



International Cotton Advisory Committee



CSITC Global - Round Trial 2016 - 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 2016 - 3

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

Micronaire							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			5.081	4.347	4.622	4.143	
Reference Values for Evaluation			5.081	4.347	4.622	4.143	
Number Of Instruments			148	148	148	148	148
Inter-Instrument Variation	based on 30 tests	SD	0.046	0.057	0.049	0.054	0.051
		CV %	0.9	1.3	1.1	1.3	1.1
	based on 6 tests	SD	0.051	0.065	0.056	0.061	0.058
		CV %	1.0	1.5	1.2	1.5	1.3
	based on single tests	SD	0.064	0.075	0.066	0.072	0.069
		CV %	1.3	1.7	1.4	1.7	1.5
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.019	0.025	0.023	0.025	0.023
		CV %	0.4	0.6	0.5	0.6	0.5
	between single tests on one day	SD	0.036	0.037	0.033	0.036	0.036
		CV %	0.7	0.9	0.7	0.9	0.8
	between all tests on different days	SD	0.042	0.045	0.041	0.047	0.044
		CV %	0.8	1.0	0.9	1.1	1.0

Strength							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			25.807	34.214	30.928	23.327	
Reference Values for Evaluation			25.807	34.214	30.928	23.327	
Number Of Instruments			147	147	147	147	147
Inter-Instrument Variation	based on 30 tests	SD	0.572	0.955	0.663	0.640	0.707
		CV %	2.2	2.8	2.1	2.7	2.5
	based on 6 tests	SD	0.646	1.064	1.029	0.709	0.862
		CV %	2.5	3.1	3.3	3.0	3.0
	based on single tests	SD	0.801	1.220	1.103	0.840	0.991
		CV %	3.1	3.6	3.6	3.6	3.5
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.265	0.322	0.307	0.233	0.281
		CV %	1.0	0.9	1.0	1.0	1.0
	between single tests on one day	SD	0.459	0.572	0.487	0.462	0.495
		CV %	1.8	1.7	1.6	2.0	1.8
	between all tests on different days	SD	0.540	0.659	0.568	0.522	0.572
		CV %	2.1	1.9	1.8	2.2	2.0

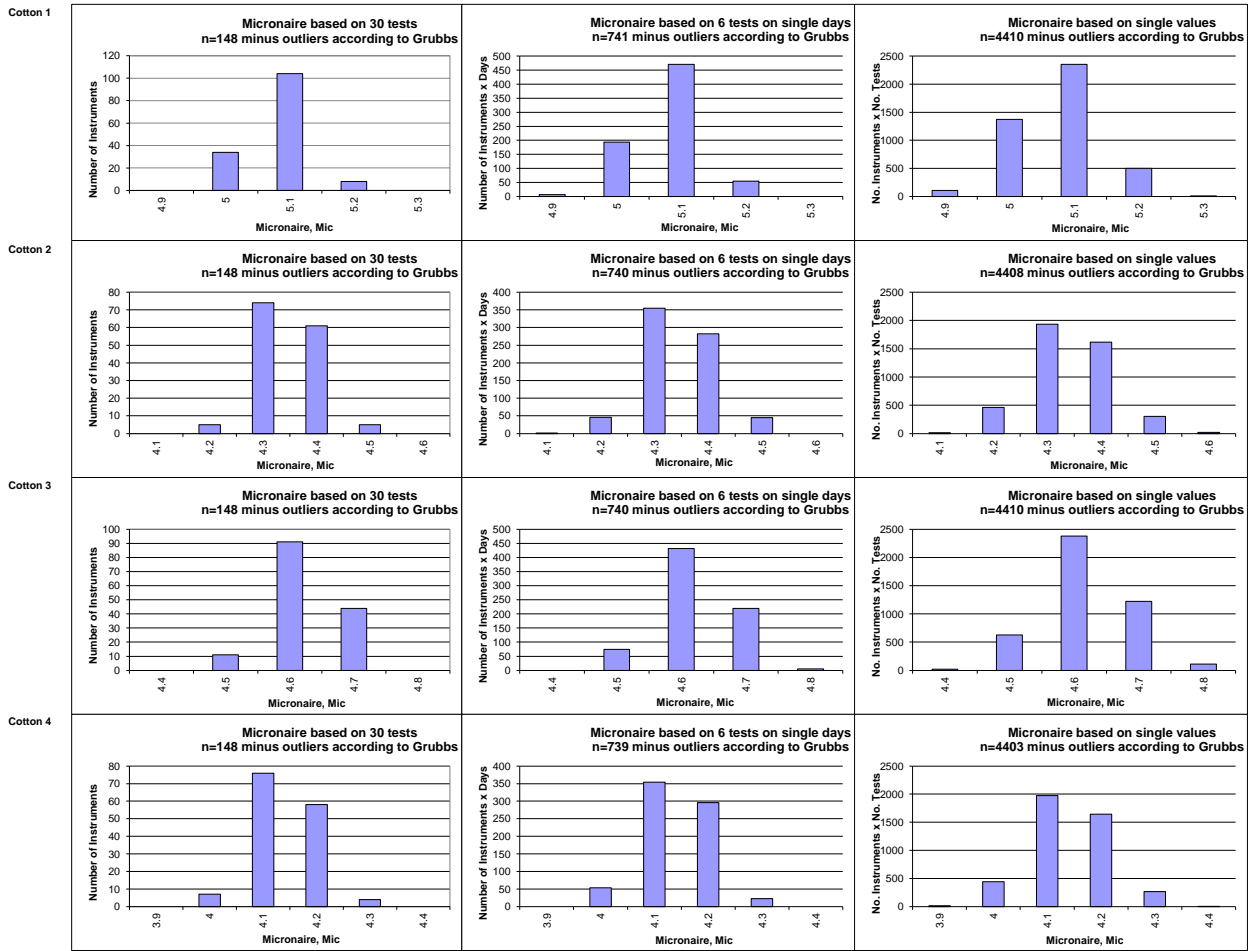
Length							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			1.0259	1.1909	1.1673	0.9887	
Reference Values for Evaluation			1.0259	1.1909	1.1673	0.9887	
Number Of Instruments			148	148	148	148	148
Inter-Instrument Variation	based on 30 tests	SD	0.0109	0.0102	0.0112	0.0109	0.0108
		CV %	1.1	0.9	1.0	1.1	1.0
	based on 6 tests	SD	0.0122	0.0119	0.0129	0.0123	0.0123
		CV %	1.2	1.0	1.1	1.2	1.1
	based on single tests	SD	0.0165	0.0158	0.0169	0.0161	0.0163
		CV %	1.6	1.3	1.4	1.6	1.5
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.0058	0.0060	0.0055	0.0054	0.0057
		CV %	0.6	0.5	0.5	0.6	0.5
	between single tests on one day	SD	0.0102	0.0103	0.0097	0.0100	0.0100
		CV %	1.0	0.9	0.8	1.0	0.9
	between all tests on different days	SD	0.0112	0.0127	0.0108	0.0113	0.0115
		CV %	1.1	1.1	0.9	1.1	1.1

Uniformity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			79.843	83.585	82.926	78.397	
Reference Values for Evaluation			79.843	83.585	82.926	78.397	
Number Of Instruments			147	147	147	147	147
Inter-Instrument Variation	based on 30 tests	SD	0.420	0.343	0.478	0.522	0.441
		CV %	0.5	0.4	0.6	0.7	0.5
		SD	0.513	0.445	0.557	0.570	0.522
	based on 6 tests	CV %	0.6	0.5	0.7	0.7	0.6
		SD	0.753	0.661	0.739	0.767	0.730
		CV %	0.9	0.8	0.9	1.0	0.9
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.278	0.243	0.255	0.273	0.262
		CV %	0.3	0.3	0.3	0.3	0.3
		SD	0.535	0.503	0.476	0.539	0.513
	between single tests on one day	CV %	0.7	0.6	0.6	0.7	0.6
		SD	0.617	0.552	0.520	0.612	0.575
		CV %	0.8	0.7	0.6	0.8	0.7

Color Rd							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			73.986	76.222	79.034	75.960	
Reference Values for Evaluation			73.986	76.222	79.034	75.960	
Number Of Instruments			145	145	145	145	145
Inter-Instrument Variation	based on 30 tests	SD	0.586	0.573	0.576	0.541	0.569
		CV %	0.8	0.8	0.7	0.7	0.7
		SD	0.618	0.586	0.637	0.563	0.601
	based on 6 tests	CV %	0.8	0.8	0.8	0.7	0.8
		SD	0.666	0.616	0.682	0.598	0.640
		CV %	0.9	0.8	0.9	0.8	0.8
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.164	0.137	0.162	0.122	0.146
		CV %	0.2	0.2	0.2	0.2	0.2
		SD	0.188	0.167	0.162	0.147	0.166
	between single tests on one day	CV %	0.3	0.2	0.2	0.2	0.2
		SD	0.280	0.256	0.278	0.224	0.259
		CV %	0.4	0.3	0.4	0.3	0.3

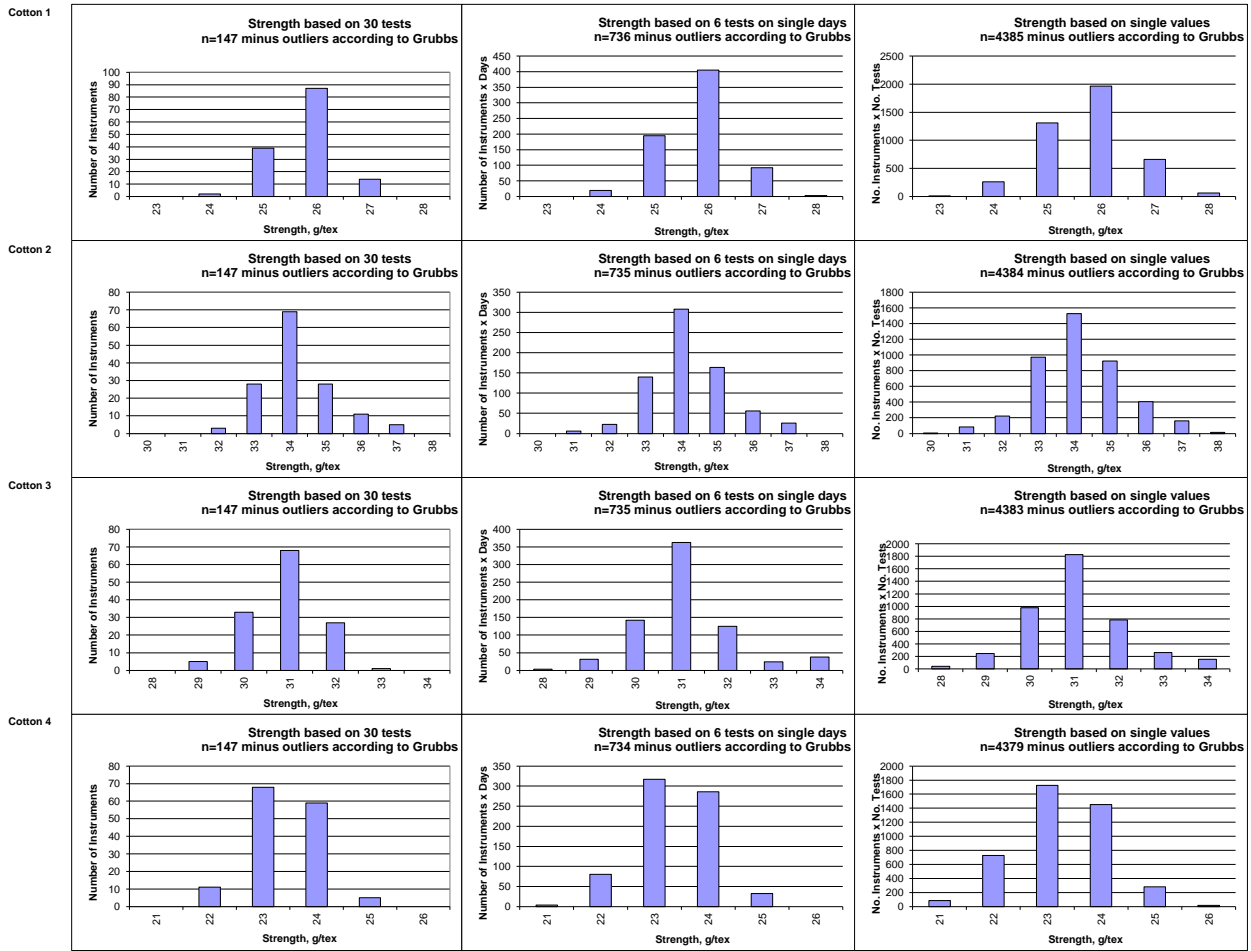
Color +b							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			8.250	13.686	9.873	11.821	
Reference Values for Evaluation			8.250	13.686	9.873	11.821	
Number Of Instruments			145	145	145	145	145
Inter-Instrument Variation	based on 30 tests	SD	0.171	0.368	0.217	0.262	0.254
		CV %	2.1	2.7	2.2	2.2	2.3
		SD	0.191	0.400	0.240	0.277	0.277
	based on 6 tests	CV %	2.3	2.9	2.4	2.3	2.5
		SD	0.218	0.429	0.263	0.291	0.300
		CV %	2.6	3.1	2.7	2.5	2.7
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.079	0.093	0.077	0.079	0.082
		CV %	1.0	0.7	0.8	0.7	0.8
		SD	0.084	0.095	0.088	0.083	0.088
	between single tests on one day	CV %	1.0	0.7	0.9	0.7	0.8
		SD	0.121	0.148	0.125	0.122	0.129
		CV %	1.5	1.1	1.3	1.0	1.2

Test Result Distributions
Micronaire



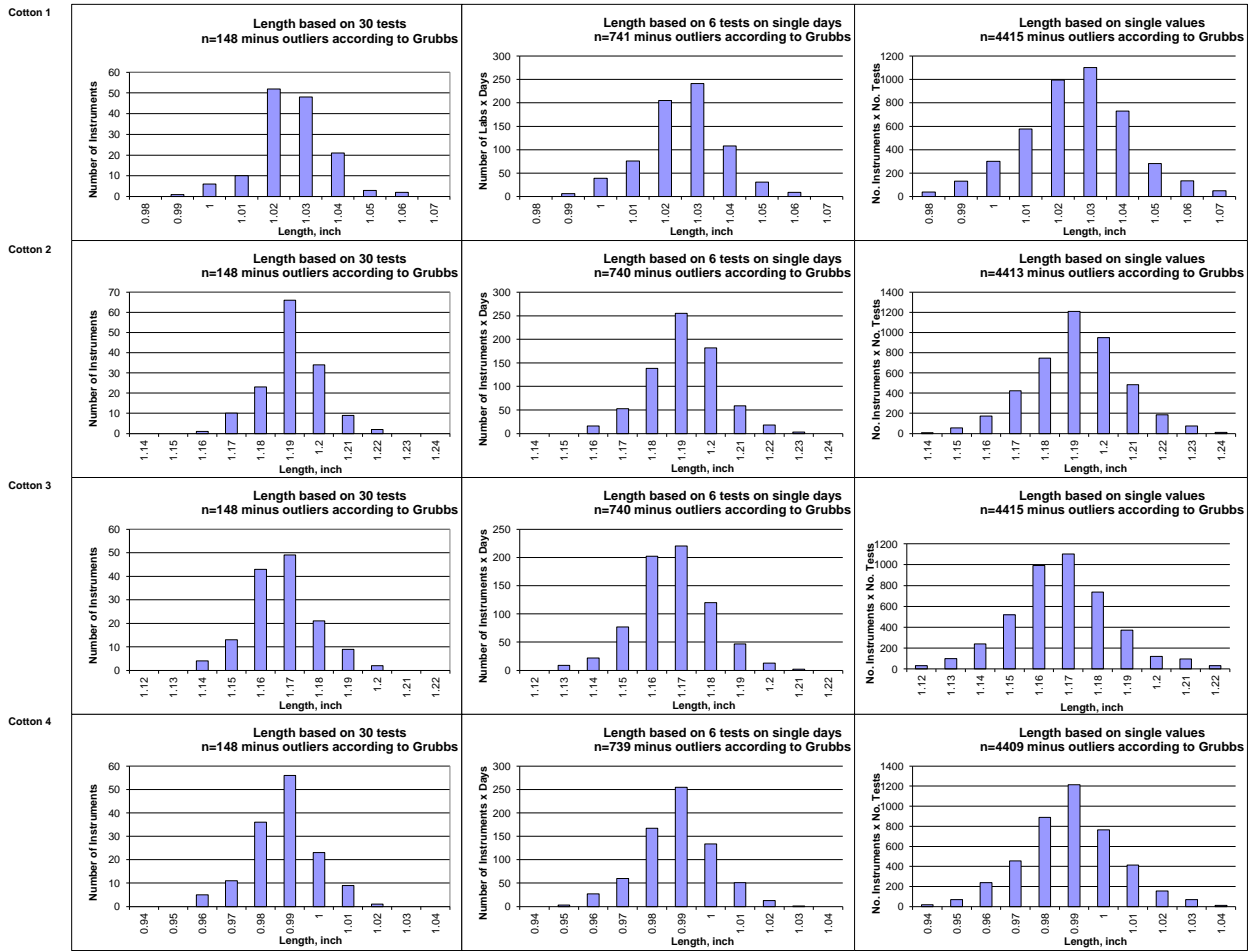
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method.)
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions
Strength



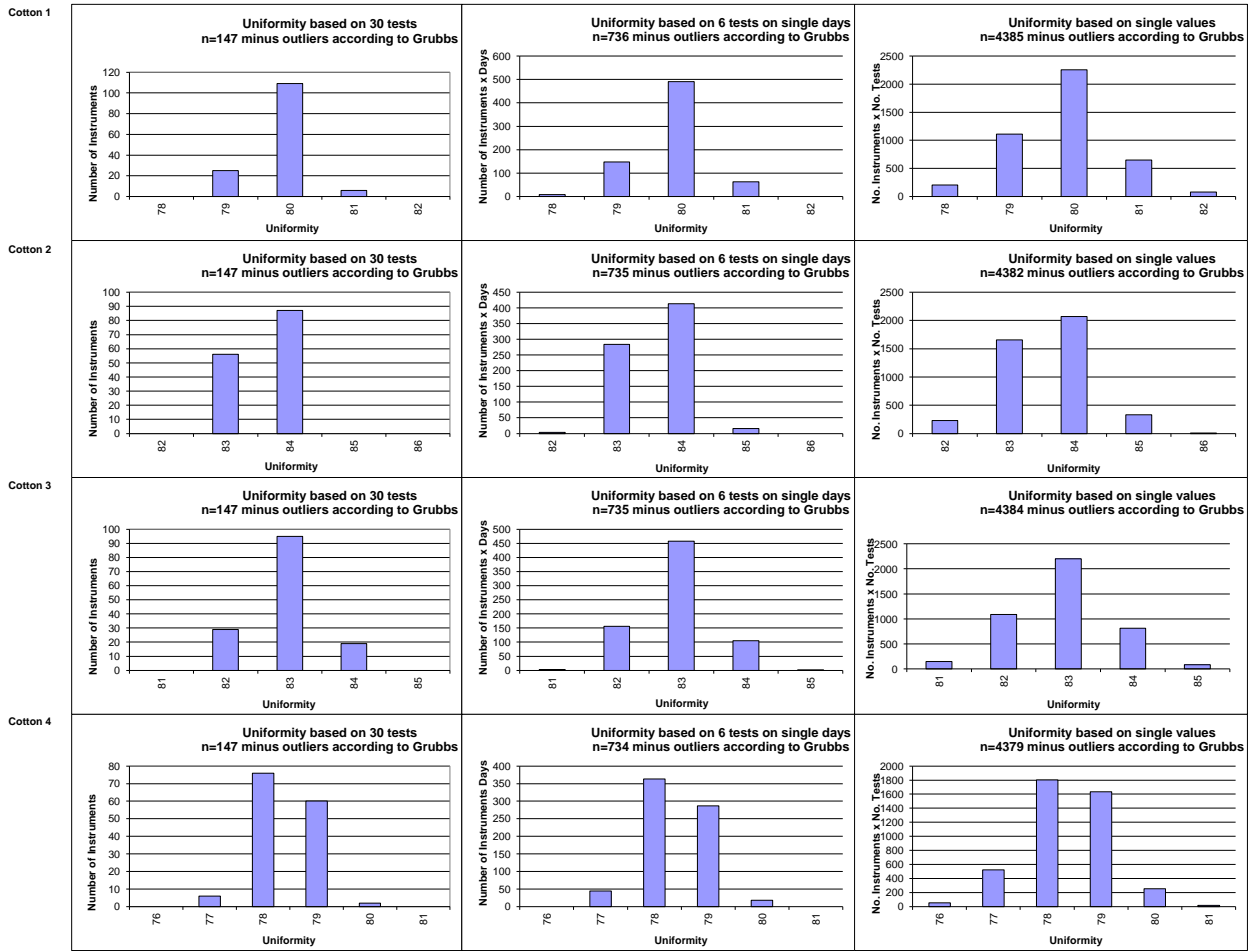
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(classes are defined as > lower limit and <= upper limit)

Test Result Distributions
Length



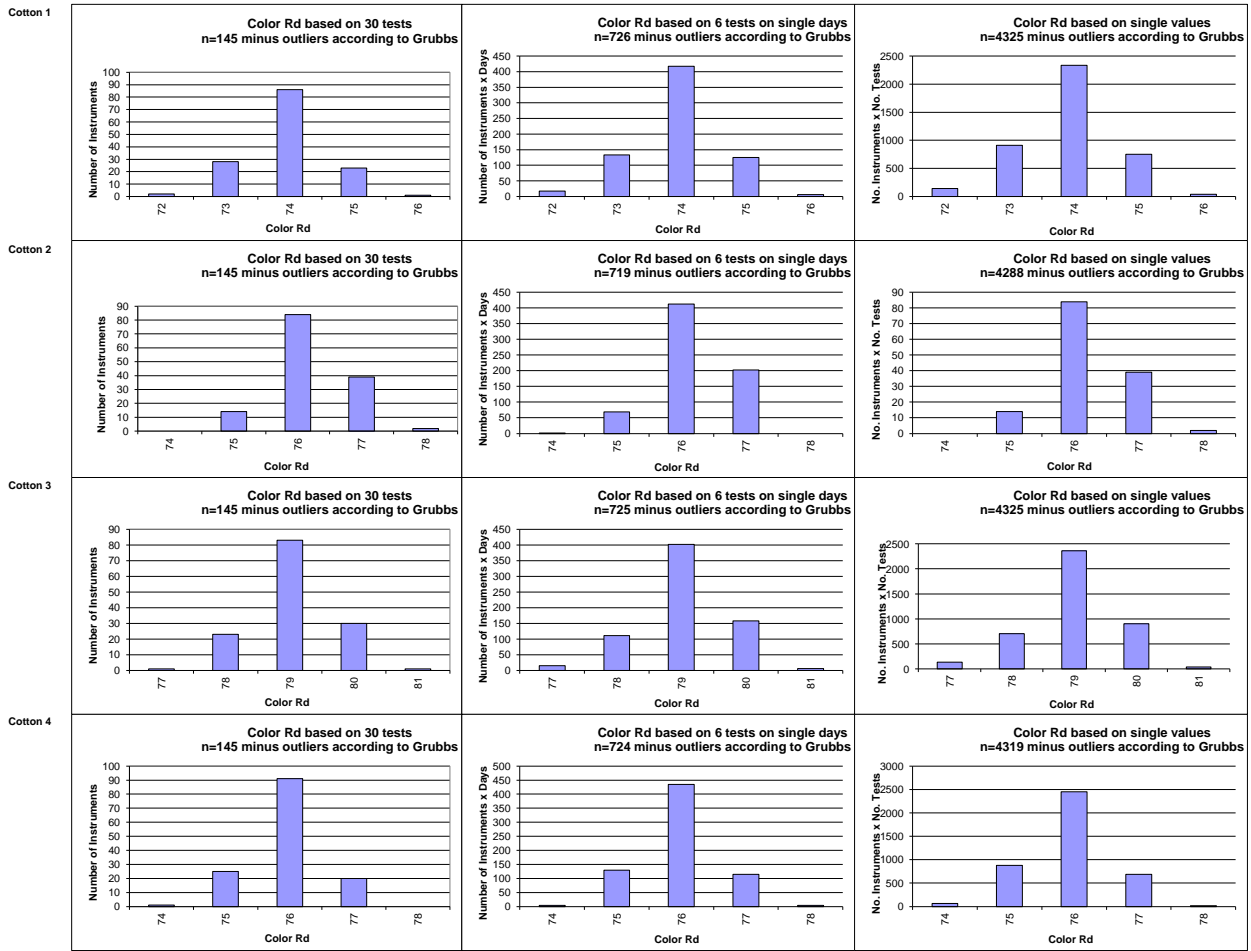
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions
Uniformity



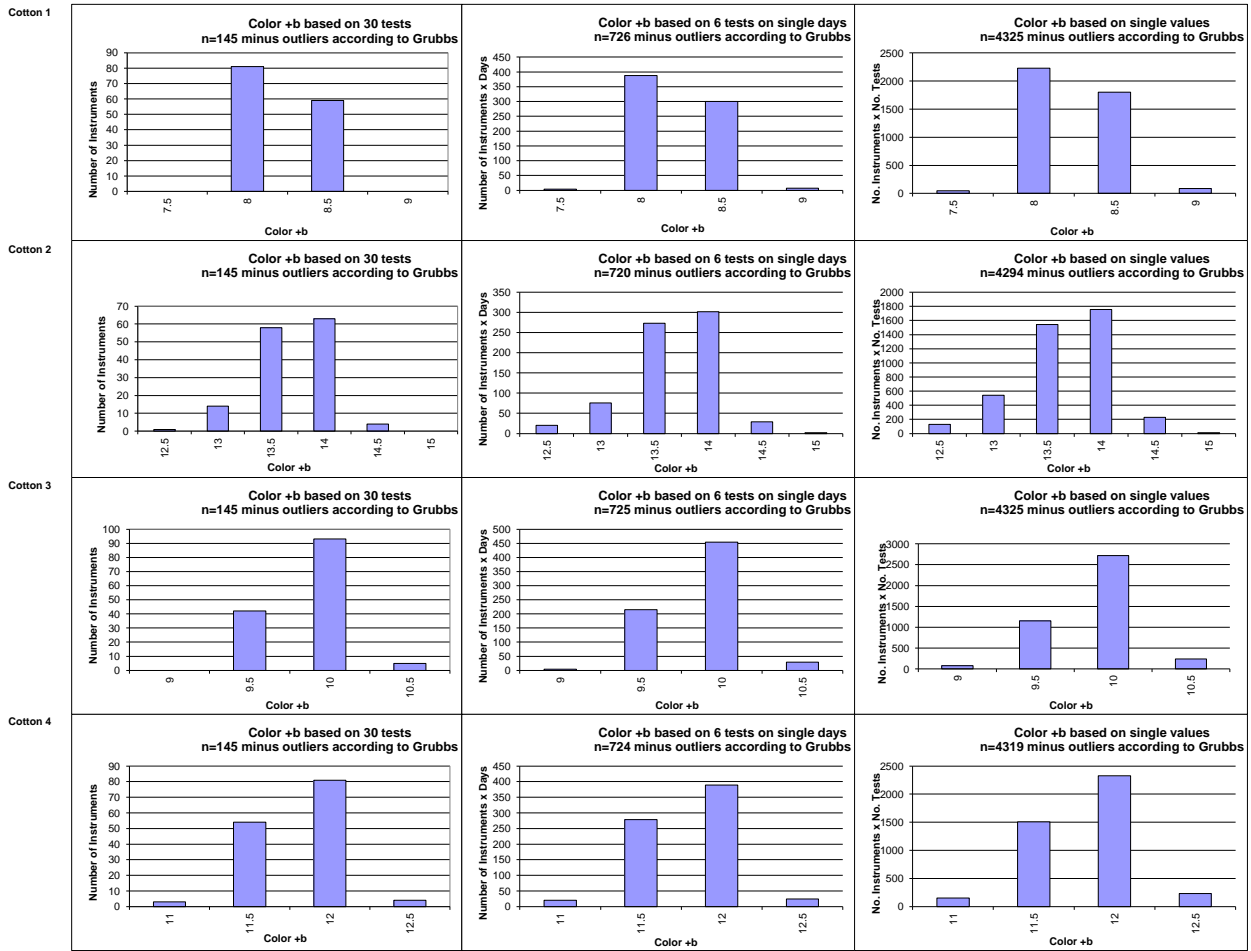
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(classes are defined as > lower limit and <= upper limit)

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

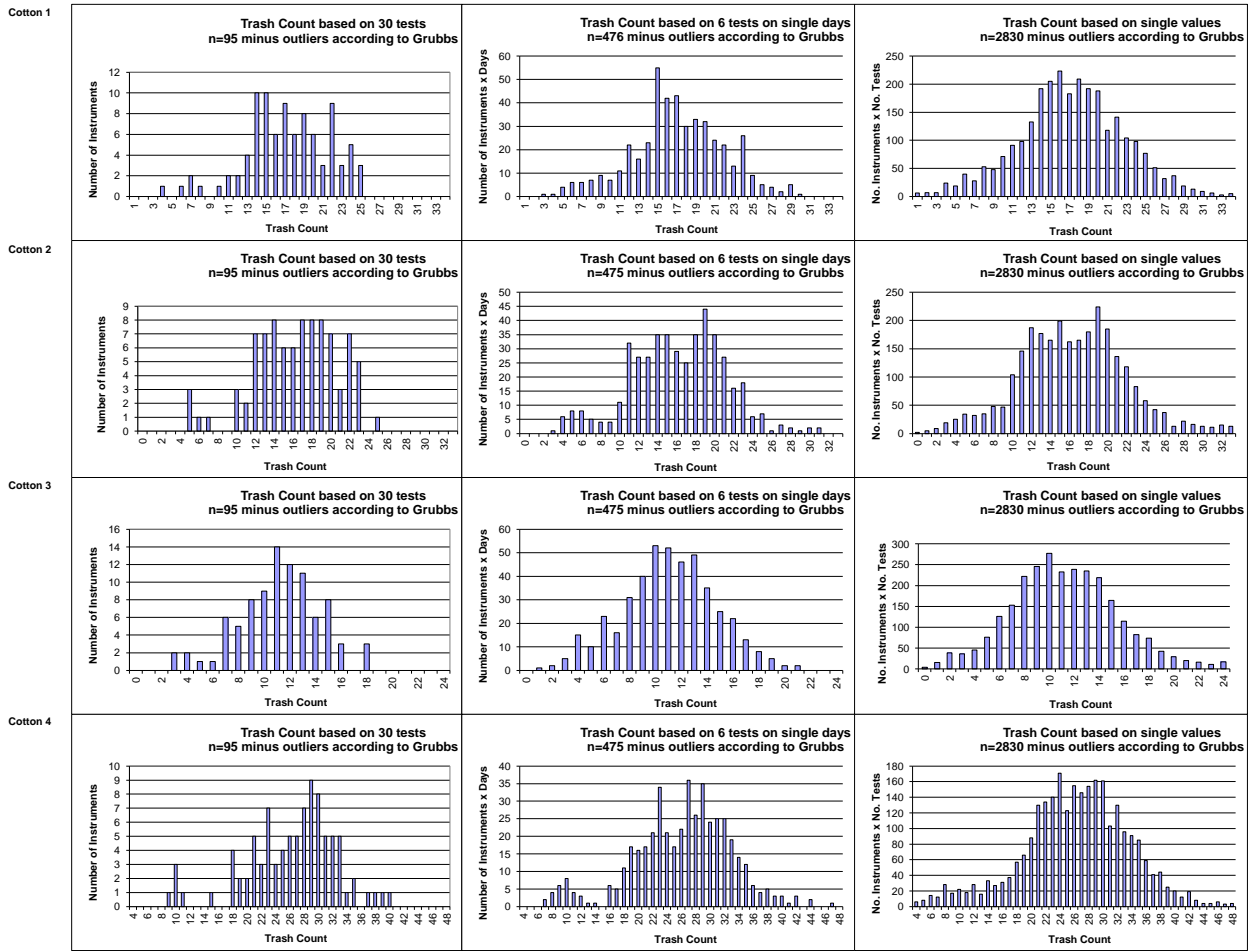
Trash Count							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			17.26	16.27	11.16	26.26	
Reference Values for Evaluation			17.26	16.27	11.16	26.26	
Number Of Instruments			95	95	95	95	95
Inter-Instrument Variation	based on 30 tests	SD	4.51	4.49	3.22	6.40	4.66
		CV %	26.1	27.6	28.8	24.4	26.7
	based on 6 tests	SD	4.91	5.03	3.63	6.91	5.12
		CV %	28.4	30.9	32.5	26.3	29.6
	based on single tests	SD	5.55	5.64	4.26	7.47	5.73
		CV %	32.1	34.7	38.2	28.5	33.4
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	1.64	1.79	1.38	2.12	1.73
		CV %	9.5	11.0	12.3	8.1	10.2
	between single tests on one day	SD	2.49	2.21	1.91	2.79	2.35
		CV %	14.4	13.6	17.1	10.6	13.9
	between all tests on different days	SD	3.06	2.86	2.28	3.83	3.01
		CV %	17.7	17.6	20.5	14.6	17.6

Trash Area							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			0.201	0.147	0.120	0.272	
Reference Values for Evaluation			0.201	0.147	0.120	0.272	
Number Of Instruments			95	95	95	95	95
Inter-Instrument Variation	based on 30 tests	SD	0.048	0.047	0.035	0.070	0.050
		CV %	23.8	31.9	29.4	25.9	27.8
	based on 6 tests	SD	0.059	0.047	0.037	0.070	0.053
		CV %	29.5	31.9	30.9	25.8	29.5
	based on single tests	SD	0.072	0.051	0.041	0.083	0.062
		CV %	35.7	34.8	34.0	30.6	33.8
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.028	0.019	0.018	0.032	0.024
		CV %	13.8	13.2	14.8	11.9	13.4
	between single tests on one day	SD	0.041	0.023	0.022	0.040	0.031
		CV %	20.4	15.9	17.9	14.8	17.2
	between all tests on different days	SD	0.054	0.031	0.031	0.053	0.042
		CV %	26.7	21.3	25.4	19.6	23.3

Maturity							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			88.22	85.55	86.85	84.95	
Reference Values for Evaluation			88.22	85.55	86.85	84.95	
Number Of Instruments			98	98	98	98	98
Inter-Instrument Variation	based on 30 tests	SD	0.89	1.56	1.34	0.95	1.18
		CV %	1.0	1.8	1.5	1.1	1.4
	based on 6 tests	SD	0.93	1.60	1.35	0.96	1.21
		CV %	1.1	1.9	1.5	1.1	1.4
	based on single tests	SD	0.97	1.60	1.39	1.55	1.38
		CV %	1.1	1.9	1.6	1.8	1.6
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.17	0.22	0.11	0.18	0.17
		CV %	0.2	0.3	0.1	0.2	0.2
	between single tests on one day	SD	0.27	0.31	0.17	0.24	0.25
		CV %	0.3	0.4	0.2	0.3	0.3
	between all tests on different days	SD	0.41	0.46	0.31	0.38	0.39
		CV %	0.5	0.5	0.4	0.4	0.4

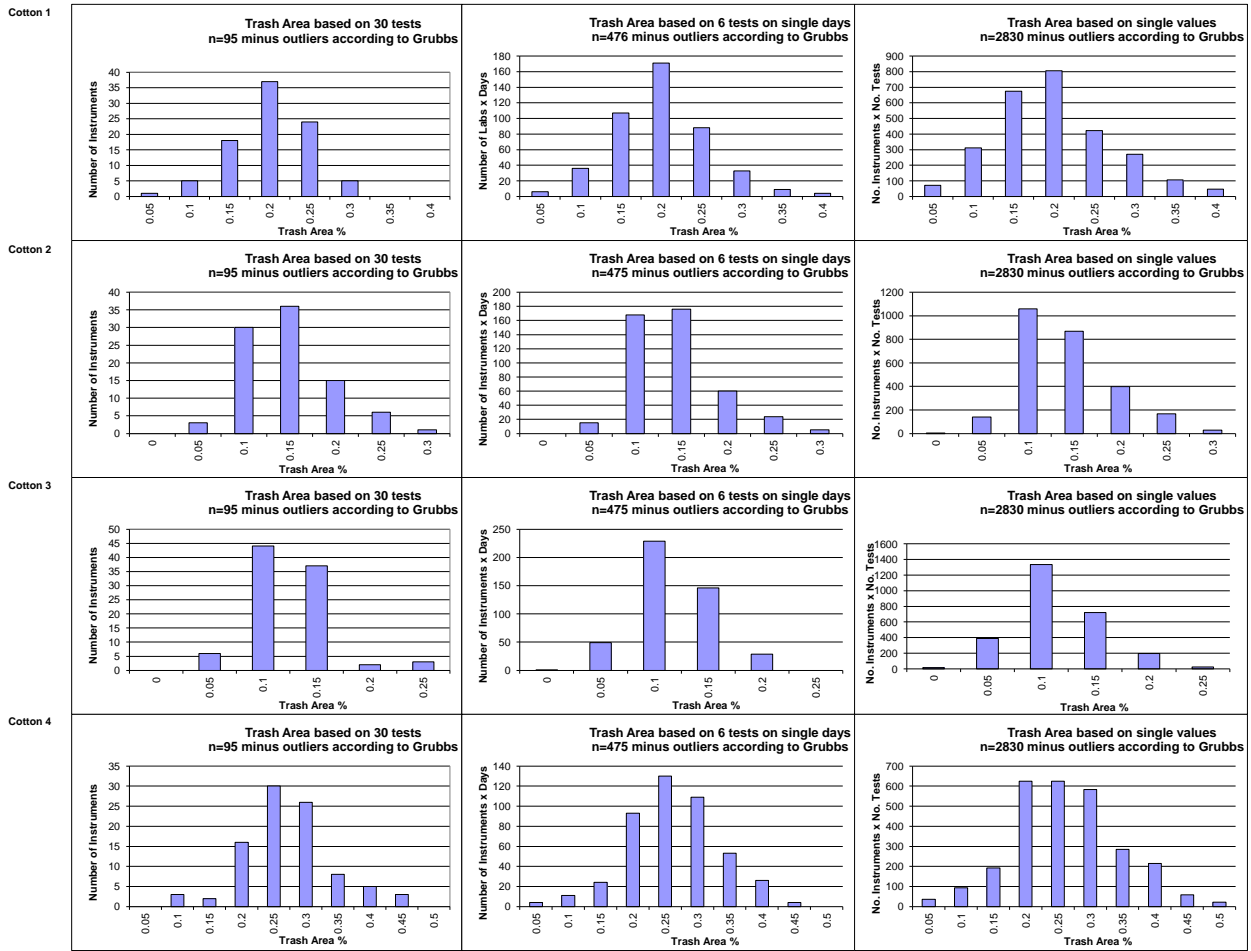
SFI							
			Cotton 1	Cotton 2	Cotton 3	Cotton 4	Average
Average of Instruments (Grubbs)			12.04	7.45	8.29	14.37	
Reference Values for Evaluation			12.04	7.45	8.29	14.37	
Number Of Instruments			109	109	109	109	109
Inter-Instrument Variation	based on 30 tests	SD	1.11	0.49	0.58	1.47	0.91
		CV %	9.2	6.6	6.9	10.2	8.2
	based on 6 tests	SD	1.16	0.55	0.58	1.55	0.96
		CV %	9.6	7.3	7.0	10.8	8.7
	based on single tests	SD	1.29	0.64	0.66	1.69	1.07
		CV %	10.7	8.6	8.0	11.8	9.8
Typical within-instrument Variation (Median)	between different days with each 6 tests	SD	0.32	0.17	0.18	0.33	0.25
		CV %	2.6	2.3	2.1	2.3	2.3
	between single tests on one day	SD	0.60	0.29	0.34	0.69	0.48
		CV %	5.0	3.9	4.1	4.8	4.4
	between all tests on different days	SD	0.68	0.33	0.37	0.76	0.53
		CV %	5.6	4.5	4.4	5.3	4.9

Test Result Distributions
Trash Count



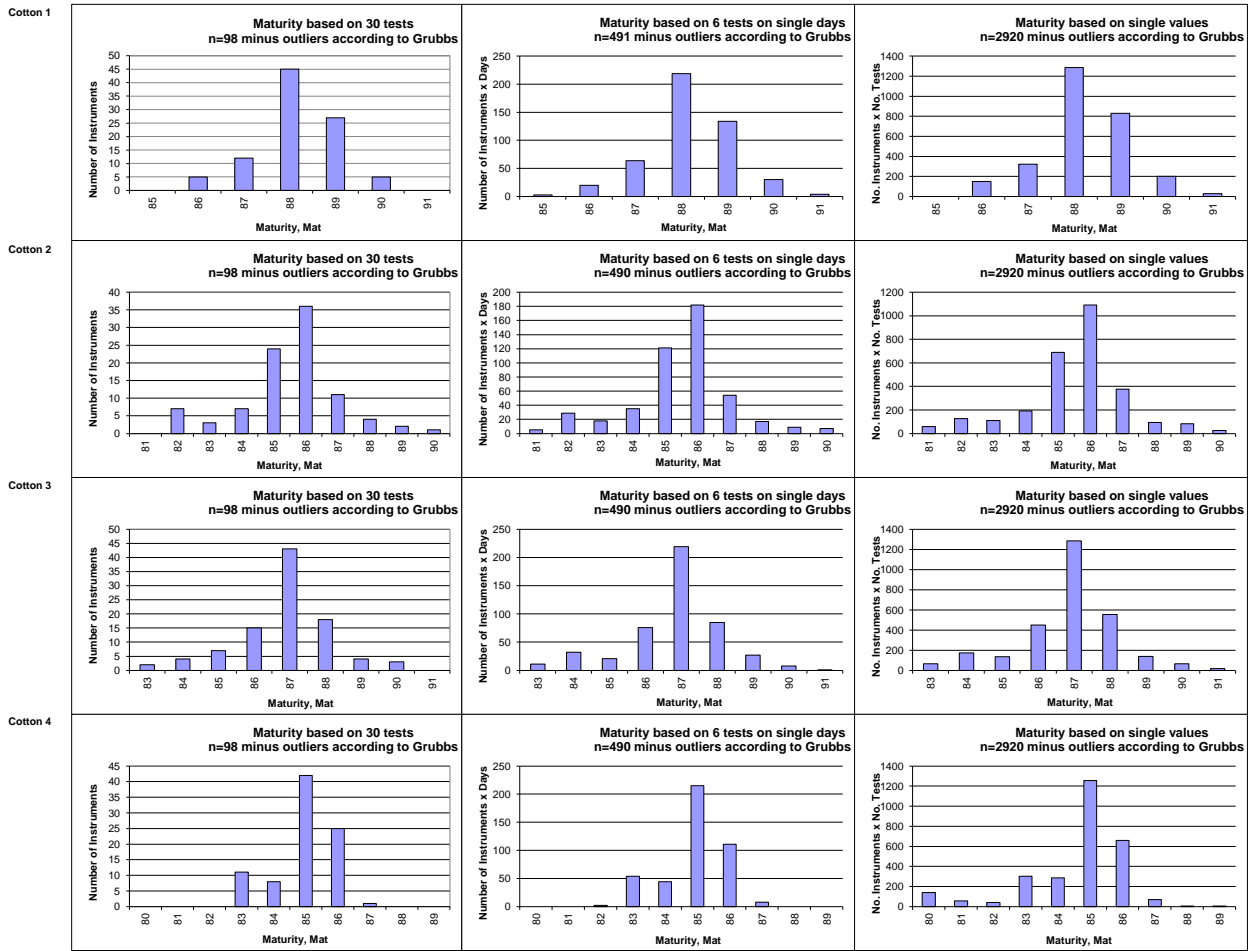
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)
(classes are defined as > lower limit and <= upper limit)

Test Result Distributions
Trash Area



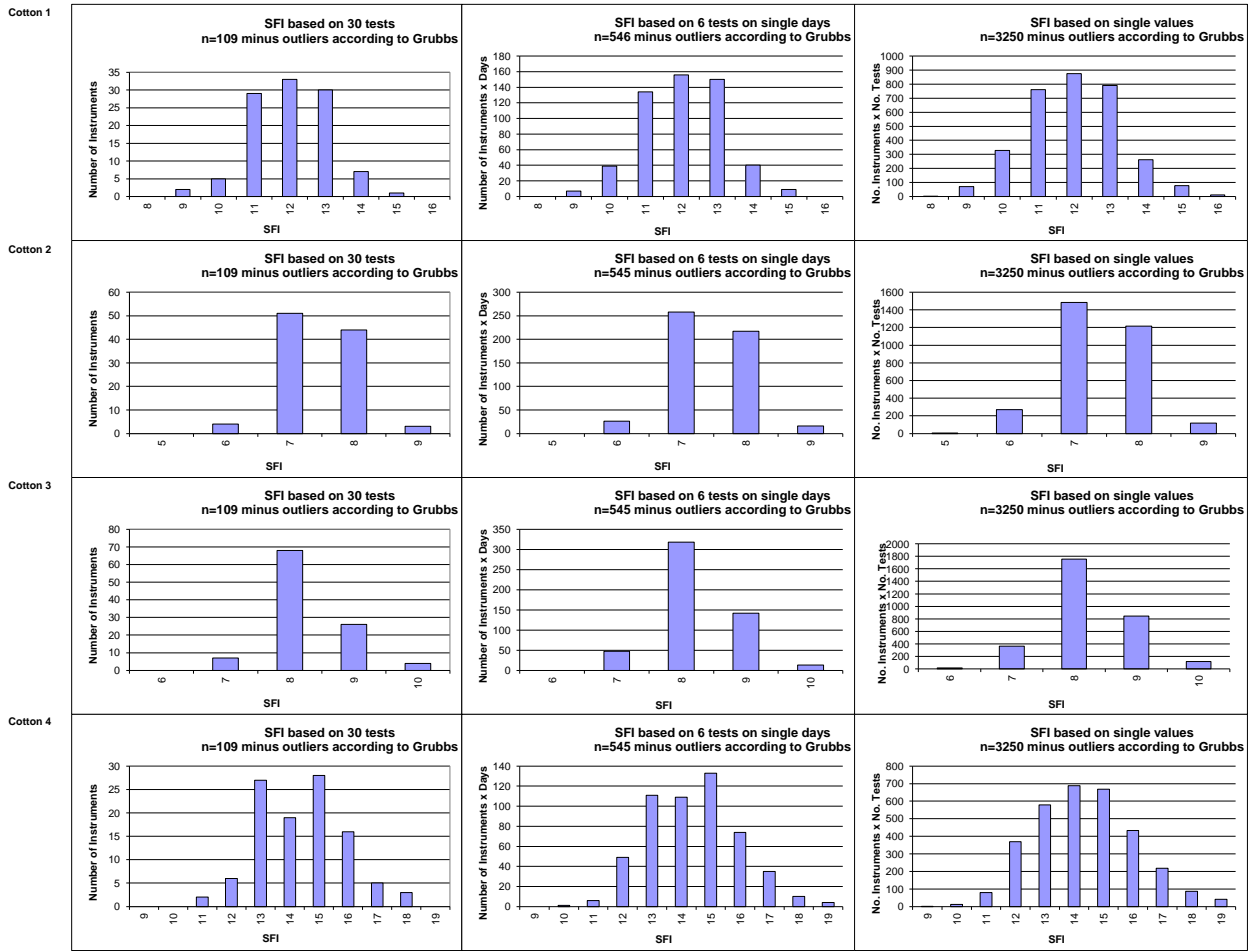
(Only results from instruments/days/single tests that are not regarded as outliers according to Grubbs' method)
(classes are defined as > lower limit and <= upper limit)

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 2016 - 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:
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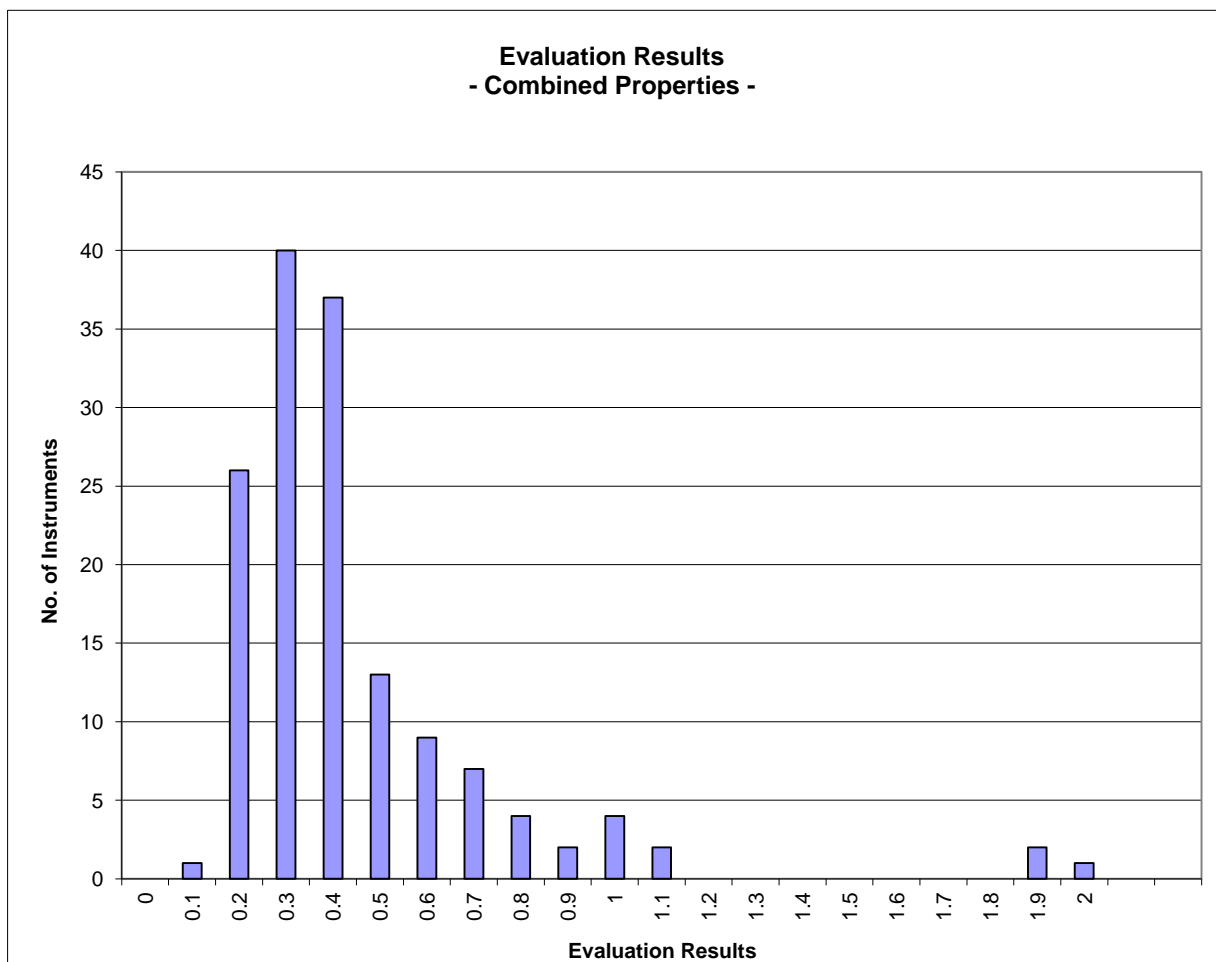
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Instrument Evaluation
 - Graph of Combined Properties -
 According to ICAC CSITC Task Force Recommendations
 Global - Round Trial 2016 - 3

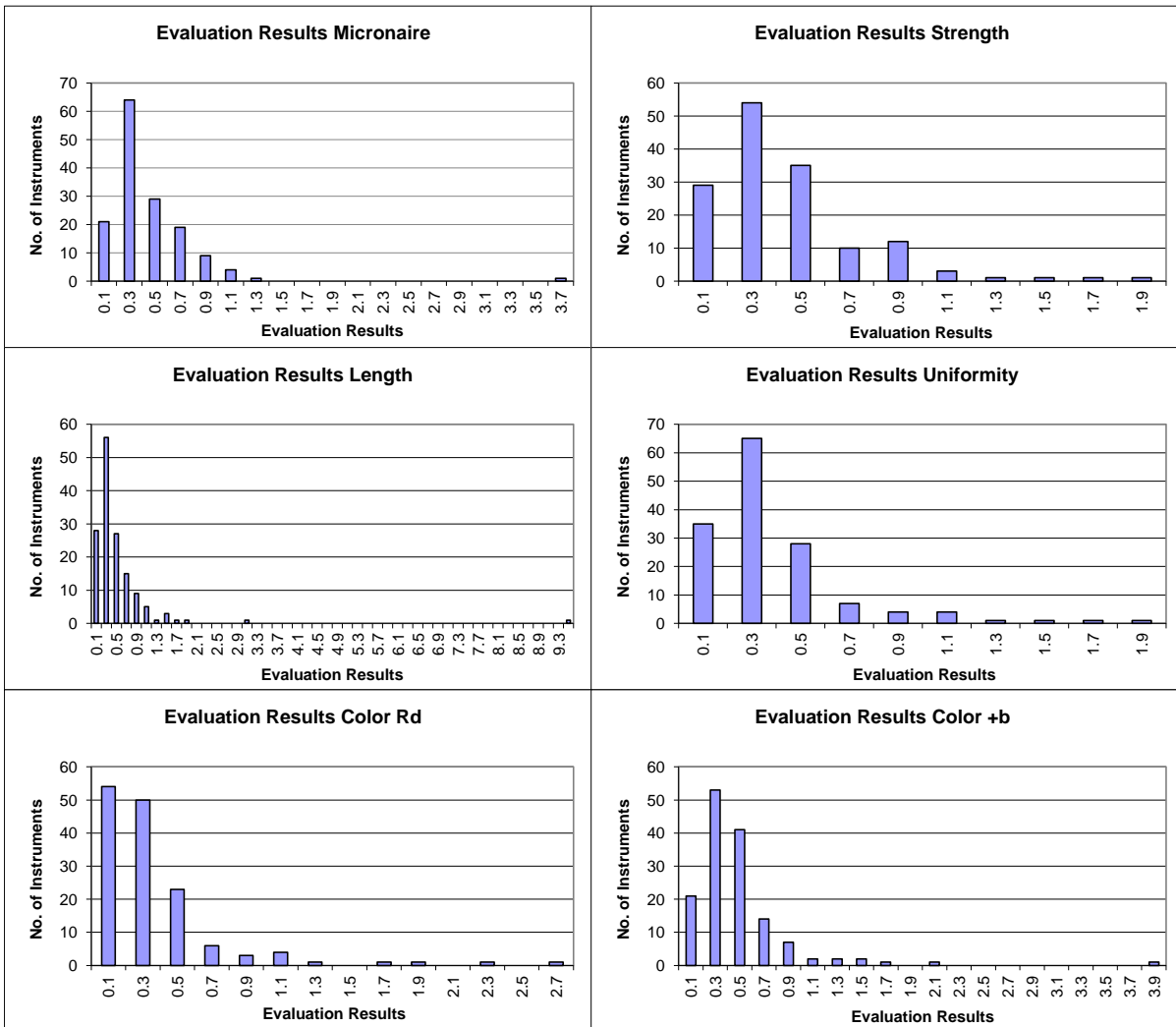
		Evaluation Combined Prop.
Statistics	Average	0.45
	Median	0.36
	Best Instrument	0.15
	Worst Instrument	2.03



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 - 3

		Evaluation Micronaire	Evaluation Strength	Evaluation Length	Evaluation Uniformity	Evaluation Color Rd	Evaluation Color +b
Statistics	Average	0.44	0.43	0.54	0.39	0.37	0.48
	Median	0.34	0.35	0.35	0.31	0.26	0.38
	Best Instr.	0.04	0.05	0.06	0.03	0.04	0.07
	Worst Instr.	3.60	2.00	9.55	1.86	2.61	3.85



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 - 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

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

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Within Limits Evaluation

Based on average of 30 test results for each sample

	Micronaire	Strength	Length	Uniformity	Color Rd	Color +b
Limits	0.20	2.0	0.030	2.0	1.5	0.5
	units	g/tex	inch	%	units	units
Average % Results within Limits	99.3	94.4	95.1	99.3	94.1	91.2
Completely within limits	99.3	83.7	88.5	98.0	89.0	77.2
% of Instruments ≥75% within limits	99.3	96.6	93.9	99.3	93.8	91.7
% of Instruments ≥50% within limits	99.3	98.0	98.6	100.0	96.6	97.2

Percentage of Results Within Limits						
Instrument	Micronaire	Strength	Length	Uniformity	Color Rd	Color +b
GL163-001-01	100	100	100	100	100	100
GL163-001-02	100	100	100	100	100	100
GL163-002-01	100	100	100	100	100	100
GL163-003-01	100	100	100	100	100	100
GL163-004-01	100	100	50	75	100	100
GL163-005-01	100	100	100	100	100	100
GL163-005-02	100	100	100	100	100	100
GL163-005-03	100	100	100	100	100	100
GL163-006-01	100	75	100	100	100	100
GL163-007-05	100		50			
GL163-008-01	100	100	100	100	100	100
GL163-008-02	100	100	100	100	100	100
GL163-009-01	100	100	0	100	100	100
GL163-010-03	100	100	100	100	100	100
GL163-011-09	100	75	75	100	50	75
GL163-011-11	100	75	100	100	50	75
GL163-013-01	100	100	100	100	50	25
GL163-015-01	100	100	100	100	100	100
GL163-016-01	100	75	100	100	100	100
GL163-017-01	100	100	100	100	100	100
GL163-017-02	100	100	100	100	100	100
GL163-019-01	100	100	100	100	100	100
GL163-019-02	100	100	100	100	100	75
GL163-019-03	100	100	100	100	100	50
GL163-019-04	100	100	100	100	100	100
GL163-020-01	100	100	100	100	100	100
GL163-021-01	100	100	100	100	100	100
GL163-022-01	100	75	100	100	100	100
GL163-022-04	100	75	100	100	100	100
GL163-023-53	100	100	100	100	100	100
GL163-023-60	100	100	100	100	100	100
GL163-024-03	100	100	100	100	100	100
GL163-024-06	100	100	100	100	100	100
GL163-025-01	100	100	50	100	100	75
GL163-026-13	100	25	100	100		
GL163-027-28	100	100	100	100	50	50
GL163-028-15	100	100	100	100	100	100
GL163-028-16	100	100	100	100	100	100
GL163-030-01	100	100	50	100	0	100
GL163-031-01	100	100	100	100	100	100

GL163-031-02	100	100	100	100	100	100
GL163-032-01	100	100	100	100	100	100
GL163-033-01	0	100	100	100	0	0
GL163-034-01	100	100	100	100	100	100
GL163-036-03	100	100	100	100	100	100
GL163-038-03	100	25	75	100	75	100
GL163-038-05	100	0	50	100	100	100
GL163-039-04	100	100	100	100	100	100
GL163-040-01	100	100	100	100	100	100
GL163-041-01	100	100	50	100	100	100
GL163-043-12	100	100	100	100	100	100
GL163-043-14	100	100	100	100	100	75
GL163-044-01	100	75	75	100	100	75
GL163-045-01	100	75	75	100	100	100
GL163-045-06	100	75	75	100	100	100
GL163-046-01	100	100	100	100	100	100
GL163-046-03	100	100	100	100	100	100
GL163-047-01	100	75	100	100	100	50
GL163-048-01	100	100	100	100	100	100
GL163-049-02	100	100	100	100	100	100
GL163-049-04	100	100	100	100	0	50
GL163-049-07	100	75	100	100	100	100
GL163-049-08	100	100	100	100	100	100
GL163-051-02	100	100	100	100	100	100
GL163-051-03	100	100	100	100	100	100
GL163-052-20	100	100	100	100	100	100
GL163-052-21	100	100	100	100	100	100
GL163-054-01	100	100	100	100	100	100
GL163-054-02	100	100	100	100	100	100
GL163-055-06	100	75	75	100	100	100
GL163-055-07	100	100	100	100	100	100
GL163-055-08	100	100	100	100	100	100
GL163-056-01	100	100	100	100	100	100
GL163-057-01	100	100	100	100	75	100
GL163-058-01	100	100	100	100	100	75
GL163-059-01	100	75	100	100	100	75
GL163-059-02	100	100	100	100	75	100
GL163-059-05	100	75	100	100	100	75
GL163-059-07	100	75	100	100	100	75
GL163-061-01	100	100	100	100	75	100
GL163-062-01	100	100	100	100	100	100
GL163-062-02	100	100	100	100	100	100
GL163-062-04	100	100	100	100	100	100
GL163-063-03	100	100	100	100	100	100
GL163-063-07	100	100	100	100	100	100
GL163-063-08	100	100	100	100	100	100
GL163-063-09	100	75	100	100	100	100
GL163-063-10	100	100	100	100	100	100
GL163-063-11	100	100	100	100	100	100
GL163-063-12	100	100	100	100	100	100
GL163-063-13	100	100	100	100	100	100
GL163-063-14	100	100	100	100	100	100
GL163-064-02	100	100	100	100	100	100
GL163-065-12	100	100	100	100	100	100
GL163-066-01	100	100	100	100	100	75
GL163-067-01	100	100	100	100	100	100
GL163-067-04	100	100	100	100	100	100
GL163-067-05	100	100	100	100	100	100
GL163-068-01	100	75	100	100	0	0
GL163-069-03	100	100	100	100	100	100

GL163-070-01	100	50	100	100	25	50
GL163-072-01	100	100	100	100	100	100
GL163-074-01	100	100	100	100	100	75
GL163-074-02	100	100	100	100	100	75
GL163-074-04	100	100	75	100	100	75
GL163-074-05	100	100	100	100	100	75
GL163-075-14	100	100	100	100	100	100
GL163-076-01	100	100	100	100	100	75
GL163-076-02	100	100	100	100	100	100
GL163-077-01	100	100	100	100	100	100
GL163-078-02	100	100	100	100		
GL163-078-03	100	100	100	100	100	100
GL163-080-01	100	100	100	100	100	100
GL163-081-01	100	75	100	100	100	75
GL163-081-02	100	75	100	100	100	75
GL163-084-01	100	100	100	100	75	50
GL163-084-02	100	100	100	100	100	75
GL163-084-03	100	100	100	100	100	100
GL163-084-04	100	100	100	100	100	100
GL163-085-01	100	100	100	100	100	100
GL163-085-02	100	100	100	100	100	100
GL163-085-03	100	100	100	100	100	100
GL163-085-04	100	100	100	100	100	100
GL163-088-01	100	100	100	100	100	100
GL163-090-01	100	100	100	100	100	100
GL163-091-02	100	100	100	100	100	100
GL163-094-06	100	100	100	100	100	100
GL163-095-04	100	100	100	100	100	50
GL163-095-05	100	100	100	100	100	100
GL163-096-01	100	100	75	75	100	100
GL163-097-01	100	100	100	100	100	100
GL163-098-01	100	100	100	100	100	100
GL163-099-02	100	100	100	100	100	100
GL163-099-03	100	100	100	100	100	100
GL163-099-05	100	100	100	100	100	100
GL163-099-06	100	100	100	100	100	100
GL163-101-01	100	100	100	100	100	100
GL163-102-01	100	100	100	100	100	100
GL163-104-01	100	100	100	100	100	100
GL163-104-05	100	100	100	100	100	100
GL163-104-09	100	100	100	100	100	100
GL163-104-11	100	100	100	100	100	100
GL163-104-12	100	100	100	100	100	100
GL163-105-01	100	100	100	100	100	100
GL163-106-01	100	100	100	100	100	75
GL163-107-01	100	50	100	100	75	25
GL163-107-02	100	100	25	50	100	50
GL163-107-03	100	100	50	100	75	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	0.5
	units	g/tex	inch	%	units	units
Average % Results within Limits	98.3	92.3	93.2	97.4	92.7	87.0
% of Instruments 100% within limits	67.6	36.7	27.0	48.3	65.5	26.2
% of Instruments ≥95% within limits	93.9	68.7	70.9	90.5	83.4	46.9
% of Instruments ≥75% within limits	99.3	92.5	93.2	96.6	90.3	84.1
% of Instruments ≥65% within limits	99.3	95.2	95.3	99.3	91.7	89.7
% of Instruments ≥50% within limits	99.3	98.0	98.6	100.0	93.8	95.2

Percentage of Results Within Limits						
Instrument	Micronaire	Strength	Length	Uniformity	Color Rd	Color +b
GL163-001-01	100	88	93	96	100	98
GL163-001-02	100	88	97	98	99	94
GL163-002-01	100	100	99	100	100	98
GL163-003-01	100	96	95	98	94	86
GL163-004-01	96	91	58	78	78	93
GL163-005-01	99	100	97	100	100	90
GL163-005-02	99	100	97	100	100	90
GL163-005-03	99	100	97	100	100	90
GL163-006-01	100	83	99	100	100	93
GL163-007-05	91		50			
GL163-008-01	99	97	97	99	96	75
GL163-008-02	100	98	96	98	97	71
GL163-009-01	95	100	0	95	100	100
GL163-010-03	100	97	93	100	100	94
GL163-011-09	100	75	84	100	48	86
GL163-011-11	100	75	78	100	43	71
GL163-013-01	99	99	95	99	39	16
GL163-015-01	100	98	93	98	100	92
GL163-016-01	100	75	100	99	100	100
GL163-017-01	100	97	100	100	100	100
GL163-017-02	100	98	100	100	100	99
GL163-019-01	100	100	99	100	100	100
GL163-019-02	100	100	100	100	100	75
GL163-019-03	96	99	98	96	100	52
GL163-019-04	99	100	98	99	100	100
GL163-020-01	100	100	100	100	100	86
GL163-021-01	98	96	98	98	100	97
GL163-022-01	100	75	96	98	100	100
GL163-022-04	100	75	96	98	100	100
GL163-023-53	100	98	95	96	100	100
GL163-023-60	100	98	98	99	100	100
GL163-024-03	99	100	100	100	100	100
GL163-024-06	100	99	100	100	100	100
GL163-025-01	96	88	71	71	100	58
GL163-026-13	91	37	82	98		
GL163-027-28	100	100	95	100	53	51

GL163-028-15	100	98	100	100	100	100
GL163-028-16	100	98	99	100	100	100
GL163-030-01	99	82	42	74	19	78
GL163-031-01	100	100	100	100	100	100
GL163-031-02	100	99	100	97	98	100
GL163-032-01	99	88	100	94	100	100
GL163-033-01	23	97	99	90	6	6
GL163-034-01	100	100	100	100	100	100
GL163-036-03	100	95	100	99	100	99
GL163-038-03	95	34	58	82	75	89
GL163-038-05	100	21	52	84	93	98
GL163-039-04	99	100	98	99	100	85
GL163-040-01	100	100	88	100	100	90
GL163-041-01	84	96	74	97	98	99
GL163-043-12	100	98	100	100	100	95
GL163-043-14	100	96	100	100	95	88
GL163-044-01	100	83	87	98	99	83
GL163-045-01	100	75	78	100	100	99
GL163-045-06	100	75	82	100	100	96
GL163-046-01	100	100	96	95	100	97
GL163-046-03	100	100	96	95	100	97
GL163-047-01	98	63	94	95	90	60
GL163-048-01	100	100	100	100	100	100
GL163-049-02	100	88	99	100	98	70
GL163-049-04	99	84	93	99	0	48
GL163-049-07	100	63	76	98	100	76
GL163-049-08	96	93	94	94	96	93
GL163-051-02	100	100	100	100	100	100
GL163-051-03	100	100	100	100	100	96
GL163-052-20	100	100	100	100	100	100
GL163-052-21	100	98	100	100	100	100
GL163-054-01	100	100	99	100	100	99
GL163-054-02	100	100	100	100	100	98
GL163-055-06	98	85	83	95	100	88
GL163-055-07	98	90	97	100	100	86
GL163-055-08	98	93	90	99	97	86
GL163-056-01	99	98	98	99	98	91
GL163-057-01	86	96	100	100	53	83
GL163-058-01	98	90	93	99	98	86
GL163-059-01	100	72	100	99	100	74
GL163-059-02	96	89	93	100	98	96
GL163-059-05	100	78	98	100	99	75
GL163-059-07	99	73	100	100	99	96
GL163-061-01	100	92	98	99	68	93
GL163-062-01	100	90	98	98	94	86
GL163-062-02	100	94	93	93	99	100
GL163-062-04	100	99	99	100	100	89
GL163-063-03	99	100	98	98	100	100
GL163-063-07	100	100	97	100	100	94
GL163-063-08	100	100	96	100	100	100
GL163-063-09	99	77	99	99	100	100
GL163-063-10	100	88	100	100	100	98
GL163-063-11	100	100	94	99	100	100
GL163-063-12	100	100	98	99	100	100
GL163-063-13	100	99	100	100	100	100
GL163-063-14	100	99	100	99	100	100
GL163-064-02	99	100	97	100	100	90
GL163-065-12	100	99	100	100	100	95
GL163-066-01	100	96	98	98	100	73
GL163-067-01	100	100	100	100	100	100

GL163-067-04	100	100	99	100	100	100
GL163-067-05	100	100	100	100	100	100
GL163-068-01	91	83	85	93	15	0
GL163-069-03	100	100	97	100	97	93
GL163-070-01	98	58	98	99	10	35
GL163-072-01	100	100	100	99	100	81
GL163-074-01	100	98	90	99	96	78
GL163-074-02	100	100	94	98	86	69
GL163-074-04	100	100	73	100	96	56
GL163-074-05	100	97	92	100	98	83
GL163-075-14	100	99	99	99	100	90
GL163-076-01	98	100	97	100	100	71
GL163-076-02	99	100	98	100	100	93
GL163-077-01	100	100	95	100	100	85
GL163-078-02	100	93	100	98		
GL163-078-03	100	91	100	100	100	98
GL163-080-01	100	100	87	98	97	62
GL163-081-01	100	75	96	99	100	78
GL163-081-02	100	73	94	99	100	78
GL163-084-01	89	90	92	95	57	43
GL163-084-02	97	98	88	98	92	60
GL163-084-03	96	100	98	99	100	99
GL163-084-04	96	99	98	99	100	99
GL163-085-01	92	100	99	99	100	100
GL163-085-02	100	100	97	99	100	100
GL163-085-03	100	98	98	100	100	99
GL163-085-04	100	100	94	98	100	97
GL163-088-01	100	100	100	100	100	100
GL163-090-01	100	100	100	100	100	97
GL163-091-02	100	96	98	100	97	92
GL163-094-06	98	100	98	100	94	82
GL163-095-04	99	97	98	98	100	68
GL163-095-05	100	95	96	95	98	86
GL163-096-01	100	100	79	66	99	99
GL163-097-01	100	99	100	100	98	79
GL163-098-01	100	98	99	99	100	100
GL163-099-02	100	100	98	100	100	99
GL163-099-03	100	100	100	100	100	94
GL163-099-05	100	100	99	100	100	100
GL163-099-06	100	100	100	100	100	94
GL163-101-01	100	97	99	100	100	98
GL163-102-01	100	94	98	99	100	100
GL163-104-01	100	96	100	100	100	94
GL163-104-05	100	96	98	98	99	98
GL163-104-09	100	98	99	100	100	94
GL163-104-11	100	98	99	100	100	94
GL163-104-12	100	95	99	100	100	97
GL163-105-01	98	100	100	100	100	92
GL163-106-01	100	100	96	99	100	77
GL163-107-01	99	57	78	70	44	23
GL163-107-02	100	96	56	58	73	59
GL163-107-03	88	69	86	89	85	80