

ICA Bremen Cotton Round Test

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

Bremen, 01.09.2017

Evaluation of the Test Results 2017 / 2

Tested Cotton: **Israel Acala** Number of Laboratories: **117**
Cotton Number: **RM 41**

Argentina	-	Mali	1
Australia	1	Mauritius	1
Bangladesh	1	The Netherlands	1
Brazil	6	Pakistan	6
China	20	Poland	1
Czech Republic	3	Russia	-
Egypt	3	Serbia	-
France	1	Slovenia	2
Germany	10	South Africa	-
Greece	5	Spain	3
Hungary	1	Sudan	1
India	21	Switzerland	2
Indonesia	1	Taiwan	1
Iran	1	Tanzania	-
Israel	1	Thailand	2
Italy	1	Tunisia	1
Japan	2	Turkey	4
Kazakhstan	-	United States	7
Korea	1	Uzbekistan	2
Latvia	1	Vietnam	2

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

A joint venture between



Supported by



ICA Bremen GmbH

Wachtstrasse 17-24, 28195 Bremen, Germany

f: +49 (0)421 339 7017

e: info@ica-bremen.org

f: +49 (0)421 218 58650

www.ica-bremen.org

ICA Bremen Cotton Round Test 2017-2

in Cooperation with Bremer Baumwollbörse
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: **Israel Acala (RM 41)**

The variation of the utilized cotton was measured at the Bremen Fibre Institute (FIBRE) with an Uster HVI 900 with 6 tests from samples of 10 different layers with the following results:

HVI HVICCS	SD between samples (based on 10 tests per layer)	SD between single tests (based on 8 times 10 tests)
Mic	0,027	0,026
Strength, g/tex	0,292	0,602
Length, UHM, inch	0,004	0,009
Length, UHM, mm	0,105	0,236

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.

A joint venture between



Supported by



ICA Bremen GmbH

Wachtstrasse 17-24, 28195 Bremen, Germany

t: +49 (0)421 339 7017

f: +49 (0)421 218 58650

e: info@ica-bremen.org

www.ica-bremen.org

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.

A joint venture between



Supported by



ICA Bremen GmbH

Wachtstrasse 17-24, 28195 Bremen, Germany

t: +49 (0)421 339 7017

f: +49 (0)421 218 58650

e: info@ica-bremen.org

www.ica-bremen.org

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

A joint venture between



Supported by



ICA Bremen GmbH

Wachtstrasse 17-24, 28195 Bremen, Germany

t: +49 (0)421 339 7017

e: info@ica-bremen.org

f: +49 (0)421 218 58650

www.ica-bremen.org

MICRONAIRE				
Lab.	Rep.	Mic.	Instrument	Standard Test Method
12	3	4.5	775	GB/T6498-08
17		4.2	Fibronaire	
20	5	4.4	175	
32	6	4.3		
32-2	6	4.3		
32-3	6	4.3		
37		4.4		
56	2	4.3	Fibronaire	JIS
67	4	4.2	Fibronaire	
70	6	4.3	MK.1	ASTMD3818-92
76	4	4.3		
77		(4.0)		
100	12	4.3	675	ASTMD1448-97
100-2	8	4.4		ASTMD1448-97
100-3	12	4.2		ASTMD3813-92
102	4	4.3	Fibronaire	ASTM
112	2	4.4	Fibronaire	ASTMD1448
128		4.4	Fibronaire	ASTM
129	4	4.3		BS 3181
131	6	4.3		ASTM
132	3	4.4	WIRA	ASTMD1448
132-2	3	4.5	775	DIN 53941
142	3	4.4	80400	ISO
155		4.5	275	DIN 53941
162	6	4.4	WIRA	
169	3	4.3	80400	
177	3	4.2	DPM 60	DIN 53941
183	3	4.2	Fibronaire	ASTMD1448
186	6	4.4	WIRA	ASTM
193	3	4.3	Y145	GB/T6498-08
201	3	4.3	275	
Average		4.33		
Median		4.31		
StdDev		0.09		
CV		2.0		
Min		4.2		
Max		4.5		
n		30		

PRESSLEY, STELOMETER								
Lab.	Pressley Tester				Stelometer			
	Rep.	PI (0)	PI (3.2)	Standard Test Method	Rep.	Bundle Tenacity gf/tex	Elongation %	Standard Test Method
46	10	8.4	3.7	ISO 3060	3	25.0	5.7	ASTM 1445
56	5	7.9		JIS				
100	12	6.5	3.3	ASTMD41452T				
112								
128		9.3	3.9	ASTM		22.6	5.5	ASTM
131	6	8.6	3.9	ASTM	6	21.5	5.8	ASTM
162	6	8.8		TPPSI	6	19.4	5.5	
177	4	6.6		DIN 53942				
193					12	20.3	5.6	GB/T13783-92
Average		8.02	3.71			21.77	5.63	
Median		8.41	3.81			21.49	5.6	
StdDev		1.11	0.29			2.19	0.14	
CV		13.8	7.7			10.0	2.6	
Min		6.5	3.3			19.4	5.5	
Max		9.3	3.9			25.0	5.8	
n		7	4			5	5	

Pressley	PI(0)	Av., gf/tex	42.98	StdDev, gf/tex	5.94	CV, %	13.8
	(3.2)	Av., gf/tex	25.23	StdDev, gf/tex	1.95	CV, %	7.7

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	%	%	%	
100	8	28.4	1.12	12.4	0.49	44		13.9	
131	6	30.0	1.18	13.9	0.55	46			
132	10	29.3	1.15	13.0	0.51	44			
143	2	29.2	1.15	14.8	0.58	51			
Average									
Median									
StdDev									
CV									
Min									
Max									
n		4	4	4	4	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	Keisokki				25.0	34.5	10.0
85-2	1	Keisokki				22.7	36.9	15.5
85-3	1	Keisokki				22.6	36.5	15.0
85-4	1	Keisokki				23.4	34.5	11.5

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	20.0	40.8	22.4	23.4	34.2	10.6
112	4	25.91	29.47	5.22	26.88	25.05	1.64

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					1.78
85					1.63
85-2					1.84
85-3					1.86
85-4					1.67
112					2.55
129		75			
131		71			
177		87			1.73
193					1.85

IIC/SHIRLEY FM-TESTER <i>(further information see page "Multiple Devices")</i>				Maturity, Fineness
Lab.	Rep.	PM, %	MAT	FIN, mtex
32	6	77.8	0.87	186
32-2	6	77.8	0.87	187
32-3	6	78.6	0.88	185
37		73.3	0.78	205
70	6	89.6	1.03	160
100	8	71.4	0.8	196
102	2	89.1	1.02	149
186	6	83.9	0.95	176
Average		80.2	0.9	180.3
Median		78.21	0.875	185.3
StdDev		6.77	0.09	18.29
CV		8.4	10.3	10.1
Min		71.4	0.78	149
Max		89.6	1.03	205
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
1	MAG	HVT Expert1201	ASTM	10	1	1	1
2	Premier	HFT		8	1	1	
3	Premier	ART 2	ASTM	6	1	2	2
4	Premier	HFT		4	1	2	2
5	USTER	1000 Line6		12	1	2	2
5-2	USTER	1000 Line7		12	1	2	2
5-3	USTER	1000 Line8			1	2	2
6	USTER	1000	GB/T20392	6	1	2	2
7	Premier	ART 2	Manufacturer	4	4	4	4
9	Premier	ART		4	2	2	2
10	USTER	1000C	GB/T20392-06	3	1	2	2
10-10	USTER	1000C	GB/T20392-06	3	1	2	2
10-2	USTER	1000C	GB/T20392-06	3	1	2	2
10-3	USTER	1000C	GB/T20392-06	3	1	2	2
10-4	USTER	1000C	GB/T20392-06	3	1	2	2
10-5	USTER	1000C	GB/T20392-06	3	1	2	2
10-6	USTER	1000C	GB/T20392-06	3	1	2	2
10-7	USTER	1000C	GB/T20392-06	3	1	2	2
10-8	USTER	1000C	GB/T20392-06	3	1	2	2
10-9	USTER	1000C	GB/T20392-06	3	1	2	2
11	Premier	ART 2	USDA	10	1	2	2
12	Premier	ART 2C	SN/T1512-11	12	1	2	2
13	USTER	Spectrum	internal	10	1	2	2
14	USTER	1000	GB/T20392-06	6	1	2	2
15	USTER	900 SA		6	1	2	2
18	USTER	1000	individual	24	1	2	2
19	USTER	1000	SN/T1512-11		1	2	2
23	USTER	900 A			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	6	1	2	2
28	Textechno	CCS-V5.3	ASTMD5867-05	6	3	6	3
30	Premier	ART		5	1	2	2
31	USTER	900		6	1	2	2
32	USTER	900 A		10	4	10	
32-2	USTER	900 A		10	4	10	4
32-3	USTER	900 A		10	4	10	
36	USTER	1000			1	2	2
38	USTER	1000	ASTM	6	1	2	2
40	USTER	1000	internal	10	1	1	1
40-2	USTER	900	internal	10	1	1	1
41	USTER	Spectrum		5	5	5	5
42	USTER	Spectrum			1	2	2
42-2	USTER	1000		6	1	2	2
43	USTER	1000			1	2	2
44	USTER	Spectrum		10	1	2	2
44-2	Premier	ART 2		5	1	2	2
49	USTER	1000	ASTM1776	6	1	2	2
50	USTER	1000	long exposure	6	1	2	2
50-2	USTER	1000	long exposure	6	1	2	2
50-3	USTER	1000	long exposure	6	1	2	2
52	USTER	1000	ASTM	6	6	6	6
53	Premier	ART	GB/T20392-06	5	1	2	2
54	USTER	Spectrum	HVI Mode	4	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
56	USTER	Spectrum I	HVI Test Method	5	1	2	2
58	USTER	1000	internal	10	1	2	2
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	1000	USDA	10	1	2	2
59-5	USTER	Classing	USDA	10	1	2	2
59-6	USTER	Classing	USDA	10	1	2	2
59-7	USTER	Classing	USDA	10	1	2	2
60	USTER	1000M700	ASTM	6	1	2	2
61	MAG	HVT Expert1201	ASTMD5867-05		1	2	2
61-2	USTER	900	ASTMD5867-05		1	2	2
66	Premier	ART	ICC	6	1	2	2
68	USTER	1000	USDA	10	1	2	2
71	USTER	1000	SN/T1512-11	6	1	2	2
72	USTER	1000		10	2	2	2
75	USTER	Spectrum	SN/T1512-11	6	1	2	2
78	USTER	1000		6	1	2	2
83	USTER	Spectrum I	SN/T1512-11	6	1	2	2
88	USTER	Classing	ASTM	6	2	2	2
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
90	USTER	1000	ASTMD5867	10	1	2	2
91	USTER	1000		6	1	2	2
94	USTER	1000	USDA	6	1	2	2
94-2	USTER	1000	USDA	6	1	2	2
96	USTER	1000	GB/T20392-06	10	1	2	2
96-2	USTER	HFT	GB/T20392-06	10	1	2	
98	USTER	1000	USDA. ASTM	12	1	2	4
100	Textechno	CCS-V5.2	ASTMD5867-05	12	1	2	2
101	USTER	1000	ASTMD5687-12	6	1	2	2
102	USTER	900	ASTM	6	1	1	
102-2	USTER	1000M700	ASTMD5867	6	1	1	1
103	USTER	1000	SN/T1512-11	6	1	2	2
104	USTER	1000	GB/T20392	3	1	2	2
106	Premier	ART	HVI Mode	5	5	5	5
108	USTER	1000	ASTMD5867-12	12	1	2	2
109	USTER	1000		10	1	2	2
111	USTER	1000	CSITC	6	1	2	2
112	USTER	1000	ASTMD5867	6	1	2	2
118	USTER	1000M700	ASTMD5687-12	7	4	4	4
119	USTER	1000C	GB/T20392	3	1	2	2
121	USTER	1000	SN/T1512-11		1	2	2
123	USTER	1000	ASTMD5867	10	1	1	1
126	Premier	HFT	ASTM	6	1	2	
128	USTER	1000	ASTMD5867-12	10	1	2	2
129	USTER	900 SA	ASTMD5867		1	1	1
130	Premier	ART 2	ASTMD5867-05	6	1	2	2
131	USTER	Spectrum	ASTM	6	1	2	2
132	Textechno	Fibrotest	ASTMD5867	10		10	
133	USTER	1000		6	1	2	2
134	USTER	1000	ASTMD5867-95	6	1	2	2
135	USTER	Spectrum I	ASTMD5867-95	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
136	USTER	1000	ASTMD5867-95	6	1	2	2
138	USTER	Spectrum I	ASTMD5867	6	1	2	2
139	Premier	ART 2	ASTMD5867-05	12	1	2	2
141	USTER	1000	Mode 4	10	1	1	1
143	USTER	Spectrum			1	2	2
143-2	Premier	ART			1	2	2
144	USTER	Spectrum	ASTM	6	1	2	2
145	USTER	ART 2			1	2	2
148	USTER	1000		6	1	2	2
154	USTER	900 A		10	1	2	2
162	USTER	900 A	HVICC	6	1	2	2
170	USTER	1000	Manufacturer	6	1	2	2
176	USTER	1000		10	1	2	2
179	USTER	1000	SN/T1512-11	6	1	2	2
180	USTER	Spectrum	ASTM	6	1	2	2
181	USTER	Spectrum	ASTM	6	1	2	2
183	USTER	1000	ASTMD5867-05	6		2	2
193	USTER	1000	GB/T20392-06	6	1	2	2
201	USTER	900		6	1	2	2
203	USTER	900					
203-2	USTER	900			1	2	2
204	Premier	HFT	GB/T20392-06	10	1	1	1
204-2	USTER	1000	GB/T20392-06	10	1	1	1
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

HVI		<i>(table is divided into 3 pages)</i>				Micronaire, Tenacity, Elongation	
Lab.	Micronaire	Tenacity		Elongation			
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %		
1	4.4		29.7		6.6		
2	4.4	18.5		5.8			
3	4.2		28.6		5.8		
4	4.4	23.3		6.3			
5	4.6		29.7		4.8		
5-2	4.6		29.4		6.8		
5-3	4.5		29.5		6.3		
6	4.5		28.8		6.0		
7	4.3	20.4		5.8			
9	4.6		27.6				
10	4.4		30.3				
10-10	4.5		29.7				
10-2	4.4		29.3				
10-3	4.5		29.4				
10-4	4.4		28.6				
10-5	4.5		30.5				
10-6	4.4		30.3				
10-7	4.5		29.9				
10-8	4.4		28.6				
10-9	4.5		28.3				
11	4.4	22.3	30.1	5.9	6.7		
12	4.6		29.1		6.5		
13	4.4		29.7		5.1		
14	4.5		30.6		8.3		
15	4.5		32.3		7.1		
18	4.6		30.6		6.6		
19	4.5		28.8		6.2		
23	4.4		30.4		6.9		
24	4.4		32.3		5.6		
25	4.4		28.5		6.3		
26	4.5		28.6		6.7		
27	4.5	21.6	29.8	6.2	6.5		
28	4.5		27.8		7.0		
30	4.4		30.9		6.6		
31	4.2	21.2	27.0	4.7	4.8		
32	4.4		(32.7)		6.1		
32-2	4.3		29.2		6.3		
32-3	4.4		30.1		6.2		
36	4.3		27.6		5.2		
38	4.3		30.4		(1.2)		
40	4.5		28.1		3.6		
40-2	4.4		27.8		(1.0)		
41	4.4		28.4		5.7		
42	4.4		31.3		6.4		
42-2	4.4		28.1		5.3		
43	4.5		29.6		4.7		
44	4.5		28.4				
44-2	4.4		28.1				
49	4.5		28.4		5.9		
50	(4.7)		30.2		4.3		
50-2	4.5		26.2		(10.4)		
50-3	4.5		31.3		6.7		
52	4.4		29.8		8.0		

HVI		<i>(table is divided into 3 pages)</i>				Micronaire, Tenacity, Elongation	
Lab.	Micronaire	Tenacity		Elongation			
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %		
53	4.3		28.6		6.8		
54	(4.9)		(24.0)		6.8		
56	4.4		30.6		5.9		
58	4.5		28.4		6.6		
59	4.3		29.6				
59-2	4.6		29.3				
59-3	4.5		29.6				
59-4	4.5		29.4				
59-5	4.5		29.5				
59-6	4.5		29.2				
59-7	4.5		29.2				
60	4.5		(25.2)		5.9		
61	4.3	20.9	28.4	6.0	6.0		
61-2	4.4	21.9	28.7	4.9	5.5		
66	4.4	23.1		6.0			
68	4.4		28.2				
71	4.4		28.6		8.0		
72	4.5		28.2				
75	4.5		30.5		5.4		
78	4.4		29.7				
83	4.5		28.1		4.8		
88	4.3		(32.6)		4.8		
89	4.5		28.6				
89-2	4.4		29.2				
89-3	4.4		28.6				
89-4	4.5		28.6				
90	4.3		29.1		6.5		
91	4.4		28.6		6.2		
94	4.4		28.4				
94-2	4.4		29.0				
96	4.4		29.3		5.0		
96-2	4.5		28.2		6.6		
98	4.6		28.7				
100	4.4	(11.8)	(23.9)	5.9	6.1		
101	4.5		30.2		4.6		
102	4.3		29.2		4.6		
102-2	4.4		28.4		6.4		
103	4.5		29.0		5.0		
104	4.4		29.1		5.7		
106	4.3						
108	4.4		27.5		5.5		
109	(4.2)		29.1				
111	4.4		28.6		4.9		
112	4.4		29.7		7.1		
118	4.5		31.9		8.4		
119	4.5		28.3		4.7		
121	4.5		28.2		7.6		
123	4.5	21.1	29.8	6.1	5.2		
126	4.4		29.8				
128	4.4		28.4		5.4		
129	4.3	21.4	27.1	6.4	6.3		
130	4.3	19.8	30.8	5.9	6.6		
131	4.5		(24.6)		6.2		

HVI		<i>(table is divided into 3 pages)</i>				Micronaire, Tenacity, Elongation	
Lab.	Micronaire	Tenacity		Elongation			
		ICCS, gf/tex	HVICCS, gf/tex	ICCS, %	HVICCS, %		
132			28.7		6.9		
133	4.4		30.0				
134	4.3		27.9		7.8		
135	4.5		28.9		6.0		
136	4.6		28.6		3.9		
138	4.4		30.0		5.8		
139	4.3		29.4		6.6		
141	4.4		29.7		6.2		
143	4.3		29.3		6.2		
143-2	4.4		29.5		6.7		
144	4.4		30.8				
145	4.4		28.8				
148	4.4		27.6		8.5		
154	4.5		29.8		6.1		
162	4.3		29.1		5.9		
170	4.5		28.6		6.9		
176	4.5		29.1		6.6		
179	4.5		29.5		6.0		
180	4.6		29.9		6.5		
181	4.5		29.6		7.5		
183			30.1		5.6		
193	4.4		28.7		6.1		
201	4.3		30.6		6.0		
203	4.4						
203-2	4.4						
204	4.5		27.8		6.4		
204-2	4.4		28.9		5.7		
207	4.4		27.7		6.7		
207-2	4.4		28.3		7.3		
207-3	4.4		28.1		7.1		
Average	4.43	21.29	29.17	5.84	6.15		
Median	4.43	21.3	29.1	5.9	6.2		
StdDev	0.08	1.34	1.05	0.5	0.96		
CV	1.8	6.3	3.6	8.5	15.6		
Min	4.2	18.5	26.2	4.7	3.6		
Max	4.6	23.3	32.3	6.4	8.5		
n	131	12	123	13	91		

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
1				30.0	1.18	83.0
2	28.2	1.11	48.4			
3				28.8	1.13	81.6
4	29.4	1.16	47.7			
5				29.0	1.14	82.0
5-2				29.1	1.15	82.5
5-3				28.9	1.14	82.1
6				28.8	1.13	82.5
7	29.3	1.15	45.5			
9				30.2	1.19	83.0
10				28.2	1.11	82.7
10-10				28.6	1.13	80.8
10-2				29.6	1.16	81.8
10-3				28.9	1.14	82.8
10-4				27.9	1.10	84.1
10-5				28.5	1.12	82.0
10-6				29.5	1.16	82.7
10-7				29.0	1.14	83.0
10-8				28.5	1.12	81.1
10-9				28.9	1.14	81.4
11	29.6	1.16	46.8	29.3	1.15	83.1
12				28.9	1.14	82.6
13				28.1	1.11	81.2
14				28.0	1.10	84.3
15				29.7	1.17	82.9
18				29.5	1.16	82.9
19				29.2	1.15	81.9
23				29.9	1.18	82.2
24				29.4	1.16	82.3
25				28.7	1.13	82.3
26				28.8	1.13	82.1
27	28.4	1.12	45.0	29.7	1.17	83.4
28	28.3	1.11	46.5	28.7	1.13	82.8
30				29.0	1.14	81.7
31	28.6	1.13	46.1	29.0	1.14	(85.0)
32						82.5
32-2				28.6	1.13	81.8
32-3				29.0	1.14	83.2
36				28.9	1.14	81.7
38				30.0	1.18	(84.9)
40				29.6	1.17	82.6
40-2				28.7	1.13	81.3
41				28.3	1.12	82.2
42				29.4	1.16	
42-2				28.9	1.14	
43				29.2	1.15	82.8
44				28.9	1.14	82.3
44-2				28.7	1.13	82.6
49				29.1	1.15	82.4
50				(27.1)	(1.07)	(70.4)
50-2				(26.7)	(1.05)	(73.5)
50-3				29.5	1.16	82.2

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
52				29.6	1.16	82.6
53				29.0	1.14	82.1
54				29.1	1.14	82.2
56				28.8	1.13	82.3
58				28.6	1.13	81.4
59				29.1	1.15	83.2
59-2				29.6	1.17	82.5
59-3				29.3	1.15	82.3
59-4				29.3	1.15	82.5
59-5				29.5	1.16	82.2
59-6				29.1	1.15	82.1
59-7				28.9	1.14	81.9
60				28.4	1.12	81.4
61	28.3	1.11	48.0	28.8	1.13	82.0
61-2	28.9	1.14	45.0	29.3	1.15	81.0
66	28.6	1.13	43.9			
68				28.9	1.14	82.4
71				29.4	1.16	82.5
72				29.2	1.15	82.1
75				29.1	1.14	82.2
78				28.5	1.12	
83				29.1	1.15	82.5
88				28.8	1.13	81.9
89				29.1	1.14	83.3
89-2				28.7	1.13	81.7
89-3				28.9	1.14	81.5
89-4				29.1	1.15	83.0
90				29.3	1.15	83.0
91				29.0	1.14	82.7
94				29.4	1.16	82.7
94-2				29.4	1.16	83.8
96				28.8	1.13	81.3
96-2				28.5	1.12	81.9
98				29.0	1.14	82.2
100	28.4	1.12	43.6	28.6	1.13	82.7
101				29.3	1.15	82.2
102				29.5	1.16	82.3
102-2				29.2	1.15	82.0
103				28.8	1.14	81.2
104				29.1	1.15	82.5
106				29.1	1.14	84.0
108				29.5	1.16	82.0
109				29.3	1.15	82.8
111				29.3	1.15	82.6
112				29.1	1.14	82.1
118				29.6	1.16	83.0
119				29.0	1.14	82.4
121				29.1	1.15	82.1
123	29.3	1.15	46.5	29.5	1.16	83.5
126				28.3	1.11	82.1
128				28.8	1.13	82.9
129	30.0	1.18	48.0	29.2	1.15	(85.0)

HVI <i>(table is divided into 3 pages)</i>						Length
Lab.	ICCS			HVICCS		
	2.5 % SL		UR	UHM		UI
	mm	inch	%	mm	inch	%
130	30.3	1.19	47.1	29.1	1.15	81.4
131				29.2	1.15	81.7
132				29.7	1.17	81.8
133				29.5	1.16	
134				28.7	1.13	81.5
135				29.2	1.15	82.6
136				28.6	1.13	82.8
138				29.3	1.15	82.5
139				29.3	1.16	81.9
141				28.9	1.14	82.5
143				28.7	1.13	81.3
143-2				28.9	1.14	81.6
144				29.1	1.15	81.6
145				29.0	1.14	82.7
148				28.2	1.11	81.3
154				29.5	1.16	83.4
162				29.4	1.16	83.2
170				28.9	1.14	81.6
176				29.5	1.16	82.1
179				29.2	1.15	82.1
180				29.3	1.15	83.1
181				29.4	1.16	82.5
183				29.5	1.16	82.7
193				29.4	1.16	82.6
201				29.7	1.17	82.6
203-2				29.0	1.14	
204				28.9	1.14	82.9
204-2				29.0	1.14	82.3
207				28.9	1.14	82.3
207-2				28.8	1.13	82.3
207-3				28.6	1.13	81.1
Average	28.96	1.140	46.29	29.06	1.144	82.32
Median	28.76	1.132	46.52	29.06	1.144	82.3
StdDev	0.68	0.03	1.53	0.41	0.02	0.66
CV	2.4	2.4	3.3	1.4	1.4	0.8
Min	28.2	1.11	43.6	27.9	1.1	80.8
Max	30.3	1.19	48.4	30.2	1.19	84.3
n	14	14	14	128	128	121

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
1	74	13.1	13-3			
3	73	13.1	13-4			
4	73	12.8	13-3			
5	73	12.0	23-1	2	0.11	15
5-2	73	12.3	13-4	2	0.11	13
5-3	73	12.2	23-3	2	0.12	14
6	73	13.1	14	2	0.26	25
7	72	13.3	24-1			
9	(52)	13.5	84-1			
10	74	13.5	14	3	0.23	(43)
10-10	73	13.9	14	3	(0.34)	(41)
10-2	72	13.4	14	2	0.19	17
10-3	73	13.5	14	2	0.17	16
10-4	73	13.5	14	2	0.2	21
10-5	73	13.6	14	2	0.19	17
10-6	72	13.6	14	3	0.32	(66)
10-7	73	13.6	14	3	(0.35)	(65)
10-8	73	13.6	14	2	0.17	17
10-9	74	13.7	14	3	(0.36)	(66)
11	73	13.1	13-4			
12	72	13.5	24-1	3	0.25	23
13	72	12.0	23-4		0.06	5
14	74	(11.3)	23-1		0.27	29
15	73	13.2	13-3	1	0.1	12
18	74	13.1	13-3	2	0.21	18
19	74	13.6	13-3	1	0.1	14
23	72	13.4	24-1			
24	71	13.2	24-1			
25	74	13.6	13-3	2	0.16	18
26	74	13.4	13-3	2	0.13	14
27	72	12.9	23-3	1	0.3	27
28	73	12.5		8	(2.91)	(254)
30	70	12.5	23-4			
31	72	12.9	13-4	1	0.1	16
32-2	70	13.1	24-2			
36	73	13.6	14	2	0.15	16
38	74	13.3	13-3	2	0.22	31
40	74	14.0	24-1	2	0.18	18
40-2	71	13.1	24-2			
41	74	14.0	24-1		0.09	10
42	73	12.5			0.1	9
42-2	75	13.1			0.14	14
43	73	13.2	13-3		0.13	12
44	73	12.6	23-3		0.08	7
44-2	71	13.0	24-2			
49	73	13.1	13-3	1	0.16	16
50	71	(11.5)	33-1	1	0.14	20
50-2	70	(11.3)	33-1	3	(23.00)	0
50-3	72	12.1	23-1	2	0.19	21
52	74	13.8	13-3	2	0.19	25
53	71	13.2	24-1	3	0.26	25
54	73	13.1	13-3		(1.00)	0
56	72	13.0	23-3	1	0.1	9

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
58	76	13.8	24-1	1	0.13	17
59	74	13.3	13-3	1	0.12	18
59-2	74	12.8	13-3	1	0.13	17
59-3	73	12.6	13-4	2	0.18	18
59-4	74	12.4	13-3	1	0.15	22
59-5	74	12.6	13-4	2	0.3	25
59-6	74	13.0	13-2	2	0.2	20
59-7	74	12.8	13-2	1	0.2	19
60	74	13.6	13-3	2	0.2	20
61	73	(7.7)	41-2			
61-2	72	13.8	24-1			
66	72	12.3	23-3			
68	74	13.5	13-3	1	0.11	13
71	73	13.1	13-3	2	0.13	17
72	73	12.9	13-3		0.14	15
75	72	13.1	13-4	10	0.1	1
78	74	13.4	13-3		0.15	17
83	74	13.2	13-3			
88	72	(11.1)	33-1	2	0.2	34
89	73	13.5	24-1	6	(0.73)	(54)
89-2	72	12.1	23-3	3	0.26	16
89-3	74	13.3	13-3	1	0.16	9
89-4	73	13.2	13-3	2	0.2	25
90	74	13.0	13-3		0.09	10
91	74	13.2	13-3		0.11	12
94	74	12.6	13-3	1	0.09	9
94-2	74	13.0	13-3	1	0.07	8
96	74	13.1				
98	74	13.0			0.17	17
100	70	13.4	23-3		(0.52)	32
101	74	13.2	13-3	2	0.19	21
102-2	74	13.1	13-3	2	0.16	25
103	73	13.5	13-3	1	0.14	16
104	73	13.3	14	2	0.13	14
106	73	13.3	24-1			
108	74	13.4	13-3	2	0.25	22
109	73	12.8	13-4	636	0.15	16
111	74	12.6			0.11	26
112	74	13.3	13-3	2	0.15	22
118	74	13.2	13-3			
119	73	13.4	14	2	0.15	18
121	74	13.3	13-3		0.25	20
123	73	13.4	13-3	1	0.14	14
128	73	13.6			0.16	23
129	72	12.8	23-3			
130	72	13.5	24			
131	72	13.4			0.19	18
133	76	(11.3)	12-2	1	0.14	17
134	74	13.0	13-3		0.16	14
135	72	13.3	24-1		0.15	13
136	73	13.7	24-1	1	0.1	11
138	71	12.7	23-3	1	0.09	9
139	72	12.6	23-3	1	0.07	9

HVI				Color, Trash		
Lab.	Color			Trash		
	Rd	+b	CG	leaf	area	cnt
141	72	13.2	13-4		0.15	16
143	74	13.7	24-1	1	0.16	8
143-2	72	(11.6)	23-2	2	0.24	13
144	72	12.8	23-3	1	0.08	8
145	73	12.6	13-4			
148	73	13.4	13-3	2	0.18	18
154	73	13.1	13-3	1	0.1	10
162	72	13.5	24-1			
170	74	13.5	13-3	1	0.14	19
176	74	12.8	13-3	1	0.15	23
179	74	13.3	13-3	2	0.17	25
180	72	12.9	13-4	2	0.2	9
181	72	13.1	13-4	5	(0.86)	4
183	74	13.4	13-3	2	0.19	20
193	73	13.3	13-3	2	0.15	20
201	73	13.5	24-1	1	0.1	12
203-2	74	(11.7)	13-2	2	0.13	8
204	(68)	13.9		1		
204-2	73	13.2	13-3	1	0.06	4
207	74	13.4	13-3	1	0.12	14
207-2	74	13.3	13-3	1	0.17	17
207-3	74	13.4	13-3	1	0.15	17
Average	72.9	13.16			0.158	16.2
Median	73.2	13.2			0.15	16.8
StdDev	1.07	0.43			0.06	6.72
CV	1.5	3.2			35.5	41.6
Min	70	12.0			0.06	0
Max	76	14.0			0.32	34
n	126	120			95	97

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio		
1		8.0		0.86		
2	9.2			0.82		
3		9.2		0.87		
4	4.1			0.85		
5		8.9		0.88		
5-2		8.0		0.86		
5-3		9.1		0.87		
6		11.4		0.87		
7	10.0					
9		7.7				
10				0.85		
10-10				0.85		
10-2				0.82		
10-3				0.87		
10-4				0.85		
10-5				0.86		
10-6				0.87		
10-7				0.85		
10-8				0.86		
10-9				0.86		
12		8.6		0.89		
13		8.8		0.88		
14		8.5		0.85		
15		9.4		0.85		
18		9.6		0.87		
19		9.2		0.88		
23		7.1				
24		8.7		0.9		
25		10.5		0.86		
26		9.7		0.86		
27	8.4	8.1	86	0.87		
28		9.6	77	0.84		
30		8.0		0.84		
32		10.0				
32-2		10.4				
32-3		10.2				
36		(16.8)				
38		8.3				
41		7.5		0.88		
42		6.5		0.89		
42-2		9.2		0.87		
43		8.5				
44		7.7		0.89		
44-2		8.6		0.88		
49		8.2		0.87		
50		(16.2)		0.86		
50-2		(16.3)		0.83		
50-3		8.7		0.86		
52		7.9		0.85		
53		9.0		0.83		
54		7.4		0.89		
56		(12.1)				
58		9.1		0.86		

HVI		Short Fibre Index, Maturity		
<i>(table is divided into 3 pages)</i>				
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio
59		7.7		0.87
59-2		8.1		0.87
59-3		8.8		0.87
59-4		8.5		0.87
59-5		8.3		(86.90)
59-6		8.5	87	
59-7		8.5	87	
60		9.1		0.87
61-2	6.7	6.0		
66	8.6			
68		8.0		0.87
71		7.6		0.85
72		8.6		
75		9.6		0.89
78		10.1		0.86
88		10.3		0.88
89		8.6		0.85
89-2		9.4		0.86
89-3		8.0		0.86
89-4		8.4		0.87
90		9.0		0.86
91		8.9		0.86
94		8.8		0.86
94-2		7.9		0.86
98		8.6		
100	7.2	6.8	71	(0.78)
101		9.0		0.88
102-2		8.3		0.86
103		7.3		0.88
104		(16.8)		0.87
106		6.8		0.83
108		8.3		0.87
109		8.5		0.85
111		9.1		0.87
112		8.4		0.86
118		8.4		0.85
119		8.4		0.88
121		9.6		0.86
123	10.0	9.7		0.86
126		9.8		
128		8.4	77	0.87
129	8.9	9.5		
130	3.5	9.2		0.88
132		8.9		
133		7.0	86	
134		9.0		0.85
135		6.5		0.88
136		8.2		0.88
138		9.0		0.88
139		8.8		
141		7.2		0.87
143		9.3		0.88
143-2		9.3		0.83

HVI		<i>(table is divided into 3 pages)</i>			Short Fibre Index, Maturity	
Lab.	ICCS SFI	HVICCS SFI	PM %	Maturity Ratio		
144		8.6		0.87		
145		8.4		0.88		
148		9.3		0.85		
154		(5.1)				
162		6.6				
170		10.9		0.86		
176		8.4		0.86		
179		7.7		0.87		
180		8.2		0.89		
181		7.4		0.89		
183		7.3		0.87		
193		8.2		0.86		
201		8.1		0.86		
203-2		8.5				
204		8.1		0.83		
204-2		7.0		0.87		
207		8.4		0.86		
207-2		9.1		0.86		
207-3		9.0		0.86		
Average	7.66	8.56	81.4	0.864		
Median	8.5	8.5	86.0	0.86		
StdDev	2.3	0.97	6.53	0.02		
CV	30.0	11.3	8.0	1.8		
Min	3.5	6.0	71	0.82		
Max	10.0	11.4	87	0.9		
n	10	105	7	99		

AFIS				General
Lab.	Manufacturer	Instrument	Std. Test Method	Repetitions
5	USTER	AFIS Pro 2		
14	USTER	1408248	ASTMD5866	6
21	USTER	119-064		
22	USTER	Autojet		10
24	USTER		USDA	10
27	USTER	Neptester 740		
28	Textechno	CCS-V5.3		
30	USTER			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		ASTM	5
40	USTER	AFIS 2	internal	10
40-2	USTER	AFIS 1	internal	10
40-3	USTER	AFIS 3 KS1	internal	10
40-4	USTER	AFIS 4 KS2	internal	10
41	USTER			5
43	USTER	AFIS Pro		5
44	USTER			10
51	USTER	AFIS Pro 2	ISO-9001	5
58	USTER	AFIS Pro 2	internal	10
59	USTER			5
75	USTER		ASTMD5866-12	5
90	USTER	4.22	Manufacturer	5
91	USTER	MN100		
91-2	USTER	AFIS Pro 2	ASTMD5866	10
96	USTER		ASTMD5866-12	10
100	Textechno	CCS-V5.2	ASTMD5866-05	6
101	USTER	AFIS Pro	internal	5
102	USTER	4.22	ASTM	3
109	USTER	AFIS Pro 2		5
111	USTER	AFIS Pro 2	internal	10
112	USTER	AFIS Pro	ASTMD5866	3
118	USTER		ASTMD5866-12	5
123	USTER		ASTMD5866-12	10
123-2	USTER	AFIS Pro	ASTMD5866-12	10
123-3	USTER	AFIS Pro 2	ASTMD5866-12	10
128	USTER	Neptester	ASTM	4
129	USTER	AFIS Pro		
132	USTER			
134	USTER	AFIS Pro	ASTMD5848-95	5
135	USTER	AFIS Pro	ASTMD5848-95	5
136	USTER	AFIS Pro 2	ASTMD5848-95	5
139	USTER	AFIS Pro 2	ASTMD5866-05	12
142	USTER			5
143	USTER		ASTMD5866	5
144	USTER	AFIS Pro	ASTM	5
145	USTER			
148	USTER	AFIS Pro		10
148-2	USTER	AFIS Pro 2		
148-3	USTER	AFIS Pro 2		
148-4	USTER	Neptester 720		10
154	USTER			10
170	USTER	AFIS Pro	Manufacturer	6
176	USTER	AFIS Pro		10
180	USTER	AFIS Pro 2	ASTM	3
181	USTER	AFIS Pro 2	ASTM	3
183	USTER	AFIS Pro	ASTMD5866-05	5
207	USTER	AFIS Pro	ASTMD5866-12	10

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	%
5	19.3	0.76				33.8	1.33	27.3
14	18.9	0.74	49.5			(32.8)	(1.29)	(8.8)
21	19.9	0.78	43.7	35.0	1.38	(33.0)	(1.30)	22.2
22	20.3	0.80	50.3	37.6	1.48	35.1	1.38	26.4
24	20.5	0.81	48.8			35.1	1.38	22.6
30	19.3	0.76	46.9	35.8	1.41	(33.3)	(1.31)	25.0
31	20.3	0.80	48.3	37.1	1.46	34.7	1.37	25.4
32	20.5	0.81	48.8			34.9	1.37	23.5
32-2	20.3	0.80	49.2			34.6	1.36	23.7
32-3	21.0	0.83	47.5			35.0	1.38	21.6
38	21.8	0.86		38.5	1.52	36.3	1.43	22.0
40	18.8	0.74	54.2	37.3	1.47	35.1	1.38	32.2
40-2	19.8	0.78	54.1	37.6	1.48	35.1	1.38	29.7
40-4	21.1	0.83	48.6	37.6	1.48	35.3	1.39	23.7
41	20.6	0.81	43.0	36.4	1.43	34.1	1.34	21.1
43	20.8	0.82	47.5			35.6	1.40	23.7
44	20.7	0.81				35.3	1.39	21.5
51	20.7	0.81	46.9			35.1	1.38	22.0
58	19.9	0.78	49.4			34.5	1.36	24.8
75	18.5	0.73	59.1			34.6	1.36	31.8
90	20.2	0.80	50.9	37.5	1.48	35.3	1.39	25.8
91-2	19.5	0.77	50.2			34.1	1.34	25.5
96	20.7	0.81	48.4			35.4	1.39	31.9
101	20.4	0.80	50.0			35.0	1.38	24.0
102	21.7	0.85	45.0	38.2	1.50	35.4	1.39	20.4
109	20.3	0.80	46.9			34.6	1.36	22.8
111	19.8	0.78	49.6			35.1	1.38	27.8
112	21.1	0.83	47.6			35.6	1.40	23.8
118	20.4	0.80		36.8	1.45	34.7	1.37	24.8
123	20.2	0.80	50.4			35.0	1.38	25.8
123-2	19.5	0.77	51.9			34.8	1.37	26.6
123-3	19.8	0.78	50.6			34.4	1.35	25.1
129	20.8	0.82	56.1			(38.3)	(1.51)	28.7
134	22.6	0.89	41.3			35.3	1.39	17.0
135	22.6	0.89	41.3			35.3	1.39	17.0
136	21.6	0.85	44.8			35.3	1.39	19.9
139						35.3	1.39	22.5
142	20.3	0.80	46.2	36.8	1.45	34.5	1.36	22.4
143	19.0	0.75	55.8	37.1	1.46	34.6	1.36	30.3
144	20.1	0.79	47.9			34.1	1.34	22.4
145			51.4			34.8	1.37	27.3
148	19.2	0.76	54.8			34.7	1.37	28.3
148-2	20.2	0.80	49.0			34.5	1.36	23.8
148-3	20.7	0.81	47.3			34.9	1.37	22.1
154	21.7	0.85	45.0	36.8	1.45	34.9	1.37	19.9
170	20.7	0.81	47.5			35.5	1.40	21.8

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	%
176	20.6	0.81	49.5			35.3	1.39	24.9
180	20.4	0.80	48.0			34.8	1.37	23.0
181	19.8	0.78	49.1			34.4	1.35	24.2
183	(24.9)	(0.98)	50.7			34.8	1.37	26.2
207	20.5	0.81	49.7			35.3	1.39	23.3
Average	20.36	0.802	48.97	37.07	1.46	34.93	1.375	24.39
Median	20.36	0.802	48.9	37.1	1.461	35.0	1.378	23.8
StdDev	0.88	0.035	3.6	0.88	0.035	0.47	0.018	3.39
CV	4.3	4.3	7.4	2.4	2.4	1.3	1.3	13.9
Min	18.5	0.73	41.3	35.0	1.38	33.8	1.33	17.0
Max	22.6	0.89	59.1	38.5	1.52	36.3	1.43	32.2
n	48	48	46	15	15	47	47	50

AFIS L <i>(table is divided into 2 pages)</i>						Length
Lab.	W					
	ML		CV %	UQL		SFC %
	mm	inch		mm	inch	
5	24.4	0.96		29.7	1.17	9.2
14	23.5	0.93	34.5	28.8	1.13	(25.6)
21	23.7	0.93	32.0	28.9	1.14	8.5
22	25.4	1.00	34.7	31.0	1.22	8.9
24	25.4	1.00	33.4	31.0	1.22	
28	23.7	0.93		31.0	1.22	11.1
30	23.5	0.93	34.7	29.0	1.14	9.7
31	25.0	0.98	34.3	30.7	1.21	9.1
32	25.3	1.00	33.3	30.9	1.22	7.4
32-2	25.2	0.99	33.2	30.7	1.21	7.3
32-3	25.7	1.01	32.3	31.0	1.22	6.5
38	26.8	1.06		32.3	1.27	6.1
40	24.4	0.96	(38.2)	30.7	1.21	(12.1)
40-2	25.4	1.00	35.1	31.2	1.23	9.4
40-4	25.9	1.02	32.9	31.2	1.23	7.3
41	24.4	0.96	32.9	29.7	1.17	8.4
43	25.7	1.01	34.2	31.2	1.23	8.3
44	25.2	0.99		30.8	1.21	7.5
51	(20.1)	(0.79)	(48.5)	30.7	1.21	(25.4)
58	24.8	0.98	34.1	30.6	1.20	8.2
75	24.9	0.98	36.6	30.7	1.21	9.2
90	25.4	1.00	33.6	31.1	1.22	8.2
91-2	24.3	0.96	35.1	30.0	1.18	8.6
96	25.6	1.01	33.5	31.3	1.23	(13.5)
100	23.2	0.91		31.1	1.22	(15.9)
101	25.5	1.00	33.4	31.1	1.22	7.3
102	26.1	1.03	31.7	31.3	1.23	6.5
109	24.7	0.97	33.7	30.4	1.20	7.9
111	24.9	0.98	35.8	30.7	1.21	10.5
112	25.7	1.01	34.7	31.2	1.23	8.3
118	25.0	0.98		30.6	1.20	8.6
123	25.3	1.00	33.8	30.9	1.22	8.4
123-2	24.8	0.98	35.6	30.7	1.21	8.7
123-3	24.8	0.98	34.2	30.5	1.20	8.0
129	27.3	1.07	35.6	(33.9)	(1.33)	8.5
134	26.4	1.04		31.2	1.23	5.5
135	26.4	1.04		31.2	1.23	5.5
136	25.9	1.02	32.0	31.2	1.23	6.5
139	25.7	1.01	33.4	31.0	1.22	7.4
142	24.6	0.97	33.3	30.2	1.19	8.0
143	24.9	0.98	35.8	30.8	1.21	9.6
144	24.6	0.97	33.5	30.1	1.19	7.2
145			34.0	30.7	1.21	9.0
148	24.9	0.98	35.1	30.6	1.20	8.4
148-2	25.1	0.99	32.9	30.6	1.20	7.4
148-3	25.3	1.00	33.4	30.8	1.21	7.2

AFIS L <i>(table is divided into 2 pages)</i>						Length
Lab.	W					
	ML		CV	UQL		SFC
	mm	inch	%	mm	inch	%
154	26.1	1.03	(29.6)	31.1	1.22	5.7
170	25.4	1.00	34.6	31.1	1.22	7.3
176	25.4	1.00	34.1	31.5	1.24	8.2
180	25.1	0.99	33.1	30.9	1.21	7.4
181	24.5	0.96	34.0	30.3	1.19	8.0
183	(19.8)	(0.78)	34.7	30.5	1.20	8.7
207	25.5	1.01	34.0	31.2	1.23	7.2
Average	25.13	0.989	33.97	30.73	1.21	7.99
Median	25.2	0.992	34.0	30.8	1.213	8.2
StdDev	0.82	0.032	1.1	0.64	0.025	1.19
CV	3.3	3.3	3.2	2.1	2.1	14.9
Min	23.2	0.91	31.7	28.8	1.13	5.5
Max	27.3	1.07	36.6	32.3	1.27	11.1
n	50	50	42	52	52	47

AFIS D / M		Diameter, Maturity			
Lab.	D (N) μm	CV (D(N)) %	Fineness mtex	IFC %	Mat. Ratio
5			165	6.9	0.87
14			161	10.2	0.86
22			165	7.2	0.86
24			172	6.1	0.92
28			(198)		0.84
30	12.0				
31			165	7.8	0.86
32			175	8.3	0.9
32-2			164	7.6	0.86
32-3			167	9.1	0.87
38			154	5.5	0.86
40			168	7.9	0.88
40-2			169	6.1	0.9
40-4			150	10.0	0.95
41	13.8				
43			171	7.6	0.91
44			167	4.5	0.96
51			166	6.1	0.9
58			161	8.5	0.85
75			175	6.3	0.91
90			164	6.0	0.88
91-2			166	7.4	0.87
96			166	4.4	0.9
100			(196)		0.79
101			163	7.4	0.87
102			156	10.3	0.82
109			171	5.7	0.9
111			164	7.3	0.87
112			168	5.4	0.9
118			171	6.6	0.9
123			162	7.1	0.87
123-2			162	7.3	0.88
123-3			164	5.4	0.9
134			167	5.5	0.91
135			167	5.5	0.91
136			163	8.4	0.86
139			168	6.1	0.91
143			170	6.3	0.91
144			164	7.5	0.89
145			173	5.7	0.92
148			168	6.6	0.89
148-2			164	6.7	0.88
148-3			168	6.5	0.88
154			150	11.0	0.81
170			173	7.7	0.86
176			150	(14.8)	(0.74)
180			163	6.4	0.88
181			171	5.9	0.9
183			168	6.1	0.9
207			171	6.8	0.9
Average			165.4	6.99	0.883
Median			166.0	6.7	0.88
StdDev			5.98	1.48	0.03
CV			3.6	21.2	3.6
Min			150	4.4	0.79
Max			175	11.0	0.96
n	2	0	46	45	47

AFIS T				Trash
Lab.	Total Trash		Dust	V. F. M.
	Mean Diameter μm	Cnt/g	Cnt/g	%
21	(222)	(607)	(564)	0.95
22	322	261	220	0.99
30	304	294	253	0.87
31	316	351	297	1.12
32	320	264	226	0.86
32-2	295	317	274	0.95
32-3	322	335	287	1.04
43	283	387	344	1.15
51	311	266	227	0.75
58	339	217	182	0.65
90	346	268	227	1.16
91-2	334	260	221	0.9
100		(910)		
101	334	221	189	0.69
102			234	1.16
111	318	249	214	0.8
112	324	238	205	0.82
129	294	279	240	0.83
134		317	269	0.84
135		317	269	0.84
136	301	313	282	1.13
142	276	(538)	(471)	1.27
143	295	343	300	0.88
148	352	239	197	0.95
148-2	330	322	278	1.07
148-3	322	316	269	1.07
154	278	426	374	1.0
176	347	236	198	0.89
183	364	360	307	(1.77)
207		281	245	0.71
Average	317.8	295.3	252.9	0.941
Median	321.0	287.5	245.0	0.925
StdDev	23.63	52.44	47.12	0.16
CV	7.4	17.8	18.6	17.0
Min	276	217	182	0.65
Max	364	426	374	1.27
n	24	26	27	28

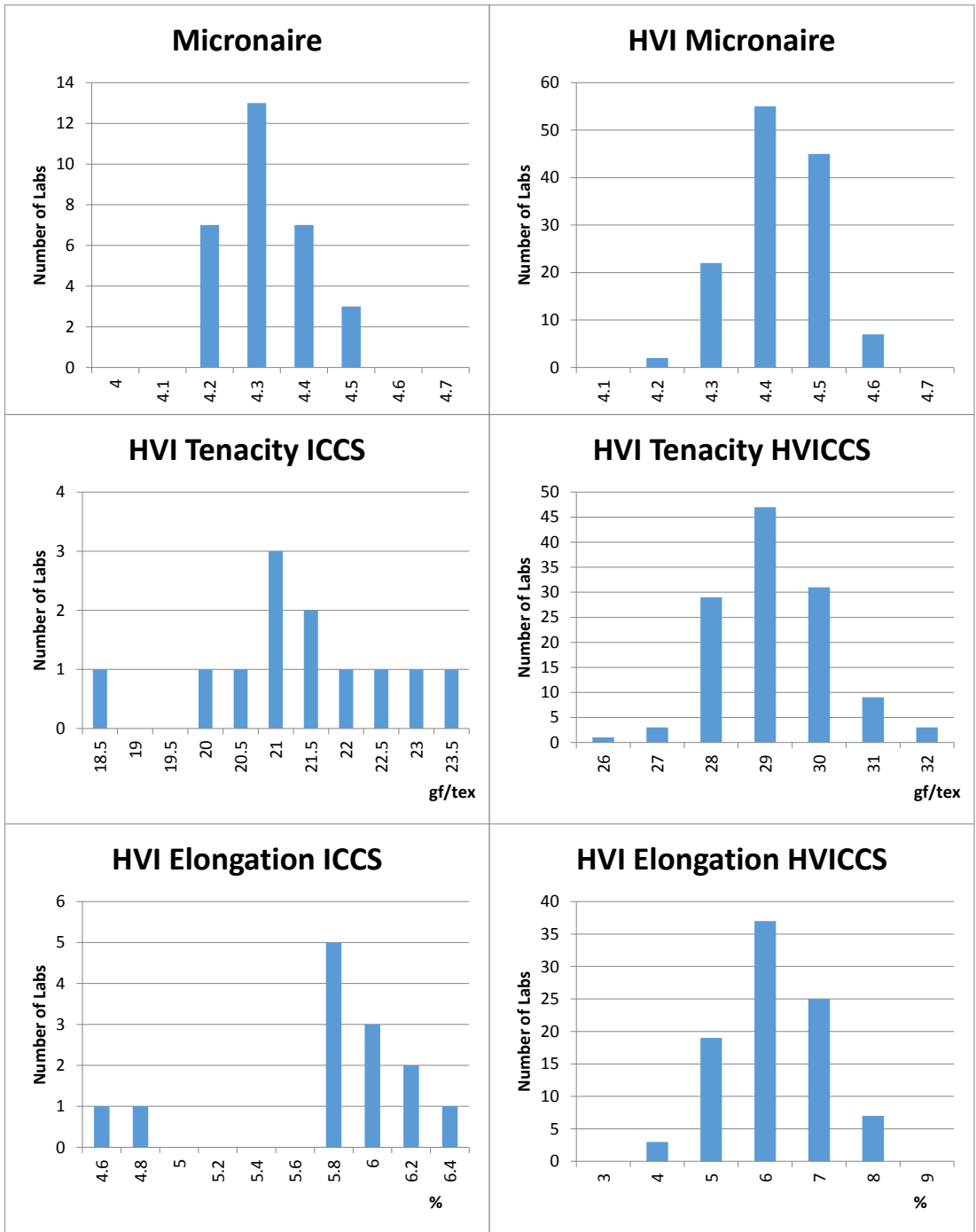
AFIS N <i>(table is divided into 2 pages)</i>				Neps
Lab.	Total Neps		SCN	
	Mean Diameter µm	Cnt/g	Mean Diameter µm	Cnt/g
5	710	298	1161	25
14	674	315	999	12
21	686	217		
22	709	239	1122	20
24	695	235	1263	15
27		230		
30	679	265		
31	709	265	1201	17
32	692	258	1004	24
32-2	705	240	1024	22
32-3	683	246	932	18
38	(394)	162		
40-2	705	248		
40-3	(820)	312	1492	36
40-4	722	342	1102	13
41	659	240		
43	740	216	1311	25
44	(957)	244	1336	(57)
51	730	246	1267	27
58	722	246	1304	22
59	716	257	993	16
75	722	295	1187	31
90	732	278	1302	30
91	678	196		
91-2	723	237	1324	21
96	689	240	1131	18
100		215		29
101	727	268	1243	28
102	(328)	279	1075	30
109	706	295	1137	23
111	707	241	1318	21
112	719	277	1509	20
118	723	261	1235	15
123	640	262	1157	14
123-2	712	267	988	14
123-3	669	253	1044	14
128		247		
129	764	238	1342	44
132	623	217		
134	679	238	949	19
135	679	238	949	19
136	695	237	1327	16
139	694	260	1160	15
142	644	186		
143	706	259	1179	34
144	705	283	1338	21
145	761	232	1573	21
148	703	225	1191	16
148-2	696	237	1157	18
148-3	697	237	1180	23
148-4		217		
154	750	250	1289	41

AFIS N				(table is divided into 2 pages)		Neps	
Lab.	Total Neps		SCN				
	Mean Diameter μm	Cnt/g	Mean Diameter μm	Cnt/g			
170	706	259	1271	24			
176	712	219	1139	16			
180	696	282	1028	23			
181	752	259	1454	20			
183	699	220	1135	13			
207	730	276	1338	26			
Average	703.5	250.0	1199.1	21.9			
Median	705.5	246.0	1183.5	21.0			
StdDev	28.60	31.16	154.19	7.30			
CV	4.1	12.5	12.9	33.3			
Min	623	162	932	12			
Max	764	342	1573	44			
n	50	58	46	46			

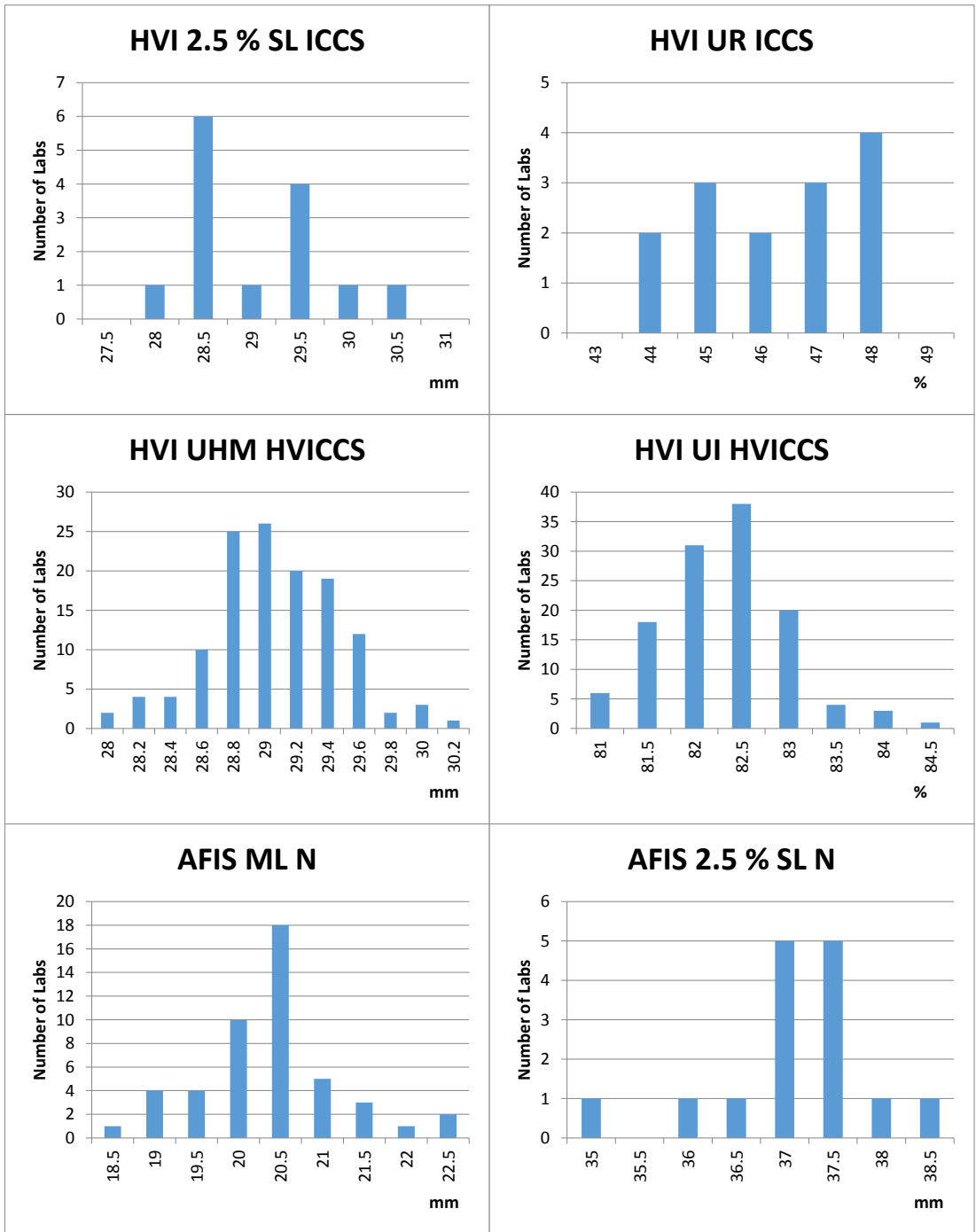
aQura <i>(further information see page "Multiple Devices")</i>						Length, Neps	
Lab.	Repetitions	5.0 % L (n)	50 % L (n)	SFC (n) <12.7 mm	SFC (w) <12.7 mm	Fibre Neps	SCN
		mm	mm	%	%	Cnt/g	Cnt/g
3	4	30.8		22.4	9.8	257	30
44-2	5	28.6		30.2	14.2	256	38
53		16.6		27.2	12.3	(74)	(82)
127	4	30.3		27.3	13.4	288	29
130	4	31.1		23.1	10.2	265	28
145	4					232	21
Average		27.48		26.04	11.98	259.6	29.2
Median		30.3		27.2	12.3	257.0	29.0
StdDev		6.16		3.25	1.93	20.11	6.06
CV		22.4		12.5	16.1	7.7	20.7
Min		16.6		22.4	9.8	232	21
Max		31.1		30.2	14.2	288	38
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
3	aQura	Premier		ASTM	4
32	FMT	Wira			6
32-2	FMT	Wira			6
32-3	FMT	Wira			6
37	FMT				
44-2	aQura	Premier			5
53	aQura	Premier			
56	Causticaire		Micronaire	JIS	2
58	ALMeter		AL 101	internal	3
70	FMT	SDL	MK.1	ASTMD3818-92	6
70	GravFineness	SDL		ISO 1973-95	5
85	CombSorter		Keisokki	UNI10170-94	1
85	GravFineness			UNIENISO1973	10
85-2	CombSorter		Keisokki	UNI10170-94	1
85-2	GravFineness			UNIENISO1973	10
85-3	CombSorter		Keisokki	UNI10170-94	1
85-3	GravFineness			UNIENISO1973	10
85-4	CombSorter		Keisokki	UNI10170-94	1
85-4	GravFineness			UNIENISO1973	10
100	FMT	Wira	FM-CCS	ASTMD3818-92	8
100	DigitalFibrograph		Fibrotest	ASTMD1447-07-12	8
102	FMT		Micromat	ASTM	2
112	ALMeter				4
112	GravFineness				3
127	aQura	Premier			4
129	Causticaire		Microscope	IS 236	4
130	aQura	Premier			4
131	Causticaire		Fibroscope	British	
131	DigitalFibrograph		530	ASTM	6
132	DigitalFibrograph		Fibrotest	ASTMD1447	10
143	DigitalFibrograph	USTER	330	ABNTNBR13154-94	2
145	aQura	Premier			4
177	Causticaire				3
177	GravFineness			ASTMD1577-90	3
186	FMT		WIRA	ASTM	6
193	GravFineness			GB/T6100-07	2

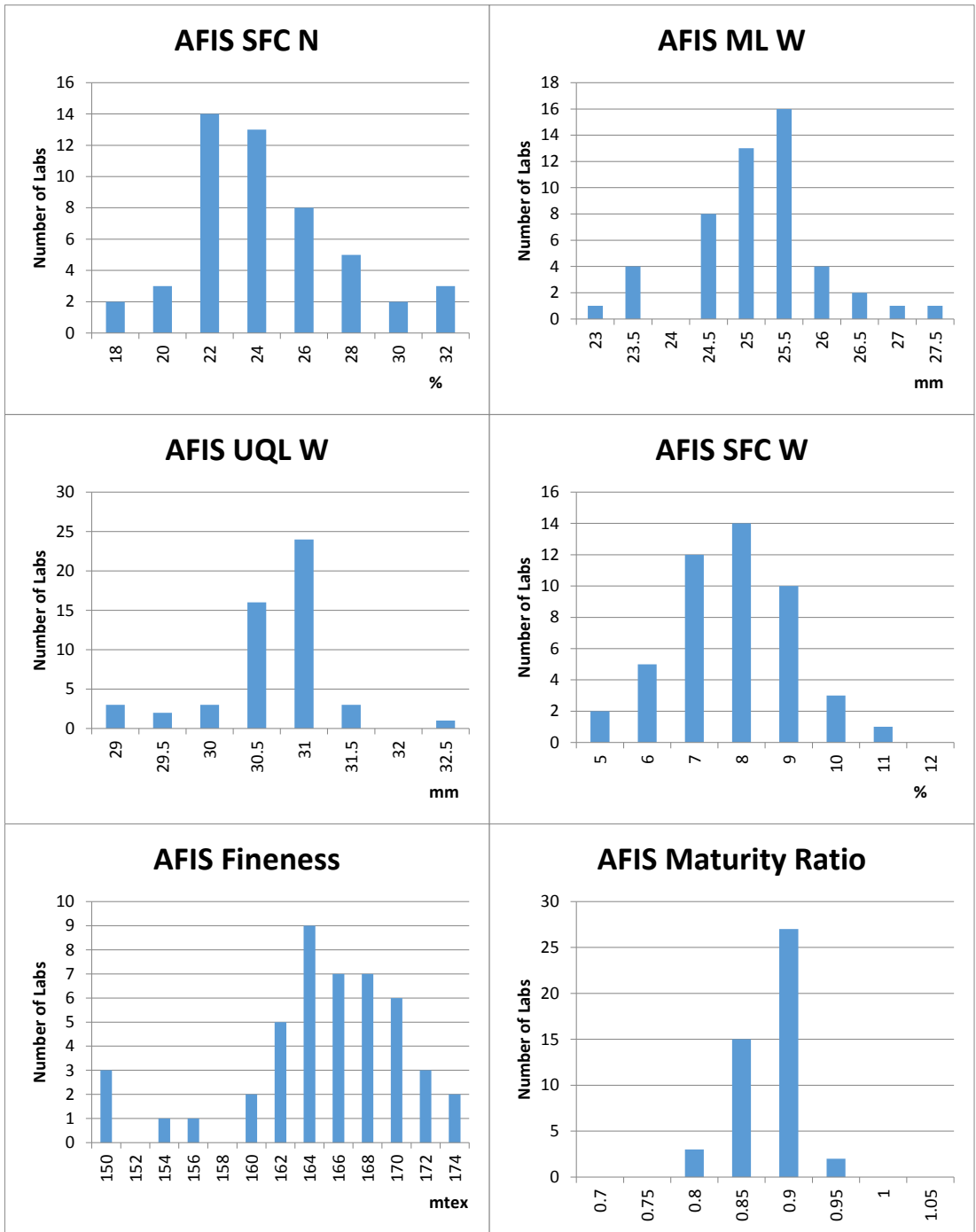
Graphics of selected round test data



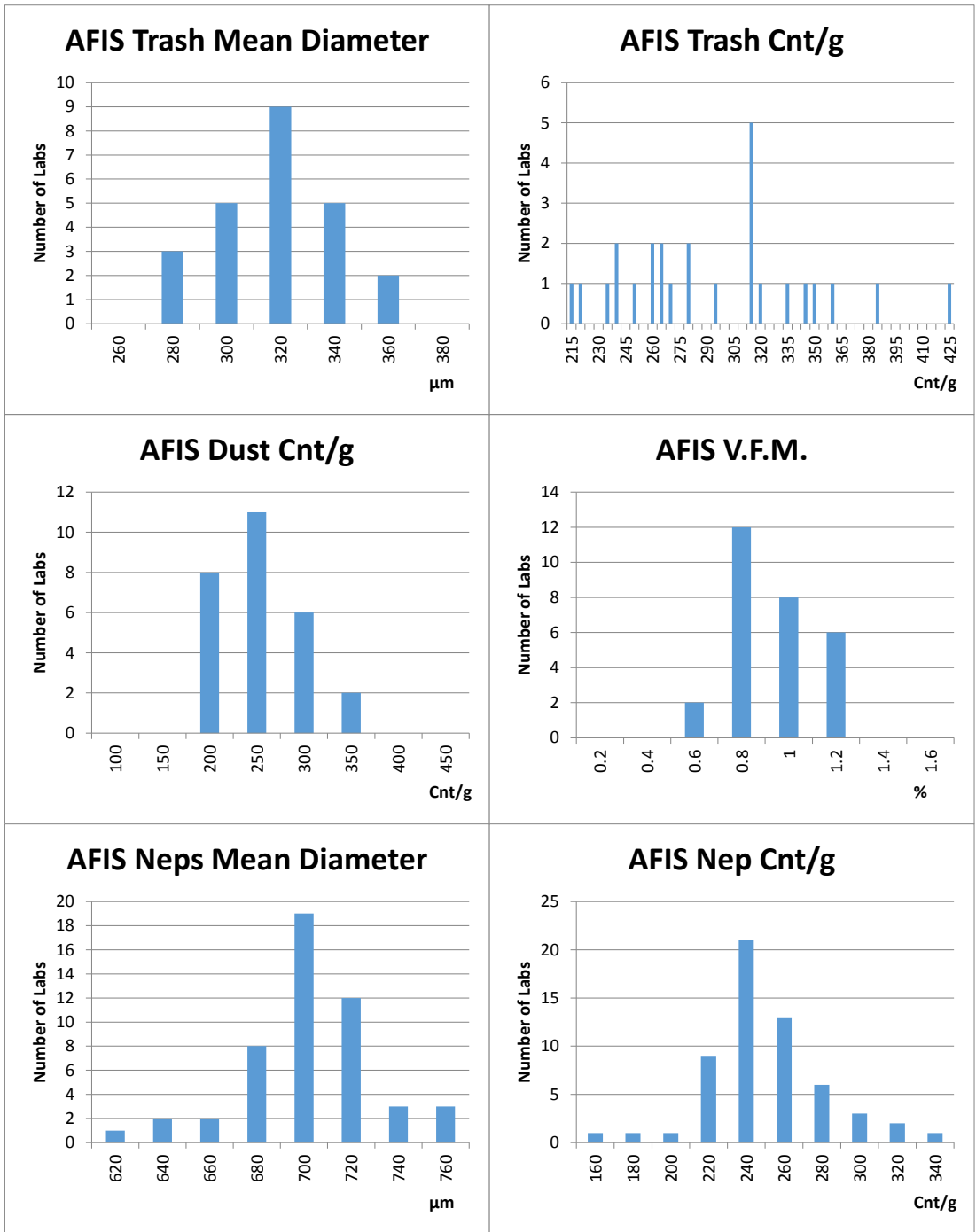
Graphics of selected round test data



Graphics of selected round test data



Graphics of selected round test data



Graphics of selected round test data

