



## International Cotton Advisory Committee



# CSITC Global - Round Trial 2012 - 4 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 2012 - 4

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

Micronaire								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
Average of Instruments (Grubbs)			4.006	4.217	4.977	5.034		3.963
Reference Values for Evaluation			4.006	4.217	4.977	5.034		3.963
Number Of Instruments			159	159	159	159	<b>159</b>	159
Inter-Instrument Variation	based on 30 tests	SD	0.088	0.066	0.069	0.066	<b>0.072</b>	0.084
		CV %	2.2	1.6	1.4	1.3	<b>1.6</b>	2.1
	based on 6 tests	SD	0.094	0.071	0.071	0.070	<b>0.076</b>	0.086
		CV %	2.3	1.7	1.4	1.4	<b>1.7</b>	2.2
	based on single tests	SD	0.104	0.081	0.083	0.079	<b>0.087</b>	0.094
		CV %	2.6	1.9	1.7	1.6	<b>1.9</b>	2.4
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.027	0.026	0.025	0.028	<b>0.027</b>	0.026
		CV %	0.7	0.6	0.5	0.6	<b>0.6</b>	0.7
	between single tests on one day	SD	0.044	0.032	0.038	0.037	<b>0.038</b>	0.037
		CV %	1.1	0.7	0.8	0.7	<b>0.8</b>	0.9
	between all tests on different days	SD	0.050	0.044	0.049	0.047	<b>0.047</b>	0.048
		CV %	1.2	1.0	1.0	0.9	<b>1.0</b>	1.2

Strength								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
Average of Instruments (Grubbs)			24.816	33.377	27.352	29.513		28.722
Reference Values for Evaluation			24.816	33.377	27.352	29.513		28.722
Number Of Instruments			160	159	160	159	<b>160</b>	159
Inter-Instrument Variation	based on 30 tests	SD	1.180	0.730	0.902	0.859	<b>0.918</b>	0.991
		CV %	4.8	2.2	3.3	2.9	<b>3.3</b>	3.4
	based on 6 tests	SD	1.257	0.892	0.946	0.965	<b>1.015</b>	1.060
		CV %	5.1	2.7	3.5	3.3	<b>3.6</b>	3.7
	based on single tests	SD	1.365	1.089	1.068	1.093	<b>1.154</b>	1.187
		CV %	5.5	3.3	3.9	3.7	<b>4.1</b>	4.1
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.298	0.356	0.345	0.336	<b>0.334</b>	0.345
		CV %	1.2	1.1	1.3	1.1	<b>1.2</b>	1.2
	between single tests on one day	SD	0.519	0.542	0.460	0.510	<b>0.508</b>	0.6
		CV %	2.1	1.6	1.7	1.7	<b>1.8</b>	1.9
	between all tests on different days	SD	0.627	0.679	0.587	0.598	<b>0.623</b>	0.664
		CV %	2.5	2.0	2.1	2.0	<b>2.2</b>	2.3

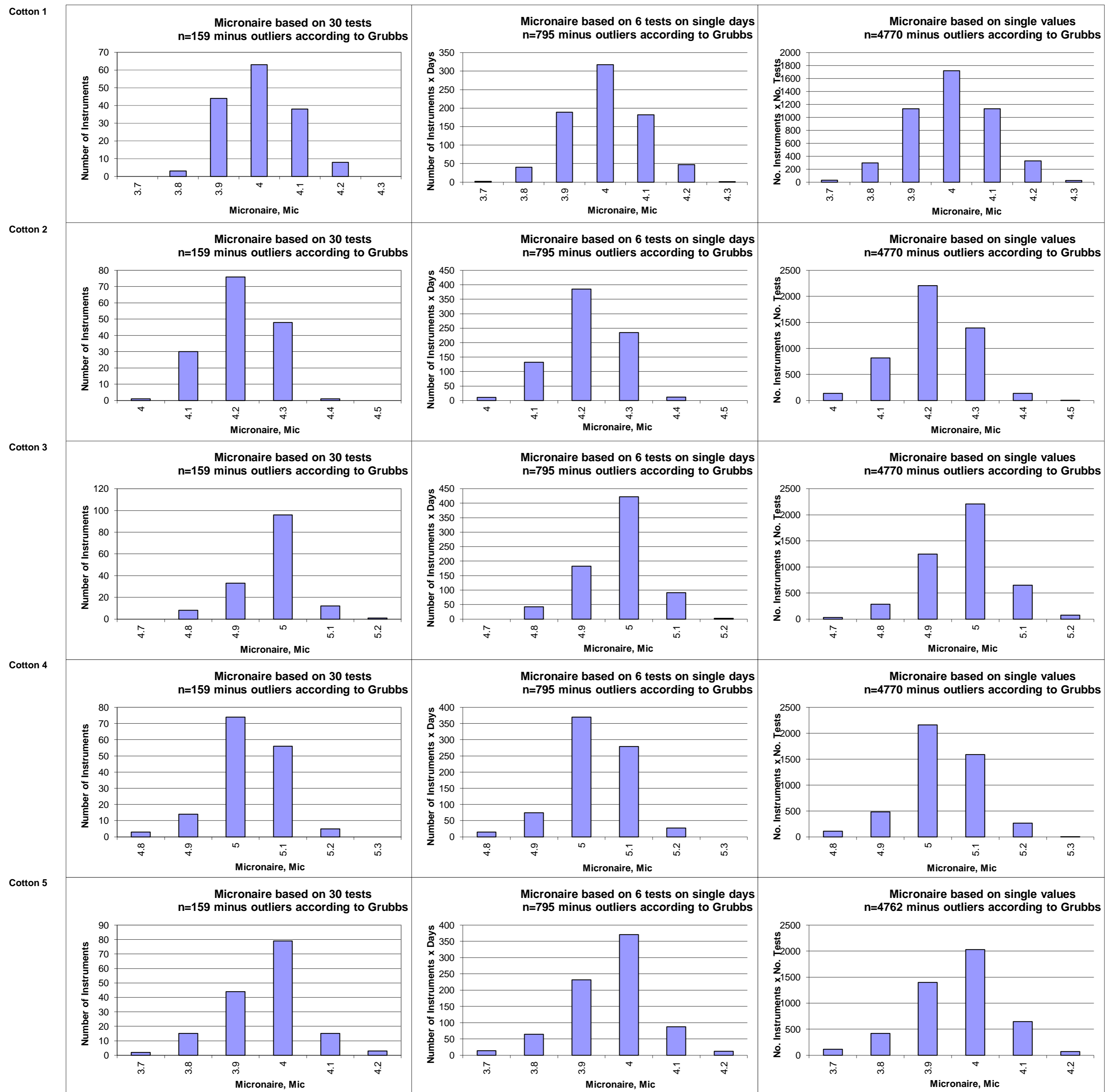
Length								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
Average of Instruments (Grubbs)			0.9844	1.2237	1.0338	1.0794		1.1100
Reference Values for Evaluation			0.9844	1.2237	1.0338	1.0794		1.1100
Number Of Instruments			160	160	160	160	<b>160</b>	160
Inter-Instrument Variation	based on 30 tests	SD	0.0137	0.0120	0.0097	0.0099	<b>0.0113</b>	0.0109
		CV %	1.4	1.0	0.9	0.9	<b>1.1</b>	1.0
	based on 6 tests	SD	0.0153	0.0129	0.0119	0.0124	<b>0.0131</b>	0.0116
		CV %	1.6	1.1	1.1	1.1	<b>1.2</b>	1.0
	based on single tests	SD	0.0186	0.0161	0.0154	0.0153	<b>0.0164</b>	0.0159
		CV %	1.9	1.3	1.5	1.4	<b>1.5</b>	1.4
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.0061	0.0054	0.0054	0.0053	<b>0.0055</b>	0.0054
		CV %	0.6	0.4	0.5	0.5	<b>0.5</b>	0.5
	between single tests on one day	SD	0.0110	0.0095	0.0096	0.0091	<b>0.0098</b>	0.0103
		CV %	1.1	0.8	0.9	0.8	<b>0.9</b>	0.9
	between all tests on different days	SD	0.0121	0.0107	0.0106	0.0103	<b>0.0109</b>	0.0116
		CV %	1.2	0.9	1.0	1.0	<b>1.0</b>	1.0

Uniformity								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			79.610	83.619	79.294	83.311		80.152
<b>Reference Values for Evaluation</b>			79.610	83.619	79.294	83.311		80.152
<b>Number Of Instruments</b>			160	160	160	160	<b>160</b>	160
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.517	0.438	0.418	0.516	<b>0.472</b>	0.430
		CV %	0.6	0.5	0.5	0.6	<b>0.6</b>	0.5
	based on 6 tests	SD	0.599	0.508	0.524	0.586	<b>0.555</b>	0.523
		CV %	0.8	0.6	0.7	0.7	<b>0.7</b>	0.7
	based on single tests	SD	0.822	0.703	0.755	0.732	<b>0.753</b>	0.774
		CV %	1.0	0.8	1.0	0.9	<b>0.9</b>	1.0
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.280	0.255	0.302	0.246	<b>0.271</b>	0.275
		CV %	0.4	0.3	0.4	0.3	<b>0.3</b>	0.3
	between single tests on one day	SD	0.532	0.465	0.488	0.433	<b>0.479</b>	0.524
		CV %	0.7	0.6	0.6	0.5	<b>0.6</b>	0.7
	between all tests on different days	SD	0.606	0.528	0.547	0.493	<b>0.543</b>	0.586
		CV %	0.8	0.6	0.7	0.6	<b>0.7</b>	0.7

Color Rd								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			75.121	76.343	78.334	73.584		80.252
<b>Reference Values for Evaluation</b>			75.121	76.343	78.334	73.584		80.252
<b>Number Of Instruments</b>			159	159	159	159	<b>159</b>	159
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.765	0.952	0.690	0.769	<b>0.794</b>	1.125
		CV %	1.0	1.2	0.9	1.0	<b>1.0</b>	1.4
	based on 6 tests	SD	0.793	0.972	0.734	0.800	<b>0.825</b>	1.144
		CV %	1.1	1.3	0.9	1.1	<b>1.1</b>	1.4
	based on single tests	SD	0.848	0.991	0.756	0.822	<b>0.854</b>	1.158
		CV %	1.1	1.3	1.0	1.1	<b>1.1</b>	1.4
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.186	0.204	0.171	0.173	<b>0.183</b>	0.170
		CV %	0.2	0.3	0.2	0.2	<b>0.2</b>	0.2
	between single tests on one day	SD	0.236	0.208	0.201	0.203	<b>0.212</b>	0.198
		CV %	0.3	0.3	0.3	0.3	<b>0.3</b>	0.2
	between all tests on different days	SD	0.289	0.290	0.276	0.281	<b>0.284</b>	0.279
		CV %	0.4	0.4	0.4	0.4	<b>0.4</b>	0.3

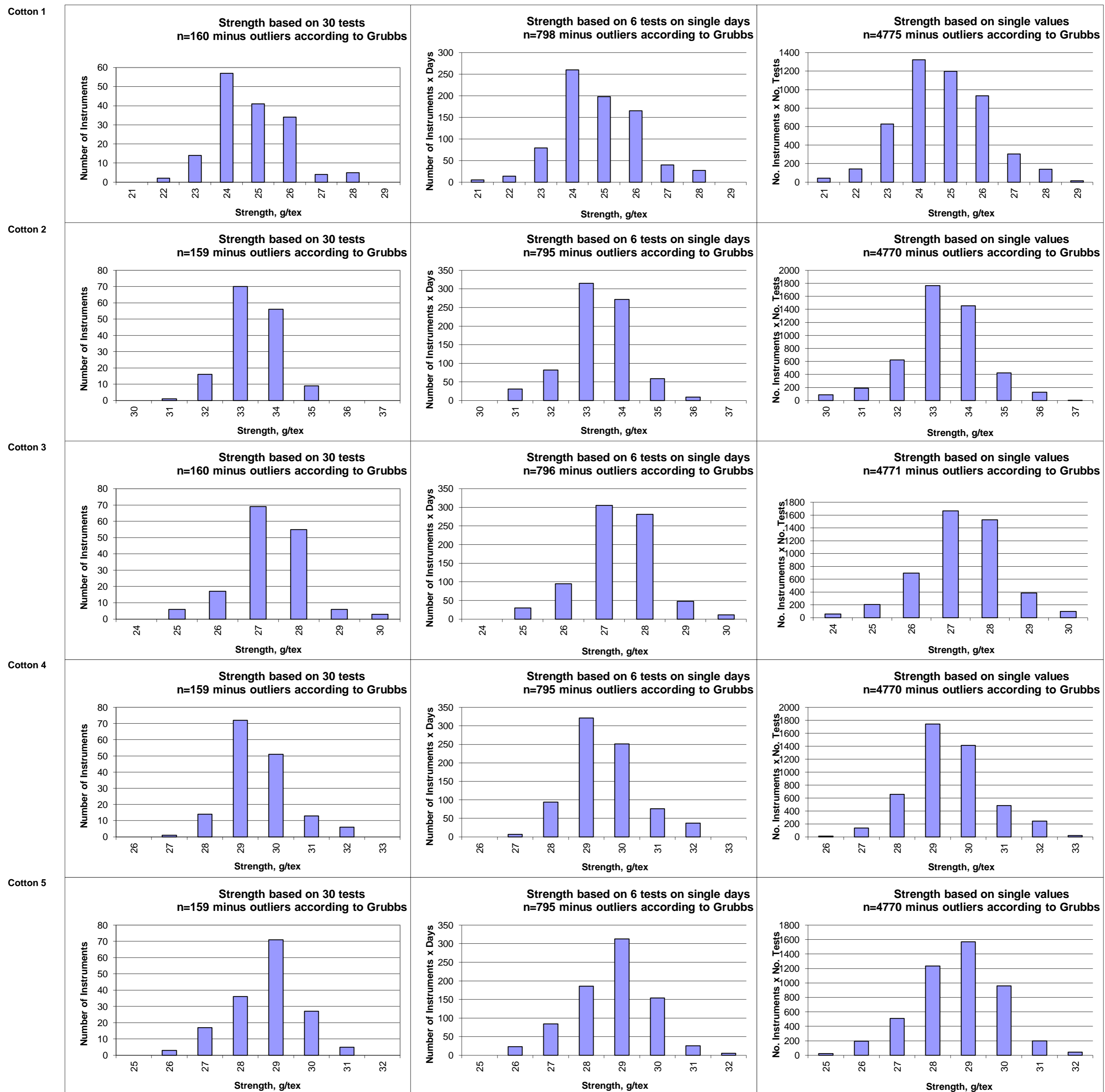
Color +b								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			10.405	12.812	7.661	10.674		9.583
<b>Reference Values for Evaluation</b>			10.405	12.812	7.661	10.674		9.583
<b>Number Of Instruments</b>			158	158	158	158	<b>158</b>	158
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.267	0.378	0.293	0.311	<b>0.312</b>	0.292
		CV %	2.6	3.0	3.8	2.9	<b>3.1</b>	3.0
	based on 6 tests	SD	0.291	0.365	0.299	0.308	<b>0.316</b>	0.316
		CV %	2.8	2.8	3.9	2.9	<b>3.1</b>	3.3
	based on single tests	SD	0.311	0.404	0.322	0.340	<b>0.344</b>	0.344
		CV %	3.0	3.2	4.2	3.2	<b>3.4</b>	3.6
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.099	0.113	0.089	0.098	<b>0.100</b>	0.096
		CV %	1.0	0.9	1.2	0.9	<b>1.0</b>	1.0
	between single tests on one day	SD	0.106	0.114	0.096	0.107	<b>0.106</b>	0.108
		CV %	1.0	0.9	1.3	1.0	<b>1.0</b>	1.1
	between all tests on different days	SD	0.145	0.170	0.129	0.149	<b>0.148</b>	0.150
		CV %	1.4	1.3	1.7	1.4	<b>1.5</b>	1.6

Test Result Distributions  
Micronaire



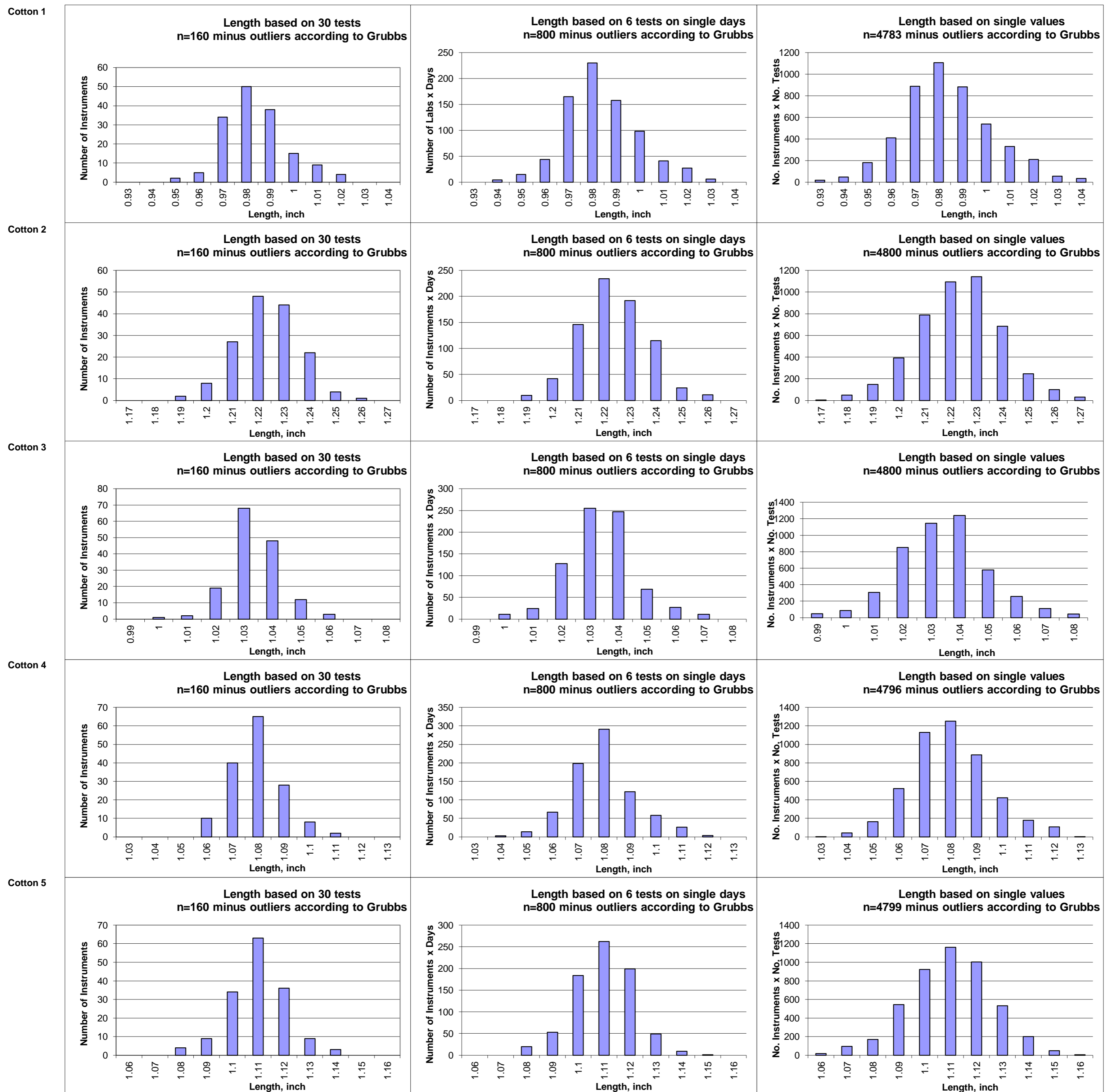
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)  
(classes are defined as > lower limit and <= upper limit)

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)

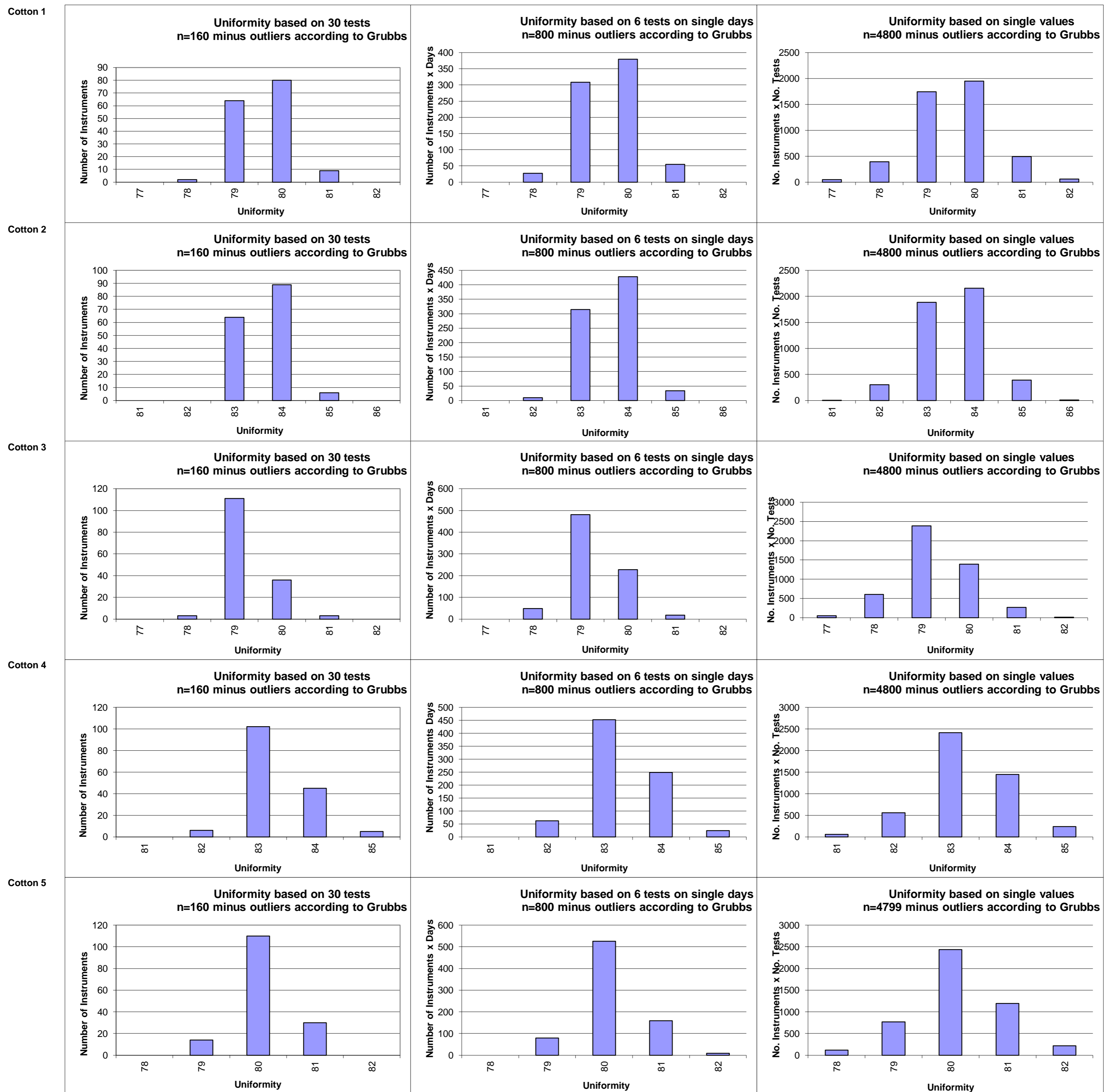
Test Result Distributions  
Length



(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)

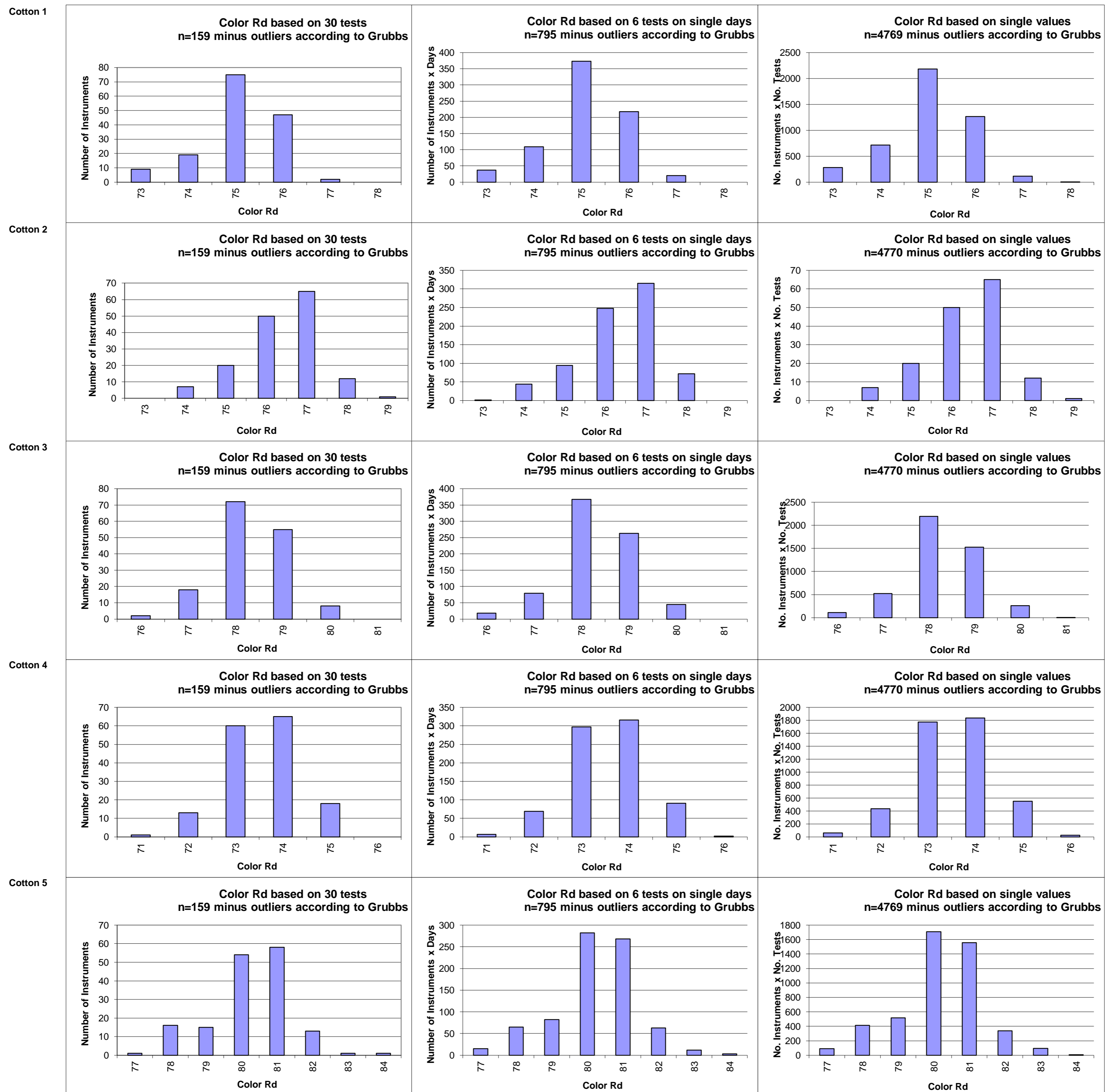


Test Result Distributions  
Uniformity



(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)

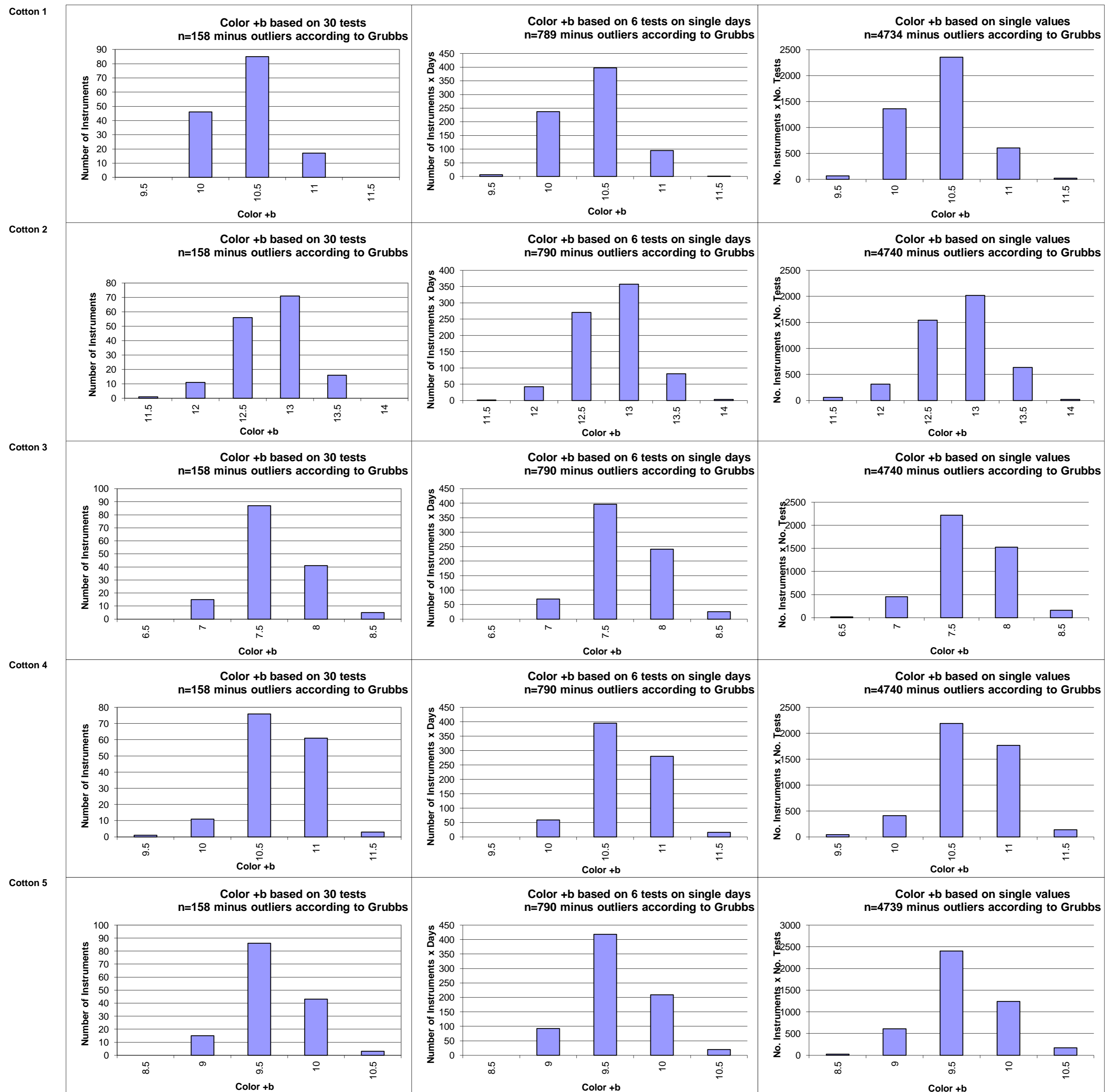
Test Result Distributions  
Color Rd



(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

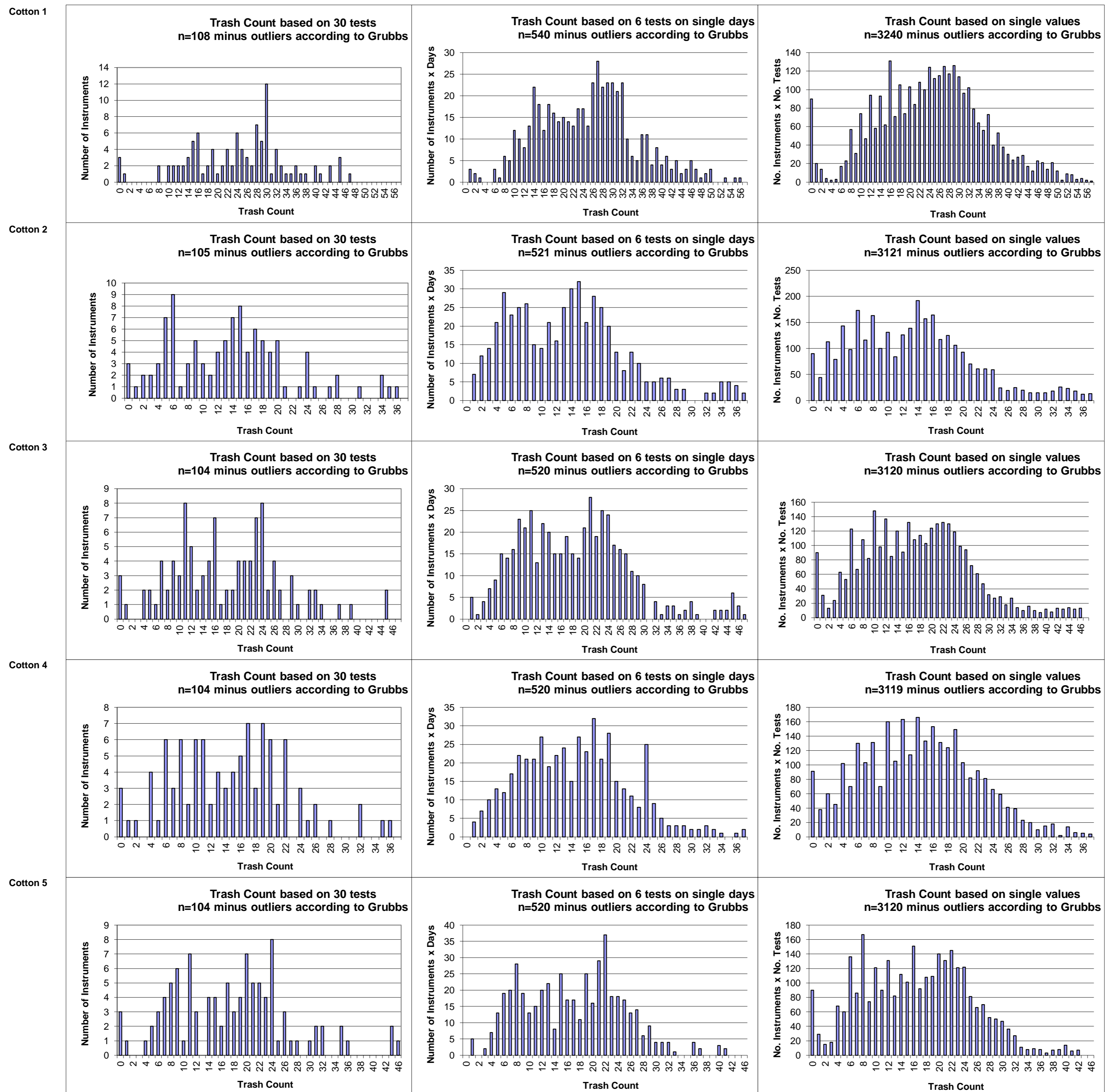
Trash Count								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			24.31	13.69	18.08	14.64		17.66
<b>Reference Values for Evaluation</b>			24.31	13.69	18.08	14.64		17.66
<b>Number Of Instruments</b>			108	105	104	104	<b>105</b>	104
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	10.17	8.07	9.40	7.69	<b>8.83</b>	9.48
		CV %	41.8	58.9	52.0	52.5	<b>51.3</b>	53.7
	based on 6 tests	SD	10.66	7.98	9.58	7.45	<b>8.92</b>	8.39
		CV %	43.9	58.3	53.0	50.9	<b>51.5</b>	47.5
	based on single tests	SD	11.02	8.06	9.45	7.57	<b>9.03</b>	8.59
		CV %	45.3	58.8	52.3	51.7	<b>52.0</b>	48.7
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	2.69	1.54	1.94	1.88	<b>2.01</b>	1.83
		CV %	11.1	11.3	10.7	12.8	<b>11.5</b>	10.3
	between single tests on one day	SD	3.11	1.65	2.07	1.96	<b>2.20</b>	2.15
		CV %	12.8	12.1	11.5	13.4	<b>12.4</b>	12.2
	between all tests on different days	SD	4.29	2.30	3.07	2.82	<b>3.12</b>	3.33
		CV %	17.7	16.8	17.0	19.3	<b>17.7</b>	18.9

Trash Area								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			0.316	0.115	0.192	0.145		0.162
<b>Reference Values for Evaluation</b>			0.316	0.115	0.192	0.145		0.162
<b>Number Of Instruments</b>			108	105	104	104	<b>105</b>	104
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.094	0.032	0.064	0.055	<b>0.061</b>	0.044
		CV %	29.7	28.0	33.3	37.8	<b>32.2</b>	27.5
	based on 6 tests	SD	0.108	0.039	0.071	0.050	<b>0.067</b>	0.062
		CV %	34.0	33.5	37.3	34.7	<b>34.9</b>	38.1
	based on single tests	SD	0.124	0.045	0.081	0.059	<b>0.077</b>	0.069
		CV %	39.0	39.2	42.5	40.6	<b>40.4</b>	42.8
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.046	0.015	0.033	0.024	<b>0.030</b>	0.025
		CV %	14.6	12.9	17.5	16.7	<b>15.4</b>	15.4
	between single tests on one day	SD	0.051	0.018	0.040	0.028	<b>0.034</b>	0.0
		CV %	16.1	15.2	20.8	19.1	<b>17.8</b>	19.0
	between all tests on different days	SD	0.078	0.028	0.051	0.039	<b>0.049</b>	0.046
		CV %	24.6	24.6	26.5	27.1	<b>25.7</b>	28.5

Maturity								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			83.95	85.33	87.50	87.52		84.16
<b>Reference Values for Evaluation</b>			83.95	85.33	87.50	87.52		84.16
<b>Number Of Instruments</b>			101	101	97	97	<b>99</b>	97
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	2.34	2.77	2.50	2.78	<b>2.60</b>	2.12
		CV %	2.8	3.2	2.9	3.2	<b>3.0</b>	2.5
	based on 6 tests	SD	2.17	2.53	2.43	2.82	<b>2.48</b>	1.92
		CV %	2.6	3.0	2.8	3.2	<b>2.9</b>	2.3
	based on single tests	SD	2.32	2.53	2.33	2.94	<b>2.53</b>	2.05
		CV %	2.8	3.0	2.7	3.4	<b>2.9</b>	2.4
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.25	0.28	0.22	0.27	<b>0.25</b>	0.29
		CV %	0.3	0.3	0.2	0.3	<b>0.3</b>	0.3
	between single tests on one day	SD	0.35	0.29	0.29	0.32	<b>0.31</b>	0.35
		CV %	0.4	0.3	0.3	0.4	<b>0.4</b>	0.4
	between all tests on different days	SD	0.47	0.47	0.47	0.48	<b>0.47</b>	0.48
		CV %	0.6	0.5	0.5	0.5	<b>0.5</b>	0.6

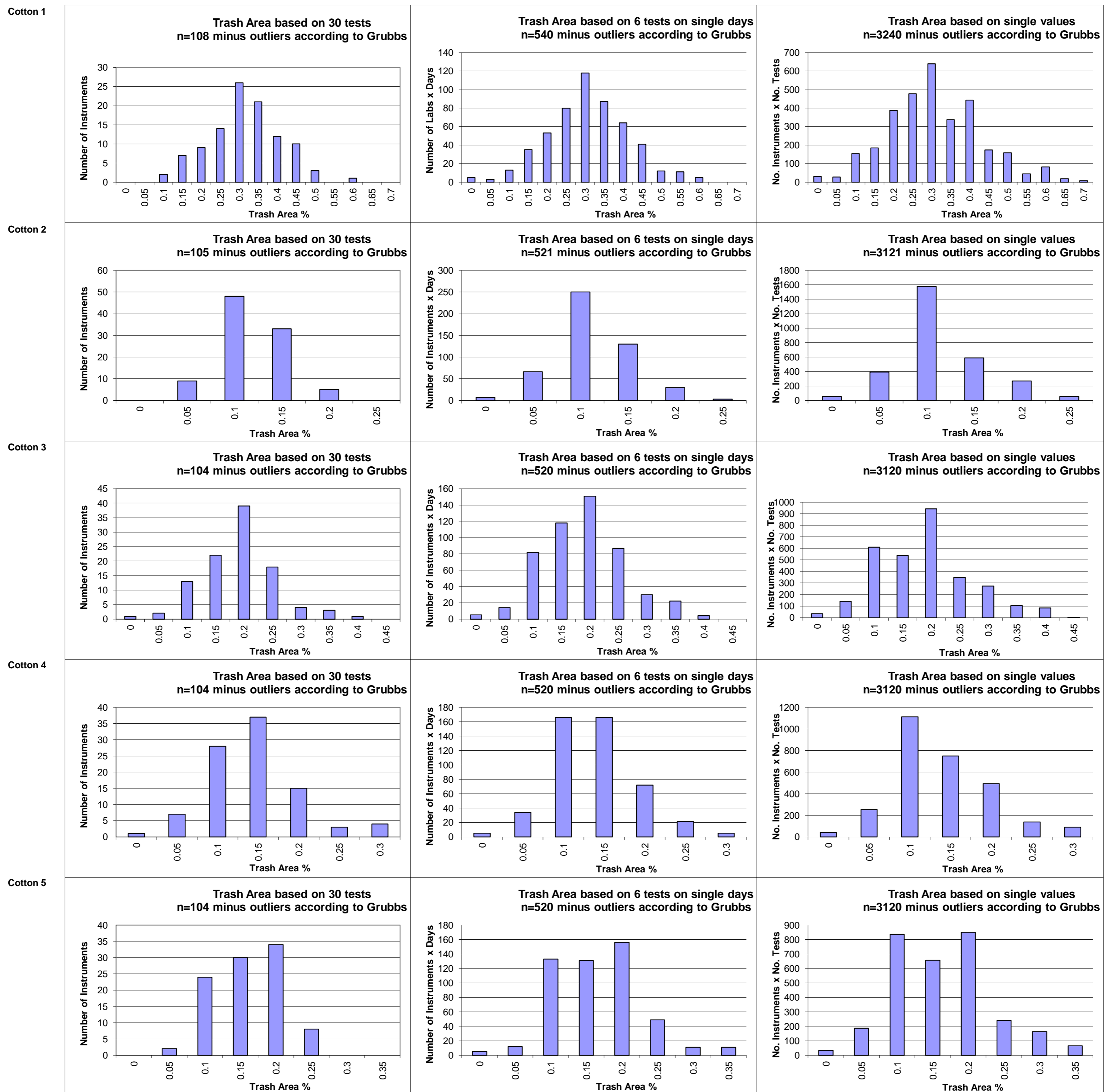
SFI								
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average	Cotton 5
<b>Average of Instruments (Grubbs)</b>			11.92	7.01	12.24	7.76		10.59
<b>Reference Values for Evaluation</b>			11.92	7.01	12.24	7.76		10.59
<b>Number Of Instruments</b>			116	115	112	112	<b>114</b>	112
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	1.60	1.06	1.39	0.91	<b>1.24</b>	1.14
		CV %	13.4	15.1	11.3	11.7	<b>12.9</b>	10.8
	based on 6 tests	SD	1.26	1.07	1.28	0.91	<b>1.13</b>	1.03
		CV %	10.6	15.2	10.5	11.8	<b>12.0</b>	9.7
	based on single tests	SD	1.63	1.15	1.52	1.01	<b>1.33</b>	1.31
		CV %	13.6	16.4	12.4	13.0	<b>13.9</b>	12.3
<b>Typical within-instrument Variation (Median)</b>	between different days with each 6 tests	SD	0.40	0.20	0.37	0.23	<b>0.30</b>	0.31
		CV %	3.4	2.8	3.0	2.9	<b>3.0</b>	2.9
	between single tests on one day	SD	0.68	0.28	0.61	0.38	<b>0.49</b>	0.57
		CV %	5.7	4.0	5.0	4.9	<b>4.9</b>	5.4
	between all tests on different days	SD	0.81	0.34	0.70	0.44	<b>0.57</b>	0.63
		CV %	6.8	4.9	5.7	5.7	<b>5.8</b>	6.0

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)

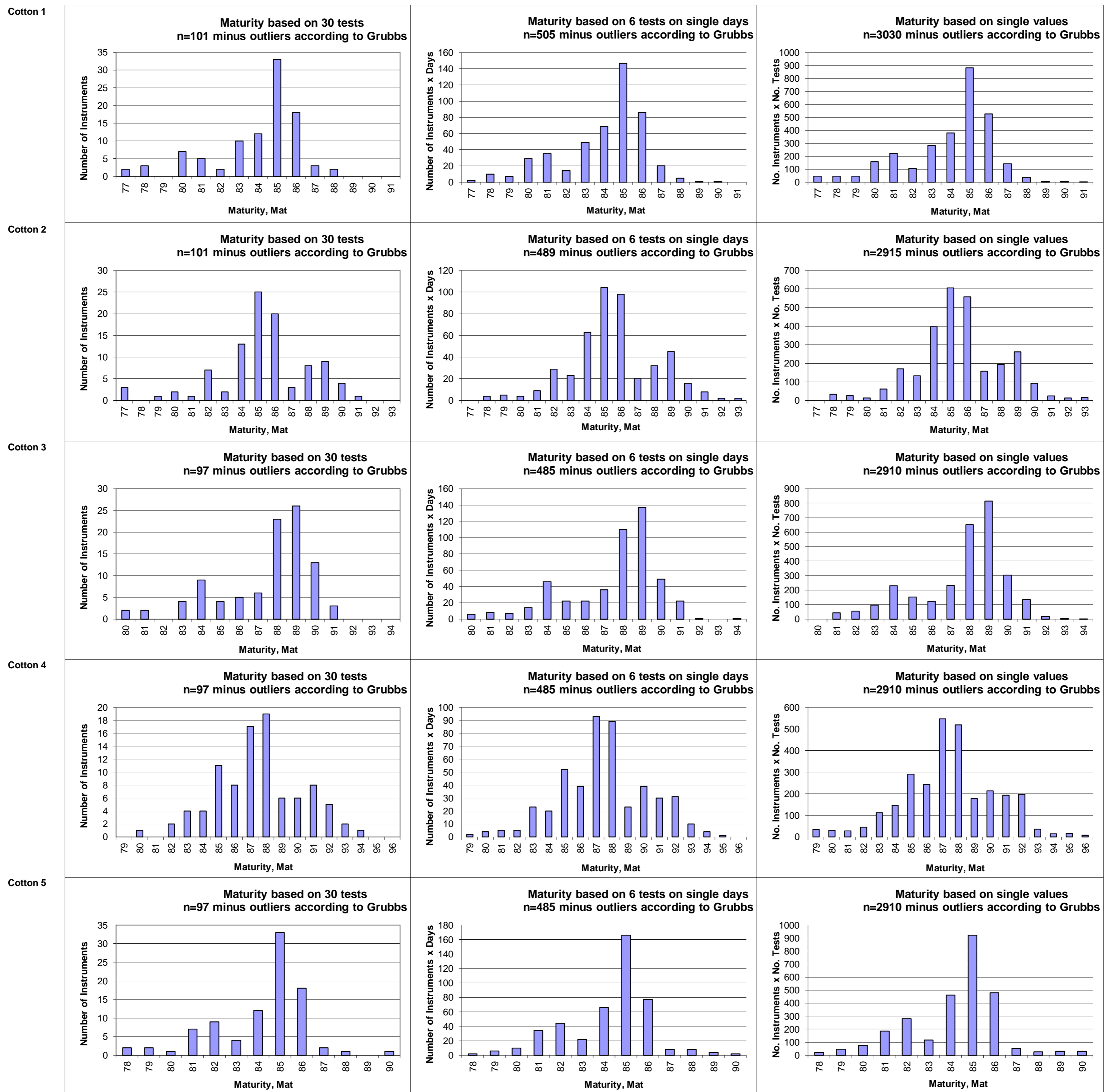
Test Result Distributions  
Trash Area



(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)



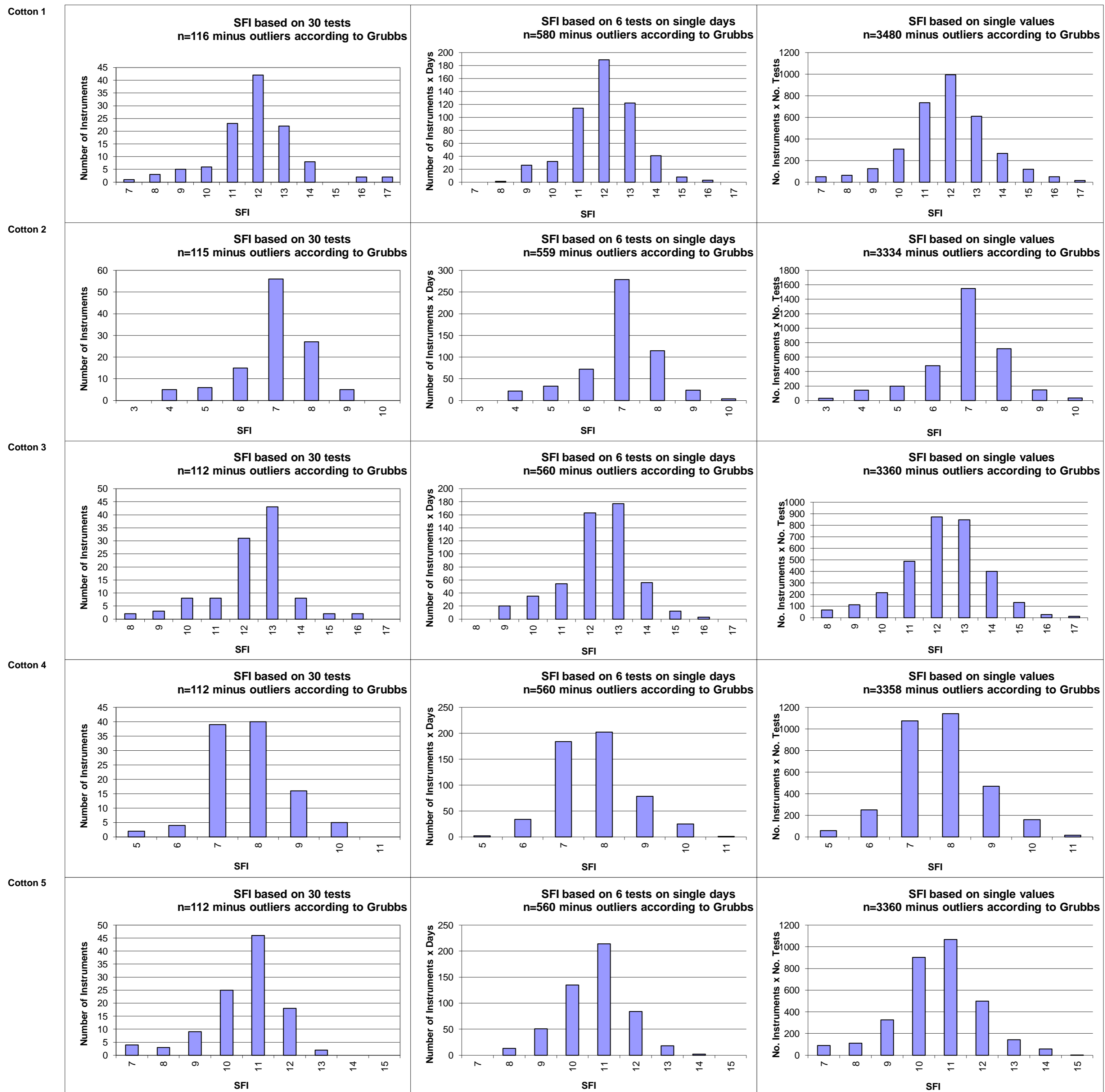
Test Result Distributions  
Maturity



(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 2012 - 4 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



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

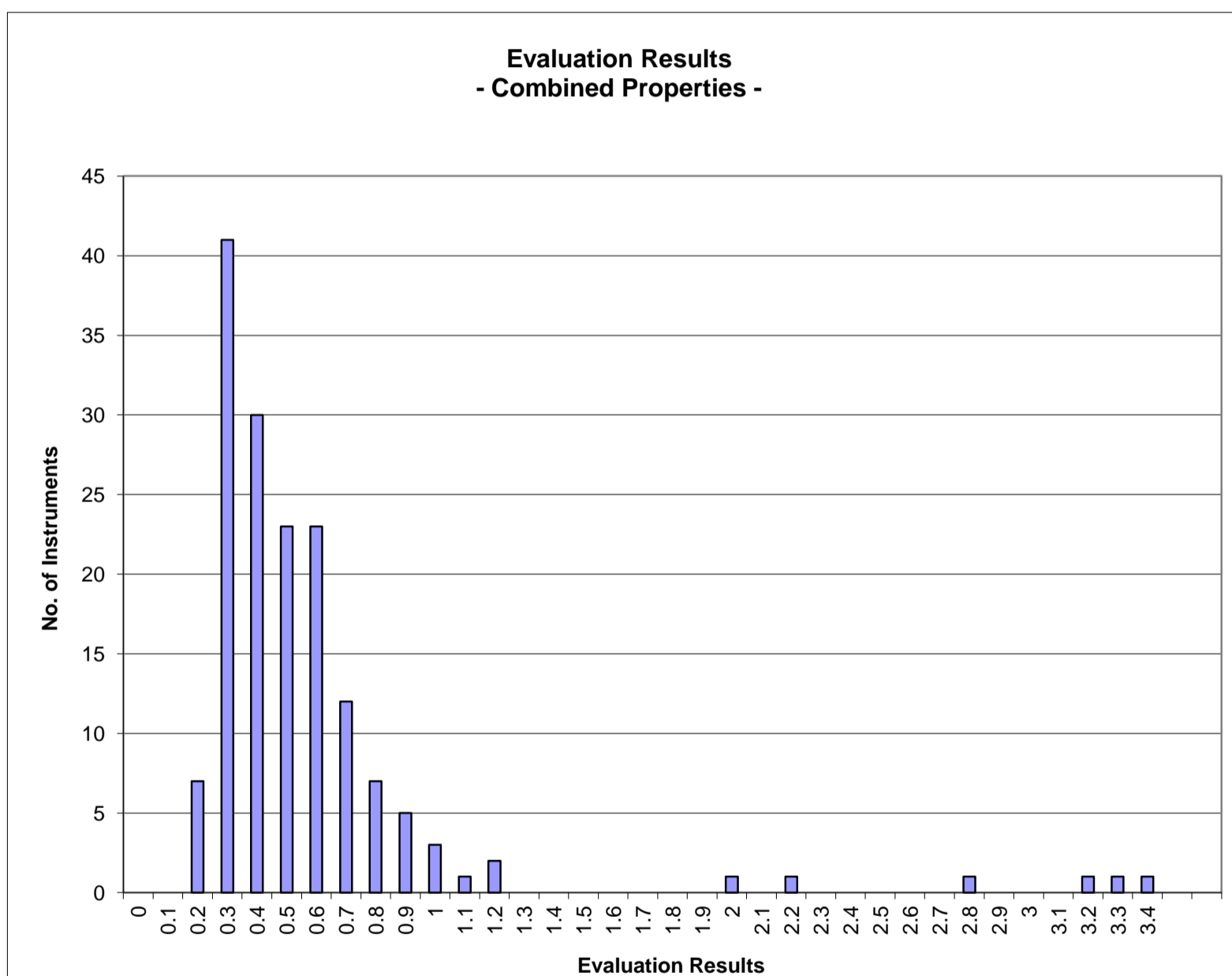
Instrument Evaluation

- Graph of Combined Properties -

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2012 - 4

		Evaluation Combined Prop.
<b>Statistics</b>	Average	0.58
	Median	0.46
	Best Instrument	0.23
	Worst Instrument	3.39

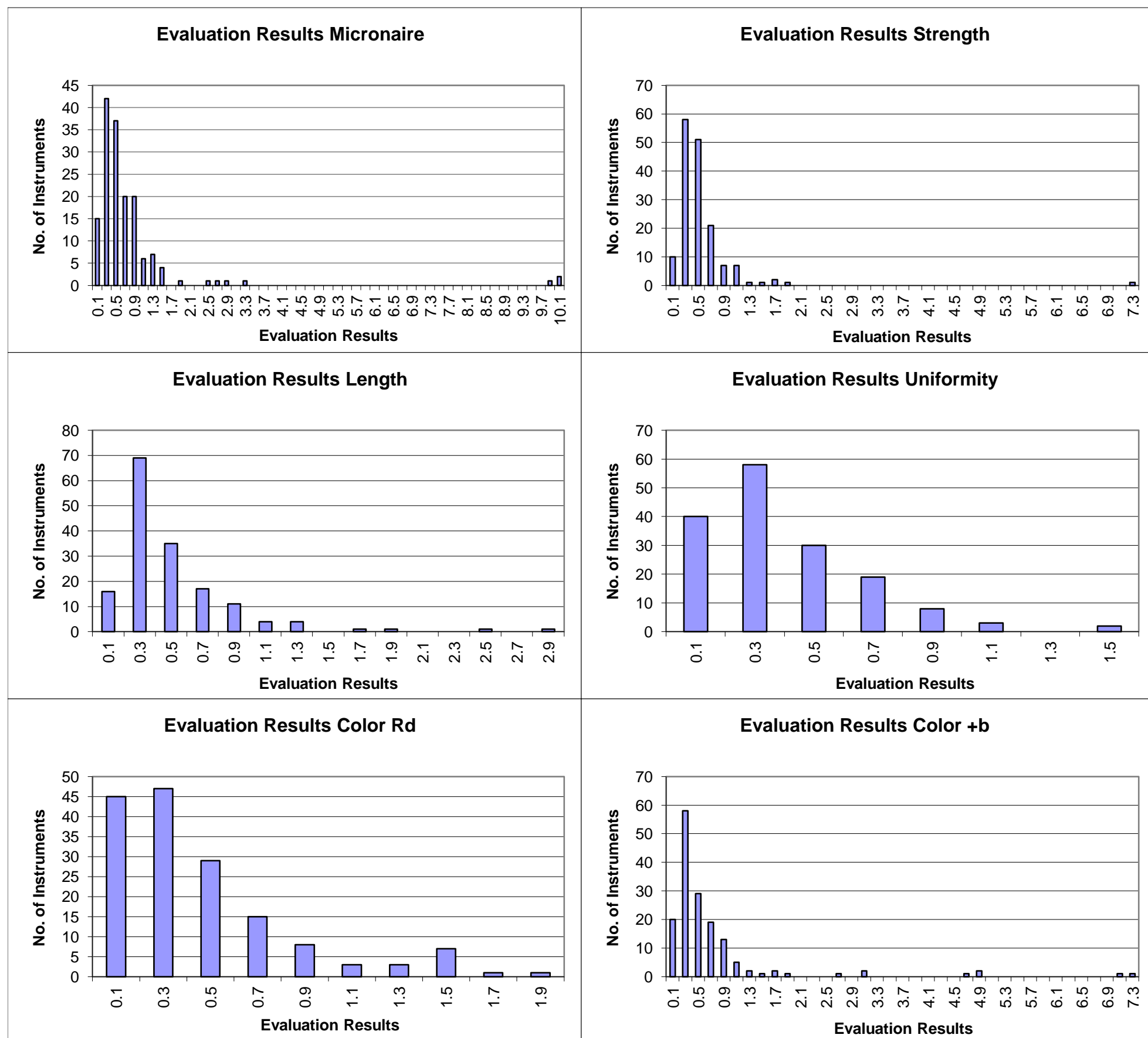


x-Axis shows midpoints of classes

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 2012 - 4

		Evaluation Micronaire	Evaluation Strength	Evaluation Length	Evaluation Uniformity	Evaluation Color Rd	Evaluation Color +b
<b>Statistics</b>	Average	0.82	0.55	0.50	0.40	0.45	0.72
	Median	0.51	0.43	0.39	0.34	0.32	0.42
	Best Instr.	0.08	0.11	0.10	0.05	0.05	0.06
	Worst Instr.	10.16	7.24	2.96	1.58	1.84	7.21



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



International Cotton Advisory Committee



# CSITC

## Global - Round Trial 2012 - 4

### 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:  
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

## 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	1.0
	units	g/tex	inch	%	units	units
Average % Results within Limits	96.4	93.0	95.0	99.1	90.4	94.9
Completely within limits	92.5	79.4	88.1	96.9	81.8	90.5
% of Instruments ≥75% within limits	95.0	95.6	95.0	99.4	88.7	93.7
% of Instruments ≥50% within limits	98.7	98.1	98.1	100.0	93.1	96.8

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>
GL124-001-01	100	100	100	100	100	100
GL124-001-09	100	100	100	100	100	100
GL124-002-01	75	100	100	100	100	100
GL124-003-02	100	75	100	100	100	100
GL124-003-06	100	75	100	100	100	100
GL124-004-01	100	100	100	100	100	100
GL124-004-02	100	100	100	100	100	100
GL124-005-02	50	100	100	100	100	100
GL124-006-04	100	100	50	100	25	100
GL124-007-01	100	100	100	100	75	100
GL124-008-01	50	100	100	100	100	100
GL124-010-01	100	100	100	100	100	100
GL124-011-01	100	100	100	100	100	75
GL124-011-02	100	100	100	100	100	100
GL124-012-04	100	75	50	100	50	0
GL124-013-01	100	0	75	100	75	0
GL124-014-01	100	100	25	100	100	100
GL124-015-01	100	100	100	100	100	50
GL124-015-08	100	100	100	100	100	50
GL124-016-01	100	100	100	100	100	100
GL124-017-01	100	75	100	100	100	100
GL124-018-01	100	100	100	100	100	100
GL124-018-02	100	100	100	100	100	100
GL124-018-03	100	100	100	100	100	100
GL124-018-04	100	100	100	100	100	100
GL124-018-05	100	100	100	100	100	100
GL124-018-06	100	100	100	100	100	100
GL124-019-01						
GL124-020-01	100	100	100	100	100	100
GL124-021-01	100	100	100	100	100	100
GL124-022-01	100	100	100	100	100	100
GL124-023-01	100	100	100	100	25	100
GL124-024-01	100	100	100	100	100	100
GL124-025-07	100	100	100	100	100	100
GL124-025-08	100	100	100	100	100	100
GL124-025-10	100	100	100	100	100	100
GL124-025-13	100	100	100	100	100	100
GL124-026-01	100	75	100	100	100	100
GL124-027-01	100	100	100	100	100	100



GL124-027-02	100	100	100	100	100	100
GL124-027-03	100	100	100	100	100	100
GL124-027-06	100	100	100	100	100	100
GL124-028-01	100	100	100	100	75	100
GL124-029-02	100	100	100	100	25	100
GL124-030-02	100	100	100	100	100	100
GL124-031-01	100	100	100	100	100	100
GL124-031-02	100	100	100	100	100	100
GL124-032-01	100	100	100	100	100	100
GL124-032-02	100	100	100	100	100	100
GL124-033-22	100	100	100	100	100	100
GL124-033-23	100	100	100	100	100	100
GL124-034-01	100	100	100	100	100	100
GL124-035-01	100	100	100	100	100	100
GL124-035-02	100	100	100	100	100	100
GL124-037-01	75	100	100	100	100	100
GL124-037-02	100	100	100	100	100	100
GL124-037-03	100	100	100	100	100	100
GL124-037-04	100	100	100	100	100	100
GL124-039-01	25	100	75	100	100	75
GL124-041-01	100	100	100	100	100	100
GL124-041-02	100	100	100	100	100	100
GL124-041-03	100	100	100	100	100	100
GL124-041-04	100	100	100	100	100	100
GL124-042-01	100	75	100	100	100	100
GL124-043-01	100	75	100	100	100	25
GL124-044-01	100	100	100	100	100	100
GL124-045-01	100	100	100	100	100	100
GL124-045-02	100	100	100	100	100	100
GL124-046-01	100	100	100	100	100	100
GL124-046-02	100	100	100	100	100	100
GL124-046-03	100	100	100	100	100	100
GL124-047-02	100	75	100	100	100	100
GL124-048-01	100	100	0	100	100	100
GL124-048-02	100	100	50	100	100	100
GL124-049-01	100	100	100	100	0	100
GL124-051-01	100	100	100	100	0	100
GL124-051-02		0	100	100		
GL124-052-40	100	100	100	100	100	100
GL124-052-46	100	100	100	100	75	100
GL124-054-01	100	100	0	100	100	100
GL124-054-02						
GL124-054-03	100	25	75	50	100	100
GL124-054-04	100	100	75	100	100	100
GL124-056-19	100	100	100	100	100	100
GL124-056-21	100	100	100	100	100	100
GL124-057-01	100	75	100	100	100	100
GL124-057-02	100	100	100	100	100	100
GL124-057-03	100	100	100	100	100	100
GL124-058-01	100	75	100	100	100	100
GL124-059-01	100	100	100	100	100	100
GL124-060-04	100	50	100	100	75	100
GL124-061-01	100	100	100	100	100	100
GL124-062-01	50	50	100	75	50	50
GL124-062-02	50	50	100	75	50	50
GL124-062-03	50	50	75	75	25	50
GL124-063-01	100	100	100	100	50	100
GL124-064-01	100	100	100	100	100	100
GL124-065-01	100	75	75	100	100	100
GL124-066-01	100	100	100	100	100	100

GL124-067-01	75	100	100	100	100	75
GL124-067-02	100	100	100	100	100	75
GL124-068-01	100	100	100	100	100	100
GL124-068-02	100	100	100	100	100	100
GL124-068-04	100	100	100	100	100	100
GL124-069-01	100	75	100	100	100	75
GL124-070-01	50	75	100	100	100	100
GL124-070-02	100	75	100	100	75	100
GL124-070-03	100	100	100	100	100	100
GL124-071-01	100	100	100	100	100	100
GL124-074-01	100	100	100	100	100	100
GL124-075-01	100	75	100	100	100	100
GL124-076-01	100	100	100	100	100	100
GL124-077-01	100	100	100	100	0	100
GL124-078-01	100	100	100	100	100	100
GL124-079-01	100	75	100	100	100	100
GL124-080-01	100	100	100	100	100	100
GL124-080-02	100	100	100	100	100	100
GL124-080-03	100	100	100	100	100	100
GL124-080-04	100	100	100	100	100	100
GL124-081-01	100	100	100	100	100	100
GL124-082-01	100	75	50	100	50	
GL124-083-01	100	100	50	100	50	100
GL124-083-02	75	100	75	100	50	100
GL124-084-07	100	100	100	100	100	100
GL124-084-08	100	75	100	100	100	100
GL124-084-09	100	100	100	100	100	100
GL124-086-01	100	100	100	100	25	100
GL124-087-15	100	100	100	100	100	100
GL124-087-20	100	100	100	100	75	100
GL124-088-01	100	75	75	100	25	25
GL124-088-02	100	75	75	100	25	25
GL124-089-01	100	100	100	100	100	100
GL124-090-01	100	100	100	100	100	100
GL124-090-03	100	100	100	100	100	100
GL124-091-01	100	100	75	100	100	100
GL124-092-01	100	100	100	100	100	100
GL124-092-15	100	100	100	100	100	100
GL124-092-22	100	100	100	100	100	100
GL124-094-03	100	100	100	100	100	100
GL124-095-01	100	100	100	100	100	100
GL124-095-02	100	100	100	100	100	100
GL124-095-03	100	100	100	100	100	100
GL124-095-04	100	100	100	100	100	100
GL124-096-03	100	100	100	100	100	100
GL124-097-01	100	100	100	100	75	100
GL124-097-03	100	100	100	100	75	100
GL124-097-04	100	100	100	100	100	100
GL124-098-03	100	100	100	100	100	100
GL124-099-01	100	100	100	100	100	100
GL124-099-03	100	100	100	100	100	100
GL124-100-01	100	75	100	100	100	100
GL124-100-02	100	75	100	100	100	100
GL124-100-04	100	75	100	100	75	100
GL124-100-05	100	75	100	100	100	100
GL124-101-08	100	75	100	100	100	100
GL124-101-09	100	100	100	100	100	100
GL124-102-01	100	100	100	75	100	100
GL124-103-02	100	75	100	100	100	100
GL124-103-03	100	100	75	100	75	100

GL124-103-04	100	100	100	100	25	100
GL124-103-06	0	100	100	100	100	100
GL124-103-07	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	1.0
	units	g/tex	inch	%	units	units
Average % Results within Limits	93.7	88.3	93.1	96.9	87.9	94.2
% of Instruments 100% within limits	51.6	26.3	27.5	55.6	52.2	75.3
% of Instruments ≥95% within limits	73.0	46.9	70.0	84.4	66.0	86.1
% of Instruments ≥75% within limits	92.5	88.8	91.9	97.5	82.4	92.4
% of Instruments ≥65% within limits	95.0	93.1	95.0	100.0	87.4	94.9
% of Instruments ≥50% within limits	96.9	96.9	98.8	100.0	89.9	94.9

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>
GL124-001-01	100	99	98	100	100	100
GL124-001-09	99	98	99	100	100	100
GL124-002-01	58	88	93	100	83	100
GL124-003-02	92	75	86	100	100	100
GL124-003-06	93	76	86	100	100	100
GL124-004-01	100	100	100	100	100	100
GL124-004-02	100	100	98	100	100	100
GL124-005-02	92	82	99	100	98	100
GL124-006-04	93	78	64	99	28	100
GL124-007-01	100	99	88	98	68	100
GL124-008-01	63	98	73	98	88	90
GL124-010-01	100	91	100	99	100	100
GL124-011-01	100	100	100	100	100	80
GL124-011-02	100	100	100	100	100	100
GL124-012-04	87	75	63	69	33	2
GL124-013-01	66	35	79	73	59	0
GL124-014-01	82	78	55	98	87	100
GL124-015-01	100	95	99	100	100	69
GL124-015-08	99	91	97	99	100	68
GL124-016-01	100	85	99	98	100	100
GL124-017-01	99	83	97	99	69	98
GL124-018-01	100	100	99	100	100	100
GL124-018-02	100	100	100	100	100	100
GL124-018-03	99	100	100	98	100	100
GL124-018-04	98	100	100	100	100	100
GL124-018-05	100	100	100	100	100	100
GL124-018-06	100	100	100	100	100	100
GL124-019-01						
GL124-020-01	99	82	76	95	98	100
GL124-021-01	89	92	98	100	87	76
GL124-022-01	100	98	96	98	100	100
GL124-023-01	100	90	98	97	18	99
GL124-024-01	80	100	100	99	88	100
GL124-025-07	82	99	93	100	100	98
GL124-025-08	85	100	96	100	100	99
GL124-025-10	98	93	85	90	98	70

GL124-025-13	99	86	83	97	100	82
GL124-026-01	100	75	78	93	89	100
GL124-027-01	97	100	97	100	100	100
GL124-027-02	100	100	98	100	100	100
GL124-027-03	100	100	98	100	100	100
GL124-027-06	97	100	97	100	100	100
GL124-028-01	92	100	100	100	61	98
GL124-029-02	100	98	99	100	40	100
GL124-030-02	100	82	94	99	98	99
GL124-031-01	100	98	100	100	100	100
GL124-031-02	100	100	100	100	100	100
GL124-032-01	100	99	99	100	100	100
GL124-032-02	100	94	98	100	98	100
GL124-033-22	100	88	99	100	100	100
GL124-033-23	100	98	100	100	100	100
GL124-034-01	100	97	79	79	89	100
GL124-035-01	100	88	100	100	100	100
GL124-035-02	100	93	100	100	100	100
GL124-037-01	98	100	100	100	100	100
GL124-037-02	99	100	100	100	100	100
GL124-037-03	100	100	100	100	100	100
GL124-037-04	100	100	100	100	100	100
GL124-039-01	27	73	87	94	99	67
GL124-041-01	100	100	100	100	100	100
GL124-041-02	100	98	100	100	100	100
GL124-041-03	100	100	100	100	100	100
GL124-041-04	99	100	100	100	100	100
GL124-042-01	100	75	98	98	98	100
GL124-043-01	68	73	92	91	100	29
GL124-044-01	98	96	100	94	99	99
GL124-045-01	100	88	95	98	84	100
GL124-045-02	98	92	98	100	94	96
GL124-046-01	100	100	96	100	100	100
GL124-046-02	100	100	98	100	100	100
GL124-046-03	100	100	98	100	100	100
GL124-047-02	95	67	96	100	100	100
GL124-048-01	83	99	19	93	98	90
GL124-048-02	98	94	61	90	95	95
GL124-049-01	98	91	93	97	17	95
GL124-051-01	100	96	92	92	23	100
GL124-051-02		0	90	92		
GL124-052-40	100	100	100	100	95	100
GL124-052-46	100	99	100	100	79	100
GL124-054-01	85	73	24	88	94	100
GL124-054-02						
GL124-054-03	88	44	60	65	98	98
GL124-054-04	90	89	62	78	71	100
GL124-056-19	100	94	100	100	100	100
GL124-056-21	100	95	100	100	100	100
GL124-057-01	100	63	97	99	98	100
GL124-057-02	100	95	98	100	87	98
GL124-057-03	100	97	100	100	84	100
GL124-058-01	97	71	99	100	100	100
GL124-059-01	93	99	100	100	98	100
GL124-060-04	100	60	99	98	84	100
GL124-061-01	100	98	98	98	100	100
GL124-062-01	48	36	96	80	43	48
GL124-062-02	49	53	98	85	43	44
GL124-062-03	50	48	93	83	17	45
GL124-063-01	90	92	96	100	46	88

GL124-064-01	99	80	100	100	100	100
GL124-065-01	92	82	86	100	100	100
GL124-066-01	99	95	99	98	100	100
GL124-067-01	73	88	88	100	100	78
GL124-067-02	99	95	92	99	100	79
GL124-068-01	100	97	98	99	100	100
GL124-068-02	100	88	98	100	100	100
GL124-068-04	100	94	100	100	95	100
GL124-069-01	90	78	93	98	100	81
GL124-070-01	44	54	98	78	83	100
GL124-070-02	97	62	98	97	68	100
GL124-070-03	93	78	82	78	69	100
GL124-071-01	99	93	100	100	96	100
GL124-074-01	88	100	98	99	99	99
GL124-075-01	97	75	100	100	94	100
GL124-076-01	71	95	99	98	100	100
GL124-077-01	95	99	93	88	20	98
GL124-078-01	100	100	97	100	100	100
GL124-079-01	92	75	100	100	100	100
GL124-080-01	100	100	99	100	100	100
GL124-080-02	100	100	99	100	100	100
GL124-080-03	100	100	99	100	100	100
GL124-080-04	100	100	99	99	100	100
GL124-081-01	100	89	100	100	100	100
GL124-082-01	100	78	74	98	43	
GL124-083-01	85	98	66	98	56	100
GL124-083-02	84	90	70	87	63	100
GL124-084-07	100	77	98	98	100	100
GL124-084-08	100	64	99	99	100	100
GL124-084-09	100	95	98	98	100	100
GL124-086-01	100	94	100	98	25	100
GL124-087-15	100	92	99	100	100	100
GL124-087-20	96	83	100	100	86	100
GL124-088-01	100	79	79	96	29	30
GL124-088-02	100	79	79	96	29	30
GL124-089-01	100	92	88	91	89	81
GL124-090-01	100	87	100	100	99	100
GL124-090-03	100	98	100	98	94	100
GL124-091-01	98	90	74	98	99	100
GL124-092-01	98	94	99	100	100	100
GL124-092-15	99	88	98	98	100	100
GL124-092-22	98	94	99	100	100	100
GL124-094-03	100	94	98	100	100	100
GL124-095-01	100	100	100	100	100	100
GL124-095-02	100	99	100	100	100	100
GL124-095-03	100	100	100	100	100	100
GL124-095-04	100	100	97	100	100	100
GL124-096-03	100	98	99	100	100	100
GL124-097-01	98	100	99	100	69	100
GL124-097-03	89	100	99	100	77	100
GL124-097-04	100	100	98	100	92	100
GL124-098-03	93	75	94	95	95	100
GL124-099-01	100	96	88	97	83	100
GL124-099-03	100	100	98	100	100	100
GL124-100-01	100	77	96	100	98	100
GL124-100-02	100	77	99	100	87	100
GL124-100-04	85	77	96	100	72	100
GL124-100-05	100	77	99	100	87	100
GL124-101-08	87	83	99	99	100	100
GL124-101-09	100	91	94	100	100	100



GL124-102-01	88	74	89	73	96	99
GL124-103-02	91	78	99	99	81	100
GL124-103-03	99	76	78	96	70	97
GL124-103-04	93	90	88	100	38	100
GL124-103-06	12	68	92	86	100	100
GL124-103-07	99	90	93	99	81	95