

ICA Bremen Cotton Round Test

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

Bremen, 30.09.2015

Evaluation of the Test Results 2015 / 2

Tested Cotton: **Egypt Giza 86** Number of Laboratories: **120**
Cotton Number: **RM 42**

Argentina	-	Mauritius, Rep of	1
Australia	1	Mozambique	-
Bangladesh	-	The Netherlands	1
Brazil	5	Pakistan	2
China, PR	18	Poland	2
Czech Republic	4	Russia	1
Egypt	2	Serbia	1
France	1	Slovenia	2
Germany	11	South Africa	1
Greece	6	Spain	3
Hungary	1	Sudan	1
India	31	Switzerland	3
Indonesia	1	Taiwan	1
Iran	-	Thailand	2
Israel	-	Turkey	2
Italy	1	Uganda	-
Japan	2	United Kingdom	-
Kazakhstan	1	United States	7
Korea, R	1	Uzbekistan	1
Latvia	-	Vietnam, SR	2
Mali	1		

For any questions, please mail to gerardi@faserinstitut.de

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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: **Egypt Giza 86 (RM 42)**

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	0,097	0,082
Strength, g/tex	0,436	1,844
Length, UHM, inch	0,007	0,023
Length, UHM, mm	0,170	0,571

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

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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:

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

- 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		4.5	775	GB/T6498-05
22	3	4.6	Fibronaire	
29	4	4.0	Sheffield	ISO 2403
32	6	4.2	WIRA	
32-2	6	4.2	WIRA	
32-3	6	4.2	WIRA	
35	3	4.5	775	
36		4.3		
37		4.3		
56	2	4.3	Fibronaire	JIS
67	4	4.3	Fibronaire	
70	6	4.4	MK.1	ASTMD3818-92
76	3	4.3	RM 1070	
77		4.3		
79		4.6	Sheffield	ASTMD1448
92	10	4.5	DigiMic XT	ASTMD1448
100	12	4.5	675	ASTMD1448-97
100-2	8	4.5	WIRA	ASTMD1448-97
100-3	12	3.9	WIRA	ASTMD3813-92
102	6	4.6	Fibronaire	ICCS
112	2	4.5	Fibronaire	ASTMD1448
116	4	(3.6)	STATEX	
126	4	4.4	FMT	ASTM
129	4	4.6	Sheffield	BS 3181
131	6	4.5		ASTM
132	3	4.3	775	DIN 53941
132-2	3	4.4	WIRA	ASTMD1448
142	3	4.6	80400	ISO
155	3	4.4	275	DIN 53941
167	3	4.6	275	USDA
168		4.7		
169	3	4.4	Sheffield	
177	3	4.6	DPM 60	DIN 53941
186	6	4.3	FMT	USDA
193	3	4.6	Y145	GB/T6498-08
201	3	4.6	275	
Average		4.41		
Median		4.4		
StdDev		0.18		
CV		3.98		
Min		3.9		
Max		4.7		
n		35		

PRESSLEY, STELOMETER								
Lab.	Pressley Tester				Stelometer			
	Rep.	PI (0)	PI (3.2)	Standard Test Method	Rep.	Bundle Tenacity gf/tex	Elongation %	Standard Test Method
29	10	9.8		ISO 3060				
35					6	(44.0)	6.5	
46	10	10.5	4.3	ISO 3060				
56	5	10.9		JIS				
76	5	10.0						
79		10.4		ASTM1445				
92					5	29.8	7.5	ASTM 1445
102					5	32.8	6.1	ICCS
112					3	(3.0)	5.8	ASTM 1445
116					10	30.5	6.7	
131	6	12.1	6.1	ASTM	6	33.9	6.0	ASTM
177	4	8.9		DIN 53942				
193					12	30.8	6.3	GB/T13783-92
Average		10.37				31.55	6.42	
Median		10.4				30.8	6.3	
StdDev		0.99				1.73	0.57	
CV		9.56				5.47	8.85	
Min		8.9				29.8	5.8	
Max		12.1				33.9	7.5	
n		7				5	7	

Pressley	PI(0)	Av., gf/tex	55.61	StdDev, gf/tex	5.32	CV, %	9.56
	(3.2)	Av., gf/tex		StdDev, gf/tex		CV, %	

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	%	%	%	
8	16	32.9	1.30	16.7	0.66	51			3.7
35	6	33.2	1.31	16.5	0.65	50			3.3
92	6	32.5	1.28	15.7	0.62	48			7.1
100	12	31.0	1.22	13.6	0.53	44		12.7	4.4
102	5	32.1	1.26	15.0	0.59	47			
116	5	33.2	1.31	16.9	0.66	51			
126	3	32.1	1.26	15.4	0.61	48			
131	6	33.3	1.31	15.7	0.62	47			
132	10	32.5	1.28	15.1	0.59	46			
143	2	32.4	1.28	17.2	0.68	53			
Average		32.53	1.281	15.78	0.621	48.5			
Median		32.50	1.28	15.69	0.618	48.1			
StdDev		0.70	0.028	1.09	0.043	2.7			
CV		2.15	2.148	6.90	6.901	5.6			
Min		31.0	1.22	13.6	0.53	44			
Max		33.3	1.31	17.2	0.68	53			
n		10	10	10	10	10	0	1	4

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	Keisokki				28.3	24.5	5.5
85-2	1	Keisokki				26.1	29.3	5.0
85-3	1	Keisokki				29.3	29.6	6.4

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	3	22.6	41.2	18.8	26.5	33.5	8.1
132	5	23.6	35.4	13.2	27.8	28.1	4.7

Maturity, Fineness <i>(further information see page "Multiple Devices")</i>					
Lab	Fibrograph	Causticaire (18 % NaOH)	Microscopic Test		Gravimetric Fineness
	%	%	ASTM, %	BS, %	dtex
56		85			
70					1.72
79					1.57
85					1.46
85-2					1.65
85-3					1.55
85-4					1.46
92		1			
112					1.57
129		83			
131		69			
177		87			1.89
193					1.65

IIC/SHIRLEY FM-TESTER (further information see page "Multiple Devices")				Maturity, Fineness
Lab.	Rep.	PM, %	MAT	FIN, mtex
32	6	79.7	0.9	178
32-2	6	79.8	0.9	175
32-3	6	79.0	0.84	174
37		85.5	0.93	171
70	6	89.0	1.02	165
100	12	77.9	0.87	161
102	2	85.5	0.97	161
186	6	80.6	0.91	176
Average		82.12	0.918	170.0
Median		80.19	0.905	172.5
StdDev		3.99	0.057	6.7
CV		4.86	6.159	4.0
Min		77.9	0.84	161
Max		89.0	1.02	178
n		8	8	8

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
5	USTER	1000 Line4	CCAA	12	1	2	2
5-2	USTER	1000 Line5	CCAA	12			
6	USTER	1000			1	2	2
7	USTER			10	1	2	2
8	USTER	Spectrum I	ASTMD5867-05	10	1	1	1
12	USTER	Spectrum I	SN/T1512-11	12	1	1	1
13	USTER	Spectrum	internal	10	1	1	1
19	USTER	1000	SN/T1512-11		1	2	2
24	USTER	Spectrum	USDA	10	1	2	2
25	USTER	1000		10	1	2	2
26	USTER	1000		10	1	2	2
27	USTER	900 A	ASTMD5867-05	6	1	2	2
28	Textechno	CCS-V5	ASTMD5867-05	5	1	2	1
31	USTER	900		6	1	2	2
32	USTER	900 A	internal		4	10	4
32-2	USTER	900 A	internal		4	10	4
32-3	USTER	900 A	internal		4	10	4
36	USTER	Classing			1	2	2
38	USTER	1000			1	2	2
41	USTER	Spectrum		5	5	5	5
43	USTER	1000			1	2	2
44	USTER	Spectrum	internal	10	1	2	2
48	Premier	HFT	ASTMD5867-12	8	1	2	2
49	USTER	1000	ASTM1776		1	2	2
50	USTER	1000		6	1	2	2
50-2	USTER	1000		6	1	2	2
50-3	USTER	1000		6	1	2	2
52	USTER	1000M700	ASTM	6	6	6	6
53	Premier	ART	GB/T20392-06	5	1	2	2
54	USTER	Spectrum	USDA		1	2	2
56	USTER	Spectrum I	HVI Test Method	5	1	2	2
58	USTER	1000	internal	10	1	1	1
59	USTER	1000	USDA	10	1	2	2
59-2	USTER	1000	USDA	10	1	2	2
59-3	USTER	1000	USDA	10	1	2	2
59-4	USTER	Classing	USDA	10	1	2	2
59-5	USTER	Classing	USDA	10	1	2	2
59-6	USTER	Classing	USDA	10	1	2	2
60	USTER	1000	ASTM	6	1	2	2
61	USTER	900	ASTMD5867-05		1	2	2
62	Premier	ART 2	ASTMD5867	6	1	2	2
68	USTER	1000	USDA	10	1	2	2
75	USTER	Spectrum	SN/T1512-11	6	1	2	2
78	USTER	Spectrum 1		6	1	2	2
78-2	USTER	Spectrum 1		6			2
79	USTER	900			1	2	2
83	USTER	Spectrum I	SN/T1512-11	6	1	2	2
84	USTER	1000	USDA	12	1	1	1
89	Premier	ART		6	1	2	2
89-2	Premier	ART		6	1	2	2
89-3	USTER	1000		6	1	2	2
89-4	USTER	1000		6	1	2	2
91	USTER	1000	ASTMD5867	6	1	2	2
92	MAG	HVT Expert 1201	ASTMD5867	6	1	1	1
95	Premier	ART 2	ASTMD5867-05	6	1	2	2
96	USTER	1000	GB/T20392-06	10	1	2	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
96-2	Premier	HFT	GB/T20392-06	10	1	2	2
96-3	Premier	HFT	GB/T20392-06	10	1	2	2
96-4	Premier	HFT	GB/T20392-06	10	1	2	2
98	USTER	1000	USDA. ASTM	12	1	2	4
99	MAG	HFT 1401	ASTMD5867-05	10	1	2	2
100	Textechno	CCS-V5	ASTMD5867-05	12	2	2	2
101	USTER	1000	ASTMD5687-12	6	1	2	2
102	USTER	900 B	USDA	6	3	6	4
102-2	USTER	SW700V3.1.3.18	ASTMD5867	6	1	1	1
103	USTER	1000	SN/T1512-11	6	1	2	2
106	Premier	ART		5	1	2	2
107	Premier	ART 2	ASTMD5867-05	6	1	2	2
108	USTER	1000	ASTMD5867-12	12	1	2	2
109	USTER	1000		10	1	2	
111	USTER	1000	internal	6	1	2	2
112	USTER	1000	ASTMD5867	6	1	2	2
113	Premier	ART	ASTMD5867-05	10	1	2	2
117	USTER	Spectrum	SN/T1512-11	12	1	1	1
118	USTER	1000M700	ASTMD5867-05	5		2	2
121	USTER	1000	SN/T1512-11		1	2	2
122	USTER	1000		5	1	2	2
123	USTER	1000	ASTMD5867-05	10	1	1	1
125	USTER	1000	ASTM	6	6	6	6
126	Premier	HFT	ASTM	61	2		
129	USTER	900 SA	ASTMD5867	8	1	1	1
131	USTER	Spectrum	USDA	6	1	2	2
132	Textechno	Fibrotest	ASTMD5867	10	0	1	0
134	USTER	Classing	ASTMD5867-95	6	1	2	2
135	USTER	Spectrum I	ASTMD5867-95	6	1	2	2
139	Premier	ART 2		12	1	2	2
140	USTER	1000M700		10	10	10	10
143	USTER	Spectrum		6	1	2	2
143-2	Premier	ART		6	1	2	2
148	USTER	1000		6	1	2	2
154	USTER	900 A		10	1	2	2
158	USTER	900		6	1	2	2
158-2	USTER	900			1	2	2
161	Premier	ART 2	USDA	5	1	2	2
163	USTER	900	ASTMD5867-12	6	3	6	2
176	USTER	1000	HVICC	10	1	2	2
179	USTER	1000	SN/T1512-11	12	1	2	2
183	USTER	1000	ASTMD5867-05	6	1	2	2
193	USTER	1000	GB/T20392-06	6	1	2	2
201	USTER	900		6	1	2	2
204	Premier	HFT	GB/T20392-06	10	1	2	
204-2	USTER	1000	GB/T20392-06	10	1	2	2
204-3	USTER	Spectrum I	GB/T20392-06	10	1	2	
207	USTER	1000	ASTMD5867-12	10	1	2	2
207-2	USTER	1000	ASTMD5867-12	10	1	2	2
207-3	USTER	1000	ASTMD5867-12	10	1	2	2
207-4	USTER	1000	ASTMD5867-12	10	1	2	2
208	USTER	1000	ASTMD5867-12	10	1	2	2
209	MAG	HVT Expert 1201	ASTMD5867-05	6	1	2	2
213	Premier	ART	ICC	6	1	2	2
215	MAG	HVT Expert 1201	ASTMD5867-05	6	1	2	2
216	MAG	HVT Expert 1201			1	2	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
217	MAG	HVT Expert 1201	ASTMD5867-05	6	1	2	2
242	USTER	Spectrum		6	1	2	2
242-2	USTER	1000		6	1	2	2
267	Premier	ART	USDA		1	2	2
271	USTER	900	internal	10	1	1	1
272	Premier	ART		5	1	1	2
287	Premier	ART 2	USDA	10	1	2	2
300	Premier	ART 2	ASTM	6	1	2	2
315	Premier	HFT	ICC	8	1	1	
318	Premier	HFT			1	1	
320	MAG	HVT Expert 1201		10	1	2	2

HVI		<i>(table is divided into 3 pages)</i> Micronaire, Tenacity, Elongation			
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
5	4.6		46.1		6.9
5-2	4.7		45.7		6.2
6	4.7		49.0		(0.9)
7	4.5		42.5		3.3
8	4.5		42.5		9.4
12	4.5		45.0		6.7
13	4.4		44.0		5.4
19	4.6		45.5		6.7
24	4.5		50.4		4.4
25	4.5		44.7		6.5
26	4.5		45.3		6.1
27	4.7		47.6		4.8
28	4.4		40.0		(13.3)
31	4.2	32.6	46.7	6.1	6.1
32	4.2		48.0		5.2
32-2	4.2		47.6		5.2
32-3	4.3		47.9		5.2
36	4.3		44.4		5.0
38	4.8		43.6		6.2
41	4.6		45.9		4.0
43	4.6		44.5		4.6
44	4.7		46.1		7.6
48	4.3		37.6		6.1
49	4.6		43.1		5.7
50	4.9		46.2		6.2
50-2	4.8		43.1		(11.6)
50-3	4.8		46.1		5.6
52	4.5		46.9		7.4
53	4.6		41.0		7.2
54	4.6		45.8		3.0
56	4.3		46.2		5.6
58	4.4		43.7		5.9
59	4.7		49.4		
59-2	4.8		48.3		
59-3	4.7		49.0		
59-4	4.6		49.2		
59-5	4.7		49.1		
59-6	4.8		48.8		
60	4.6		46.1		9.5
61	4.4	31.2	40.5	5.6	5.8
62	4.5	24.7	36.3	6.5	5.4
68	4.8		41.1		
75	4.8		45.5		5.9
78	4.8		41.4		
79	4.5		44.2		7.0
83	4.5		41.7		6.0
84	4.6		42.6		5.2
89	4.7		42.5		
89-2	4.7		42.8		
89-3	4.8		43.5		
89-4	4.8		42.9		
91	4.5		44.7		5.0

HVI		<i>(table is divided into 3 pages)</i> Micronaire, Tenacity, Elongation			
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
92	4.5	30.5	36.2	7.6	7.5
95	4.5		35.8		7.2
96	4.6		42.8		4.0
96-2	4.6		45.5		7.5
96-3	4.5		45.1		7.2
96-4	4.6		43.7		7.0
98	4.6		47.2		
99	4.6		43.7		7.7
100	4.5	18.8	37.9	6.9	6.9
101	4.6		41.8		6.6
102	4.6		42.9		5.8
102-2	4.6		40.9		5.7
103	4.6		45.0		5.8
106	4.7		46.1		
107	4.5		35.7		7.0
108	4.6		46.8		5.3
109	4.6		42.7		
111	4.5		45.6		6.5
112	4.5		45.5		7.1
113	4.4		43.0		7.1
117	4.5		45.2		6.6
118			35.3		(15.2)
121	4.7		45.8		6.7
122	4.7		39.1		6.3
123	4.3	30.0	45.3	5.4	4.9
125	4.5		47.0		6.3
126	4.4		33.6		
129	4.6	30.9	40.0	5.7	5.7
131	4.7		44.2		6.3
132			41.5		8.6
134	4.4		42.2		5.1
135	4.6		42.9		5.6
139	4.8		42.9		7.2
140	4.5		44.9		5.9
143	4.7		42.6		6.7
143-2	4.5		42.8		7.0
148	4.4		41.5		6.5
154	4.7		45.7		6.2
158	4.6		48.4		6.2
158-2	4.5		47.4		6.7
161	4.9		36.4		
163	4.4	34.1		6.2	
176	4.5		38.8		6.4
179	4.7		46.2		4.1
183	4.5		43.8		5.8
193	4.7		44.9		5.5
201	4.6		40.8		(9.8)
204	4.8		39.1		6.7
204-2	4.7		42.2		5.5
204-3	4.6		42.5		6.8
207	4.5		43.2		5.5
207-2	4.5		42.2		6.4

HVI		<i>(table is divided into 3 pages)</i> Micronaire, Tenacity, Elongation			
Lab.	Micronaire	Tenacity		Elongation	
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %
207-3	4.5		43.0		6.7
207-4	4.6		42.7		6.7
208	4.5		42.8		5.9
209	4.5		35.2		7.2
213	4.6	27.4		6.8	
215	4.6		34.8		5.4
216	4.4		34.6		6.9
217	4.4		34.2		5.5
242	4.7		46.6		6.1
242-2	4.5		44.8		5.5
267	4.5		34.2		7.9
271	4.7		44.2		4.7
272	4.6		39.0		7.3
287	4.5	25.2	35.8	6.4	7.5
300	4.5		42.5		7.2
315	4.4	24.6		6.8	
318	4.5		35.2		
320	4.4	29.7		7.2	
Average	4.56	28.3	43.17	6.43	6.19
Median	4.55	29.85	43.65	6.45	6.2
StdDev	0.15	4.31	3.89	0.66	1.12
CV	3.19	15.24	9.0	10.32	18.04
Min	4.2	18.8	33.6	5.4	3.0
Max	4.9	34.1	50.4	7.6	9.5
n	120	12	118	12	95

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
5				33.1	1.30	85.7
5-2				33.2	1.31	86.4
6				33.3	1.31	85.7
7				31.8	1.25	85.4
8				32.5	1.28	85.6
12				32.1	1.26	85.5
13				32.0	1.26	86.4
19				32.6	1.28	85.9
24				33.2	1.31	85.6
25				33.0	1.30	86.2
26				33.1	1.30	86.7
27				33.0	1.30	86.3
28	32.5	1.28	48.1	32.5	1.28	86.7
31	32.4	1.28	55.1	32.2	1.27	(89.3)
32				32.2	1.27	85.3
32-2				34.0	1.34	85.8
32-3				32.8	1.29	86.3
36				(29.0)	(1.14)	86.5
38				32.7	1.29	87.3
41				32.3	1.27	86.4
43				32.3	1.27	86.1
44				32.6	1.28	87.1
48				31.9	1.26	(83.7)
49				33.2	1.31	85.9
50				33.1	1.30	86.1
50-2				32.5	1.28	86.6
50-3				33.0	1.30	87.3
52				32.2	1.27	85.9
53				33.8	1.33	(28.9)
54				31.8	1.25	86.4
56				33.0	1.30	86.3
58				33.2	1.31	85.7
59				33.5	1.32	86.5
59-2				32.7	1.29	85.6
59-3				32.9	1.30	86.2
59-4				32.3	1.27	86.2
59-5				32.5	1.28	85.9
59-6				32.6	1.28	86.5
60				32.8	1.29	86.4
61	33.6	1.32	49.0	32.5	1.28	86.0
62	32.8	1.29	47.3	32.7	1.29	85.4
68				32.1	1.26	87.0
75				31.9	1.25	86.4
78				31.4	1.24	85.5
79				33.5	1.32	85.2
83				31.6	1.25	85.1
84				32.6	1.28	86.1
89				32.3	1.27	86.2
89-2				32.2	1.27	86.0
89-3				32.4	1.28	85.9
89-4				32.9	1.30	86.0
91				32.5	1.28	86.2

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
92	32.7	1.29	48.6	32.2	1.27	85.2
95				32.4	1.28	85.3
96				32.3	1.27	85.8
96-2				32.9	1.30	84.7
96-3				32.2	1.27	84.8
96-4				32.4	1.28	84.5
98				32.5	1.28	86.2
99				32.5	1.28	85.0
100				31.4	1.24	(83.7)
101				32.4	1.27	86.9
102				32.2	1.27	85.1
102-2				32.5	1.28	86.0
103				33.2	1.31	86.0
106				(30.6)	(1.20)	(24.9)
107				32.2	1.27	85.2
108				32.7	1.29	86.7
109				33.1	1.30	86.6
111				33.0	1.30	86.1
112				32.7	1.29	86.9
113				32.0	1.26	84.7
117				32.4	1.28	85.8
118				32.8	1.29	86.7
121				33.0	1.30	86.4
122				33.2	1.31	86.7
123	32.7	1.29	48.9	32.6	1.28	84.5
125				32.3	1.27	85.0
126				31.8	1.25	(83.2)
129	33.7	1.33	50.0	33.1	1.30	86.0
131				32.8	1.29	85.2
132				33.2	1.31	85.1
134				32.6	1.28	85.6
135				32.6	1.28	86.8
139				31.4	1.24	85.8
140				32.3	1.27	85.1
143				32.5	1.28	86.6
143-2				32.6	1.28	87.7
148				32.3	1.27	85.7
154				32.9	1.30	86.7
158				33.0	1.30	86.9
158-2				33.3	1.31	86.3
161				32.2	1.27	86.0
163	34.1	1.34	53.6			
176				32.0	1.26	86.2
179				32.6	1.28	85.4
183				33.0	1.30	86.0
193				32.7	1.29	86.0
201				32.3	1.27	85.6
204				32.3	1.27	86.7
204-2				33.0	1.30	86.9
204-3				32.2	1.27	86.8
207				32.4	1.28	86.2
207-2				32.2	1.27	85.7

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
207-3				32.4	1.28	86.2
207-4				32.4	1.27	86.2
208				32.5	1.28	85.8
209				32.2	1.27	85.2
213	32.3	1.27	46.2			
215				33.0	1.30	85.3
216				32.2	1.27	85.1
217				32.5	1.28	(26.7)
242				31.8	1.25	
242-2				33.3	1.31	
267				33.2	1.31	86.0
271				34.0	1.34	87.1
272				32.9	1.30	87.3
287	33.3	1.31	45.4	33.2	1.31	86.7
300				32.9	1.29	85.2
315	32.1	1.26	50.0			
318				32.1	1.26	86.5
320	32.7	1.29	48.0			
Average	32.9	1.295	49.18	32.59	1.283	86.02
Median	32.7	1.287	48.74	32.53	1.281	86.0
StdDev	0.63	0.025	2.8	0.51	0.020	0.66
CV	1.93	1.929	5.69	1.57	1.565	0.77
Min	32.1	1.26	45.4	31.4	1.24	84.5
Max	34.1	1.34	55.1	34.0	1.34	87.7
n	12	12	12	116	116	109

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
5	76	9.0	31-3	3	0.42	28
5-2	76	9.1	31-3	3	0.39	24
6	77	9.6	12	3	0.48	33
7	74	9.3	31-4		0.53	33
8	75	9.6	32-1	4	0.4	23
12	76	9.2	31-4	4	0.62	22
13	76	8.9	31-3			
19	76	9.1	31-3	4	0.6	33
24	77	9.2	21-4			
25	77	9.4	21-4	3	0.53	34
26	77	9.4	21-4	3	0.6	32
27	76	9.7	22-2	2	0.53	26
28	(71)	9.1	31-4		0.55	12
31	75	9.1	31-4	5	1.09	46
32	75	9.6	31-3			
32-2	74	9.2	31-4			
32-3	77	8.9	31-3			
36	77	9.3	22	3	0.58	31
38	77	9.2	31-3	5	0.82	38
41	76	9.5	31-3		0.44	16
43	77	9.8	21-3		0.82	39
44	77	9.2	31-3		0.41	20
48	76	9.2	31-3			
49	77	8.8	31-1	6	0.92	34
50	79	8.4	31-1	3	0.37	37
50-2	79	9.0	21-1	4	0.61	28
50-3	77	9.1	31-3	5	0.79	28
52	77	9.2	21-4	5	0.78	34
53	75	9.4	31-3	4	0.46	26
54	76	9.3	31-3	2	0.19	16
56	79	9.0	21-1	4	0.52	24
58	78	9.2		4	0.51	32
59	78	9.5	21-3	3	0.28	40
59-2	78	9.6	21-4	3	0.42	46
59-3	76	9.1	31-4	4	0.73	36
59-4	77	9.2	31-3	3	0.4	42
59-5	76	9.3	31-3	2	0.2	29
59-6	78	8.9	31-3	2	0.2	30
60	77	9.2	31-3	4	0.54	33
61	80	(7.3)	31-1			
62	78	9.0	21-4	4	0.27	6
68	77	9.7	22-1	3	0.42	26
75	76	8.7	31-2	26	0.58	4
78	75	9.3	41-3	3	0.34	16
78-2			31-3			
79	75	8.7	31-4	5	1.01	39
83	78	9.4	21-3			
84	77	9.7	22-1	5	0.69	37
89	75	8.3	31-4	5	0.56	19
89-2	74	8.4	31-4	5	0.5	28
89-3	75	9.1	31-4	6	0.88	31
89-4	75	9.3	31-3	5	0.84	34

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
91	77	9.1	31-3	4	0.59	27
92	77	8.4	31-1			
95	77	9.2	31-3			
96	78	9.4	21-4	3	0.4	34
96-2	(71)	9.2	42-1			
96-3	74	8.6				
96-4	(72)	8.0	41-3			
98	76	9.4			0.32	24
99	77	8.8	31-1			
100	(71)	8.9	31-3		(1.47)	(63)
101	77	9.1	31-3	5	0.71	37
102	77	8.9				
102-2	78	9.3		5	0.74	40
103	78	9.7	21-3	5	0.75	43
106	78	9.9	11-4			
107	77	8.6	31-1			
108	76	8.9	31-3	5	0.83	38
109	77	9.4	21-4	762	0.66	28
111	78	9.0			0.54	27
112	77	9.1	33-3	3	0.4	31
113	77	9.3	21-4			
117	75	9.3	31-3	3	0.54	30
118	76	9.3	31-3	4	0.7	38
121	77	9.0	31-3		0.73	37
122	76	10.0	22-2	4	0.56	40
123	76	9.4	31-3	4	0.61	32
125	79	9.4	21-3	3	0.28	31
129	(72)	9.1	41-3			
131	(72)	10.0			0.63	29
134	73	9.8	32	2	0.78	27
135	76	9.2	31	4	0.53	24
139	76	9.2	21-4	4	0.39	39
140	77	9.1	31-3		0.75	35
143	77	9.5	1	4	0.43	18
143-2	76	9.1	1	4	0.46	21
148	76	9.3	31-3	5	0.72	36
154	76	8.9	31-3	2	0.8	25
158	76	8.4	31-2	3	0.3	14
158-2	77	8.4	31-2	2	0.3	12
161	73	(12.8)	47		0.54	47
163	76	9.2	31-3			
176	77	9.0	31-3	5	0.78	53
179	77	9.0	1	5	0.63	36
183	75	9.5	32-1	4	0.58	37
193	76	9.6	32-1	3	0.41	28
201	77	9.1	31-3	4	0.37	18
204-2	75	9.5	32-1			
207	78	9.2	21-4	4	0.46	29
207-2	78	9.4	21-3	4	0.51	26
207-3	78	9.4	21-3	4	0.44	28
207-4	77	9.0	31-3	4	0.59	35
208	77	9.4	21-4	5	0.81	35

HVI <i>(table is divided into 3 pages)</i>				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
209	77	8.5	31-1			
213	78	8.3	31-1			
215	76	(7.1)	41-1	2		
216	77	8.8	31-1			
217	77	9.2	31-1			
242	77	8.4	31-2	3	0.41	23
242-2	76	8.7	31-1	6	0.91	36
267	(69)	8.9	42-2			
271	76	9.5	31-3			
272	77	9.1	21-4			
287	75	9.7	31-3			
300	77	9.2	21-4			
320	(71)	8.5	41-4			
Average	76.5	9.15			0.563	30.0
Median	76.7	9.2			0.54	31.0
StdDev	1.3	0.38			0.193	9.1
CV	1.6	4.18			34.315	30.2
Min	73	8.0			0.19	4
Max	80	10.0			1.09	53
n	108	113			83	83

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %		Maturity Ratio	
5		5.2			0.88	
5-2		4.8			0.88	
6		5.0				
7		5.6				
8		6.4			0.96	
12		5.7			0.95	
13		5.4			0.94	
19		7.4			0.89	
24		6.8			0.97	
25		5.7			0.87	
26		5.6			0.87	
27		5.6			0.89	
28		(1.9)	90		(1.02)	
32		7.9				
32-2		7.5				
32-3		7.7				
36					(36.00)	
38					0.88	
41		4.0			0.96	
43		6.5				
44		6.1			0.97	
48		4.4				
49		3.7			0.88	
50		4.8	88			
50-2		5.3	(84)			
50-3		4.9	88			
52		5.3			0.87	
53		3.5			0.87	
54		6.5			0.96	
56		6.1				
58		5.1			0.87	
59		4.6			0.88	
59-2		5.2			0.88	
59-3		4.8			0.88	
59-4		6.6	88			
59-5		5.4	87			
59-6		4.9	88			
60		6.1			0.85	
61	4.3	4.5				
62	3.5	6.5			(1.12)	
68		4.2			0.88	
75		4.9			0.96	
78		7.6			0.95	
84		5.9	88			
89		5.3	89			
89-2		5.3	89			
89-3		3.6	88			
89-4		4.4	88			
91		4.9			0.88	
92	7.0	7.0			0.86	
95		6.7			0.86	
96		6.6			0.89	

HVI		Short Fibre Index, Maturity		
<i>(table is divided into 3 pages)</i>				
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio
96-3		5.7		
96-4		5.5		
98		5.3		
99		6.9		0.83
100		4.7	(78)	0.88
101		6.6		0.87
102-2		6.5		0.88
103		5.3		0.88
106		7.5		0.88
107		6.5		0.92
108		5.9		0.88
109		6.1		0.86
111		4.6		0.87
112		5.4		0.87
113		6.3		0.87
117		6.3		0.95
118		5.5		0.8
121		7.0		0.87
122		6.5		0.87
123	8.0	8.0		0.87
125		6.8		0.87
129	4.3	3.4		
131				0.97
132		4.8		
134		4.3		0.88
135		4.5		0.95
139		6.5		
140		6.6		0.87
143		4.8		0.95
143-2		4.5		0.87
148		4.7		0.87
154		(1.4)		
158		4.6		0.88
158-2		5.4		0.86
161		6.7		0.93
163	5.2			
176		6.4		0.87
179		5.4		0.89
183		5.1		0.88
193		3.8		0.88
201		6.5		0.83
204		6.5		0.87
204-2		3.5		0.88
204-3		4.2		0.94
207		6.4		0.88
207-2		6.5		0.87
207-3		6.0		0.87
207-4		6.3		0.87
208		7.3		0.88
209		6.9		0.84
213	3.5			
215		6.9		0.83

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio		
216		7.0		0.82		
217		7.0		0.84		
242		3.8		0.97		
242-2		5.8		0.88		
267		7.2		0.91		
272		3.5		0.86		
300		6.5		0.94		
315	4.9			0.85		
318		5.2		0.86		
320	4.0			0.82		
Average	4.96	5.68	88.3	0.887		
Median	4.3	5.6	88.0	0.88		
StdDev	1.56	1.12	0.8	0.039		
CV	31.35	19.62	0.9	4.44		
Min	3.5	3.4	87	0.8		
Max	8.0	8.0	90	0.97		
n	9	105	11	82		

AFIS				General
Lab.	Manufacturer	Instrument	Std. Test Method	Repetitions
5	USTER			5
7	USTER			10
21	USTER	1190064		
22	USTER	Autojet		10
24	USTER		USDA	10
27	USTER			
28	Textechno	CCS-V5	ASTMD5866-05	5
31	USTER			5
32	USTER	AFIS Pro 2		10
32-2	USTER	AFIS Pro 2		10
32-3	USTER	AFIS Pro 2		10
38	USTER			
39	USTER			
41	USTER			5
43	USTER			5
44	USTER	AFIS Pro	internal	10
51	USTER	AFIS Pro 2		5
58	USTER		internal	10
59	USTER		USDA	5
62	USTER	908085	ASTMD5866-95	6
75	USTER		ASTMD5866-12	5
90	USTER	4.22	Manufacturer	10
91	USTER	AFIS-Pro.old		
91-2	USTER	MN100		10
96	USTER	AFIS Pro 2		30
100	Textechno	CCS-V5	ASTMD5866-05	6
101	USTER	AFIS Pro 2	internal	5
102	USTER			3
109	USTER			
111	USTER	AFIS Pro		10
112	USTER	AFIS Pro	ASTMD5866	5
118	USTER			5
123	USTER		ASTMD5866-05	10
123-2	USTER	AFIS Pro	ASTMD5866-05	10
123-3	USTER	AFIS-Pro.old	ASTMD5866-05	
129	USTER	AFIS Pro		5
132	USTER			
134	USTER	AFIS Pro	ASTMD5848-95	5
139	USTER	AFIS Pro 2		12
140	USTER	AFIS Pro		10
142	USTER			5
143	USTER		ASTMD5866	5
148	USTER	AFIS Pro		10
148-2	USTER	AFIS Pro 2		10
148-3	USTER	Neptester		10
154	USTER			10
158	USTER	3000		5
161	USTER	AFIS Pro		4
176	USTER			5
183	USTER	AFIS Pro	ASTMD5866-05	5
186	USTER	Afis old	Manufacturer	10
186-2	USTER	AFIS Pro	Manufacturer	10
207	USTER	AFIS Pro		
208	USTER	AFIS Pro	ASTMD5866-05	10
271	USTER		internal	10
272	USTER			5

AFIS L (table is divided into 2 pages)								Length
Lab.	N							
	ML		CV	2.5 %		5%		SFC
	mm	inch	%	mm	inch	mm	inch	%
7	21.2	0.83	51.8	42.1	1.66	38.9	1.53	23.8
21	24.4	0.96	36.2	39.3	1.55	37.1	1.46	10.8
22	22.4	0.88	47.3	40.4	1.59	37.6	1.48	20.9
24	24.6	0.97	42.0			38.5	1.52	13.7
31	22.3	0.88	43.3	38.4	1.51	36.0	1.42	18.4
32	21.9	0.86	49.5			37.6	1.48	21.0
32-2	21.6	0.85	51.0			37.3	1.47	22.6
32-3	22.2	0.87	47.6			37.3	1.47	19.3
38	22.6	0.89	46.2	41.4	1.63	38.4	1.51	18.4
39	21.3	0.84	47.1	39.6	1.56	37.1	1.46	21.0
41	23.2	0.91	41.0	40.2	1.58	37.5	1.48	14.7
43			46.8			38.9	1.53	19.2
44	23.1	0.91	44.2			38.0	1.50	16.9
51	22.9	0.90				37.9	1.49	17.1
58	22.5	0.89	45.0	40.3	1.59	37.6	1.48	18.7
62	22.5	0.89				37.9	1.49	18.7
75	22.8	0.90				39.9	1.57	21.4
90	23.7	0.93	43.9	41.2	1.62	38.4	1.51	15.8
91	23.2	0.91	46.7			38.8	1.53	18.2
96	23.4	0.92	43.6			37.8	1.49	16.5
101	23.0	0.91	44.1			37.8	1.49	16.5
102	24.3	0.96	41.6	41.4	1.63	38.8	1.53	14.8
111	23.2	0.91	44.6			37.5	1.48	17.3
112	24.4	0.96	42.5			39.4	1.55	15.4
118	25.9	1.02	36.9	42.2	1.66	39.1	1.54	10.3
123	23.2	0.91	44.0			38.6	1.52	16.8
123-2	23.3	0.92	45.8			38.7	1.52	17.5
123-3	22.5	0.89	45.9			37.8	1.49	18.2
129	23.8	0.94	46.0			40.0	1.57	16.5
134	23.6	0.93				38.1	1.50	16.1
139						38.4	1.51	19.0
140						38.6	1.52	17.5
142	22.9	0.90	46.2	40.6	1.60	38.3	1.51	19.3
143	23.0	0.91	50.4	42.4	1.67	39.3	1.55	21.3
148	23.6	0.93	43.4			38.5	1.52	15.8
148-2	23.3	0.92	44.5			38.3	1.51	15.9
154	24.9	0.98	40.1	41.0	1.61	38.4	1.51	12.9
158	22.9	0.90	47.5	39.7	1.56	36.9	1.45	20.1
161								14.8
176	23.4	0.92	47.5	43.4	1.71	40.1	1.58	18.6
183	23.6	0.93	43.2			38.4	1.51	15.8
186	23.9	0.94	42.2	41.3	1.63	38.3	1.51	15.2
186-2	23.8	0.94	32.7			39.2	1.54	17.0
207	23.9	0.94	43.1			38.7	1.52	14.1
208	24.3	0.96	41.1			38.5	1.52	12.6
271	22.1	0.87	51.2	41.4	1.63	38.6	1.52	24.2

AFIS L <i>(table is divided into 2 pages)</i>								Length
Lab.	N							
	ML		CV	2.5 %		5%		SFC
	mm	inch	%	mm	inch	mm	inch	%
272	22.9	0.90	40.2	38.9	1.53	36.6	1.44	13.8
Average	23.2	0.913	44.45	40.8	1.606	38.25	1.506	17.33
Median	23.2	0.913	44.35	41.0	1.614	38.35	1.51	17.1
StdDev	0.95	0.037	4.0	1.29	0.051	0.86	0.034	3.06
CV	4.1	4.104	9.0	3.16	3.16	2.25	2.246	17.67
Min	21.2	0.83	32.7	38.4	1.51	36.0	1.42	10.3
Max	25.9	1.02	51.8	43.4	1.71	40.1	1.58	24.2
n	43	43	40	19	19	46	46	47

AFIS L <i>(table is divided into 2 pages)</i>						Length
Lab.	W					
	ML		CV	UQL		SFC
	mm	inch	%	mm	inch	%
7	26.8	1.06	36.8	33.3	1.31	7.6
21	27.5	1.08	27.9	32.6	1.28	3.5
22	27.4	1.08	33.5	33.0	1.30	6.5
24	28.9	1.14	29.4	34.2	1.35	3.4
28	28.2	1.11		35.7	1.41	2.5
31	26.5	1.04	31.5	31.6	1.24	6.0
32	27.3	1.07	33.7	33.0	1.30	5.8
32-2	27.2	1.07	33.3	33.1	1.30	6.1
32-3	27.2	1.07	32.4	32.7	1.29	5.2
39	26.0	1.02	33.1	31.6	1.24	6.8
41	27.0	1.06	31.8	32.5	1.28	4.9
43	27.9	1.10		34.0	1.34	5.8
44	27.6	1.09	32.5	33.2	1.31	5.1
51	(23.4)	(0.92)	(44.2)	33.5	1.32	4.6
58	27.1	1.07	33.0	33.0	1.30	8.1
62	27.4	1.08		33.4	1.31	5.4
75	28.9	1.14		34.9	1.37	5.3
90	28.3	1.11	31.6	33.9	1.33	4.5
91	28.2	1.11	32.7	34.2	1.35	5.0
96	27.9	1.10	31.7	33.3	1.31	4.9
100	25.8	1.01		34.0	1.34	(13.3)
101	27.5	1.08	31.8	33.1	1.30	
102	28.6	1.13	30.5	34.1	1.34	4.5
111	27.8	1.09	31.0	33.2	1.31	4.8
112	30.0	1.18	32.1	34.3	1.35	4.6
118	29.5	1.16	28.1	34.5	1.36	2.9
123	27.7	1.09	33.5	33.7	1.33	5.5
123-2	28.1	1.11	32.4	34.0	1.34	5.0
123-3	27.2	1.07	32.9	33.2	1.31	5.4
129	28.9	1.14	32.4	34.9	1.37	4.3
134	27.7	1.09		33.3	1.31	5.0
139				33.8	1.33	
140				33.5	1.32	5.0
142	27.7	1.09	31.9	33.7	1.33	5.8
143	28.8	1.13	32.7	34.9	1.37	5.4
148	28.1	1.11	31.8	33.8	1.33	4.6
148-2	27.9	1.10	31.8	33.5	1.32	4.3
154	28.9	1.14	28.1	34.0	1.34	3.3
158	28.0	1.10	30.8	33.4	1.31	5.3
161				35.6	1.40	4.0
176	28.7	1.13	33.2	34.5	1.36	5.1
183	27.9	1.10	32.7	33.5	1.32	4.9
186	28.2	1.11	31.1	33.6	1.32	4.6
186-2	28.6	1.13	(47.2)	33.6	1.32	4.8
207	28.3	1.11	31.7	33.8	1.33	3.8
208	28.4	1.12	30.6	33.8	1.33	3.4

AFIS L <i>(table is divided into 2 pages)</i>						Length
Lab.	W					
	ML		CV	UQL		SFC
	mm	inch	%	mm	inch	%
271	27.7	1.09	34.9	33.8	1.33	7.4
272	26.7	1.05	30.5	31.8	1.25	4.3
Average	27.87	1.097	31.93	33.62	1.324	5.0
Median	27.92	1.099	31.9	33.6	1.323	5.0
StdDev	0.85	0.034	1.76	0.86	0.034	1.16
CV	3.07	3.068	5.51	2.54	2.544	23.13
Min	25.8	1.01	27.9	31.6	1.24	2.5
Max	30.0	1.18	36.8	35.7	1.41	8.1
n	44	44	37	48	48	45

AFIS D / M			Diameter, Maturity				
Lab.	D (N) µm	CV (D(N)) %	Fineness mtex	IFC %	Mat. Ratio		
22	12.4		160	6.0	0.94		
24			177	4.1	1.01		
28			165		0.89		
31			165	6.7	0.91		
32			174	2.7	1.04		
32-2			172	3.1	1.03		
32-3			177	2.3	1.05		
41							
43					163	3.7	1.0
44					139	11.5	0.81
51					137	5.2	0.89
58					150	6.2	0.9
62					140	7.0	0.86
75					167	4.4	0.97
90					162	4.3	0.98
91					152	4.6	0.97
96					155	5.3	0.94
100					161		0.89
101					154	5.0	0.96
102					153	7.2	0.93
111					169	5.0	0.98
112					185	2.0	1.08
118					165	3.8	0.99
123					160	5.7	0.96
123-2					149	6.4	0.93
123-3					157	4.8	0.96
134					157	4.2	0.97
139					151	5.2	0.94
140					156	5.0	0.95
143					166	4.2	0.98
148					172	3.2	1.02
148-2					168	4.5	0.99
154					146	8.2	0.91
158					151	5.4	0.91
161					159	4.4	0.98
176					156	10.5	0.92
183					165	3.6	0.98
186					155	6.9	0.89
186-2					149	6.5	0.9
207			153	6.2	0.92		
208			154	6.9	0.92		
271			144	9.8	0.83		
272	9.9						
Average			158.8	5.43	0.948		
Median			157.0	5.0	0.95		
StdDev			10.8	2.08	0.057		
CV			6.8	38.27	6.048		
Min			137	2.0	0.81		
Max			185	11.5	1.08		
n	2	0	41	39	41		

AFIS T				Trash
Lab.	Mean Diam. µm	Total Trash Cnt/g	Dust Cnt/g	V. F. M. %
21	194	1004	954	1.45
22	234	702	641	1.51
28		366		
31	270	557	492	1.83
32	215	729	684	1.27
32-2	234	772	708	1.52
32-3	248	599	545	1.45
43	237	803	732	1.74
51	257	867	778	2.24
58	234	1039	950	2.19
62	237	494	447	1.02
90	236	469	436	0.9
91	241	642	583	1.62
100		1015		
101	271	713	637	1.85
102		1261	1166	2.16
111	280	497	432	1.26
112	239	1039	944	1.82
129	204	487	450	0.75
134	243	462	423	1.02
140	231	546	505	1.2
142	217	873	813	1.54
143	201	949	890	1.45
148	281	596	533	2.0
148-2	285	676	587	2.32
154	222	895	828	1.78
158	217	733	675	1.63
183		952	881	2.05
186	224	1186	1093	2.3
186-2	238	952	872	2.34
207		810	733	2.01
208		799	724	1.83
272	206	557	523	0.79
Average	236.9	758.8	698.7	1.64
Median	236.0	733.0	684.0	1.63
StdDev	24.7	225.2	203.2	0.462
CV	10.4	29.7	29.1	28.141
Min	194	366	423	0.75
Max	285	1261	1166	2.34
n	27	33	31	31

Lab No 43, 112, 148, 148-2, 158

Total Trash = sum of Trash count + Dust count

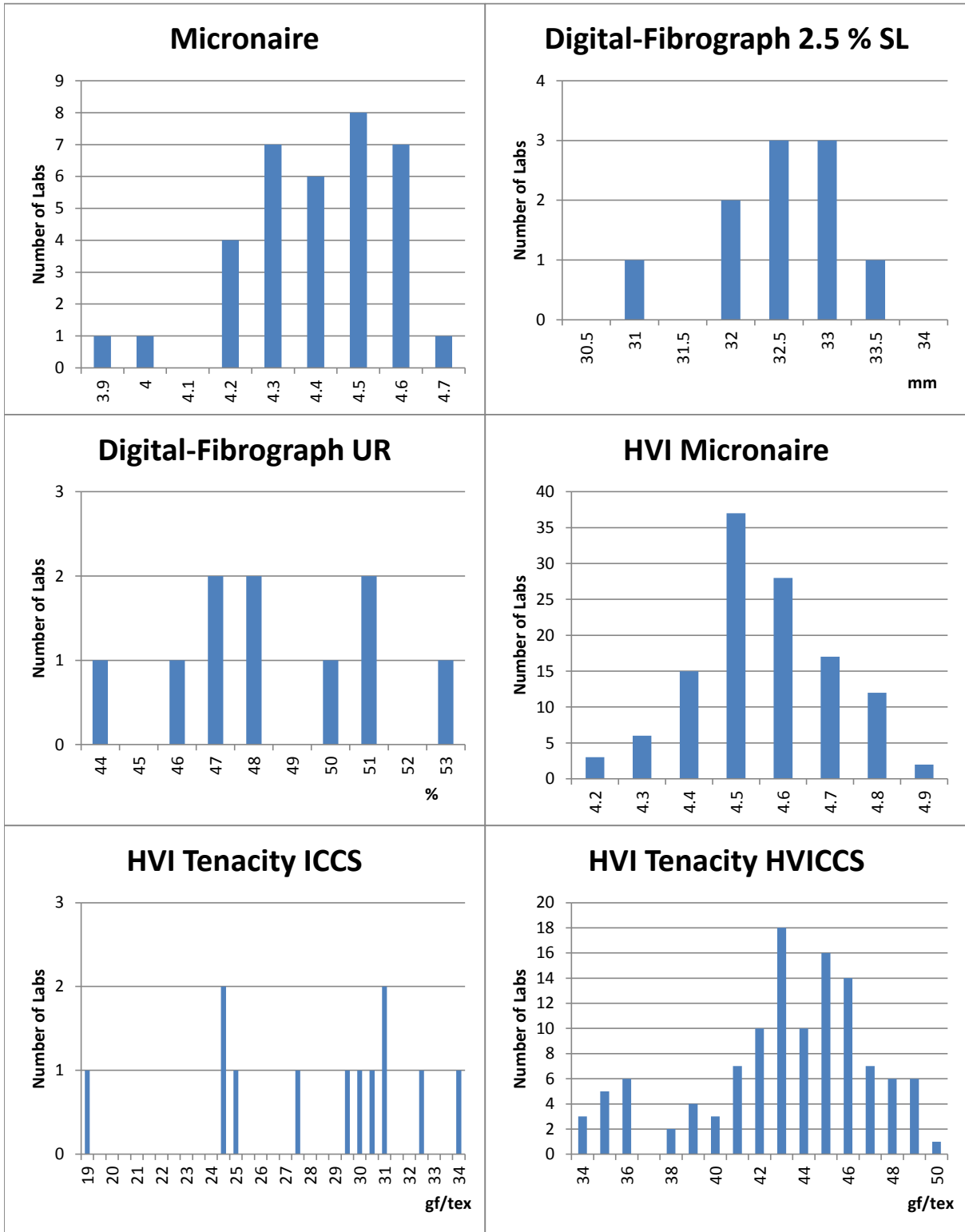
AFIS N		<i>(table is divided into 2 pages)</i>		Neps	
Lab.	Total Neps		SCN		Cnt/g
	Mean Diameter µm	Cnt/g	Mean Diameter µm	Cnt/g	
5		184			
7	756	81			
21	672	103			
22	672	67	980		3
24	685	70	1212		1
27		138			
28		11			6
31	716	165	1174		10
32	700	75	1005		7
32-2	706	112	1195		6
32-3	694	99	1119		9
38	734	58			
39	597	50			
41	655	89			
43	711	100	1065		7
44	669	75	1095		3
51	709	126	1056		9
58	(880)	115	975		3
59	671	180	825		8
62	710	100	1570		7
75	683	80	908		3
90	703	87	1496		5
91	717	96	1388		6
91-2	666	126			
96	626	56	1042		2
100	(519)				(235)
101	717	105	1111		7
102	633	93	752		7
109	616	72			
111	749	89	1287		13
112	658	57	1425		2
118	670	51	975		3
123	662	116	1008		9
123-2	659	100	905		6
123-3	723	100	1246		8
129	688	104	1152		5
132	629	96			
134	644	76	802		3
139	676	90	1158		4
140	702	112	1209		4
142	628	58			
143	646	87	963		3
148	662	64	1115		3
148-2	686	79	965		8
148-3		78			
154	693	71	1124		7

AFIS N				(table is divided into 2 pages)		Neps	
Lab.	Total Neps		SCN				
	Mean Diameter μm	Cnt/g	Mean Diameter μm	Cnt/g			
158	628	93	775		1		
161	743	124	1147		15		
176	704	95	1034		8		
183	667	78	1064		2		
186	711	111	1290		6		
186-2	711	100	1049		7		
207	727	115	1223		11		
208	761	114	1469		13		
271	667	98	1206		3		
272	684	129					
Average	683.9	94.5	1111.2		6.0		
Median	684.5	95.0	1111.0		6.0		
StdDev	37.5	30.9	190.1		3.3		
CV	5.5	32.7	17.1		55.5		
Min	597	11	752		1		
Max	761	184	1570		15		
n	50	55	41		42		

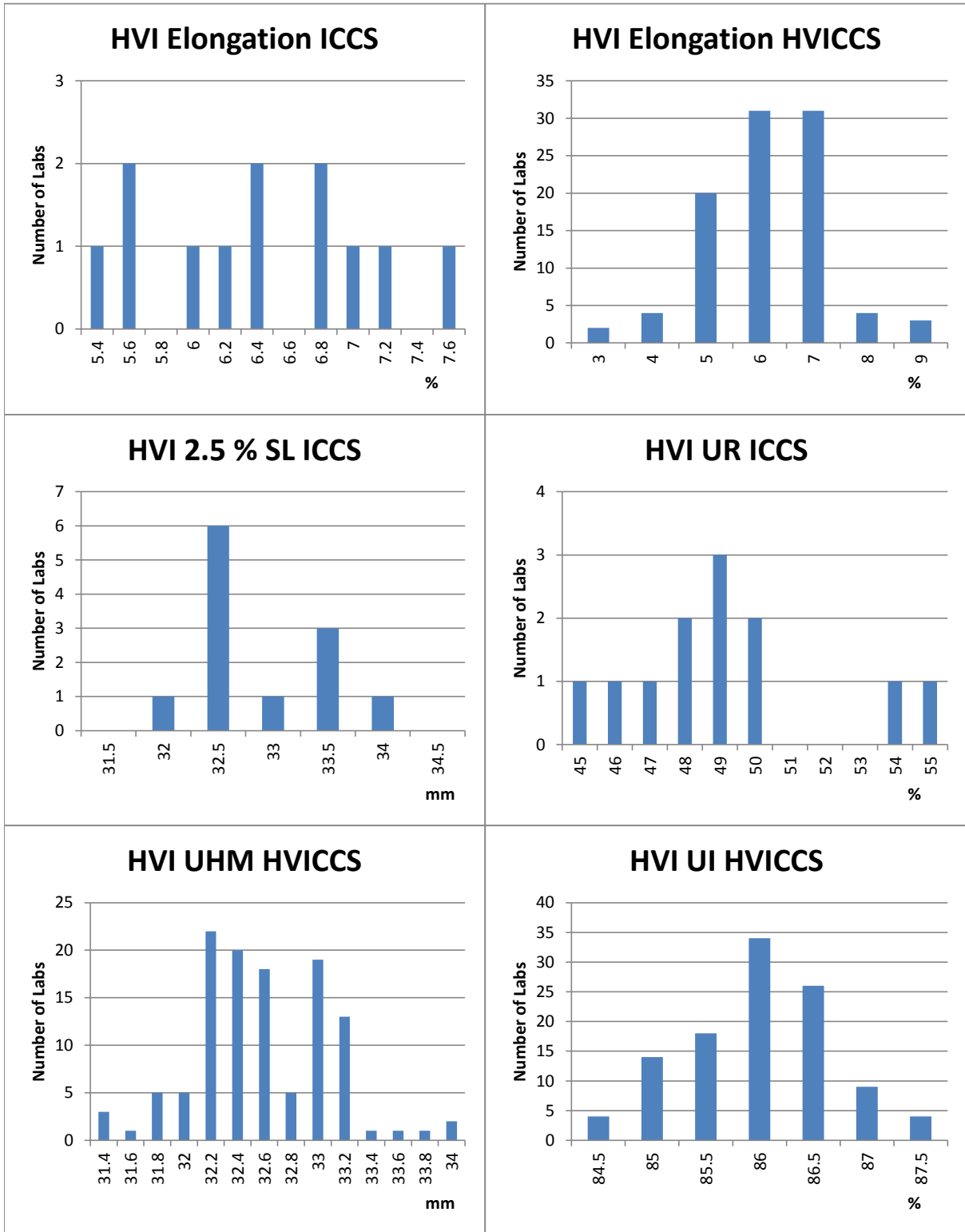
aQura <i>(further information see page "Multiple Devices")</i>						Length, Neps	
Lab.	Repetitions	5.0 % L (n)	50 % L (n)	SFC (n) <12.7 mm	SFC (w) <12.7 mm	Fibre Neps	SCN
		mm	mm	%	%	Cnt/g	Cnt/g
53	4	20.5		6.1	15.9	52	7
116	4	19.9		19.1	7.0	171	24
127	4	34.0		21.9	9.4	85	7
213	5	33.7		19.8	8.2	43	5
300	4	34.7		16.2	6.3	100	20
Average		28.57		16.62	9.37	90.2	12.6
Median		33.71		19.11	8.19	85.0	7.0
StdDev		7.64		6.21	3.85	50.8	8.7
CV		26.76		37.36	41.11	56.4	69.3
Min		19.9		6.1	6.3	43	5
Max		34.7		21.9	15.9	171	24
n		5	0	5	5	5	5

Multiple Devices <i>(information not provided in the respective table)</i>					General
Lab.	Device	Manufacturer	Instrument	Std. Test Method	Repetitions
8	DigitalFibrograph		F370		16
32	FMT		WIRA		6
32-2	FMT		WIRA		6
32-3	FMT		WIRA		6
35	DigitalFibrograph		730		6
37	FMT				
53	aQura	Premier			4
56	Causticaire		Micronaire	JIS	2
58	ALMeter			internal	3
70	GravFineness			ISO 1973-95	5
70	FMT		MK.1	ASTMD3818-92	6
79	GravFineness			RSTUz620-94	
85	GravFineness			UNIENISO1973-98	5
85	CombSorter		Keisokki	UNI10170-94	1
85-2	CombSorter		Keisokki	UNI10170-94	1
85-2	GravFineness			UNIENISO1973-98	5
85-3	CombSorter		Keisokki	UNI10170-94	1
85-3	GravFineness			UNIENISO1973-98	5
85-4	GravFineness			UNIENISO1973-98	5
92	DigitalFibrograph		DigiLen	ASTMD5332	6
92	Causticaire		Projection Scope	ASTMD1448	2
100	DigitalFibrograph		Fibrotest	ASTMD1447-07-12	12
100	FMT		WIRA	ASTMD3818-92	12
102	DigitalFibrograph		530	ICCS	5
102	FMT		FMT 3	ICCS	2
112	GravFineness				3
116	DigitalFibrograph		Bitra		5
116	aQura	Premier			4
126	DigitalFibrograph		350	ASTM	3
127	aQura	Premier			4
129	Causticaire		Microscope	IS 236	4
131	DigitalFibrograph		530	ASTM	6
131	Causticaire		Fibroscope	British	1
132	DigitalFibrograph		Fibrotest	ASTMD1447	10
132	ALMeter	Uster	AL100	DIN 53806	5
143	DigitalFibrograph	USTER	330	ABNTNBR13154-94	2
177	Causticaire			DIN53943-4	3
177	GravFineness			ASTMD1577-90	4
186	FMT	SDL		USDA	6
193	GravFineness			GB/T6100-07	2
213	aQura	Premier			5
300	aQura	Premier		ASTM	4

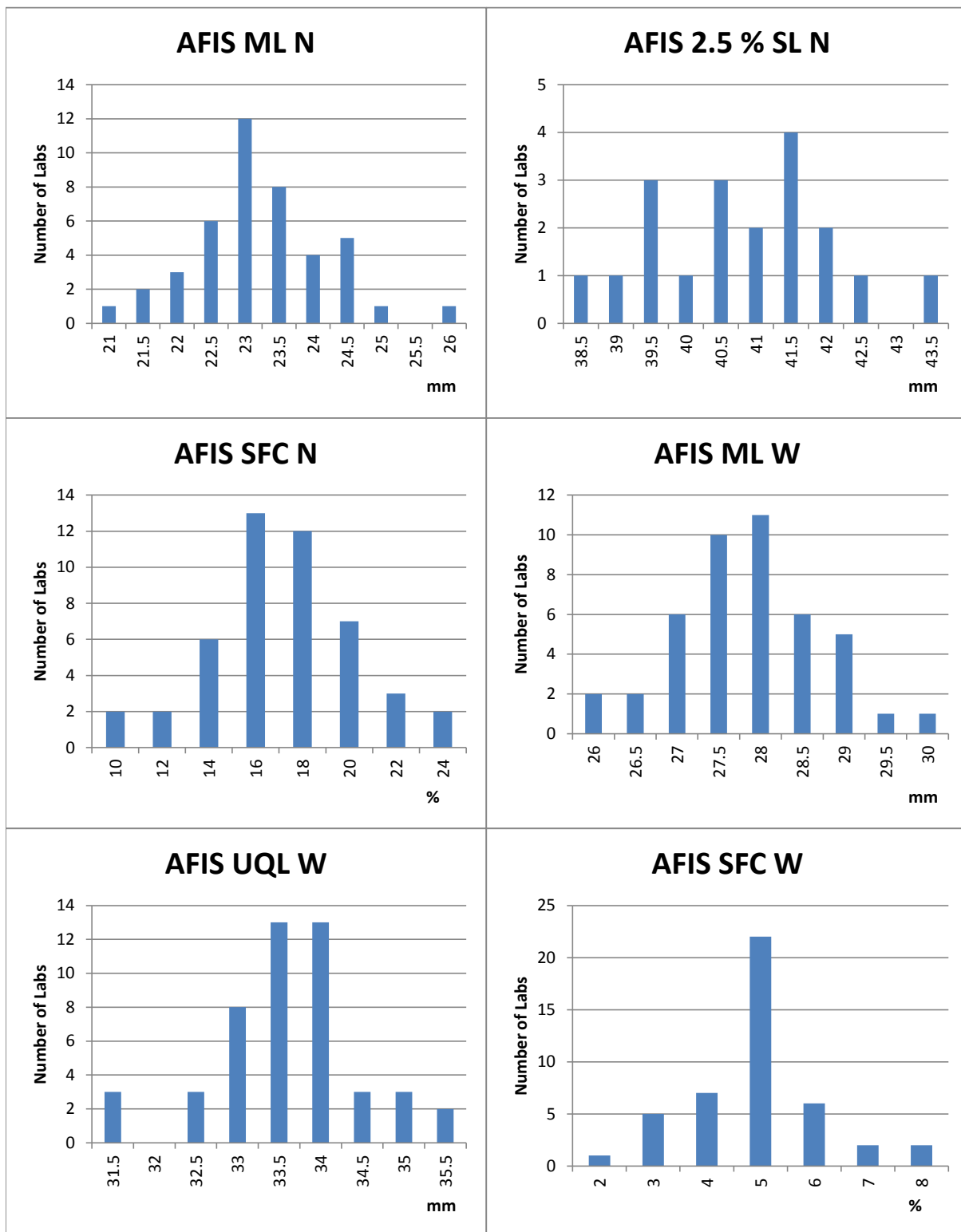
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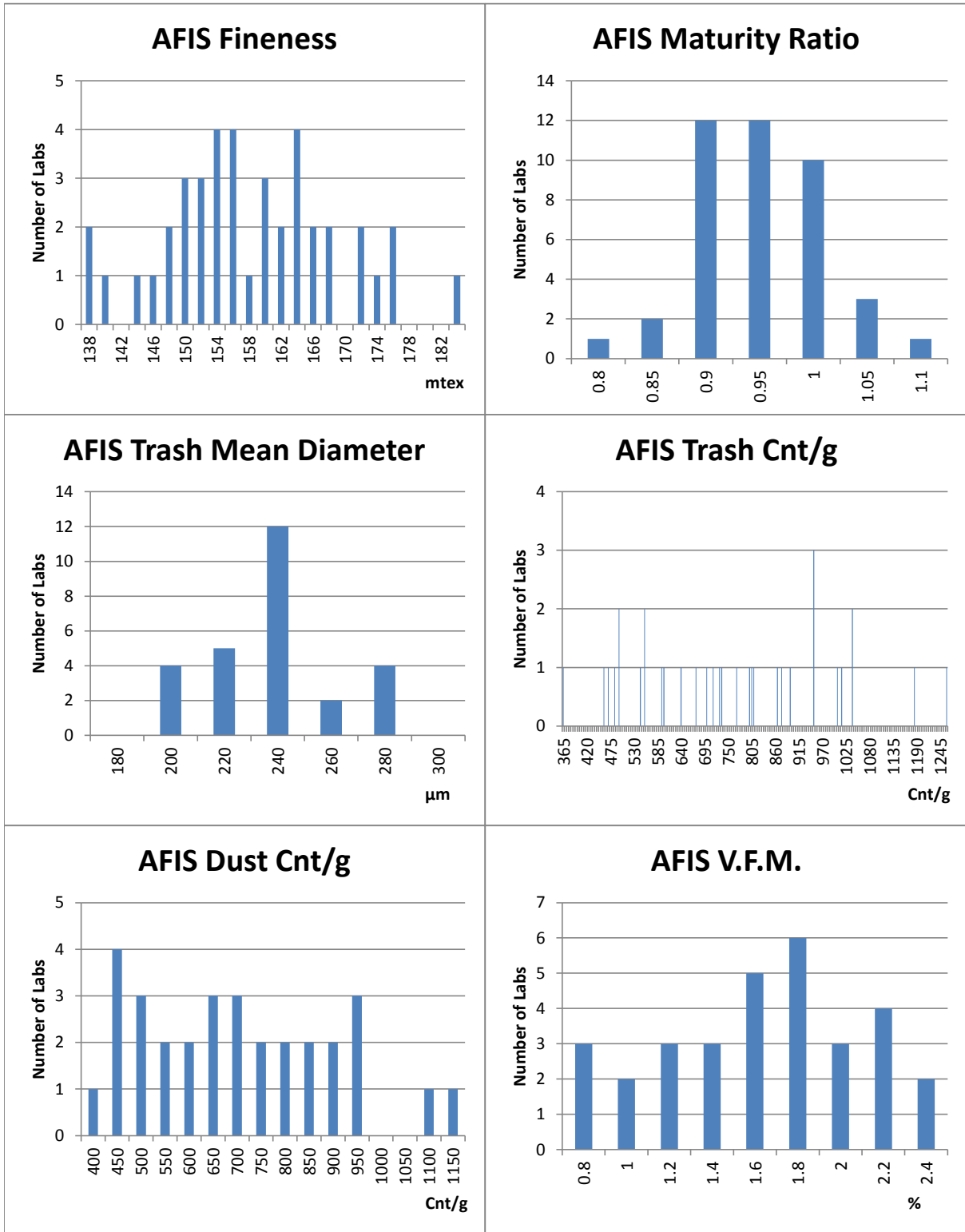
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