



## International Cotton Advisory Committee



# CSITC Global - Round Trial 2013 - 3 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 2013 - 3

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

Micronaire							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			5.239	5.045	3.098	4.229	
<b>Reference Values for Evaluation</b>			5.239	5.045	3.098	4.229	
<b>Number Of Instruments</b>			147	147	147	147	<b>147</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.063	0.053	0.056	0.050	<b>0.055</b>
		CV %	1.2	1.0	1.8	1.2	<b>1.3</b>
	based on 6 tests	SD	0.069	0.061	0.059	0.057	<b>0.062</b>
		CV %	1.3	1.2	1.9	1.3	<b>1.4</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.082	0.070	0.072	0.066	<b>0.073</b>
		CV %	1.6	1.4	2.3	1.6	<b>1.7</b>
	between different days with each 6 tests	SD	0.026	0.025	0.022	0.022	<b>0.024</b>
		CV %	0.5	0.5	0.7	0.5	<b>0.6</b>
	between single tests on one day	SD	0.036	0.038	0.034	0.032	<b>0.035</b>
		CV %	0.7	0.7	1.1	0.7	<b>0.8</b>
	between all tests on different days	SD	0.044	0.046	0.043	0.041	<b>0.044</b>
		CV %	0.8	0.9	1.4	1.0	<b>1.0</b>

Strength							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			27.023	29.447	29.365	33.487	
<b>Reference Values for Evaluation</b>			27.023	29.447	29.365	33.487	
<b>Number Of Instruments</b>			148	148	148	148	<b>148</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.920	0.844	0.846	0.707	<b>0.829</b>
		CV %	3.4	2.9	2.9	2.1	<b>2.8</b>
	based on 6 tests	SD	0.840	0.890	0.949	0.859	<b>0.884</b>
		CV %	3.1	3.0	3.2	2.6	<b>3.0</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	1.067	1.114	1.132	1.023	<b>1.084</b>
		CV %	3.9	3.8	3.9	3.1	<b>3.7</b>
	between different days with each 6 tests	SD	0.302	0.314	0.344	0.351	<b>0.328</b>
		CV %	1.1	1.1	1.2	1.0	<b>1.1</b>
	between single tests on one day	SD	0.528	0.509	0.547	0.565	<b>0.537</b>
		CV %	2.0	1.7	1.9	1.7	<b>1.8</b>
	between all tests on different days	SD	0.613	0.601	0.624	0.675	<b>0.628</b>
		CV %	2.3	2.0	2.1	2.0	<b>2.1</b>

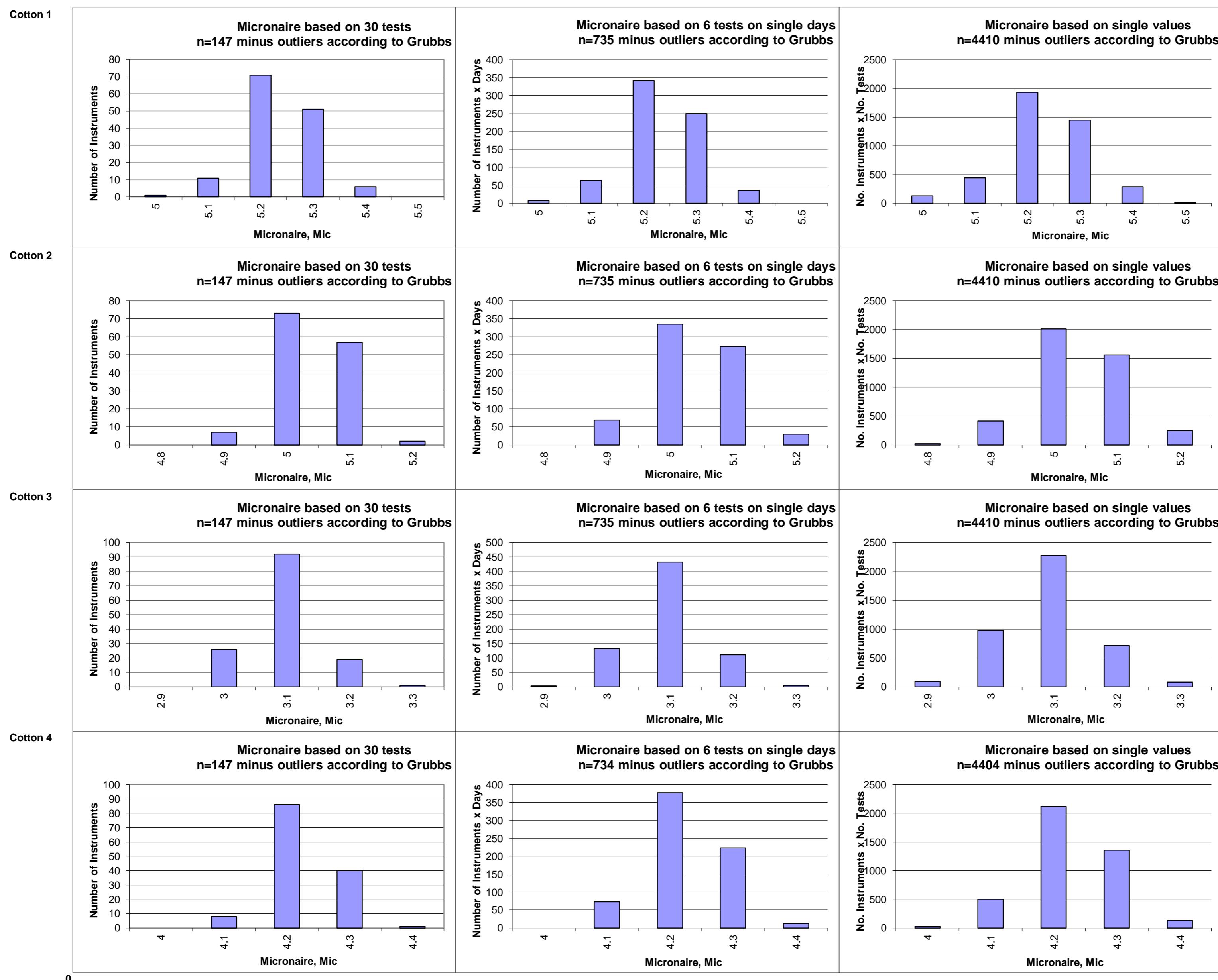
Length							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			1.0069	1.0791	1.1185	1.2134	
<b>Reference Values for Evaluation</b>			1.0069	1.0791	1.1185	1.2134	
<b>Number Of Instruments</b>			148	148	148	148	<b>148</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.0129	0.0113	0.0100	0.0104	<b>0.0112</b>
		CV %	1.3	1.1	0.9	0.9	<b>1.0</b>
	based on 6 tests	SD	0.0134	0.0129	0.0128	0.0124	<b>0.0129</b>
		CV %	1.3	1.2	1.1	1.0	<b>1.2</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.0169	0.0161	0.0161	0.0164	<b>0.0164</b>
		CV %	1.7	1.5	1.4	1.4	<b>1.5</b>
	between different days with each 6 tests	SD	0.0060	0.0050	0.0063	0.0052	<b>0.0056</b>
		CV %	0.6	0.5	0.6	0.4	<b>0.5</b>
	between single tests on one day	SD	0.0105	0.0090	0.0101	0.0100	<b>0.0099</b>
		CV %	1.0	0.8	0.9	0.8	<b>0.9</b>
	between all tests on different days	SD	0.0117	0.0104	0.0117	0.0115	<b>0.0113</b>
		CV %	1.2	1.0	1.0	0.9	<b>1.0</b>

Uniformity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			79.572	83.307	81.066	83.913	
<b>Reference Values for Evaluation</b>			79.572	83.307	81.066	83.913	
<b>Number Of Instruments</b>			148	148	148	148	<b>148</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.583	0.667	0.503	0.422	<b>0.544</b>
		CV %	0.7	0.8	0.6	0.5	<b>0.7</b>
	based on 6 tests	SD	0.685	0.688	0.614	0.534	<b>0.630</b>
		CV %	0.9	0.8	0.8	0.6	<b>0.8</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.857	0.827	0.837	0.709	<b>0.807</b>
		CV %	1.1	1.0	1.0	0.8	<b>1.0</b>
	between different days with each 6 tests	SD	0.293	0.257	0.287	0.268	<b>0.276</b>
		CV %	0.4	0.3	0.4	0.3	<b>0.3</b>
	between single tests on one day	SD	0.520	0.440	0.524	0.473	<b>0.489</b>
		CV %	0.7	0.5	0.6	0.6	<b>0.6</b>
	between all tests on different days	SD	0.582	0.497	0.585	0.554	<b>0.555</b>
		CV %	0.7	0.6	0.7	0.7	<b>0.7</b>

Color Rd							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			79.742	73.644	75.719	79.197	
<b>Reference Values for Evaluation</b>			79.742	73.644	75.719	79.197	
<b>Number Of Instruments</b>			146	146	146	146	<b>146</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.828	0.827	1.335	1.239	<b>1.057</b>
		CV %	1.0	1.1	1.8	1.6	<b>1.4</b>
	based on 6 tests	SD	0.883	0.800	1.352	1.169	<b>1.051</b>
		CV %	1.1	1.1	1.8	1.5	<b>1.4</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.990	0.855	1.358	1.186	<b>1.097</b>
		CV %	1.2	1.2	1.8	1.5	<b>1.4</b>
	between different days with each 6 tests	SD	0.221	0.206	0.205	0.187	<b>0.205</b>
		CV %	0.3	0.3	0.3	0.2	<b>0.3</b>
	between single tests on one day	SD	0.240	0.215	0.216	0.179	<b>0.212</b>
		CV %	0.3	0.3	0.3	0.2	<b>0.3</b>
	between all tests on different days	SD	0.343	0.311	0.309	0.268	<b>0.308</b>
		CV %	0.4	0.4	0.4	0.3	<b>0.4</b>

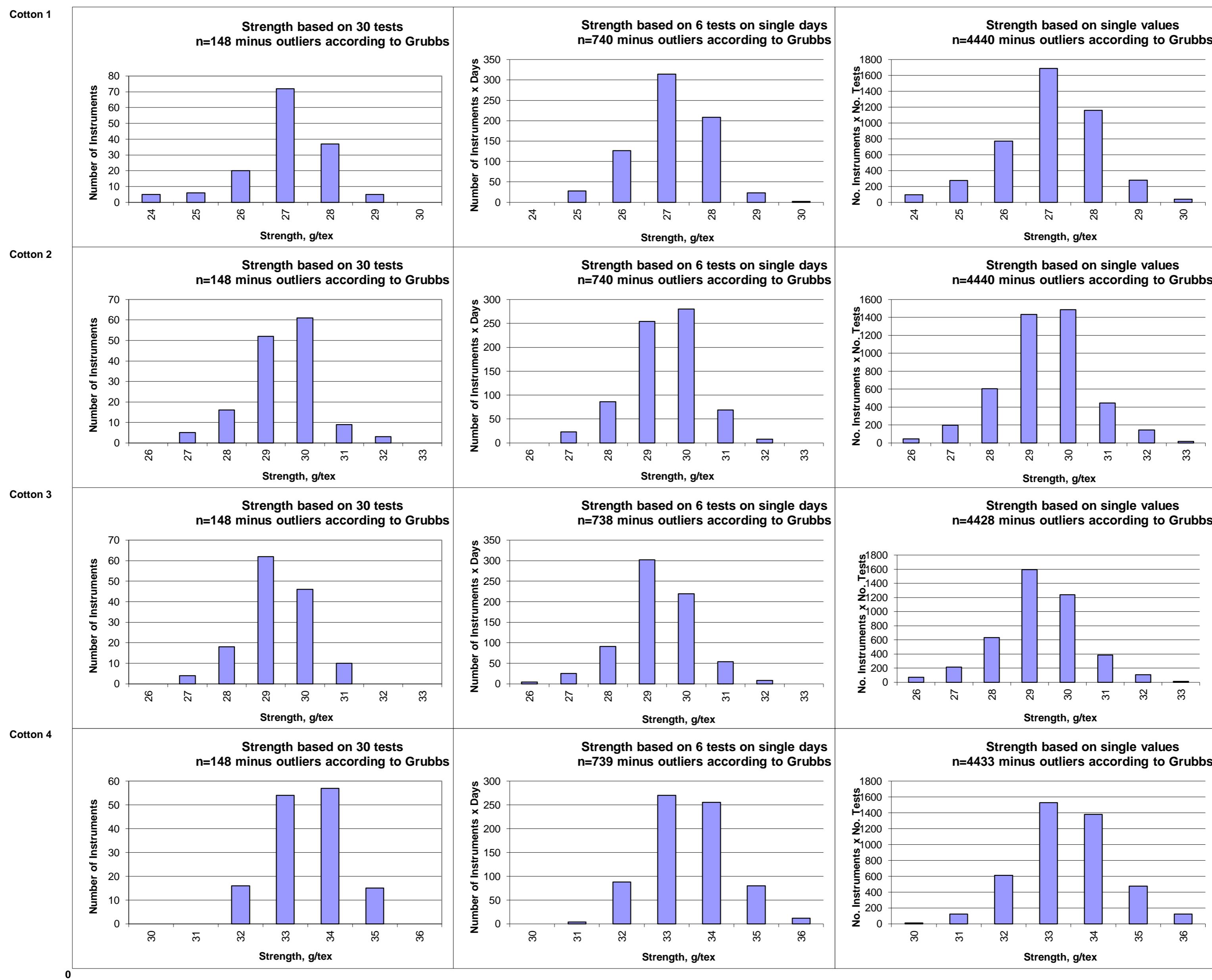
Color +b							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			8.891	10.697	13.767	11.577	
<b>Reference Values for Evaluation</b>			8.891	10.697	13.767	11.577	
<b>Number Of Instruments</b>			146	146	146	146	<b>146</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.381	0.326	0.422	0.321	<b>0.363</b>
		CV %	4.3	3.1	3.1	2.8	<b>3.3</b>
	based on 6 tests	SD	0.391	0.357	0.435	0.340	<b>0.381</b>
		CV %	4.4	3.3	3.2	2.9	<b>3.5</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.417	0.376	0.463	0.378	<b>0.409</b>
		CV %	4.7	3.5	3.4	3.3	<b>3.7</b>
	between different days with each 6 tests	SD	0.112	0.109	0.117	0.115	<b>0.113</b>
		CV %	1.3	1.0	0.8	1.0	<b>1.0</b>
	between single tests on one day	SD	0.116	0.101	0.122	0.108	<b>0.112</b>
		CV %	1.3	0.9	0.9	0.9	<b>1.0</b>
	between all tests on different days	SD	0.178	0.153	0.180	0.171	<b>0.171</b>
		CV %	2.0	1.4	1.3	1.5	<b>1.6</b>

Test Result Distributions  
Micronaire



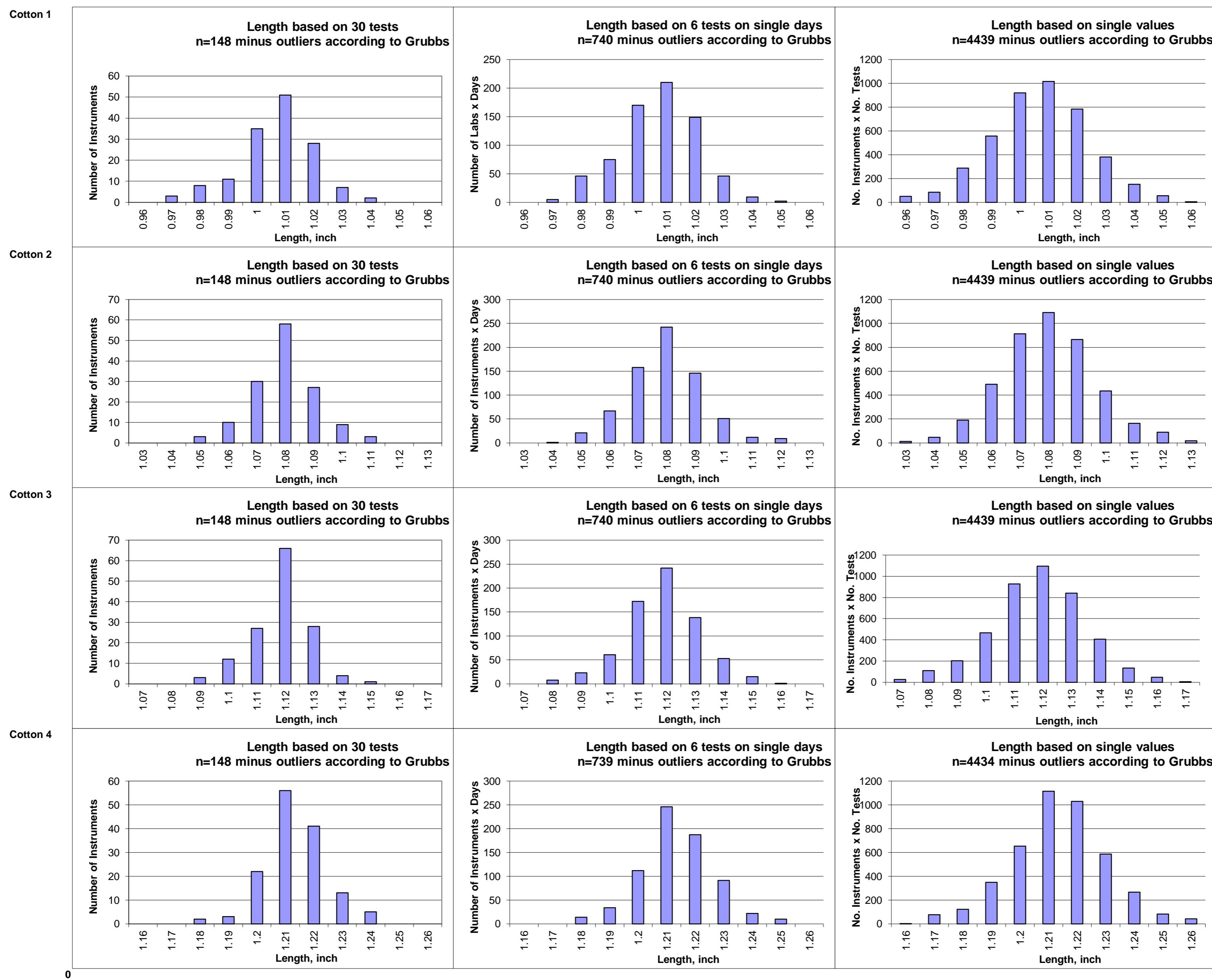
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Strength



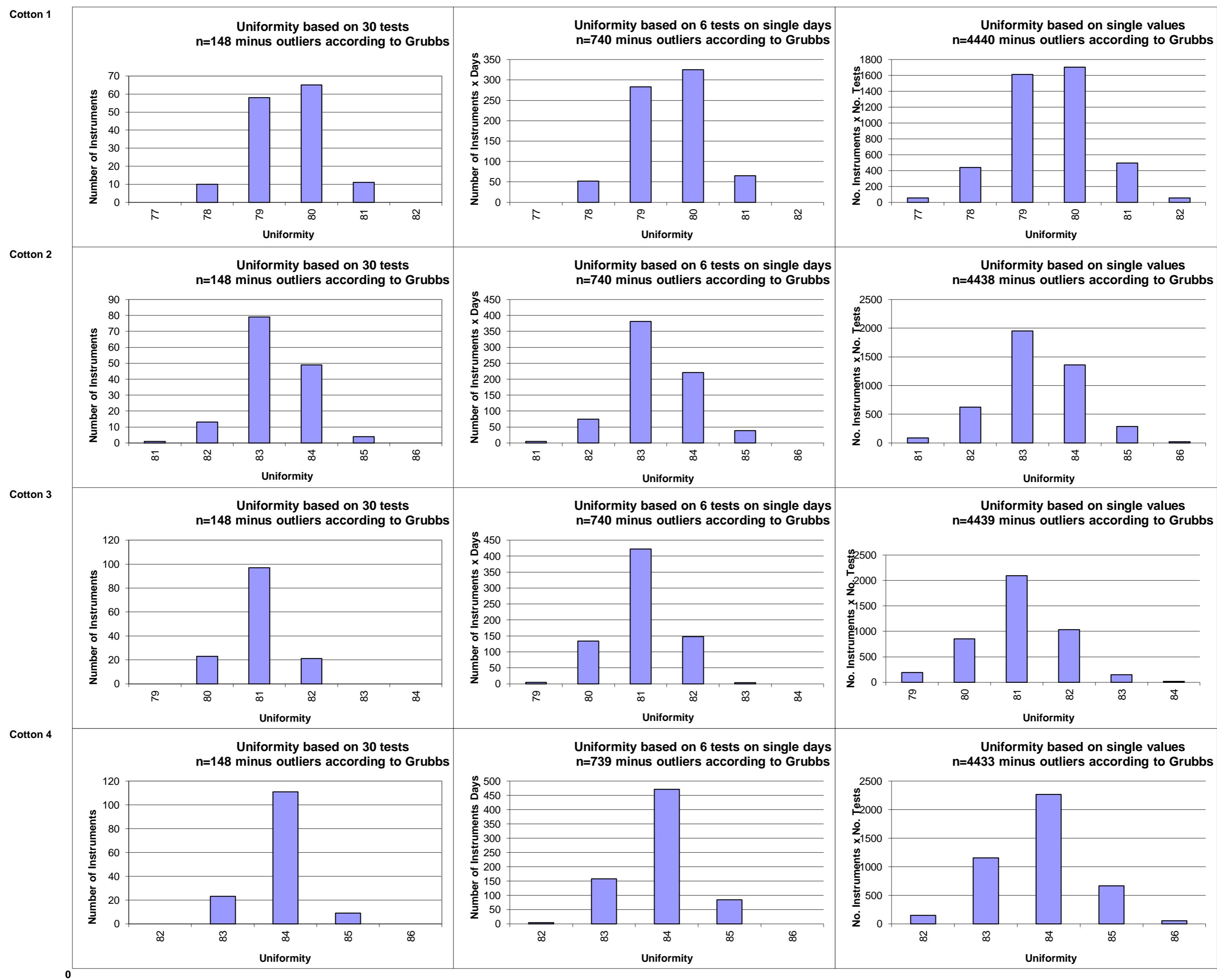
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
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Test Result Distributions  
Length



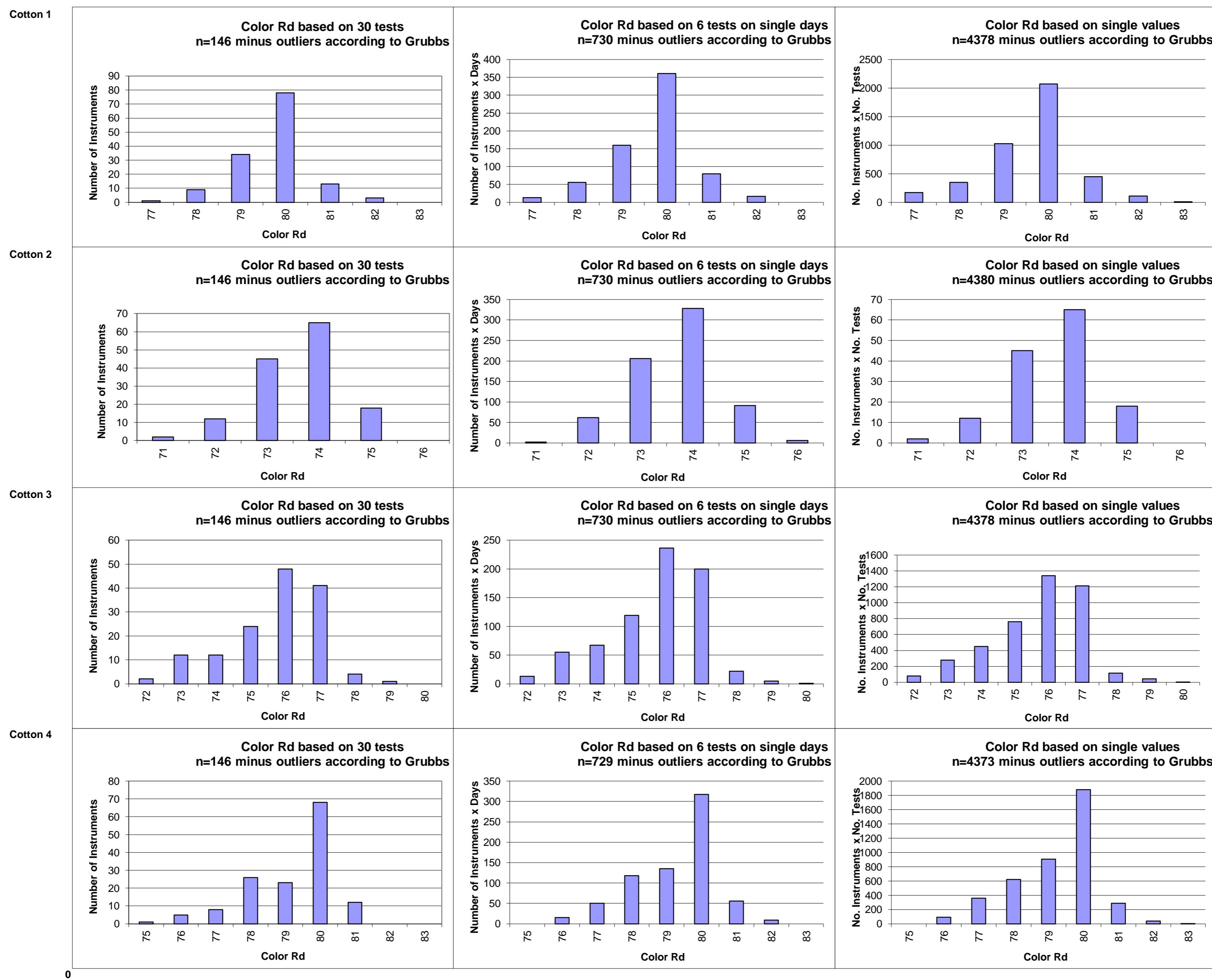
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
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Test Result Distributions  
Uniformity

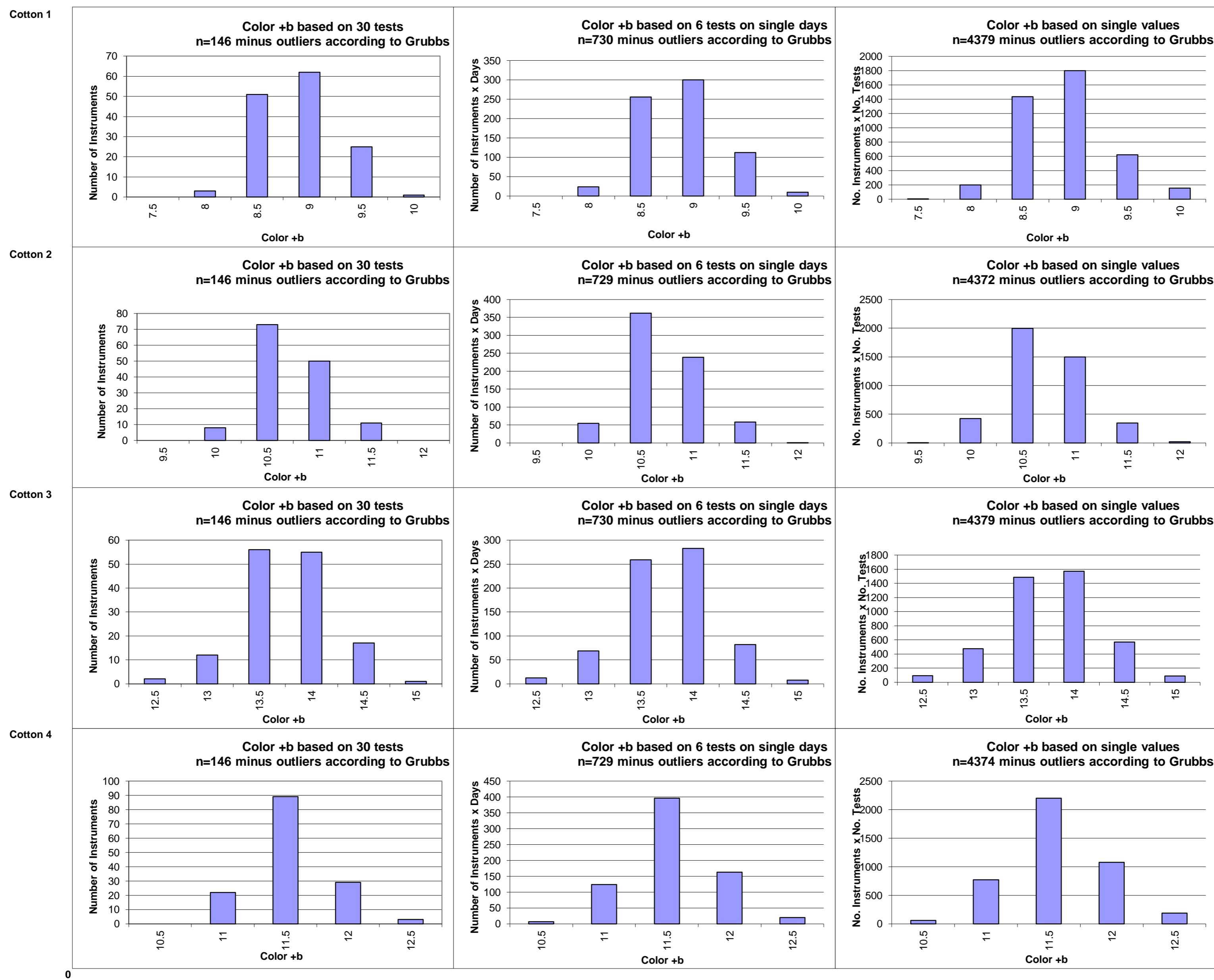


(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
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Test Result Distributions  
Color Rd



Test Result Distributions  
Color +b



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### Optional Parameters

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

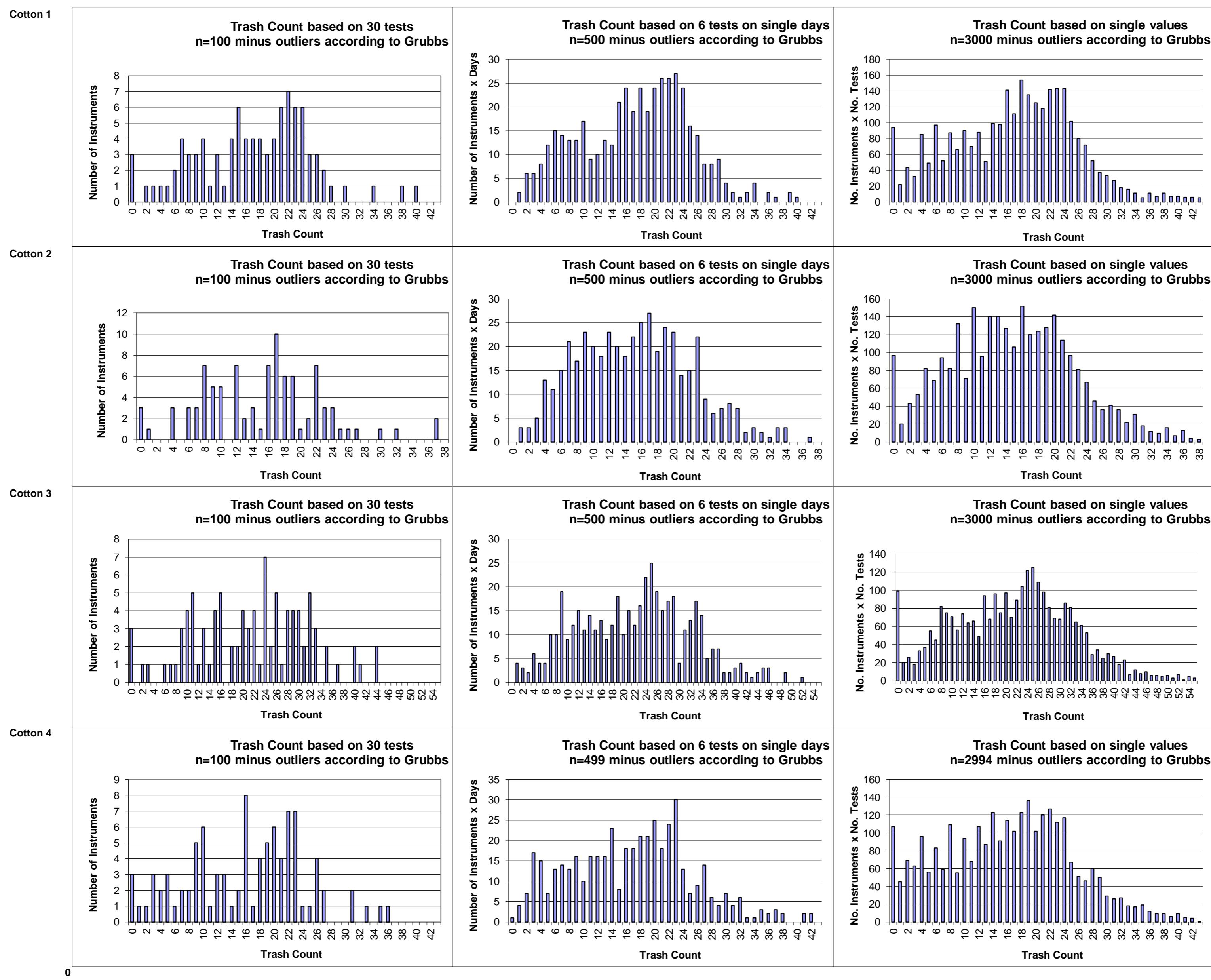
Trash Count							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			17.17	15.20	21.53	16.06	
<b>Reference Values for Evaluation</b>			17.17	15.20	21.53	16.06	
<b>Number Of Instruments</b>			100	100	100	100	<b>100</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	8.01	7.47	10.21	8.35	<b>8.51</b>
		CV %	46.7	49.2	47.4	52.0	<b>48.8</b>
	based on 6 tests	SD	8.19	7.49	10.74	8.99	<b>8.85</b>
		CV %	47.7	49.3	49.9	56.0	<b>50.7</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	8.66	7.86	11.15	9.10	<b>9.19</b>
		CV %	50.4	51.7	51.8	56.6	<b>52.6</b>
	between different days with each 6 tests	SD	2.14	2.27	2.66	2.05	<b>2.28</b>
		CV %	12.5	15.0	12.4	12.7	<b>13.1</b>
	between single tests on one day	SD	2.37	2.33	2.68	2.17	<b>2.39</b>
		CV %	13.8	15.3	12.4	13.5	<b>13.8</b>
	between all tests on different days	SD	3.24	3.21	4.02	3.21	<b>3.42</b>
		CV %	18.9	21.1	18.7	20.0	<b>19.7</b>

Trash Area							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			0.178	0.143	0.209	0.144	
<b>Reference Values for Evaluation</b>			0.178	0.143	0.209	0.144	
<b>Number Of Instruments</b>			100	100	100	100	<b>100</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	0.061	0.049	0.073	0.050	<b>0.058</b>
		CV %	34.3	34.7	34.8	34.5	<b>34.6</b>
	based on 6 tests	SD	0.072	0.059	0.085	0.057	<b>0.068</b>
		CV %	40.5	41.6	40.6	39.3	<b>40.5</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	0.079	0.064	0.091	0.067	<b>0.075</b>
		CV %	44.3	44.7	43.4	46.8	<b>44.8</b>
	between different days with each 6 tests	SD	0.031	0.025	0.032	0.022	<b>0.027</b>
		CV %	17.2	17.4	15.2	14.9	<b>16.2</b>
	between single tests on one day	SD	0.035	0.029	0.038	0.026	<b>0.032</b>
		CV %	19.6	20.4	18.0	18.1	<b>19.0</b>
	between all tests on different days	SD	0.049	0.041	0.051	0.039	<b>0.045</b>
		CV %	27.6	28.9	24.4	27.2	<b>27.0</b>

Maturity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			88.42	87.84	81.32	86.00	
<b>Reference Values for Evaluation</b>			88.42	87.84	81.32	86.00	
<b>Number Of Instruments</b>			103	103	104	103	<b>103</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	2.57	2.44	2.59	2.18	<b>2.45</b>
		CV %	2.9	2.8	3.2	2.5	<b>2.9</b>
	based on 6 tests	SD	2.50	2.43	1.62	2.25	<b>2.20</b>
		CV %	2.8	2.8	2.0	2.6	<b>2.5</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	2.32	2.41	2.48	2.19	<b>2.35</b>
		CV %	2.6	2.7	3.0	2.5	<b>2.7</b>
	between different days with each 6 tests	SD	0.24	0.24	0.22	0.24	<b>0.23</b>
		CV %	0.3	0.3	0.3	0.3	<b>0.3</b>
	between single tests on one day	SD	0.35	0.33	0.32	0.37	<b>0.34</b>
		CV %	0.4	0.4	0.4	0.4	<b>0.4</b>
	between all tests on different days	SD	0.47	0.48	0.47	0.49	<b>0.48</b>
		CV %	0.5	0.5	0.6	0.6	<b>0.6</b>

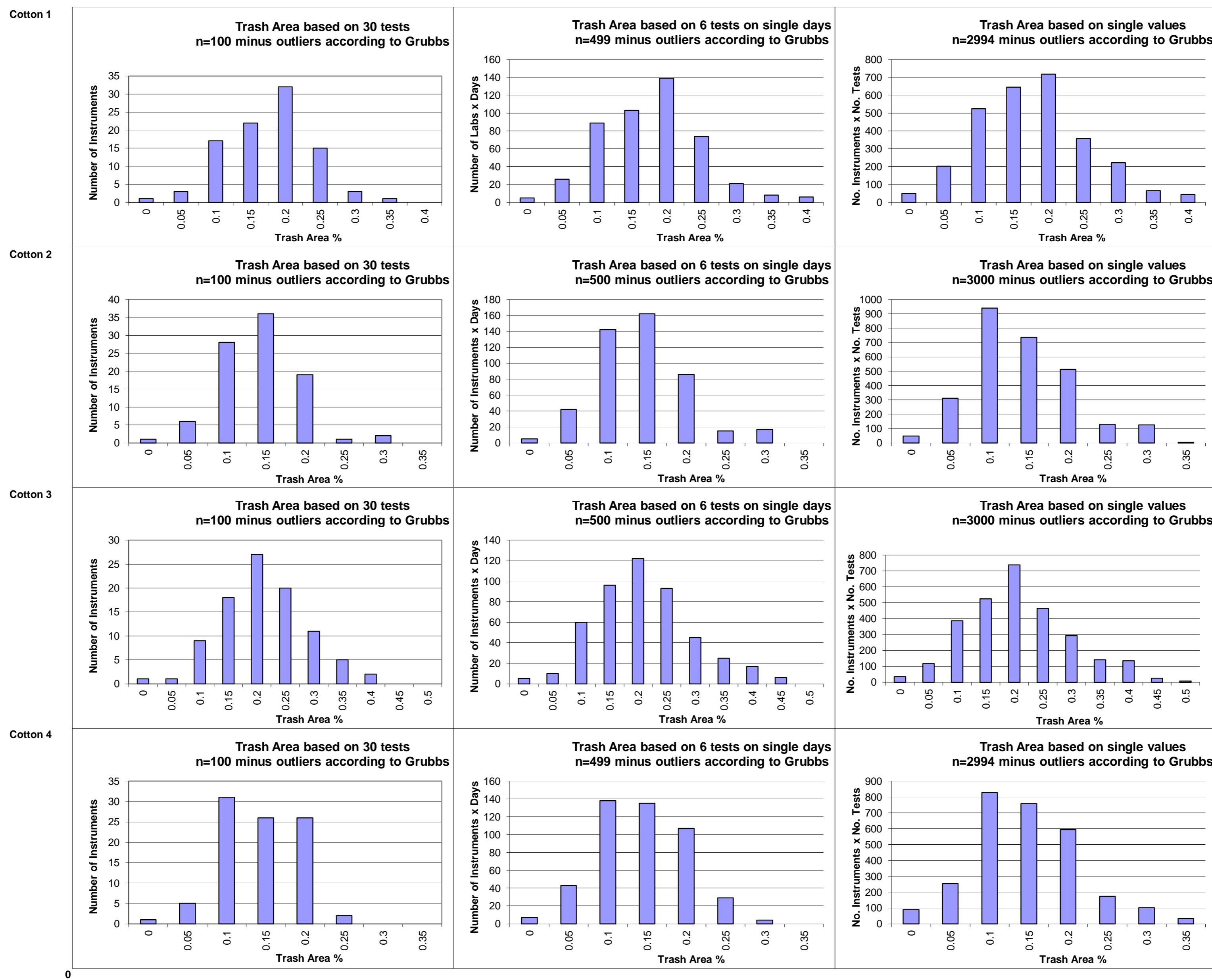
SFI							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
<b>Average of Instruments (Grubbs)</b>			12.20	7.90	9.87	7.12	
<b>Reference Values for Evaluation</b>			12.20	7.90	9.87	7.12	
<b>Number Of Instruments</b>			111	111	111	111	<b>111</b>
<b>Inter-Instrument Variation</b>	based on 30 tests	SD	1.41	0.94	1.09	0.83	<b>1.07</b>
		CV %	11.6	11.9	11.0	11.6	<b>11.5</b>
	based on 6 tests	SD	1.42	0.96	1.21	0.74	<b>1.09</b>
		CV %	11.7	12.2	12.3	10.5	<b>11.7</b>
<b>Typical within-instrument Variation (Median)</b>	based on single tests	SD	1.58	1.03	1.30	0.79	<b>1.17</b>
		CV %	12.9	13.0	13.2	11.1	<b>12.6</b>
	between different days with each 6 tests	SD	0.36	0.25	0.27	0.19	<b>0.27</b>
		CV %	2.9	3.2	2.8	2.7	<b>2.9</b>
	between single tests on one day	SD	0.60	0.36	0.47	0.27	<b>0.43</b>
		CV %	4.9	4.6	4.8	3.8	<b>4.5</b>
	between all tests on different days	SD	0.69	0.43	0.55	0.33	<b>0.50</b>
		CV %	5.7	5.4	5.5	4.6	<b>5.3</b>

Test Result Distributions  
Trash Count



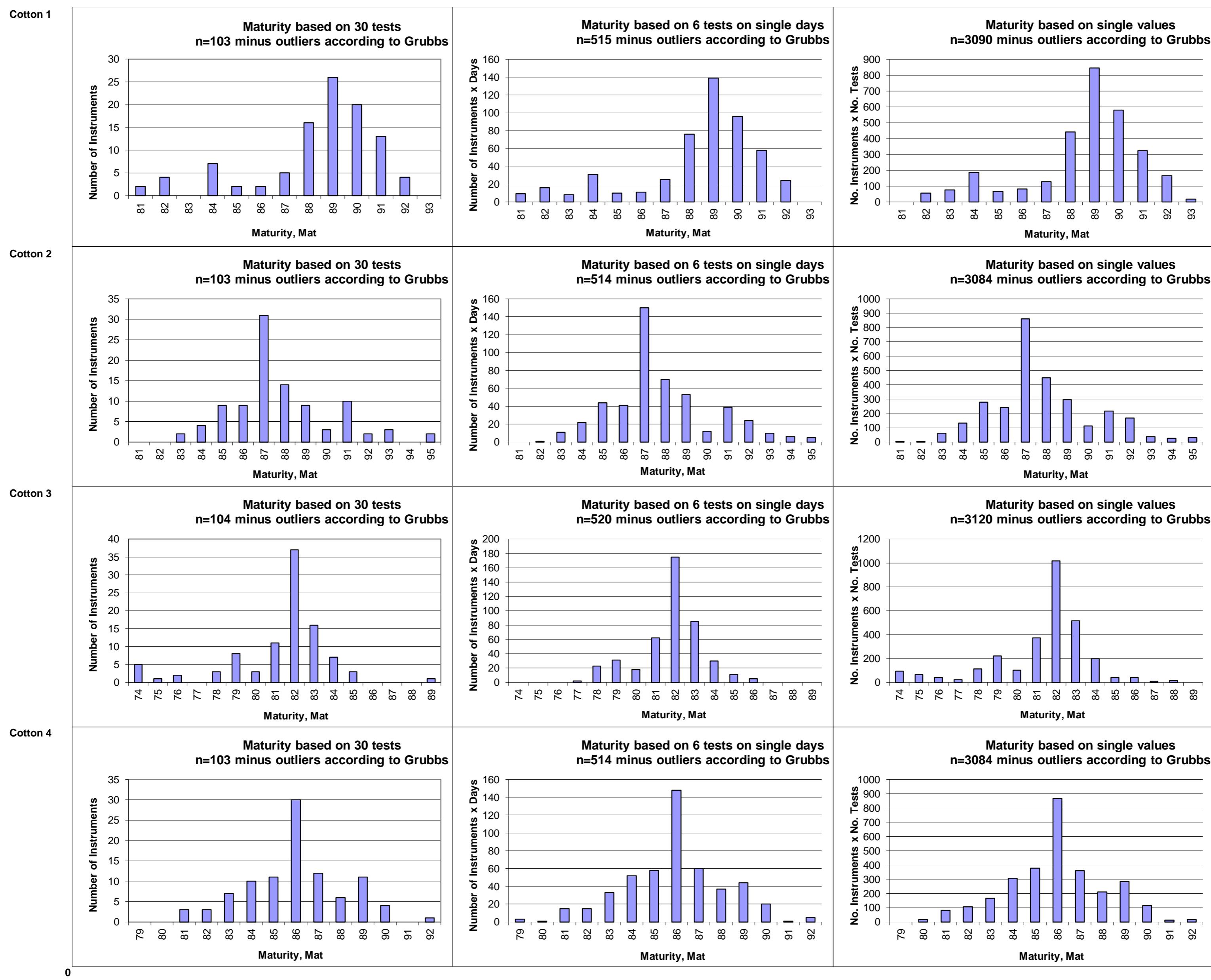
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
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Test Result Distributions  
Trash Area

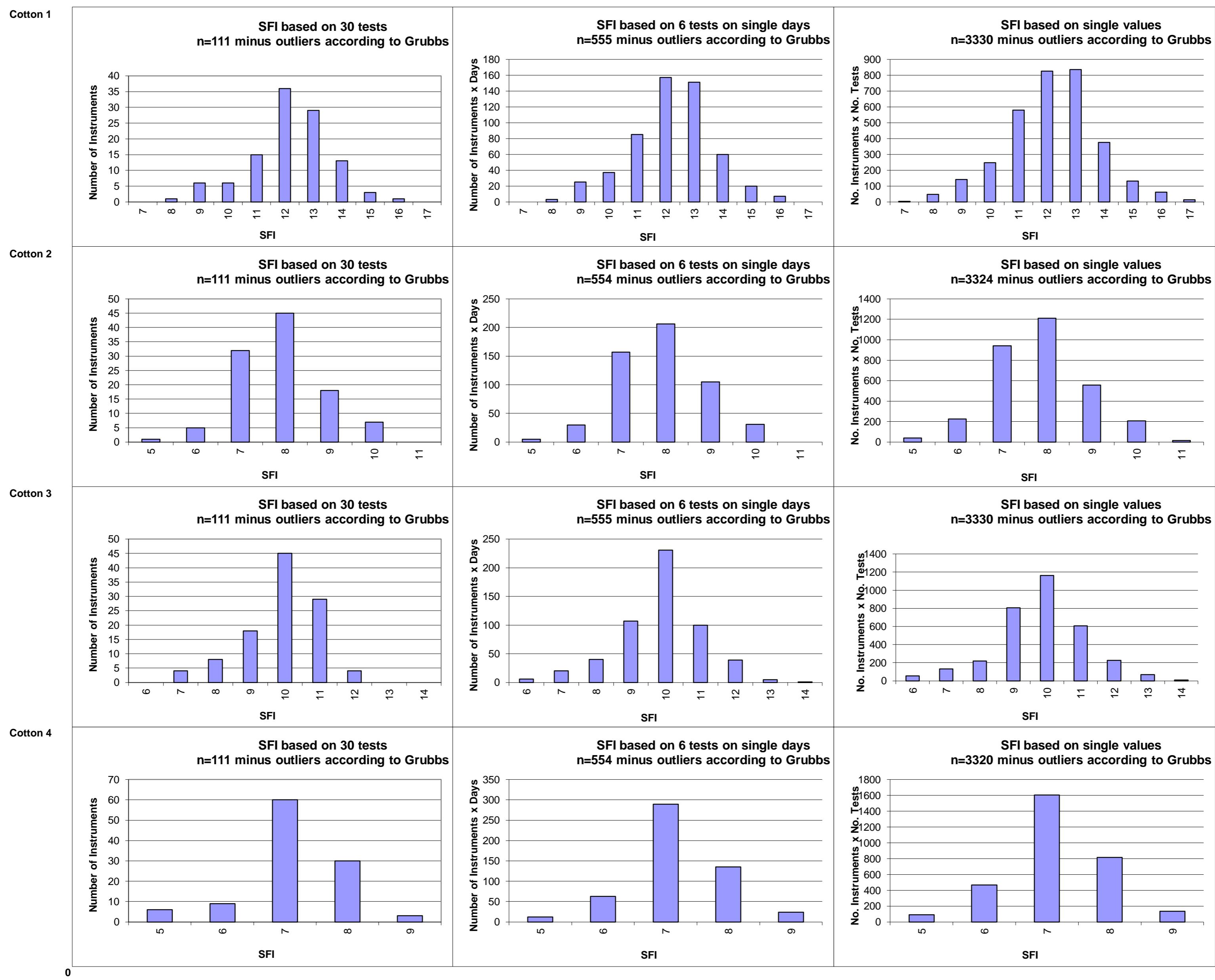


(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)  
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions  
Maturity



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 2013 - 3 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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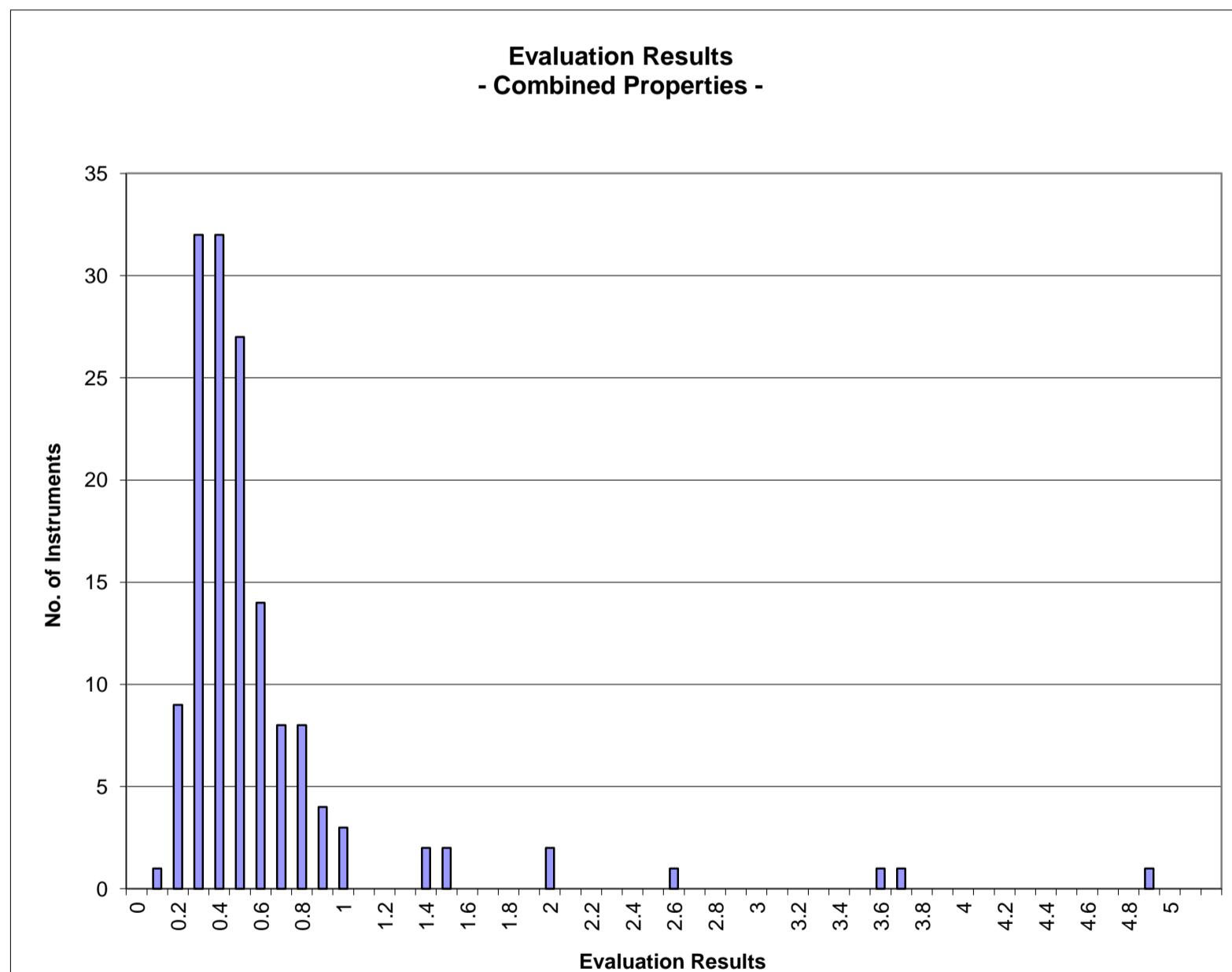
\* Faserinstitut Bremen are a Cooperation Partner with ICA Bremen

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

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2013 - 3

		Evaluation Combined Prop.
Statistics	Average	0.61
	Median	0.45
	Best Instrument	0.15
	Worst Instrument	4.91



x-Axis shows midpoints of classes

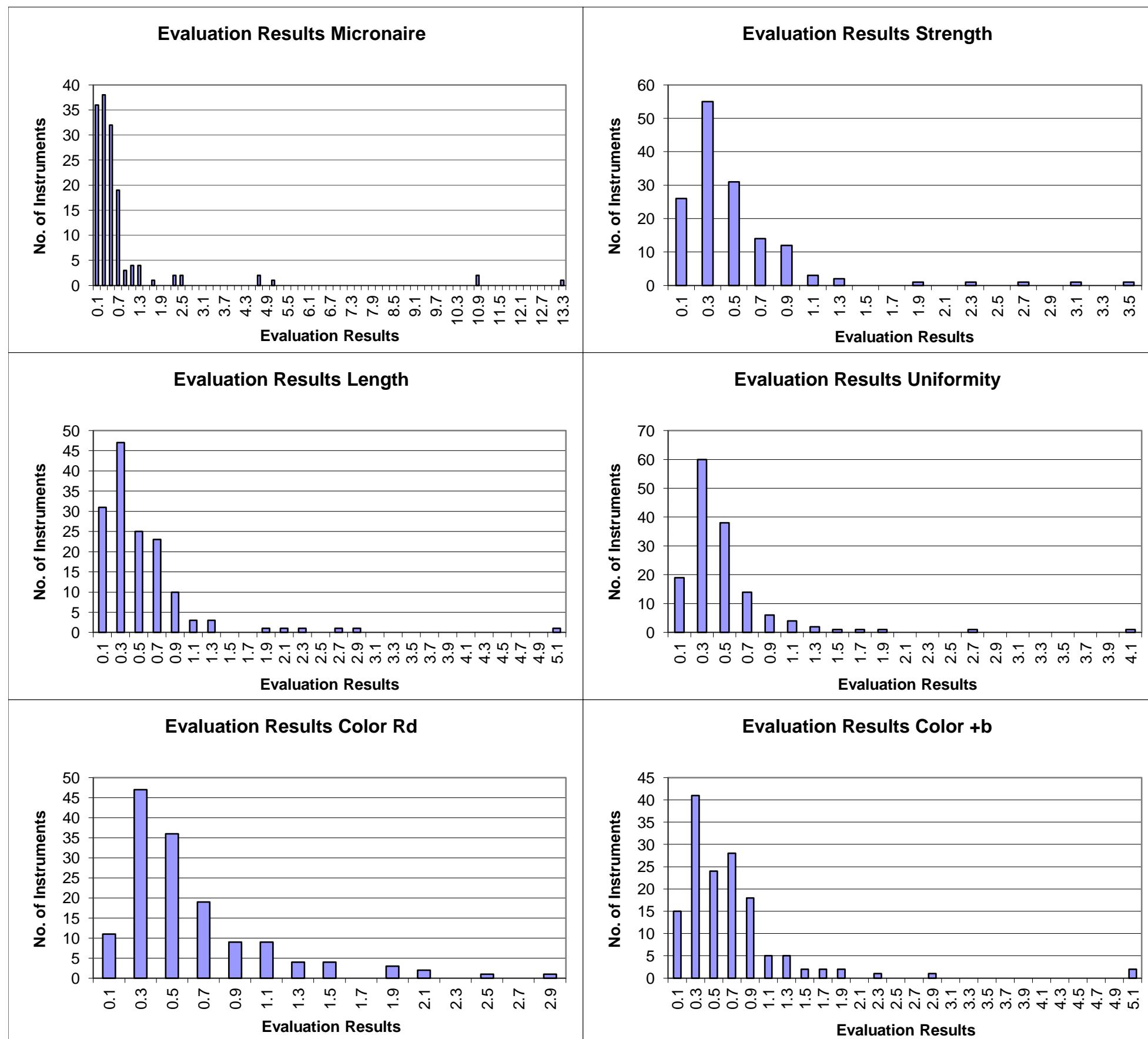
The evaluation results are entered based on the unrounded values  
(classes are defined as > lower limit and <= upper limit)

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

According to ICAC CSITC Task Force Recommendations

Global - Round Trial 2013 - 3

		Evaluation Micronaire	Evaluation Strength	Evaluation Length	Evaluation Uniformity	Evaluation Color Rd	Evaluation Color +b
Statistics	Average	0.81	0.50	0.54	0.49	0.62	0.68
	Median	0.40	0.36	0.37	0.38	0.47	0.53
	Best Instr.	0.05	0.06	0.07	0.03	0.06	0.09
	Worst Instr.	13.30	3.44	5.04	4.02	2.94	5.03



x-Axis shows midpoints of classes

The evaluation results are entered based on the unrounded values



## International Cotton Advisory Committee



# CSITC Global - Round Trial 2013 - 3 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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\* 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	95.2	94.1	94.6	97.8	82.4	97.1
Completely within limits	91.2	85.1	86.5	95.3	71.2	93.8
% of Instruments ≥75% within limits	93.9	95.3	95.9	98.0	77.4	96.6
% of Instruments ≥50% within limits	97.3	97.3	98.0	98.6	86.3	98.6

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>
GL133-001-01	100	100	100	100	100	100
GL133-001-08	100	100	100	100	100	100
GL133-002-01	100	100	100	100	100	100
GL133-003-01	100	100	100	100	100	100
GL133-004-08	100	100	100	100	100	100
GL133-004-09	100	100	100	100	100	100
GL133-005-01	100	100	75	100	100	100
GL133-006-01	100	100	75	100	50	100
GL133-006-02	100	100	75	100	50	100
GL133-006-03	100	100	75	100	50	100
GL133-006-06	100	100	75	100	50	100
GL133-007-01	100	100	100	100	100	100
GL133-009-01	100	100	100	100	25	75
GL133-009-02	100	100	100	100	0	100
GL133-010-01	100	100	100	100	100	100
GL133-010-02	100	100	100	100	100	100
GL133-010-03	100	100	100	100	100	100
GL133-010-04	100	100	100	100	100	100
GL133-011-16	100	100	75	100	75	100
GL133-012-04	50	0	75	75	50	25
GL133-013-02	100	100	100	100	50	100
GL133-014-01	100	100	100	100	100	100
GL133-015-01	100	100	100	100	100	100
GL133-016-03	100	100	100	100	100	100
GL133-016-04	100	75	100	100	100	100
GL133-016-05	100	100	100	100	100	100
GL133-017-01	100	100	100	100	100	100
GL133-019-03	100	100	100	100	100	100
GL133-019-04	100	100	100	100	100	100
GL133-019-06	100	100	100	100	100	100
GL133-021-05	50	50	50	100	25	50
GL133-021-06	50	100	50	100	50	50
GL133-022-01	100	100	100	100	75	100
GL133-023-01	100	100	100	100		
GL133-023-02	100	100	100	100	100	100
GL133-028-01	100	100	100	100	75	100
GL133-029-01	100	100	100	100	100	100
GL133-029-02	100	100	100	100	100	100
GL133-030-02	100	100	100	100	25	100

GL133-031-01	100	75	100	100	100	100
GL133-032-01	100	100	100	100	100	100
GL133-032-05	100	100	100	100	100	100
GL133-032-07	100	100	100	100	100	100
GL133-032-08	100	100	100	100	0	100
GL133-034-01	100	75	100	100	50	100
GL133-034-03	100	100	100	100	100	100
GL133-035-01	75	75	100	100	100	100
GL133-036-01	100	75	100	100	25	75
GL133-037-01	100	100	100	100	100	100
GL133-038-01	100	50	100	100	100	100
GL133-039-01	100	100	100	100	100	100
GL133-039-02	100	100	100	100	100	100
GL133-040-01	100	100	100	100	100	100
GL133-041-01	25	25	0	25	25	50
GL133-042-01	100	100	100	100	100	100
GL133-043-01	100	100	100	100	100	100
GL133-043-02	100	100	100	100	100	100
GL133-044-01	100	100	100	100	100	100
GL133-045-01	100	75	50	100	100	100
GL133-046-01	100	75	100	100	0	100
GL133-047-03	100	100	100	100	100	100
GL133-048-01	100	100	100	100	100	100
GL133-049-03	100	100	100	100	100	100
GL133-049-04	100	100	100	100	100	100
GL133-049-05	100	100	100	100	100	100
GL133-049-06	100	100	100	100	100	100
GL133-050-01	0	75	75	100	25	100
GL133-050-02	0	75	75	100	25	100
GL133-051-01	100	100	100	100	100	100
GL133-053-02	100	100	100	100	100	100
GL133-053-03	100	100	100	100	100	100
GL133-054-01	75	100	100	100	100	100
GL133-054-02	75	100	75	75	0	100
GL133-056-01	100	100	100	100	0	100
GL133-057-01	100	100	100	100	100	100
GL133-057-03	100	75	100	100	100	100
GL133-058-01	100	100	100	100	100	100
GL133-061-01	100	100	100	100	100	100
GL133-061-04	100	100	100	100	100	100
GL133-061-05	100	100	100	100	100	100
GL133-062-01	100	75	100	100	100	100
GL133-062-02	100	75	100	100	100	100
GL133-063-03	50	100	100	100	25	100
GL133-063-04	50	100	100	100	25	100
GL133-064-01	100	75	100	100	100	100
GL133-065-01	100	100	100	100	100	100
GL133-065-02	100	100	100	100	100	100
GL133-065-03	100	100	100	100	100	100
GL133-065-04	100	100	100	100	100	100
GL133-066-01	100	100	75	100	75	100
GL133-067-06		100	100	100		
GL133-068-01	100	100	100	100	25	100
GL133-068-02	100	100	100	100	25	100
GL133-069-01	100	100	100	100	100	100
GL133-070-04	100	100	100	100	100	100
GL133-071-01	100	100	100	100	100	100
GL133-071-04	100	100	100	100	75	100
GL133-072-01	100	100	100	100	50	100
GL133-073-18	100	100	100	100	100	100

GL133-073-26	100	100	100	100	100	100
GL133-074-01	100	100	100	100	100	100
GL133-074-02	100	100	100	100	100	100
GL133-075-01	100	100	100	100	100	100
GL133-075-02	100	100	100	100	100	100
GL133-076-01	100	100	100	100	50	100
GL133-076-02	100	100	100	100	100	100
GL133-076-03	100	100	100	100	100	100
GL133-076-04	100	100	100	75	100	100
GL133-077-01	100	75	75	100	100	100
GL133-077-02	100	75	100	100	100	100
GL133-078-01	100	100	100	100	50	100
GL133-079-01	100	100	0	100	25	100
GL133-080-01	100	100	100	100	100	100
GL133-081-01	100	100	100	100	100	100
GL133-082-01	100	100	100	100	75	100
GL133-085-01	100	100	100	100	100	100
GL133-086-10	100	100	100	100	100	100
GL133-086-11	100	100	100	100	100	100
GL133-087-02	100	100	100	100	100	100
GL133-087-04	100	100	100	100	0	100
GL133-087-07	100	100	100	100	100	100
GL133-088-01	100	100	100	100	75	100
GL133-089-01	100	100	100	100	100	100
GL133-090-38	100	100	100	100	100	100
GL133-090-51	100	100	100	100	100	100
GL133-093-01	100	100	100	100	100	100
GL133-093-02	100	100	100	100	100	100
GL133-093-04	100	100	100	100	75	100
GL133-095-01	100	100	100	100	100	100
GL133-096-01	100	100	100	100	100	100
GL133-096-02	100	100	100	100	100	100
GL133-097-01	100	100	100	100	50	100
GL133-100-01	75	0	75	75	50	75
GL133-101-01	100	100	100	100	100	75
GL133-102-01	100	100	100	100	100	100
GL133-102-02	100	100	100	100	100	100
GL133-103-01	100	100	100	100	100	100
GL133-104-01	25	25	0	0	0	100
GL133-104-03	100	50	75	50	0	100
GL133-106-03	100	100	100	100	100	100
GL133-107-01	100	100	100	100	100	0
GL133-107-03	100	100	100	100	100	100
GL133-108-01	100	100	100	100	100	100
GL133-108-02	100	100	100	100	75	100
GL133-108-05	100	100	100	100	100	100
GL133-109-01	100	100	100	100	100	100
GL133-110-02	100	100	100	100	100	100
GL133-110-06	100	100	100	100	100	100

## 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	94.2	89.1	92.6	95.7	80.8	95.5
% of Instruments 100% within limits	61.9	30.4	30.4	52.7	35.6	66.4
% of Instruments ≥95% within limits	85.0	58.1	70.3	82.4	50.0	83.6
% of Instruments ≥75% within limits	93.2	87.2	89.2	95.9	74.0	95.2
% of Instruments ≥65% within limits	93.2	89.9	96.6	98.0	78.8	95.9
% of Instruments ≥50% within limits	95.9	96.6	97.3	98.6	81.5	97.3

Percentage of Results Within Limits						
Instrument	Micronaire	Strength	Length	Uniformity	Color Rd	Color +b
GL133-001-01	100	95	100	100	100	100
GL133-001-08	100	97	100	99	100	100
GL133-002-01	99	92	100	98	100	100
GL133-003-01	98	100	98	100	97	99
GL133-004-08	100	98	96	98	98	100
GL133-004-09	99	99	100	100	98	100
GL133-005-01	98	80	89	99	99	100
GL133-006-01	100	100	70	100	44	92
GL133-006-02	100	100	77	100	51	90
GL133-006-03	100	100	74	100	48	93
GL133-006-06	100	100	77	100	48	92
GL133-007-01	100	100	100	100	100	100
GL133-009-01	100	94	93	89	33	84
GL133-009-02	100	97	83	88	27	97
GL133-010-01	100	100	100	100	94	100
GL133-010-02	100	100	98	100	97	100
GL133-010-03	100	100	100	100	95	100
GL133-010-04	100	100	100	100	90	100
GL133-011-16	88	81	75	99	72	97
GL133-012-04	36	0	70	68	40	28
GL133-013-02	100	93	99	100	40	100
GL133-014-01	100	100	97	98	80	100
GL133-015-01	99	94	91	98	83	87
GL133-016-03	100	92	99	95	100	100
GL133-016-04	100	80	98	100	98	100
GL133-016-05	100	87	98	99	100	100
GL133-017-01	98	90	98	100	95	100
GL133-019-03	100	100	100	100	100	100
GL133-019-04	99	100	100	100	100	100
GL133-019-06	100	100	100	100	100	100
GL133-021-05	48	71	44	96	25	47
GL133-021-06	50	79	50	95	50	50
GL133-022-01	99	99	83	100	69	100
GL133-023-01	98	98	87	100		
GL133-023-02	99	99	97	99	95	100
GL133-028-01	99	100	100	100	86	100

GL133-029-01	100	96	82	98	93	100
GL133-029-02	98	98	100	99	79	100
GL133-030-02	100	70	96	99	43	99
GL133-031-01	100	78	100	100	100	98
GL133-032-01	100	97	98	100	100	100
GL133-032-05	100	96	88	100	80	100
GL133-032-07	100	100	100	93	68	93
GL133-032-08	99	100	93	95	24	96
GL133-034-01	98	50	97	99	62	100
GL133-034-03	99	79	95	97	79	99
GL133-035-01	90	79	99	93	89	78
GL133-036-01	93	77	89	91	33	50
GL133-037-01	99	86	97	100	99	100
GL133-038-01	100	51	98	96	84	100
GL133-039-01	100	98	100	100	100	100
GL133-039-02	100	100	100	100	100	100
GL133-040-01	98	97	96	95	100	95
GL133-041-01	14	21	16	17	27	46
GL133-042-01	96	92	92	99	98	99
GL133-043-01	99	87	99	99	100	100
GL133-043-02	100	97	98	100	100	100
GL133-044-01	100	98	98	100	100	100
GL133-045-01	100	67	68	100	100	99
GL133-046-01	91	57	89	98	8	99
GL133-047-03	100	98	99	100	100	100
GL133-048-01	99	98	97	100	100	100
GL133-049-03	100	100	100	100	100	100
GL133-049-04	100	100	100	100	100	100
GL133-049-05	100	100	100	100	100	100
GL133-049-06	100	100	100	100	100	100
GL133-050-01	2	58	72	92	43	82
GL133-050-02	2	58	71	90	44	80
GL133-051-01	100	83	94	95	76	100
GL133-053-02	100	84	100	100	96	100
GL133-053-03	100	98	99	100	95	100
GL133-054-01	52	95	94	82	100	100
GL133-054-02	78	84	73	72	0	99
GL133-056-01	100	98	100	98	24	100
GL133-057-01	100	98	99	95	85	94
GL133-057-03	99	78	98	100	96	100
GL133-058-01	99	94	85	100	100	100
GL133-061-01	100	100	99	100	100	100
GL133-061-04	100	100	100	100	100	100
GL133-061-05	100	99	99	100	99	99
GL133-062-01	100	61	85	95	98	97
GL133-062-02	100	61	85	95	98	97
GL133-063-03	58	90	98	98	34	98
GL133-063-04	58	90	98	98	34	98
GL133-064-01	100	78	98	98	82	100
GL133-065-01	98	99	100	100	90	100
GL133-065-02	100	98	98	96	93	100
GL133-065-03	100	100	99	99	100	100
GL133-065-04	100	100	100	99	100	100
GL133-066-01	94	98	68	94	77	100
GL133-067-06		62	93	71		
GL133-068-01	100	81	100	99	38	100
GL133-068-02	98	92	100	100	28	100
GL133-069-01	100	100	100	100	100	100
GL133-070-04	100	98	100	100	100	89
GL133-071-01	100	97	99	100	100	100

GL133-071-04	96	72	94	94	68	100
GL133-072-01	100	91	98	95	69	100
GL133-073-18	100	99	100	100	100	100
GL133-073-26	100	100	99	100	100	100
GL133-074-01	100	96	99	100	100	100
GL133-074-02	100	94	95	100	100	100
GL133-075-01	100	100	100	100	98	100
GL133-075-02	100	100	100	100	100	100
GL133-076-01	100	100	99	100	68	98
GL133-076-02	100	100	100	100	80	97
GL133-076-03	100	100	100	98	95	100
GL133-076-04	100	100	93	83	88	100
GL133-077-01	93	53	73	79	84	98
GL133-077-02	93	53	87	79	84	98
GL133-078-01	83	83	96	99	63	100
GL133-079-01	98	88	40	78	41	91
GL133-080-01	100	94	96	100	99	100
GL133-081-01	100	97	97	100	100	100
GL133-082-01	100	100	99	100	74	100
GL133-085-01	100	93	99	98	91	66
GL133-086-10	95	98	99	100	94	100
GL133-086-11	98	89	98	100	100	100
GL133-087-02	98	89	99	98	90	99
GL133-087-04	89	100	96	89	13	99
GL133-087-07	100	98	98	100	96	100
GL133-088-01	100	93	100	100	88	100
GL133-089-01	100	95	98	98	91	100
GL133-090-38	100	98	100	100	100	100
GL133-090-51	100	100	100	100	100	100
GL133-093-01	100	98	97	98	87	100
GL133-093-02	100	93	100	100	100	100
GL133-093-04	100	100	96	87	77	100
GL133-095-01	100	95	83	93	100	91
GL133-096-01	100	99	99	100	100	99
GL133-096-02	100	99	99	100	100	99
GL133-097-01	100	95	100	100	49	100
GL133-100-01	75	8	74	75	49	75
GL133-101-01	76	94	92	93	89	79
GL133-102-01	99	100	100	100	100	100
GL133-102-02	100	100	98	100	100	100
GL133-103-01	100	93	96	98	100	100
GL133-104-01	39	28	48	33	2	100
GL133-104-03	98	37	65	59	3	100
GL133-106-03	100	93	99	100	94	100
GL133-107-01	100	88	93	97	100	19
GL133-107-03	98	85	84	88	80	87
GL133-108-01	98	100	96	100	100	100
GL133-108-02	100	100	100	100	81	100
GL133-108-05	98	100	98	100	100	100
GL133-109-01	100	96	100	100	93	100
GL133-110-02	100	100	100	100	92	100
GL133-110-06	100	100	100	100	88	100