			41.2	1.62	20.1
31	24.1	0.95	47.1	43.6	1.72	41.1	1.62	19.4
38	24.1	0.95	52.8	45.2	1.78	42.6	1.68	22.2
41	22.1	0.87	48.1	41.5	1.63	38.7	1.52	21.4
43	23.6	0.93	49.6			41.4	1.63	21.4
51	24.1	0.95	48.0			41.4	1.63	18.4
58	24.0	0.94	48.5			41.2	1.62	19.5
58-2	21.8	0.86	51.8	42.0	1.65	39.4	1.55	25.3
90	22.4	0.88	54.0	43.2	1.70	40.4	1.59	24.3
91	23.7	0.93	48.0			40.5	1.59	19.1
91-2	22.2	0.87	53.2			40.0	1.57	23.2
96	23.1	0.91	52.3			41.9	1.65	22.6
101	22.8	0.90	53.3			41.0	1.61	22.9
102	24.0	0.94	49.0	44.2	1.74	41.1	1.62	20.7
109	22.9	0.90	50.2			40.4	1.59	21.5
111	22.9	0.90	50.2			40.4	1.59	22.8
112	25.1	0.99	46.8			42.4	1.67	18.6
123	22.3	0.88	53.5			40.0	1.57	23.9
129	25.6	1.01	49.3			(44.6)	(1.76)	19.9
136	24.1	0.95	47.7			40.6	1.60	19.0
139	22.9	0.90				41.7	1.64	24.4
142	23.2	0.91	48.9	43.7	1.72	41.1	1.62	19.5
145	(27.7)	(1.09)	(37.0)			39.4	1.55	29.3
148	23.2	0.91	50.0			40.5	1.59	20.8
148-2	22.4	0.88	51.7			39.7	1.56	22.3
148-3	23.0	0.91	49.9			40.2	1.58	21.6
154	24.1	0.95	48.2	42.8	1.69	40.3	1.59	19.4
158	22.2	0.87	56.8	43.5	1.71	40.9	1.61	27.1
170	24.7	0.97	45.0			43.1	1.70	15.4
178	23.8	0.94				41.5	1.63	20.9
180	22.3	0.88	52.2			40.1	1.58	23.1
181	21.4	0.84	55.3			40.0	1.57	25.3
183	22.1	0.87	52.5			40.1	1.58	23.8
193	23.9	0.94	49.2			41.7	1.64	20.4
207	24.1	0.95	46.4			41.7	1.64	16.3
Average	23.22	0.914	50.29	43.22	1.702	40.75	1.604	21.7
Median	23.2	0.913	49.9	43.35	1.707	40.5	1.594	21.4
StdDev	1.00	0.04	2.82	1.08	0.04	0.95	0.04	2.91
CV	4.31	4.29	5.61	2.5	2.50	2.32	2.32	13.39
Min	21.4	0.84	45.0	41.5	1.63	38.7	1.52	15.4
Max	25.6	1.01	56.8	45.2	1.78	43.1	1.70	29.3
n	37	37	35	10	10	37	37	37

AFIS L						Length
Lab.	W					SFC %
	ML		CV %	UQL		
	mm	inch		mm	inch	
5	28.2	1.11	35.8	35.1	1.38	7.7
14	28.8	1.13	33.2	35.4	1.39	(19.9)
21	27.3	1.07	33.2	33.5	1.32	6.6
24	29.5	1.16	33.4	36.3	1.43	5.2
28		(1.33)	33.7	37.1	1.46	5.9
31	29.5	1.16	32.9	36.3	1.43	
38	30.8	1.21	32.0	37.7	1.48	5.0
41	27.2	1.07	34.5	33.7	1.33	7.1
43	29.5	1.16	34.7	36.6	1.44	6.3
51	(24.1)	(0.95)	(47.0)	36.3	1.43	(19.1)
58	29.6	1.17	32.9	36.3	1.43	5.4
58-2	27.6	1.09	35.6	34.4	1.35	8.2
90	29.0	1.14	34.5	35.6	1.40	6.3
91	29.1	1.15	33.0	35.5	1.40	5.3
91-2	28.4	1.12	34.7	35.2	1.39	6.2
96	29.4	1.16	35.8	37.1	1.46	6.8
101	29.3	1.15	34.7	36.2	1.43	6.0
102	29.8	1.17	33.0	36.4	1.43	5.8
109	28.7	1.13	34.5	35.5	1.40	6.2
111	28.7	1.13	34.9	35.3	1.39	7.0
112	30.7	1.21	32.8	37.3	1.47	5.4
123	28.4	1.12	35.2	35.2	1.39	6.6
129	31.8	1.25	33.5	39.2	1.54	5.6
136	29.7	1.17	31.5	35.8	1.41	4.9
139	29.5	1.16		36.6	1.44	7.0
142	28.8	1.13	34.2	36.2	1.43	5.8
145						8.8
148	29.0	1.14	33.9	35.5	1.40	5.7
148-2	28.3	1.11	34.2	35.0	1.38	6.0
148-3	28.7	1.13	34.0	35.5	1.40	6.3
154	29.6	1.17	30.8	35.7	1.41	4.7
158	29.4	1.16	34.5	36.5	1.44	7.0
170	30.9	1.22	32.4	37.8	1.49	4.3
178	29.8	1.17		36.9	1.45	5.8
180	28.4	1.12	34.9	35.2	1.39	6.5
181	27.9	1.10	36.0	35.1	1.38	6.9
183	28.2	1.11	35.4	34.8	1.37	6.9
193	29.7	1.17	33.4	36.6	1.44	5.6
207	30.0	1.18	32.3	36.7	1.44	4.3
Average	29.14	1.147	33.89	35.98	1.416	6.14
Median	29.2	1.15	34.0	36.01	1.418	6.1
StdDev	1.00	0.04	1.26	1.12	0.04	1.00
CV	3.43	3.42	3.73	3.10	3.10	16.28
Min	27.2	1.07	30.8	33.5	1.32	4.3
Max	31.8	1.25	36.0	39.2	1.54	8.8
n	36	36	35	38	38	36

AFIS D / M		Diameter, Maturity					
Lab.	D (N) µm	CV (D(N)) %	Fineness mtex	IFC %	Mat. Ratio		
5	12.9		153	7.2	0.88		
14			148	6.3	0.89		
24			165	5.4	0.94		
28			(193)		(0.74)		
31			143	8.4	0.85		
38			145	7.3	0.87		
41							
43					157	6.4	0.92
51					151	5.9	0.9
58					150	6.2	0.91
58-2					151	7.8	0.89
90					150	5.6	0.89
91					150	6.4	0.9
91-2					146	6.8	0.88
96					153	6.2	0.91
100					158		
101					144	7.8	0.87
102					149	9.5	0.85
109					154	5.2	0.91
111					148	6.0	0.89
112					155	5.7	0.88
123					147	6.9	0.86
136					167	5.0	0.97
139					147	5.5	0.91
145					165	5.6	0.93
148					148	6.6	0.89
148-2					150	7.1	0.88
148-3					153	5.5	0.9
154					138	(11.9)	0.81
158					150	7.8	0.88
170					153	6.8	0.9
178					156	4.8	0.94
180					145	6.0	0.89
181					153	5.2	0.9
183					162	4.9	0.94
193			159	4.7	0.94		
207			158	5.1	0.95		
Average			152.0	6.29	0.898		
Median			151.0	6.2	0.895		
StdDev			6.52	1.13	0.03		
CV			4.29	17.98	3.60		
Min			138	4.7	0.81		
Max			167	9.5	0.97		
n	1	0	35	33	34		

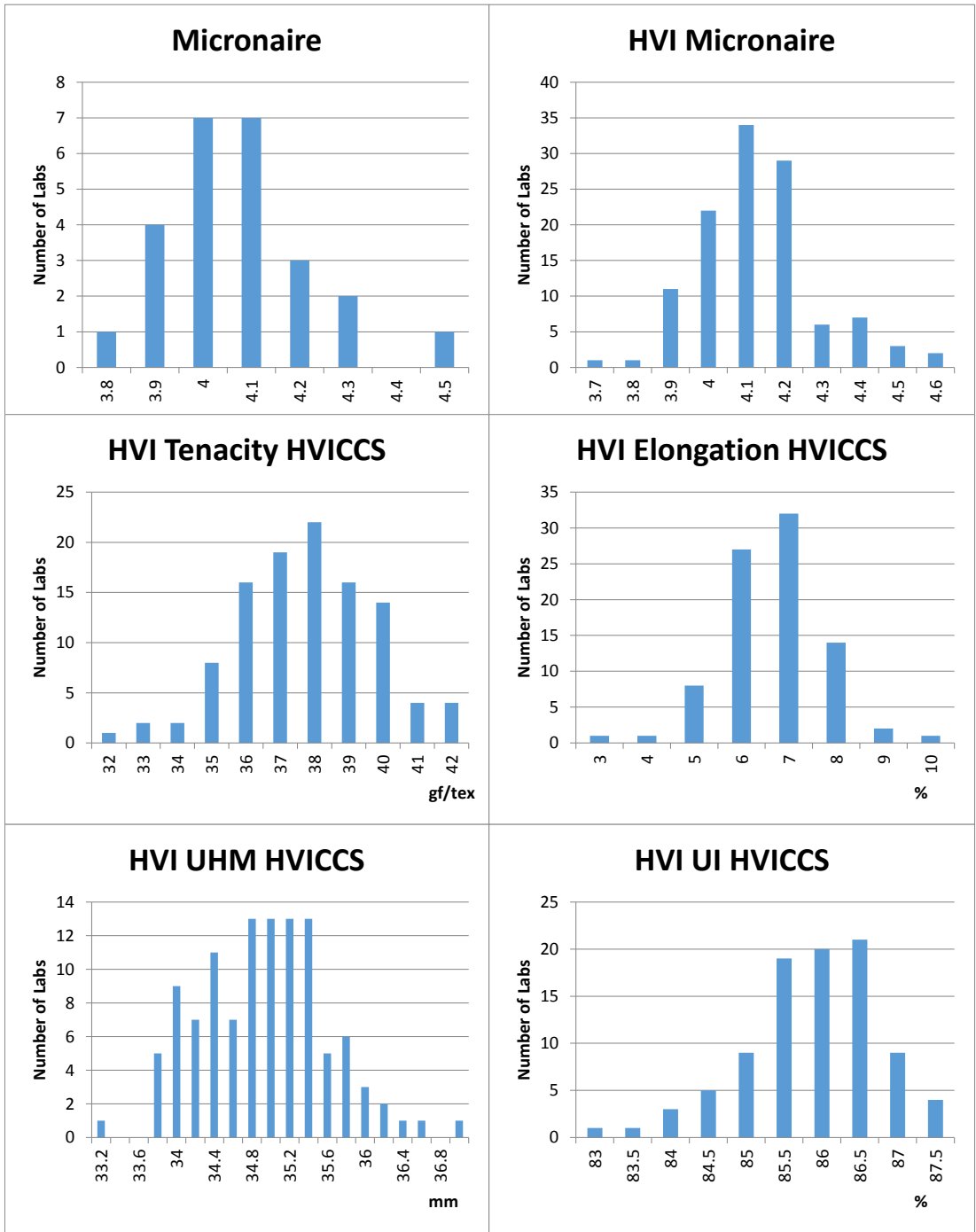
AFIS T				Trash
Lab.	Total Trash		Dust	V. F. M.
	Mean Diameter μm	Cnt/g	Cnt/g	%
21	(1537)	148	(1496)	1.2
31	177	1193	(1132)	1.4
38	175	728	702	0.8
43	204	487	458	
51	219	575	534	1.0
58	229	465	431	0.9
58-2	182	615	591	0.7
90	208	544	511	1.1
91	178	341	324	0.4
91-2	193	561	528	0.7
101	199	511	481	0.8
102		33	460	1.1
111	(984)	55	560	1.5
112	221	321	302	0.4
129	221	381	350	0.8
136	175	409	394	0.5
142	175	867	832	0.9
148	232	409	372	0.9
148-2	223	431	402	0.8
148-3	227	390	360	0.6
154	187	693	695	0.8
158			494	0.9
183	153	642	624	0.6
193	188	704	667	1.3
207	210	443	413	0.6
Average	198.9	497.8	499.3	0.863
Median	199.0	476.0	481.0	0.8
StdDev	22.70	250.22	136.82	0.29
CV	11.4	50.3	27.4	34.0
Min	153	33	302	0.4
Max	232	1193	832	1.5
n	21	24	23	24

AFIS N				Neps
Lab.	Total Neps		SCN	
	Mean Diameter µm	Cnt/g	Mean Diameter µm	Cnt/g
5	661	121	975	9
14	657	125	1157	9
21	699	39	699	(39)
24	648	103	1153	3
27		138		
31	675	151	1067	6
38	(370)	82		
41	603	116		
43	705	104	1261	7
51	665	125		8
58	696	147	1275	15
58-2	628	146	766	5
59	693	164	976	9
90	(1998)	180	1319	8
91	684	140	1310	4
91-2	659	139	1185	5
96	679	119	1021	6
100		165		17
101	686	115	1010	6
102	(225)	(493)	1179	13
109	667	139	1163	5
111	688	95	1190	9
112	686	115	1030	4
123	665	93	1205	5
128		162		
129	745	158	1296	(33)
136	695	92	1263	7
139	648	138	852	6
142	570	77		
145	745	129	1342	9
148	642	105	916	7
148-2	669	88	1234	5
148-3	667	122	1147	8
148-4		84		
154	721	123	1272	17
158	668	160	941	8
170	697	130	1165	12
178	718	157	1320	8
180	646	75	1107	5
181	646	201	1392	4
183	680	160	1237	4
193	710	118	1567	5
200	726	106	1496	12
207	(902)	126	1125	6
Average	676.0	124.9	1155.9	7.7
Median	677.0	125.0	1172.0	7.0
StdDev	35.9	31.9	187.4	3.6
CV	5.3	25.5	16.2	46.5
Min	570	39	699	3
Max	745	201	1567	17
n	36	43	36	36

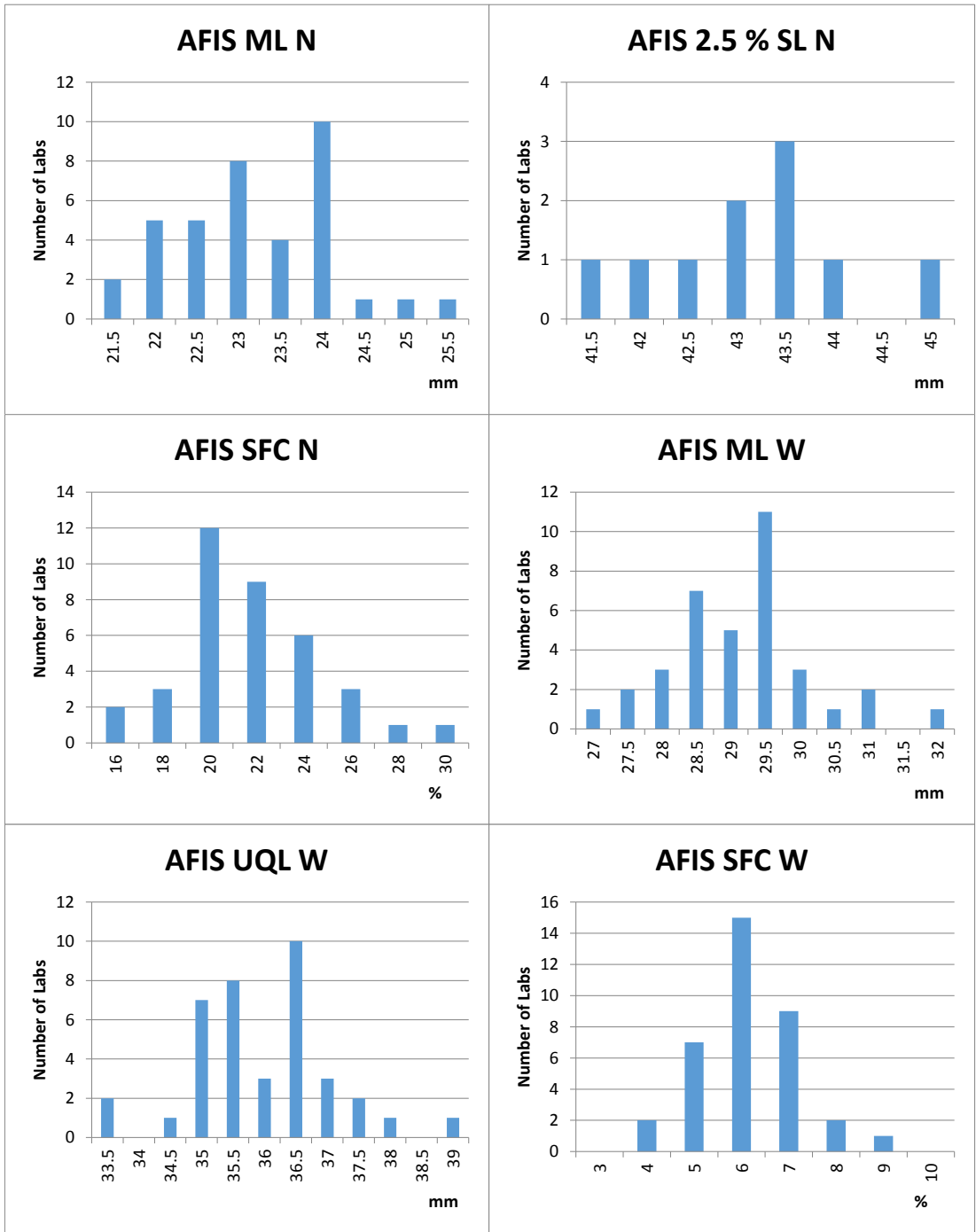
aQura <i>(further information see page "Multiple Devices")</i>						Length, Neps	
Lab.	Repetitions	5.0 % L (n)	50 % L (n)	SFC (n) <12.7 mm	SFC (w) <12.7 mm	Fibre Neps	SCN
		mm	mm	%	%	Cnt/g	Cnt/g
3	4	35.9		20.8	8.4	126	30
127	4	35.6		25.4	11.2	117	15

Multiple Devices <i>(information not provided in the respective table)</i>					General
Lab.	Device	Manufacturer	Instrument	Std. Test Method	Repetitions
3	aQura	Premier	aQura2	ASTM	4
16	FMT	Wira	GW208-08		6
28	DigitalFibrograph		Fibrotest	ASTMD1234-12	10
58	ALMeter	Peyer	AL 101	internal	4
70	FMT	SDL		ASTMD3818-92	6
70	GravFineness			MSZENISO1973-99	5
85	CombSorter	Joh.Zw.		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	Joh.Zw.		UNI 10170	1
93	FMT	Wira		ISO	4
93	DigitalFibrograph			ASTMD1447	4
100	DigitalFibrograph		630	ASTMD-2007	8
102	DigitalFibrograph		530	ASTMD5667	5
102	FMT		Micromat	ASTMD5667	2
112	ALMeter				3
112	GravFineness				3
127	aQura	Premier			4
128	FMT		Micromat	ASTM	3
129	Causticaire		Microscope	IS 236	4
131	DigitalFibrograph		530	ASTMD1447-00	6
131	Causticaire		Image	BS3085-1968	6
132	DigitalFibrograph		Fibrotest	ASTMD1447	10
132	ALMeter	Peyer	AL100	DIN 53806	5
177	Causticaire				3
177	GravFineness			ASTMD1577-90	3
193	GravFineness			GB/T6100-07	2

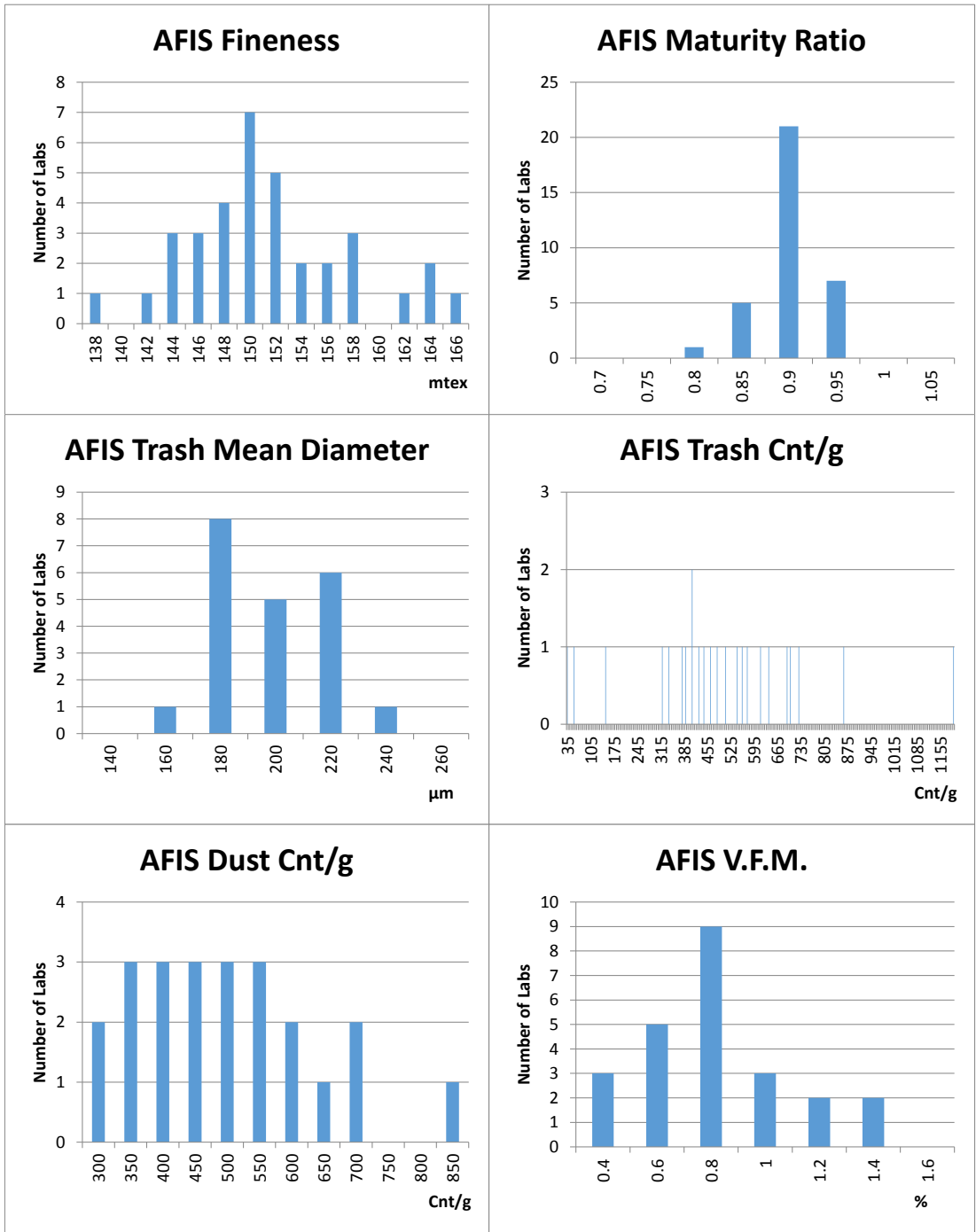
Graphics of selected round test data



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