



**International Cotton Advisory Committee**



# CSITC

## Global - Round Trial 2017 - 2

### General Evaluation

#### **Section One: Result Distribution**

Section Two: Instrument Evaluation

Section Three: Within Limits Evaluation

#### Section One: Result Distribution

Content:

Mandatory Parameters

- Summary Table
- Distribution Graphs

Optional Parameters

- Summary Table
- Distribution Graphs

Executed By:

Faserinstitut Bremen e.V., Bremen, Germany\*  
USDA-AMS, Memphis, TN, USA

System Provided by:

Generation 10 Limited



This report is an outcome of the Project CFC/ICAC/33 – CSITC, which benefitted from support from the Common Fund for Commodities and the European Union, partners in Commodity Development.



\* Faserinstitut Bremen are a Cooperation Partner with ICA Bremen

Global - Round Trial 2017 - 2

Inter-Instrument Averages, Inter-Instrument Variations, Typical within-instrument Variations

Micronaire							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			4.596	4.176	3.599	3.674	
Reference Values for Evaluation			4.596	4.176	3.599	3.674	
Number Of Instruments			124	124	124	124	<b>124</b>
Inter-Instrument Variation	based on 30 tests	SD	0.043	0.059	0.068	0.060	<b>0.058</b>
		CV %	0.9	1.4	1.9	1.6	<b>1.5</b>
		SD	0.048	0.062	0.072	0.063	<b>0.061</b>
	based on 6 tests	CV %	1.1	1.5	2.0	1.7	<b>1.6</b>
		SD	0.060	0.073	0.080	0.073	<b>0.071</b>
		CV %	1.3	1.7	2.2	2.0	<b>1.8</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.022	0.020	0.022	0.022	<b>0.022</b>
		CV %	0.5	0.5	0.6	0.6	<b>0.5</b>
	between single tests on one day	SD	0.034	0.033	0.033	0.036	<b>0.034</b>
		CV %	0.7	0.8	0.9	1.0	<b>0.9</b>
	between all tests on different days	SD	0.042	0.041	0.042	0.043	<b>0.042</b>
		CV %	0.9	1.0	1.2	1.2	<b>1.1</b>

Strength							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			26.966	32.088	25.974	22.280	
Reference Values for Evaluation			26.966	32.088	25.974	22.280	
Number Of Instruments			124	124	124	124	<b>124</b>
Inter-Instrument Variation	based on 30 tests	SD	0.488	1.052	0.552	0.658	<b>0.687</b>
		CV %	1.8	3.3	2.1	3.0	<b>2.5</b>
		SD	0.729	1.110	0.712	0.731	<b>0.821</b>
	based on 6 tests	CV %	2.7	3.5	2.7	3.3	<b>3.0</b>
		SD	0.850	1.240	0.857	0.866	<b>0.953</b>
		CV %	3.2	3.9	3.3	3.9	<b>3.6</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.263	0.355	0.283	0.255	<b>0.289</b>
		CV %	1.0	1.1	1.1	1.1	<b>1.1</b>
	between single tests on one day	SD	0.452	0.550	0.500	0.494	<b>0.499</b>
		CV %	1.7	1.7	1.9	2.2	<b>1.9</b>
	between all tests on different days	SD	0.533	0.675	0.587	0.549	<b>0.586</b>
		CV %	2.0	2.1	2.3	2.5	<b>2.2</b>

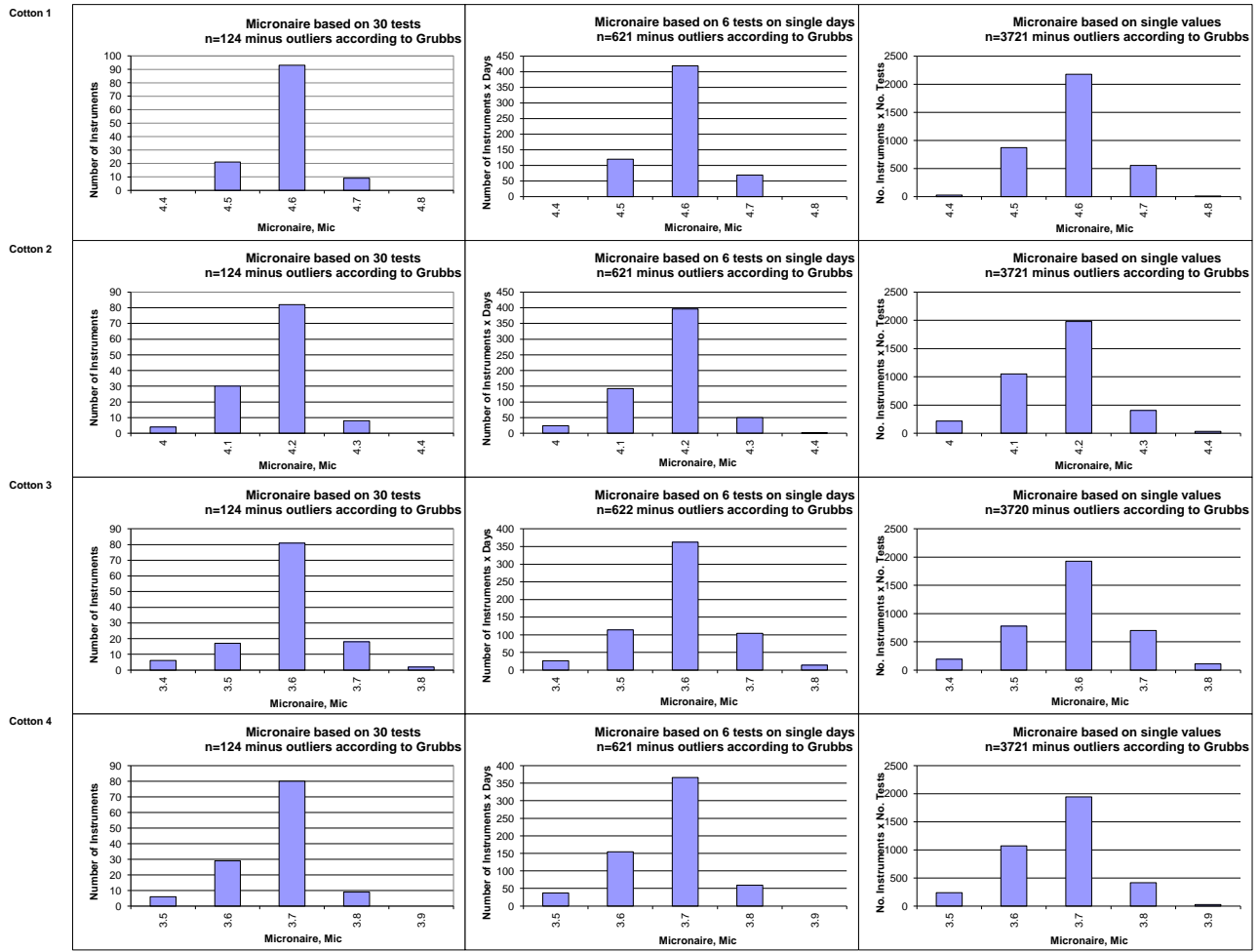
Length							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			1.0329	1.1601	1.0870	0.9811	
Reference Values for Evaluation			1.0329	1.1601	1.0870	0.9811	
Number Of Instruments			124	124	124	124	<b>124</b>
Inter-Instrument Variation	based on 30 tests	SD	0.0098	0.0128	0.0098	0.0110	<b>0.0108</b>
		CV %	0.9	1.1	0.9	1.1	<b>1.0</b>
		SD	0.0111	0.0138	0.0118	0.0124	<b>0.0123</b>
	based on 6 tests	CV %	1.1	1.2	1.1	1.3	<b>1.2</b>
		SD	0.0143	0.0166	0.0157	0.0155	<b>0.0155</b>
		CV %	1.4	1.4	1.4	1.6	<b>1.5</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.0051	0.0058	0.0058	0.0047	<b>0.0053</b>
		CV %	0.5	0.5	0.5	0.5	<b>0.5</b>
	between single tests on one day	SD	0.0089	0.0100	0.0114	0.0106	<b>0.0102</b>
		CV %	0.9	0.9	1.1	1.1	<b>1.0</b>
	between all tests on different days	SD	0.0100	0.0113	0.0126	0.0112	<b>0.0113</b>
		CV %	1.0	1.0	1.2	1.1	<b>1.1</b>

Uniformity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			80.428	83.835	79.632	77.770	
Reference Values for Evaluation			80.428	83.835	79.632	77.770	
Number Of Instruments			124	124	124	124	<b>124</b>
Inter-Instrument Variation	based on 30 tests	SD	0.292	0.364	0.511	0.431	<b>0.400</b>
		CV %	0.4	0.4	0.6	0.6	<b>0.5</b>
	based on 6 tests	SD	0.438	0.462	0.575	0.535	<b>0.503</b>
		CV %	0.5	0.6	0.7	0.7	<b>0.6</b>
	based on single tests	SD	0.635	0.624	0.829	0.777	<b>0.716</b>
		CV %	0.8	0.7	1.0	1.0	<b>0.9</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.246	0.257	0.269	0.287	<b>0.265</b>
		CV %	0.3	0.3	0.3	0.4	<b>0.3</b>
	between single tests on one day	SD	0.502	0.465	0.561	0.560	<b>0.522</b>
		CV %	0.6	0.6	0.7	0.7	<b>0.7</b>
	between all tests on different days	SD	0.563	0.516	0.612	0.638	<b>0.582</b>
		CV %	0.7	0.6	0.8	0.8	<b>0.7</b>

Color Rd							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			77.593	74.814	72.787	76.717	
Reference Values for Evaluation			77.593	74.814	72.787	76.717	
Number Of Instruments			123	123	123	123	<b>123</b>
Inter-Instrument Variation	based on 30 tests	SD	0.326	0.569	0.623	0.437	<b>0.489</b>
		CV %	0.4	0.8	0.9	0.6	<b>0.7</b>
	based on 6 tests	SD	0.369	0.612	0.666	0.537	<b>0.546</b>
		CV %	0.5	0.8	0.9	0.7	<b>0.7</b>
	based on single tests	SD	0.428	0.646	0.693	0.585	<b>0.588</b>
		CV %	0.6	0.9	1.0	0.8	<b>0.8</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.132	0.149	0.156	0.166	<b>0.151</b>
		CV %	0.2	0.2	0.2	0.2	<b>0.2</b>
	between single tests on one day	SD	0.159	0.181	0.171	0.195	<b>0.176</b>
		CV %	0.2	0.2	0.2	0.3	<b>0.2</b>
	between all tests on different days	SD	0.234	0.264	0.243	0.301	<b>0.260</b>
		CV %	0.3	0.4	0.3	0.4	<b>0.3</b>

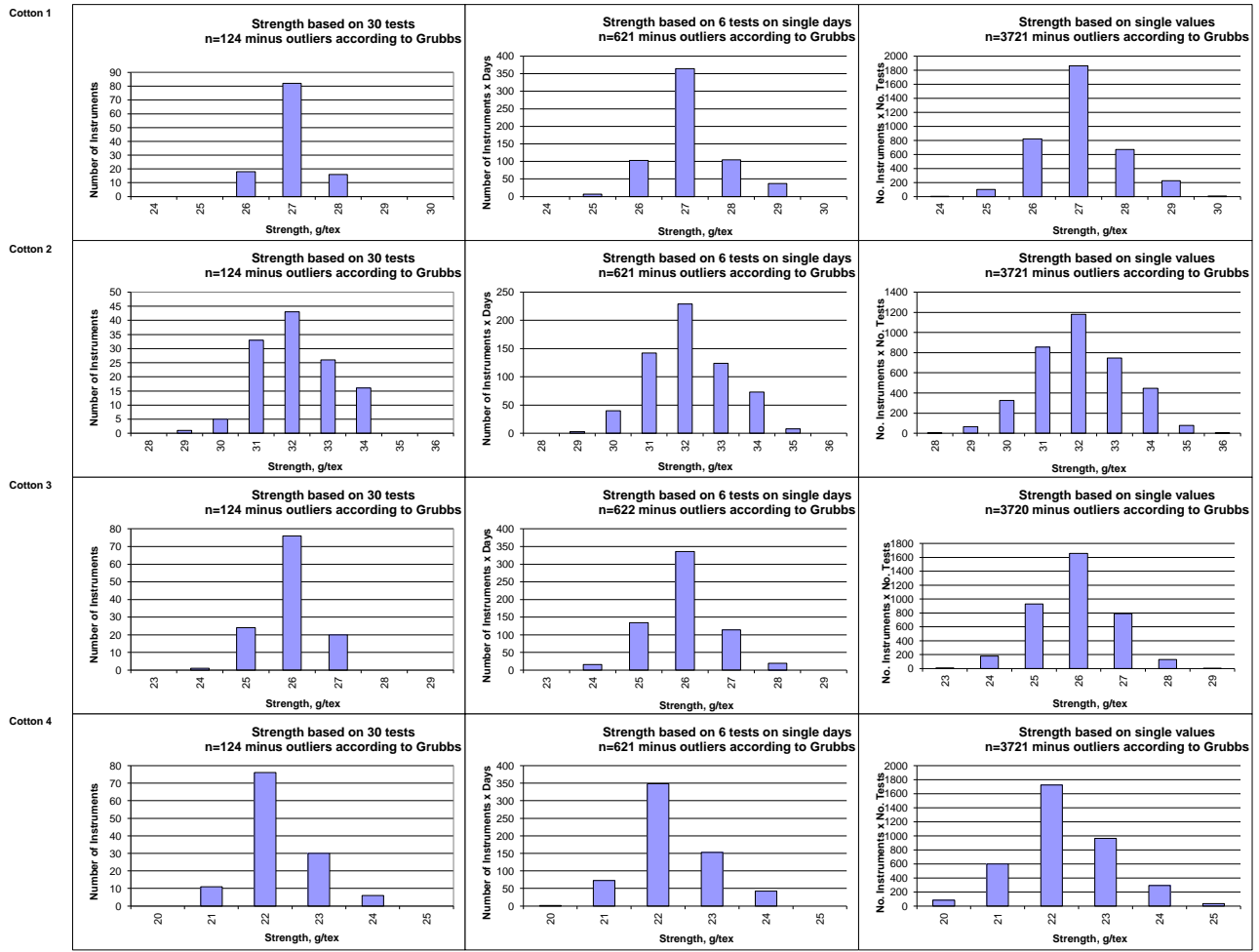
Color +b							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			8.644	14.933	16.056	9.103	
Reference Values for Evaluation			8.644	14.933	16.056	9.103	
Number Of Instruments			123	123	123	123	<b>123</b>
Inter-Instrument Variation	based on 30 tests	SD	0.193	0.362	0.349	0.169	<b>0.268</b>
		CV %	2.2	2.4	2.2	1.9	<b>2.2</b>
	based on 6 tests	SD	0.209	0.381	0.375	0.207	<b>0.293</b>
		CV %	2.4	2.6	2.3	2.3	<b>2.4</b>
	based on single tests	SD	0.237	0.399	0.394	0.240	<b>0.318</b>
		CV %	2.7	2.7	2.5	2.6	<b>2.6</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.074	0.100	0.095	0.074	<b>0.086</b>
		CV %	0.9	0.7	0.6	0.8	<b>0.7</b>
	between single tests on one day	SD	0.079	0.126	0.111	0.092	<b>0.102</b>
		CV %	0.9	0.8	0.7	1.0	<b>0.9</b>
	between all tests on different days	SD	0.116	0.168	0.154	0.128	<b>0.141</b>
		CV %	1.3	1.1	1.0	1.4	<b>1.2</b>

Test Result Distributions  
Micronaire



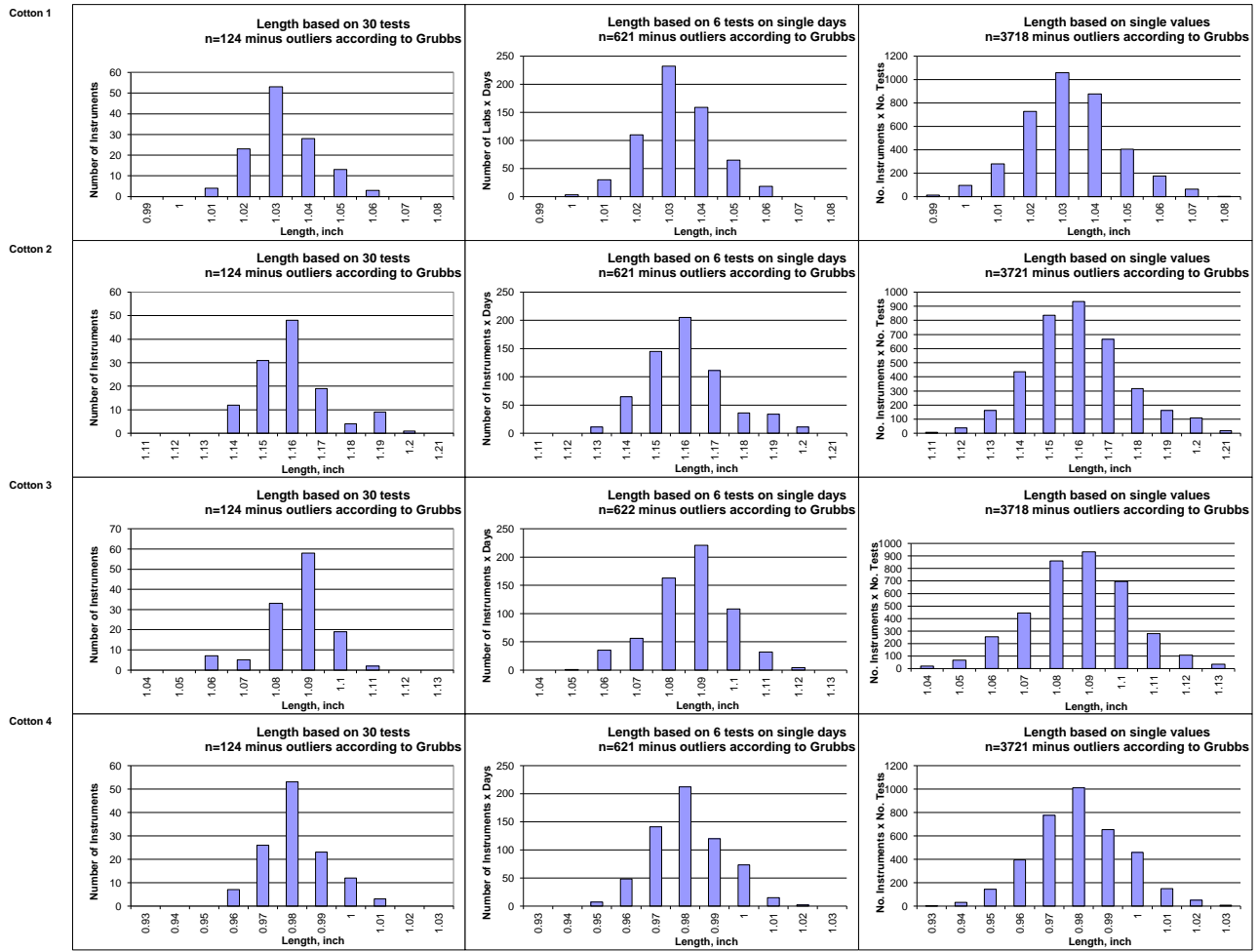
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Strength



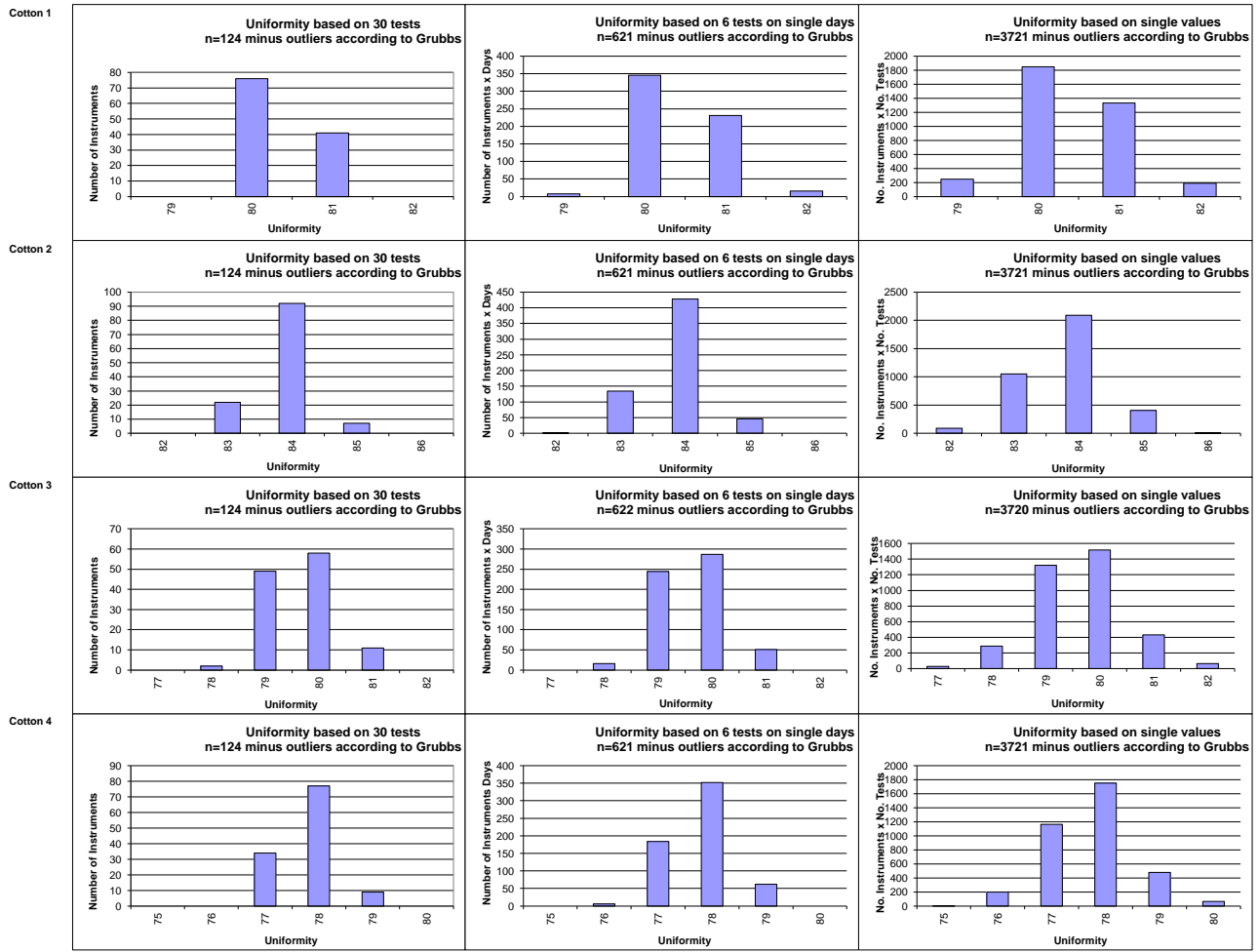
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Length



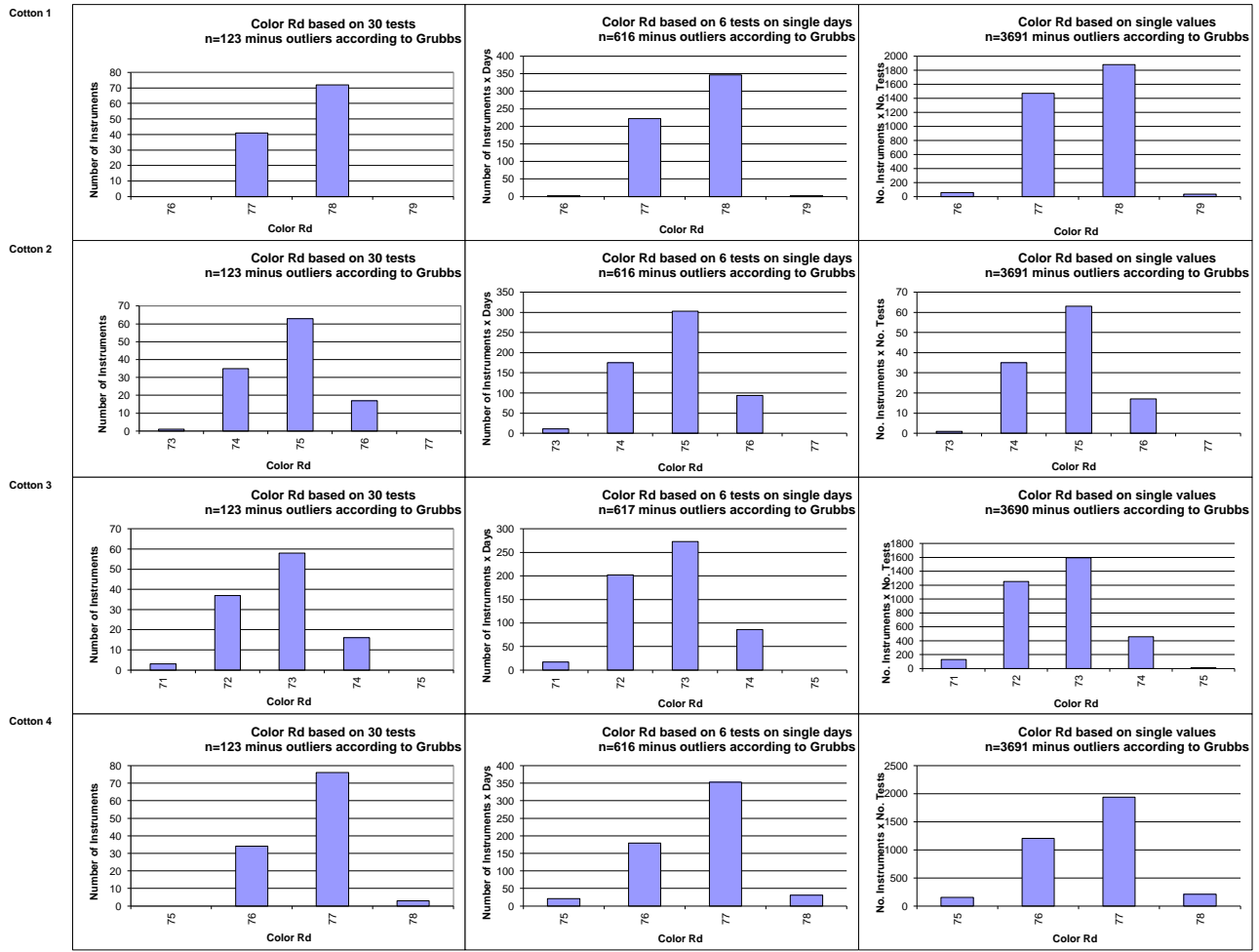
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Uniformity



(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

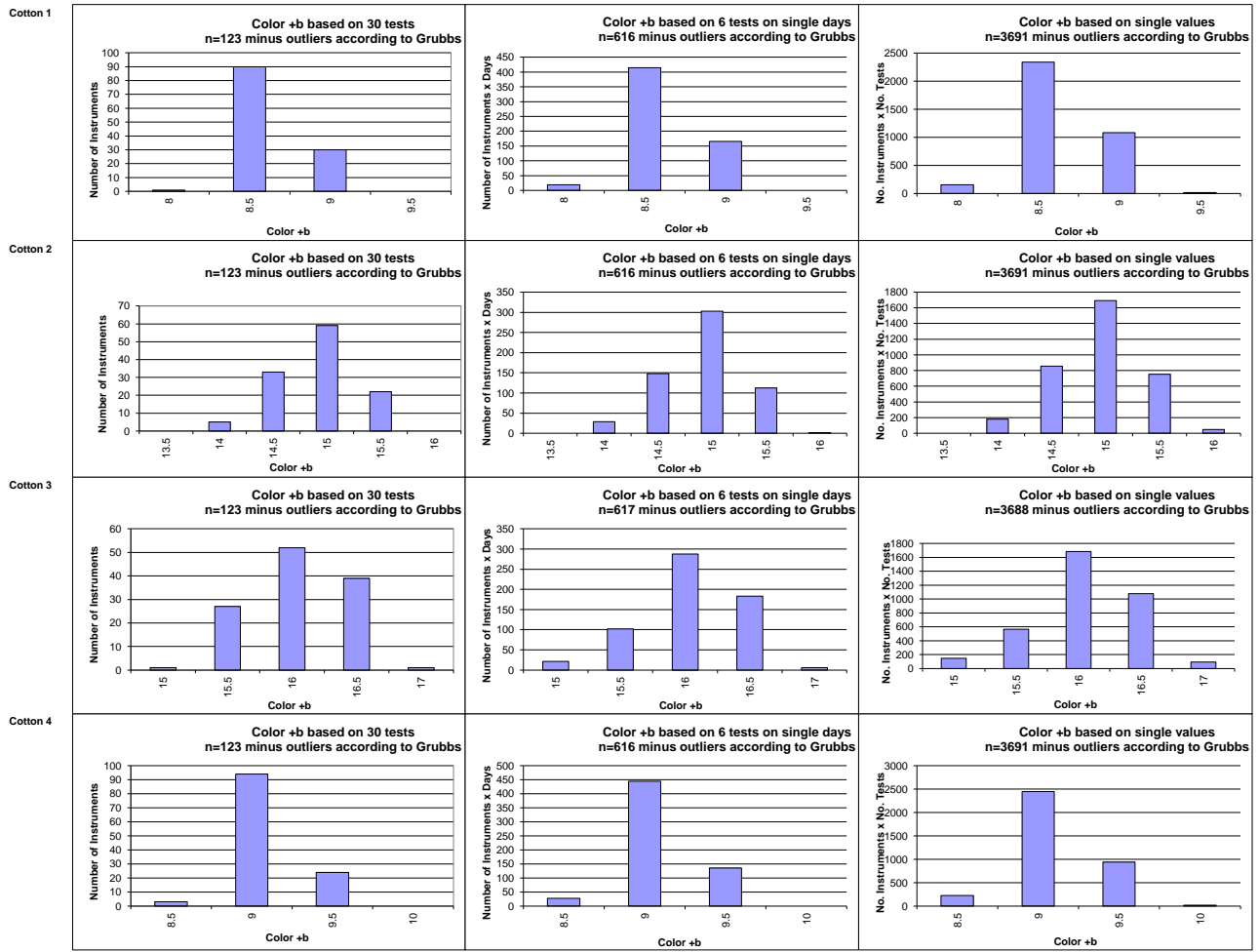
Test Result Distributions  
Color Rd



(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)



Test Result Distributions  
Color +b



(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

Optional Parameters

Inter-Instrument Averages, Inter-Instrument Variations, Typical within-instrument Variations

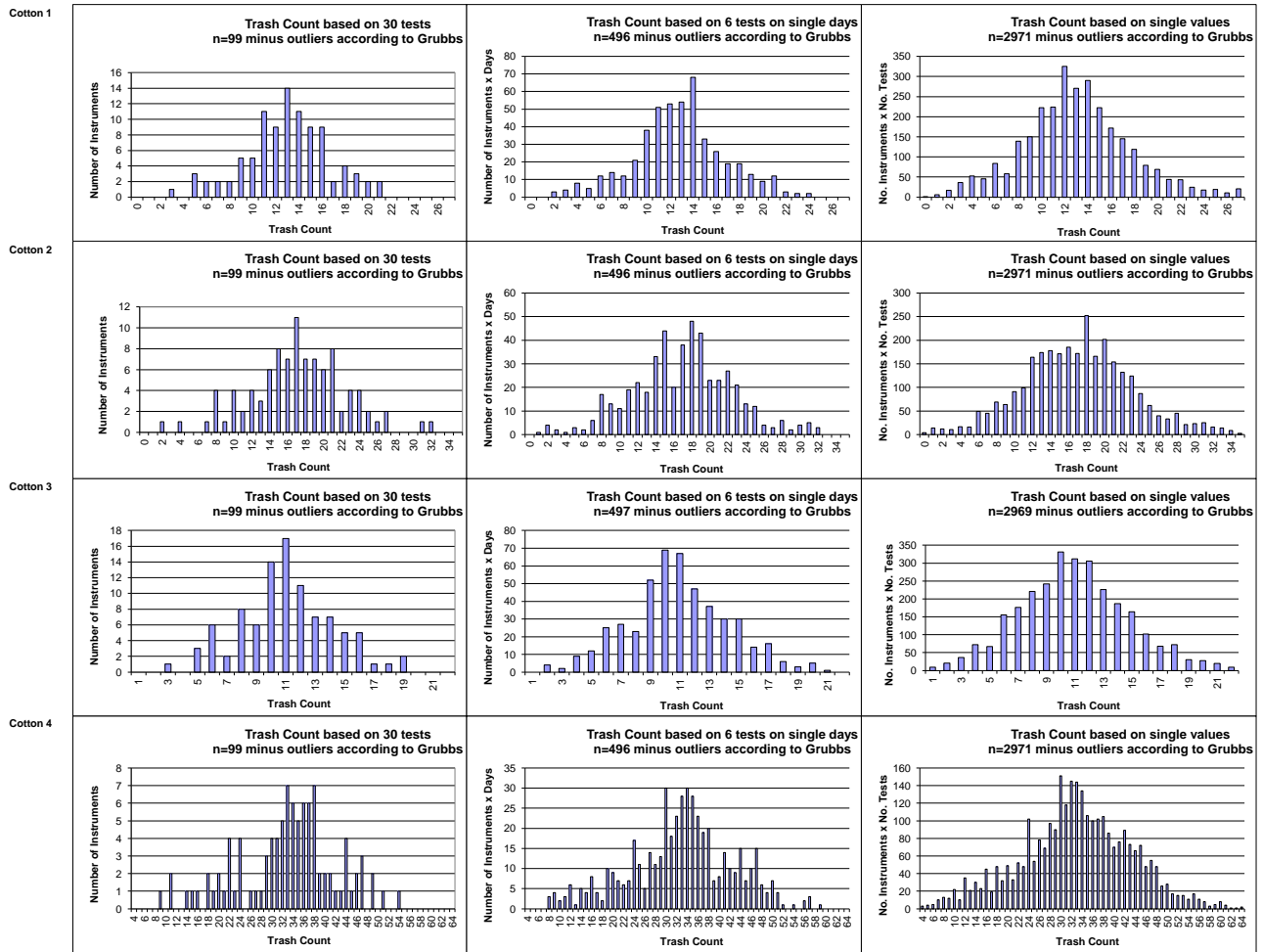
Trash Count							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			12.98	17.13	11.08	33.03	
Reference Values for Evaluation			12.98	17.13	11.08	33.03	
Number Of Instruments			99	99	99	99	<b>99</b>
Inter-Instrument Variation	based on 30 tests	SD	3.68	5.36	3.25	9.29	<b>5.39</b>
		CV %	28.4	31.3	29.3	28.1	<b>29.3</b>
		SD	3.99	5.59	3.42	9.87	<b>5.72</b>
	based on 6 tests	CV %	30.8	32.6	30.9	29.9	<b>31.0</b>
		SD	4.66	6.06	3.84	10.48	<b>6.26</b>
		CV %	35.9	35.4	34.7	31.7	<b>34.4</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	1.37	1.63	1.18	2.52	<b>1.67</b>
		CV %	10.5	9.5	10.6	7.6	<b>9.6</b>
	between single tests on one day	SD	1.92	2.30	1.71	3.17	<b>2.27</b>
		CV %	14.8	13.4	15.4	9.6	<b>13.3</b>
	between all tests on different days	SD	2.46	2.75	2.17	4.51	<b>2.97</b>
		CV %	18.9	16.1	19.6	13.6	<b>17.1</b>

Trash Area							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			0.142	0.142	0.114	0.283	
Reference Values for Evaluation			0.142	0.142	0.114	0.283	
Number Of Instruments			99	99	99	99	<b>99</b>
Inter-Instrument Variation	based on 30 tests	SD	0.035	0.034	0.028	0.075	<b>0.043</b>
		CV %	24.4	24.1	24.7	26.6	<b>25.0</b>
		SD	0.042	0.038	0.031	0.082	<b>0.048</b>
	based on 6 tests	CV %	29.9	26.9	27.1	29.0	<b>28.2</b>
		SD	0.049	0.045	0.037	0.091	<b>0.055</b>
		CV %	34.4	31.6	32.6	32.0	<b>32.6</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.022	0.017	0.014	0.031	<b>0.021</b>
		CV %	15.3	12.0	12.4	11.1	<b>12.7</b>
	between single tests on one day	SD	0.028	0.023	0.021	0.043	<b>0.029</b>
		CV %	19.6	16.5	18.3	15.3	<b>17.4</b>
	between all tests on different days	SD	0.038	0.030	0.027	0.053	<b>0.037</b>
		CV %	26.7	20.9	23.6	18.9	<b>22.5</b>

Maturity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			86.62	85.45	83.59	83.99	
Reference Values for Evaluation			86.62	85.45	83.59	83.99	
Number Of Instruments			104	104	104	104	<b>104</b>
Inter-Instrument Variation	based on 30 tests	SD	1.44	1.20	0.94	2.63	<b>1.55</b>
		CV %	1.7	1.4	1.1	3.1	<b>1.8</b>
		SD	1.45	1.20	0.93	2.63	<b>1.55</b>
	based on 6 tests	CV %	1.7	1.4	1.1	3.1	<b>1.8</b>
		SD	1.34	1.47	0.98	2.66	<b>1.61</b>
		CV %	1.5	1.7	1.2	3.2	<b>1.9</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.15	0.20	0.22	0.18	<b>0.19</b>
		CV %	0.2	0.2	0.3	0.2	<b>0.2</b>
	between single tests on one day	SD	0.16	0.27	0.29	0.26	<b>0.24</b>
		CV %	0.2	0.3	0.3	0.3	<b>0.3</b>
	between all tests on different days	SD	0.35	0.41	0.44	0.41	<b>0.40</b>
		CV %	0.4	0.5	0.5	0.5	<b>0.5</b>

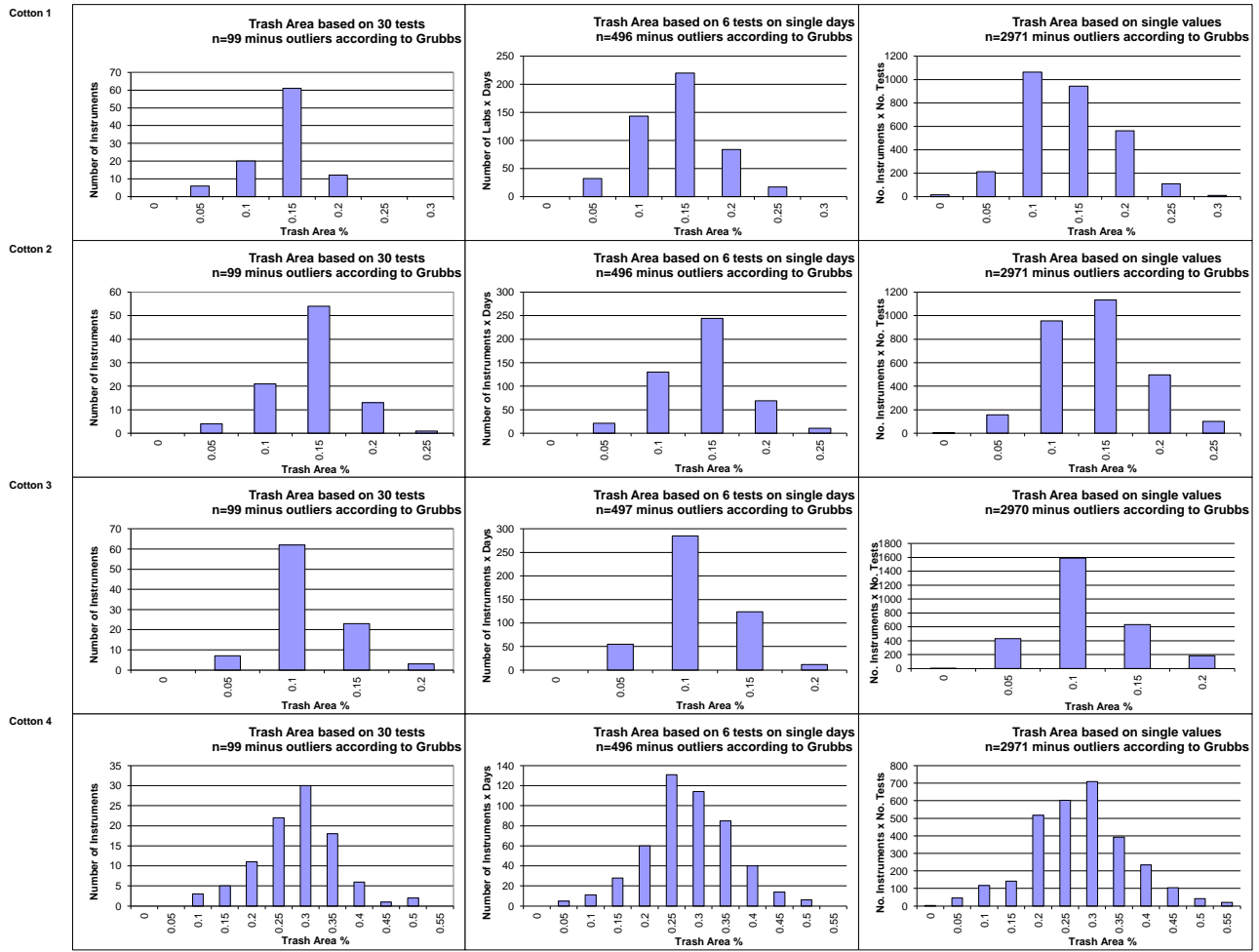
SFI							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			11.39	7.49	11.84	15.42	
<b>Reference Values for Evaluation</b>			11.39	7.49	11.84	15.42	
<b>Number Of Instruments</b>			112	112	112	112	<b>112</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.89	0.57	1.21	1.73	<b>1.10</b>
		CV %	7.9	7.7	10.2	11.2	<b>9.2</b>
	based on 6 tests	SD	0.92	0.57	1.28	1.74	<b>1.13</b>
		CV %	8.1	7.6	10.8	11.3	<b>9.5</b>
	based on single tests	SD	1.08	0.64	1.43	1.92	<b>1.27</b>
		CV %	9.5	8.6	12.1	12.5	<b>10.7</b>
<b>Typical within-instrument Variation (Median)</b>	between different days	SD	0.29	0.16	0.30	0.40	<b>0.29</b>
		CV %	2.6	2.2	2.5	2.6	<b>2.5</b>
	between single tests on one day	SD	0.53	0.30	0.53	0.72	<b>0.52</b>
		CV %	4.6	3.9	4.5	4.6	<b>4.4</b>
	between all tests on different days	SD	0.60	0.34	0.62	0.82	<b>0.60</b>
		CV %	5.3	4.5	5.2	5.3	<b>5.1</b>

Test Result Distributions  
Trash Count



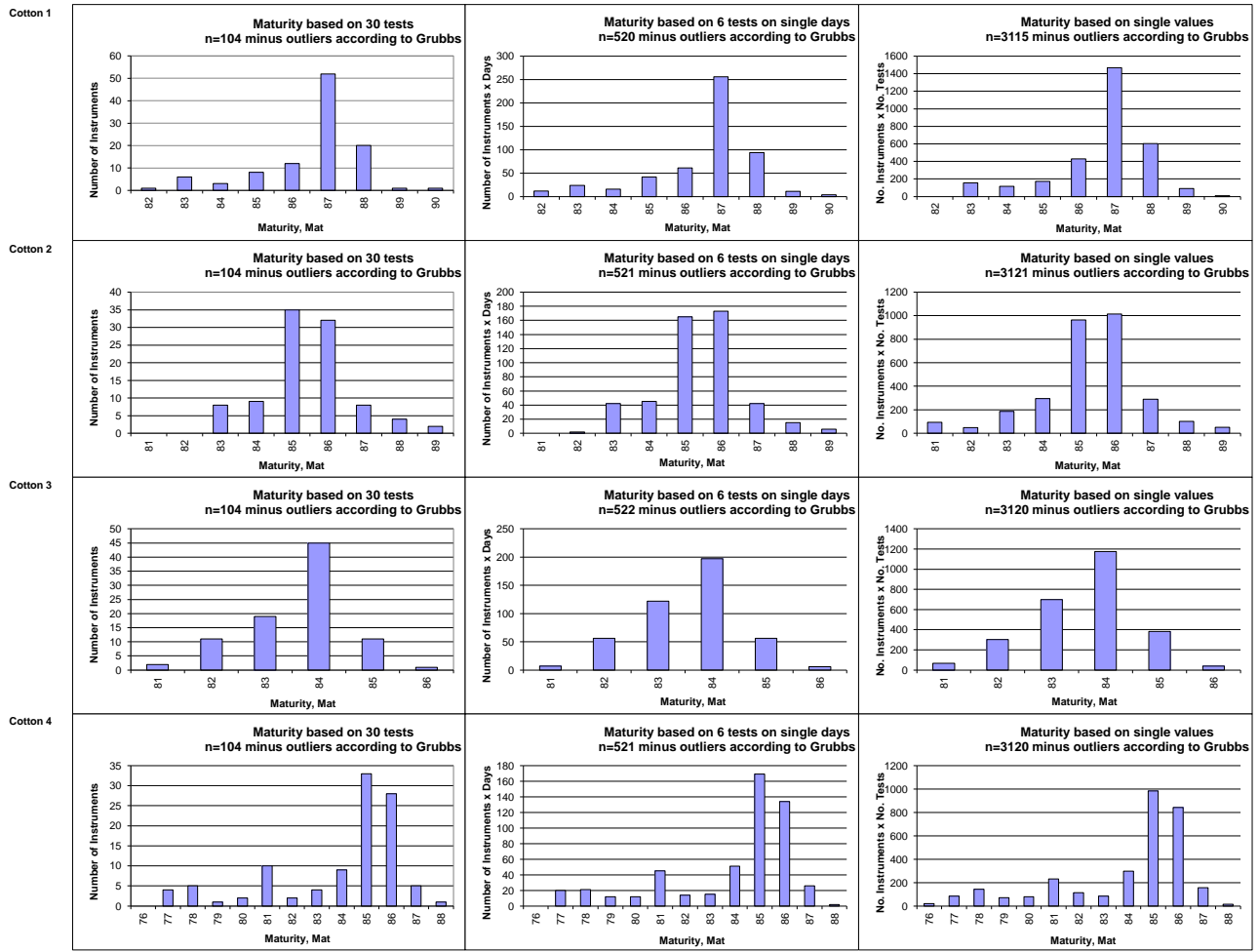
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Trash Area



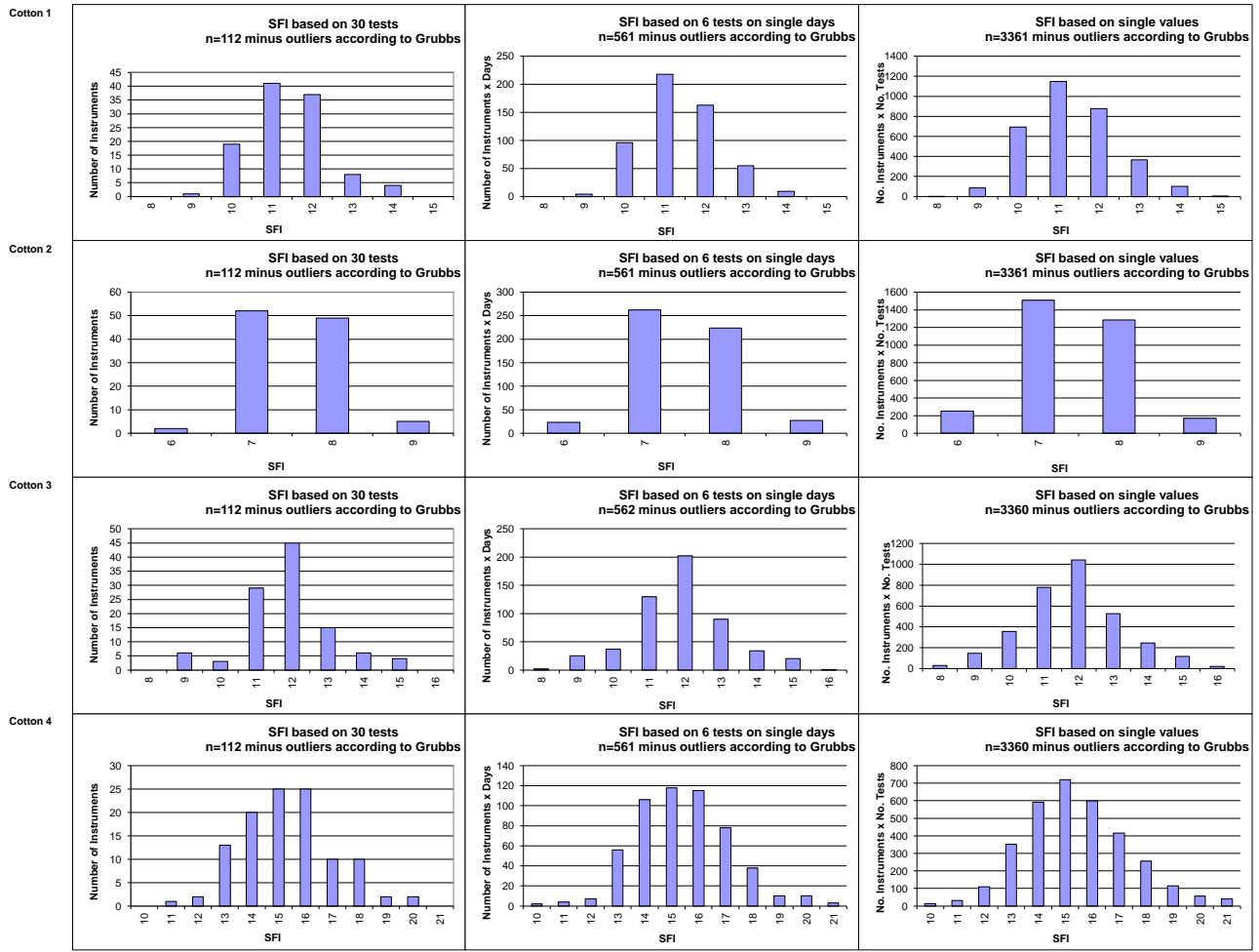
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Maturity



(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
SFI



(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)



International Cotton Advisory Committee



## CSITC Global - Round Trial 2017 - 2 General Evaluation

Section One: Result Distribution

**Section Two: Instrument Evaluation**

Section Three: Within Limits Evaluation

### Section Two: Instrument Evaluation

Content:

- Evaluation of Combined Parameters
- Evaluation of Single Parameters

Executed By:

Faserinstitut Bremen e.V., Bremen, Germany\*  
USDA-AMS, Memphis, TN, USA

System Provided by:

Generation 10 Limited



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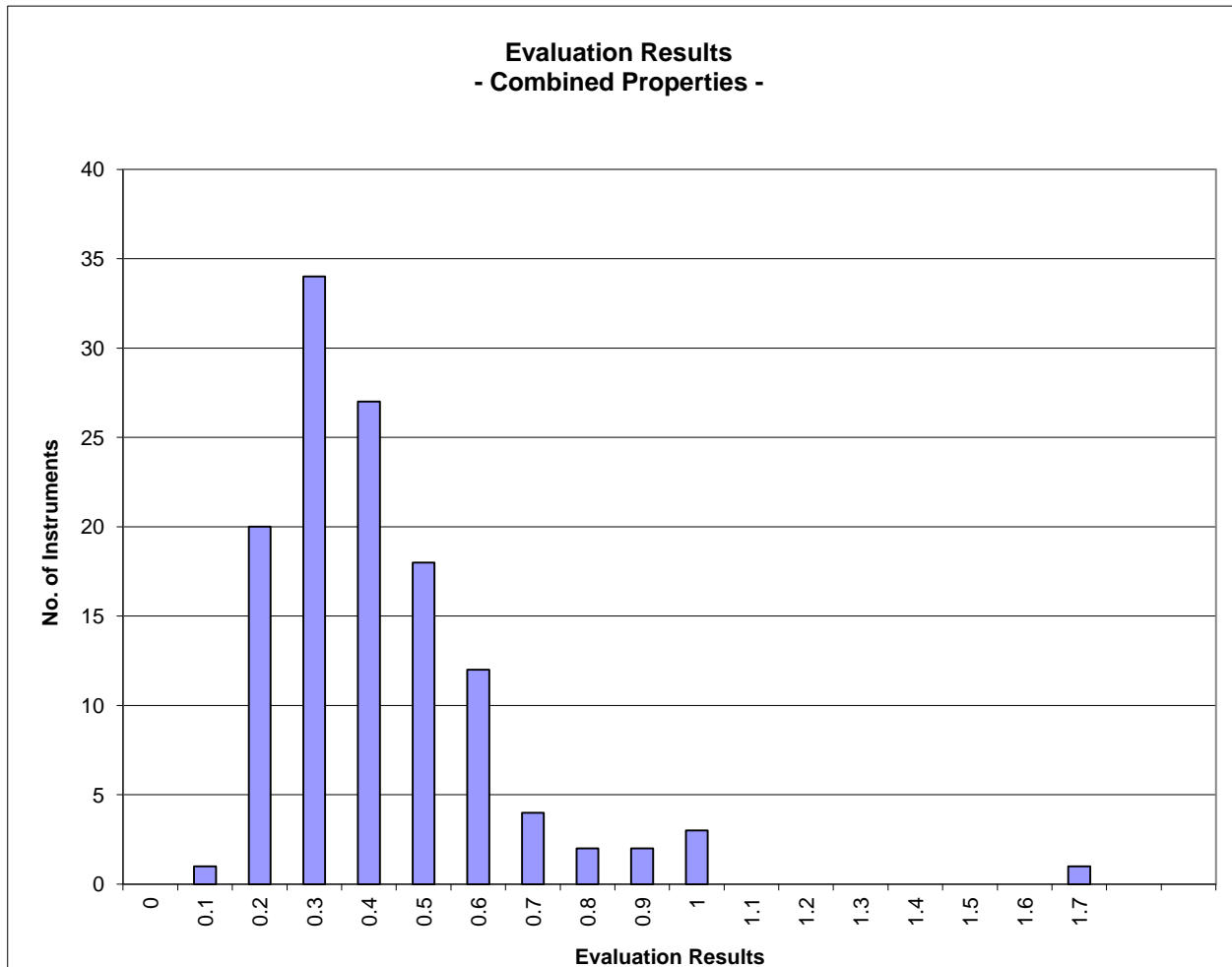
Instrument Evaluation

- Graph of Combined Properties -

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2017 - 2

		<b>Evaluation Combined Prop.</b>
<b>Statistics</b>	Average	0.42
	Median	0.38
	Best Instrument	0.13
	Worst Instrument	1.68

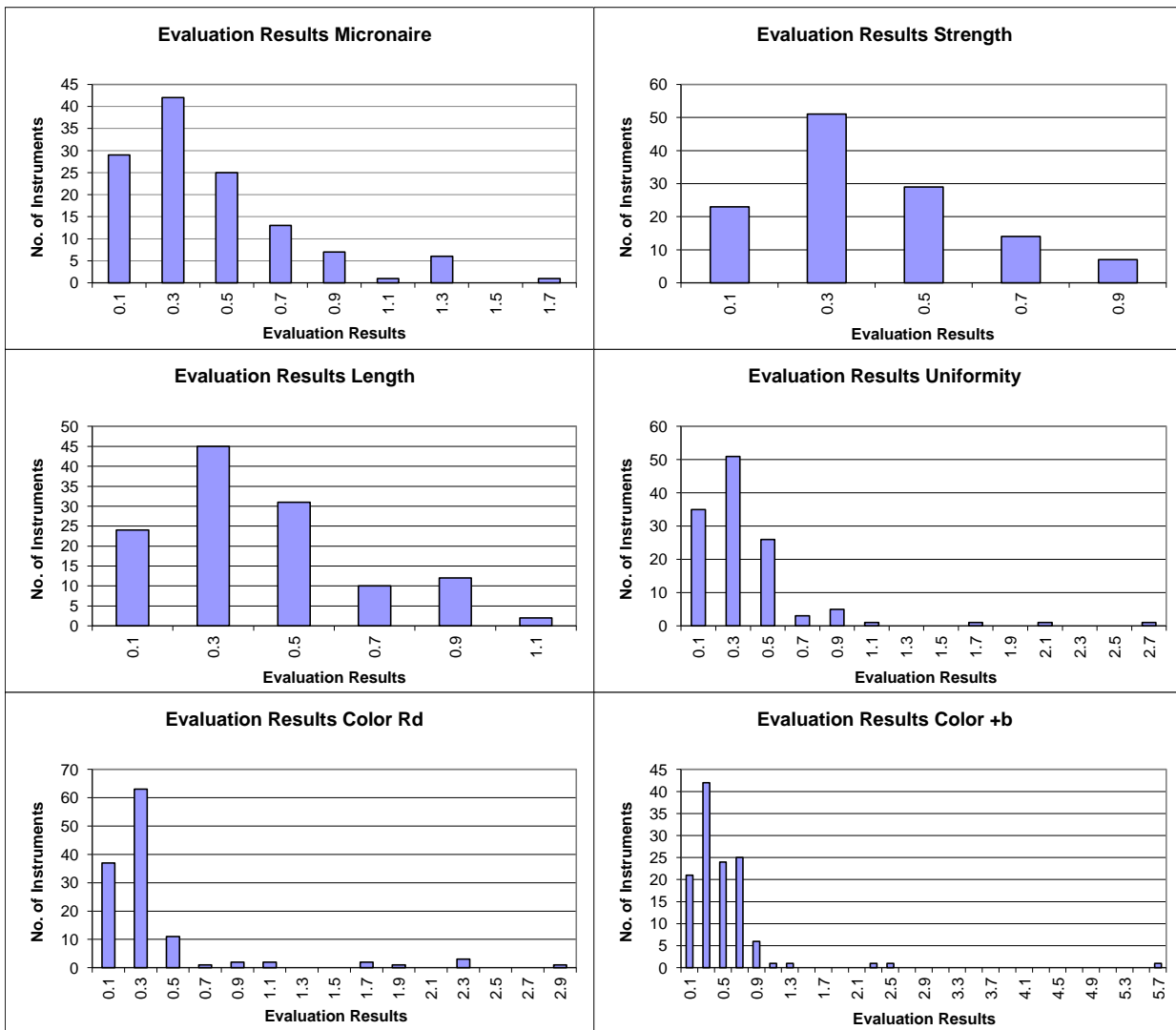


x-Axis shows midpoints of classes

The evaluation results are entered based on the unrounded values  
(classes are defined as > lower limit and <= upper limit)

Instrument Evaluation  
 - Graph of Single Properties -  
 According to ICAC CSITC Task Force Recommendations  
 Global - Round Trial 2017 - 2

	Evaluation Micronaire	Evaluation Strength	Evaluation Length	Evaluation Uniformity	Evaluation Color Rd	Evaluation Color +b	
<b>Statistics</b>	<b>Average</b>	0.44	0.39	0.41	0.37	0.39	0.51
	<b>Median</b>	0.35	0.35	0.34	0.30	0.27	0.39
	<b>Best Instr.</b>	0.04	0.10	0.07	0.03	0.07	0.10
	<b>Worst Instr.</b>	1.78	0.97	1.09	2.61	2.81	5.64



x-Axis shows midpoints of classes  
 The evaluation results are entered based on the unrounded values



International Cotton Advisory Committee



CSITC  
Global - Round Trial 2017 - 2  
General Evaluation

Section One: Result Distribution  
Section Two: Instrument Evaluation  
**Section Three: Within Limits Evaluation**

Section Three: Within Limits Evaluation

Content:

- Based on Average of 30 Test Results
- Based on Single Test Results

Executed By:  
Faserinstitut Bremen e.V., Bremen, Germany\*  
USDA-AMS, Memphis, TN, USA

System Provided by:  
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## Within Limits Evaluation

Based on average of 30 test results for each sample

	<b>Micronaire</b>	<b>Strength</b>	<b>Length</b>	<b>Uniformity</b>	<b>Color Rd</b>	<b>Color +b</b>
Limits	0.20	2.0	0.030	2.0	1.5	0.5
	units	g/tex	inch	%	units	units
Average % Results within Limits	100.0	97.2	99.0	98.2	92.9	91.1
Completely within limits	100.0	88.7	96.0	96.0	90.2	75.6
% of Instruments $\geq 75\%$ within limits	100.0	100.0	100.0	98.4	92.7	90.2
% of Instruments $\geq 50\%$ within limits	100.0	100.0	100.0	99.2	93.5	99.2

Percentage of Results Within Limits						
<b>Instrument</b>	<b>Micronaire</b>	<b>Strength</b>	<b>Length</b>	<b>Uniformity</b>	<b>Color Rd</b>	<b>Color +b</b>
GL172-001-01	100	100	100	100	100	100
GL172-002-01	100	100	100	100	100	100
GL172-002-02	100	100	100	100	100	100
GL172-002-03	100	100	100	100	100	100
GL172-002-04	100	100	100	100	100	100
GL172-003-20	100	100	100	100	100	100
GL172-003-24	100	100	100	100	100	100
GL172-004-01	100	75	100	100	100	100
GL172-004-02	100	75	100	100	100	75
GL172-005-01	100	100	100	100	0	50
GL172-005-02	100	100	100	100	0	50
GL172-005-03	100	100	100	100	100	50
GL172-005-04	100	100	100	100	100	75
GL172-007-03	100	100	100	100	100	75
GL172-007-04	100	100	100	100	100	75
GL172-007-05	100	100	100	100	100	75
GL172-008-06	100	75	100	100	100	75
GL172-009-01	100	100	100	100	100	75
GL172-010-01	100	100	100	100	100	100
GL172-010-02	100	100	100	100	100	100
GL172-011-01	100	100	100	100	100	100
GL172-014-01	100	100	100	100	100	100
GL172-015-03	100	100	100	100	100	100
GL172-015-07	100	100	100	100	100	100
GL172-015-08	100	100	100	100	100	75
GL172-015-09	100	100	100	100	100	100
GL172-015-10	100	100	100	100	100	100
GL172-015-11	100	100	100	100	100	100
GL172-015-12	100	100	100	100	100	100
GL172-015-13	100	100	100	100	100	100
GL172-015-14	100	100	100	100	100	100
GL172-016-01	100	100	100	100	100	100
GL172-016-02	100	100	100	100	75	100
GL172-017-01	100	100	100	100	100	100

GL172-018-01	100	75	100	100	100	100
GL172-018-02	100	75	100	100	100	100
GL172-020-01	100	100	100	100	100	75
GL172-021-01	100	100	100	100	100	75
GL172-024-03	100	100	100	100	100	100
GL172-024-06	100	100	100	100	100	100
GL172-025-02	100	100	100	100		
GL172-025-03	100	100	100	100	100	100
GL172-026-03	100	100	100	100	100	100
GL172-027-01	100	100	100	100	100	100
GL172-030-01	100	100	100	100	100	100
GL172-030-02	100	100	100	100	100	100
GL172-032-02	100	100	75	100	100	75
GL172-033-01	100	100	100	100	100	100
GL172-034-01	100	100	100	100	100	100
GL172-034-02	100	100	100	100	100	100
GL172-034-05	100	100	100	100	100	100
GL172-034-07	100	100	100	100	100	50
GL172-035-03	100	100	100	100	100	100
GL172-036-01	100	75	100	100	0	100
GL172-036-02	100	100	100	100	100	100
GL172-036-04	100	100	100	100	0	100
GL172-036-07	100	100	100	0	100	100
GL172-037-02	100	100	100	100	100	75
GL172-038-01	100	100	100	100	100	100
GL172-038-02	100	100	100	100	100	100
GL172-038-03	100	100	100	100	100	100
GL172-038-04	100	100	100	100	100	100
GL172-040-26	100	100	100	100	100	75
GL172-040-58	100	100	100	100	100	75
GL172-042-01	100	100	100	100	100	100
GL172-043-03	100	100	100	100	100	100
GL172-044-01	100	100	100	100	100	100
GL172-045-01	100	100	100	100	25	100
GL172-046-01	100	100	100	100	100	50
GL172-046-02	100	100	100	100	100	100
GL172-046-04	100	100	100	100	100	100
GL172-048-01	100	100	100	100	100	100
GL172-052-01	100	100	100	100	100	100
GL172-052-02	100	100	100	100	100	100
GL172-055-02	100	100	100	100	100	75
GL172-056-04	100	100	100	75	100	100
GL172-058-01	100	100	75	100	100	100
GL172-060-01	100	100	100	100	100	100
GL172-060-02	100	100	100	100	100	100
GL172-061-01	100	100	100	100	100	100
GL172-061-04	100	100	100	100	100	100
GL172-061-05	100	100	100	100	100	100
GL172-062-01	100	100	100	100	100	100
GL172-064-01	100	75	100	100	100	50
GL172-065-01	100	100	75	100	100	75
GL172-066-01	100	100	100	100	100	100
GL172-067-01	100	100	100	100	75	100
GL172-068-06	100	100	100	100	100	100
GL172-068-07	100	100	100	100	100	100

GL172-070-01	100	100	100	100	100	100
GL172-070-02	100	100	100	100	100	100
GL172-071-01	100	100	100	100	100	50
GL172-072-03	100	100	100	100	100	50
GL172-073-01	100	100	100	100	100	100
GL172-075-01	100	100	100	100	25	100
GL172-076-01	100	100	100	100	100	50
GL172-077-01	100	100	100	100	0	0
GL172-078-04	100	100	100	100	100	100
GL172-080-01	100	100	100	100	100	100
GL172-080-02	100	100	100	100	100	100
GL172-081-01	100	100	100	100	100	100
GL172-082-01	100	75	75	100	100	100
GL172-083-01	100	100	100	100	100	100
GL172-083-03	100	100	100	100	100	100
GL172-084-01	100	100	100	100	100	50
GL172-085-01	100	75	100	100	100	100
GL172-085-02	100	100	100	100	100	75
GL172-085-03	100	100	100	75	100	100
GL172-085-04	100	100	100	100	100	100
GL172-086-01	100	75	100	100	100	50
GL172-087-01	100	100	100	100	100	100
GL172-089-01	100	75	100	100	75	100
GL172-090-04	100	100	100	100	100	100
GL172-091-03	100	100	100	100	100	100
GL172-092-01	100	100	100	100	100	100
GL172-092-02	100	100	100	100	50	100
GL172-093-04	100	100	100	100	100	100
GL172-093-05	100	100	100	100	100	100
GL172-096-01	100	75	75	50	0	100
GL172-097-01	100	75	100	100	100	100
GL172-099-01	100	100	100	100	100	75
GL172-100-01	100	100	100	100	100	100
GL172-101-31	100	75	100	75	100	100
GL172-109-01	100	100	100	100	100	100

## Within Limits Evaluation

Based on Single Test Results

	<b>Micronaire</b>	<b>Strength</b>	<b>Length</b>	<b>Uniformity</b>	<b>Color Rd</b>	<b>Color +b</b>
Limits	0.20	2.0	0.030	2.0	1.5	0.5
	units	g/tex	inch	%	units	units
Average % Results within Limits	98.8	94.4	96.0	97.0	92.3	85.5
% of Instruments 100% within limits	74.2	33.1	33.9	54.8	61.8	19.5
% of Instruments ≥95% within limits	92.7	66.9	75.8	91.1	83.7	40.7
% of Instruments ≥75% within limits	100.0	96.0	100.0	96.8	91.1	80.5
% of Instruments ≥65% within limits	100.0	99.2	100.0	98.4	91.9	91.1
% of Instruments ≥50% within limits	100.0	100.0	100.0	98.4	93.5	97.6

Percentage of Results Within Limits						
<b>Instrument</b>	<b>Micronaire</b>	<b>Strength</b>	<b>Length</b>	<b>Uniformity</b>	<b>Color Rd</b>	<b>Color +b</b>
GL172-001-01	100	100	97	97	100	96
GL172-002-01	100	97	97	100	99	99
GL172-002-02	100	100	100	100	100	100
GL172-002-03	99	98	95	99	99	99
GL172-002-04	100	100	99	100	100	100
GL172-003-20	100	99	99	100	100	93
GL172-003-24	100	98	100	99	100	100
GL172-004-01	94	86	91	98	82	56
GL172-004-02	100	83	90	100	93	65
GL172-005-01	93	95	92	98	0	42
GL172-005-02	80	90	96	96	15	28
GL172-005-03	91	95	99	100	100	70
GL172-005-04	98	97	99	100	100	65
GL172-007-03	100	93	98	98	100	84
GL172-007-04	99	100	96	96	100	80
GL172-007-05	98	95	98	99	99	80
GL172-008-06	100	83	90	100	93	65
GL172-009-01	100	94	98	100	99	78
GL172-010-01	100	97	99	100	95	89
GL172-010-02	100	100	100	100	99	97
GL172-011-01	100	100	100	100	100	100
GL172-014-01	100	100	100	100	100	100
GL172-015-03	100	100	100	100	100	96
GL172-015-07	100	98	98	99	100	100
GL172-015-08	100	98	99	99	99	75
GL172-015-09	98	95	98	100	100	100
GL172-015-10	99	98	99	100	100	99
GL172-015-11	98	99	97	99	100	97
GL172-015-12	98	97	98	100	100	100
GL172-015-13	100	93	100	100	100	100

GL172-015-14	100	100	100	98	100	100
GL172-016-01	100	100	100	100	98	92
GL172-016-02	100	100	100	100	83	100
GL172-017-01	100	100	100	100	98	95
GL172-018-01	100	74	99	100	100	92
GL172-018-02	100	76	100	100	100	90
GL172-020-01	100	100	100	100	100	75
GL172-021-01	100	100	100	100	100	78
GL172-024-03	100	100	100	100	100	100
GL172-024-06	100	100	99	100	100	100
GL172-025-02	100	94	98	97		
GL172-025-03	100	95	100	99	100	88
GL172-026-03	100	98	100	100	100	93
GL172-027-01	98	94	76	100	100	79
GL172-030-01	100	99	98	100	100	100
GL172-030-02	100	80	99	100	99	100
GL172-032-02	100	88	80	100	100	75
GL172-033-01	100	100	95	98	100	91
GL172-034-01	100	98	94	100	100	87
GL172-034-02	100	100	91	100	100	92
GL172-034-05	90	100	94	100	100	88
GL172-034-07	97	100	93	100	100	55
GL172-035-03	100	93	95	98	95	93
GL172-036-01	100	64	98	100	0	79
GL172-036-02	100	98	97	100	100	98
GL172-036-04	99	92	93	98	16	96
GL172-036-07	99	73	88	19	96	97
GL172-037-02	100	90	99	100	100	70
GL172-038-01	100	100	100	100	100	99
GL172-038-02	100	100	100	100	100	91
GL172-038-03	100	100	100	100	100	96
GL172-038-04	100	100	100	100	100	100
GL172-040-26	100	95	98	98	100	70
GL172-040-58	98	92	98	98	100	72
GL172-042-01	100	96	100	100	94	95
GL172-043-03	100	100	100	100	89	98
GL172-044-01	95	94	99	97	100	91
GL172-045-01	97	100	96	95	23	73
GL172-046-01	96	95	100	99	73	58
GL172-046-02	100	97	98	98	100	100
GL172-046-04	100	100	98	100	100	88
GL172-048-01	100	99	98	98	100	99
GL172-052-01	100	100	100	99	100	99
GL172-052-02	100	100	100	100	93	81
GL172-055-02	100	93	99	100	87	67
GL172-056-04	99	99	98	83	100	88
GL172-058-01	100	91	82	97	95	93
GL172-060-01	100	100	100	100	100	100
GL172-060-02	100	100	100	100	100	99
GL172-061-01	100	100	100	100	99	98
GL172-061-04	100	100	100	100	100	100
GL172-061-05	100	100	100	100	100	98
GL172-062-01	100	97	98	100	100	99
GL172-064-01	83	77	77	98	98	58
GL172-065-01	100	93	86	100	96	65



GL172-066-01	100	99	99	100	100	93
GL172-067-01	100	99	100	100	75	99
GL172-068-06	100	100	100	100	100	100
GL172-068-07	100	100	100	100	100	100
GL172-070-01	100	90	98	98	100	88
GL172-070-02	100	100	98	99	100	88
GL172-071-01	100	100	100	100	100	50
GL172-072-03	100	82	93	99	100	60
GL172-073-01	100	100	100	100	100	100
GL172-075-01	100	87	89	92	59	93
GL172-076-01	100	98	99	99	99	58
GL172-077-01	89	83	85	86	3	0
GL172-078-04	100	96	100	99	99	93
GL172-080-01	100	96	99	99	100	90
GL172-080-02	100	93	87	99	100	93
GL172-081-01	100	93	100	100	99	78
GL172-082-01	100	83	83	96	95	53
GL172-083-01	100	99	92	99	100	100
GL172-083-03	100	99	100	99	100	100
GL172-084-01	99	99	91	88	98	72
GL172-085-01	100	69	100	98	100	93
GL172-085-02	100	84	97	99	100	78
GL172-085-03	100	98	96	82	95	85
GL172-085-04	98	81	96	95	99	77
GL172-086-01	95	75	94	98	98	69
GL172-087-01	100	100	95	94	100	98
GL172-089-01	90	83	89	93	62	76
GL172-090-04	100	99	97	100	100	98
GL172-091-03	93	91	87	70	98	86
GL172-092-01	100	100	94	98	99	79
GL172-092-02	98	98	93	99	47	97
GL172-093-04	99	98	96	100	100	72
GL172-093-05	100	97	99	100	100	75
GL172-096-01	100	74	78	41	26	78
GL172-097-01	98	88	76	100	100	82
GL172-099-01	100	98	100	100	100	80
GL172-100-01	100	96	98	98	100	98
GL172-101-31	100	81	83	73	99	75
GL172-109-01	100	91	100	100	100	93