



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, 15.01.2016

Evaluation of the Test Results 2015 / 3

Tested Cotton:
Cotton Number:

CIS Pervyi
RM 05

Number of Laboratories: **125**

Argentina	-	Mauritius, Rep of	1
Australia	1	Mozambique	-
Bangladesh	1	The Netherlands	1
Brazil	5	Pakistan	5
China, PR	17	Poland	2
Czech Republic	4	Russia	2
Egypt	4	Serbia	1
France	1	Slovenia	2
Germany	11	South Africa	-
Greece	5	Spain	3
Hungary	1	Sudan	1
India	28	Switzerland	3
Indonesia	2	Taiwan	1
Iran	1	Thailand	3
Israel	1	Turkey	3
Italy	1	Uganda	-
Japan	2	United Kingdom	-
Kazakhstan	1	United States	5
Korea, R	1	Uzbekistan	2
Latvia	-	Vietnam, SR	2
Mali	1		

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

A joint venture between



Supported by



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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: **CIS Pervyi (RM 05)**

The variation of the utilized cotton was measured at the Bremen Fibre Institute (FIBRE) with an Uster HVI 1000 with 10 tests from 5 different samples with the following results:

HVI HVICCS	SD between samples (based on 10 tests per sample)	SD between single tests (based on 5 times 10 tests)
Mic	0,040	0,033
Strength, g/tex	0,292	0,664
Length, UHM, inch	0,008	0,012
Length, UHM, mm	0,199	0,306

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		4.5	775	GB/T6498-05
22	3	4.3	Fibronaire	
29	4	4.3	Sheffield	ISO 2403
32	6	4.2	WIRA	
32-2	6	4.3	WIRA	
32-3	6	4.3	WIRA	
35	3	4.4	775	
37		4.5		
56	2	4.3	Fibronaire	JIS
67	4	4.4	Fibronaire	
70	6	4.2	MK.1	ASTMD3818-92
77		4.0		
79		4.4		ASTMD1448
92	6	4.4	DigiMic XT	ASTMD1448
93	4	4.4		ASTMD1448
100	8	4.4	675	ASTMD1448-97
100-2	12	4.4	WIRA	ASTMD1448-97
100-3	12	4.2	WIRA	ASTMD3813-92
102	6	4.4	Fibronaire	ICCS
112	2	4.6	Fibronaire	ASTMD1448
116		(3.8)	STATEX	
126	4	4.4		ASTM
128		4.5	Fibronaire	ASTM
129	3	4.7		BS 3181
131	6	4.2		ASTM
132	3	4.3	775	DIN 53941
132-2		4.4	WIRA	ASTMD1448
142	3	4.4	80400	ISO
152	3	4.2		
155		4.2	275	DIN 53941
162	6	4.4	WIRA	
167		4.5	275	USDA
168		4.2		
169	3	4.4	Sheffield	
177	3	4.2	DPM 60	DIN 53941
183	3	4.2	Fibronaire	ASTMD1448
186	6	4.2	FMT	USDA
193	3	4.4	Y145	GB/T6498-08
201	3	4.3	275	
203		4.4	900-1	
Average		4.34		
Median		4.39		
StdDev		0.13		
CV		3.01		
Min		4.0		
Max		4.7		
n		39		

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	8.7		ISO 3060				
35					6	22.2	6.1	
46	10	8.4	8.1	ISO 3060				
56	5	8.4		JIS				
76	5	7.5						
79		8.3		ASTMD1445				
92					6	23.0	7.0	ASTM 1445
93	6	7.6	3.5	ASTM1445		20.5	7.4	ASTM 1445
100	6	8.2		ASTMD41452T				
112					3	23.5	6.5	ASTM 1445
116					10	22.1	6.0	
128		6.4	4.7	ASTM		24.1	6.7	ASTM
131	6	(10.7)	5.1	ASTM	6	27.4	6.3	ASTM
152	6	8.4						
162	6	8.2			6	21.3	5.6	
177	4	7.2		DIN 53942				
193					13	21.2	7.2	GB/T13783-92
Average		7.93	5.35			22.81	6.53	
Median		8.22	4.91			22.19	6.5	
StdDev		0.68	1.94			2.06	0.59	
CV		8.56	36.33			9.04	9.09	
Min		6.4	3.5			20.5	5.6	
Max		8.7	8.1			27.4	7.4	
n		11	4			9	9	

Pressley	PI(0)	Av., gf/tex	42.50	StdDev, gf/tex	3.64	CV, %	8.56
	(3.2)	Av., gf/tex	36.37	StdDev, gf/tex	13.2	CV, %	36.33

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	%	%	%	
35	6	29.6	1.17	13.7	0.54	46			5.8
92	6	30.5	1.20	14.1	0.55	46			7.5
93	4	30.0	1.18	15.4	0.61	51			
100	12	29.2	1.15	12.8	0.50	44		15.6	6.2
102	5	28.7	1.13	13.2	0.52	46			
116	5	31.9	1.25	15.7	0.62	49			
131	6	29.7	1.17	14.3	0.56	48			
132	10	29.4	1.16	13.5	0.53	46			
143	2	29.2	1.15	13.2	0.52	45			
Average		29.80	1.173	13.99	0.551	46.8			
Median		29.64	1.167	13.73	0.541	46.0			
StdDev		0.93	0.037	1.00	0.039	2.2			
CV		3.12	3.122	7.15	7.149	4.8			
Min		28.7	1.13	12.8	0.50	44			
Max		31.9	1.25	15.7	0.62	51			
n		9	9	9	9	9	0	1	3

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				25.6	36.5	12.0
85-2	1	Keisokki				24.7	33.0	11.0
85-3	1	Keisokki				22.6	41.1	17.0
85-4	1	Keisokki				33.8	27.1	6.5

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	19.5	42.2	25.7	22.9	35.0	12.5
112	5	22.59	34.01	11.52	26.01	27.87	4.1
152	5	22.6	33.0	11.7	25.0	28.7	5.4

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					1.63
79					1.73
85					1.57
85-2					1.61
85-3					1.54
85-4					1.59
112					1.69
131		70			
177		90			1.78
193					1.66

IIC/SHIRLEY FM-TESTER <i>(further information see page "Multiple Devices")</i>				Maturity, Fineness
Lab.	Rep.	PM, %	MAT	FIN, mtex
32	6	80.3	0.91	176
32-2	6	80.5	0.91	178
32-3	6	77.8	0.87	185
37		93.0	1.08	158
70	6	88.9	1.02	159
93	4	83.0	0.95	164
100	12	75.3	0.83	194
102	2	80.1	0.9	161
128	8	83.0	0.94	184
186		82.9	0.94	168
Average		82.48	0.935	172.6
Median		81.69	0.925	172.1
StdDev		5.17	0.072	12.6
CV		6.27	7.667	7.3
Min		75.3	0.83	158
Max		93.0	1.08	194
n		10	10	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
5	USTER	1000 Line4		12	1	2	2
5-2	USTER	1000 Line5		12	1	2	2
6	USTER	1000	GB/T20392	3	1	2	2
7	USTER			5	1	2	2
8	USTER	Spectrum I	ASTMD5867-05	10	1	2	2
9	Premier	ART		4	1	2	2
12	USTER	Spectrum I	SN/T1512-11	12	1	1	1
13	USTER	Spectrum I		10	1	1	1
15	USTER	900 SA		6	1	2	2
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	Fibrotest				10	
31	USTER	900		6	1	2	2
32	USTER	900 A	internal		4	10	4
32-2	USTER	900 A	internal	10	4	10	4
32-3	USTER	900		10	4	10	4
38	USTER	1000			1	2	2
41	USTER	Spectrum		5	5	5	5
43	USTER	1000		6	1	2	2
48	Premier	HFT	ASTMD5867-12	8	1	2	2
49	USTER	1000	ASTM1776		1	2	2
52	USTER	1000	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 Mode	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
60	USTER	1000	ASTM	6	1	2	2
60-2	USTER	1000	ASTM	6	1	2	2
62	Premier	ART 2	ASTMD5867	6	1	2	2
71	USTER	1000	SN/T1512-11	6	1	2	2
71-2	USTER	Spectrum	SN/T1512-11	6	1	1	1
72	USTER	1000		10	2	2	2
75	USTER	Spectrum	SN/T1512-11	6	1	2	2
78	USTER	Spectrum 1		6	1	2	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			6	1	2	2
89-4	USTER			6	1	2	2
90	USTER	1000	ASTMD5867	10	1	2	2
91	USTER	1000		6	1	2	2
92	MAG	HVT Expert 1201	ASTMD5867	6	1	2	2
93	USTER	900 A	ASTMD5867	6	1	2	2
96	USTER	1000	GB/T20392-06	10	1	2	2
100	Textechno	CCS-V5	ASTMD5867-05	12			
101	USTER	1000	ASTMD5867-12	6	1	2	2

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
102	USTER	900 B	USDA	6	6	6	4
102-2	USTER	SW700V3.1.3.18	ASTMD5867	6	1	1	1
105	USTER	Spectrum	Manufacturer	6	1	2	2
106	Premier	ART		5	1	2	2
107	Premier	ART 2	ASTMD5867-05	6	1	2	2
109	USTER	1000		10	1	2	2
110	USTER	1000	SN/T1512-11	12	1	2	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
118	USTER	1000M700	ASTMD5867-05	5	1	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	6	1	2	
128	USTER	1000	ASTMD5867-12		1	2	2
129	USTER	900 SA	ASTMD5867	8	1	1	1
131	USTER	Spectrum	USDA	6	1	2	2
132	Textechno	Fibrotest	ASTMD5867	2	0	10	0
133	USTER	1000		6			
133-2	USTER			1			
134	USTER	Classing	ASTMD5867-95	6	1	2	2
135	USTER	Spectrum I	ASTMD5867-95	6	1	2	2
136	USTER	Classing	ASTMD5867-95	6	1	2	2
137	USTER	1000	ASTM	6	6	6	6
139	Premier	ART 2	ASTMD5867-05	12	1	1	2
140	USTER	1000M700		10	10	10	10
141	USTER	1000	Mode 4	10	1	1	1
143	USTER	Spectrum		6	1	2	2
143-2	Premier	ART		6	1	2	2
144	USTER	Spectrum	ASTM	6	1	2	2
145	Premier	ART 2			1	2	2
147	USTER	1000	SN/T1512-11		1	2	2
148	USTER	1000		6	1	2	2
154	USTER	900 A		10	1	2	2
158	USTER	900-1			1	2	2
158-2	USTER	900-2			1	2	2
162	USTER	900 A		6	1	2	2
176	USTER	1000		10	1	2	2
179	USTER	1000	SN/T1512-11	12	1	2	2
183	USTER	1000	ASTMD5867-05	6	1	2	2
186	USTER	900		10	2	10	0
193	USTER	1000	GB/T20392-06	6	1	2	2
200	USTER	900 A		12	1	2	2
201	USTER	900		6	1	2	2
203	USTER	900			1	2	2
204	USTER	1000	GB/T20392-06	10	1	2	2
204-2	Premier	HFT	GB/T20392-06	10	1	2	2
206	USTER	900 B	GOST R53031-08	5	1	2	2
209	MAG	HVT Expert 1201	ASTMD5867-05	6	2	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
242	USTER	Spectrum		6	1	2	2
242-2	USTER	1000		6	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
271	USTER	900	internal	10	1	1	1
272	Premier	ART		5	1	1	2
287	Premier	ART 2	USDA	10	1	2	2
295	Premier	HFT		4	1	2	2
300	Premier	ART 2	ASTM	6	1	2	2
315	Premier	HFT		7	1	2	
318	Premier	HFT			1	1	
320	MAG	HVT Expert 1201	ASTM	10	1	2	2

HVI		(table is divided into 3 pages)				Micronaire, Tenacity, Elongation	
Lab.	Micronaire	Tenacity		Elongation			
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %		
5	4.4		31.1		7.8		
5-2	4.4		31.4		7.4		
6	4.6		30.5		6.2		
7	4.3		28.8		7.4		
8	4.5		29.4		9.9		
9	4.5		30.4				
12	4.4		30.4		7.9		
13	4.4		30.9		6.1		
15	4.4		31.1		9.8		
19	4.5		29.8		7.8		
24	4.4		31.5		6.6		
25	4.4		29.7		7.5		
26	4.5		29.8		7.3		
27	4.6		28.5		7.9		
28			29.6				
31	4.2	22.1	29.0	5.8	5.9		
32	4.3		30.8		6.9		
32-2	4.3		29.5		6.9		
32-3	4.3		30.2		6.9		
38	4.4		32.5		(2.6)		
41	4.4		32.1		(2.6)		
43	4.5		30.7		6.0		
48	4.3		29.3		5.9		
49	4.5		29.2		6.8		
52	4.5		30.8		7.6		
53	4.4		29.9		6.9		
54	4.4		30.7		4.4		
56	4.3		29.3		5.6		
58	4.5		29.5		(3.4)		
59	4.4		30.1				
59-2	4.4		29.2				
59-3	4.5		30.1				
59-4	4.5		30.2				
59-5	4.5		29.6				
60	4.4		31.6		(11.3)		
60-2	4.5		28.8		5.9		
62	4.4	21.0	33.4	6.6	5.0		
71	4.4		30.4		8.6		
71-2	4.4		30.5		6.4		
72	4.5		30.2				
75	4.3		31.0		6.8		
78	4.5		28.8		7.6		
79	4.4		29.4		6.3		
83	4.4		29.0		7.1		
84	4.5		28.9		5.5		
89	4.4		29.2				
89-2	4.4		29.5				
89-3	4.6		29.3				
89-4	4.4		28.8				
90	4.4		31.1		7.6		
91	4.4		29.1		7.0		
92	4.4	23.4	30.8	7.2	7.3		
93	4.4		28.6		7.5		

HVI		<i>(table is divided into 3 pages)</i>				Micronaire, Tenacity, Elongation	
Lab.	Micronaire	Tenacity		Elongation			
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %		
96	4.5		30.9		7.8		
100	4.4		(35.5)		8.4		
101	4.5		30.9		7.8		
102	4.4		32.1		5.5		
102-2	4.4		29.7		6.8		
105	4.6		(39.6)		7.6		
106	4.5		29.5		6.7		
107	4.4		32.7		7.0		
109	4.6		30.7				
110	4.5		28.8		7.4		
111	4.6		30.3		8.2		
112	4.5		30.3		7.7		
113	4.4		32.9		7.0		
118	4.5		31.4		7.0		
121	4.5		30.5		8.0		
122	4.5		30.9		6.7		
123	4.4	23.1	30.0	6.2	6.9		
125	4.5		29.4		7.9		
126	4.4		(33.7)		6.3		
128	4.5		30.6		6.9		
129	4.7	20.3	28.4	6.1	6.3		
131	4.4		29.8		7.1		
132			31.9		8.3		
133	4.4		30.5		8.2		
133-2	4.4		30.8		7.1		
134	4.4		30.0		8.3		
135	4.4		30.3		7.1		
136	4.6		29.7		6.7		
137	4.5		30.7		7.7		
139	4.3		30.3		6.7		
140	4.3		31.7		7.4		
141	4.6		31.6		7.0		
143	4.4		29.6		7.6		
143-2	4.4		29.3		6.9		
144	4.4		29.7				
145	(4.1)		29.7				
147	4.5		30.2		8.5		
148	4.4		28.7		7.2		
154	4.4		29.4		9.1		
158	4.4		31.1		7.7		
158-2	4.4		31.5		6.9		
162	4.3		27.4		5.2		
176	4.5		29.9		5.4		
179	4.5		29.2		7.7		
183	4.4		31.0		7.6		
186	4.2	20.7	29.4	6.7	6.6		
193	4.5		31.1		7.3		
200	4.4		29.5				
201	4.3		30.5		9.8		
203	4.3		(47.0)				
204	4.6		29.6		7.0		
204-2	4.4		29.1		6.6		
206	4.5		(34.0)		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, %		
209	4.4		33.1		6.4		
213	4.6	21.1		6.6			
215	4.5		30.6		5.2		
216	4.4		30.7		5.8		
242	4.5		30.3		7.3		
242-2	4.5		30.7		7.7		
271	4.5		29.8		(3.8)		
272	4.7		30.8		(1.9)		
287	4.4	20.6	31.0	5.7	6.9		
295	4.4	24.1		6.8			
300	4.5		30.5		6.7		
315	4.3	21.4		6.4			
318	4.4		30.5				
320	4.4	23.5		6.8			
Average	4.43	21.94	30.23	6.44	7.1		
Median	4.42	21.4	30.2	6.6	7.01		
StdDev	0.09	1.37	1.06	0.45	1.0		
CV	1.98	6.22	3.52	7.05	14.03		
Min	4.2	20.3	27.4	5.7	4.4		
Max	4.7	24.1	33.4	7.2	9.9		
n	117	11	111	11	92		

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
5				29.8	1.17	83.2
5-2				30.1	1.19	83.4
6				29.7	1.17	83.7
7				28.8	1.13	82.8
8				29.3	1.15	82.7
9				(31.4)	(1.24)	81.3
12				30.0	1.18	82.5
13				30.2	1.19	83.5
15				29.5	1.16	82.7
19				29.5	1.16	83.0
24				29.9	1.18	83.3
25				29.5	1.16	82.6
26				29.4	1.16	83.0
27				29.3	1.15	82.6
28				29.5	1.16	84.3
31	29.1	1.15	47.9	29.9	1.18	(86.1)
32				30.0	1.18	82.6
32-2				29.5	1.16	82.6
32-3				30.3	1.19	82.7
38				30.4	1.20	84.8
41				29.3	1.15	82.7
43				29.7	1.17	83.2
48				29.8	1.17	(79.9)
49				29.6	1.17	82.8
52				29.5	1.16	84.1
53				30.4	1.20	81.6
54				29.9	1.18	83.6
56				29.7	1.17	84.4
58				29.5	1.16	82.6
59				29.3	1.15	82.4
59-2				29.3	1.15	82.5
59-3				29.2	1.15	82.5
59-4				29.1	1.15	83.1
59-5				29.5	1.16	83.2
60				29.6	1.17	83.2
60-2				29.3	1.15	82.2
62	30.3	1.19	47.6	30.0	1.18	83.3
71				29.7	1.17	82.3
71-2				29.7	1.17	83.1
72				29.4	1.16	83.1
75				29.1	1.15	82.1
78				29.2	1.15	83.5
79				30.5	1.20	83.8
83				29.8	1.17	83.0
84				29.5	1.16	82.5
89				29.6	1.17	83.0
89-2				29.4	1.16	83.0
89-3				29.8	1.17	83.2
89-4				29.5	1.16	84.0
90				29.8	1.18	83.3
91				28.9	1.14	82.4
92	30.6	1.20	46.0	30.1	1.19	83.8

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
93				29.9	1.18	83.5
96				30.1	1.19	83.4
100				29.8	1.17	82.9
101				29.8	1.17	83.3
102				29.8	1.17	83.1
102-2				29.5	1.16	83.0
105				29.5	1.16	81.8
106				30.7	1.21	83.5
107				30.2	1.19	83.5
109				29.8	1.17	83.1
110				29.2	1.15	83.2
111				29.7	1.17	83.2
112				29.7	1.17	83.8
113				30.1	1.18	83.5
118				29.8	1.17	83.1
121				29.5	1.16	82.4
122				29.6	1.17	84.1
123	30.0	1.18	47.3	30.1	1.18	82.5
125				29.5	1.16	83.1
126				30.8	1.21	83.4
128				29.3	1.15	83.5
129	29.9	1.18	48.0	30.1	1.19	83.0
131				28.8	1.13	(80.8)
132				29.8	1.17	82.5
133				29.4	1.16	83.2
133-2				29.5	1.16	83.1
134				30.0	1.18	83.4
135				29.5	1.16	83.4
136				29.4	1.16	83.1
137				29.0	1.14	83.5
139				29.7	1.17	83.6
140				29.5	1.16	82.4
141				29.7	1.17	84.3
143				29.2	1.15	83.2
143-2				29.7	1.17	82.9
144				29.5	1.16	82.8
145				29.0	1.14	82.0
147				29.5	1.16	83.0
148				29.0	1.14	82.4
154				30.0	1.18	83.6
158				29.7	1.17	84.1
158-2				30.0	1.18	83.5
162				29.5	1.16	83.1
176				29.9	1.18	83.1
179				29.1	1.14	82.2
183				28.6	1.13	81.8
186	28.5	1.12	48.1	29.7	1.17	83.2
193				29.8	1.17	82.6
200				29.7	1.17	82.8
201				29.2	1.15	82.4
203				29.1	1.15	
204				29.8	1.17	83.8

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
204-2				28.7	1.13	82.0
206				30.2	1.19	84.5
209				30.3	1.19	83.6
213	29.3	1.15	(13.2)			
215				29.2	1.15	82.9
216				30.0	1.18	83.6
242				29.2	1.15	
242-2				30.0	1.18	
271				30.2	1.19	83.3
272				29.5	1.16	83.8
287	29.7	1.17	46.5	29.8	1.17	83.4
295	30.6	1.21	47.6			
300				29.4	1.16	82.4
315	30.2	1.19	51.2			
318				30.0	1.18	(24.6)
320	29.9	1.18	44.0			
Average	29.83	1.174	47.41	29.64	1.167	83.08
Median	29.9	1.177	47.58	29.67	1.168	83.1
StdDev	0.64	0.025	1.82	0.41	0.016	0.63
CV	2.15	2.145	3.85	1.38	1.376	0.75
Min	28.5	1.12	44.0	28.6	1.13	81.3
Max	30.6	1.21	51.2	30.8	1.21	84.8
n	11	11	10	115	115	109

HVI <i>(table is divided into 3 pages)</i>				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
5	75	13.2	13-3	2	0.15	13
5-2	75	13.3	13-3	2	0.17	14
6	77	12.3	13	2	0.19	19
7	75	13.5	13-3		0.13	17
8	75	14.0	24-1	1	0.13	10
9	(70)	(14.8)	24-3			
12	75	12.9	13-3	1	0.11	12
13	76	11.8	13-1		0.09	7
15	76	13.0	13-3	1	0.1	8
19	77	13.2	13-3	1	0.13	15
24	76	12.6	13-1			
25	77	13.0	13-3	2	0.16	18
26	77	13.1	13-3	2	0.12	13
27	75	13.5	13-3	1	0.1	9
31	75	12.6	13-3	1	0.08	10
32	75	13.1	13-3			
32-2	(70)	13.7	24-1			
32-3	75	13.0	13-3			
38	77	13.0	13-3	1	0.13	16
41	76	13.2	13-3		0.08	9
43	77	13.0	13-3		0.12	11
48	76	12.2	13-1			
49	77	12.4	13-1	1	0.12	13
52	76	13.7	13-3	1	0.1	12
53	76	13.0	13-3	1	0.11	9
54	78	12.9	13-1	3	(0.27)	20
56	79	13.0	13-1	1	0.11	12
58	78	13.1	13-1	1	0.16	16
59	77	12.8	13-1	2	0.22	(36)
59-2	77	12.9	13-1	2	0.21	29
59-3	77	13.4	13-3	3	(0.29)	(37)
59-4	76	13.4	13-3	2	0.2	22
59-5	75	13.6	13-3	2	0.2	19
60	77	13.1	13-3	1	0.14	16
60-2	77	12.8	13-1	1	0.13	15
62	77	12.7	13-1	1	0.06	1
71	77	12.9	13-1		0.11	14
71-2	76	12.6	13-2		(0.48)	7
72	77	13.0	13-3		0.12	12
75	76	12.9	13-3	8	0.1	1
78	(73)	14.1	24-1	2	0.19	10
79	75	13.0	13-3	1	0.2	15
83	77	13.2	13-3			
84	77	13.6	13-3	1	(13.00)	16
89	75	11.8	13-1	2	0.17	12
89-2	76	11.8	13-1	1	0.07	8
89-3	77	12.5	13-1	1	0.13	14
89-4	77	12.7	13-1	1	0.16	29
90	77	13.4	13-3	1	0.11	12
91	77	13.2	13-3	1	0.12	0
92	77	12.3	13-1			
93	(69)	11.7	33-3	2	0.18	20
96	76	13.3	13-3	2	0.2	25

HVI <i>(table is divided into 3 pages)</i>				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
100	(72)	12.6	13-3		(1.04)	29
101	78	12.9	13-2	2	0.21	22
102	74	13.6				
102-2	77	13.3		1	0.12	15
105	77	12.8	13	1	0.11	11
106	77	13.7	13-3			
107	76	12.8	13-3			
109	76	13.5	13-3	632	0.12	14
110	76	13.1	13-3	3	0.23	24
111	77	12.9			0.11	14
112	77	12.7	13-1	1	0.1	11
113	76	12.5	13-3			
118	76	13.2	13-3	2	0.2	22
121	77	13.1	13-1		0.15	17
122	77	13.2	13-3	12	0.14	(538)
123	76	13.2	13-3	1	0.15	16
125	76	13.3	13-3	1	0.1	13
128	76	13.1			0.14	15
129	(73)	12.9	24-2			
131	76	13.1			(0.74)	14
133	76	12.7	13-1	1	0.09	13
133-2	76	12.2	13-1	1	0.14	18
134	77	12.9	13	1	0.08	8
135	75	12.6	13	3	0.1	13
136	76	13.2	13	3	0.08	11
137	77	13.8	13-3	1	0.15	16
139	77	12.5	13-1	1	0.1	11
140	78	13.3	13-3	2	0.16	14
141	76	12.9	13-3		0.13	14
143	77	13.5	13-3	1	0.07	5
143-2	74	11.6	23-1	1	0.15	10
144	75	12.7	13	1		0
145	77	12.6	13-1	1		
147	77	13.1	13-3		0.15	15
148	77	13.2	13-3	1	0.13	15
154	76	13.1	13-3	1	0.1	9
158	76	12.3	13-1	1	0.1	6
158-2	76	12.5	13-1	1	0.1	9
162	73	13.5				
176	77	12.3	13-1	2	0.17	18
179	77	13.0	13-3	1	0.15	17
183	76	13.3	13-3	2	0.19	20
193	77	13.1	13-3	2	0.2	17
200	76	12.7	13-1			
201	76	13.0	13-3	1	0.1	6
203	77	11.5	12-1	2	0.19	10
206	(73)	13.9	24-1			
209	76	12.5	13-1			
213	76	12.6	13-3			
215	77	12.3	13-1	2		
216	76	13.5	13-3			
242	77	12.7	13-1	1	0.1	8
242-2	78	13.0	13-1	1	0.16	17

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
271	75	13.1	13-3			
272	(82)	12.9	12-1			
287	75	13.3	13-3			
295	76	12.2	13-1			
300	76	12.9	13.3			
320	74	11.7	23-1			
Average	76.3	12.93			0.136	13.6
Median	76.4	13.0			0.13	14.0
StdDev	1.0	0.51			0.041	5.9
CV	1.3	3.95			30.073	43.4
Min	73	11.5			0.06	0
Max	79	14.1			0.23	29
n	104	111			78	82

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %		Maturity Ratio	
5		7.5			0.86	
5-2		7.5			0.86	
6		(14.3)			0.87	
7		7.2				
8		(11.3)			0.89	
9		7.2				
12		10.3			0.9	
13		7.4			0.89	
15		8.6			0.81	
19		8.8			0.86	
24		8.5			0.89	
25		9.4			0.86	
26		8.7			0.86	
27		8.1			0.86	
28		8.1				
32		9.9				
32-2		9.4				
32-3		9.1				
38		7.6			0.84	
41		5.7			0.9	
43		8.0				
48		(12.4)				
49		6.5			0.86	
52		7.3			0.86	
53		6.5			0.83	
54		7.6			0.89	
56		8.4				
58		7.9			0.86	
59		7.9			0.85	
59-2		7.6			0.85	
59-3		8.3			0.86	
59-4		7.4			0.85	
59-5		7.2			0.86	
60		8.1			0.83	
60-2		8.5			0.87	
62					(1.09)	
71		7.1			0.85	
71-2		(12.2)			(0.48)	
72		7.7				
75		7.2			0.88	
78		9.3			0.89	
84		7.5		87		
89		8.1			0.85	
89-2		8.4			0.86	
89-3		6.5			0.86	
89-4		6.9			0.86	
90		8.2			0.86	
91		8.4			0.86	
92	7.5	7.8		86	0.86	
93		5.2				
96		7.3			0.86	
100		6.2		75	0.83	
101		8.3			0.86	

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %		Maturity Ratio	
102-2		7.8			0.86	
105		8.3				
106		5.0			0.83	
107		6.5			0.85	
109		8.0			0.85	
110		7.5			0.86	
111		7.6			0.85	
112		7.6			0.86	
113		7.3			0.83	
118		7.8				
121		8.4			0.85	
122		7.7			0.86	
123	10.1	10.3			0.86	
125		8.0			0.85	
126		6.6				
128		7.5	78		0.88	
129	8.1	6.5				
131					0.88	
132		8.5				
133		6.7			0.85	
133-2		6.6			0.86	
134		7.0			0.85	
135		8.1			0.89	
136		8.0			0.87	
137		7.4			0.86	
139		7.7				
140		7.8			0.86	
141		7.7			0.86	
143		6.9			0.89	
143-2		8.1			0.83	
144		8.6			0.88	
145		8.9			0.87	
147		8.2			0.85	
148		7.1			0.86	
154		4.5				
158		6.8			0.85	
158-2		7.4			0.84	
162		6.2				
176		7.1			0.87	
179		8.3			0.86	
183		9.1			0.86	
186	5.9	5.7				
193		8.9			0.86	
200		5.6				
201		8.5			0.81	
203		8.3			0.84	
204		6.4			0.86	
204-2		8.9			0.83	
209		7.1			0.82	
213	6.5					
215		8.2			0.83	
216		8.0			0.82	
242		6.9			0.89	

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %		Maturity Ratio	
242-2		8.3			0.86	
272		5.4			0.84	
295	3.5				0.85	
300		8.6			0.89	
315	5.9				0.83	
318		8.1			0.84	
320	4.9				0.82	
Average	6.55	7.67			0.857	
Median	6.21	7.7			0.86	
StdDev	2.03	1.06			0.02	
CV	30.91	13.77			2.306	
Min	3.5	4.5			0.81	
Max	10.1	10.3			0.9	
n	8	103		4	88	

AFIS				General
Lab.	Manufacturer	Instrument	Std. Test Method	Repetitions
5	USTER	Neptester 720		5
7	USTER			
21	USTER	1190064		5
22	USTER	Autojet		10
24	USTER		USDA	10
27	USTER			
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	AFIS Pro		5
51	USTER	AFIS Pro 2		5
58	USTER	Autojet	internal	10
59	USTER		USDA	5
62	USTER		ASTMD5866-95	6
75	USTER		ASTMD5866-12	5
90	USTER	4.22	Manufacturer	10
91	USTER	MN100		10
91-2	USTER	AFIS Pro 2		10
96	USTER	AFIS Pro 2	ASTMD5866-12	12
100	Textechno	CCS-V5	ASTMD5866-05	8
101	USTER	AFIS Pro		
102	USTER			3
105	USTER		Manufacturer	5
109	USTER			
112	USTER	AFIS Pro	ASTMD5866	3
118	USTER			
120	USTER	AFIS Pro 2	ASTM	10
123	USTER		ASTMD5866-05	10
123-2	USTER	AFIS Pro	ASTMD5866-05	10
123-3	USTER	AFIS Pro 2	ASTMD5866-05	10
128	USTER		ASTM	4
129	USTER	AFIS Pro		
132	USTER			
134	USTER	AFIS Pro	ASTMD5848-95	5
136	USTER	AFIS Pro 2	ASTMD5848-95	5
139	USTER	AFIS Pro 2	ASTMD5866-05	12
140	USTER	AFIS Pro		10
142	USTER			5
143	USTER		ASTMD5866	5
144	USTER	AFIS Pro	ASTM	5
145	USTER	AFIS Pro 2		
148	USTER	AFIS Pro		10
148-2	USTER	AFIS Pro 2		10
148-3	USTER	Neptester 720		10
154	USTER			10
158	USTER	3000		5
176	USTER			5
183	USTER	AFIS Pro	ASTMD5866-95	
186	USTER	AFIS Pro	Manufacturer	10
193	USTER	AFIS Pro	ASTMD5866-12	6
200	USTER			
271	USTER		internal	10
271-2	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	18.3	0.72	56.2	38.0	1.50	34.7	1.37	32.7
21	20.4	0.80	41.8	35.3	1.39	33.2	1.31	20.0
22	20.6	0.81	47.7	37.8	1.49	35.1	1.38	24.0
24	21.1	0.83	44.2			34.9	1.37	18.7
31	21.8	0.86	43.5	38.3	1.51	35.6	1.40	19.3
32	20.0	0.79	49.7			34.8	1.37	24.0
32-2	20.4	0.80	48.9			35.0	1.38	23.0
32-3	20.6	0.81	49.0			35.4	1.39	22.9
38	22.5	0.89	45.0	38.9	1.53	36.4	1.43	18.4
39	19.6	0.77	48.1	35.8	1.41	33.6	1.32	25.3
41	21.3	0.84	41.4	37.2	1.46	34.7	1.37	19.3
43	21.1	0.83	47.5			35.8	1.41	22.9
51	(25.4)	(1.00)	43.7			34.8	1.37	19.3
58	20.6	0.81	47.2	37.8	1.49	35.2	1.39	23.5
62	20.6	0.81				35.3	1.39	23.0
75	19.6	0.77	54.2			35.1	1.38	27.2
90	22.4	0.88	43.6	39.1	1.54	36.6	1.44	17.4
91-2	20.7	0.81	46.5			35.0	1.38	21.1
96	20.6	0.81	48.0			35.2	1.39	32.6
100								15.6
101	21.1	0.83	45.6			35.2	1.39	20.0
102	24.7	0.97	37.0					11.5
102-2	24.7	0.97	37.0	40.2	1.58	35.5	1.40	11.5
105	21.8	0.86	45.9	40.4	1.59	37.1	1.46	21.2
112	21.6	0.85	44.7			35.8	1.41	21.0
118	(39.7)	(1.56)	39.7	38.9	1.53	36.6	1.44	14.5
120	21.0	0.83	46.0			35.2	1.39	20.2
123	21.3	0.84	45.2			35.5	1.40	21.4
123-3	21.3	0.84	45.4			35.2	1.39	19.3
129	22.2	0.87	47.7			37.5	1.48	20.3
134	21.1	0.83				35.3	1.39	21.4
136	21.3	0.84						19.9
139	20.6	0.81	47.3			35.3	1.39	23.5
140						35.6	1.40	21.0
142	20.4	0.80	44.3	36.4	1.43	34.1	1.34	21.2
143	21.4	0.84	49.2	39.1	1.54	36.4	1.43	22.5
144	21.5	0.85				35.7	1.41	19.2
145	22.4	0.88	42.8			35.6	1.40	17.7
148	20.7	0.81	46.2			34.8	1.37	21.5
148-2	21.0	0.83	45.5			35.1	1.38	
154	22.2	0.87	43.3	37.5	1.48	35.3	1.39	17.9
158	21.1	0.83	48.3	37.9	1.49	35.4	1.39	22.6
183	19.6	0.77	50.3			34.8	1.37	26.8
186	21.5	0.85	45.0			35.5	1.40	18.8
193	22.1	0.87	42.6			35.6	1.40	17.8
271	19.6	0.77	52.1	37.3	1.47	34.8	1.37	28.8

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	%
271-2	19.1	0.75	51.8	37.3	1.47	34.5	1.36	30.0
272	21.1	0.83	41.9	36.6	1.44	34.0	1.34	18.2
Average	21.1	0.831	45.98	37.89	1.492	35.28	1.389	21.27
Median	21.08	0.83	45.76	37.85	1.49	35.2	1.386	21.0
StdDev	1.2	0.047	3.96	1.35	0.053	0.8	0.032	4.4
CV	5.71	5.707	8.61	3.57	3.573	2.27	2.275	20.69
Min	18.3	0.72	37.0	35.3	1.39	33.2	1.31	11.5
Max	24.7	0.97	56.2	40.4	1.59	37.5	1.48	32.7
n	44	44	42	19	19	45	45	47

AFIS L <i>(table is divided into 2 pages)</i>						Length
Lab.	W					SFC %
	ML		CV %	UQL		
	mm	inch		mm	inch	
7	24.0	0.94	39.5	30.1	1.19	12.2
21	24.0	0.94	31.2	29.0	1.14	7.7
22	25.1	0.99	34.4	30.7	1.21	8.4
24	25.3	1.00	32.6	30.5	1.20	6.2
31	25.9	1.02	32.2	31.1	1.22	6.6
32	25.0	0.98	34.5	30.4	1.20	7.7
32-2	25.2	0.99	34.1	30.8	1.21	7.3
32-3	25.6	1.01	33.7	31.1	1.22	7.1
38	27.0	1.06	30.7	31.9	1.26	5.1
39	24.1	0.95	34.4	29.7	1.17	9.3
41	25.0	0.98	32.4	30.3	1.19	7.8
43	25.7	1.01	34.4	31.0	1.22	7.9
51	25.4	1.00	(44.6)	30.5	1.20	(19.0)
58	25.2	0.99	34.3	30.8	1.21	8.4
62	25.6	1.01		31.1	1.22	7.1
75	25.4	1.00	35.6	30.7	1.21	8.1
90	26.7	1.05	31.6	31.8	1.25	5.3
91-2	25.2	0.99	33.7	30.5	1.20	7.0
96	25.3	1.00	33.9	30.8	1.21	(14.3)
100	24.0	0.95		32.0	1.26	6.2
101	25.5	1.00	33.2	30.7	1.21	
102	28.1	1.11	28.4	32.9	1.30	3.6
102-2	28.1	1.11	28.4	32.9	1.30	3.6
105	26.4	1.04	35.8	32.5	1.28	8.0
112	25.9	1.02	33.8	31.2	1.23	7.5
118	27.0	1.06	30.1	32.0	1.26	4.7
120	25.3	1.00	32.8	30.8	1.21	6.5
123	25.7	1.01	33.8	31.1	1.22	7.7
123-3	25.7	1.01	32.5	30.9	1.22	6.0
129	27.1	1.07	32.7	32.9	1.30	6.1
134	25.7	1.01		30.7	1.21	7.5
136	25.4	1.00		30.5	1.20	6.7
139	25.1	0.99	35.0	30.7	1.21	8.4
140				30.7	1.21	6.9
142	24.4	0.96	32.8	29.9	1.18	7.9
143	26.6	1.05	33.6	32.0	1.26	6.7
144	25.9	1.02		31.3	1.23	6.3
145	26.4	1.04	31.3	31.2	1.23	5.7
148	25.1	0.99	34.0	30.4	1.20	7.4
148-2	25.3	1.00	33.4	30.7	1.21	
154	26.4	1.04	29.7	31.1	1.22	5.2
158	26.0	1.02	32.2	31.3	1.23	6.8
176	26.2	1.03		31.5	1.24	7.3
183	24.6	0.97	36.4	30.2	1.19	9.7
186	25.9	1.02	32.5	31.1	1.22	
193	26.2	1.03	32.0	31.2	1.23	5.9

AFIS L <i>(table is divided into 2 pages)</i>						Length
Lab.	W					
	ML		CV	UQL		SFC
	mm	inch	%	mm	inch	%
271	24.9	0.98	35.7	30.5	1.20	9.9
271-2	24.4	0.96	38.3	30.2	1.19	11.7
272	24.6	0.97	32.1	30.0	1.18	6.7
Average	25.6	1.008	33.26	30.98	1.22	7.18
Median	25.45	1.002	33.4	30.8	1.213	7.1
StdDev	0.94	0.037	2.23	0.81	0.032	1.72
CV	3.67	3.671	6.72	2.61	2.613	23.92
Min	24.0	0.94	28.4	29.0	1.14	3.6
Max	28.1	1.11	39.5	32.9	1.30	12.2
n	48	48	41	49	49	44

AFIS D / M			Diameter, Maturity				
Lab.	D (N) µm	CV (D(N)) %	Fineness mtex	IFC %	Mat. Ratio		
22	13.2		160	7.5	0.85		
24			166	7.1	0.89		
31			157	7.9	0.85		
32			167	5.4	0.91		
32-2			163	5.1	0.91		
32-3			166	5.2	0.92		
38			153	4.5	0.86		
41							
43					158	7.2	0.88
51					153	6.3	0.89
58					150	8.7	0.79
62					160	5.2	0.9
75					161	7.2	0.87
90					159	5.5	0.89
91-2					153	8.1	0.85
96					157	7.8	0.87
100					(194)		0.83
101					164	6.5	0.9
102					154	10.8	0.84
102-2					154	10.8	0.84
105					151	11.4	0.8
112					172	4.7	0.95
118					166	4.7	0.92
120					165	5.3	0.92
123					164	7.4	0.9
123-3					160	6.8	0.89
134					155	6.9	0.86
136					154	8.2	0.86
139					157	7.3	0.87
140					158	7.8	0.86
143					157	5.8	0.89
144					159	5.5	0.91
145					146	6.5	0.83
148					166	5.5	0.91
148-2					162	6.6	0.88
154					143	12.1	0.79
158			148	6.5	0.82		
176			153	11.5			
183			159	6.5	0.89		
186			152	8.5	0.85		
193			160	5.7	0.89		
271			170	5.0	0.9		
271-2			161	8.6	0.87		
272	11.8						
Average			158.4	7.11	0.873		
Median			159.0	6.8	0.88		
StdDev			6.4	1.97	0.037		
CV			4.1	27.68	4.196		
Min			143	4.5	0.79		
Max			172	12.1	0.95		
n	2	0	41	41	41		

AFIS T				Trash
Lab.	Total Trash		Dust	V. F. M.
	Mean Diameter µm	Cnt/g	Cnt/g	%
21		(767)	(730)	0.96
22	265	314	282	0.98
31	247	411	376	0.97
32	281	263	233	0.86
32-2	262	259	228	0.64
32-3	258	296	268	0.78
43	261	325	294	0.82
51	247	350	316	0.86
58	289	313	277	1.18
62	268	382	341	1.15
90	243	327	299	0.66
91-2	257	276	249	0.66
100		307		
101	271	237	211	0.64
102	269	361	323	1.17
102-2		361	323	1.17
112	260	351	318	0.89
129	257	260	235	0.64
134	245	366	337	0.81
136	239	335	311	0.7
140	242	274	255	0.62
142	222	502	468	1.03
143	222	415	386	0.66
148	308	285	248	1.16
148-2	264	283	255	0.83
154	238	414	378	0.94
158	250	480	439	1.45
176		345	299	1.34
183	263	300	272	0.85
186	262	305	272	0.71
193	249	368	332	1.21
271-2		399	364	1.24
272	257	371	339	1.08
Average	257.0	338.6	307.4	0.927
Median	257.5	331.0	299.0	0.875
StdDev	18.2	62.9	60.9	0.232
CV	7.1	18.6	19.8	25.075
Min	222	237	211	0.62
Max	308	502	468	1.45
n	28	32	31	32

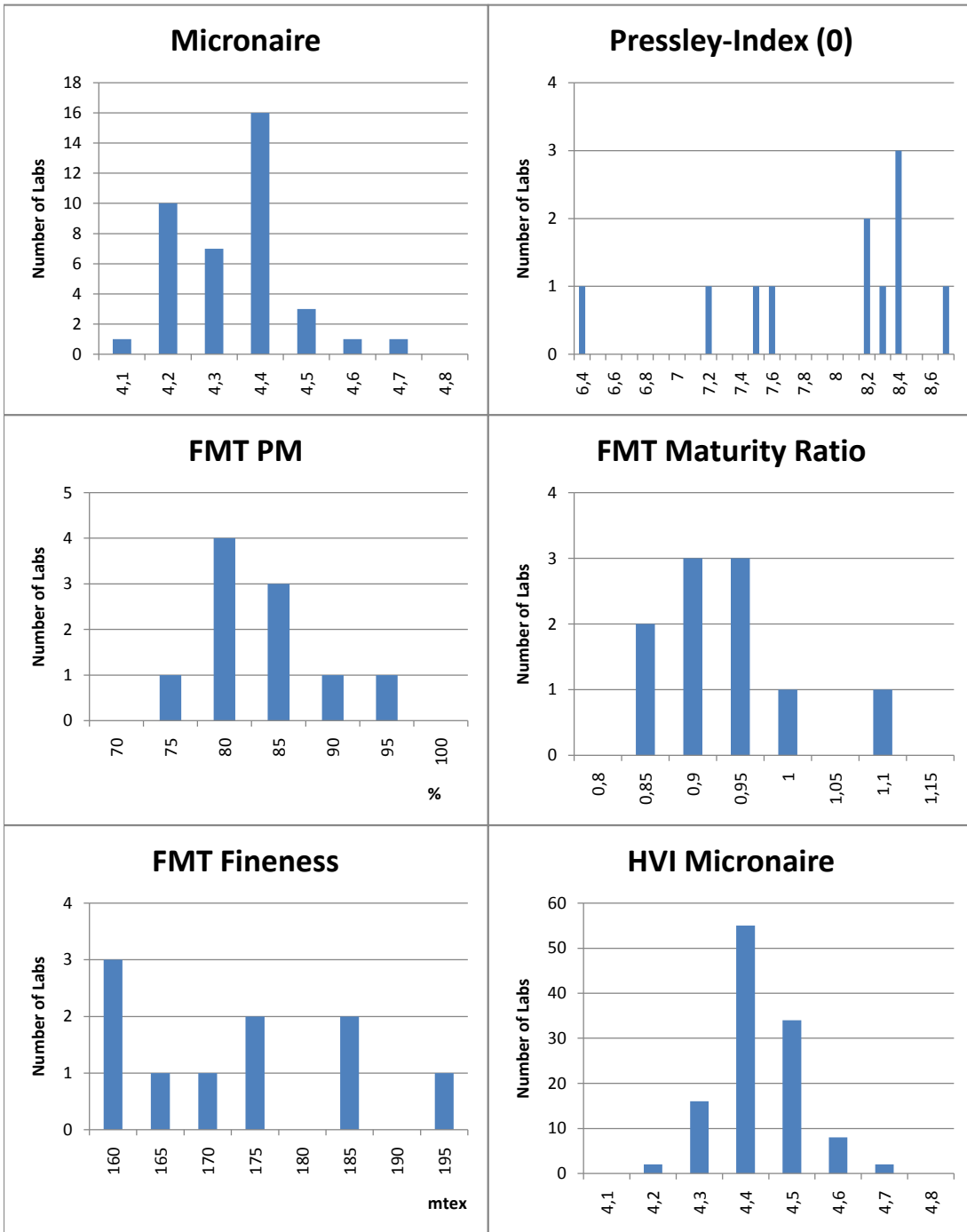
AFIS N <i>(table is divided into 2 pages)</i>				Neps
Lab.	Total Neps		SCN	
	Mean Diameter µm	Cnt/g	Mean Diameter µm	Cnt/g
5		289		
7	756	153		
21	675	209		
22	728	221	1384	15
24	670	240	1402	7
27		215		
31	694	266	1346	12
32	731	242	1213	21
32-2	729	241	1259	15
32-3	707	236	1102	18
38	699	172		
39	(610)	164		
41	638	236		
43	735	219	1339	20
51	710	256	1540	19
58	710	228	1377	11
59	700	220	1084	10
62	735	248	1496	22
75	688	249	1167	13
90	(1051)	236	1395	16
91	660	244		
91-2	716	248	1370	22
96	726	251	1346	21
100		(536)		(890)
101	733	226	1407	24
102	696	300	1098	30
102-2	696	300	1098	30
105	725	245	1212	35
109	(582)	243		
112	690	213	1592	6
118	694	194	1489	9
120	719	248	1314	33
123	690	259	1204	21
123-2	689	254	1045	23
123-3	703	269	1214	24
128		222		
129	728	211	1341	22
132	624	244		
134	672	218	1273	13
136	709	276	1507	18
139	702	238	1241	12
140	719	260	1408	16
142	652	218		
143	705	204	1361	15
144	738	255	1533	18
145	736	215	1659	9
148	706	214	1190	15
148-2	695	246	1161	19
148-3		196		
154	(801)	255	1450	(48)
158	678	240	991	11
176		216		

AFIS N				(table is divided into 2 pages)		Neps	
Lab.	Total Neps		SCN				
	Mean Diameter μm	Cnt/g	Mean Diameter μm	Cnt/g			
183	693	310	1237	11			
186	725	250	1304	22			
193	721	248	1484	20			
200	706	218	1486	13			
271	693	279	1234	16			
271-2	(841)	268	1364	41			
272	675	239					
Average	702.5	237.5	1319.0	18.3			
Median	704.0	240.5	1341.0	18.0			
StdDev	26.9	30.6	155.7	7.6			
CV	3.8	12.9	11.8	41.5			
Min	624	153	991	6			
Max	756	310	1659	41			
n	48	58	43	42			

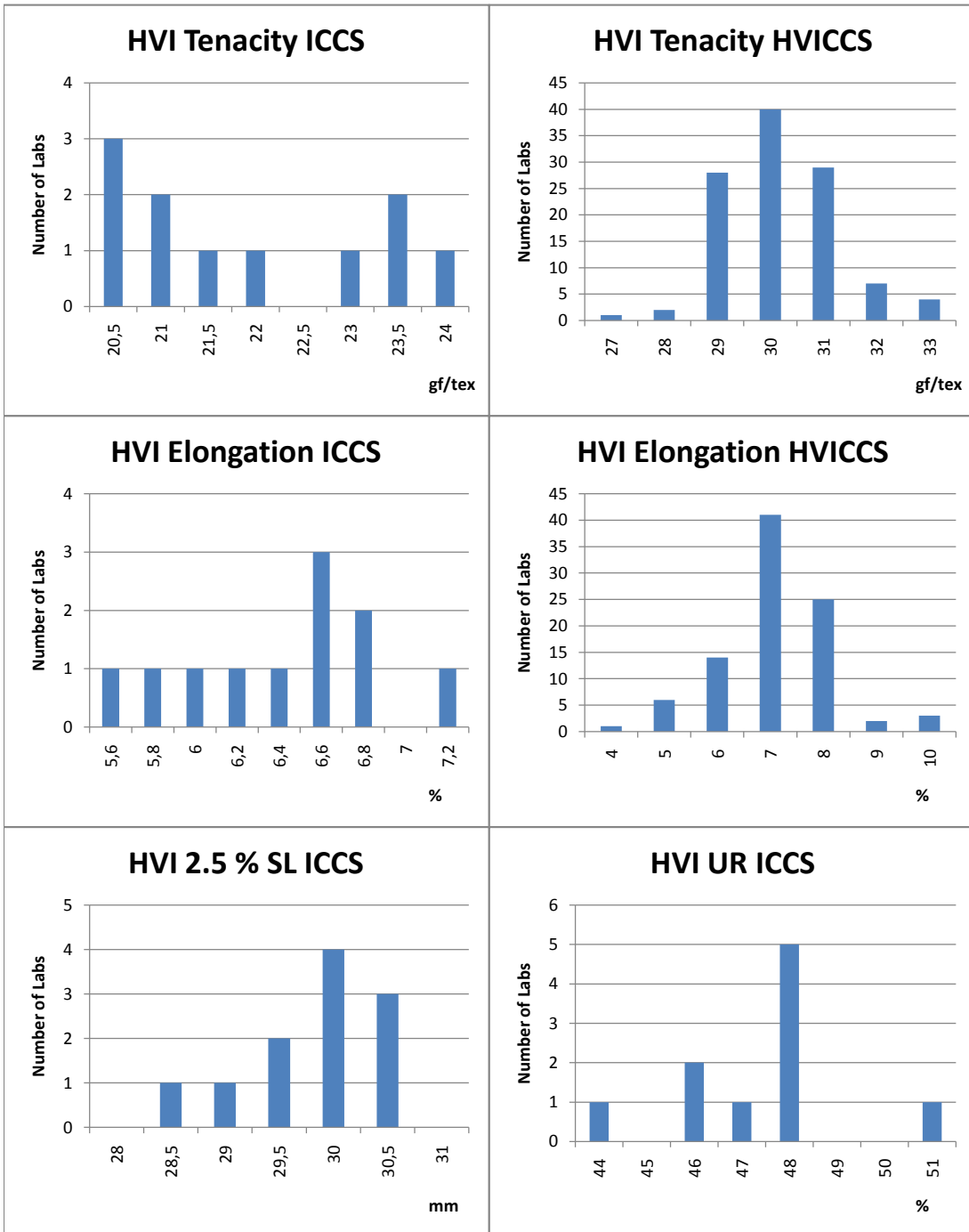
aQura <i>(further information see page "Multiple Devices")</i>						Length, Neps	
Lab.	Repetitions	5.0 % L (n)	50 % L (n)	SFC (n) <12.7 mm	SFC (w) <12.7 mm	Fibre Neps	SCN
		mm	mm	%	%	Cnt/g	Cnt/g
53	4	17.2		25.8	12.3	106	118
116	4	30.9	17.3	28.6	12.8	334	59
127	4	30.0		27.8	14.0	265	27
300	4	31.1		19.5	8.3	285	51
Average							
Median							
StdDev							
CV							
Min							
Max							
n		4	1	4	4	4	4

Multiple Devices <i>(information not provided in the respective table)</i>					General
Lab.	Device	Manufacturer	Instrument	Std. Test Method	Repetitions
32	FMT		WIRA		6
32-2	FMT		WIRA		6
32-3	FMT		WIRA		6
35	DigitalFibrograph	USTER	730		6
37	FMT				
53	aQura	Premier			4
56	Causticaire		Micronaire	JIS	2
58	ALMeter			internal	3
70	GravFineness	SDL		ISO 1973-95	5
70	FMT	SDL		ASTMD3818-92	6
79	GravFineness			RSTUz620-94	
85	GravFineness			UNIENISO1973-88	5
85	CombSorter		Keisokki	UNI10170-94	1
85-2	CombSorter		Keisokki	UNI10170-94	1
85-2	GravFineness			UNIENISO1973-88	5
85-3	CombSorter		Keisokki	UNI10170-94	1
85-3	GravFineness			UNIENISO1973-88	5
85-4	GravFineness			UNIENISO1973-88	5
85-4	CombSorter		Keisokki	UNI10170-94	1
92	DigitalFibrograph		DigiLen	ASTMD5332	6
93	DigitalFibrograph			ASTMD1447	4
93	FMT		WIRA	ISO	4
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	ALMeter				5
112	GravFineness				3
116	DigitalFibrograph		btra-As101		5
116	aQura	Premier			4
127	aQura	Premier			4
128	FMT		Micromat	ASTM	8
131	DigitalFibrograph		530	ASTM	6
131	Causticaire		Fibroscope	British	
132	DigitalFibrograph	Textechno	Fibrotest	ASTMD1447	10
143	DigitalFibrograph	USTER	330	ABNTNBR13154-94	2
152	ALMeter				5
177	Causticaire			DIN53943-4	3
177	GravFineness			ASTMD1577-90	5
186	FMT	SDL			
193	GravFineness			GB/T6100-07	2
300	aQura	Premier		ASTM	4

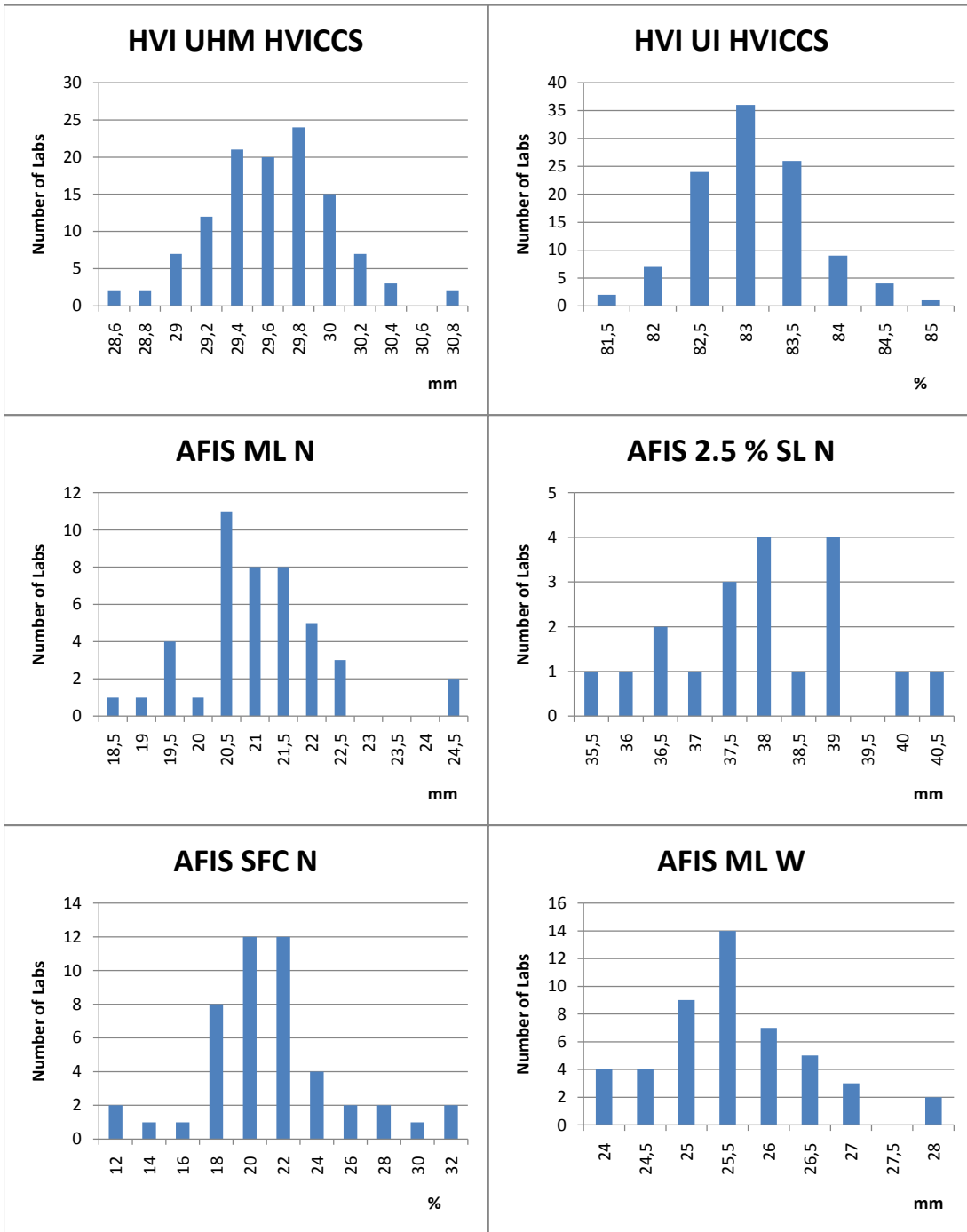
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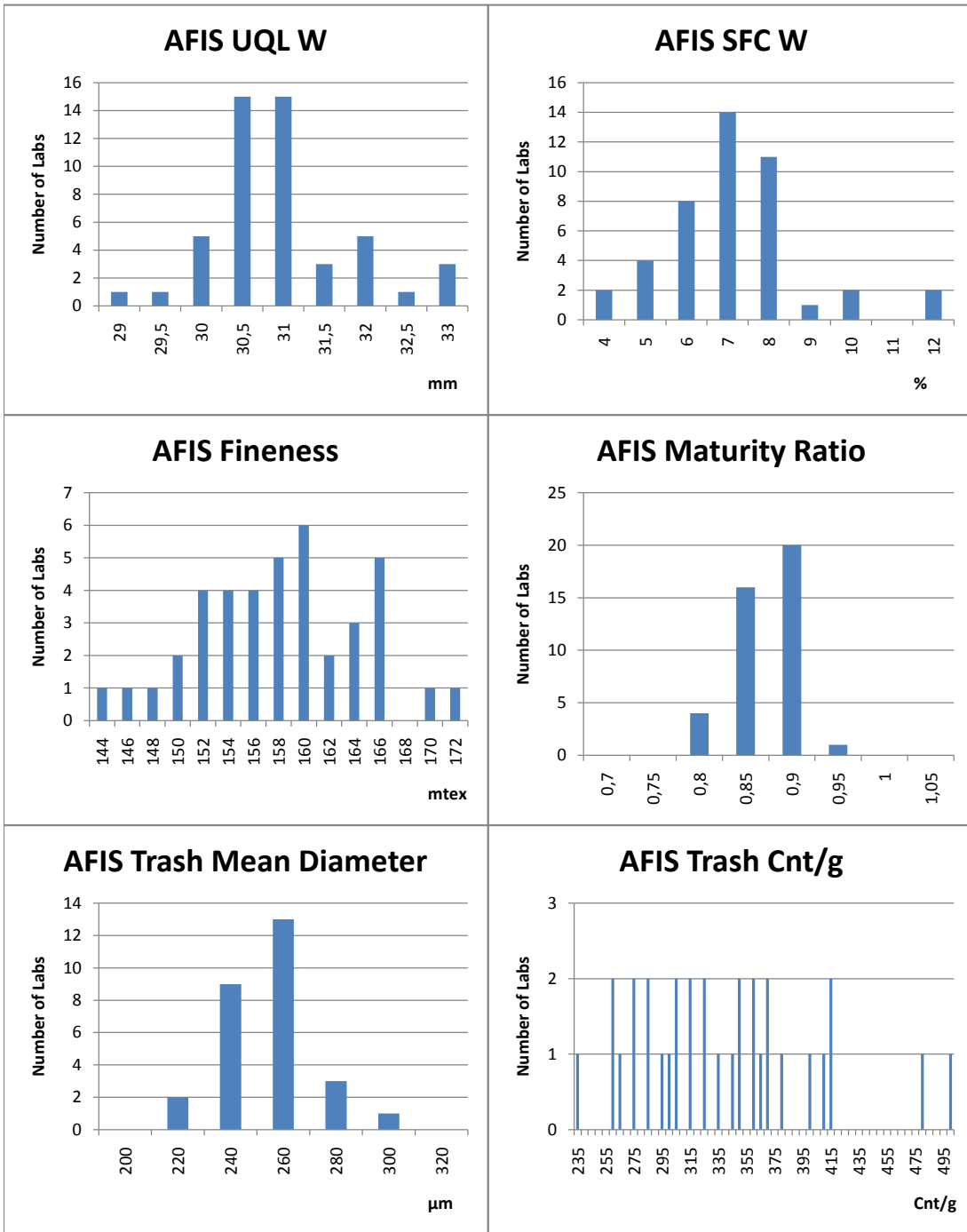
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