



**International Cotton Advisory Committee**



## CSITC Global - Round Trial 2011 - 4 General Evaluation

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Section Three: Within Limits Evaluation

#### Section One: Result Distribution

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-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.



## Global - Round Trial 2011 - 4

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

Micronaire								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			2.521	4.181	4.058	5.014		3.578
<b>Reference Values for Evaluation</b>			2.521	4.181	4.058	5.014		3.578
<b>Number Of Instruments</b>			136	136	136	136	<b>136</b>	136
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.078	0.063	0.067	0.064	<b>0.068</b>	0.146
		CV %	3.1	1.5	1.7	1.3	<b>1.9</b>	4.1
	based on 6 tests	SD	0.079	0.066	0.073	0.068	<b>0.072</b>	0.148
		CV %	3.1	1.6	1.8	1.4	<b>2.0</b>	4.1
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.085	0.075	0.087	0.078	<b>0.081</b>	0.151
		CV %	3.4	1.8	2.1	1.5	<b>2.2</b>	4.2
	between different days with each 6 tests	SD	0.019	0.021	0.026	0.024	<b>0.022</b>	0.022
		CV %	0.8	0.5	0.7	0.5	<b>0.6</b>	0.6
	between single tests on one day	SD	0.025	0.033	0.040	0.034	<b>0.033</b>	0.036
		CV %	1.0	0.8	1.0	0.7	<b>0.9</b>	1.0
	between all tests on different days	SD	0.034	0.041	0.048	0.044	<b>0.042</b>	0.044
		CV %	1.4	1.0	1.2	0.9	<b>1.1</b>	1.2

Strength								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			22.418	32.934	28.427	29.557		27.861
<b>Reference Values for Evaluation</b>			22.418	32.934	28.427	29.557		27.861
<b>Number Of Instruments</b>			137	137	137	137	<b>137</b>	137
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.839	0.778	0.913	1.069	<b>0.900</b>	0.803
		CV %	3.7	2.4	3.2	3.6	<b>3.2</b>	2.9
	based on 6 tests	SD	0.959	0.915	0.996	1.186	<b>1.014</b>	0.912
		CV %	4.3	2.8	3.5	4.0	<b>3.6</b>	3.3
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	1.102	1.084	1.137	1.284	<b>1.152</b>	1.088
		CV %	4.9	3.3	4.0	4.3	<b>4.1</b>	3.9
	between different days with each 6 tests	SD	0.285	0.383	0.399	0.335	<b>0.351</b>	0.344
		CV %	1.3	1.2	1.4	1.1	<b>1.2</b>	1.2
	between single tests on one day	SD	0.455	0.548	0.528	0.507	<b>0.509</b>	0.6
		CV %	2.0	1.7	1.9	1.7	<b>1.8</b>	2.0
	between all tests on different days	SD	0.547	0.666	0.666	0.613	<b>0.623</b>	0.670
		CV %	2.4	2.0	2.3	2.1	<b>2.2</b>	2.4

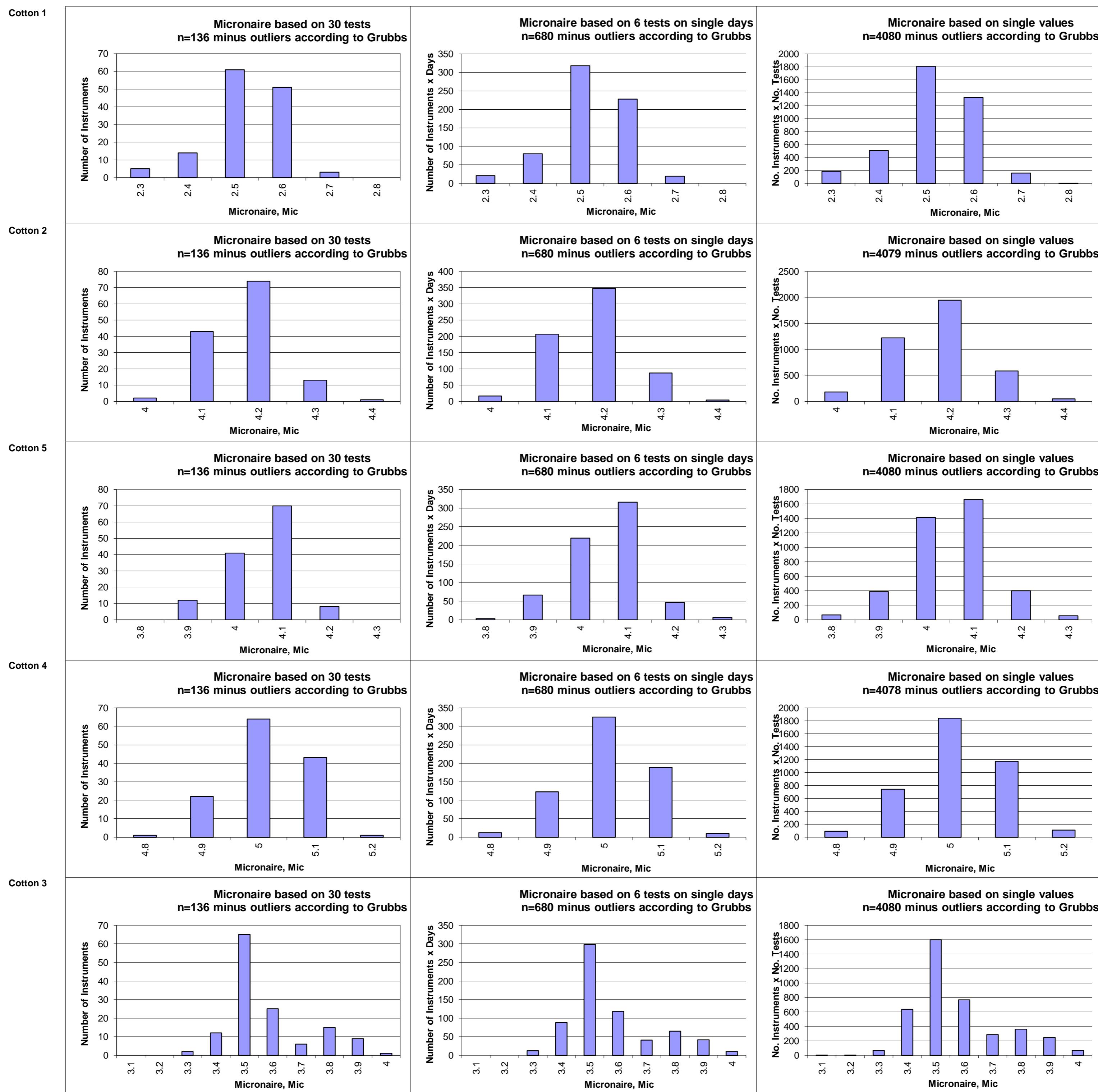
Length								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			0.9707	1.2169	1.1086	1.0825		1.0584
<b>Reference Values for Evaluation</b>			0.9707	1.2169	1.1086	1.0825		1.0584
<b>Number Of Instruments</b>			136	136	136	136	<b>136</b>	136
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.0126	0.0105	0.0142	0.0123	<b>0.0124</b>	0.0130
		CV %	1.3	0.9	1.3	1.1	<b>1.1</b>	1.2
	based on 6 tests	SD	0.0149	0.0121	0.0156	0.0137	<b>0.0141</b>	0.0138
		CV %	1.5	1.0	1.4	1.3	<b>1.3</b>	1.3
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.0178	0.0156	0.0187	0.0163	<b>0.0171</b>	0.0173
		CV %	1.8	1.3	1.7	1.5	<b>1.6</b>	1.6
	between different days with each 6 tests	SD	0.0056	0.0060	0.0055	0.0050	<b>0.0055</b>	0.0059
		CV %	0.6	0.5	0.5	0.5	<b>0.5</b>	0.6
	between single tests on one day	SD	0.0102	0.0092	0.0102	0.0087	<b>0.0096</b>	0.0096
		CV %	1.1	0.8	0.9	0.8	<b>0.9</b>	0.9
	between all tests on different days	SD	0.0115	0.0110	0.0114	0.0102	<b>0.0110</b>	0.0111
		CV %	1.2	0.9	1.0	0.9	<b>1.0</b>	1.1

Uniformity								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			77.400	83.404	80.415	83.301		79.783
<b>Reference Values for Evaluation</b>			77.400	83.404	80.415	83.301		79.783
<b>Number Of Instruments</b>			136	136	136	136	<b>136</b>	136
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.827	0.475	0.582	0.443	<b>0.582</b>	0.641
		CV %	1.1	0.6	0.7	0.5	<b>0.7</b>	0.8
	based on 6 tests	SD	0.862	0.571	0.678	0.559	<b>0.668</b>	0.712
		CV %	1.1	0.7	0.8	0.7	<b>0.8</b>	0.9
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	1.028	0.713	0.885	0.707	<b>0.833</b>	0.875
		CV %	1.3	0.9	1.1	0.8	<b>1.0</b>	1.1
	between different days with each 6 tests	SD	0.299	0.302	0.268	0.253	<b>0.280</b>	0.265
		CV %	0.4	0.4	0.3	0.3	<b>0.3</b>	0.3
	between single tests on one day	SD	0.515	0.436	0.539	0.456	<b>0.486</b>	0.487
		CV %	0.7	0.5	0.7	0.5	<b>0.6</b>	0.6
	between all tests on different days	SD	0.568	0.528	0.592	0.513	<b>0.550</b>	0.552
		CV %	0.7	0.6	0.7	0.6	<b>0.7</b>	0.7

Color Rd								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			78.598	76.244	80.601	73.471		70.194
<b>Reference Values for Evaluation</b>			78.598	76.244	80.601	73.471		70.194
<b>Number Of Instruments</b>			135	135	135	135	<b>135</b>	135
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.990	0.951	1.004	0.736	<b>0.920</b>	0.995
		CV %	1.3	1.2	1.2	1.0	<b>1.2</b>	1.4
	based on 6 tests	SD	0.999	1.018	0.970	0.780	<b>0.942</b>	1.036
		CV %	1.3	1.3	1.2	1.1	<b>1.2</b>	1.5
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	1.037	1.016	1.018	0.817	<b>0.972</b>	1.073
		CV %	1.3	1.3	1.3	1.1	<b>1.3</b>	1.5
	between different days with each 6 tests	SD	0.168	0.187	0.188	0.175	<b>0.180</b>	0.203
		CV %	0.2	0.2	0.2	0.2	<b>0.2</b>	0.3
	between single tests on one day	SD	0.216	0.212	0.216	0.235	<b>0.220</b>	0.234
		CV %	0.3	0.3	0.3	0.3	<b>0.3</b>	0.3
	between all tests on different days	SD	0.289	0.287	0.301	0.284	<b>0.290</b>	0.341
		CV %	0.4	0.4	0.4	0.4	<b>0.4</b>	0.5

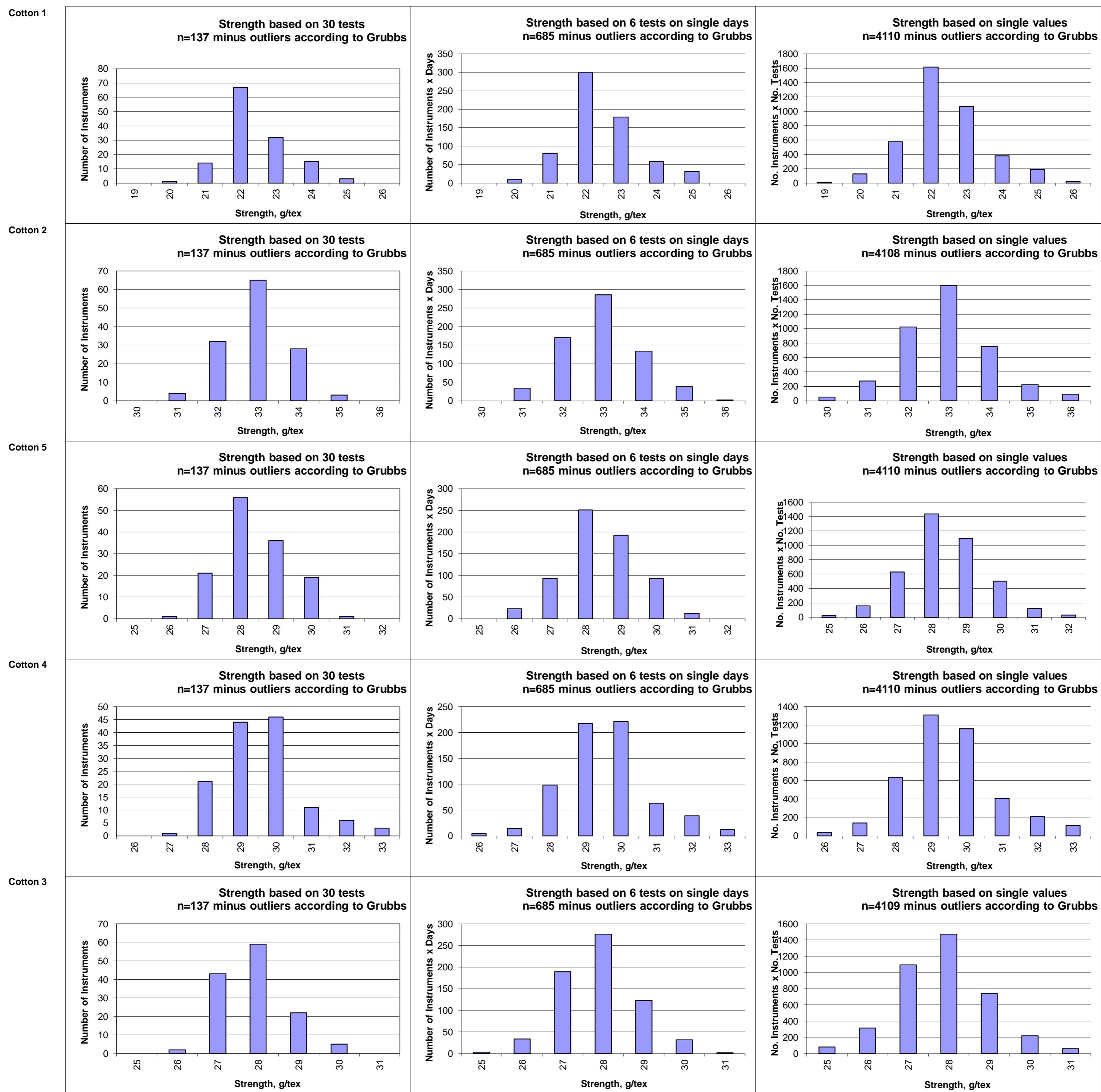
Color +b								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			12.237	12.747	9.224	10.679		7.281
<b>Reference Values for Evaluation</b>			12.237	12.747	9.224	10.679		7.281
<b>Number Of Instruments</b>			135	135	135	135	<b>135</b>	135
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.342	0.406	0.311	0.362	<b>0.355</b>	0.285
		CV %	2.8	3.2	3.4	3.4	<b>3.2</b>	3.9
	based on 6 tests	SD	0.376	0.426	0.330	0.376	<b>0.377</b>	0.298
		CV %	3.1	3.3	3.6	3.5	<b>3.4</b>	4.1
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.399	0.445	0.346	0.403	<b>0.398</b>	0.334
		CV %	3.3	3.5	3.7	3.8	<b>3.6</b>	4.6
	between different days with each 6 tests	SD	0.131	0.134	0.101	0.109	<b>0.119</b>	0.102
		CV %	1.1	1.0	1.1	1.0	<b>1.1</b>	1.4
	between single tests on one day	SD	0.124	0.115	0.111	0.108	<b>0.114</b>	0.109
		CV %	1.0	0.9	1.2	1.0	<b>1.0</b>	1.5
	between all tests on different days	SD	0.190	0.188	0.165	0.170	<b>0.178</b>	0.166
		CV %	1.6	1.5	1.8	1.6	<b>1.6</b>	2.3

Test Result Distributions  
Micronaire



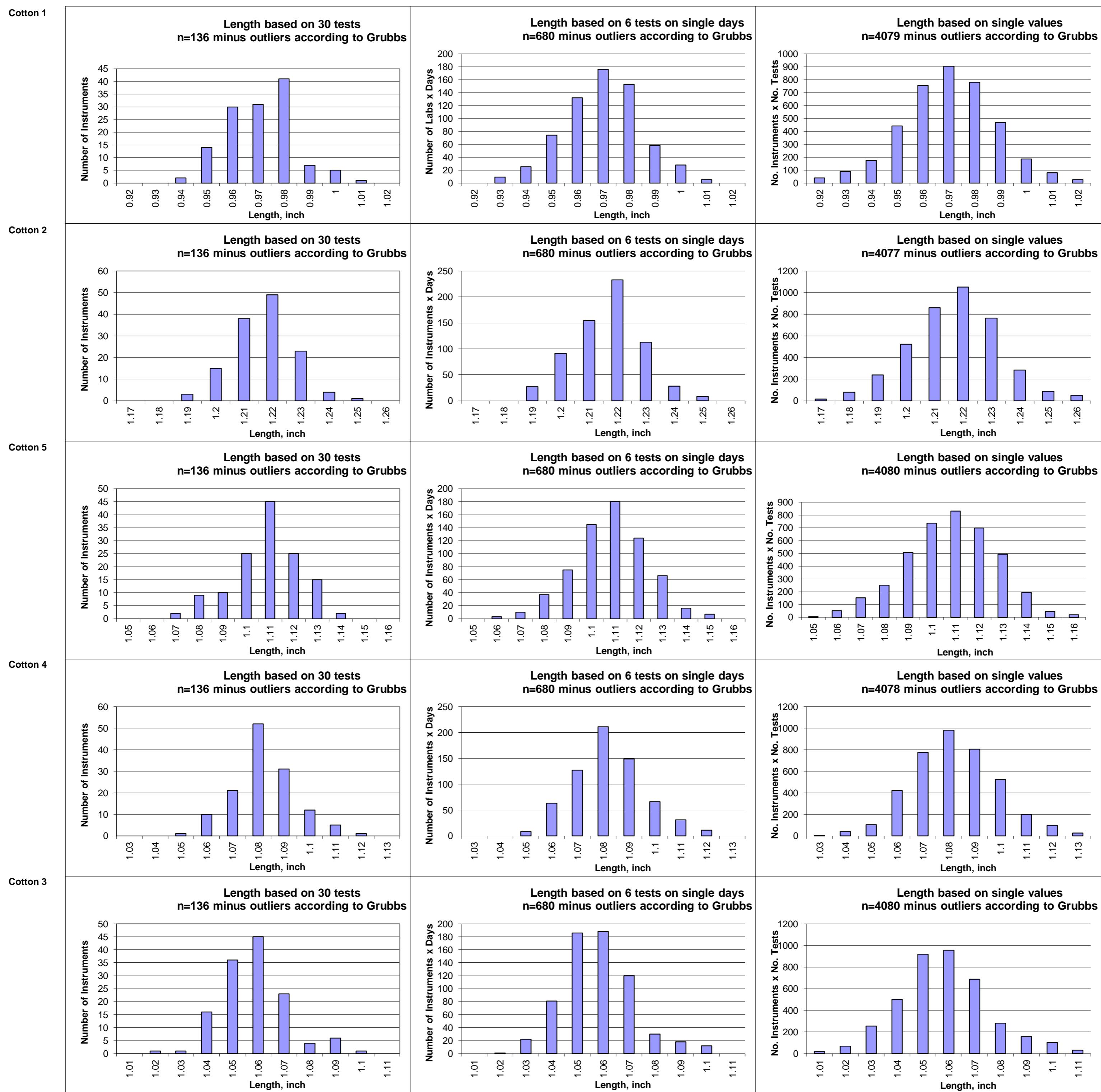
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Strength



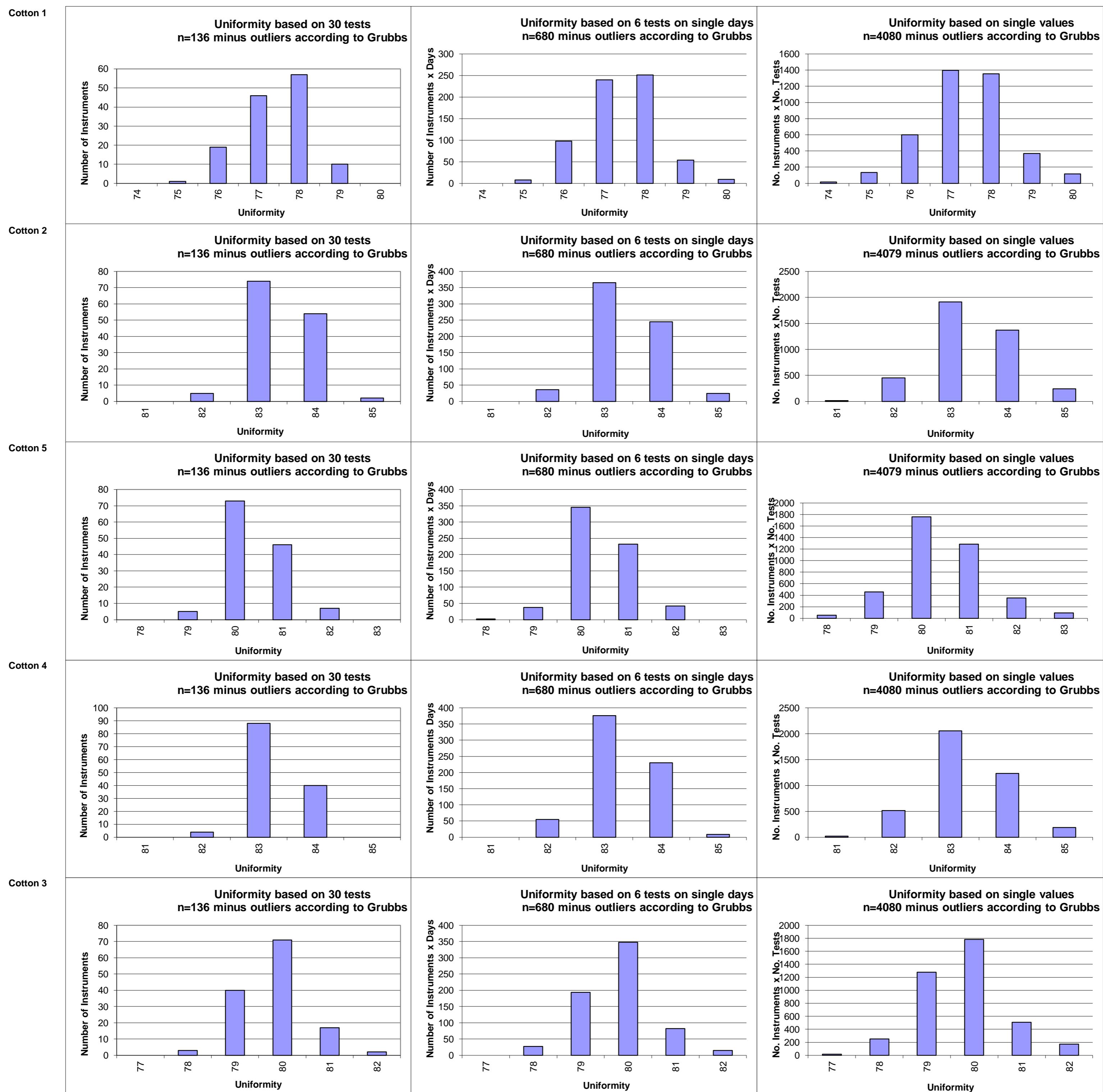
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Test Result Distributions  
Length



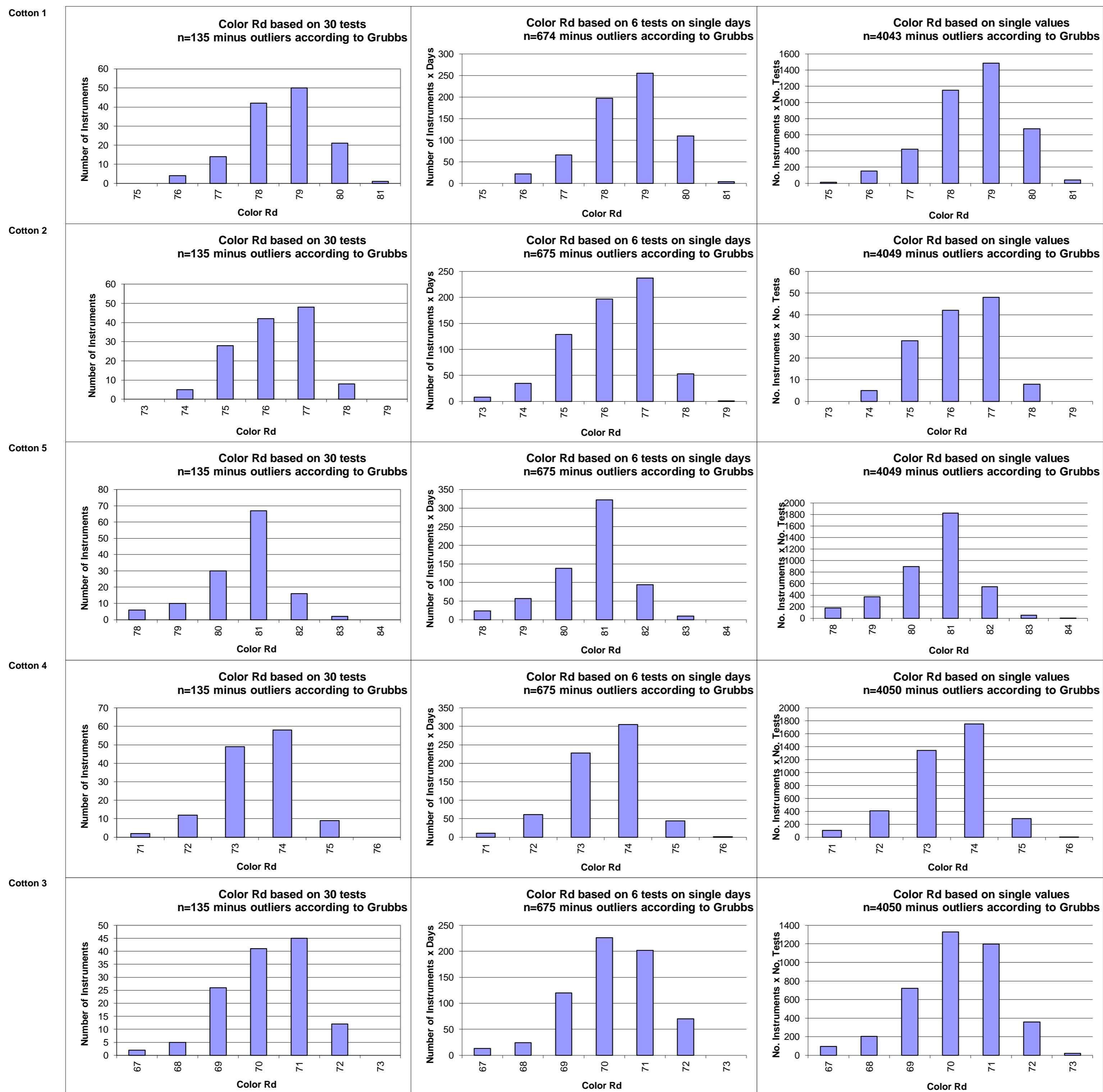
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
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Test Result Distributions  
Uniformity



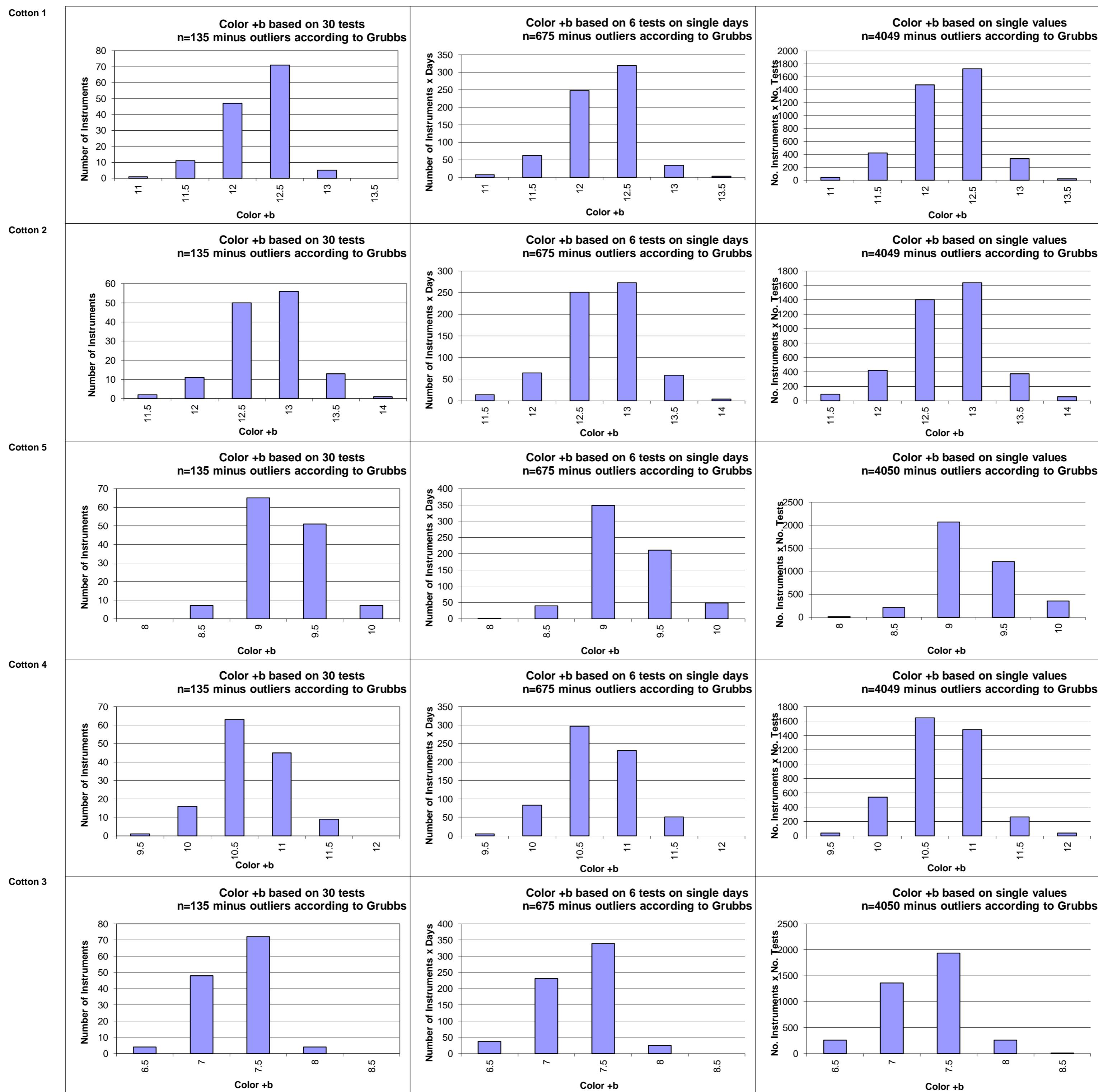
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

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

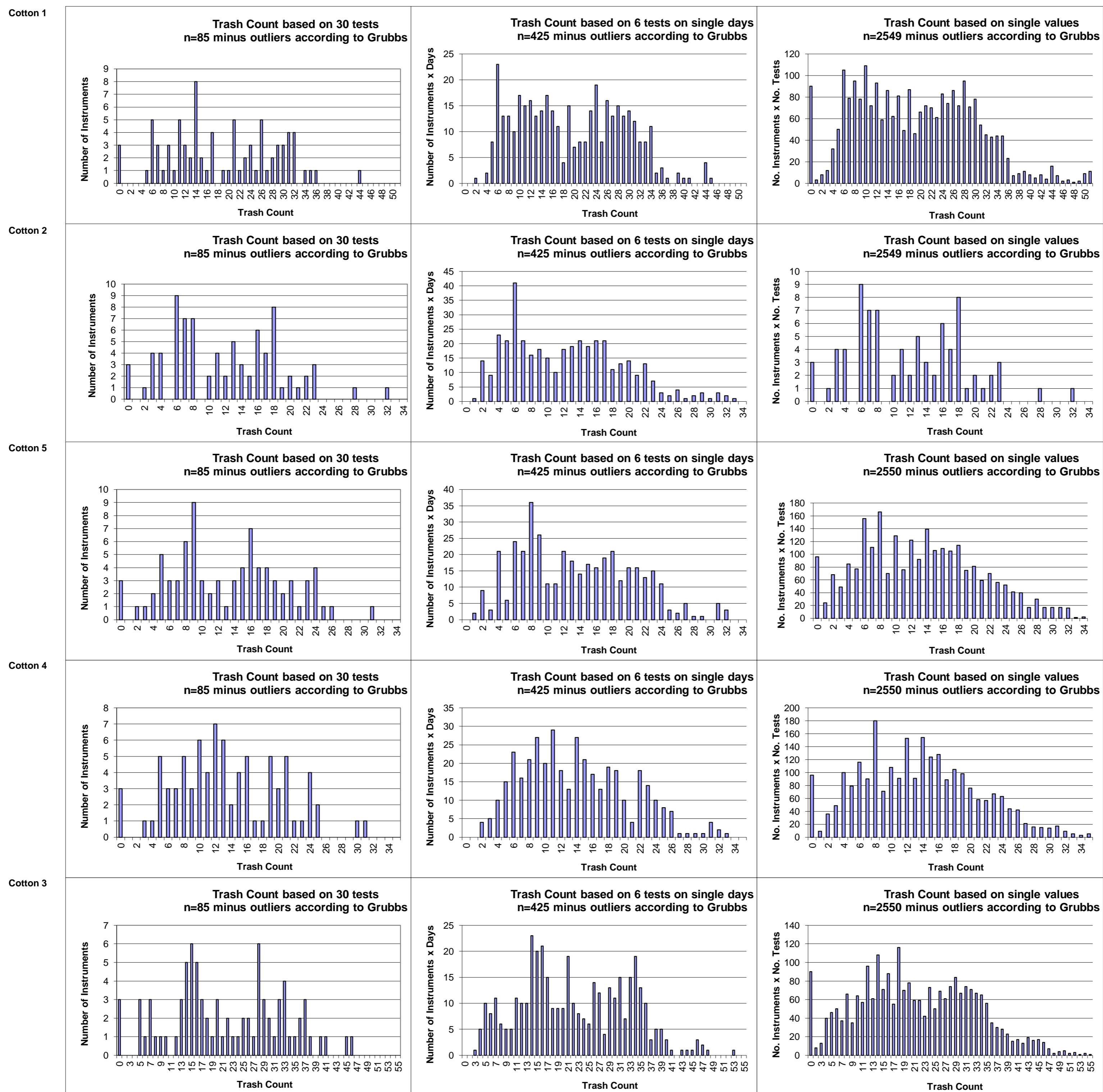
Trash Count								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			18.83	11.93	13.16	13.52		21.78
<b>Reference Values for Evaluation</b>			18.83	11.93	13.16	13.52		21.78
<b>Number Of Instruments</b>			85	85	85	85	<b>85</b>	85
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	9.81	6.76	6.93	6.81	<b>7.58</b>	10.94
		CV %	52.1	56.6	52.6	50.4	<b>52.9</b>	50.2
	based on 6 tests	SD	10.00	7.15	7.27	7.05	<b>7.87</b>	10.95
		CV %	53.1	59.9	55.3	52.1	<b>55.1</b>	50.3
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	10.68	7.39	7.55	7.37	<b>8.25</b>	11.32
		CV %	56.7	61.9	57.3	54.5	<b>57.6</b>	52.0
	between different days with each 6 tests	SD	1.90	1.66	1.80	1.76	<b>1.78</b>	2.04
		CV %	10.1	13.9	13.7	13.0	<b>12.7</b>	9.4
	between single tests on one day	SD	2.28	1.80	2.14	2.00	<b>2.06</b>	2.87
		CV %	12.1	15.1	16.3	14.8	<b>14.6</b>	13.2
	between all tests on different days	SD	3.18	2.71	2.83	2.85	<b>2.89</b>	4.11
		CV %	16.9	22.7	21.5	21.0	<b>20.6</b>	18.9

Trash Area								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			0.177	0.114	0.146	0.140		0.221
<b>Reference Values for Evaluation</b>			0.177	0.114	0.146	0.140		0.221
<b>Number Of Instruments</b>			85	85	85	85	<b>85</b>	85
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.064	0.039	0.048	0.043	<b>0.048</b>	0.088
		CV %	36.0	34.2	33.1	30.4	<b>33.4</b>	39.8
	based on 6 tests	SD	0.073	0.044	0.059	0.052	<b>0.057</b>	0.089
		CV %	41.4	38.6	40.8	36.8	<b>39.4</b>	40.2
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.083	0.051	0.069	0.063	<b>0.067</b>	0.098
		CV %	47.1	45.0	47.6	44.7	<b>46.1</b>	44.5
	between different days with each 6 tests	SD	0.025	0.018	0.025	0.025	<b>0.023</b>	0.034
		CV %	14.1	16.0	17.4	17.7	<b>16.3</b>	15.2
	between single tests on one day	SD	0.030	0.021	0.035	0.029	<b>0.029</b>	0.0
		CV %	17.0	18.4	24.0	20.7	<b>20.0</b>	21.2
	between all tests on different days	SD	0.043	0.031	0.050	0.047	<b>0.043</b>	0.058
		CV %	24.3	26.9	34.6	33.5	<b>29.8</b>	26.1

Maturity								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			77.42	83.70	83.00	86.40		81.97
<b>Reference Values for Evaluation</b>			77.42	83.70	83.00	86.40		81.97
<b>Number Of Instruments</b>			85	85	85	85	<b>85</b>	85
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	5.71	4.59	3.94	3.89	<b>4.53</b>	3.92
		CV %	7.4	5.5	4.8	4.5	<b>5.5</b>	4.8
	based on 6 tests	SD	3.99	4.43	3.82	3.95	<b>4.05</b>	3.84
		CV %	5.1	5.3	4.6	4.6	<b>4.9</b>	4.7
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	4.96	4.55	3.80	3.91	<b>4.30</b>	3.80
		CV %	6.4	5.4	4.6	4.5	<b>5.2</b>	4.6
	between different days with each 6 tests	SD	0.35	0.30	0.36	0.30	<b>0.33</b>	0.31
		CV %	0.4	0.4	0.4	0.3	<b>0.4</b>	0.4
	between single tests on one day	SD	0.39	0.39	0.46	0.49	<b>0.43</b>	0.40
		CV %	0.5	0.5	0.6	0.6	<b>0.5</b>	0.5
	between all tests on different days	SD	0.50	0.51	0.51	0.51	<b>0.51</b>	0.50
		CV %	0.7	0.6	0.6	0.6	<b>0.6</b>	0.6

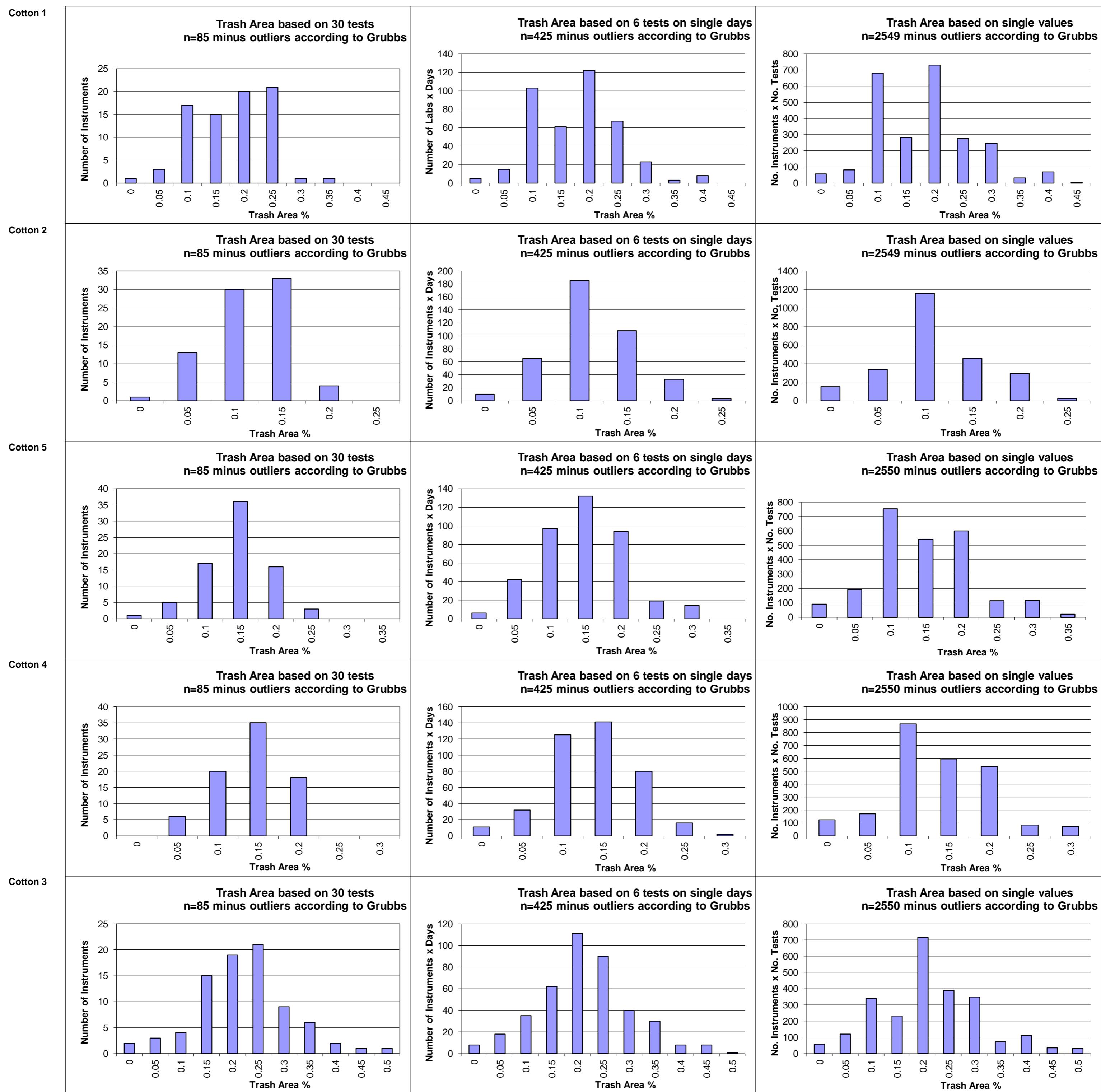
SFI								
			Cotton 1	Cotton 2	Cotton 5	Cotton 4	Average	Cotton 3
<b>Average of Instruments (Grubbs)</b>			16.29	6.89	10.34	7.24		11.68
<b>Reference Values for Evaluation</b>			16.29	6.89	10.34	7.24		11.68
<b>Number Of Instruments</b>			94	94	94	94	<b>94</b>	94
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	3.34	1.51	1.94	1.55	<b>2.09</b>	2.24
		CV %	20.5	21.9	18.7	21.5	<b>20.7</b>	19.2
	based on 6 tests	SD	3.44	1.51	1.90	1.59	<b>2.11</b>	2.28
		CV %	21.1	21.8	18.4	22.0	<b>20.8</b>	19.5
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	3.54	1.54	2.02	1.64	<b>2.19</b>	2.39
		CV %	21.7	22.4	19.5	22.7	<b>21.6</b>	20.4
	between different days with each 6 tests	SD	0.49	0.18	0.33	0.22	<b>0.30</b>	0.37
		CV %	3.0	2.6	3.2	3.1	<b>3.0</b>	3.2
	between single tests on one day	SD	0.80	0.32	0.60	0.41	<b>0.53</b>	0.65
		CV %	4.9	4.7	5.8	5.6	<b>5.3</b>	5.5
	between all tests on different days	SD	0.91	0.37	0.69	0.48	<b>0.61</b>	0.75
		CV %	5.6	5.3	6.7	6.6	<b>6.0</b>	6.4

Test Result Distributions  
Trash Count



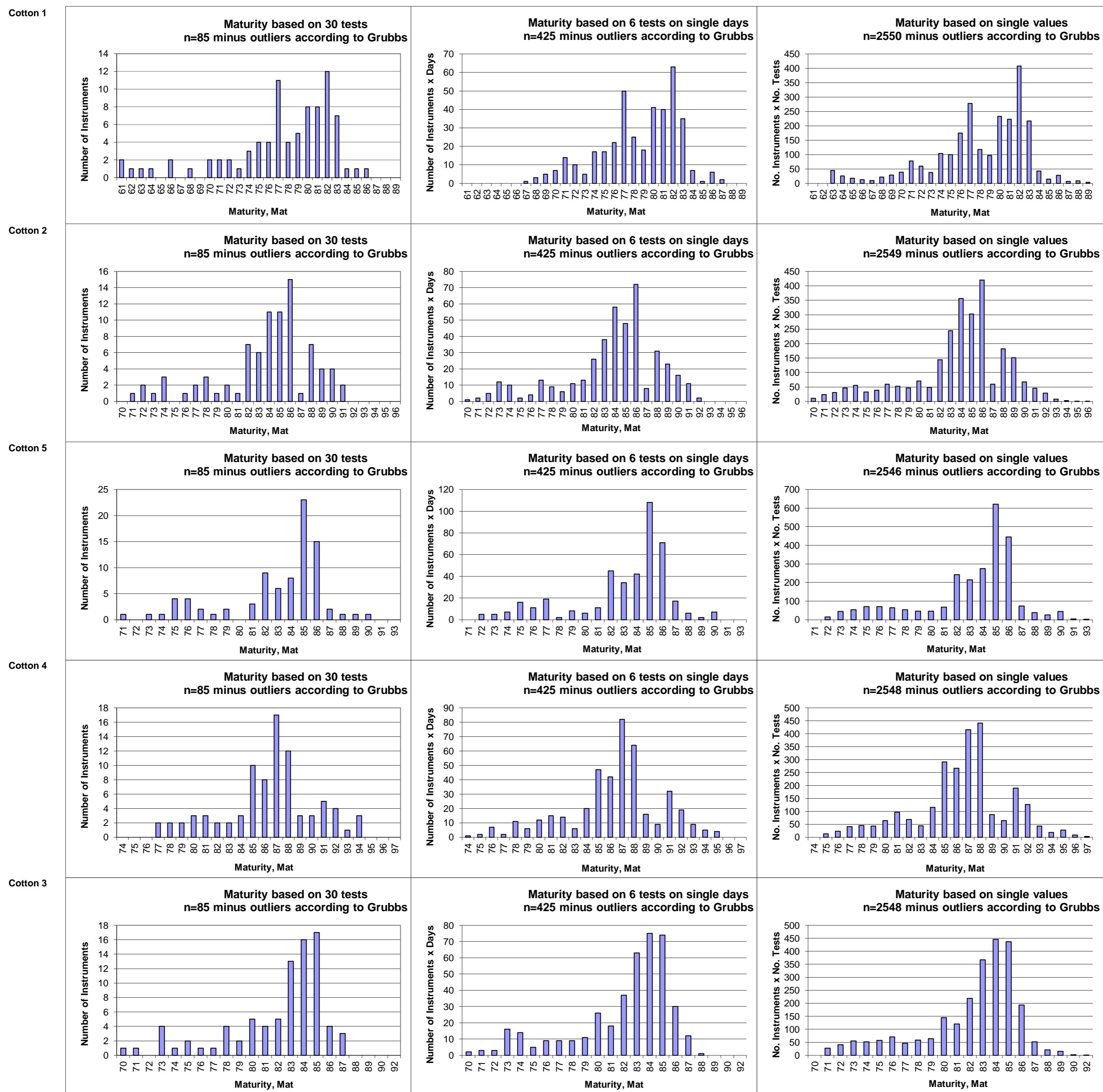
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Trash Area



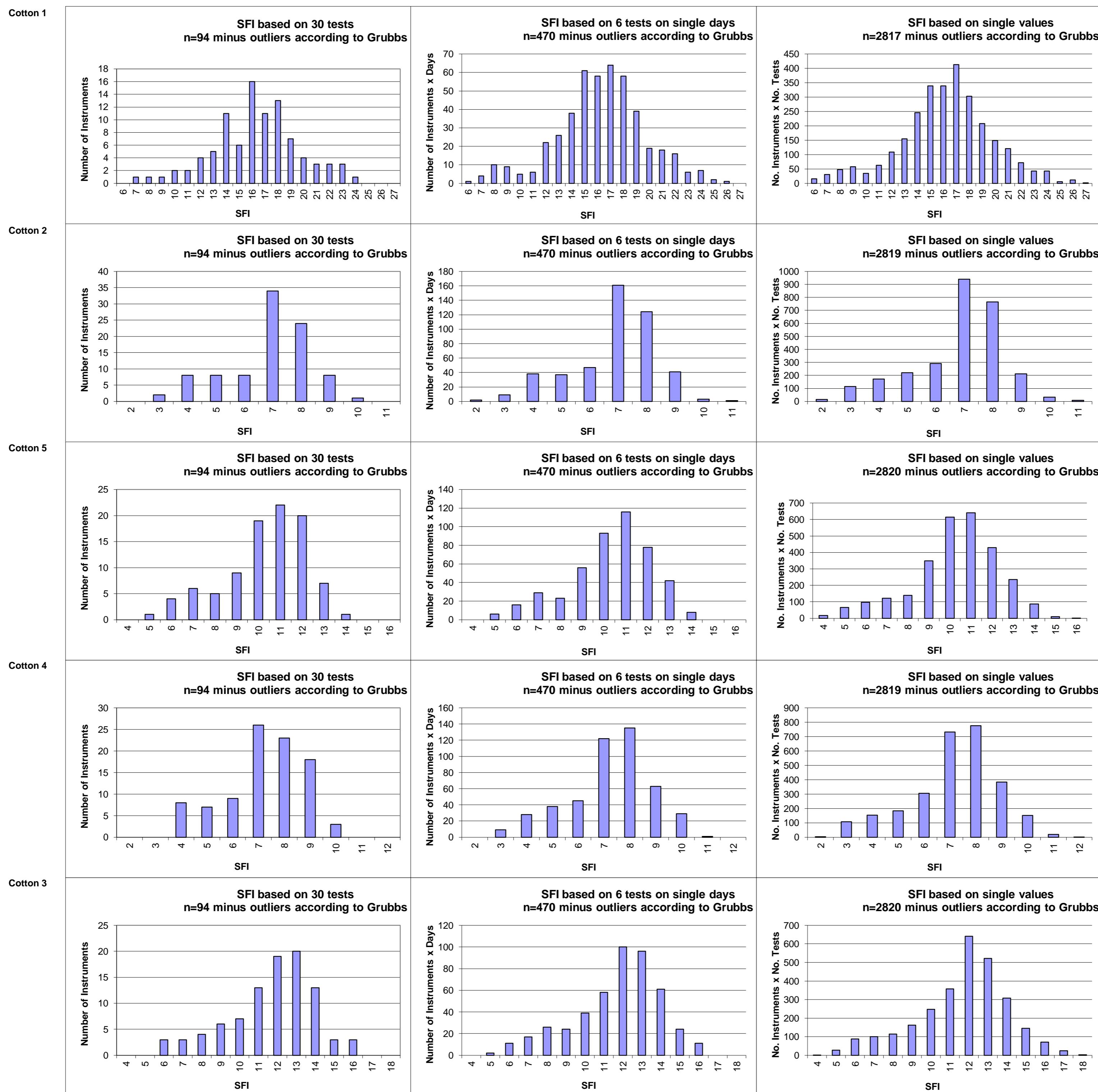
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

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 2011 - 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.

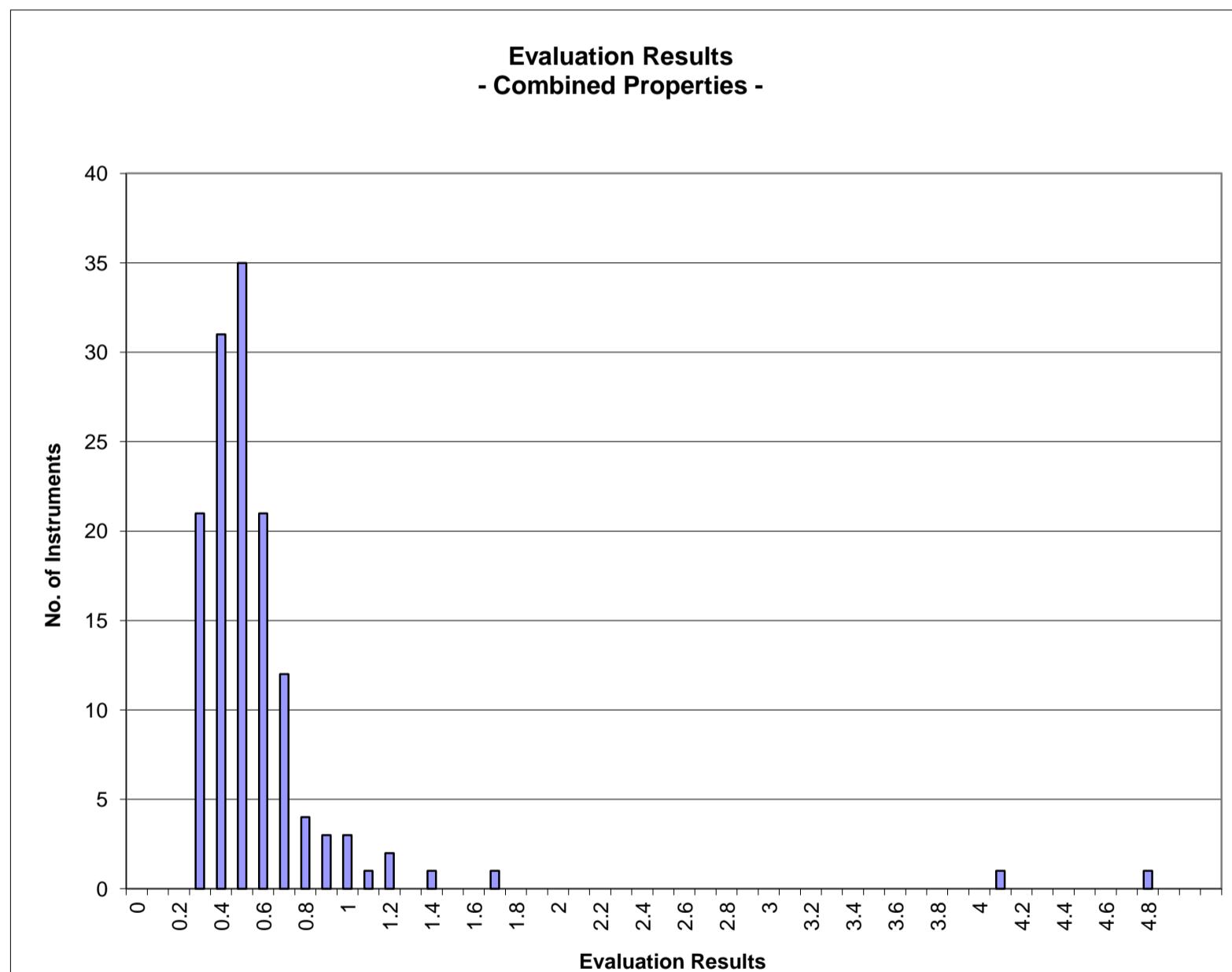


**Instrument Evaluation****- Graph of Combined Properties -**

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2011 - 4

		Evaluation Combined Prop.
Statistics	Average	0.59
	Median	0.50
	Best Instrument	0.26
	Worst Instrument	4.82



x-Axis shows midpoints of classes

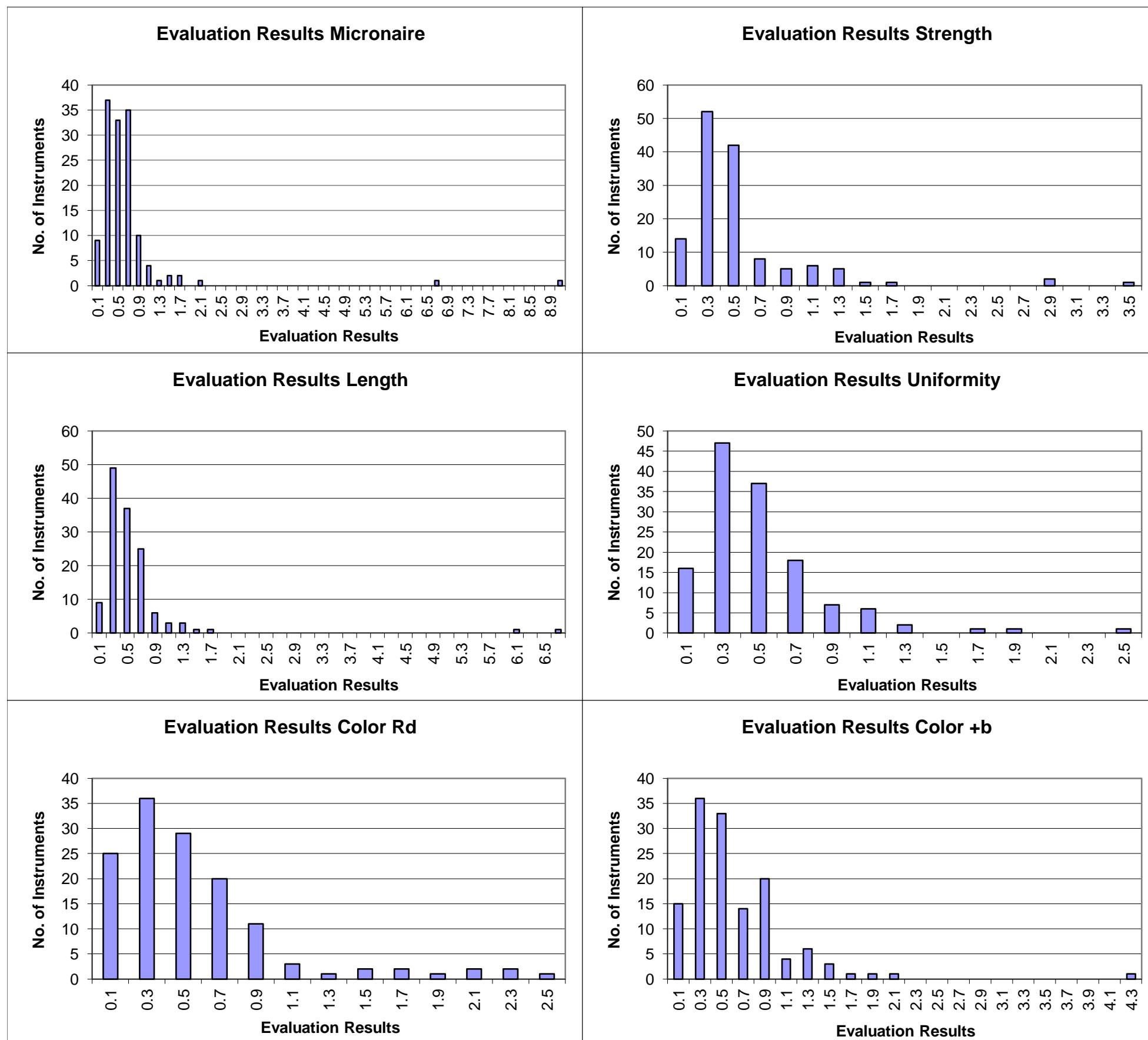
The evaluation results are entered based on the unrounded values  
(classes are defined as > lower limit and <= upper limit)

**Instrument Evaluation****- Graph of Single Properties -**

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2011 - 4

		Evaluation Micronaire	Evaluation Strength	Evaluation Length	Evaluation Uniformity	Evaluation Color Rd	Evaluation Color +b
Statistics	Average	0.67	0.54	0.59	0.50	0.57	0.62
	Median	0.55	0.42	0.45	0.41	0.43	0.48
	Best Instr.	0.09	0.11	0.08	0.07	0.08	0.07
	Worst Instr.	9.09	3.50	6.63	2.49	2.51	4.26





## International Cotton Advisory Committee



# CSITC Global - Round Trial 2011 - 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.



## 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	97.1	93.2	95.6	97.6	87.8	97.8
Completely within limits	93.4	83.9	90.4	93.4	75.6	93.3
% of Instruments ≥75% within limits	97.8	94.2	95.6	97.8	88.9	98.5
% of Instruments ≥50% within limits	98.5	96.4	97.8	99.3	91.1	99.3

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>
GL114-001-01	100	75	100	100	100	100
GL114-001-02	100	100	100	100	100	100
GL114-001-03	0	25	0	25		
GL114-002-01	100	100	100	100	100	100
GL114-002-02	100	100	100	100	100	100
GL114-003-02	100	0	100	100	100	100
GL114-004-01	100	100	100	100	100	100
GL114-006-03	100	100	100	100	100	100
GL114-007-01	100	100	100	75	100	100
GL114-008-01	100	100	100	100	100	100
GL114-008-02	100	100	100	100	75	100
GL114-008-04	100	100	100	100	75	100
GL114-009-02	100	75	75	100	25	100
GL114-010-01	0	0	0	50	25	75
GL114-011-01	75	100	50	100	50	100
GL114-012-01	100	100	100	100	100	100
GL114-012-02	100	100	100	100	100	100
GL114-014-01	100	100	100	100	100	100
GL114-016-01	100	100	100	100	100	100
GL114-016-02	100	100	100	100	100	100
GL114-016-03	100	100	100	100	100	100
GL114-016-04	100	100	100	100	100	100
GL114-016-05	100	100	100	100	100	100
GL114-016-07	100	100	100	100	100	100
GL114-016-08	100	100	100	100	100	100
GL114-016-09	100	100	100	100	100	100
GL114-018-01	100	100	100	100	100	100
GL114-018-02	100	100	100	100	100	100
GL114-018-03	100	100	100	100	100	100
GL114-018-06	100	100	100	100	100	100
GL114-020-01		75	100	100		
GL114-021-02	100	100	100	100	100	100
GL114-021-04	100	100	100	100	100	100
GL114-021-05	100	100	100	100	100	100
GL114-023-01	100	100	100	100	50	100
GL114-024-03	100	100	100	100	100	100
GL114-025-01	100	100	100	100	100	100
GL114-026-01	100	100	100	100	100	75

GL114-028-05	100	100	100	100	100	100
GL114-028-06	100	100	100	100	100	100
GL114-031-01	100	100	100	100	100	100
GL114-031-02	100	100	100	100	100	100
GL114-032-02	100	100	100	100	0	100
GL114-032-03	100	100	100	100	0	100
GL114-032-04	100	100	100	100	0	100
GL114-032-05	100	100	100	100	75	100
GL114-032-06	100	100	100	100	100	100
GL114-033-01	75	50	75	100	75	75
GL114-034-01	100	100	100	100	100	100
GL114-035-01	100	100	100	100	100	100
GL114-035-02	100	100	100	100	100	100
GL114-035-03	100	100	100	100	100	100
GL114-035-04	100	100	100	100	100	100
GL114-036-01	100	100	100	75	100	100
GL114-038-21	100	100	100	100	75	100
GL114-038-22	100	100	100	100	100	100
GL114-039-01	100	100	100	100	100	75
GL114-040-01	100	100	100	100	75	100
GL114-041-01	75	100	100	100	25	75
GL114-042-01	100	100	100	100	75	100
GL114-042-02	100	100	100	100	100	100
GL114-042-03	100	100	100	100	100	100
GL114-042-04	100	75			100	100
GL114-043-01	100	100	100	100	100	100
GL114-043-02	100	100	100	100	100	100
GL114-043-04	100	100	100	100	100	100
GL114-043-05	100	100	100	100	100	100
GL114-044-01	100	100	100	100	50	100
GL114-045-01	100	100	100	100	75	100
GL114-045-02	100	100	75	100	100	100
GL114-046-02	100	100	100	100	75	100
GL114-046-06	100	100	100	100	75	100
GL114-048-03	100	100	100	100	100	100
GL114-048-04	100	100	100	100	100	100
GL114-049-01	100	100	100	100	100	100
GL114-051-01	100	100	100	100	100	100
GL114-052-01	75	75	100	100	100	100
GL114-054-01	100	100	100	100	75	100
GL114-054-03	100	100	100	100	100	100
GL114-055-01	100	100	100	100	100	100
GL114-055-02	100	100	100	100	100	100
GL114-056-01	75	25	100	100	75	100
GL114-057-03	100	50	75	75	25	50
GL114-058-01	100	100	100	100	100	100
GL114-059-02	100	75	50	75	100	100
GL114-060-01	100	100	100	100	100	100
GL114-060-02	100	100	100	100	100	100
GL114-060-03	100	100	100	100	100	100
GL114-060-04	100	75	100	100	100	100
GL114-061-01	100	100	100	100	100	100
GL114-061-02	100	100	100	100	100	100
GL114-062-01	100	100	100	100	100	100
GL114-064-01	100	100	100	100	100	100
GL114-065-37	100	100	100	100	75	100
GL114-065-38	100	100	100	100	0	100
GL114-066-01	100	100	100	100	100	100
GL114-066-02	100	100	100	100	100	100

GL114-066-03	100	100	100	100	100	100
GL114-066-04	100	100	100	100	100	100
GL114-067-02	100	100	100	100	100	100
GL114-068-11	100	100	100	100	100	100
GL114-068-13	100	100	100	100	100	100
GL114-070-01	100	75	100	50	75	100
GL114-070-03	100	100	100	100	100	100
GL114-071-01	100	100	75	100	75	100
GL114-072-01	100	75	75	100	100	100
GL114-073-01	100	100	100	100	100	100
GL114-074-03	75	100	50	75	25	75
GL114-075-01	100	100	100	100	100	100
GL114-076-01	100	100	100	100	100	100
GL114-078-10	100	75	100	75	0	25
GL114-079-01	100	100	100	100	100	100
GL114-080-01	100	100	100	100	100	100
GL114-081-01	50	100	100	100	0	100
GL114-083-14	100	100	100	100	100	100
GL114-083-15	100	100	100	100	100	100
GL114-084-01	100	100	100	100	100	100
GL114-085-01	100	100	100	100	75	100
GL114-086-01	100	75	100	100	100	100
GL114-086-02	100	75	100	100	100	100
GL114-087-01	100	100	100	100	100	100
GL114-088-01	100	75	75	100	100	100
GL114-088-02	100	75	100	100	75	100
GL114-089-01	100	100	100	100	100	100
GL114-090-01	100	100	100	100	100	100
GL114-091-01	100	50	25	100	25	100
GL114-091-02	100	25	100	100	75	100
GL114-093-01	100	100	100	100	100	100
GL114-094-01	100	100	100	100	100	100
GL114-094-02	100	100	100	100	100	100
GL114-094-03	100	100	100	100	100	100
GL114-096-01	100	100	100	100	100	100
GL114-097-05	100	100	100	100	100	100
GL114-097-06	100	100	100	100	100	100
GL114-101-01	100	100	100	100	100	100
GL114-102-01	100	100	100	100	100	100
GL114-102-02	100	100	100	100	100	75

## Within Limits Evaluation

Based on Single Test Results

	Micronaire	Strength	Length	Uniformity	Color Rd	Color +b
Limits	0.20	2.0	0.030	2.0	1.5	1.0
	units	g/tex	inch	%	units	units
Average % Results within Limits	95.7	88.0	92.2	95.5	86.3	96.0
% of Instruments 100% within limits	58.8	33.6	30.1	47.1	41.5	65.9
% of Instruments ≥95% within limits	84.6	53.3	61.0	75.7	63.0	80.7
% of Instruments ≥75% within limits	95.6	84.7	93.4	97.8	82.2	94.1
% of Instruments ≥65% within limits	97.8	86.9	95.6	97.8	86.7	97.0
% of Instruments ≥50% within limits	97.8	95.6	98.5	99.3	90.4	99.3

Percentage of Results Within Limits						
Instrument	Micronaire	Strength	Length	Uniformity	Color Rd	Color +b
GL114-001-01	98	76	100	98	100	100
GL114-001-02	99	94	99	100	97	99
GL114-001-03	12	19	0	28		
GL114-002-01	100	100	100	100	100	100
GL114-002-02	100	100	100	100	100	100
GL114-003-02	100	43	61	79	97	100
GL114-004-01	81	90	97	100	88	93
GL114-006-03	100	99	98	100	100	100
GL114-007-01	100	94	100	90	96	100
GL114-008-01	99	90	93	99	97	100
GL114-008-02	100	88	95	93	65	100
GL114-008-04	100	88	95	93	65	100
GL114-009-02	91	50	82	98	47	100
GL114-010-01	0	8	0	58	24	67
GL114-011-01	87	90	67	88	73	88
GL114-012-01	100	100	100	100	100	100
GL114-012-02	100	99	100	100	100	100
GL114-014-01	100	100	98	100	90	100
GL114-016-01	90	100	88	100	100	88
GL114-016-02	94	100	88	100	100	88
GL114-016-03	95	100	93	100	100	93
GL114-016-04	95	100	87	100	100	81
GL114-016-05	96	100	93	100	100	93
GL114-016-07	100	100	89	95	100	96
GL114-016-08	97	100	93	100	99	88
GL114-016-09	96	100	83	100	99	94
GL114-018-01	100	98	90	100	100	100
GL114-018-02	100	100	92	100	100	100
GL114-018-03	100	100	89	98	100	98
GL114-018-06	100	100	96	100	99	100
GL114-020-01		53	94	84		
GL114-021-02	100	100	98	100	100	100
GL114-021-04	100	100	100	100	99	98
GL114-021-05	100	99	100	100	100	100
GL114-023-01	100	98	99	99	42	100
GL114-024-03	100	100	100	100	100	100

GL114-025-01	98	98	100	99	100	100
GL114-026-01	99	92	95	98	100	64
GL114-028-05	100	85	100	98	99	100
GL114-028-06	98	94	100	100	100	100
GL114-031-01	83	100	100	100	100	100
GL114-031-02	100	100	100	100	100	100
GL114-032-02	97	98	96	98	6	99
GL114-032-03	100	92	90	89	26	88
GL114-032-04	100	95	98	94	8	99
GL114-032-05	100	93	99	100	65	98
GL114-032-06	98	78	88	90	98	88
GL114-033-01	75	56	78	93	63	75
GL114-034-01	100	100	90	98	100	100
GL114-035-01	100	100	100	100	100	100
GL114-035-02	100	100	99	100	99	100
GL114-035-03	99	100	100	100	100	100
GL114-035-04	100	100	100	100	99	100
GL114-036-01	99	90	96	79	99	100
GL114-038-21	100	100	100	100	89	100
GL114-038-22	100	100	100	99	96	100
GL114-039-01	100	100	98	100	95	75
GL114-040-01	100	97	83	86	78	100
GL114-041-01	74	79	95	93	39	73
GL114-042-01	100	100	100	97	64	100
GL114-042-02	99	99	98	100	87	100
GL114-042-03	100	100	100	100	93	100
GL114-042-04	100	70			93	100
GL114-043-01	100	94	99	100	100	100
GL114-043-02	100	100	100	100	100	100
GL114-043-04	100	100	100	100	98	100
GL114-043-05	100	100	99	100	100	100
GL114-044-01	98	100	98	94	58	98
GL114-045-01	100	78	64	92	80	100
GL114-045-02	100	96	78	97	89	100
GL114-046-02	100	100	96	100	86	93
GL114-046-06	94	100	97	100	79	98
GL114-048-03	98	100	100	100	100	100
GL114-048-04	100	98	100	100	96	100
GL114-049-01	100	87	89	97	82	97
GL114-051-01	100	78	84	96	100	99
GL114-052-01	89	55	99	100	100	95
GL114-054-01	100	98	100	99	60	100
GL114-054-03	100	80	98	99	92	100
GL114-055-01	99	98	98	99	100	89
GL114-055-02	100	100	99	99	95	100
GL114-056-01	74	38	75	96	68	100
GL114-057-03	99	54	83	80	14	53
GL114-058-01	100	100	100	100	86	98
GL114-059-02	90	59	53	81	93	89
GL114-060-01	100	80	93	76	87	100
GL114-060-02	99	86	93	83	98	100
GL114-060-03	100	81	88	86	90	100
GL114-060-04	99	76	99	83	90	100
GL114-061-01	100	99	96	100	100	100
GL114-061-02	99	93	99	100	99	100
GL114-062-01	100	93	97	99	99	100
GL114-064-01	100	100	93	99	93	100
GL114-065-37	100	94	100	100	75	100
GL114-065-38	100	89	100	100	0	100
GL114-066-01	99	100	100	100	100	100

GL114-066-02	100	100	100	100	100	97
GL114-066-03	100	100	100	100	100	100
GL114-066-04	97	100	100	100	100	100
GL114-067-02	100	65	97	100	96	100
GL114-068-11	100	98	100	100	100	100
GL114-068-13	100	96	100	100	100	100
GL114-070-01	99	64	90	64	82	100
GL114-070-03	100	78	88	96	95	100
GL114-071-01	98	100	85	100	75	100
GL114-072-01	100	57	65	88	100	99
GL114-073-01	83	94	97	98	100	93
GL114-074-03	79	88	61	81	18	63
GL114-075-01	100	97	99	98	100	98
GL114-076-01	88	100	100	100	97	100
GL114-078-10	98	62	78	77	0	29
GL114-079-01	100	92	99	100	100	90
GL114-080-01	100	97	100	99	100	100
GL114-081-01	46	83	82	90	9	96
GL114-083-14	100	99	98	92	100	100
GL114-083-15	99	89	100	99	99	100
GL114-084-01	98	90	98	95	100	100
GL114-085-01	99	87	88	98	62	100
GL114-086-01	100	55	94	98	100	99
GL114-086-02	100	55	94	98	100	99
GL114-087-01	100	95	98	99	100	100
GL114-088-01	100	74	89	100	87	100
GL114-088-02	100	59	100	100	75	100
GL114-089-01	97	84	90	93	90	96
GL114-090-01	70	98	100	100	96	100
GL114-091-01	98	45	74	100	43	100
GL114-091-02	90	32	93	98	70	100
GL114-093-01	97	77	91	88	100	100
GL114-094-01	100	90	88	93	100	100
GL114-094-02	100	97	98	96	96	100
GL114-094-03	100	99	100	100	100	100
GL114-096-01	94	89	99	99	100	100
GL114-097-05	100	99	99	98	100	100
GL114-097-06	100	94	98	98	100	100
GL114-101-01	100	96	97	96	90	94
GL114-102-01	100	96	93	93	96	100
GL114-102-02	96	93	92	100	96	70