



**International Cotton Advisory Committee**



**CSITC**  
**Global - Round Trial 2016 - 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 2016 - 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)			3.992	3.672	4.577	3.604	
Reference Values for Evaluation			3.992	3.672	4.577	3.604	
Number Of Instruments			115	115	115	115	<b>115</b>
Inter-Instrument Variation	based on 30 tests	SD	0.055	0.064	0.045	0.066	<b>0.058</b>
		CV %	1.4	1.7	1.0	1.8	<b>1.5</b>
		SD	0.060	0.071	0.051	0.070	<b>0.063</b>
	based on 6 tests	CV %	1.5	1.9	1.1	1.9	<b>1.6</b>
		SD	0.070	0.086	0.064	0.079	<b>0.075</b>
		CV %	1.8	2.3	1.4	2.2	<b>1.9</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.025	0.025	0.022	0.025	<b>0.024</b>
		CV %	0.6	0.7	0.5	0.7	<b>0.6</b>
	between single tests on one day	SD	0.034	0.039	0.034	0.034	<b>0.035</b>
		CV %	0.8	1.0	0.8	1.0	<b>0.9</b>
	between all tests on different days	SD	0.041	0.047	0.041	0.043	<b>0.043</b>
		CV %	1.0	1.3	0.9	1.2	<b>1.1</b>

Strength							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			33.865	22.401	26.915	26.196	
Reference Values for Evaluation			33.865	22.401	26.915	26.196	
Number Of Instruments			114	114	113	113	<b>114</b>
Inter-Instrument Variation	based on 30 tests	SD	0.765	0.618	0.576	0.702	<b>0.665</b>
		CV %	2.3	2.8	2.1	2.7	<b>2.5</b>
		SD	0.885	0.699	0.665	0.765	<b>0.753</b>
	based on 6 tests	CV %	2.6	3.1	2.5	2.9	<b>2.8</b>
		SD	1.016	0.878	0.803	0.926	<b>0.906</b>
		CV %	3.0	3.9	3.0	3.5	<b>3.4</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.361	0.315	0.277	0.295	<b>0.312</b>
		CV %	1.1	1.4	1.0	1.1	<b>1.2</b>
	between single tests on one day	SD	0.564	0.547	0.472	0.542	<b>0.531</b>
		CV %	1.7	2.4	1.8	2.1	<b>2.0</b>
	between all tests on different days	SD	0.658	0.609	0.542	0.614	<b>0.606</b>
		CV %	1.9	2.7	2.0	2.3	<b>2.3</b>

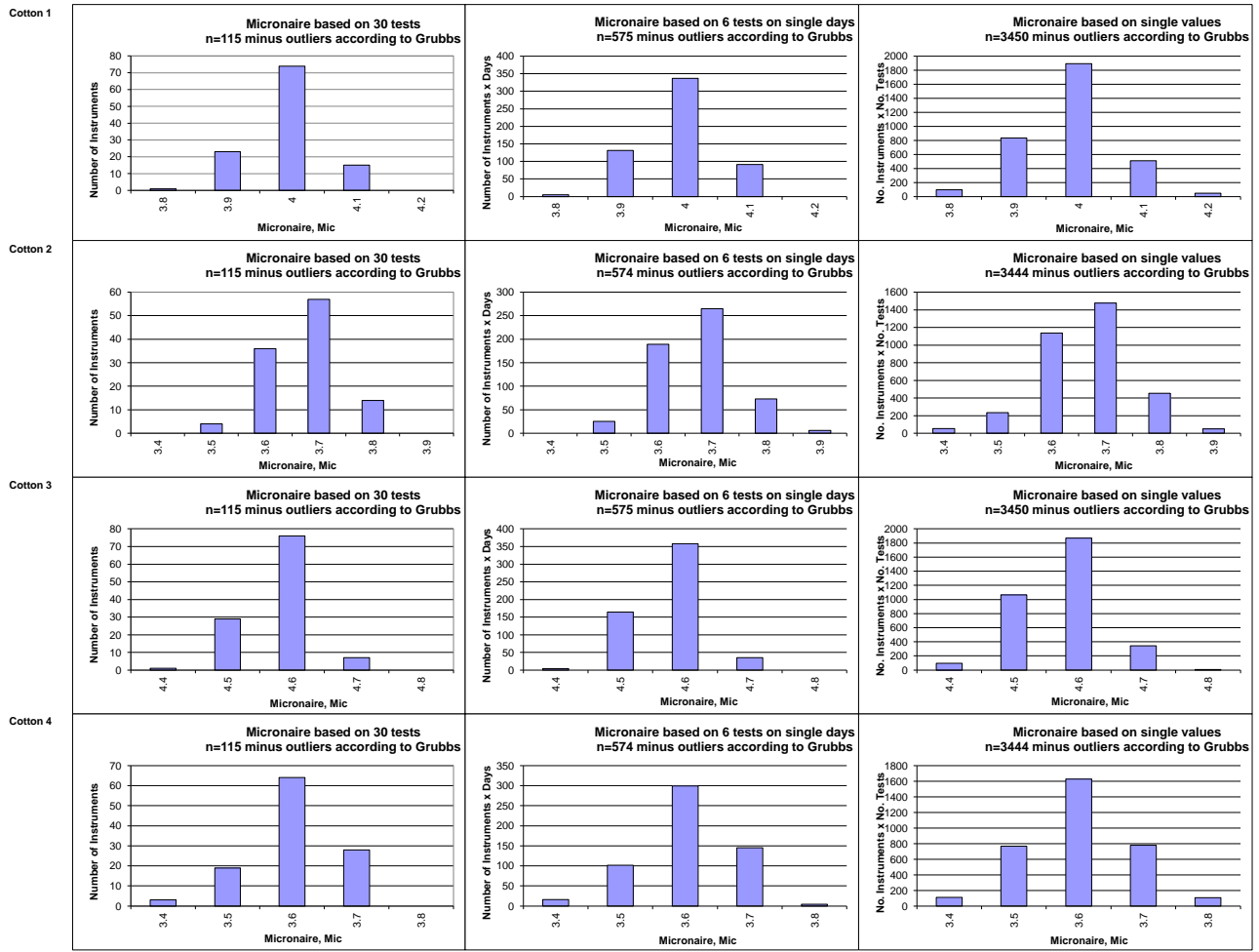
Length							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			1.1884	0.9783	1.0311	1.0869	
Reference Values for Evaluation			1.1884	0.9783	1.0311	1.0869	
Number Of Instruments			115	115	115	115	<b>115</b>
Inter-Instrument Variation	based on 30 tests	SD	0.0097	0.0121	0.0128	0.0114	<b>0.0115</b>
		CV %	0.8	1.2	1.2	1.0	<b>1.1</b>
		SD	0.0107	0.0135	0.0148	0.0128	<b>0.0130</b>
	based on 6 tests	CV %	0.9	1.4	1.4	1.2	<b>1.2</b>
		SD	0.0142	0.0168	0.0167	0.0164	<b>0.0160</b>
		CV %	1.2	1.7	1.6	1.5	<b>1.5</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.0050	0.0060	0.0055	0.0054	<b>0.0055</b>
		CV %	0.4	0.6	0.5	0.5	<b>0.5</b>
	between single tests on one day	SD	0.0096	0.0108	0.0092	0.0112	<b>0.0102</b>
		CV %	0.8	1.1	0.9	1.0	<b>1.0</b>
	between all tests on different days	SD	0.0105	0.0122	0.0107	0.0123	<b>0.0114</b>
		CV %	0.9	1.2	1.0	1.1	<b>1.1</b>

Uniformity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			84.087	77.809	80.443	79.805	
Reference Values for Evaluation			84.087	77.809	80.443	79.805	
Number Of Instruments			114	114	114	114	<b>114</b>
Inter-Instrument Variation	based on 30 tests	SD	0.351	0.480	0.474	0.730	<b>0.509</b>
		CV %	0.4	0.6	0.6	0.9	<b>0.6</b>
	based on 6 tests	SD	0.466	0.579	0.580	0.793	<b>0.605</b>
		CV %	0.6	0.7	0.7	1.0	<b>0.8</b>
	based on single tests	SD	0.626	0.851	0.756	0.969	<b>0.800</b>
		CV %	0.7	1.1	0.9	1.2	<b>1.0</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.244	0.310	0.287	0.286	<b>0.282</b>
		CV %	0.3	0.4	0.4	0.4	<b>0.4</b>
	between single tests on one day	SD	0.449	0.591	0.518	0.580	<b>0.535</b>
		CV %	0.5	0.8	0.6	0.7	<b>0.7</b>
	between all tests on different days	SD	0.522	0.660	0.585	0.663	<b>0.607</b>
		CV %	0.6	0.8	0.7	0.8	<b>0.8</b>

Color Rd							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			75.705	76.761	77.456	73.790	
Reference Values for Evaluation			75.705	76.761	77.456	73.790	
Number Of Instruments			113	113	113	113	<b>113</b>
Inter-Instrument Variation	based on 30 tests	SD	0.608	0.547	0.509	0.565	<b>0.557</b>
		CV %	0.8	0.7	0.7	0.8	<b>0.7</b>
	based on 6 tests	SD	0.621	0.580	0.521	0.566	<b>0.572</b>
		CV %	0.8	0.8	0.7	0.8	<b>0.8</b>
	based on single tests	SD	0.653	0.624	0.556	0.707	<b>0.635</b>
		CV %	0.9	0.8	0.7	1.0	<b>0.8</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.136	0.218	0.153	0.163	<b>0.168</b>
		CV %	0.2	0.3	0.2	0.2	<b>0.2</b>
	between single tests on one day	SD	0.159	0.208	0.162	0.158	<b>0.172</b>
		CV %	0.2	0.3	0.2	0.2	<b>0.2</b>
	between all tests on different days	SD	0.241	0.318	0.240	0.237	<b>0.259</b>
		CV %	0.3	0.4	0.3	0.3	<b>0.3</b>

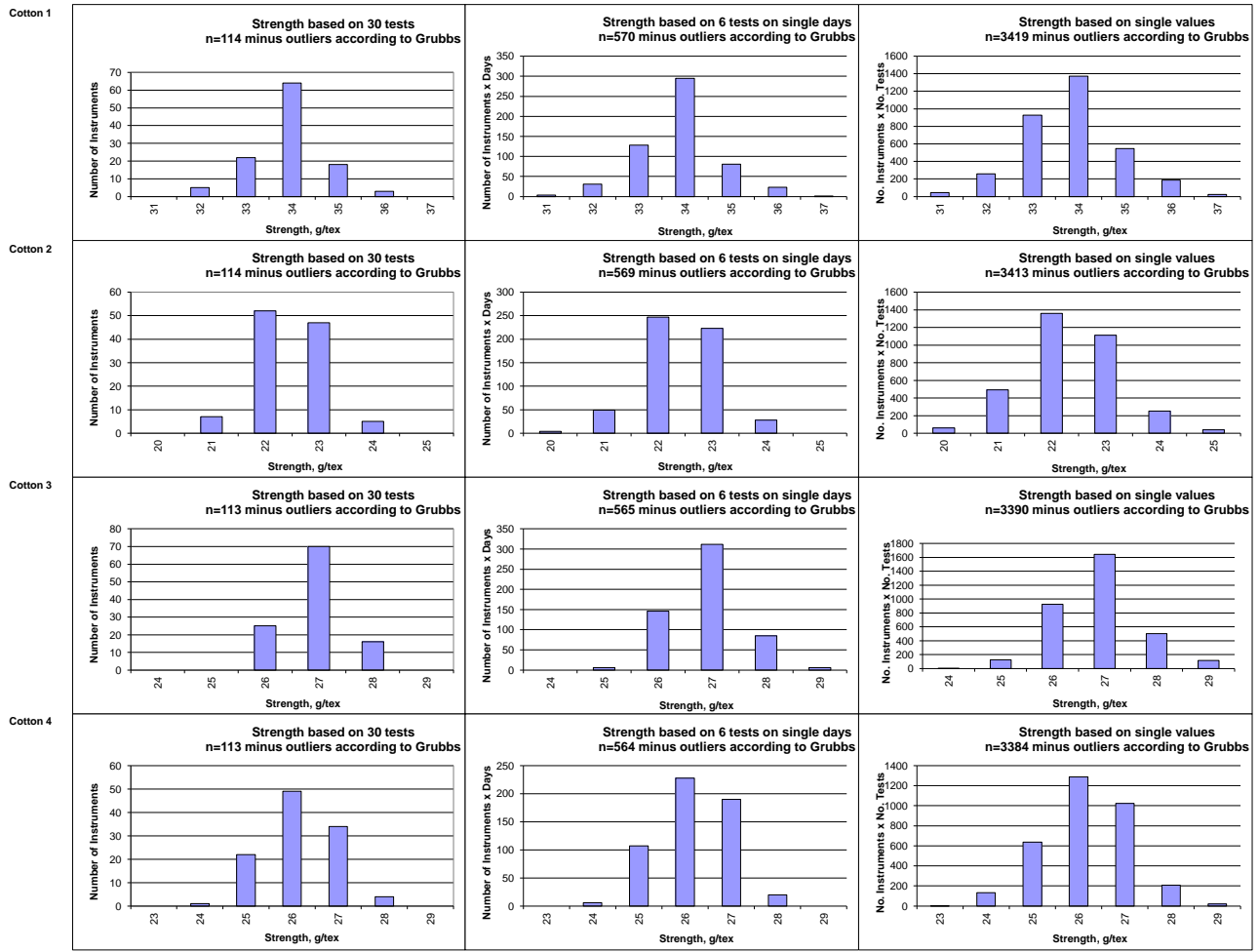
Color +b							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			12.931	9.066	8.619	15.605	
Reference Values for Evaluation			12.931	9.066	8.619	15.605	
Number Of Instruments			113	113	113	113	<b>113</b>
Inter-Instrument Variation	based on 30 tests	SD	0.312	0.195	0.177	0.379	<b>0.266</b>
		CV %	2.4	2.1	2.1	2.4	<b>2.3</b>
	based on 6 tests	SD	0.340	0.222	0.189	0.406	<b>0.289</b>
		CV %	2.6	2.4	2.2	2.6	<b>2.5</b>
	based on single tests	SD	0.360	0.257	0.227	0.416	<b>0.315</b>
		CV %	2.8	2.8	2.6	2.7	<b>2.7</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.104	0.095	0.087	0.108	<b>0.098</b>
		CV %	0.8	1.0	1.0	0.7	<b>0.9</b>
	between single tests on one day	SD	0.121	0.100	0.085	0.118	<b>0.106</b>
		CV %	0.9	1.1	1.0	0.8	<b>0.9</b>
	between all tests on different days	SD	0.174	0.142	0.117	0.171	<b>0.151</b>
		CV %	1.3	1.6	1.4	1.1	<b>1.3</b>

Test Result Distributions  
Micronaire



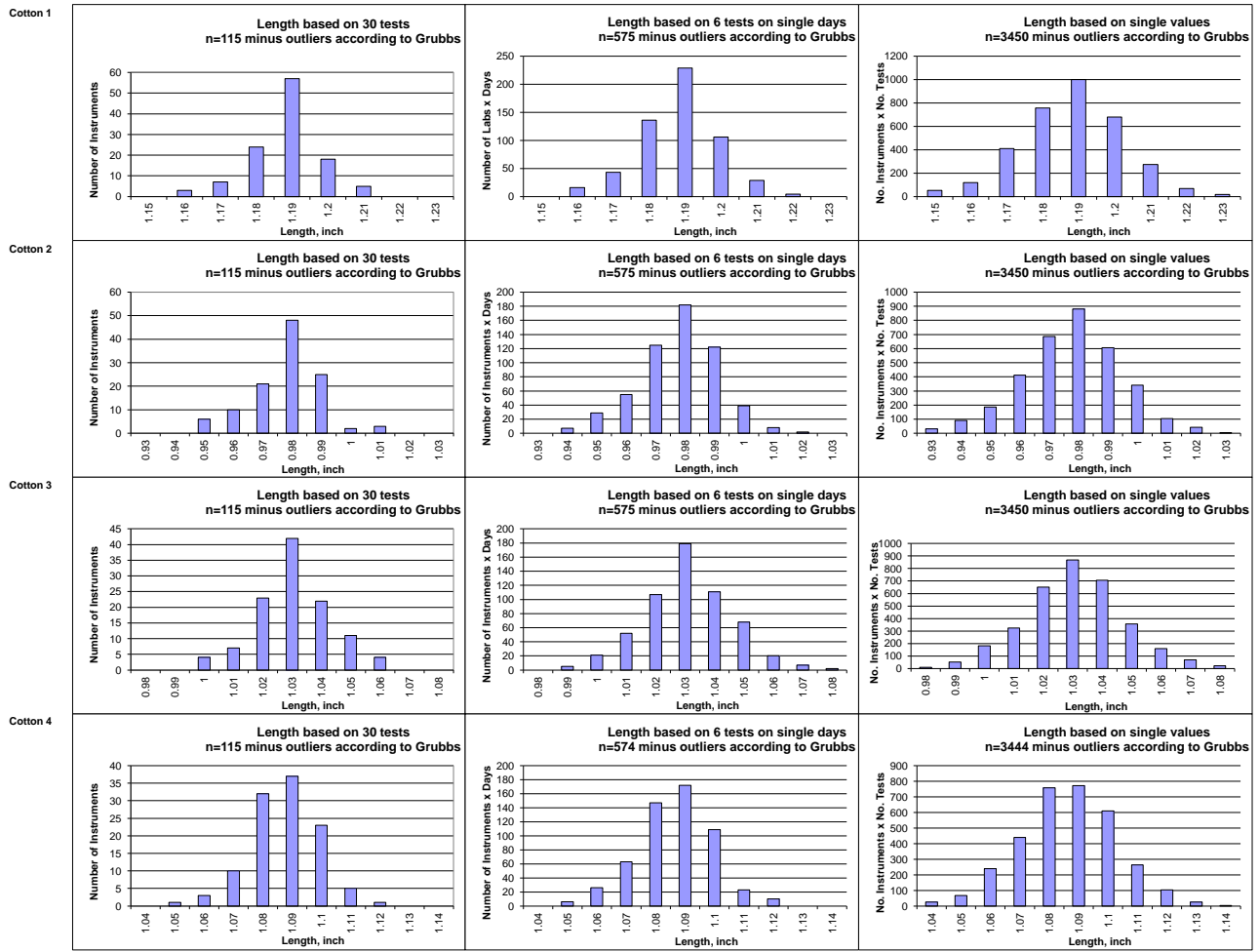
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Strength



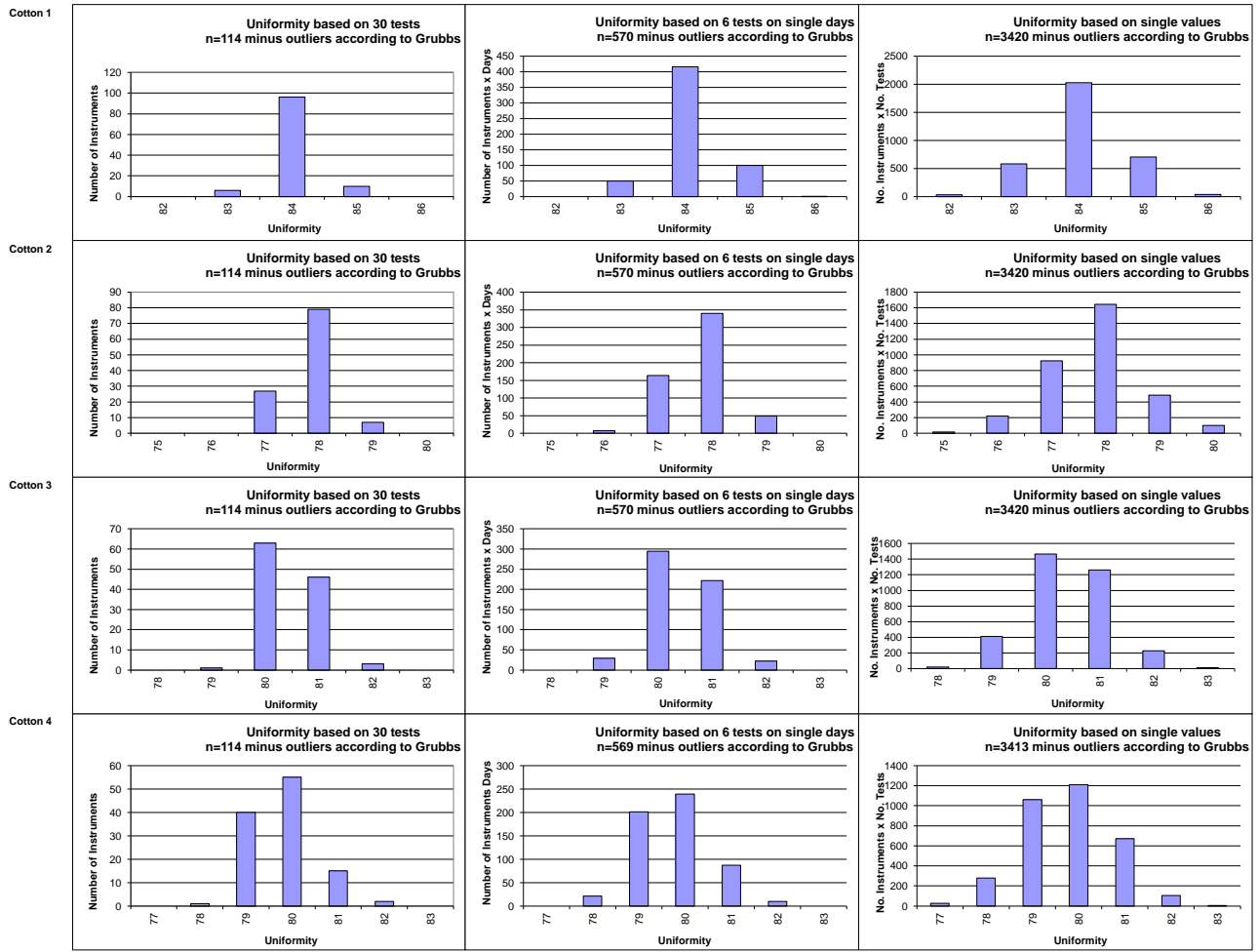
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Length



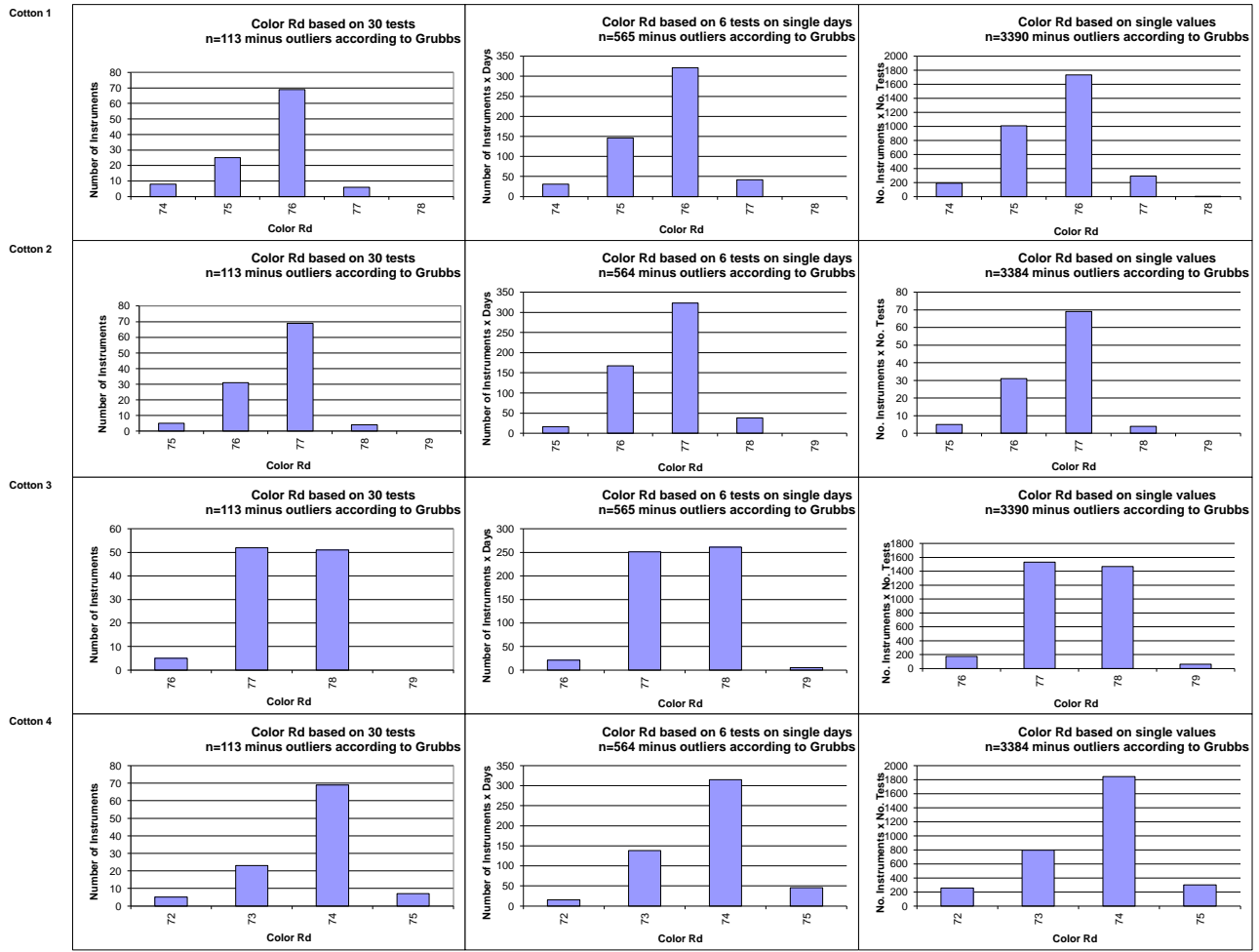
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)

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)

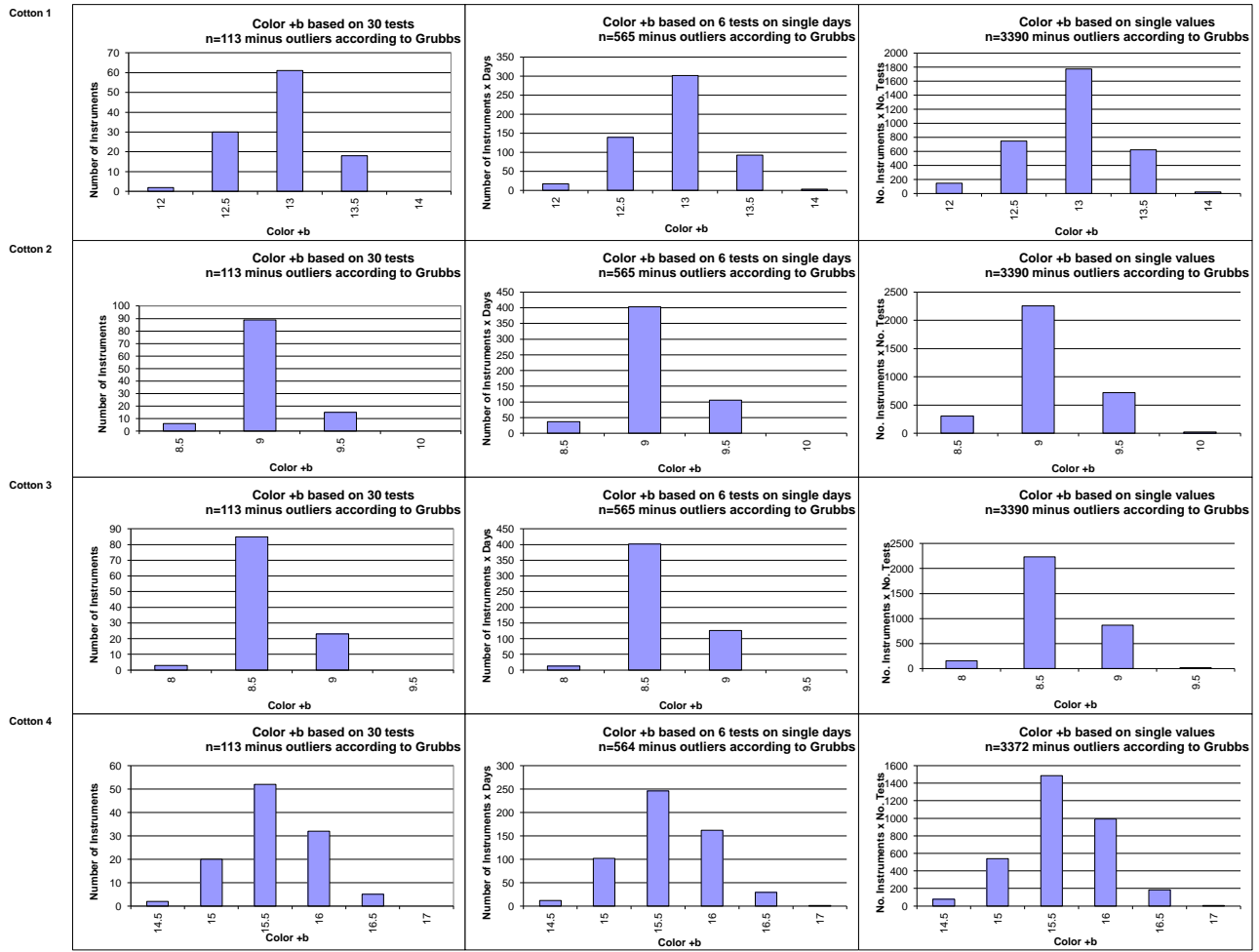
Test Result Distributions  
Color Rd



(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

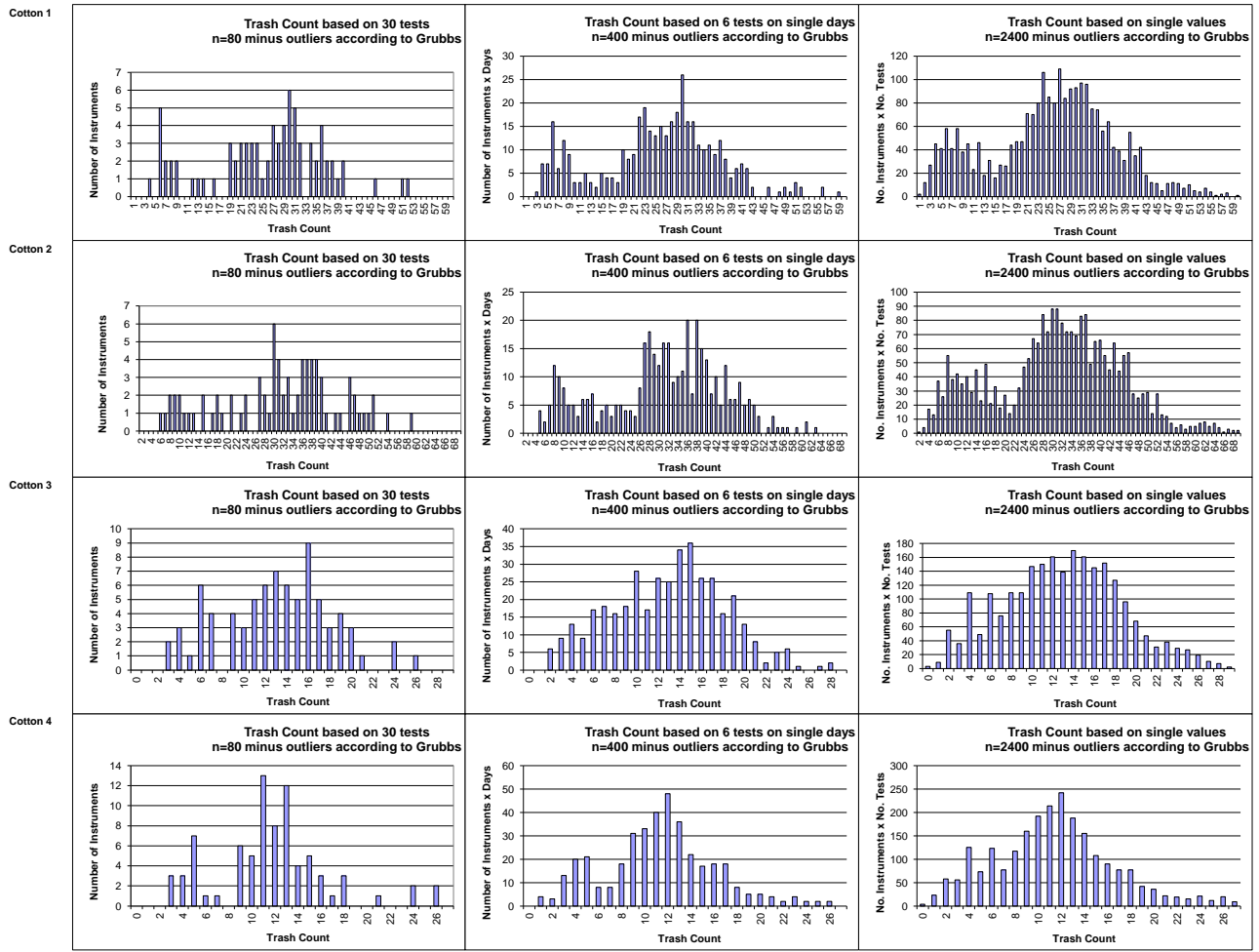
Trash Count							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			25.68	31.18	13.03	11.77	
Reference Values for Evaluation			25.68	31.18	13.03	11.77	
Number Of Instruments			80	80	80	80	<b>80</b>
Inter-Instrument Variation	based on 30 tests	SD	10.87	12.56	5.07	5.02	<b>8.38</b>
		CV %	42.3	40.3	38.9	42.6	<b>41.0</b>
		SD	11.18	12.60	5.27	4.81	<b>8.46</b>
	based on 6 tests	CV %	43.5	40.4	40.5	40.8	<b>41.3</b>
		SD	11.53	13.33	5.68	5.20	<b>8.93</b>
		CV %	44.9	42.7	43.6	44.2	<b>43.8</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	1.97	2.22	1.54	1.43	<b>1.79</b>
		CV %	7.7	7.1	11.8	12.1	<b>9.7</b>
	between single tests on one day	SD	2.80	2.96	1.73	1.69	<b>2.29</b>
		CV %	10.9	9.5	13.2	14.4	<b>12.0</b>
	between all tests on different days	SD	3.75	4.12	2.62	2.38	<b>3.22</b>
		CV %	14.6	13.2	20.1	20.2	<b>17.0</b>

Trash Area							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			0.192	0.271	0.144	0.117	
Reference Values for Evaluation			0.192	0.271	0.144	0.117	
Number Of Instruments			80	80	80	80	<b>80</b>
Inter-Instrument Variation	based on 30 tests	SD	0.058	0.081	0.044	0.033	<b>0.054</b>
		CV %	30.5	29.8	30.3	28.4	<b>29.7</b>
		SD	0.064	0.081	0.048	0.038	<b>0.058</b>
	based on 6 tests	CV %	33.3	29.8	33.4	32.8	<b>32.3</b>
		SD	0.067	0.094	0.056	0.042	<b>0.065</b>
		CV %	35.0	34.8	39.1	36.4	<b>36.3</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.021	0.033	0.019	0.018	<b>0.023</b>
		CV %	11.0	12.2	12.9	15.8	<b>13.0</b>
	between single tests on one day	SD	0.028	0.039	0.029	0.022	<b>0.030</b>
		CV %	14.7	14.5	20.0	18.7	<b>17.0</b>
	between all tests on different days	SD	0.040	0.057	0.038	0.032	<b>0.042</b>
		CV %	20.8	21.1	26.6	27.2	<b>23.9</b>

Maturity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			85.02	83.67	86.56	82.79	
Reference Values for Evaluation			85.02	83.67	86.56	82.79	
Number Of Instruments			85	85	85	85	<b>85</b>
Inter-Instrument Variation	based on 30 tests	SD	2.06	2.75	1.52	2.22	<b>2.14</b>
		CV %	2.4	3.3	1.8	2.7	<b>2.5</b>
		SD	2.12	2.75	1.55	0.91	<b>1.83</b>
	based on 6 tests	CV %	2.5	3.3	1.8	1.1	<b>2.2</b>
		SD	2.06	2.77	1.58	1.17	<b>1.89</b>
		CV %	2.4	3.3	1.8	1.4	<b>2.2</b>
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.17	0.15	0.15	0.22	<b>0.17</b>
		CV %	0.2	0.2	0.2	0.3	<b>0.2</b>
	between single tests on one day	SD	0.24	0.21	0.19	0.27	<b>0.23</b>
		CV %	0.3	0.3	0.2	0.3	<b>0.3</b>
	between all tests on different days	SD	0.41	0.38	0.35	0.45	<b>0.40</b>
		CV %	0.5	0.5	0.4	0.5	<b>0.5</b>

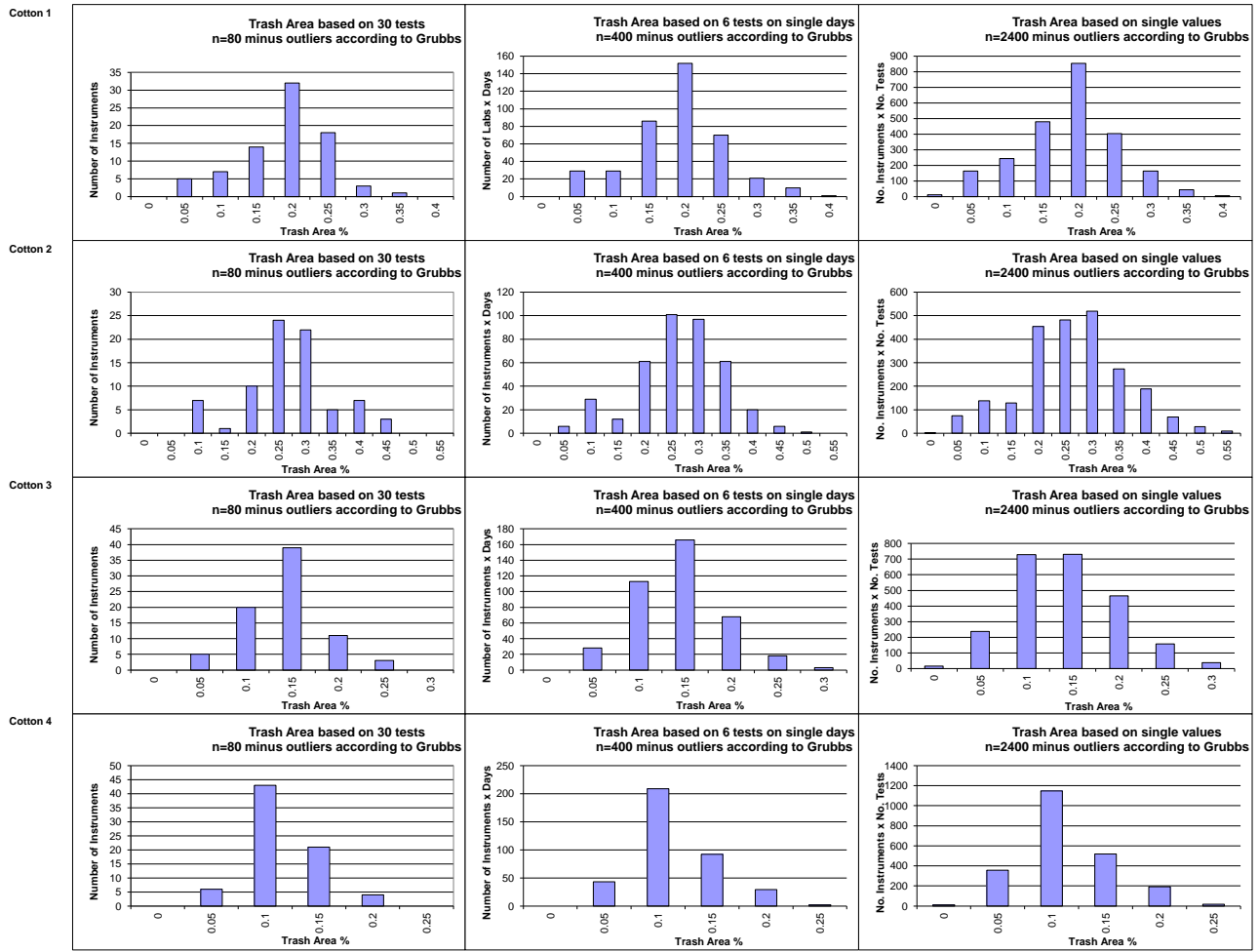
SFI							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			7.42	15.43	11.45	11.83	
<b>Reference Values for Evaluation</b>			7.42	15.43	11.45	11.83	
<b>Number Of Instruments</b>			91	92	92	92	<b>92</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.47	1.88	1.03	1.18	<b>1.14</b>
		CV %	6.4	12.2	9.0	10.0	<b>9.4</b>
	based on 6 tests	SD	0.51	1.96	1.15	1.24	<b>1.22</b>
		CV %	6.8	12.7	10.1	10.5	<b>10.0</b>
	based on single tests	SD	0.58	2.10	1.30	1.37	<b>1.34</b>
		CV %	7.8	13.6	11.3	11.6	<b>11.1</b>
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.15	0.43	0.33	0.35	<b>0.32</b>
		CV %	2.0	2.8	2.9	3.0	<b>2.7</b>
	between single tests on one day	SD	0.29	0.75	0.57	0.55	<b>0.54</b>
		CV %	3.9	4.8	5.0	4.6	<b>4.6</b>
	between all tests on different days	SD	0.33	0.82	0.64	0.66	<b>0.61</b>
		CV %	4.4	5.3	5.6	5.5	<b>5.2</b>

Test Result Distributions  
Trash Count



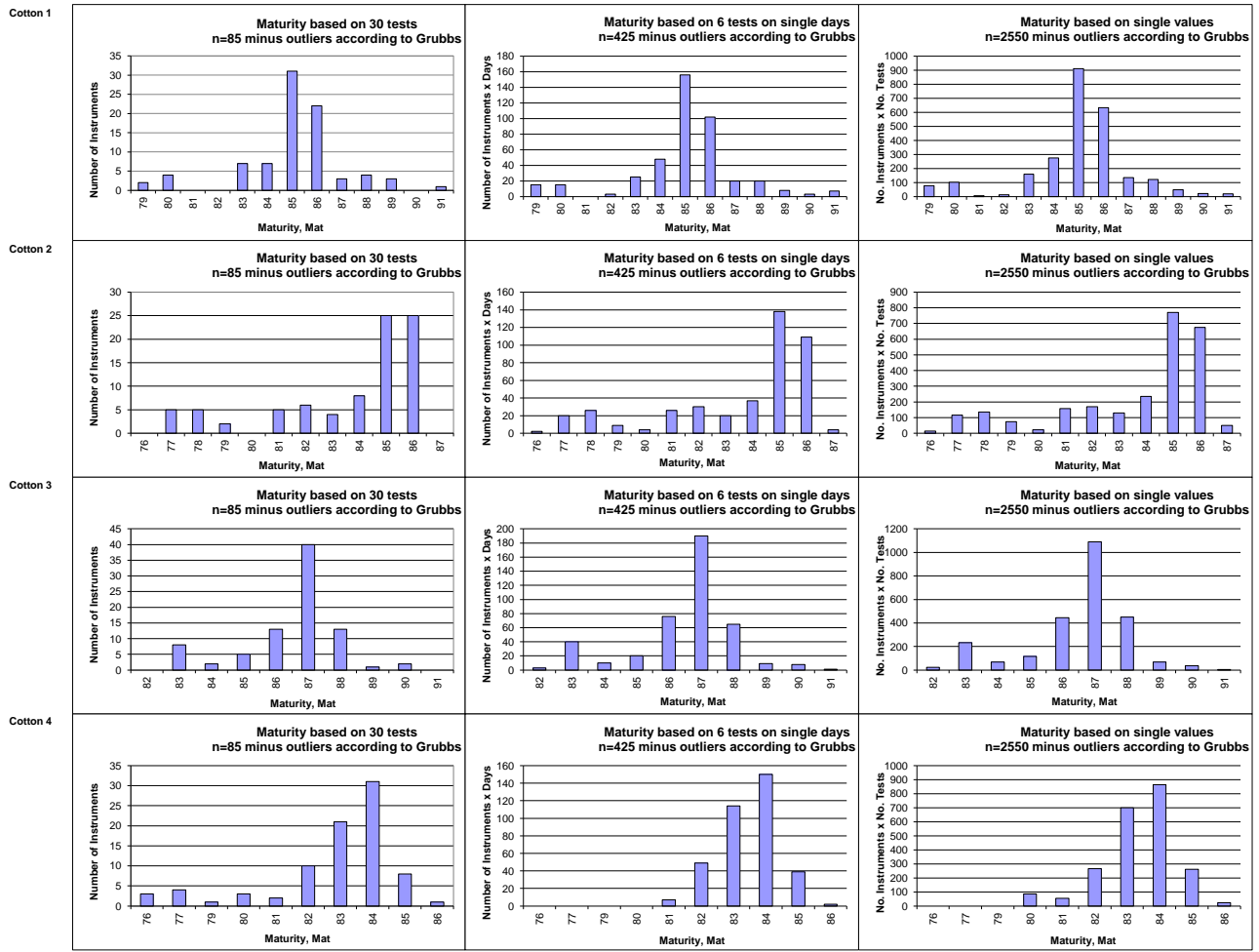
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
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Test Result Distributions  
Trash Area



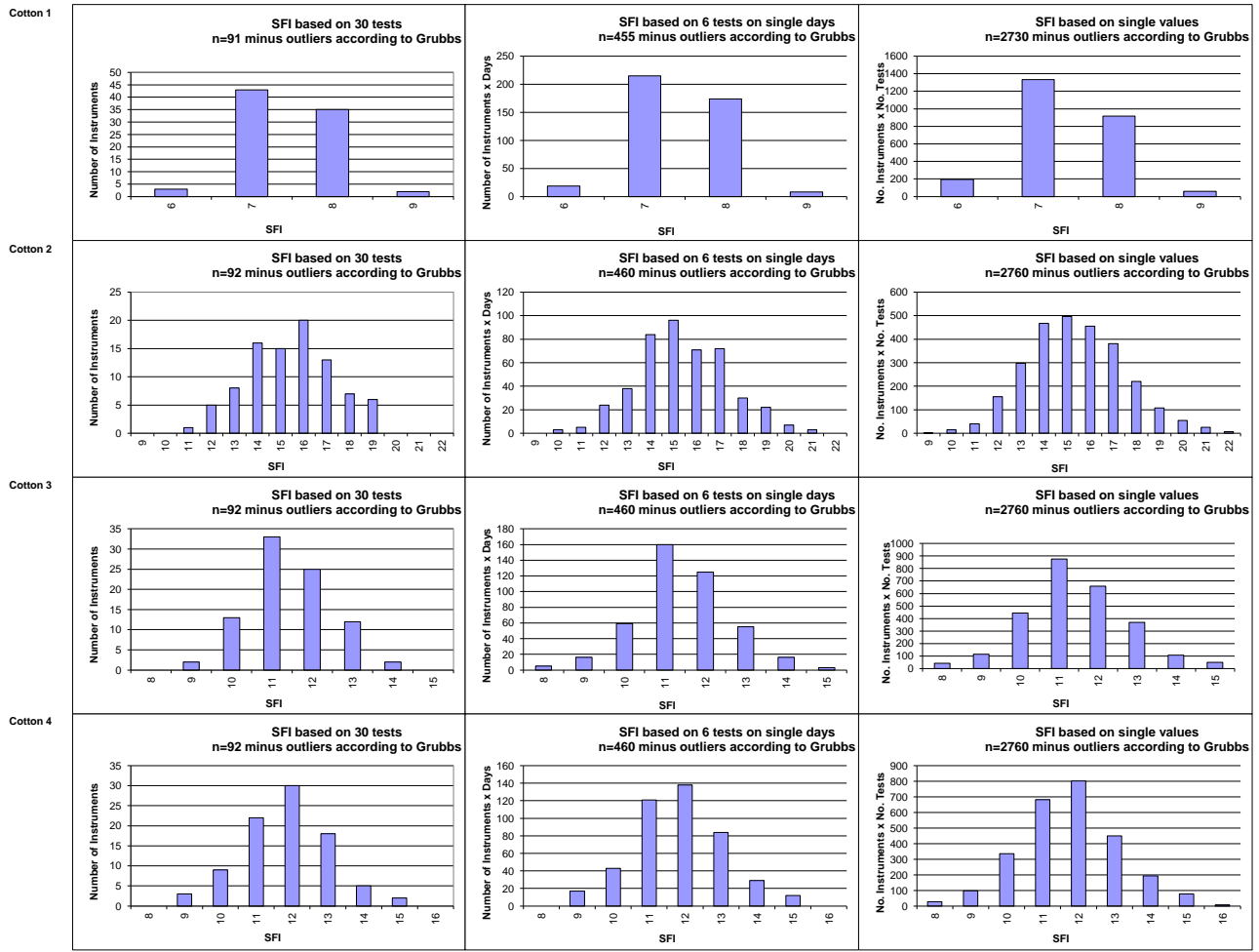
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method) (classes are defined as > lower limit and <= upper limit)

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 2016 - 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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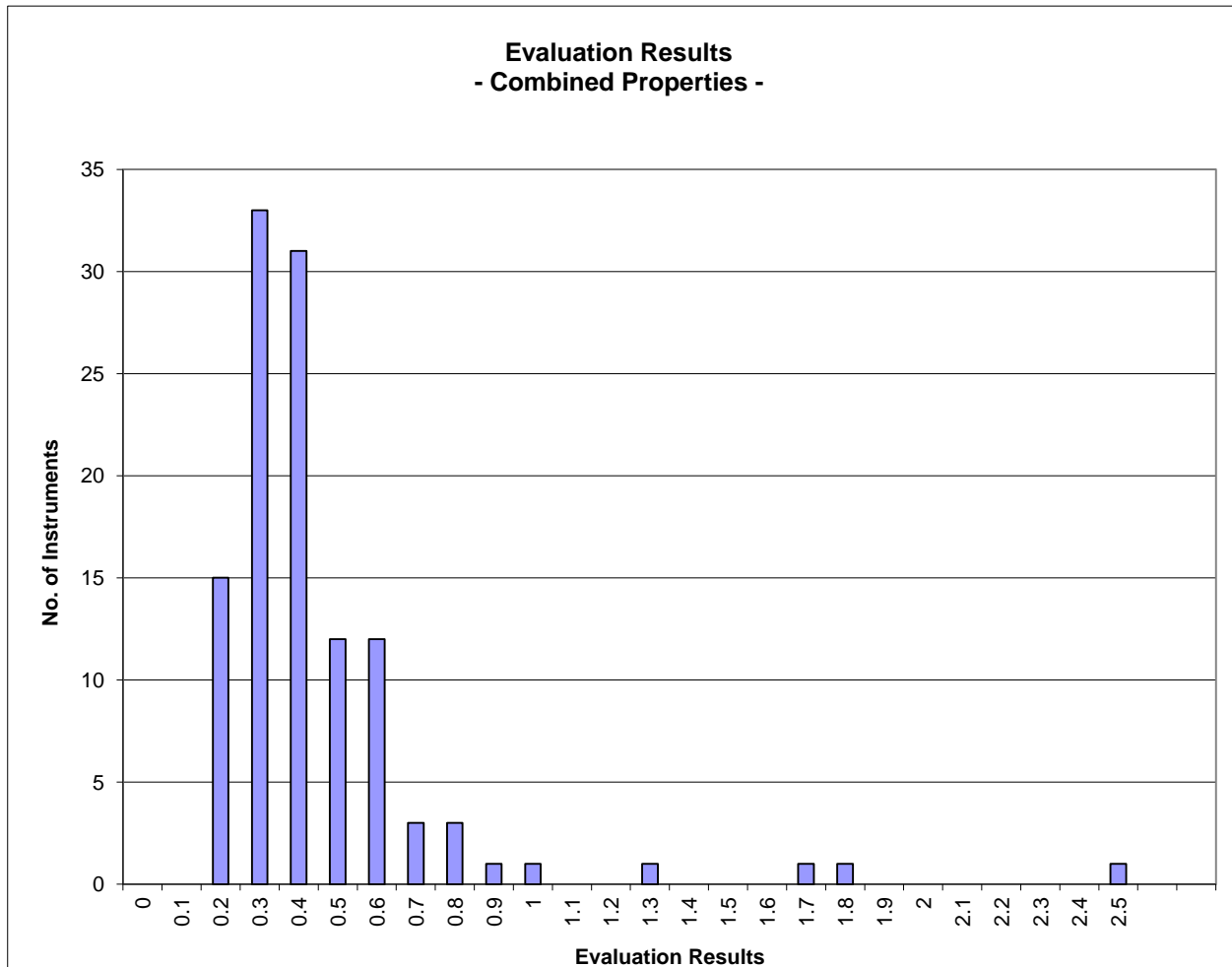
Instrument Evaluation

- Graph of Combined Properties -

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2016 - 2

		<b>Evaluation Combined Prop.</b>
<b>Statistics</b>	Average	0.45
	Median	0.36
	Best Instrument	0.20
	Worst Instrument	2.48

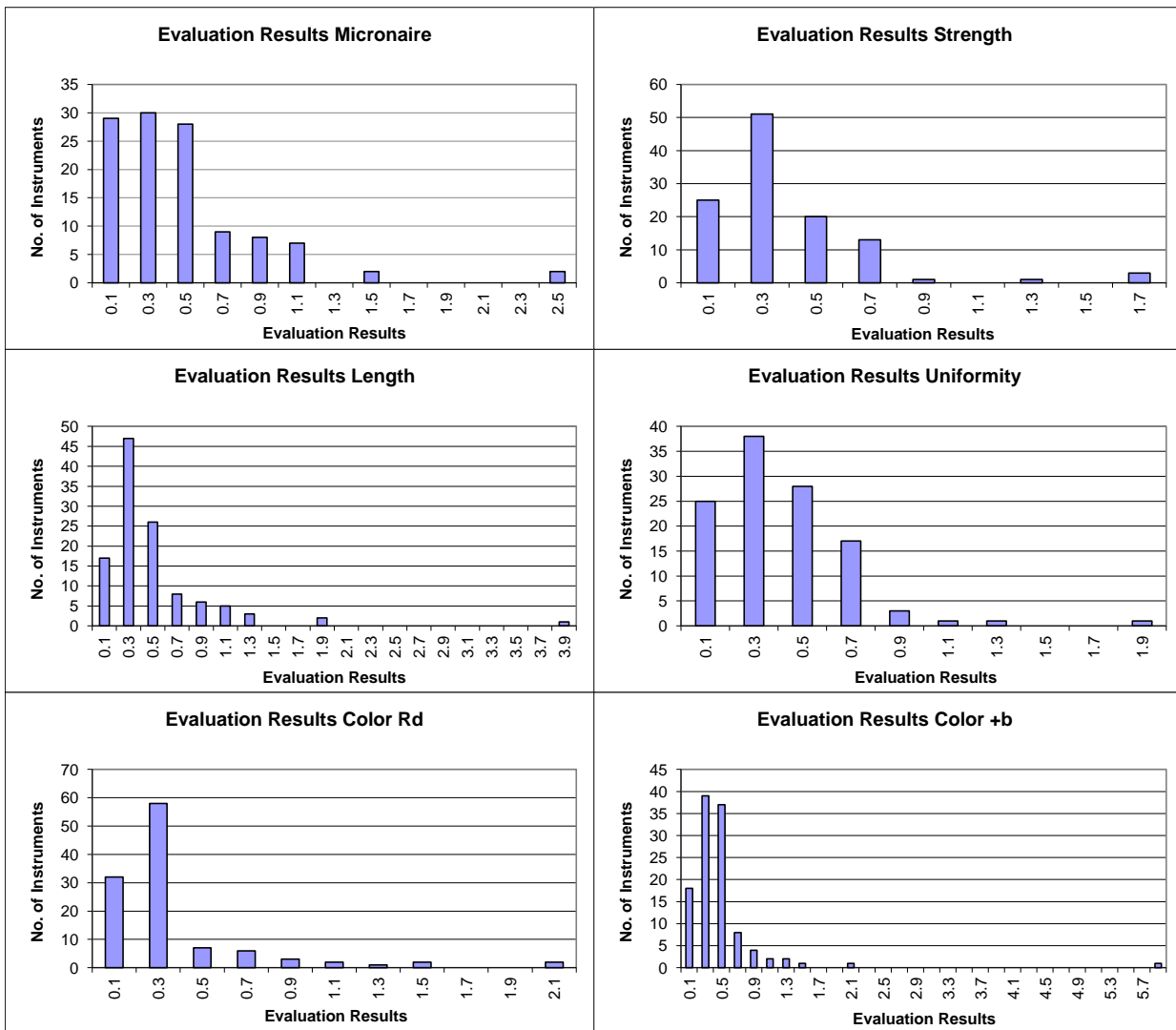


x-Axis shows midpoints of classes

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 2016 - 2

	Evaluation Micronaire	Evaluation Strength	Evaluation Length	Evaluation Uniformity	Evaluation Color Rd	Evaluation Color +b
<b>Statistics</b>	<b>Average</b> 0.49	<b>0.38</b>	<b>0.49</b>	<b>0.42</b>	<b>0.37</b>	<b>0.49</b>
	<b>Median</b> 0.38	<b>0.30</b>	<b>0.37</b>	<b>0.38</b>	<b>0.25</b>	<b>0.40</b>
	<b>Best Instr.</b> 0.05	<b>0.07</b>	<b>0.04</b>	<b>0.07</b>	<b>0.07</b>	<b>0.05</b>
	<b>Worst Instr.</b> 2.52	<b>1.77</b>	<b>3.83</b>	<b>1.93</b>	<b>2.13</b>	<b>5.84</b>



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



International Cotton Advisory Committee



CSITC  
Global - Round Trial 2016 - 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:  
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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	98.0	96.7	97.4	99.1	93.1	89.4
Completely within limits	96.5	92.1	93.0	97.4	87.6	73.5
% of Instruments $\geq 75\%$ within limits	98.3	97.4	98.3	99.1	92.9	90.3
% of Instruments $\geq 50\%$ within limits	98.3	98.2	99.1	100.0	95.6	95.6

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>
GL162-001-01	100	100	100	100	100	75
GL162-002-01	100	100	100	100	100	75
GL162-003-01	100	100	100	100	100	75
GL162-003-03	100	100	100	100	100	75
GL162-004-01	100	100	75	100	100	50
GL162-005-04	100	100	100	100	100	100
GL162-005-06	100	100	100	100	100	100
GL162-006-03	25	50	100	100	75	25
GL162-007-18	100	100	100	100	100	100
GL162-007-20	100	100	100	100	100	100
GL162-009-01	100	100	100	100	100	100
GL162-010-01	100	100	100	100	100	100
GL162-011-01	100	100	100	100	100	100
GL162-014-01	100	100	75	100	100	75
GL162-014-02	100	100	100	100	75	100
GL162-014-05	100	100	100	100	100	100
GL162-014-07	100	100	100	100	100	100
GL162-015-01	100	100	100	100	100	75
GL162-016-01	100	100	100	100	100	100
GL162-017-01	0	100	100	100	50	100
GL162-018-02	100	75	100	100	100	100
GL162-018-03	100	100	100	100	100	100
GL162-020-01	100	100	100	100	100	100
GL162-021-02	100	100	100	100	100	100
GL162-022-01	100	75	100	100	100	50
GL162-024-02	100	100	100	100	100	100
GL162-025-01	100	100	100	100	100	100
GL162-026-01	100	100	100	100	100	100
GL162-028-01	100	100	75	100	50	100
GL162-029-01	100	100	100	100	100	100
GL162-029-04	100	100	100	100	100	100
GL162-029-05	100	100	100	100	100	100
GL162-031-03	100	100	100	100	100	100
GL162-031-07	100	100	75	100	100	50

GL162-031-08	100	100	100	100	100	100
GL162-031-09	100	100	100	100	100	100
GL162-031-10	100	100	100	100	100	100
GL162-031-11	100	100	100	100	100	100
GL162-031-12	100	100	100	100	100	100
GL162-031-13	100	100	100	100	100	100
GL162-031-14	100	100	100	100	100	100
GL162-032-01	100	100	100	100	100	100
GL162-032-02	100	100	100	100	100	100
GL162-033-01	100	100	100	100	100	100
GL162-035-01	100	100	100	100	100	100
GL162-037-01	100	100	100	100	100	100
GL162-037-02	100	100	100	100	100	100
GL162-038-01	100	75	100	100	100	100
GL162-039-02	100	100	100	75	100	100
GL162-041-01	100	100	100	100	100	75
GL162-043-01	100	100	100	100	25	50
GL162-043-02	100	100	100	100	100	100
GL162-043-03	100	100	100	100	100	100
GL162-045-01	100	100	100	100	100	100
GL162-047-01	100	100	100	100	100	100
GL162-047-02	100	100	100	100	100	100
GL162-048-01	100	100	75	100	0	0
GL162-050-01	100	100	100	100	100	100
GL162-050-02	100	100	100	100	100	75
GL162-050-03	100	100	100	100	100	75
GL162-050-04	100	100	100	100	100	100
GL162-051-01	100	100	100	100	100	100
GL162-052-01	100	75	100	100	50	100
GL162-054-01	100	100	100	100	100	100
GL162-056-01	100	100	100	100	100	100
GL162-060-01	100	100	100	100	75	0
GL162-062-01	100	100	100	100	100	100
GL162-063-01	100	100	100	100	100	100
GL162-065-01	100	75	75	100	0	100
GL162-067-01	100	100	100	100	100	75
GL162-068-04	100	100	100	100	100	100
GL162-069-06	100	100	100	100	100	75
GL162-070-04	75		0			
GL162-071-01	100	100	100	100	100	100
GL162-072-03	100	100	100	100	100	100
GL162-073-02	100	100	100	100	100	75
GL162-074-03	100	100	100	100	100	75
GL162-075-01	100	100	100	100	100	100
GL162-075-02	100	100	100	100	100	100
GL162-076-01	100	100	100	100	100	100
GL162-076-02	100	100	100	100	100	100
GL162-076-03	100	100	100	100	100	100
GL162-076-04	100	100	100	100	100	100
GL162-077-01	100	100	100	100	100	75
GL162-077-02	100	100	100	100	100	100
GL162-078-01	100	100	100	100	100	75
GL162-078-02	100	100	100	100	100	100
GL162-079-01	100	100	100	100	100	100
GL162-079-02	100	100	100	100	100	100

GL162-080-01	100	100	100	100	100	75
GL162-080-02	100	100	100	100	75	50
GL162-081-02	100	100	100	100	100	100
GL162-081-06	100	100	100	100	100	100
GL162-082-01	75	25	50	50		
GL162-083-01	100	100	100	100	100	100
GL162-084-27	100	100	100	75	100	25
GL162-086-06	100	100	100	100	100	100
GL162-086-07	100	100	100	100	100	100
GL162-086-08	100	100	100	100	100	100
GL162-087-62	100	100	100	100	100	100
GL162-087-63	100	100	100	100	100	100
GL162-088-01	100	100	100	100	100	50
GL162-089-04	100	100	100	100	100	100
GL162-089-05	100	100	100	100	100	100
GL162-090-04	100	100	100	100	100	100
GL162-094-02	100	100	100	100	100	100
GL162-094-04	100	100	100	100	0	25
GL162-094-07	100	75	100	100	75	100
GL162-094-08	100	100	100	100	100	100
GL162-095-01	100	100	100	100	100	75
GL162-096-01	100	100	100	100	100	75
GL162-096-02	100	100	100	100	100	75
GL162-097-01	100	0	100	100	0	100
GL162-098-03	100	100	100	100	100	100
GL162-100-01	100	100	100	100	75	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	97.3	94.4	94.0	97.1	92.7	86.3
% of Instruments 100% within limits	70.4	36.8	32.2	44.7	64.6	23.9
% of Instruments ≥95% within limits	91.3	68.4	73.9	83.3	82.3	47.8
% of Instruments ≥75% within limits	97.4	96.5	94.8	99.1	89.4	80.5
% of Instruments ≥65% within limits	98.3	96.5	98.3	99.1	91.2	89.4
% of Instruments ≥50% within limits	98.3	98.2	99.1	100.0	93.8	93.8

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>
GL162-001-01	100	100	99	99	100	73
GL162-002-01	100	83	93	96	100	82
GL162-003-01	100	100	100	94	100	75
GL162-003-03	100	100	99	100	100	84
GL162-004-01	100	91	76	93	96	47
GL162-005-04	100	100	100	100	100	100
GL162-005-06	95	100	100	100	100	100
GL162-006-03	17	56	81	88	62	22
GL162-007-18	100	99	99	100	100	91
GL162-007-20	100	99	99	100	100	100
GL162-009-01	100	100	99	100	98	78
GL162-010-01	100	100	99	100	100	100
GL162-011-01	100	100	99	99	100	100
GL162-014-01	100	100	83	100	100	89
GL162-014-02	99	100	72	100	78	95
GL162-014-05	98	99	79	100	100	93
GL162-014-07	100	99	78	100	99	94
GL162-015-01	100	100	92	93	99	79
GL162-016-01	100	98	100	100	100	85
GL162-017-01	13	94	92	97	59	88
GL162-018-02	100	89	100	99	100	91
GL162-018-03	100	93	100	99	99	94
GL162-020-01	100	91	100	100	100	98
GL162-021-02	100	100	97	100	100	100
GL162-022-01	100	55	88	93	92	59
GL162-024-02	100	100	98	100	83	98
GL162-025-01	99	100	84	83	100	99
GL162-026-01	100	99	100	99	98	99
GL162-028-01	97	100	70	97	35	99
GL162-029-01	94	100	100	100	100	100

GL162-029-04	100	100	99	100	100	100
GL162-029-05	99	100	100	99	100	100
GL162-031-03	100	99	100	100	100	100
GL162-031-07	100	99	82	94	96	65
GL162-031-08	98	94	93	99	100	98
GL162-031-09	100	98	100	99	100	100
GL162-031-10	100	93	98	100	100	93
GL162-031-11	98	89	100	100	98	94
GL162-031-12	98	90	80	96	99	96
GL162-031-13	100	99	100	99	100	100
GL162-031-14	100	89	100	99	100	100
GL162-032-01	100	100	100	100	100	96
GL162-032-02	99	100	100	98	100	98
GL162-033-01	98	98	98	98	100	97
GL162-035-01	100	99	99	98	100	98
GL162-037-01	94	100	99	100	100	83
GL162-037-02	94	100	99	100	100	83
GL162-038-01	100	87	97	96	100	99
GL162-039-02	98	89	98	83	100	79
GL162-041-01	100	100	100	99	100	92
GL162-043-01	100	93	99	99	48	50
GL162-043-02	100	95	96	94	100	90
GL162-043-03	100	96	99	97	100	100
GL162-045-01	100	100	84	92	100	93
GL162-047-01	100	100	100	100	100	93
GL162-047-02	100	100	100	100	100	93
GL162-048-01	92	90	69	81	4	0
GL162-050-01	100	100	97	99	98	93
GL162-050-02	100	100	95	93	100	77
GL162-050-03	100	100	98	100	100	77
GL162-050-04	100	100	100	100	100	88
GL162-051-01	100	91	100	100	94	97
GL162-052-01	100	77	98	97	46	94
GL162-054-01	100	100	100	100	100	92
GL162-056-01	100	89	100	99	100	93
GL162-060-01	98	85	98	100	82	25
GL162-062-01	100	93	78	94	100	66
GL162-063-01	100	93	100	100	100	99
GL162-065-01	97	87	68	80	35	91
GL162-067-01	100	88	87	88	83	53
GL162-068-04	100	86	98	98	98	100
GL162-069-06	97	96	94	91	96	73
GL162-070-04	83		23			
GL162-071-01	100	100	100	100	100	97
GL162-072-03	100	98	99	98	100	97
GL162-073-02	94	98	92	95	99	71
GL162-074-03	100	93	96	98	100	82
GL162-075-01	100	99	100	99	100	98
GL162-075-02	100	91	98	99	100	95
GL162-076-01	99	99	100	100	100	100
GL162-076-02	100	99	98	100	100	100
GL162-076-03	100	98	99	100	100	100
GL162-076-04	100	99	98	100	100	97
GL162-077-01	100	97	100	98	100	74
GL162-077-02	98	99	100	99	100	98



GL162-078-01	100	99	98	100	93	73
GL162-078-02	100	98	98	100	100	88
GL162-079-01	100	100	100	100	100	100
GL162-079-02	100	100	100	100	100	100
GL162-080-01	100	99	95	98	98	63
GL162-080-02	100	100	96	100	50	33
GL162-081-02	100	100	100	100	100	100
GL162-081-06	100	100	100	100	100	100
GL162-082-01	75	25	51	52		
GL162-083-01	100	100	100	100	100	97
GL162-084-27	99	98	92	83	100	26
GL162-086-06	98	90	96	100	100	98
GL162-086-07	100	87	96	99	100	100
GL162-086-08	100	95	93	96	98	98
GL162-087-62	100	97	100	100	99	100
GL162-087-63	99	97	96	100	93	100
GL162-088-01	99	91	96	97	98	59
GL162-089-04	99	93	94	99	100	74
GL162-089-05	100	98	98	100	100	85
GL162-090-04	100	100	95	93	100	90
GL162-094-02	97	100	99	98	97	97
GL162-094-04	99	92	83	98	27	26
GL162-094-07	100	83	93	100	74	96
GL162-094-08	100	98	79	96	100	100
GL162-095-01	100	98	97	100	100	88
GL162-096-01	100	100	97	99	95	73
GL162-096-02	100	100	97	99	95	73
GL162-097-01	74	28	98	99	17	97
GL162-098-03	100	98	98	99	100	100
GL162-100-01	100	99	100	100	68	88