Round Test 2017-2 on

stickiness characterization methods

- FINAL REPORT –

date: March 15, 2018

Stickiness Task Force of the 'International Committee on Cotton Testing Methods' (ICCTM) of the 'International Textile Manufacturers Federation' (ITMF)

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Introduction

Confidentiality and use of information from this report

This report is both public and confidential:

- It is public as it will be released on the internet website of the ITMF (www.itmf.org) without providing any private information.

- It also is confidential as we provide Participating Laboratories with their own confidential laboratory LabID code that gives access to understanding each piece of information of the report; indeed with this LabID code number, more information can be extracted from the report. Please note that this LabID will be changed for each test.

The Authors will not be held responsible to any degree for dissemination of the laboratory ID code number after the confidential distribution of their LabID code.

Preparation of cottons and samples

A range of three cottons was selected for their stickiness potential range as measured by SCT. Basically, the stickiness level of these cottons is not known a priori and their level will be better known after the test, especting that these three cottons cover a range of stickiness.

All cottons in this test got a similar level of homogenization using an homogenizing machine developed during CFC/ICAC/33 project 'CSITC' project (so called CSITC homogenizing machine). The main goal of this preparation is to ensure that any drawn sample from the original mass would carry the "same" stickiness potential as any other sample for evaluating the laboratory performance, but without affecting too much the size of individual sticky points that could affect some measurement methods.

The degree of this preparation affects the distribution of sticky points within the mass of the fibers. When homogenization is 'perfectly performed', then the sticky point distribution follows Poisson's distribution within the fibers; in other cases, sticky point distribution follows over-dispersed distributions, such as negative binomial distributions. In these conditions, many repetitions of measurements are required to statistically compare laboratory performances or method performances.

From the beginning, we knew that homogenizing some of the cottons would induce 'preparation', and this was several times reported to us with the results. However, this has been the only way to ensure that all samples would be alike for any given cotton in order to compare method performances or laboratory performances within methods.

Once the cottons were homogenized, samples were drawn from their original cotton mass, and ranges of cottons were constituted for each participating laboratory, whatever the method used. Envelopes were sent out to laboratories mid-December 2017.

All laboratories were supposed to send their results back by February 14, 2018. Practically, due to sample dispatch problems, an INTERIM REPORT was first prepared with results available at that date, and this FINAL REPORT is prepared after March 15 when most Laboratories who received the material lately (strike in Post services) sent back their results.

Organizing this round-test, at present running for free, takes time and uses precious materials; therefore we really appreciate when all registered Laboratory who receive RT samples provide us with results.

Organization of this report

As stated in the Contents,

- Individual results provided by Participating Laboratories are reported, cotton by cotton, sorted by method and then by LabID. A mail was sent out in a confidential manner to each participating laboratory for reading this public report, and therefore getting more out of it.

- Statistics are then presented in summary tables or in boxplot charts, cotton by cotton, sorted by method and then by LabID. This section allows the comparison of results by LabID within each method. Both the mean results and the variation of individual results are then highlighted.

- Correlation matrix are given for comparing LabID Mean results cotton by cotton, and sorted by method.

- Charts linking the within-laboratory variances of LabIDs for each method to the calculated mean results per LabID are displayed. Precision and accuracy of individual LabID performance can be deduced from these charts.

- Finally, distances between LabID mean result to the Grand Mean are displayed by method, sorted by method and by LabID.

Conversion of 'laboratories raw records' into numeric data for use in this report

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Answers to this round-test were provided **freely** by laboratories in a table having 3 columns (one per cotton) and six lines (for potentially recording six results for each cotton) for a total of 18 table cells.

For comparing results between laboratories, results were expected to be reported in a coordinated and harmonized manner within each method. However, for this test also, laboratories reported results the way they probably are used to do in their every day practice: the observation is that the report was not always harmonized within methods (and we know that is is not harmonized between methods).

For allowing a comparison, we were obliged to convert some laboratory records into harmonized numeric values by applying the following rules. When Method was used in the RT, here are the applied conversions:

- For Benedict: grades were converted into numeric values as follows:
  - 'none': 0
  - 'none to little': 1
  - 'little': 2
  - 'little to medium': 3
  - 'medium': 4
  - 'medium to high': 5
  - 'high': 6.
- For Caramelization : one measurement = one cell. No transformation of the data.
- For Clinitest: >1: was converted into 1.5.
- For Contest: no transformation of the data.
- For Fibermap: one measurement = one cell. No transformation of the data.
- Contest and Fibermap are using the same technology (the following preliminary conversion rule according to the Manufacturer can be used to convert counts into 'stickiness degrees'): this was not used in this report.
  - 0-50: No Stickiness,
  - 51-100: Low Stickiness,
  - 101-160: Medium Stickiness,
  - 161-250: High Stickiness,
  - 251-500: Very High Stickiness,
  - 500: Not Spinnable
- For H2SD: one measurement = one cell. No transformation of the data.
- For HSI-NIR: one measurement = one cell. No transformation of the data.
- For Kotiti: grades were converted into numeric values as follows:

  - A: 0
  - A+=B-: 1
  - B: 2
  - B+=C-: 3
  - C: 4
  - C+=D-: 5
  - D: 6
  - D+=E-: 7
  - E: 8
  - E+: 9.

- For minicard: ITMF grades 0 to 3 were used for reporting, one measurement = one cell. No transformation of the data.
- For SCT: one measurement = one record = reading of top foil + reading of bottom foil (could reduce the number of recorded cells when needed).

All results per Method and LabID for cottons A, B and C [1]

All results for cotton A

Method	LabID	R1	R2	R3	R4	R5	R6	Unit
Caramelization	40	2	2	2	2	2	2	Color degree
Caramelization	140	2	NA	NA	NA	NA	NA	Color degree
Caramelization	155	2	NA	NA	NA	NA	NA	Color degree
Caramelization	160	2	2	NA	NA	NA	NA	Color degree
Clinitest	60	3	3	NA	NA	NA	NA	Color Chart
Contest	10	581	646	589	554	638	584	Contest grade
Contest	115	407	425	376	428	525	370	Contest grade
Contest	120	746	479	682	607	653	571	Contest grade
Fibermap	75	470	530	639	636	453	604	Fibermap grade
Fibermap	90	617	569	576	659	641	617	Fibermap grade
Fibermap	125	NA	NA	NA	NA	NA	NA	Fibermap grade
GB/T13785-1992	55	2	3	2	3	3	3	Color degree
H2SD	15	49	36	53	38	61	31	Sticky points
H2SD	100	25	34	30	29	33	NA	Sticky points
H2SD	165	7	5	1	2	9	9	Sticky points
HSI-NIR	170	104	63	83	85	101	105	Sticky points
KOTITI	95	8	8	8	8	8	8	Kotiti grade
Minicard	5	3	2	0	NA	NA	NA	ITMF Grade
Minicard	20	3	3	3	3	2	3	ITMF Grade
Minicard	135	3	3	3	3	3	3	ITMF Grade
Minicard	145	2	2	3	NA	NA	NA	ITMF Grade
Quantitative method	130	1	0	1	1	1	1	Percent
Reactive Spray	70	4	4	NA	NA	NA	NA	Spray Grade
SCT	25	12	22	22	22	20	18	Sticky points
SCT	30	31	36	41	33	42	37	Sticky points
SCT	35	54	71	70	NA	NA	NA	Sticky points
SCT	45	18	12	12	15	21	26	Sticky points
SCT	50	18	26	26	21	17	27	Sticky points
SCT	65	7	7	NA	NA	NA	NA	Sticky points
SCT	80	18	27	25	52	33	42	Sticky points
SCT	85	142	109	122	NA	NA	NA	Sticky points
SCT	105	108	98	119	NA	NA	NA	Sticky points

[1] Footnote

* RStudio: Version 1.1.419.
* R : version 3.4.3 (2017-11-30).
* Code version: March 15, 2018 by Jean-Paul Gourlot.
* Results sorted by Method and then by LabID.
* NA or NaN : no results provided.

Method	LabID	R1	R2	R3	R4	R5	R6	Unit
SCT	110	23	29	37	24	36	28	Sticky points
SCT	150	56	33	29	NA	NA	NA	Sticky points

All results for cotton B

Method	LabID	R1	R2	R3	R4	R5	R6	Unit
Caramelization	40	2	2	2	2	2	2	Color degree
Caramelization	140	2	NA	NA	NA	NA	NA	Color degree
Caramelization	155	2	NA	NA	NA	NA	NA	Color degree
Caramelization	160	2	2	NA	NA	NA	NA	Color degree
Clinitest	60	0	0	NA	NA	NA	NA	Color Chart
Contest	10	228	201	148	169	162	222	Contest grade
Contest	115	92	111	116	80	131	93	Contest grade
Contest	120	218	191	145	126	124	242	Contest grade
Fibermap	75	187	143	111	197	158	190	Fibermap grade
Fibermap	90	117	119	110	134	114	NA	Fibermap grade
Fibermap	125	229	256	160	80	108	170	Fibermap grade
GB/T13785-1992	55	2	1	2	1	1	1	Color degree
H2SD	15	16	14	23	19	12	13	Sticky points
H2SD	100	8	7	15	9	11	NA	Sticky points
H2SD	165	1	4	3	3	1	5	Sticky points
HSI-NIR	170	101	83	107	85	105	75	Sticky points
KOTITI	95	9	9	9	6	7	6	Kotiti grade
Minicard	5	0	2	2	NA	NA	NA	ITMF Grade
Minicard	20	1	1	0	0	2	2	ITMF Grade
Minicard	135	2	2	2	2	2	2	ITMF Grade
Minicard	145	1	1	0	NA	NA	NA	ITMF Grade
Quantitative method	130	1	1	0	1	1	1	Percent
Reactive Spray	70	2	2	NA	NA	NA	NA	Spray Grade
SCT	25	10	8	22	8	3	12	Sticky points
SCT	30	21	21	26	23	25	26	Sticky points
SCT	35	24	33	31	NA	NA	NA	Sticky points
SCT	45	10	8	9	16	8	7	Sticky points
SCT	50	11	17	16	17	14	15	Sticky points
SCT	65	0	0	NA	NA	NA	NA	Sticky points
SCT	80	26	30	31	24	17	23	Sticky points
SCT	85	24	12	20	NA	NA	NA	Sticky points
SCT	105	83	101	96	NA	NA	NA	Sticky points
SCT	110	15	13	12	18	12	14	Sticky points
SCT	150	11	7	4	NA	NA	NA	Sticky points

All results for cotton C

Method	LabID	R1	R2	R3	R4	R5	R6	Unit
Caramelization	40	1	2	2	2	2	2	Color degree
Caramelization	140	2	NA	NA	NA	NA	NA	Color degree
Caramelization	155	2	NA	NA	NA	NA	NA	Color degree
Caramelization	160	3	3	NA	NA	NA	NA	Color degree
Clinitest	60	1	1	NA	NA	NA	NA	Color Chart
Contest	10	186	176	156	199	206	127	Contest grade
Contest	115	131	78	107	124	109	60	Contest grade
Contest	120	141	165	77	82	78	137	Contest grade
Fibermap	75	164	187	129	145	134	107	Fibermap grade
Fibermap	90	113	158	123	181	89	165	Fibermap grade
Fibermap	125	145	103	99	86	117	122	Fibermap grade
GB/T13785-1992	55	1	1	1	2	1	1	Color degree
H2SD	15	17	14	24	17	12	23	Sticky points
H2SD	100	9	12	5	7	11	NA	Sticky points
H2SD	165	15	12	15	18	16	12	Sticky points
HSI-NIR	170	83	82	85	78	82	80	Sticky points
KOTITI	95	6	7	4	4	9	6	Kotiti grade
Minicard	5	0	1	1	NA	NA	NA	ITMF Grade
Minicard	20	0	0	1	0	0	0	ITMF Grade
Minicard	135	2	2	2	2	2	2	ITMF Grade
Minicard	145	0	1	0	NA	NA	NA	ITMF Grade
Quantitative method	130	1	1	1	1	1	1	Percent
Reactive Spray	70	1	1	NA	NA	NA	NA	Spray Grade
SCT	25	6	8	7	12	10	20	Sticky points
SCT	30	23	21	24	23	22	19	Sticky points
SCT	35	26	21	19	NA	NA	NA	Sticky points
SCT	45	4	4	3	7	5	7	Sticky points
SCT	50	24	20	17	18	12	12	Sticky points
SCT	65	2	2	NA	NA	NA	NA	Sticky points
SCT	80	25	24	27	24	17	18	Sticky points
SCT	85	10	12	16	NA	NA	NA	Sticky points
SCT	105	121	102	106	NA	NA	NA	Sticky points
SCT	110	8	13	8	9	15	12	Sticky points
SCT	150	5	6	2	NA	NA	NA	Sticky points

Statistics per Method, LabID for cottons A, B and C [2]

Means, variances, CV%, Grand Mean and Delta per Method and LabID for cotton A

Method	LabID	Mean	Unit	Var	CV	GMean	Delta
Caramelization	40	2.33	Color degree	0.07	11.07	2.32	0.01
Caramelization	140	2.20	Color degree	NA	NA	2.32	-0.12
Caramelization	155	2.30	Color degree	NA	NA	2.32	-0.02
Caramelization	160	2.45	Color degree	0.01	2.89	2.32	0.13
Clinitest	60	3.00	Color Chart	0.00	0.00	3.00	0.00
Contest	10	598.67	Contest grade	1280.67	5.98	547.83	50.83
Contest	115	421.83	Contest grade	3139.77	13.28	547.83	-126.00
Contest	120	623.00	Contest grade	8641.20	14.92	547.83	75.17
Fibermap	75	555.33	Fibermap grade	6854.27	14.91	584.25	-28.92
Fibermap	90	613.17	Fibermap grade	1247.37	5.76	584.25	28.92
Fibermap	125	NaN	Fibermap grade	NA	NA	584.25	NaN
GB/T13785-1992	55	2.67	Color degree	0.27	19.36	2.67	0.00
H2SD	15	44.67	Sticky points	132.27	25.75	26.79	17.88
H2SD	100	30.20	Sticky points	12.70	11.80	26.79	3.41
H2SD	165	5.50	Sticky points	11.90	62.72	26.79	-21.29
HSI-NIR	170	90.17	Sticky points	268.97	18.19	90.17	0.00
KOTITI	95	8.00	Kotiti grade	0.00	0.00	8.00	0.00
Minicard	5	1.67	ITMF Grade	2.33	91.65	2.48	-0.81
Minicard	20	2.92	ITMF Grade	0.04	7.00	2.48	0.44
Minicard	135	3.00	ITMF Grade	0.00	0.00	2.48	0.52
Minicard	145	2.33	ITMF Grade	0.33	24.74	2.48	-0.15
Quantitative method	130	0.56	Percent	0.01	13.12	0.56	0.00
Reactive Spray	70	4.00	Spray Grade	0.00	0.00	4.00	0.00
SCT	25	19.33	Sticky points	15.47	20.34	45.65	-26.32
SCT	30	36.67	Sticky points	18.67	11.78	45.65	-8.98
SCT	35	65.00	Sticky points	91.00	14.68	45.65	19.35
SCT	45	17.33	Sticky points	30.27	31.74	45.65	-28.32
SCT	50	22.50	Sticky points	19.50	19.63	45.65	-23.15
SCT	65	7.00	Sticky points	0.00	0.00	45.65	-38.65
SCT	80	32.83	Sticky points	153.37	37.72	45.65	-12.82

[2]Footnote

* Mean of all readings per LabID (NA excluded, expressed in Unit).
* Var=variance taking care of all available readings per LabID (NA excluded).
* CV = CV between reading per LabID expressed in percent.
* GMean = Grand Mean of all laboratory means, calculated by Method.
* Delta = LabID Mean - GMean.
* NA or NaN : no results provided.

Method	LabID	Mean	Unit	Var	CV	GMean	Delta
SCT	85	124.33	Sticky points	276.33	13.37	45.65	78.68
SCT	105	108.33	Sticky points	110.33	9.70	45.65	62.68
SCT	110	29.50	Sticky points	34.70	19.97	45.65	-16.15
SCT	150	39.33	Sticky points	212.33	37.05	45.65	-6.32

Means, variances, CV%, Grand Mean and Delta per Method and LabID for cotton B

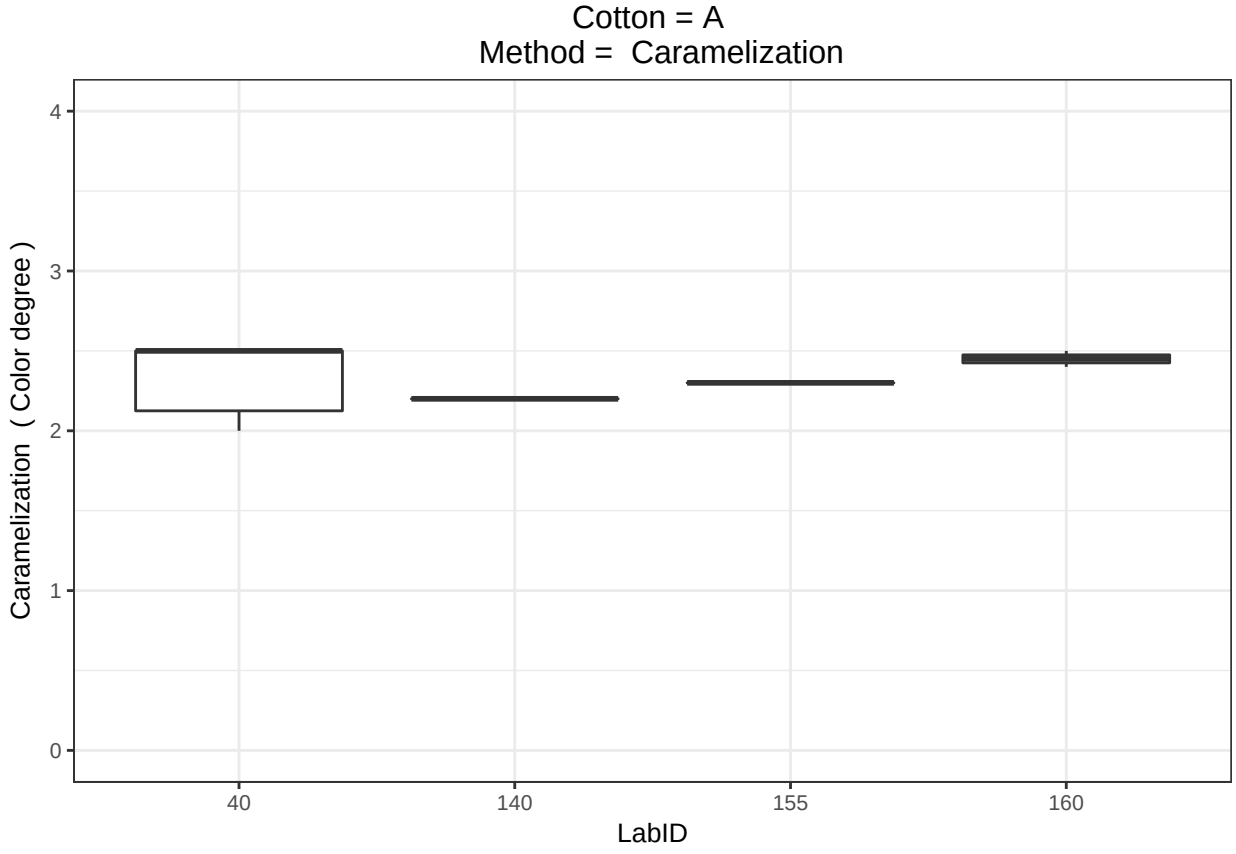
Method	LabID	Mean	Unit	Var	CV	GMean	Delta
Caramelization	40	1.67	Color degree	0.07	15.49	2.02	-0.35
Caramelization	140	2.20	Color degree	NA	NA	2.02	0.18
Caramelization	155	2.10	Color degree	NA	NA	2.02	0.08
Caramelization	160	2.10	Color degree	0.02	6.73	2.02	0.08
Clinitest	60	0.00	Color Chart	0.00	NaN	0.00	0.00
Contest	10	188.33	Contest grade	1112.27	17.71	155.50	32.83
Contest	115	103.83	Contest grade	352.57	18.08	155.50	-51.67
Contest	120	174.33	Contest grade	2498.67	28.67	155.50	18.83
Fibermap	75	164.33	Fibermap grade	1115.87	20.33	150.10	14.23
Fibermap	90	118.80	Fibermap grade	83.70	7.70	150.10	-31.30
Fibermap	125	167.17	Fibermap grade	4574.57	40.46	150.10	17.07
GB/T13785-1992	55	1.33	Color degree	0.27	38.73	1.33	0.00
H2SD	15	16.17	Sticky points	17.37	25.78	9.67	6.50
H2SD	100	10.00	Sticky points	10.00	31.62	9.67	0.33
H2SD	165	2.83	Sticky points	2.57	56.54	9.67	-6.83
HSI-NIR	170	92.67	Sticky points	178.27	14.41	92.67	0.00
KOTITI	95	7.67	Kotiti grade	2.27	19.64	7.67	0.00
Minicard	5	1.33	ITMF Grade	1.33	86.60	1.26	0.07
Minicard	20	1.04	ITMF Grade	0.34	55.60	1.26	-0.22
Minicard	135	2.00	ITMF Grade	0.00	0.00	1.26	0.74
Minicard	145	0.67	ITMF Grade	0.33	86.60	1.26	-0.59
Quantitative method	130	0.57	Percent	0.01	14.70	0.57	0.00
Reactive Spray	70	2.00	Spray Grade	0.00	0.00	2.00	0.00
SCT	25	10.50	Sticky points	40.70	60.76	22.42	-11.92
SCT	30	23.67	Sticky points	5.47	9.88	22.42	1.24
SCT	35	29.33	Sticky points	22.33	16.11	22.42	6.91
SCT	45	9.67	Sticky points	10.67	33.79	22.42	-12.76
SCT	50	15.00	Sticky points	5.20	15.20	22.42	-7.42
SCT	65	0.00	Sticky points	0.00	NaN	22.42	-22.42
SCT	80	25.17	Sticky points	26.17	20.33	22.42	2.74
SCT	85	18.67	Sticky points	37.33	32.73	22.42	-3.76
SCT	105	93.33	Sticky points	86.33	9.96	22.42	70.91
SCT	110	14.00	Sticky points	5.20	16.29	22.42	-8.42
SCT	150	7.33	Sticky points	12.33	47.89	22.42	-15.09

Means, variances, CV%, Grand Mean and Delta per Method and LabID for cotton C

Method	LabID	Mean	Unit	Var	CV	GMean	Delta
Caramelization	40	1.42	Color degree	0.04	14.41	2.05	-0.64
Caramelization	140	2.10	Color degree	NA	NA	2.05	0.05
Caramelization	155	2.00	Color degree	NA	NA	2.05	-0.05
Caramelization	160	2.70	Color degree	0.02	5.24	2.05	0.65
Clinitest	60	1.00	Color Chart	0.00	0.00	1.00	0.00
Contest	10	175.00	Contest grade	864.80	16.80	129.94	45.06
Contest	115	101.50	Contest grade	747.50	26.94	129.94	-28.44
Contest	120	113.33	Contest grade	1509.07	34.28	129.94	-16.61
Fibermap	75	144.33	Fibermap grade	788.67	19.46	131.50	12.83
Fibermap	90	138.17	Fibermap grade	1245.77	25.55	131.50	6.67
Fibermap	125	112.00	Fibermap grade	428.00	18.47	131.50	-19.50
GB/T13785-1992	55	1.17	Color degree	0.17	34.99	1.17	0.00
H2SD	15	17.83	Sticky points	22.97	26.87	13.77	4.07
H2SD	100	8.80	Sticky points	8.20	32.54	13.77	-4.97
H2SD	165	14.67	Sticky points	5.47	15.94	13.77	0.90
HSI-NIR	170	81.67	Sticky points	5.87	2.97	81.67	0.00
KOTITI	95	6.00	Kotiti grade	3.60	31.62	6.00	0.00
Minicard	5	0.67	ITMF Grade	0.33	86.60	0.86	-0.20
Minicard	20	0.46	ITMF Grade	0.21	100.08	0.86	-0.41
Minicard	135	2.00	ITMF Grade	0.00	0.00	0.86	1.14
Minicard	145	0.33	ITMF Grade	0.33	173.21	0.86	-0.53
Quantitative method	130	0.64	Percent	0.00	9.77	0.64	0.00
Reactive Spray	70	1.00	Spray Grade	0.00	0.00	1.00	0.00
SCT	25	10.50	Sticky points	26.30	48.84	21.70	-11.20
SCT	30	22.00	Sticky points	3.20	8.13	21.70	0.30
SCT	35	22.00	Sticky points	13.00	16.39	21.70	0.30
SCT	45	5.00	Sticky points	2.80	33.47	21.70	-16.70
SCT	50	17.17	Sticky points	21.77	27.18	21.70	-4.53
SCT	65	2.00	Sticky points	0.00	0.00	21.70	-19.70
SCT	80	22.50	Sticky points	16.30	17.94	21.70	0.80
SCT	85	12.67	Sticky points	9.33	24.12	21.70	-9.03
SCT	105	109.67	Sticky points	100.33	9.13	21.70	87.97
SCT	110	10.83	Sticky points	8.57	27.02	21.70	-10.86
SCT	150	4.33	Sticky points	4.33	48.04	21.70	-17.36

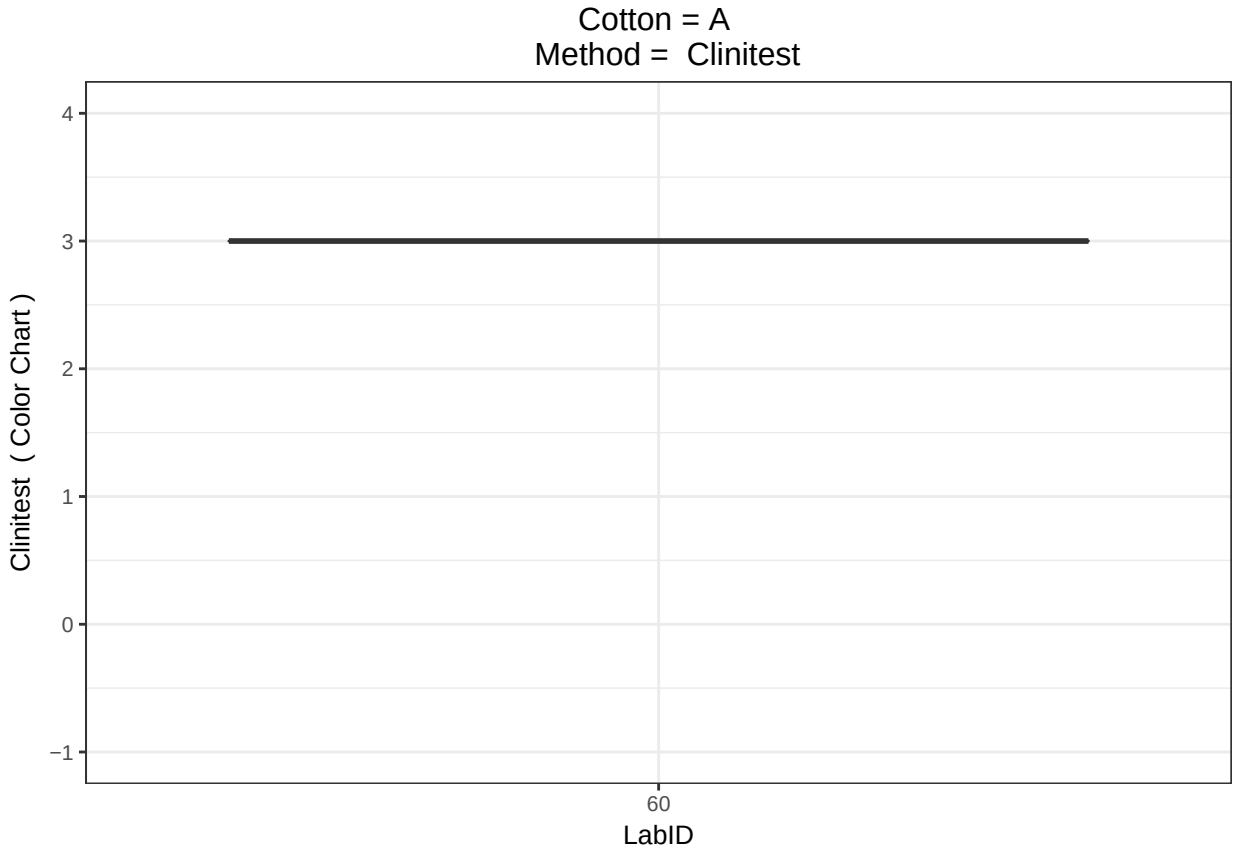
Data presented by boxplots per Method, LabID for cottons A, B and C [3]

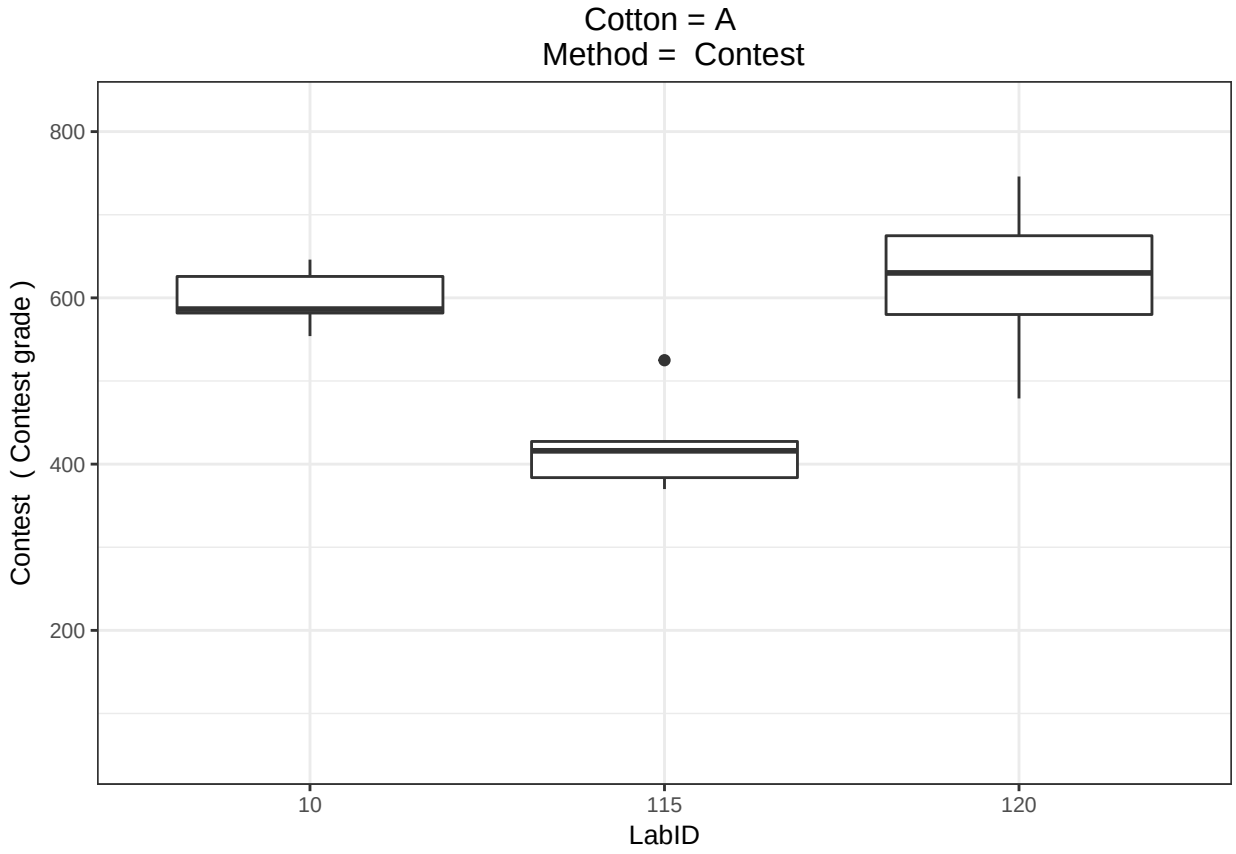
Boxplots per Method and LabID for cotton A

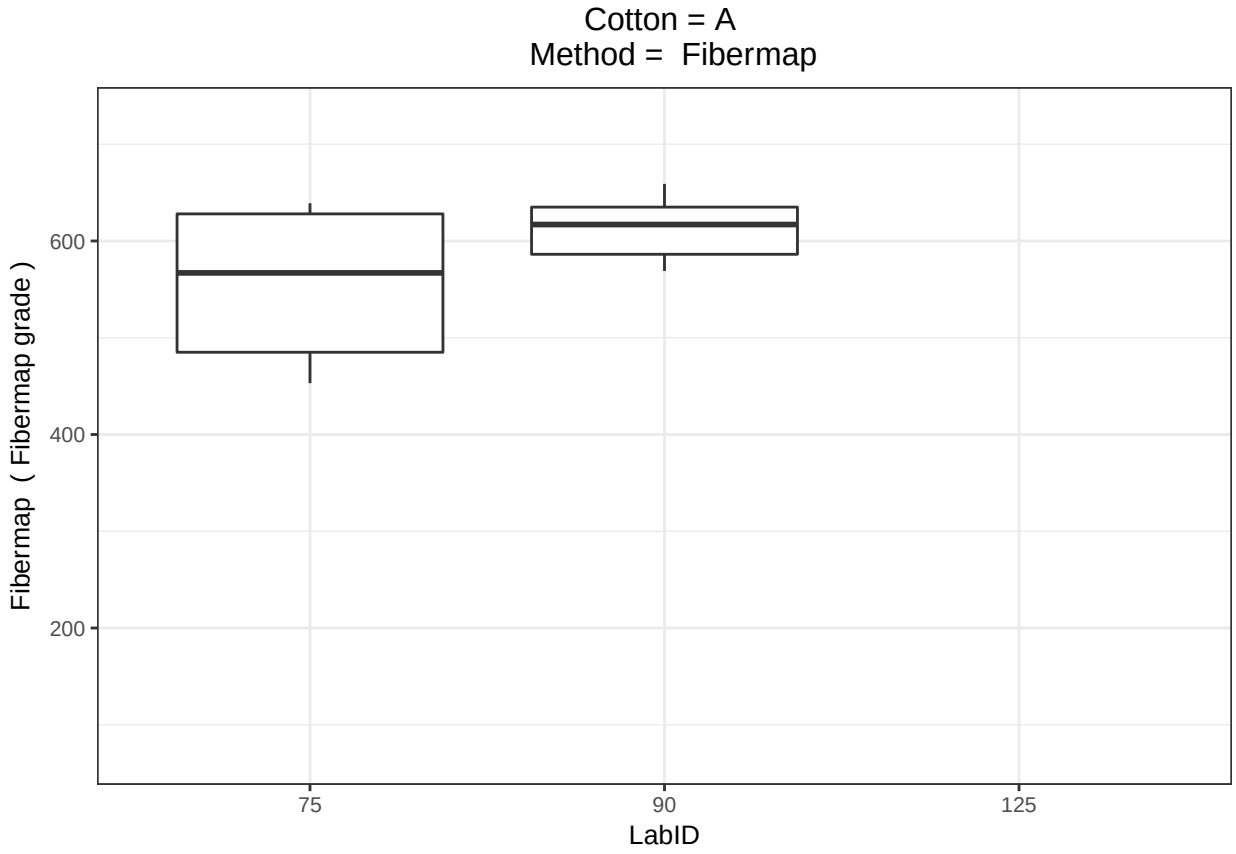


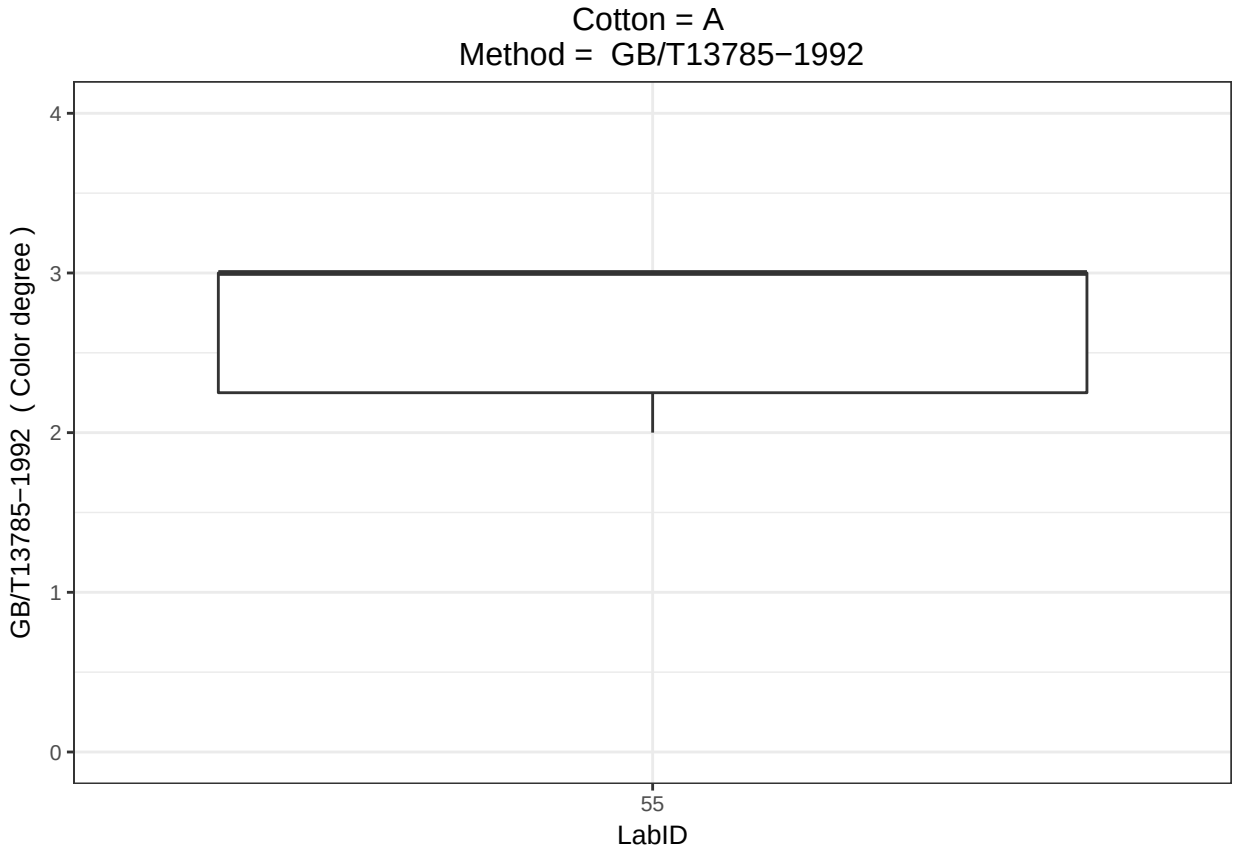
[3]Footnote

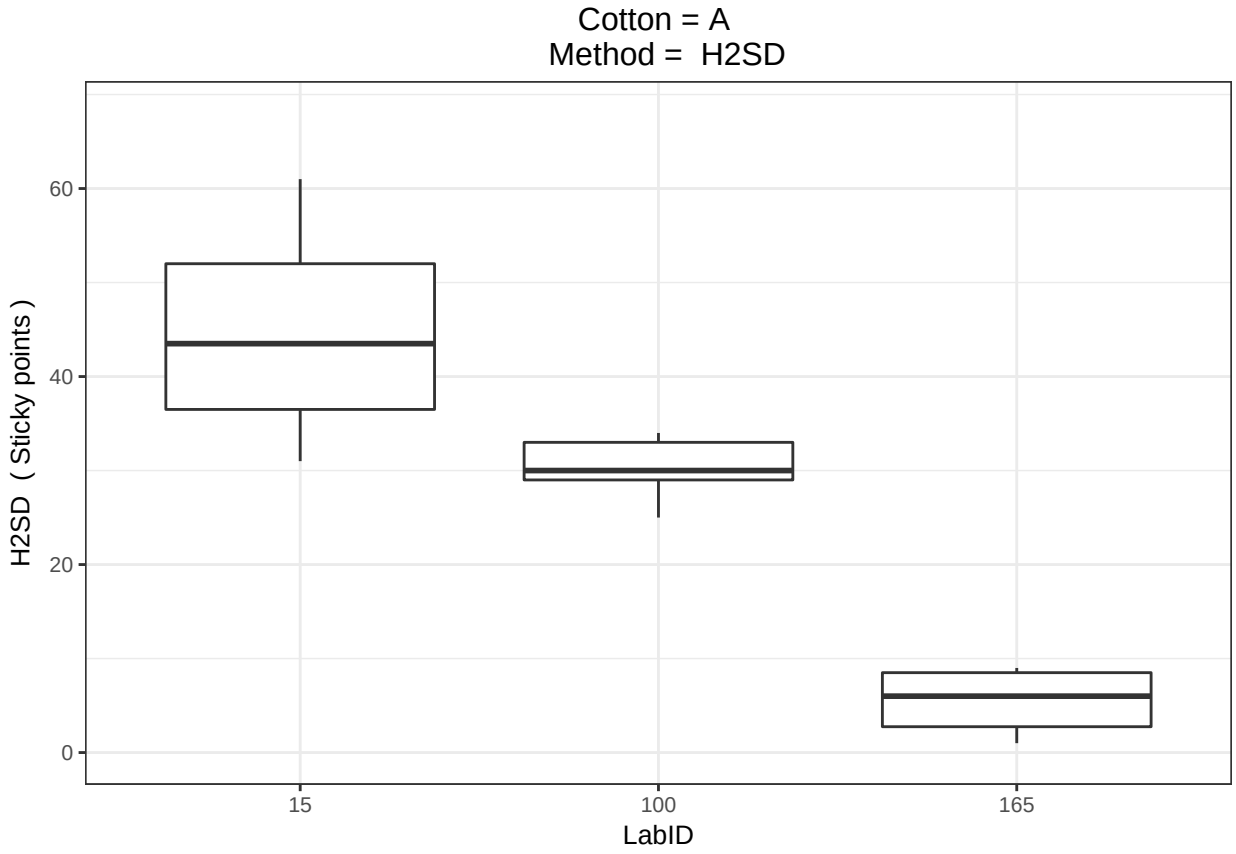
* NA excluded.
* In each box, the bolded line represents the median of all individual results for the considered LabID.
* The square represents the upper 75% (Q75) and lower 25% (Q25) percentiles of the individual results.
* The whiskers represent the quantiles that included in +/- 1.5 * (Q75-Q25).
* Extreme points may additionally be displayed by a X further out from the whiskers.

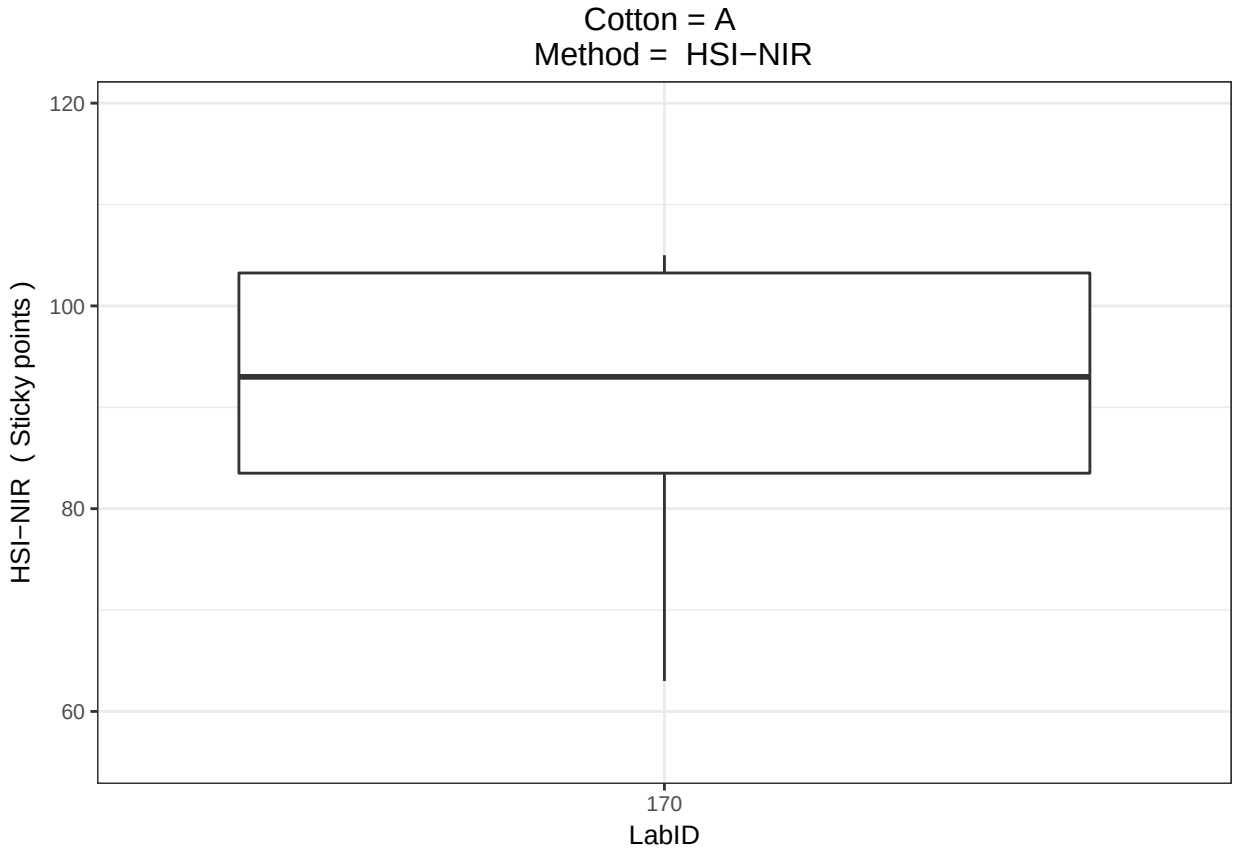

Cotton = A
Method = Clinitest
Clinitest (Color Chart)
4
3
2
1
0
−1
60
LabID

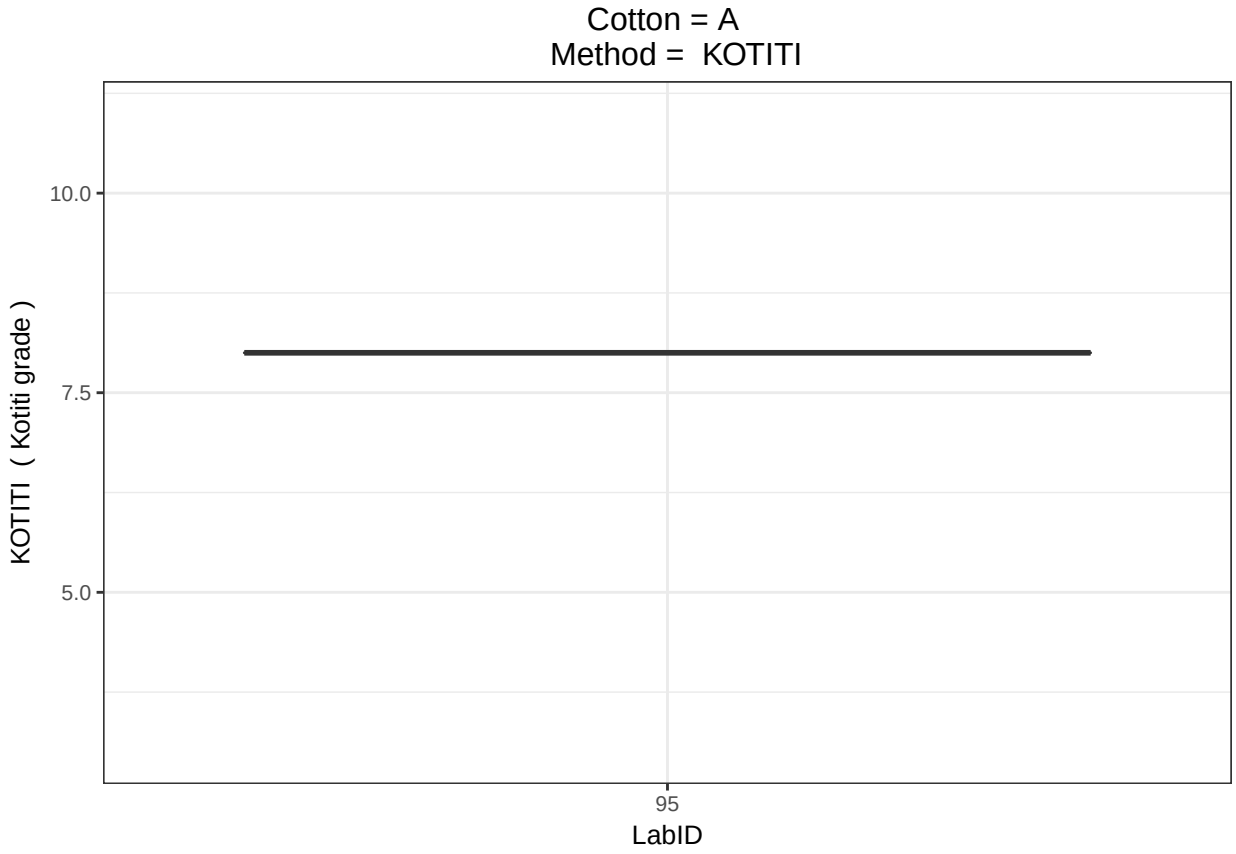

Cotton = A
Method = Contest
800
600
400
200
Contest (Contest grade)
10
115
120
LabID

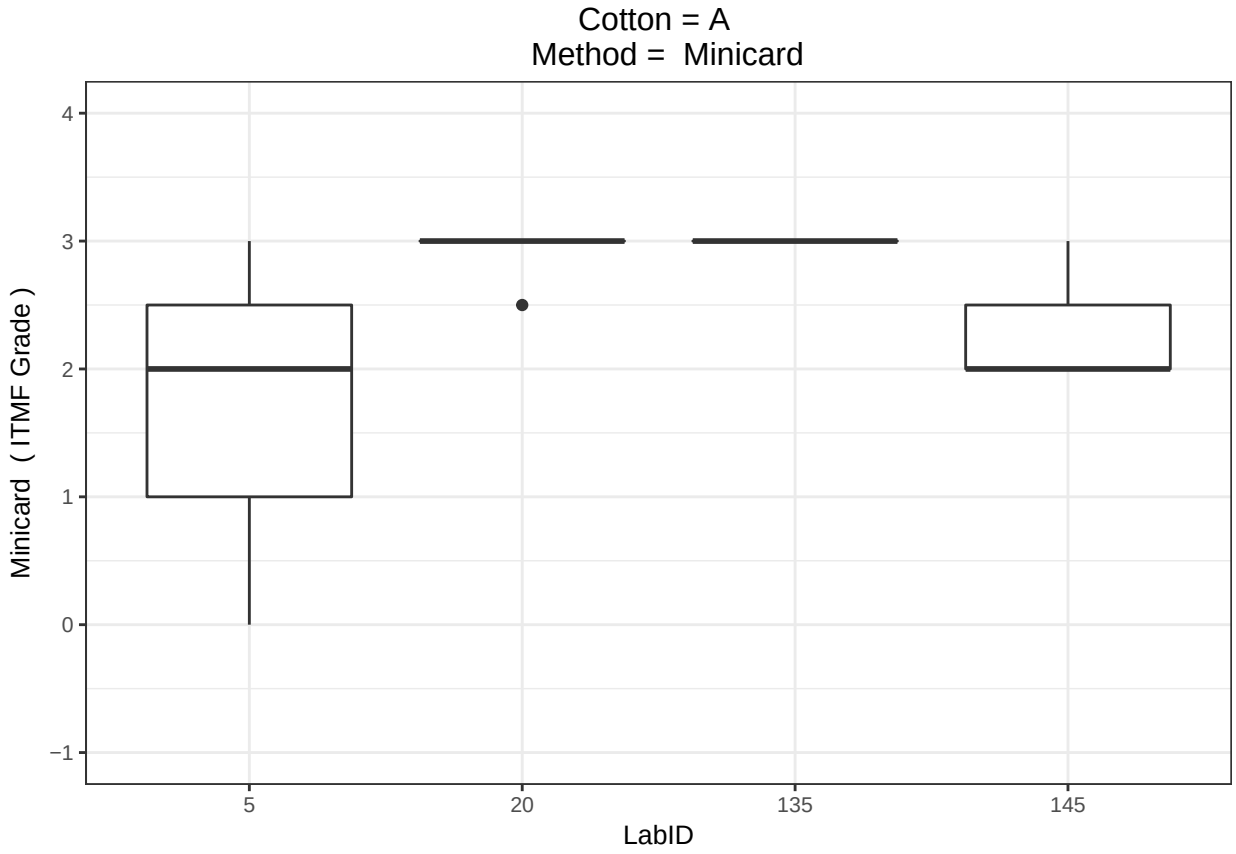

Cotton = A
Method = Fibermap
Fibermap (Fibermap grade)
600
400
200
75
90
125
LabID

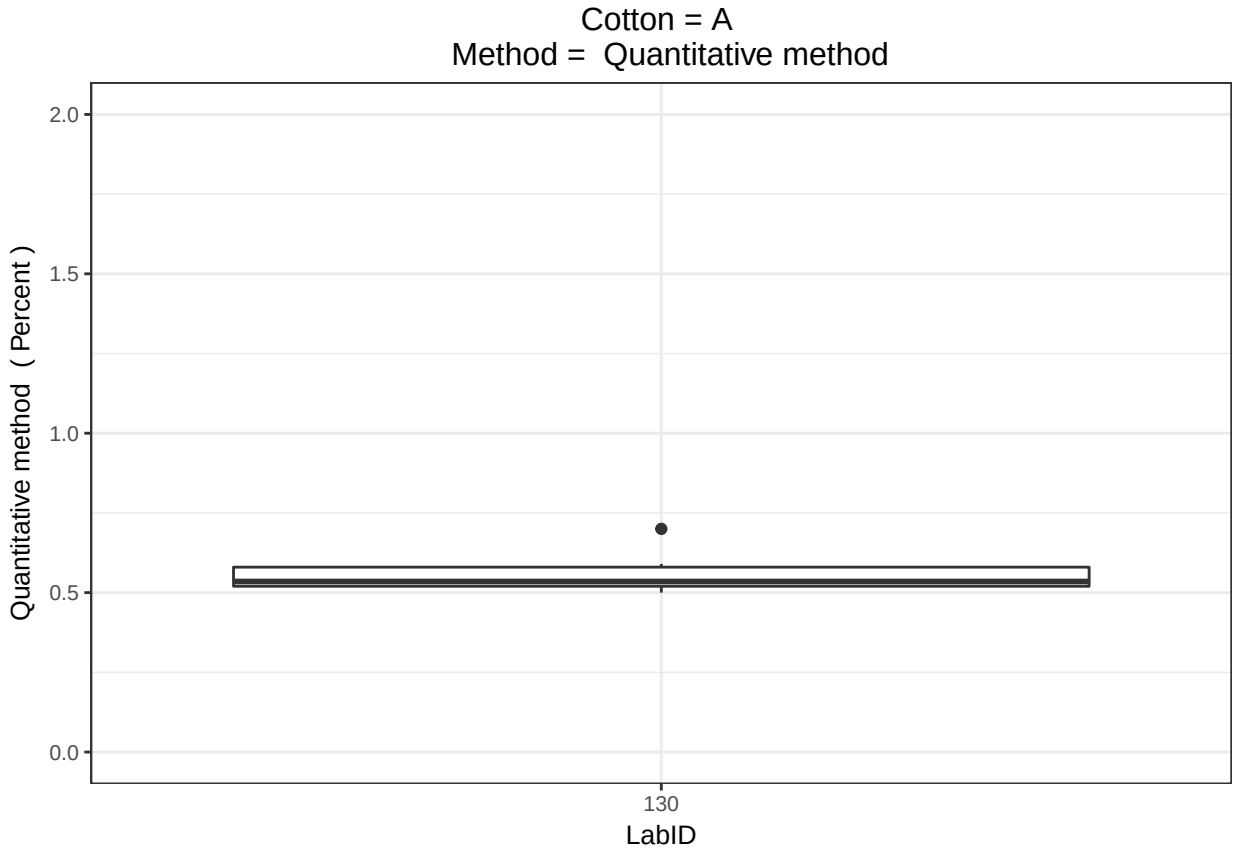

Cotton = A
Method = GB/T13785−1992
GB/T13785−1992 (Color degree)
4
3
2
1
0
55
LabID

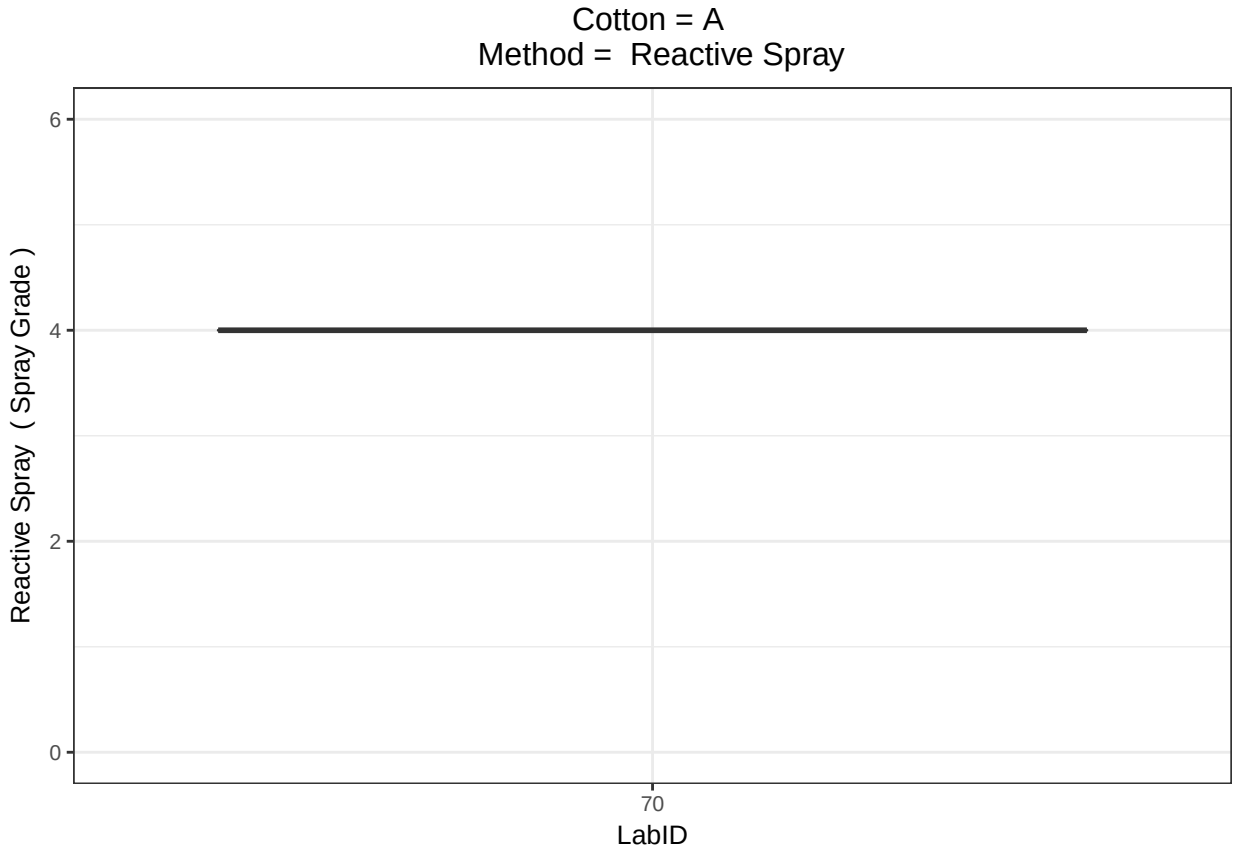

Cotton = A
Method = H2SD
H2SD (Sticky points)
60
40
20
0
15
100
165
LabID

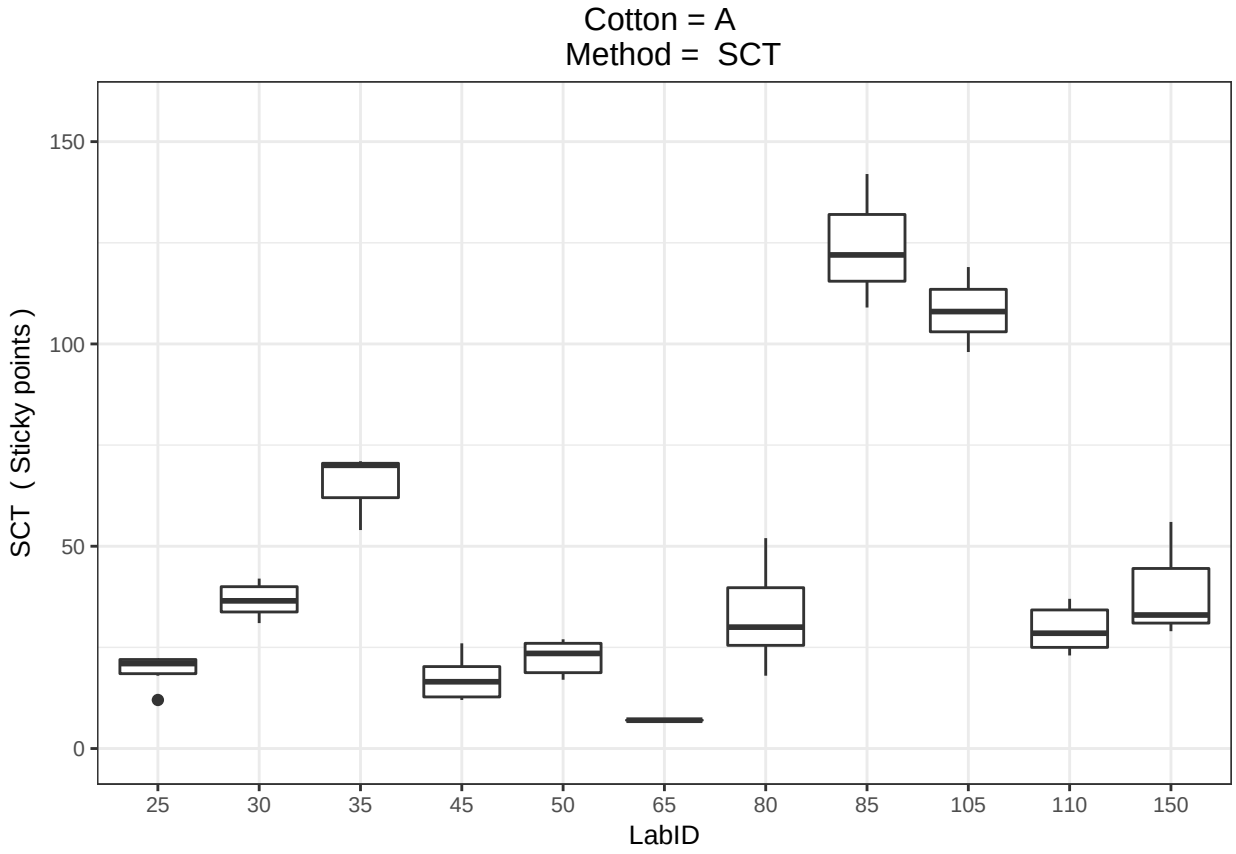

Cotton = A
Method = HSI−NIR
120
100
80
60
HSI−NIR (Sticky points)
170
LabID


Cotton = A
Method = KOTITI
10.0
7.5
5.0
KOTITI (Kotiti grade)
95
LabID

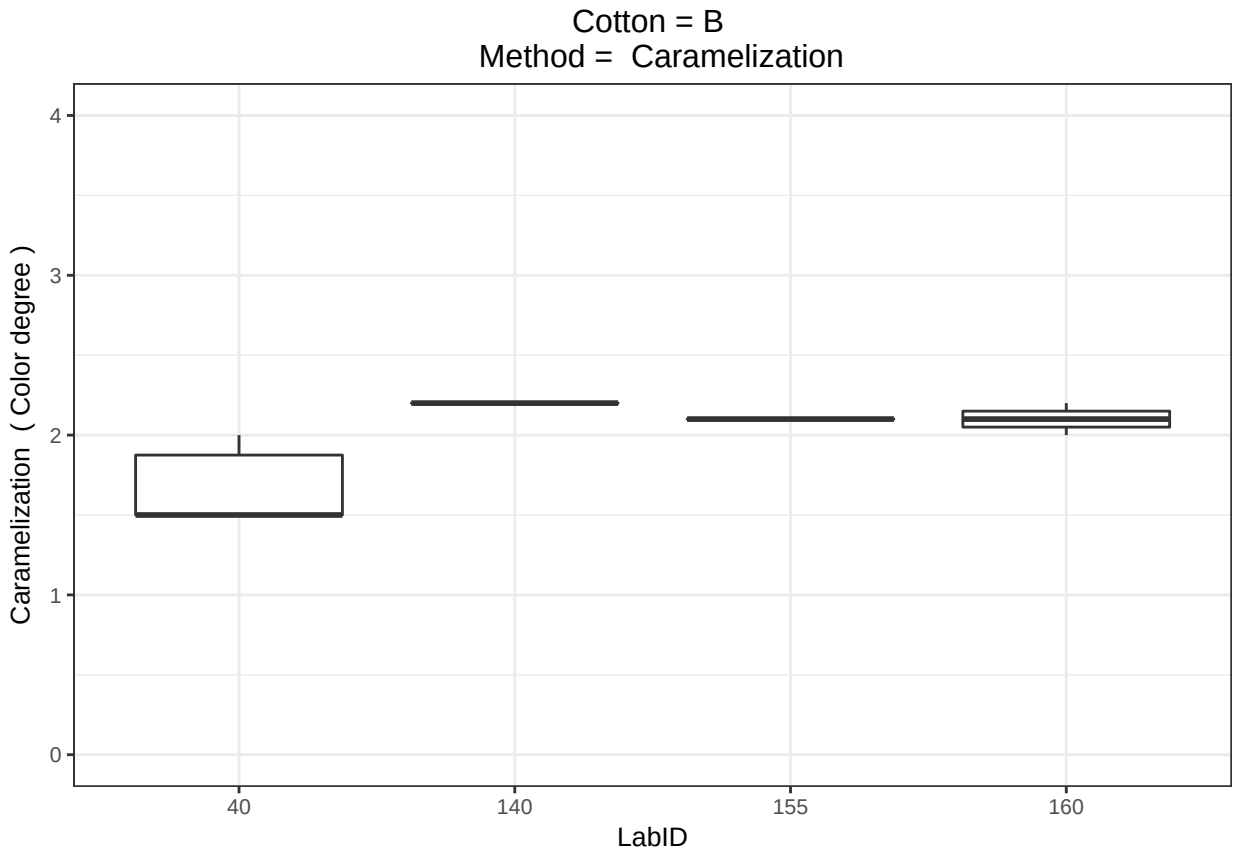

Cotton = A
Method = Minicard
Minicard (ITMF Grade)
4
3
2
1
0
−1
5
20
135
145
LabID

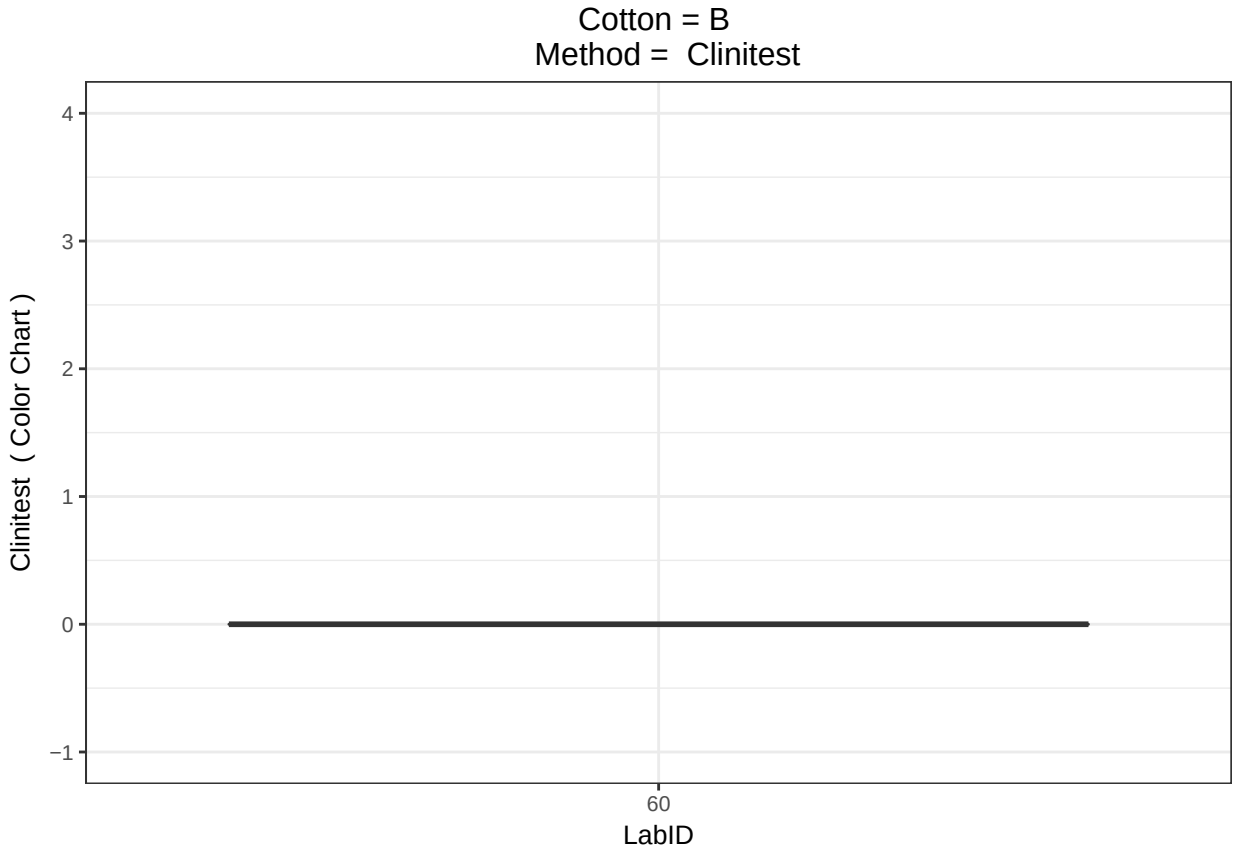

Cotton = A
Method = Quantitative method
Quantitative method (Percent)
2.0
1.5
1.0
0.5
0.0
130
LabID

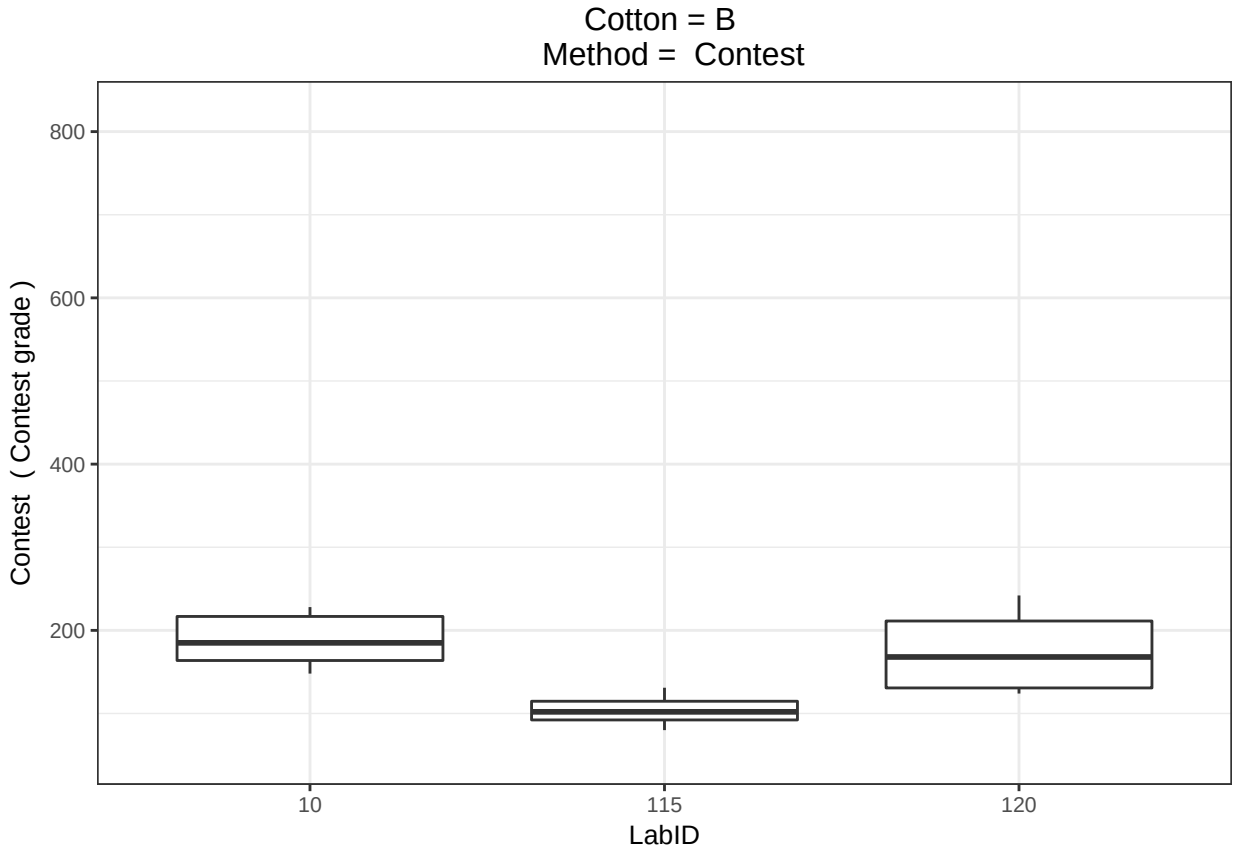

Cotton = A
Method = Reactive Spray
Reactive Spray (Spray Grade)
6
4
2
0
70
LabID

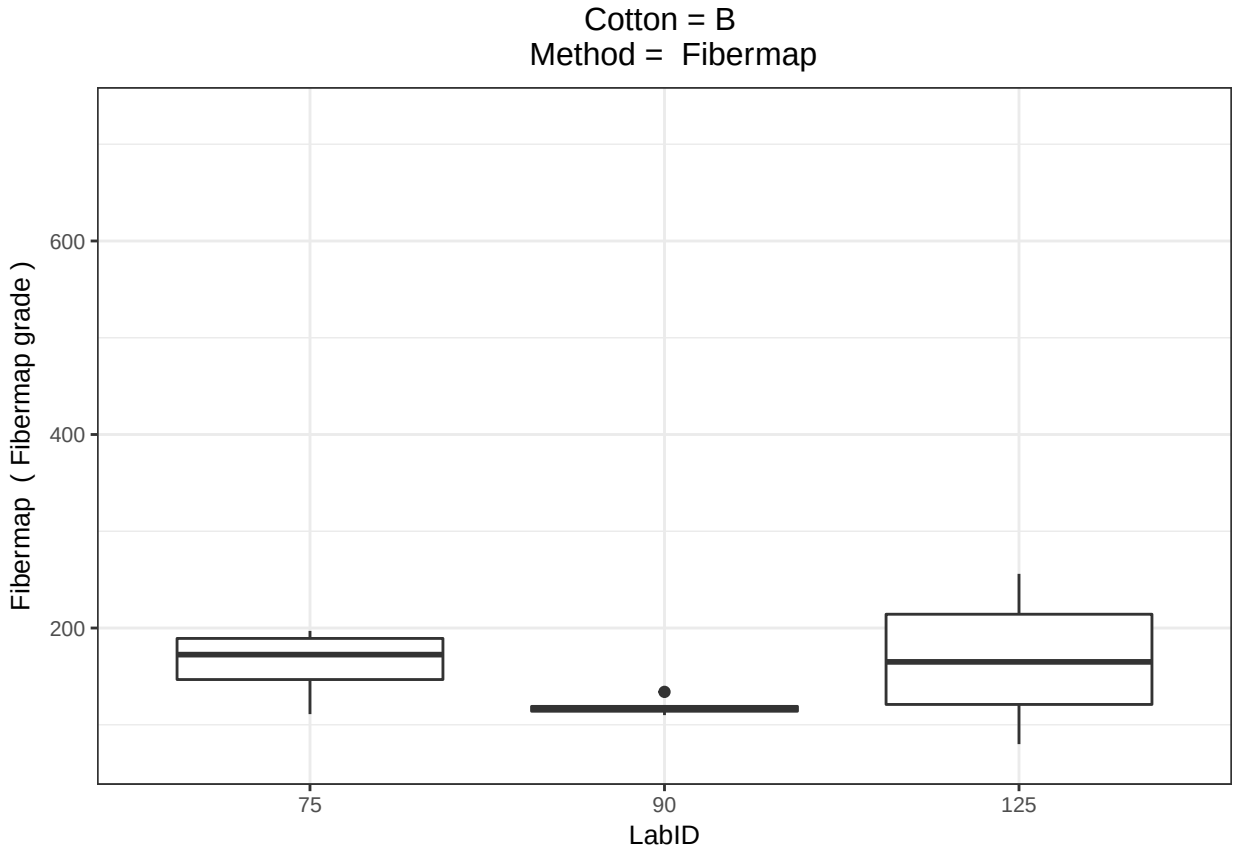

Cotton = A
Method = SCT
SCT (Sticky points)
150
100
50
0
25
30
35
45
50
65
80
85
105
110
150
LabID

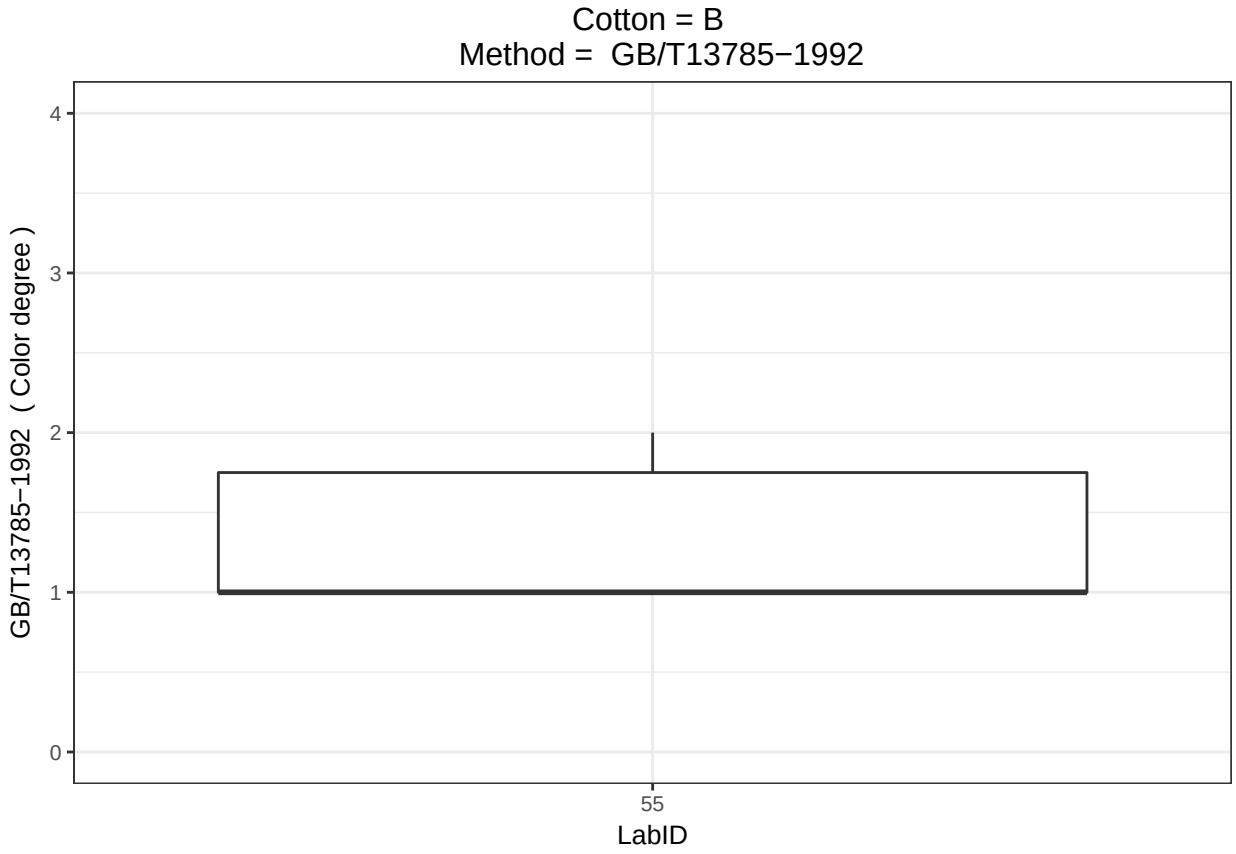
Boxplots per Method and LabID for cotton B

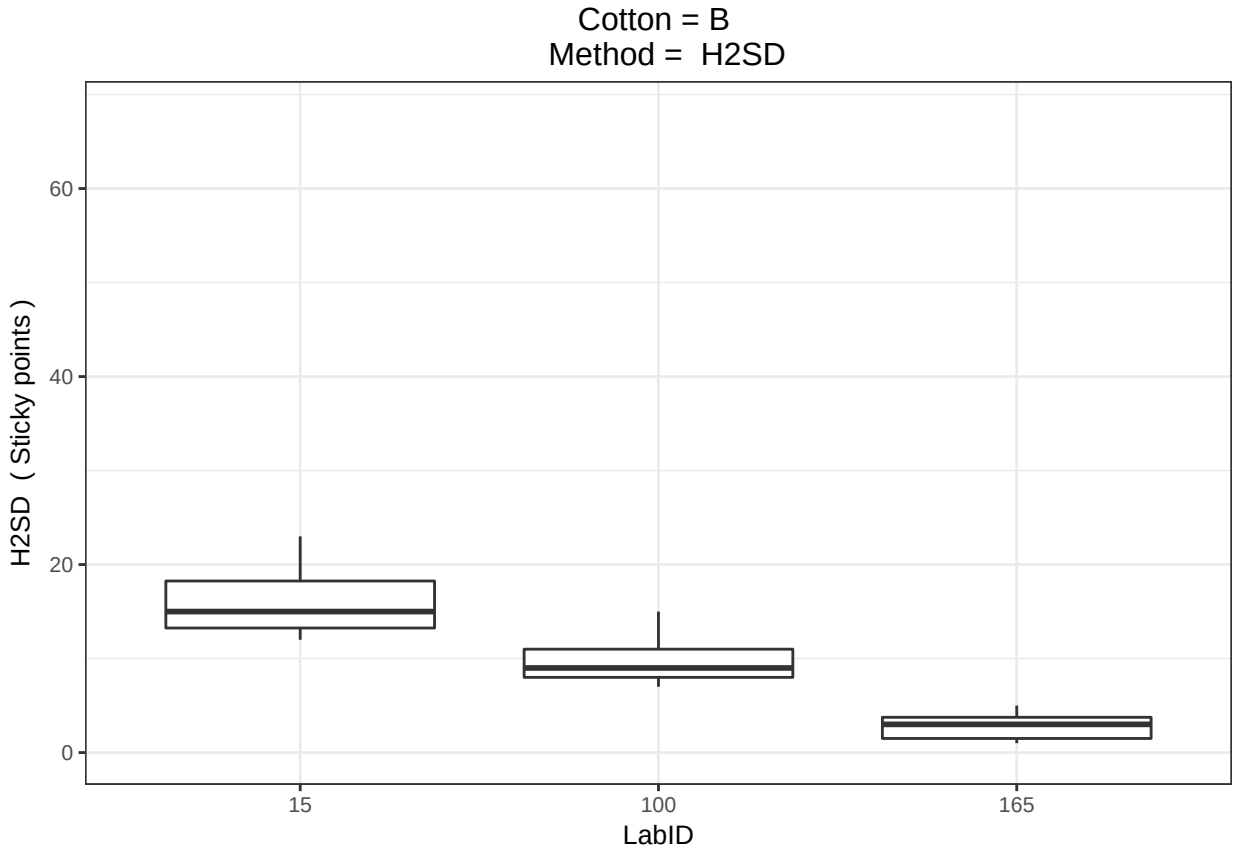


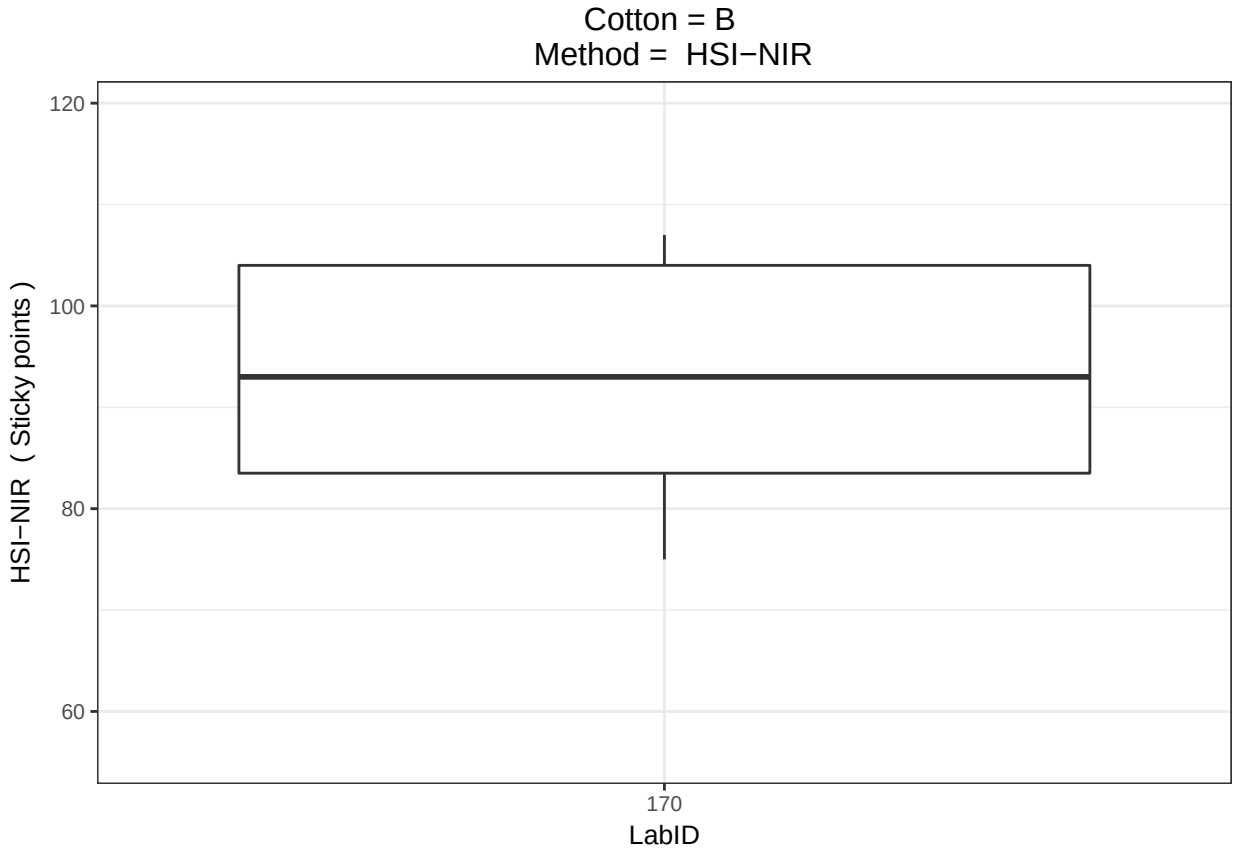

Cotton = B
Method = Clinitest
Clinitest (Color Chart)
4
3
2
1
0
−1
60
LabID

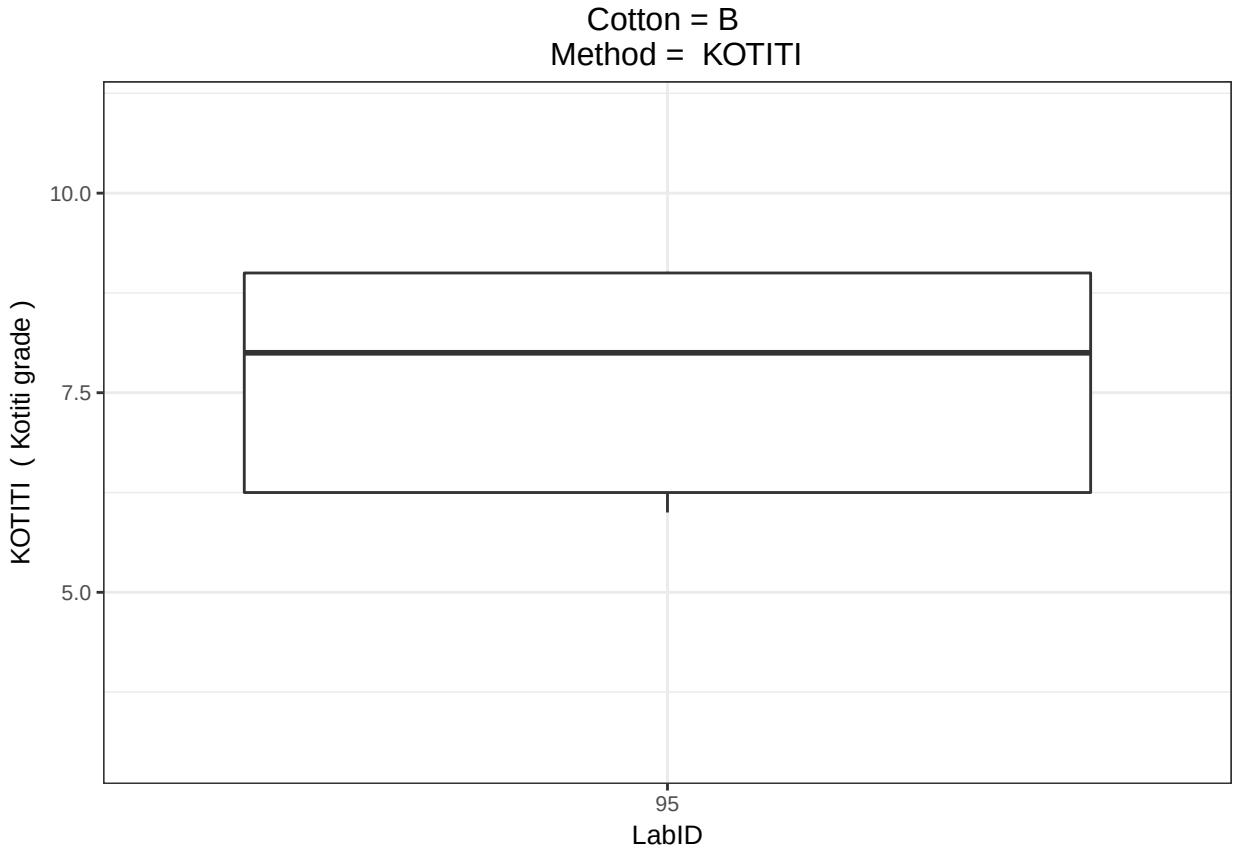

Cotton = B
Method = Contest
800
600
400
200
Contest (Contest grade)
10
115
120
LabID

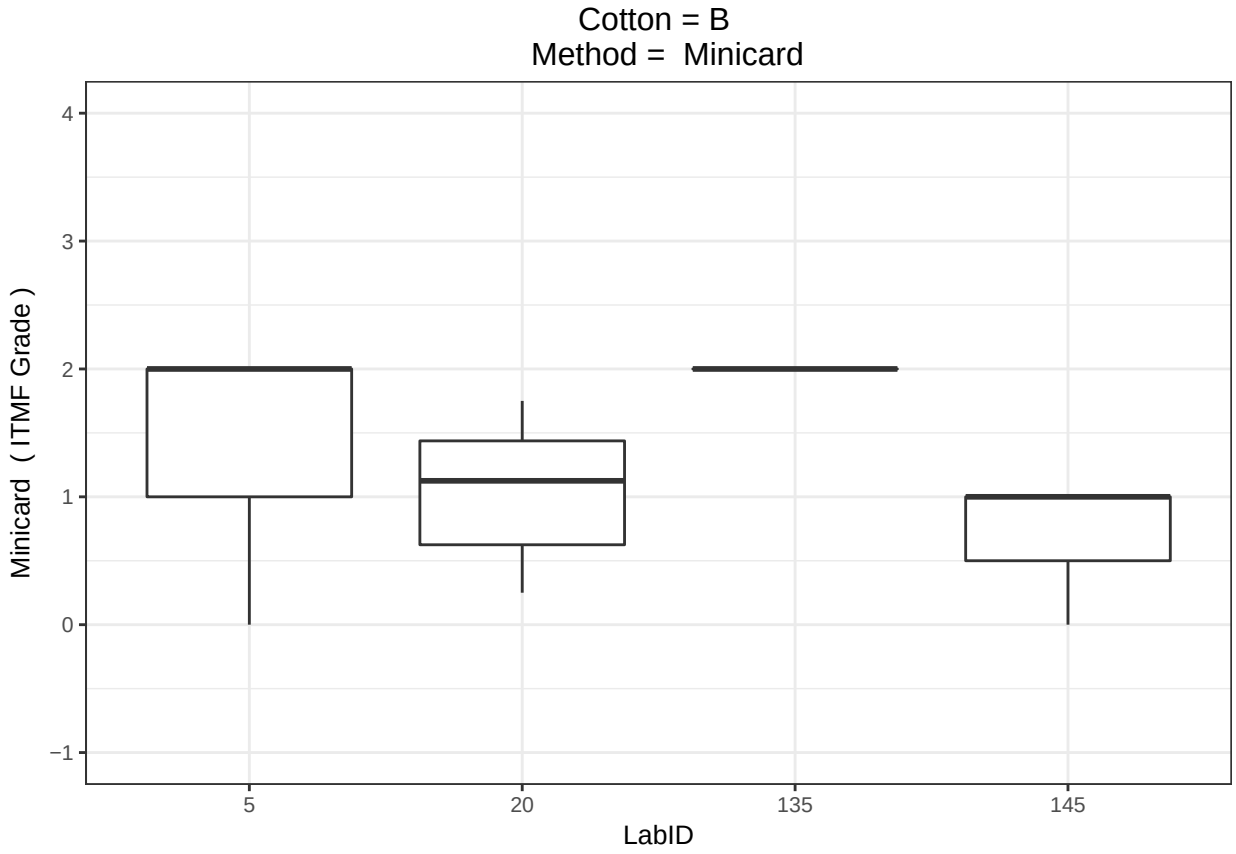

Cotton = B
Method = Fibermap
Fibermap (Fibermap grade)
600
400
200
75
90
125
LabID

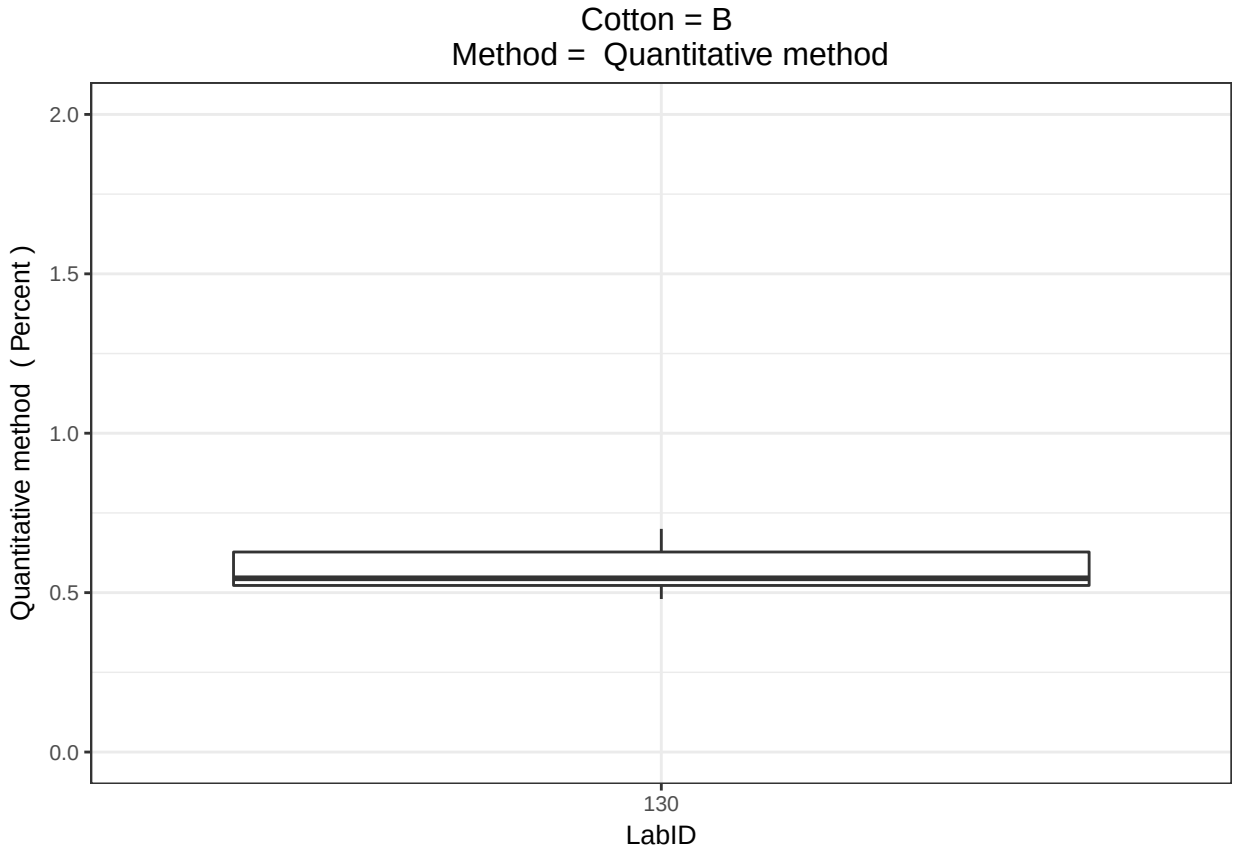

Cotton = B
Method = GB/T13785−1992
GB/T13785−1992 (Color degree)
4
3
2
1
0
55
LabID

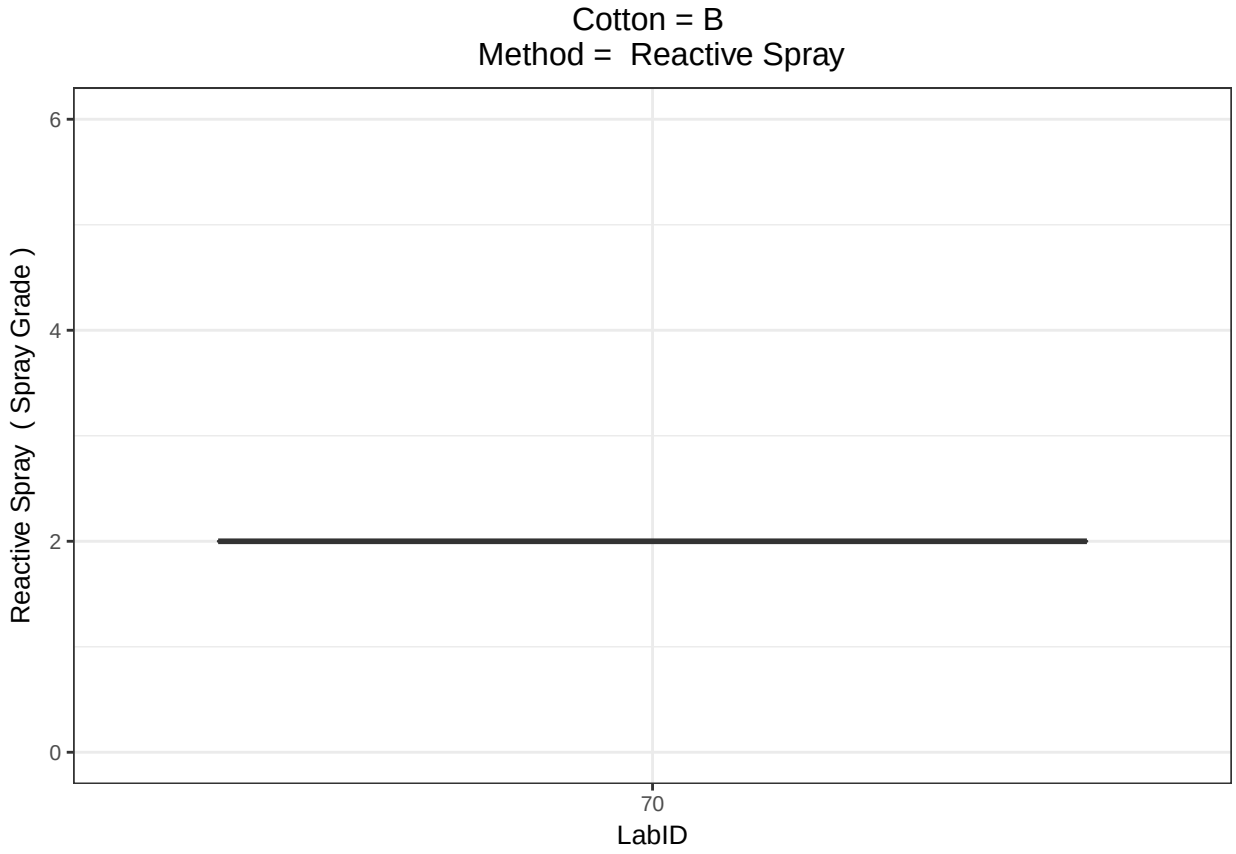

Cotton = B
Method = H2SD
H2SD (Sticky points)
60
40
20
0
15
100
165
LabID

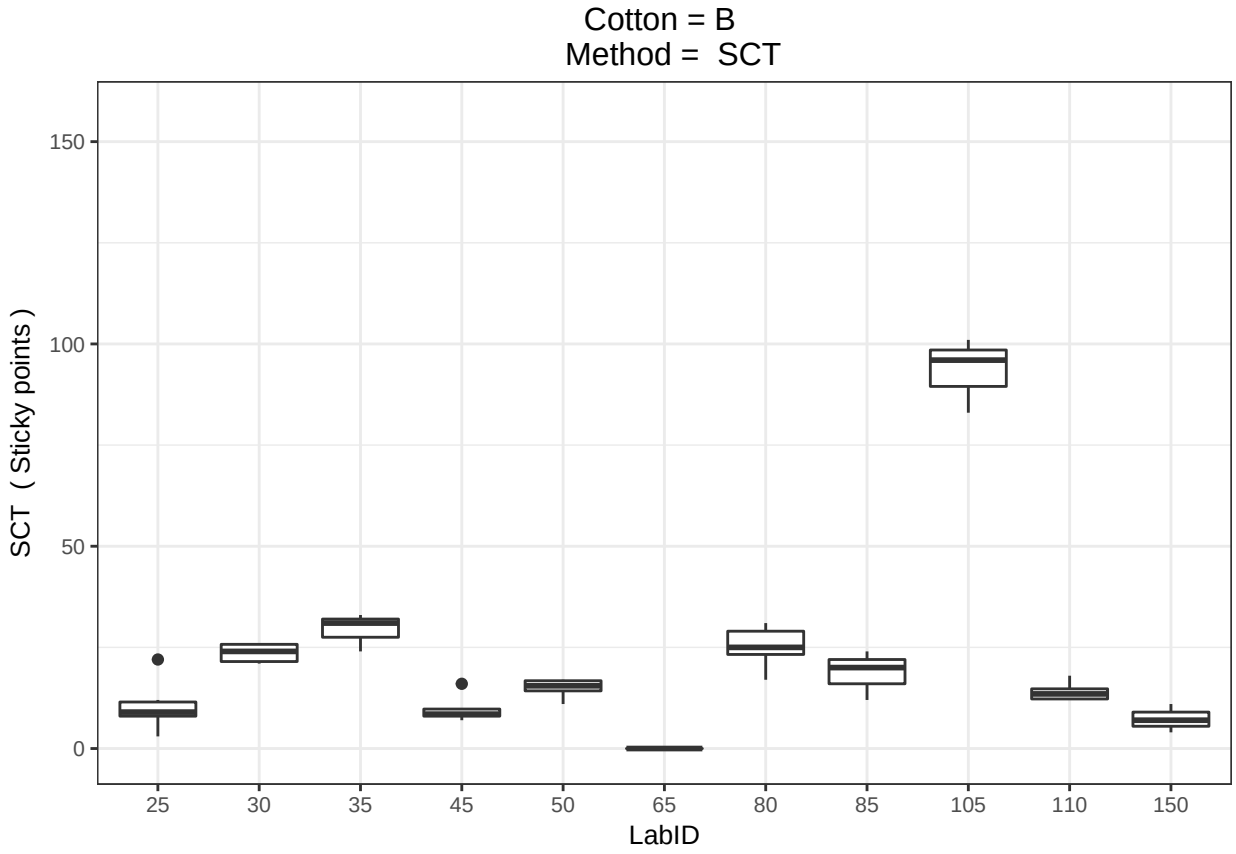

Cotton = B
Method = HSI−NIR
120
100
80
60
HSI−NIR (Sticky points)
170
LabID


Cotton = B
Method = KOTITI
10.0
7.5
5.0
KOTITI (Kotiti grade)
95
LabID

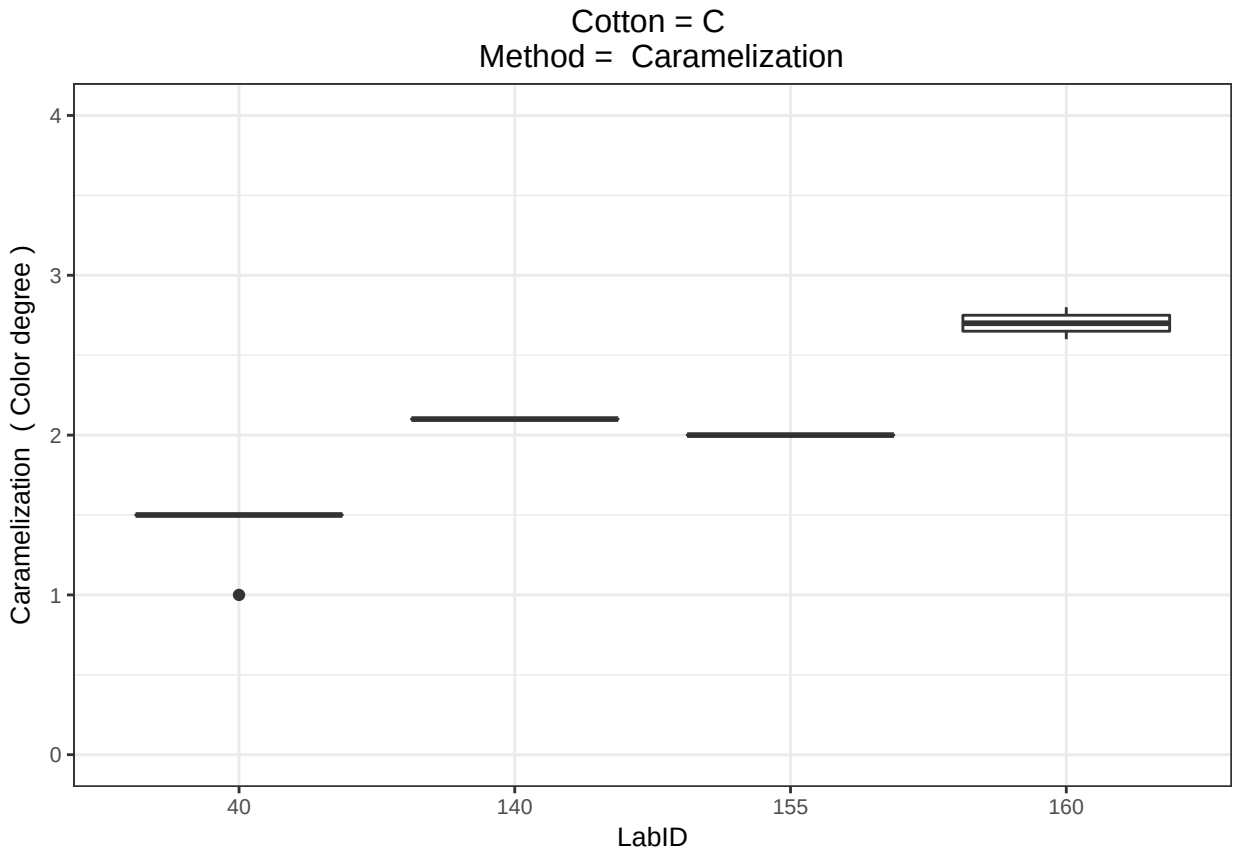

Cotton = B
Method = Minicard
Minicard (ITMF Grade)
4
3
2
1
0
−1
5
20
135
145
LabID

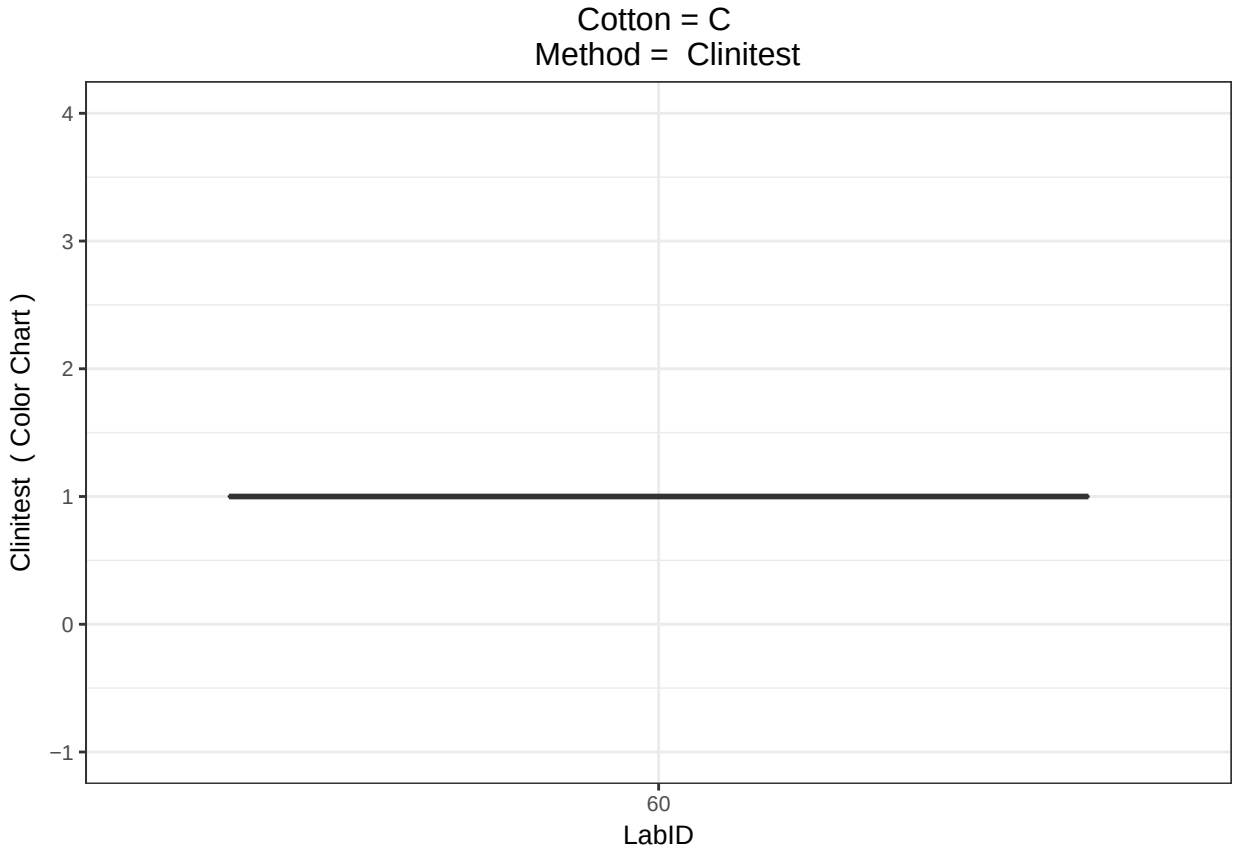

Cotton = B
Method = Quantitative method
Quantitative method (Percent)
2.0
1.5
1.0
0.5
0.0
130
LabID

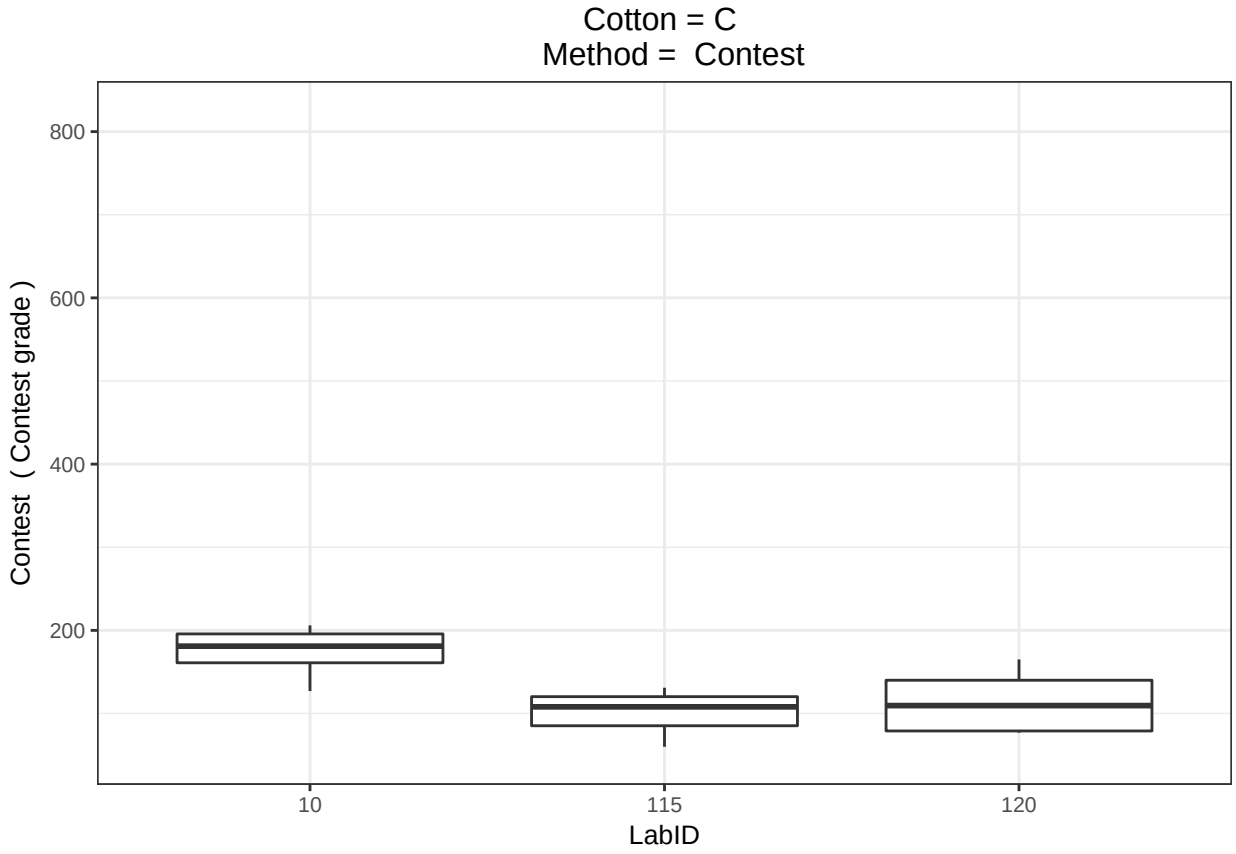

Cotton = B
Method = Reactive Spray
Reactive Spray (Spray Grade)
6
4
2
0
70
LabID

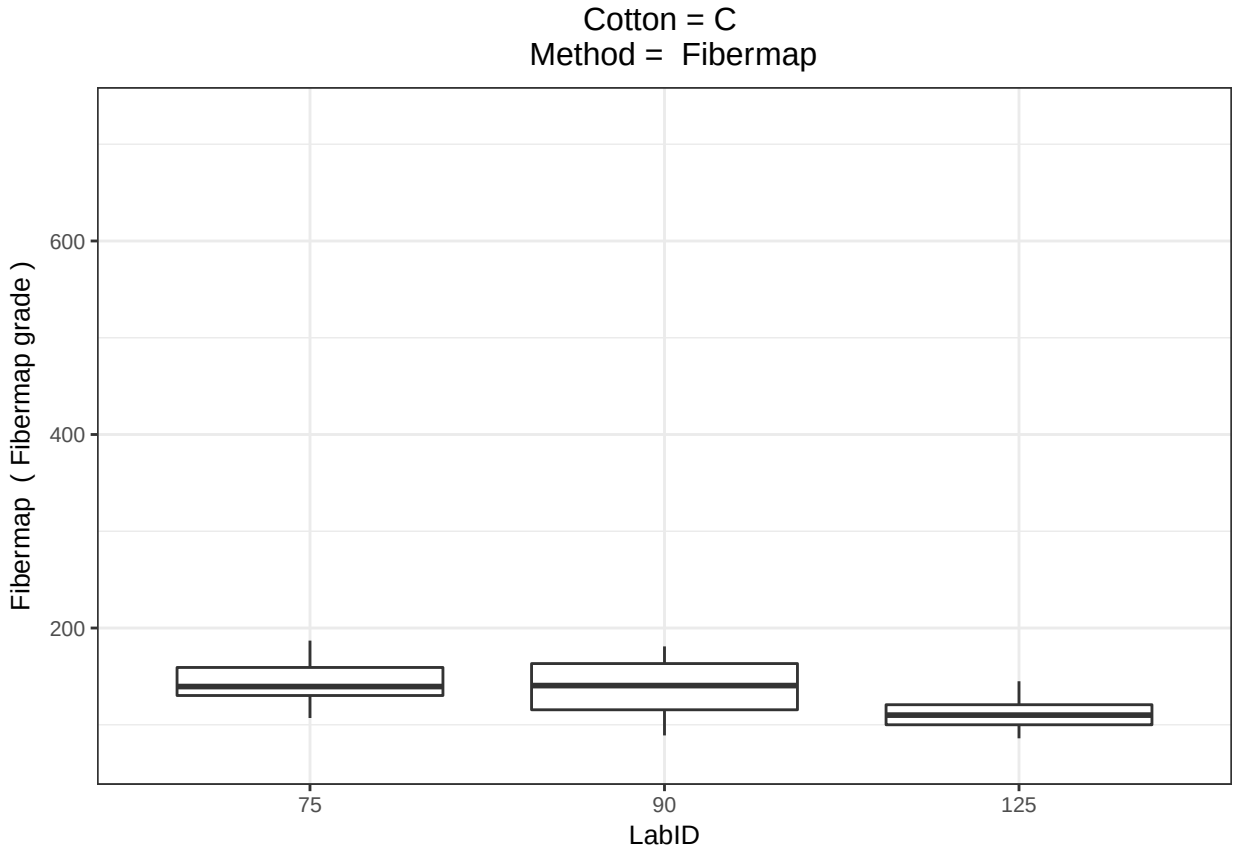

Cotton = B
Method = SCT
SCT (Sticky points)
150
100
50
0
25
30
35
45
50
65
80
85
105
110
150
LabID

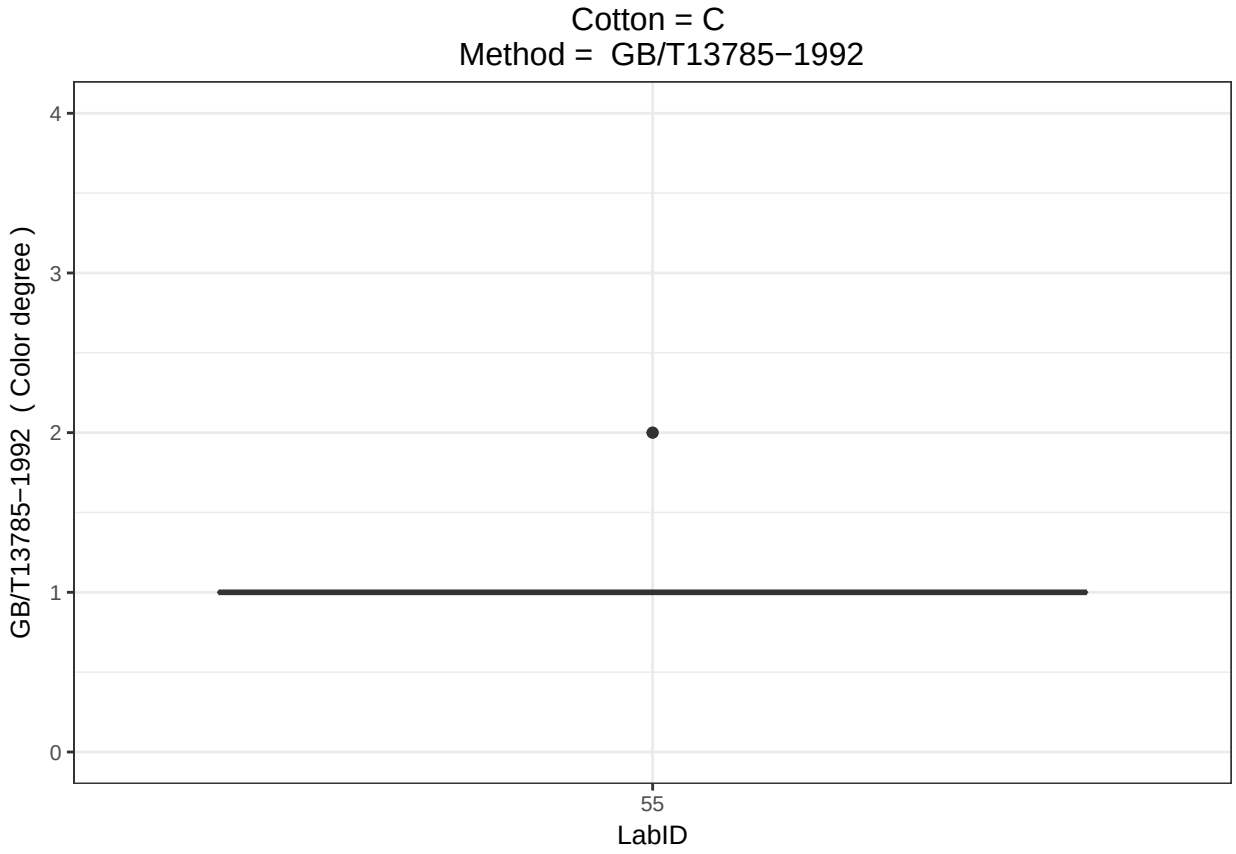
Boxplots per Method and LabID for cotton C

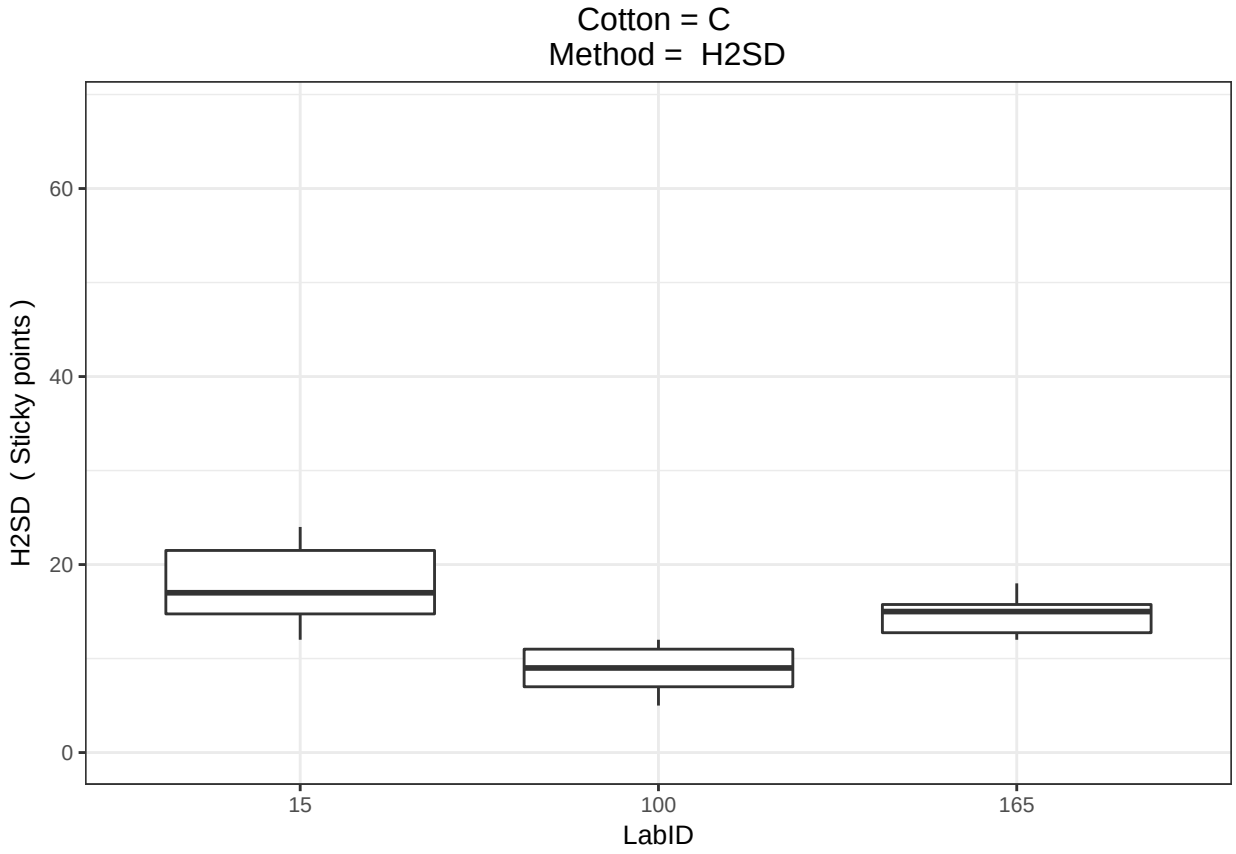


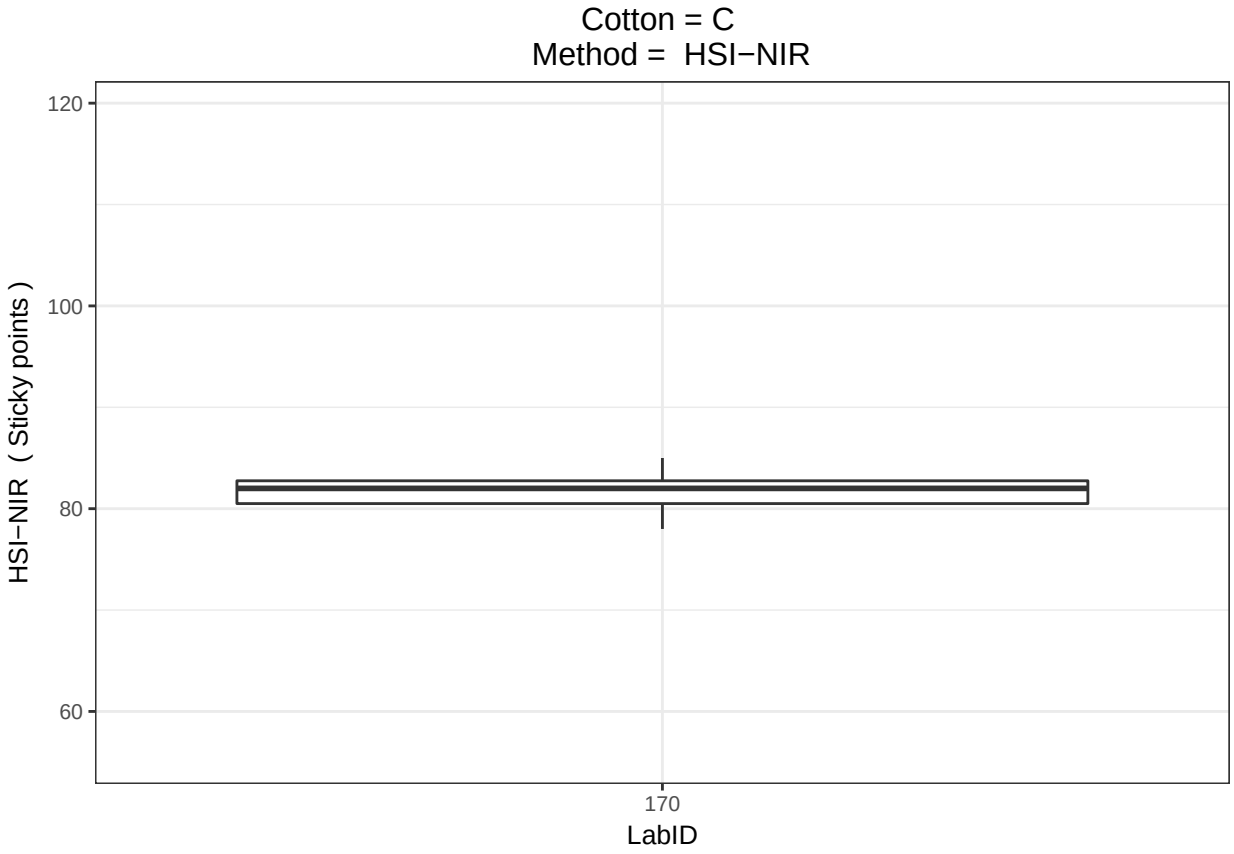

Cotton = C
Method = Clinitest
Clinitest (Color Chart)
4
3
2
1
0
−1
60
LabID

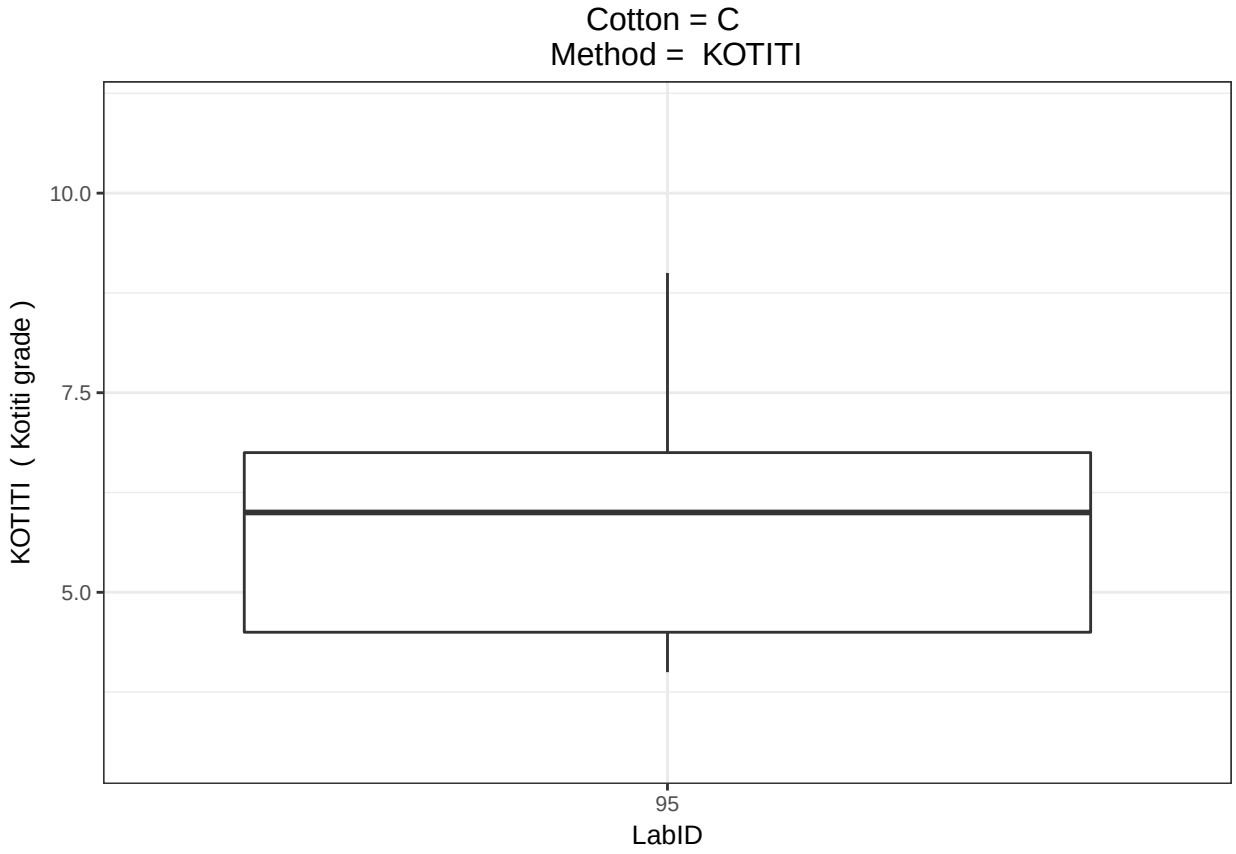

Cotton = C
Method = Contest
800
600
400
200
Contest (Contest grade)
10
115
120
LabID

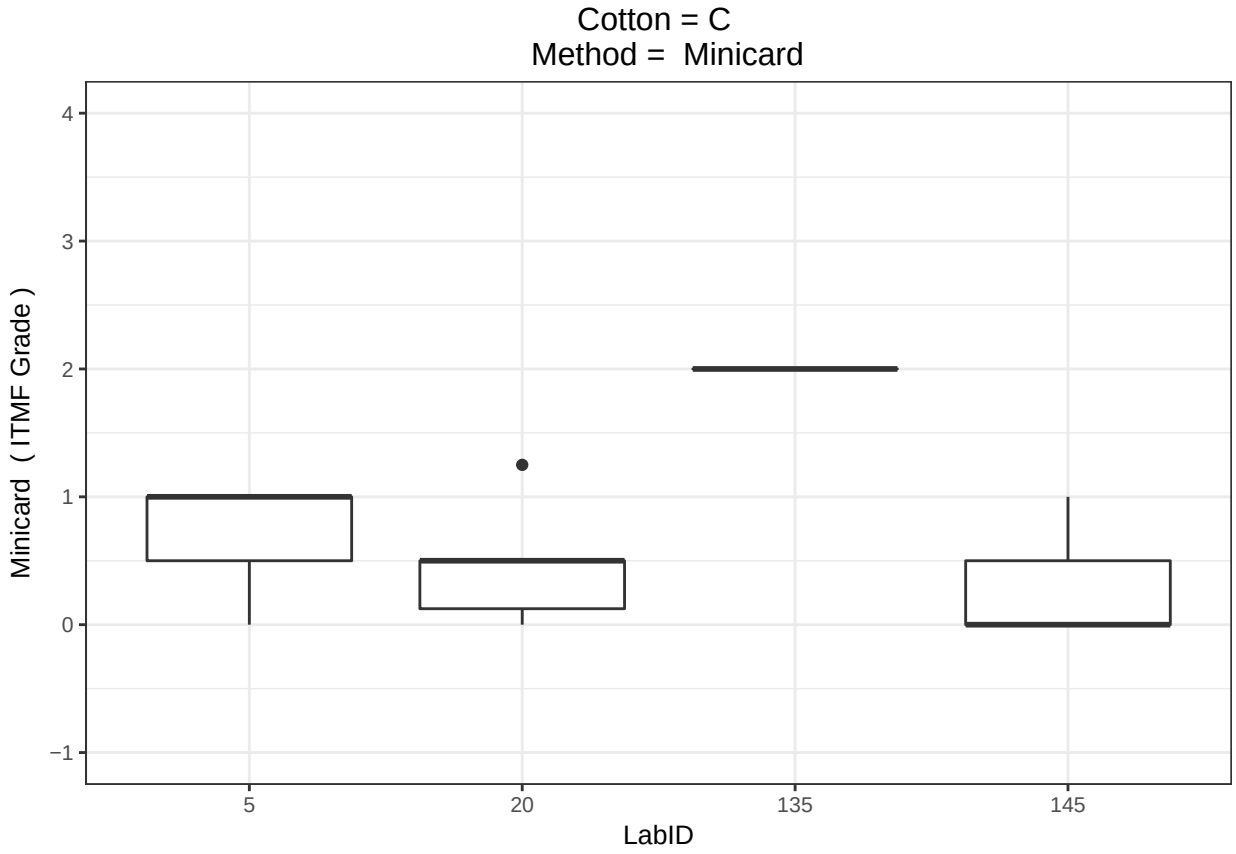

Cotton = C
Method = Fibermap
Fibermap (Fibermap grade)
600
400
200
75
90
125
LabID

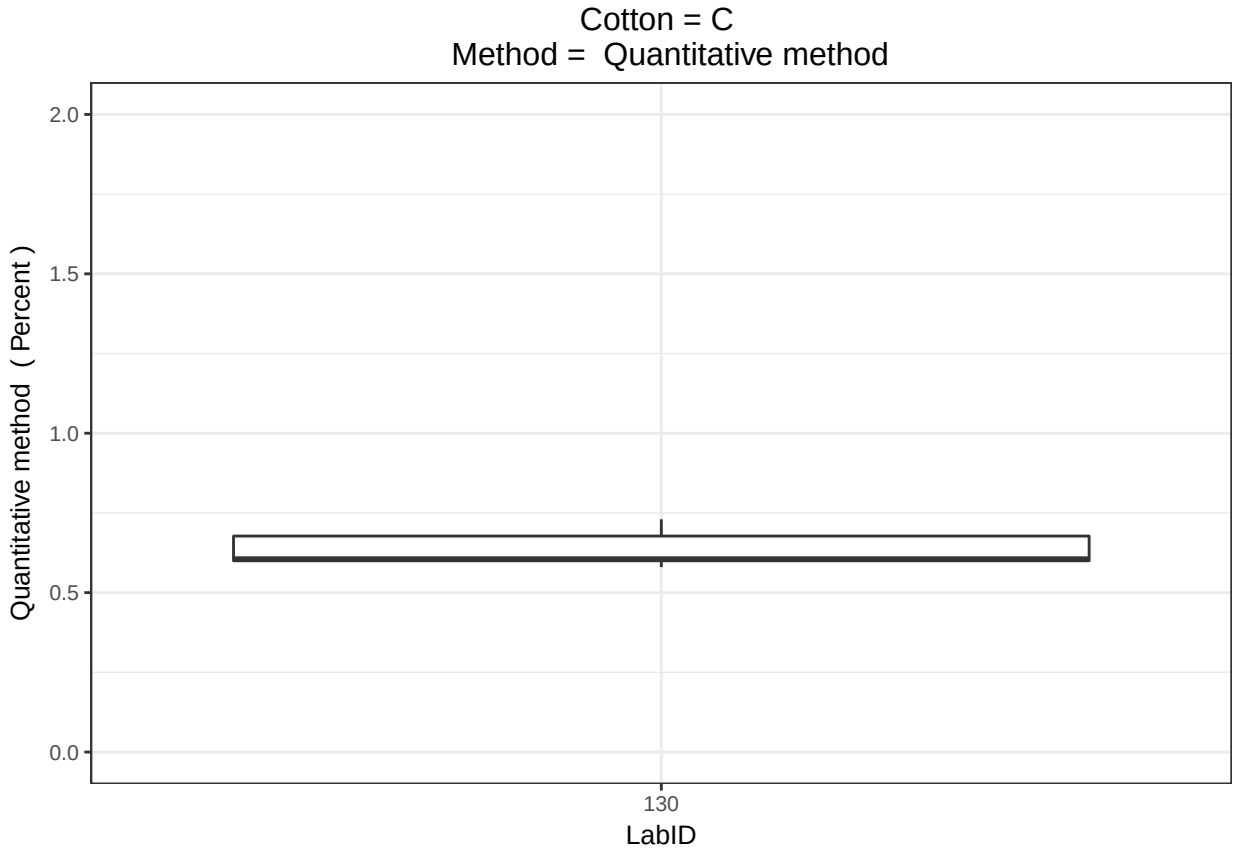

Cotton = C
Method = GB/T13785−1992
GB/T13785−1992 (Color degree)
4
3
2
1
0
55
LabID

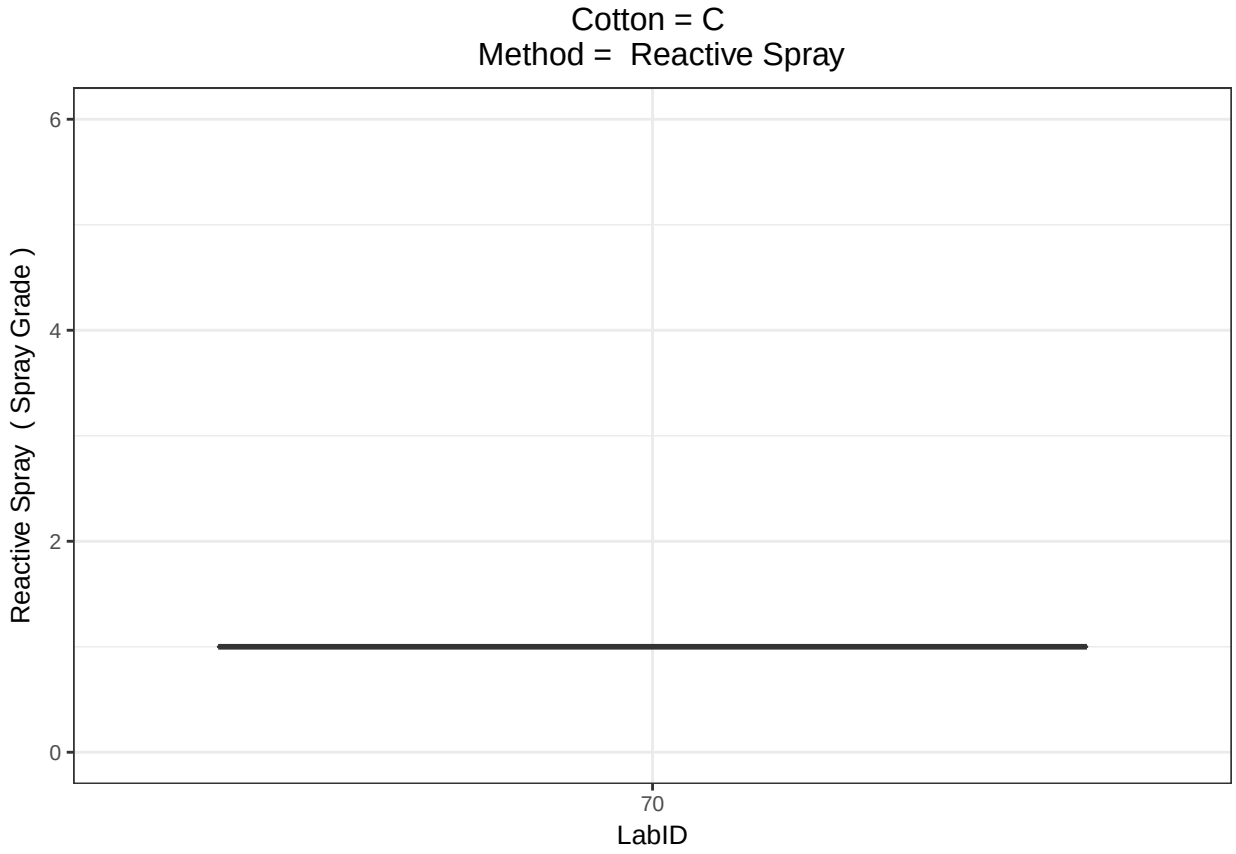

Cotton = C
Method = H2SD
H2SD (Sticky points)
60
40
20
0
15
100
165
LabID

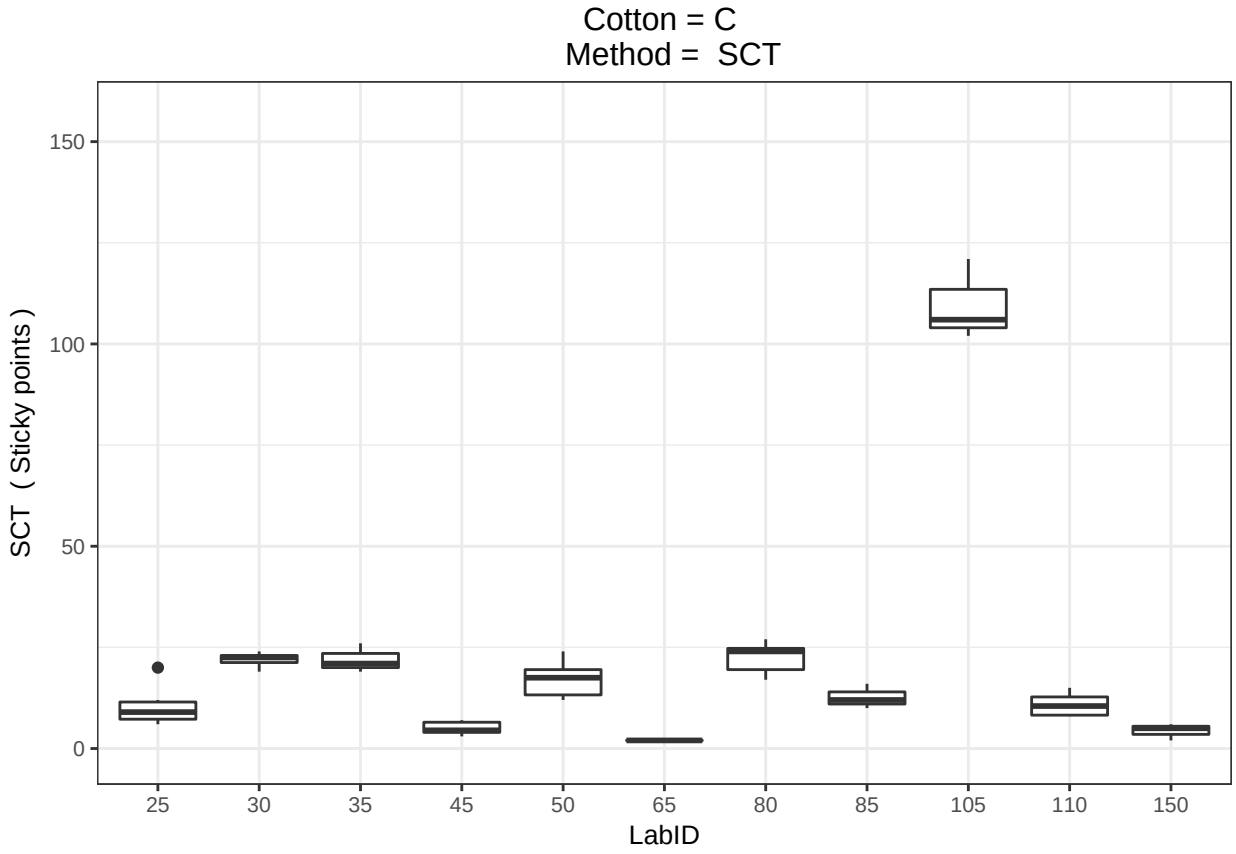

Cotton = C
Method = HSI−NIR
120
100
80
60
HSI−NIR (Sticky points)
170
LabID


Cotton = C
Method = KOTITI
10.0
7.5
5.0
KOTITI (Kotiti grade)
95
LabID


Cotton = C
Method = Minicard
Minicard (ITMF Grade)
4
3
2
1
0
−1
5
20
135
145
LabID


Cotton = C
Method = Quantitative method
Quantitative method (Percent)
2.0
1.5
1.0
0.5
0.0
130
LabID


Cotton = C
Method = Reactive Spray
Reactive Spray (Spray Grade)
6
4
2
0
70
LabID


Cotton = C
Method = SCT
SCT (Sticky points)
150
100
50
0
25
30
35
45
50
65
80
85
105
110
150
LabID

Charts of individual readings per Method and LabID for cottons A, B and C [4]

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pdf
  2
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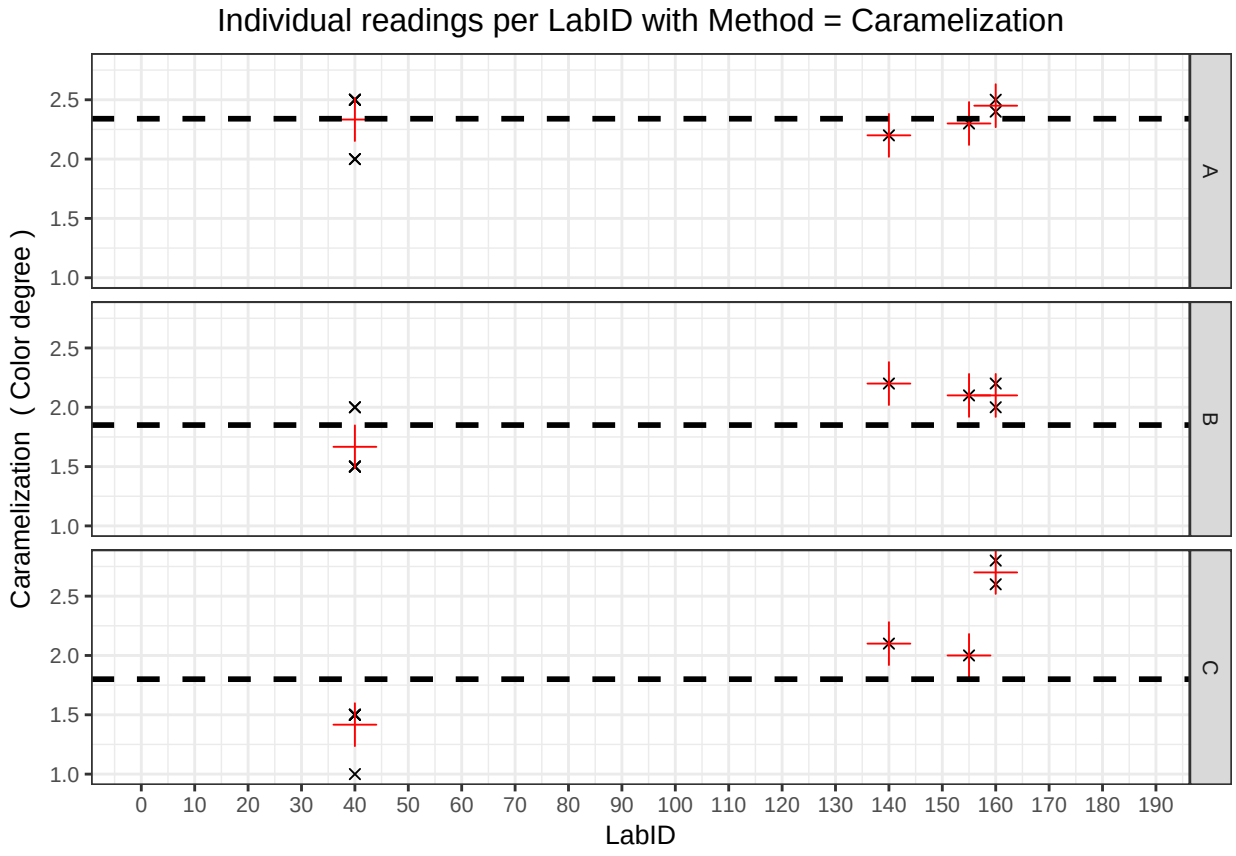
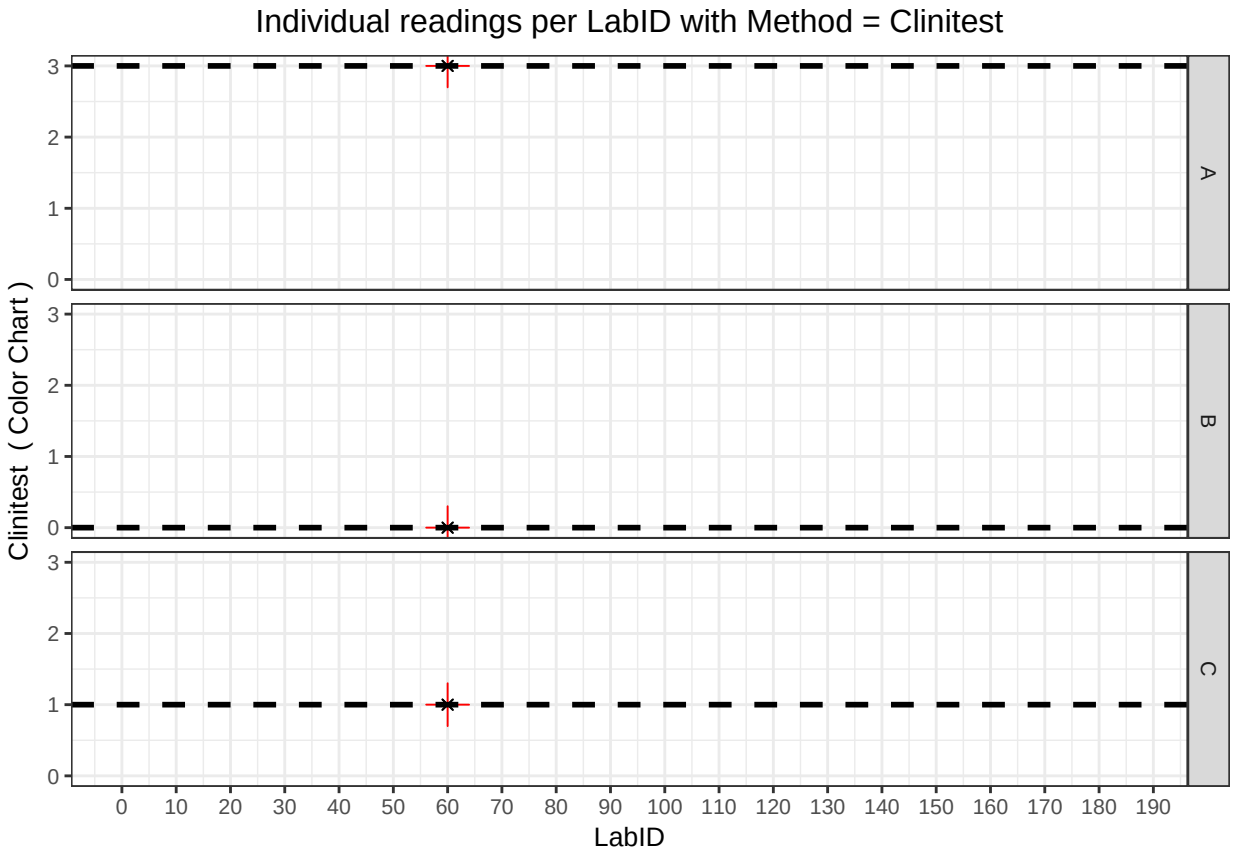
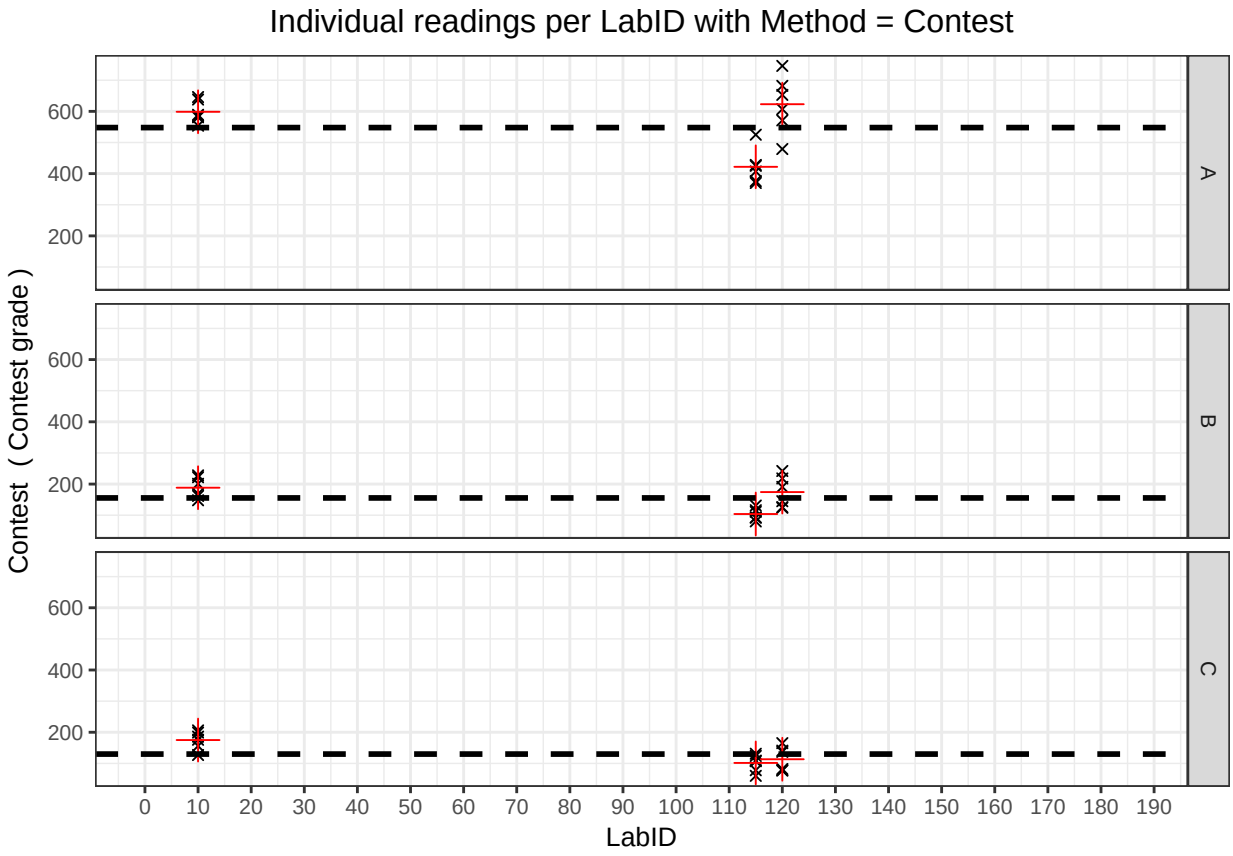
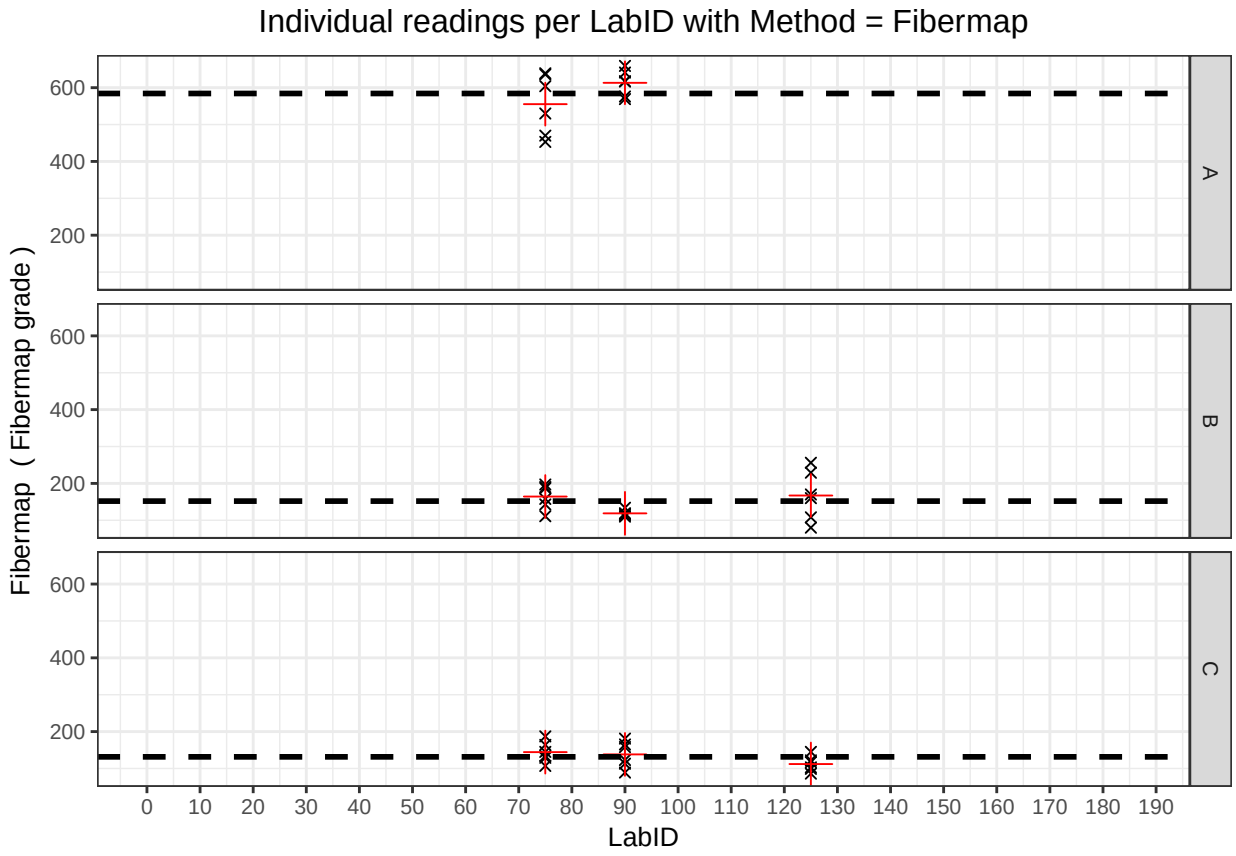


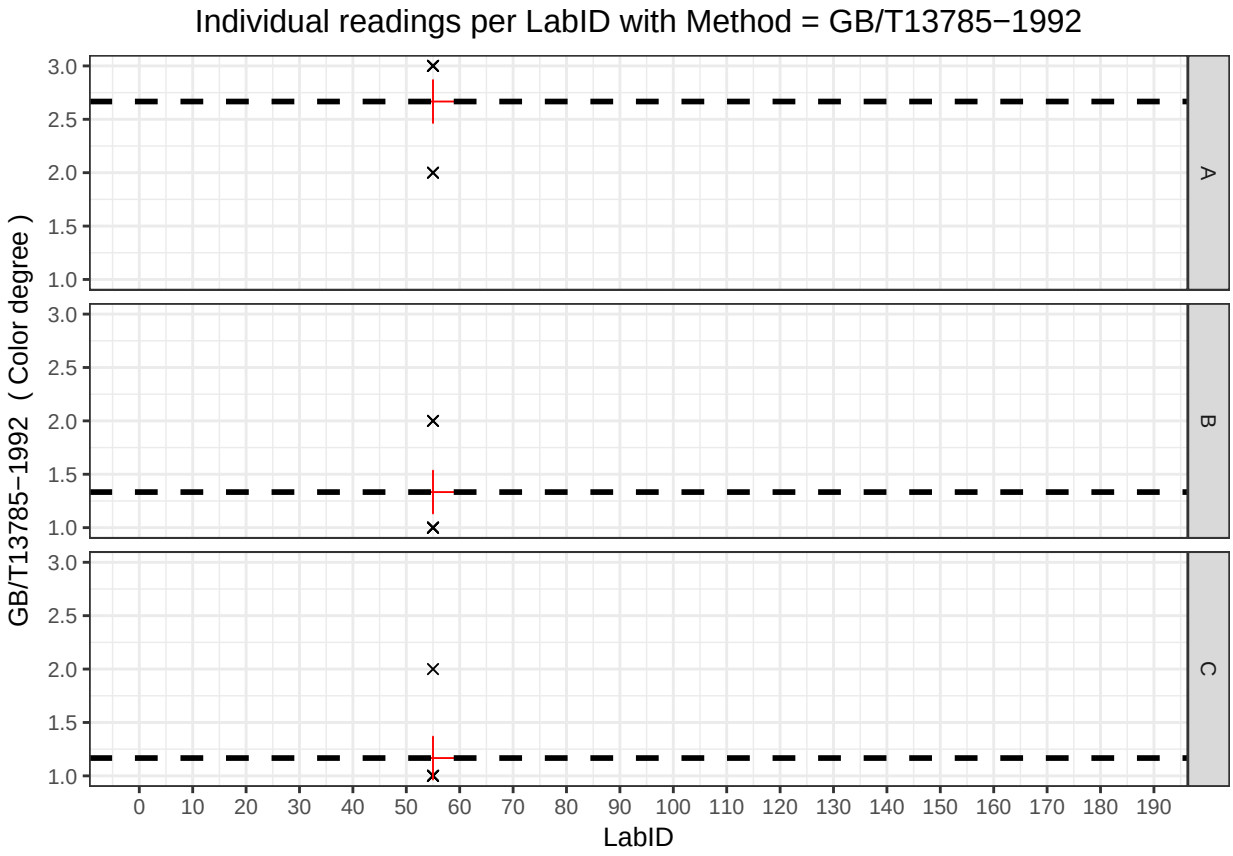
[4] Footnote

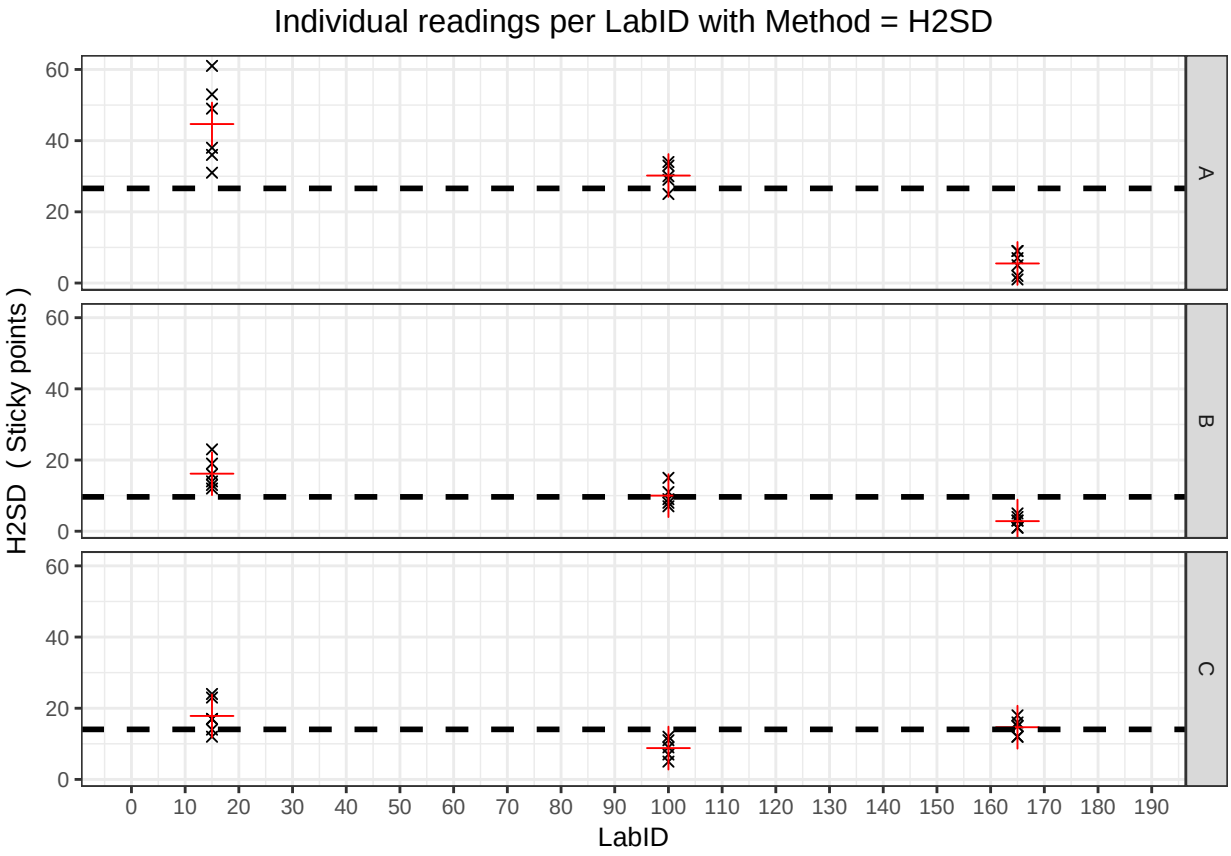
* NA excluded
* In the contrary to other charts, LabID are given in the abscissa axis at the bottom of the chart in the following charts.
* Black dashed line = Method GrandMean per cotton A, B, or C.
* Red + = Laboratory mean for the given method and for the given cotton.
* Black x = Laboratory individual reading for the given method and for the given cotton.

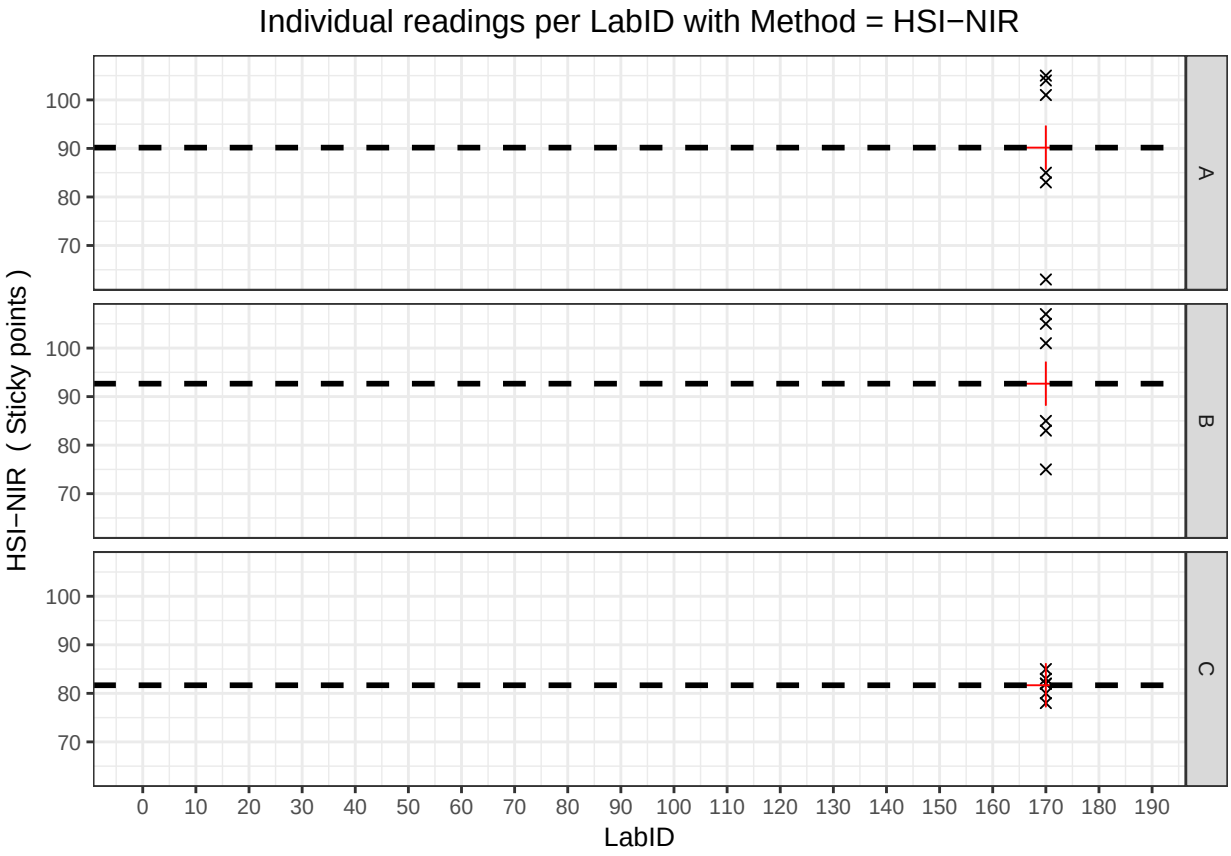

Individual readings per LabID with Method = Clinitest
Clinitest (Color Chart)
LabID
A
B
C
0
1
2
3
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

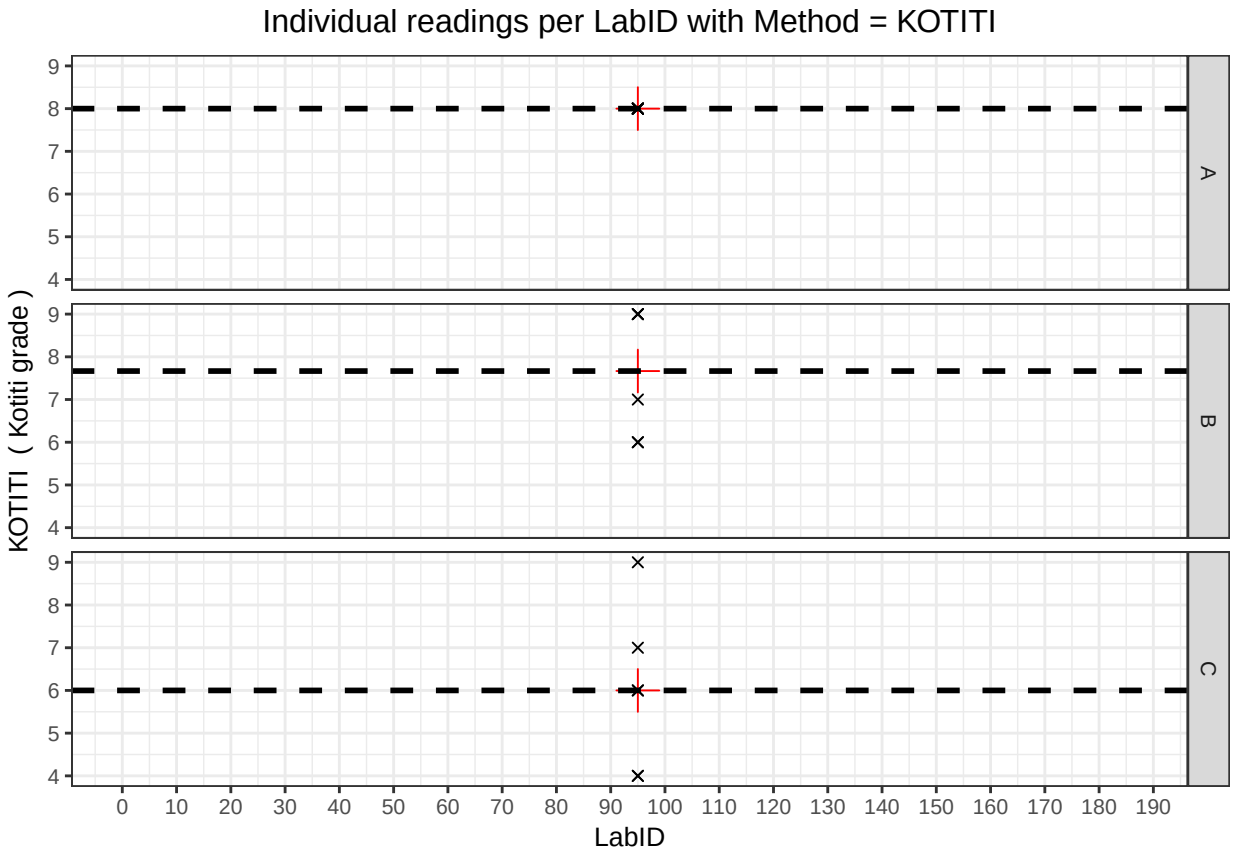

Individual readings per LabID with Method = Contest
Contest (Contest grade)
600
400
200
A
B
C
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
LabID

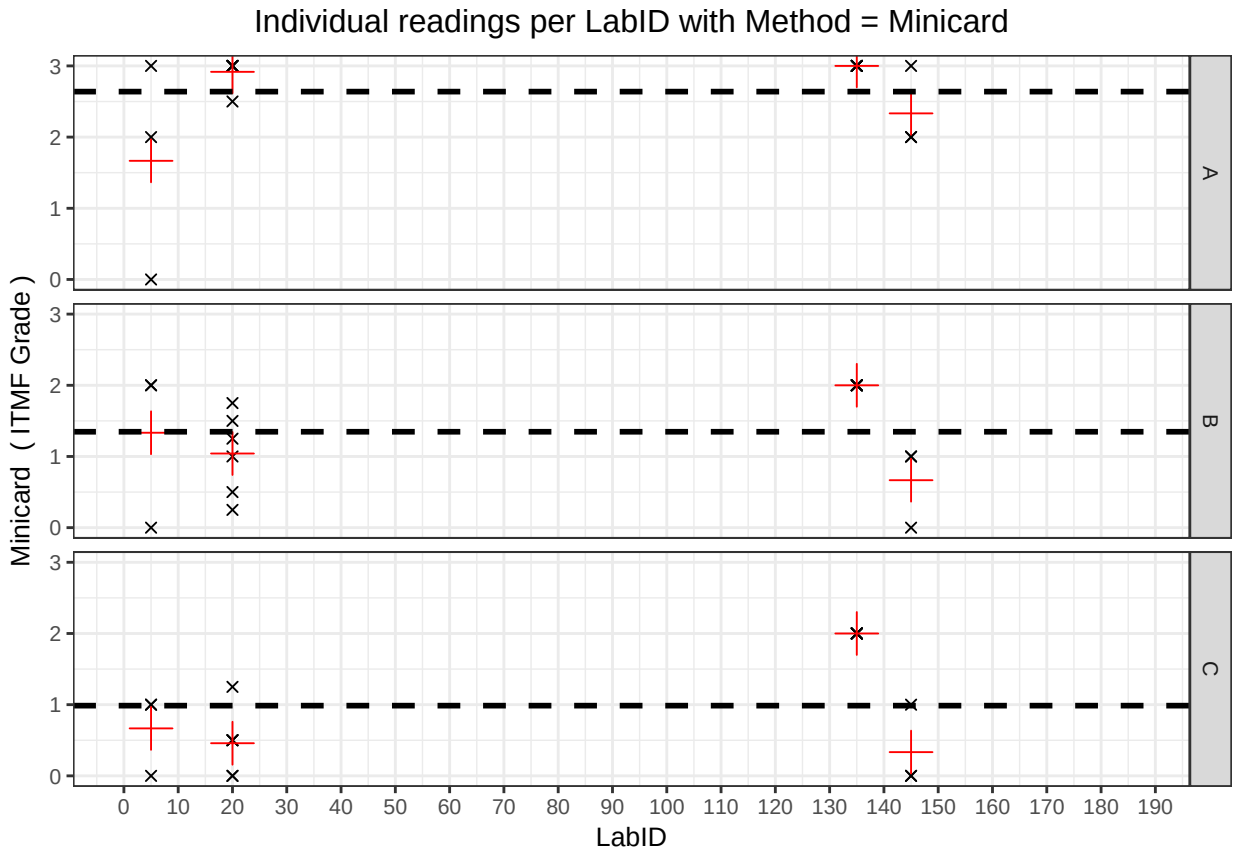

Individual readings per LabID with Method = Fibermap
Fibermap (Fibermap grade)
600
400
200
A
B
C
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
LabID

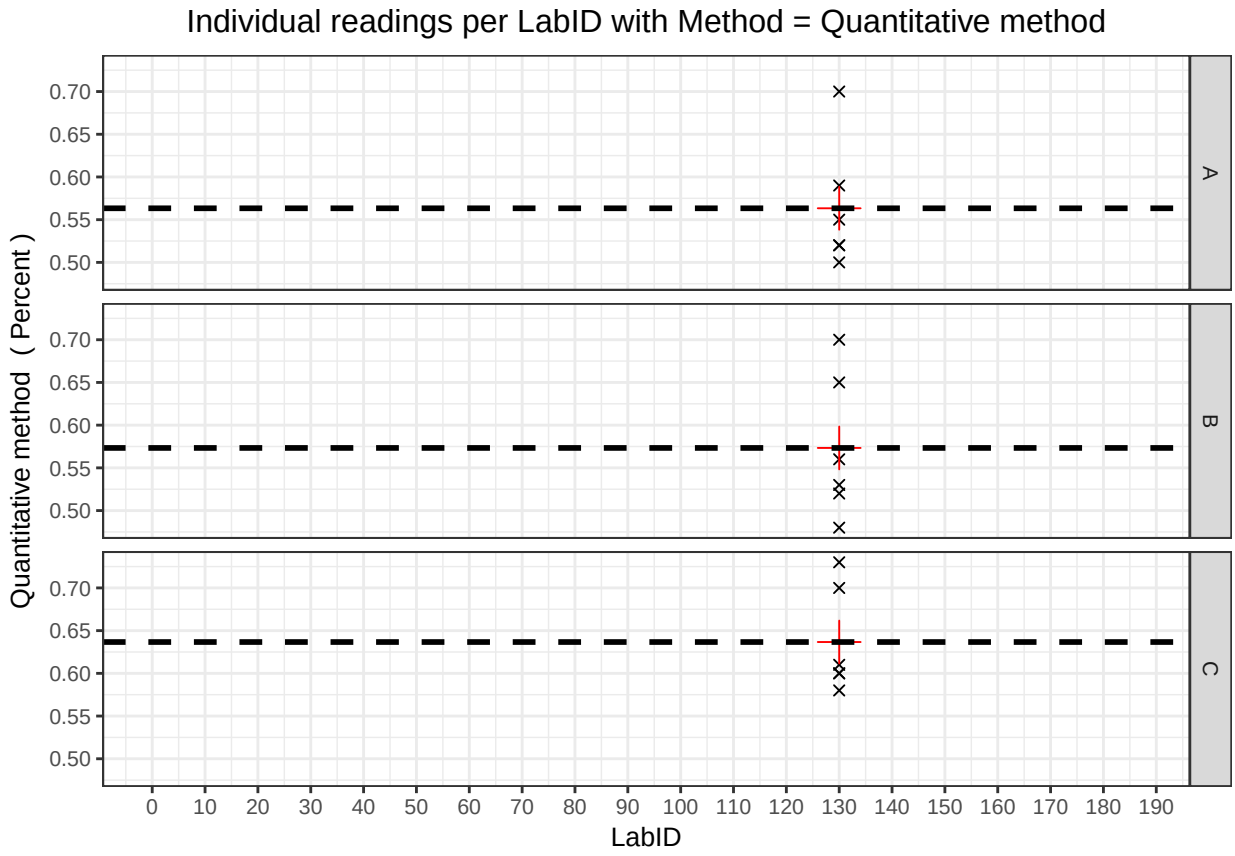

Individual readings per LabID with Method = GB/T13785−1992
GB/T13785−1992 (Color degree)
LabID
A
B
C
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

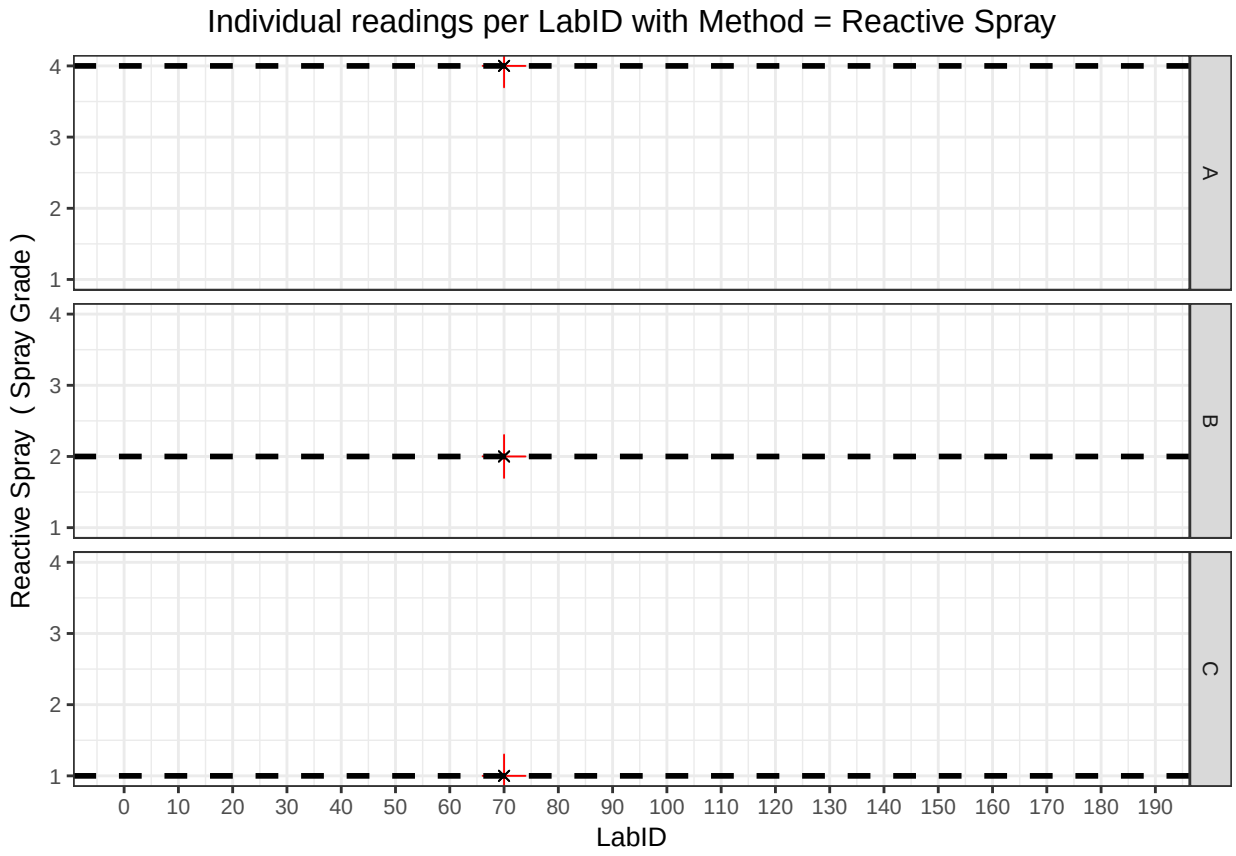

Individual readings per LabID with Method = H2SD
H2SD (Sticky points)
LabID
A
B
C
0
20
40
60
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

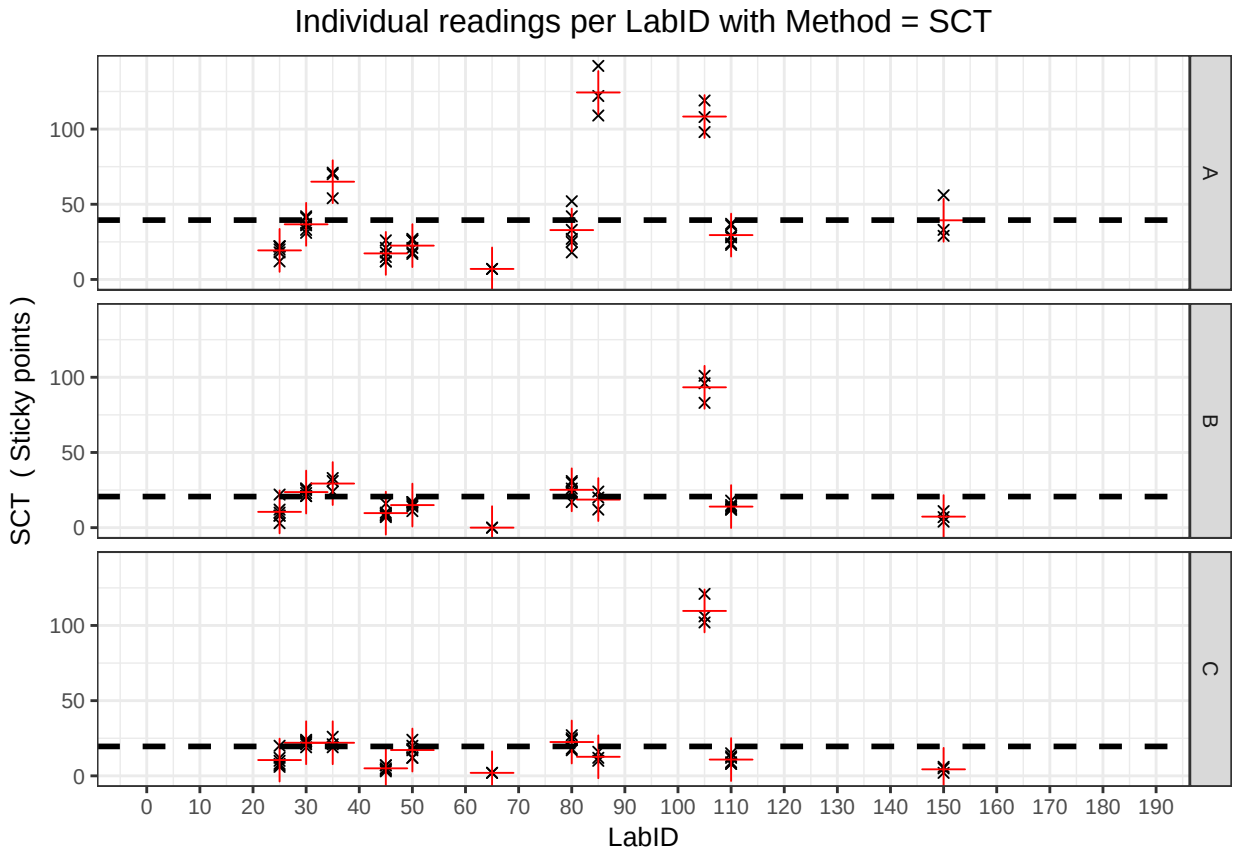

Individual readings per LabID with Method = HSI−NIR
HSI−NIR (Sticky points)
LabID
A
B
C
100
90
80
70
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190


Individual readings per LabID with Method = KOTITI
KOTITI (Kotiti grade)
LabID
A
B
C
9
8
7
6
5
4
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

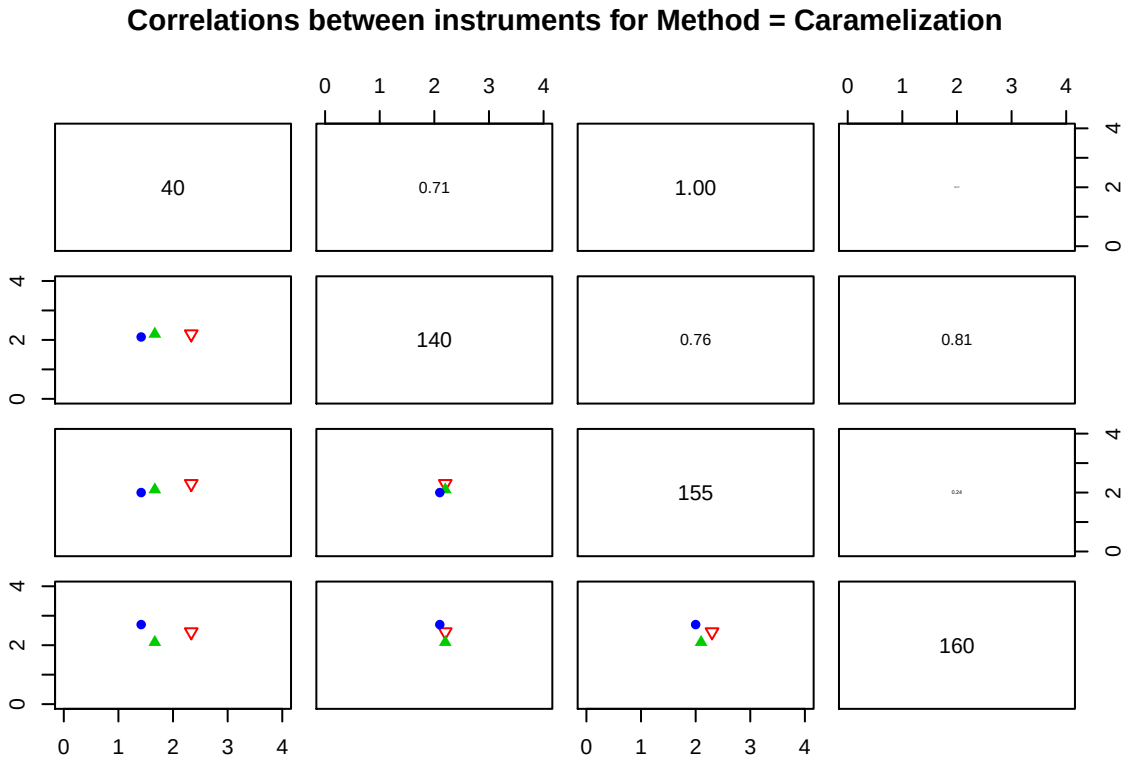

Individual readings per LabID with Method = Minicard
Minicard (ITMF Grade)
LabID
A
B
C
0
1
2
3
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190


Individual readings per LabID with Method = Quantitative method
Quantitative method (Percent)
0.70
0.65
0.60
0.55
0.50
A
B
C
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190
LabID


Individual readings per LabID with Method = Reactive Spray
Reactive Spray (Spray Grade)
LabID
A
B
C
1
2
3
4
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

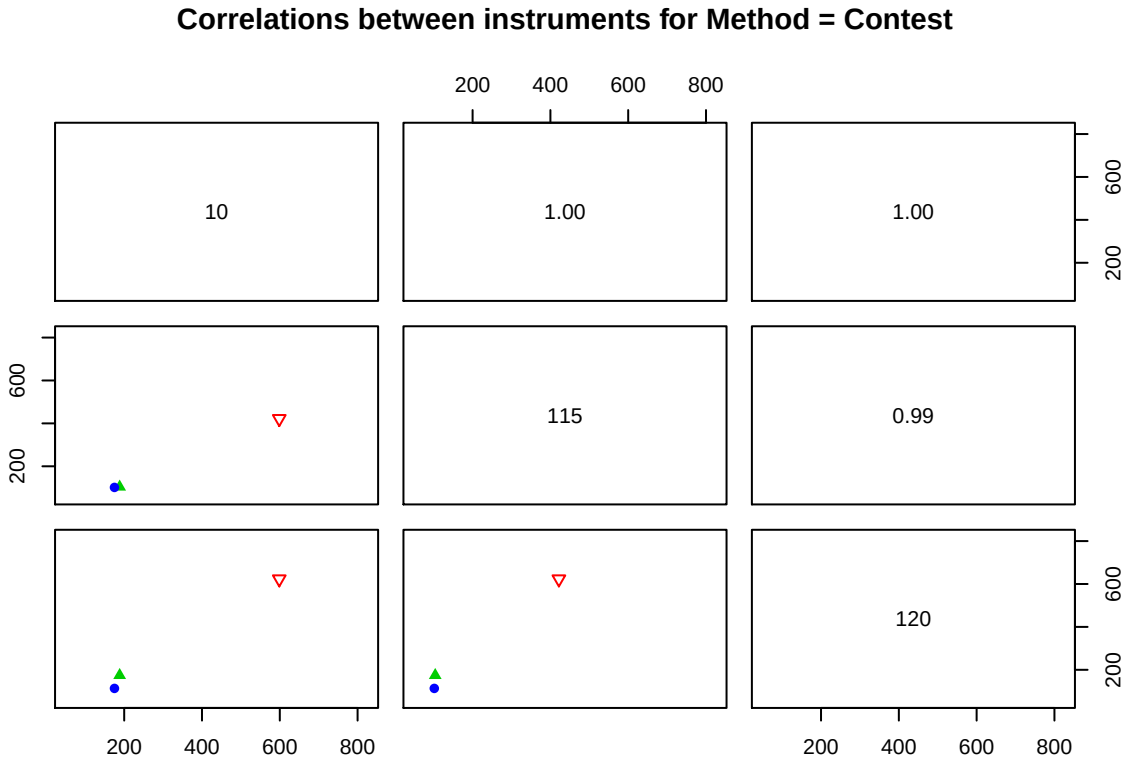

Individual readings per LabID with Method = SCT
SCT (Sticky points)
LabID
A
B
C
0
50
100
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

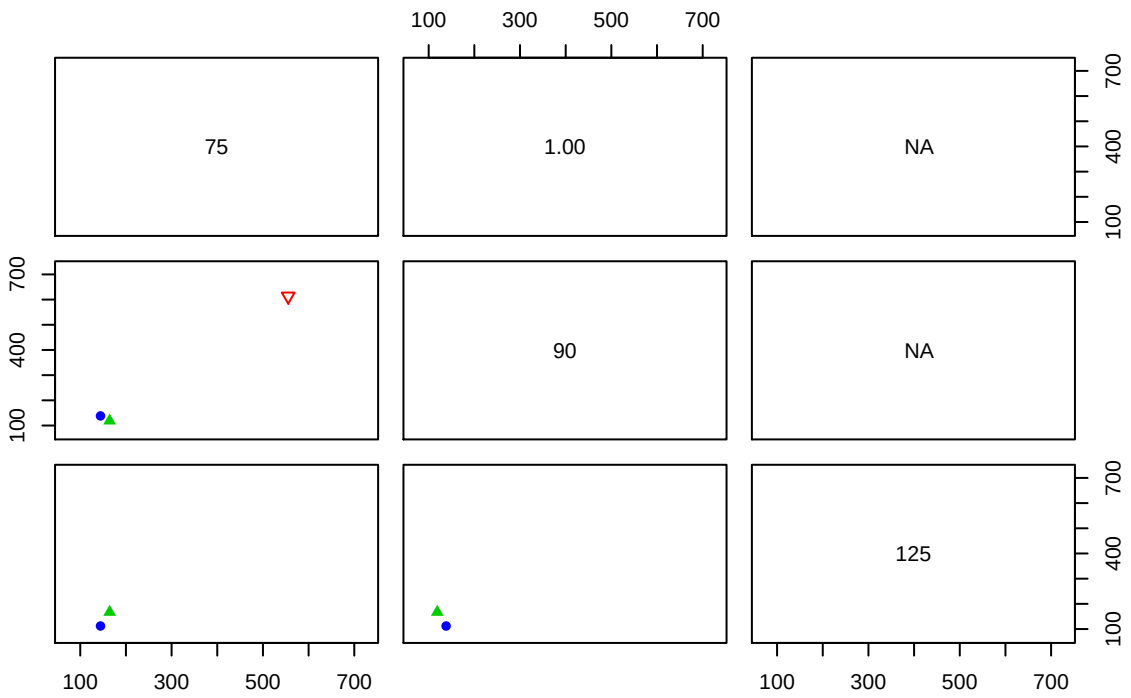
Correlation charts and correlation values between LabID using a same Method for for cottons A, B and C [5]

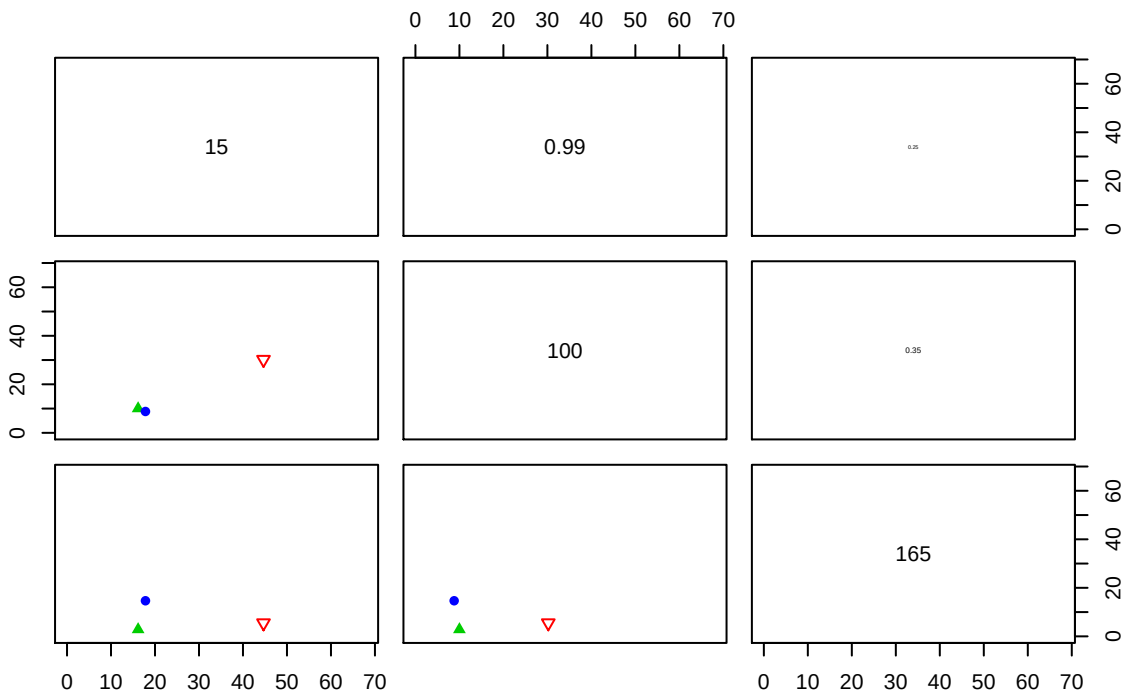


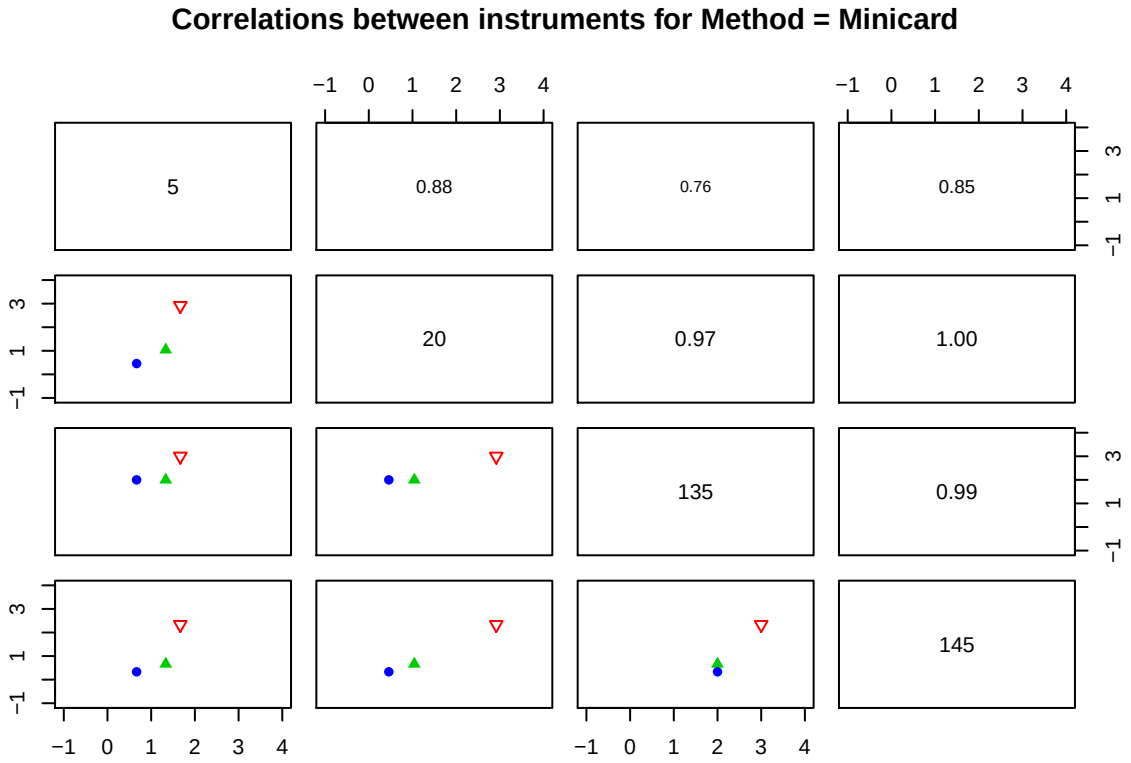
[5] Footnote

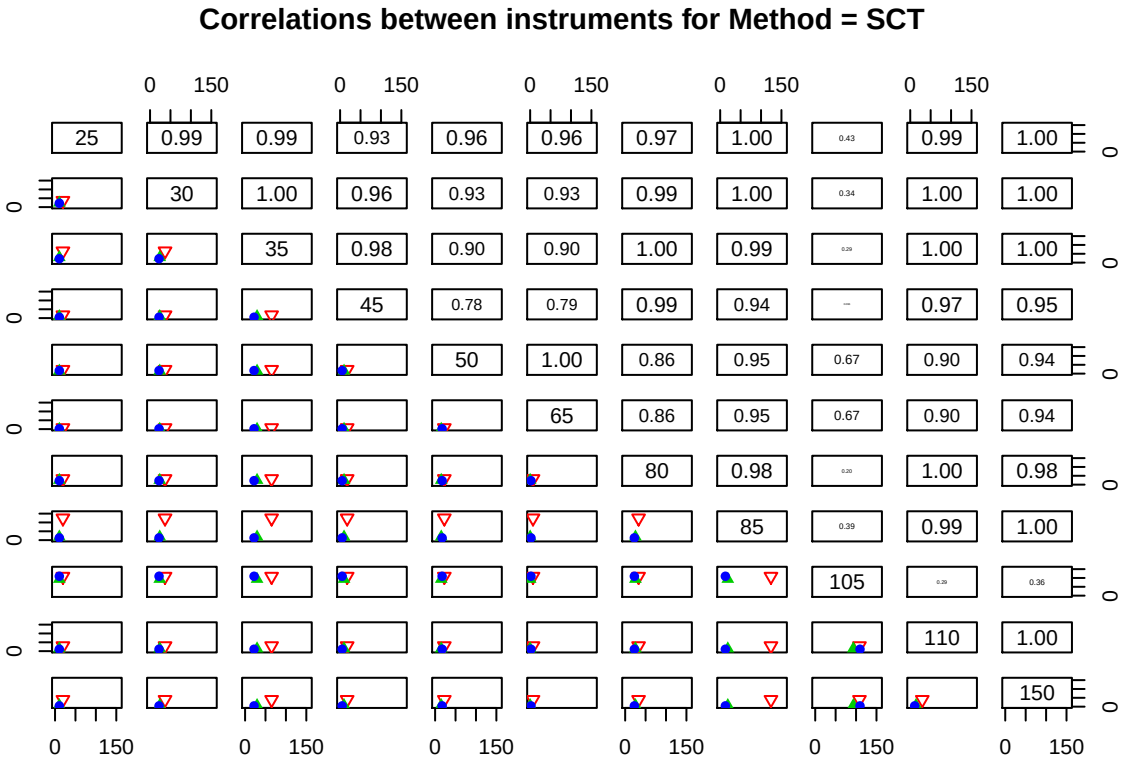
* A correlation matrix of charts is provided only when two or more instruments were used for a given method.
* Based on Means of available results (NA excluded)
* Points in red for Cotton A, points in green for Cotton B, points in blue for Cotton C.
* The lower left corner of the matrix provides the correlation charts, while the upper right corner of the matrix provides the corresponding raw correlation coefficients. Higher the correlation coefficient, larger the font size of the corresponding text.


Correlations between instruments for Method = Contest
200
400
600
800
10
1.00
1.00
600
200
600
200
115
0.99
120
600
200
200
400
600
800
200
400
600
800


Correlations between instruments for Method = Fibermap
75
1.00
NA
90
NA
125
100
300
500
700
100
400
700

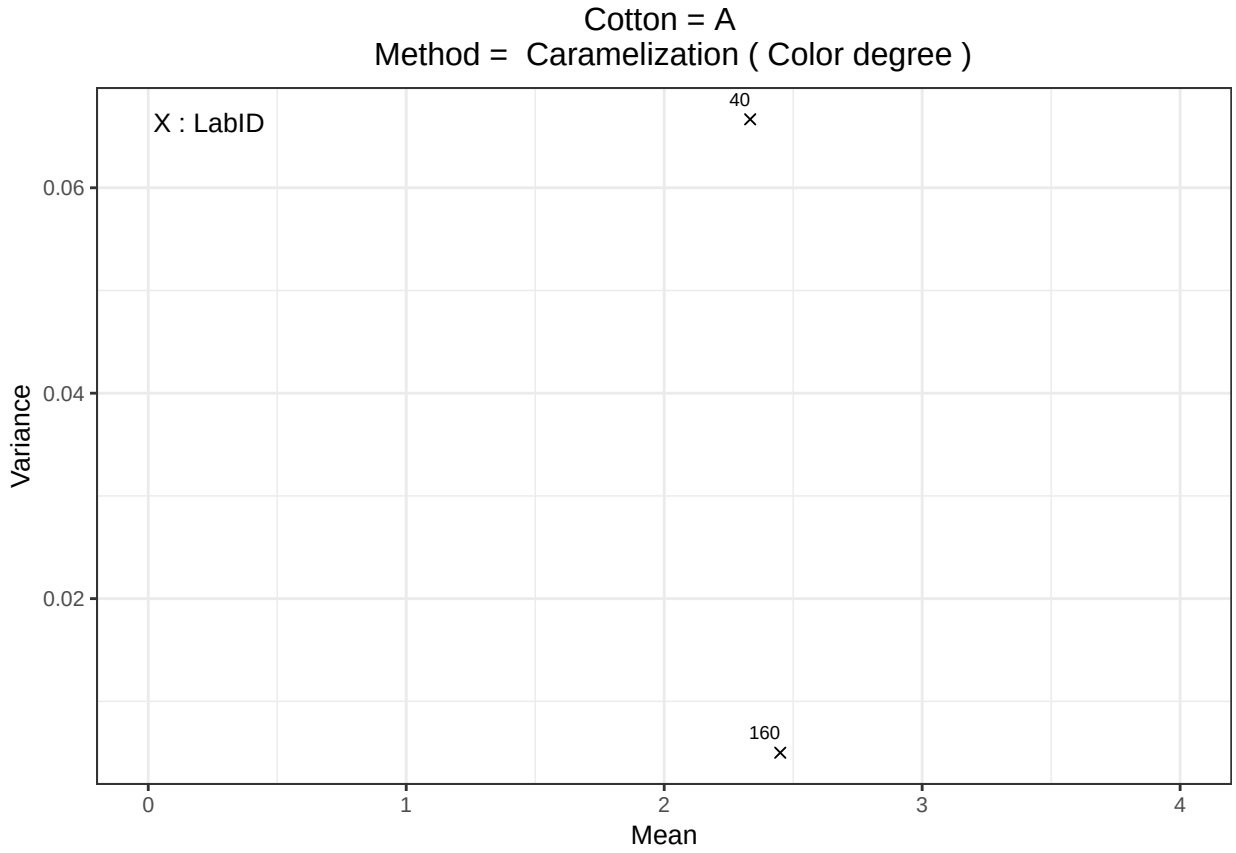

Correlations between instruments for Method = H2SD
15
0.99
100
165
0 10 20 30 40 50 60 70
0 20 40 60

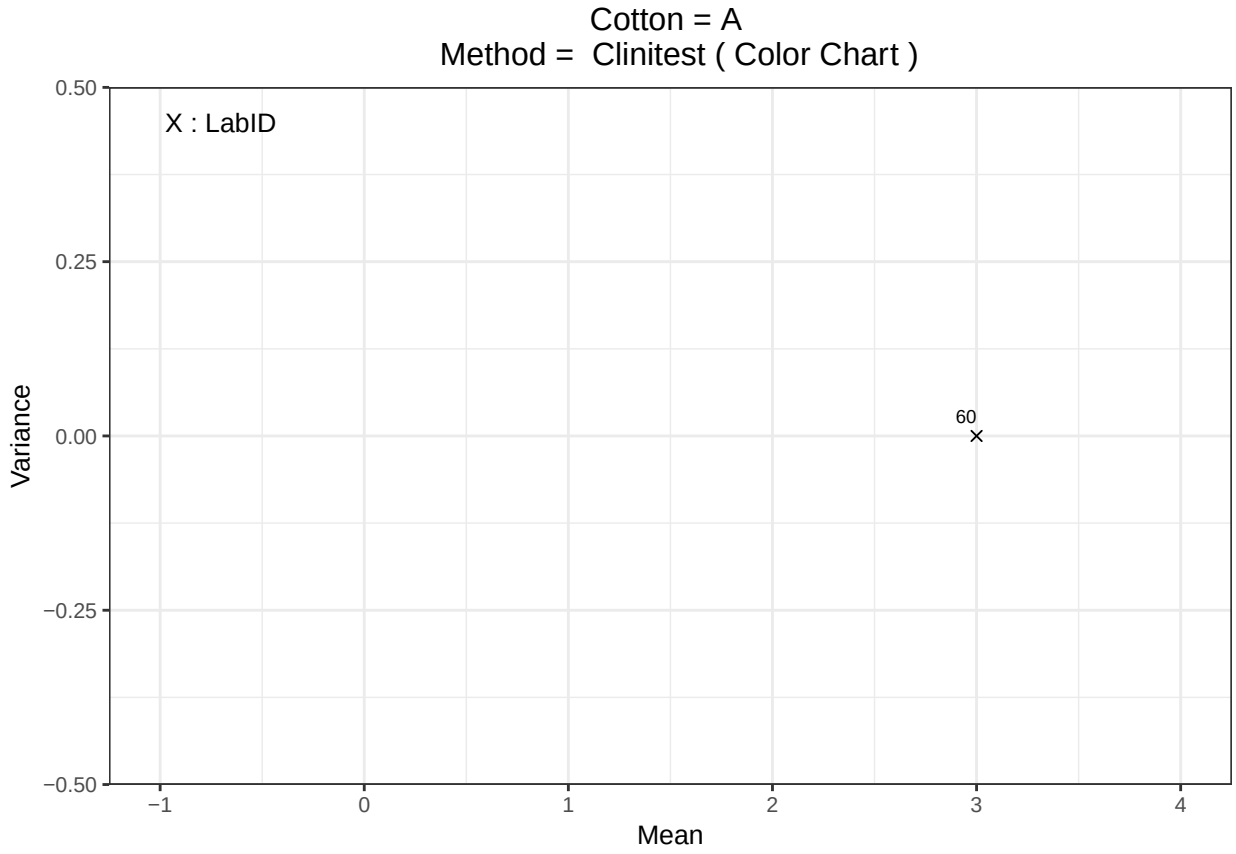

Correlations between instruments for Method = Minicard
5
0.88
0.76
0.85
20
0.97
1.00
135
0.99
145
−1 0 1 2 3 4

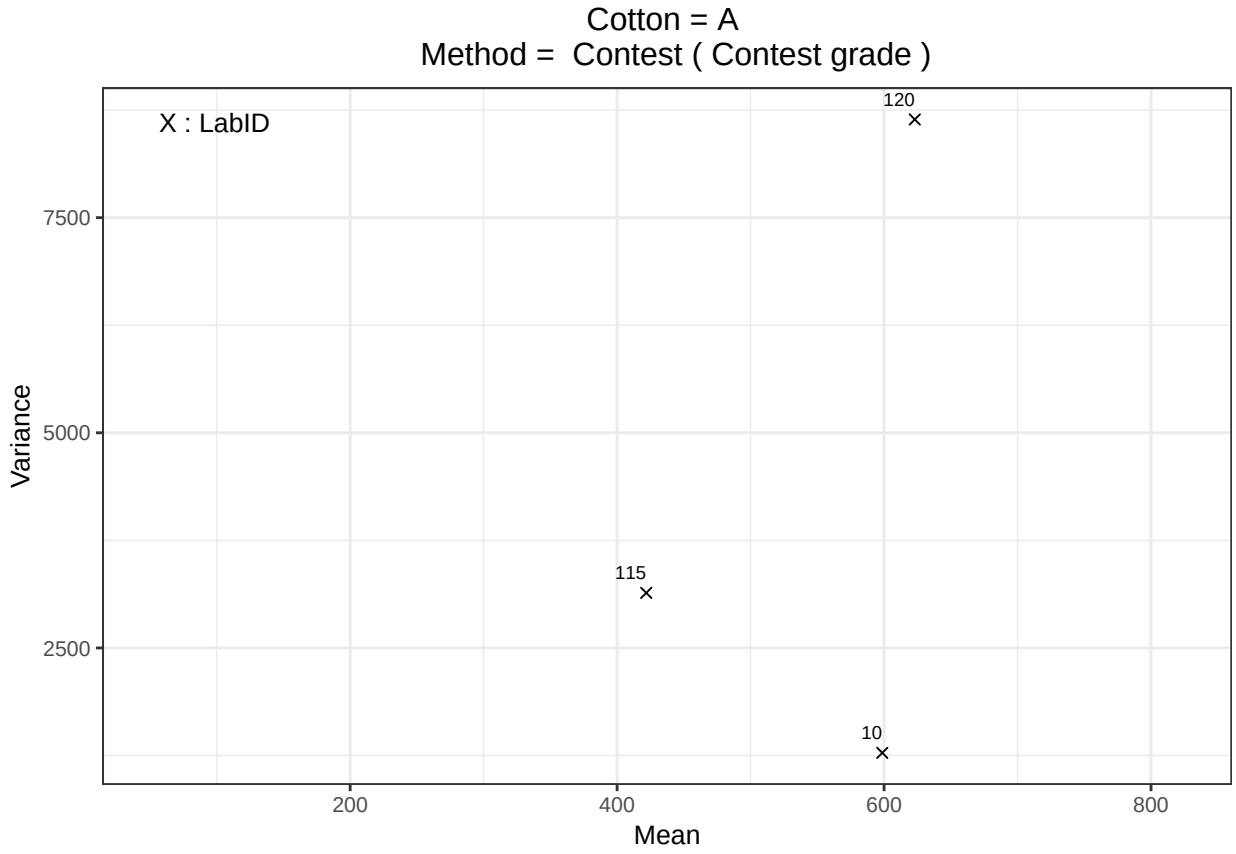

Correlations between instruments for Method = SCT
0 150
25 0.99 0.99 0.93 0.96 0.96 0.97 1.00 0.43 0.99 1.00
30 1.00 0.96 0.93 0.93 0.99 1.00 0.34 1.00 1.00
35 0.98 0.90 0.90 1.00 0.99 0.29 1.00 1.00
45 0.78 0.79 0.99 0.94 0.97 0.95
50 1.00 0.86 0.95 0.67 0.90 0.94
65 0.86 0.95 0.67 0.90 0.94
80 0.98 0.20 1.00 0.98
85 0.39 0.99 1.00
105 0.29 0.36
110 1.00
150
0 150

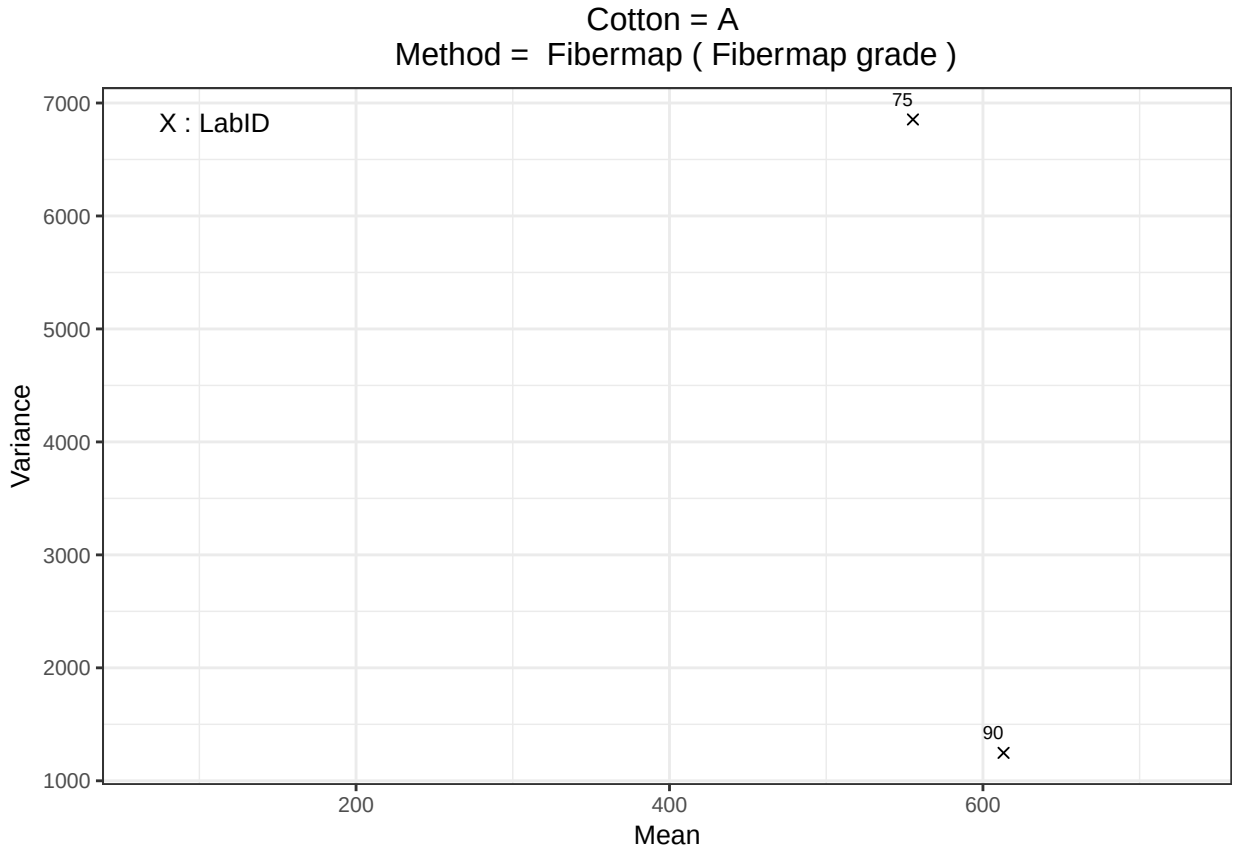
Charts Variance = f(Mean) for each Cotton and Method, taking care of LabIDs

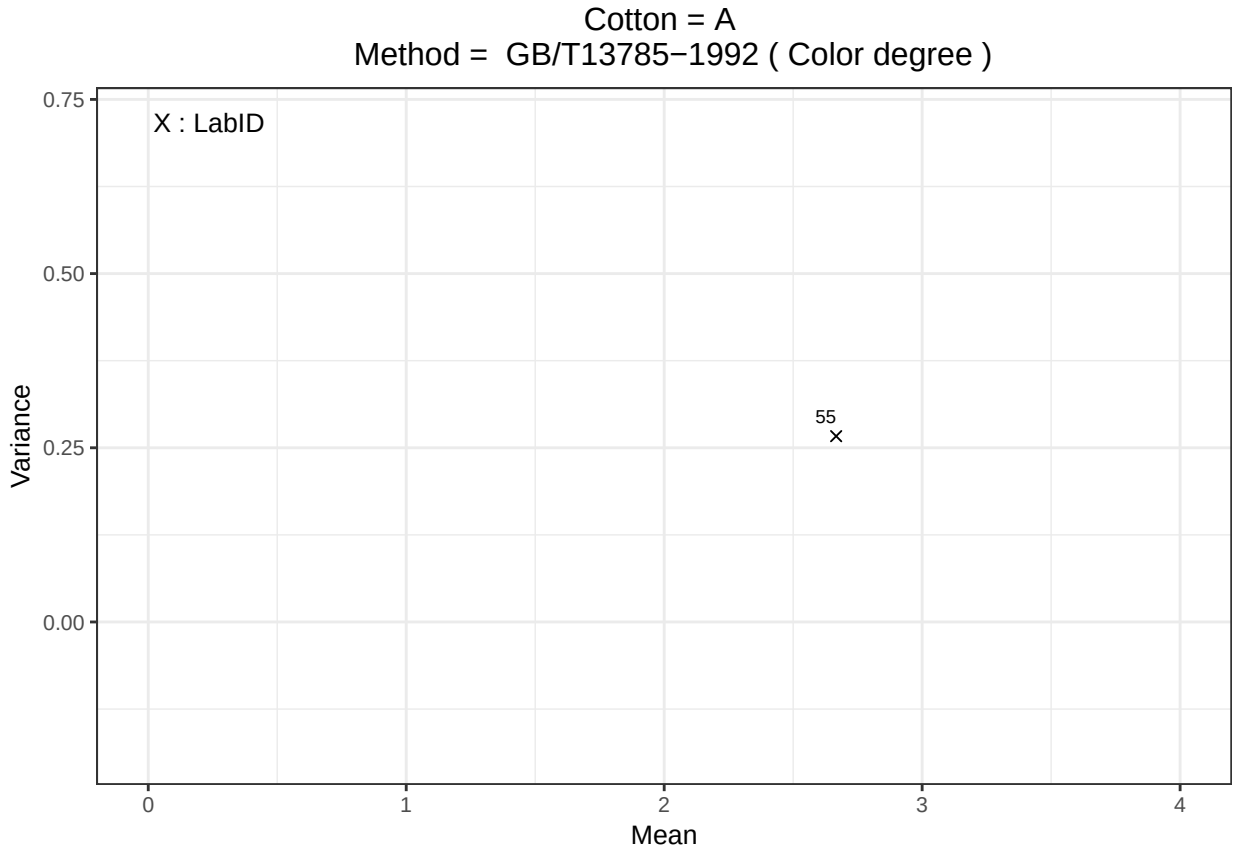
For Cotton A

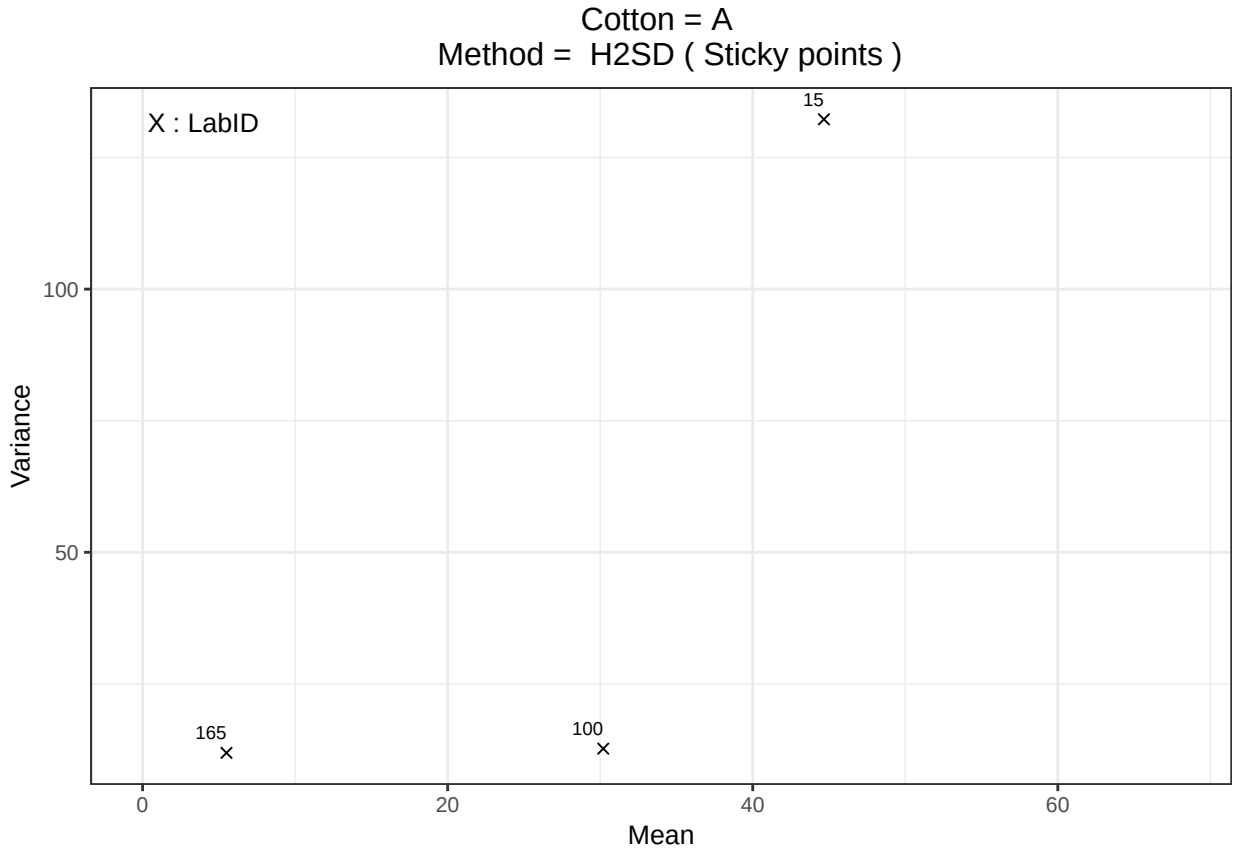


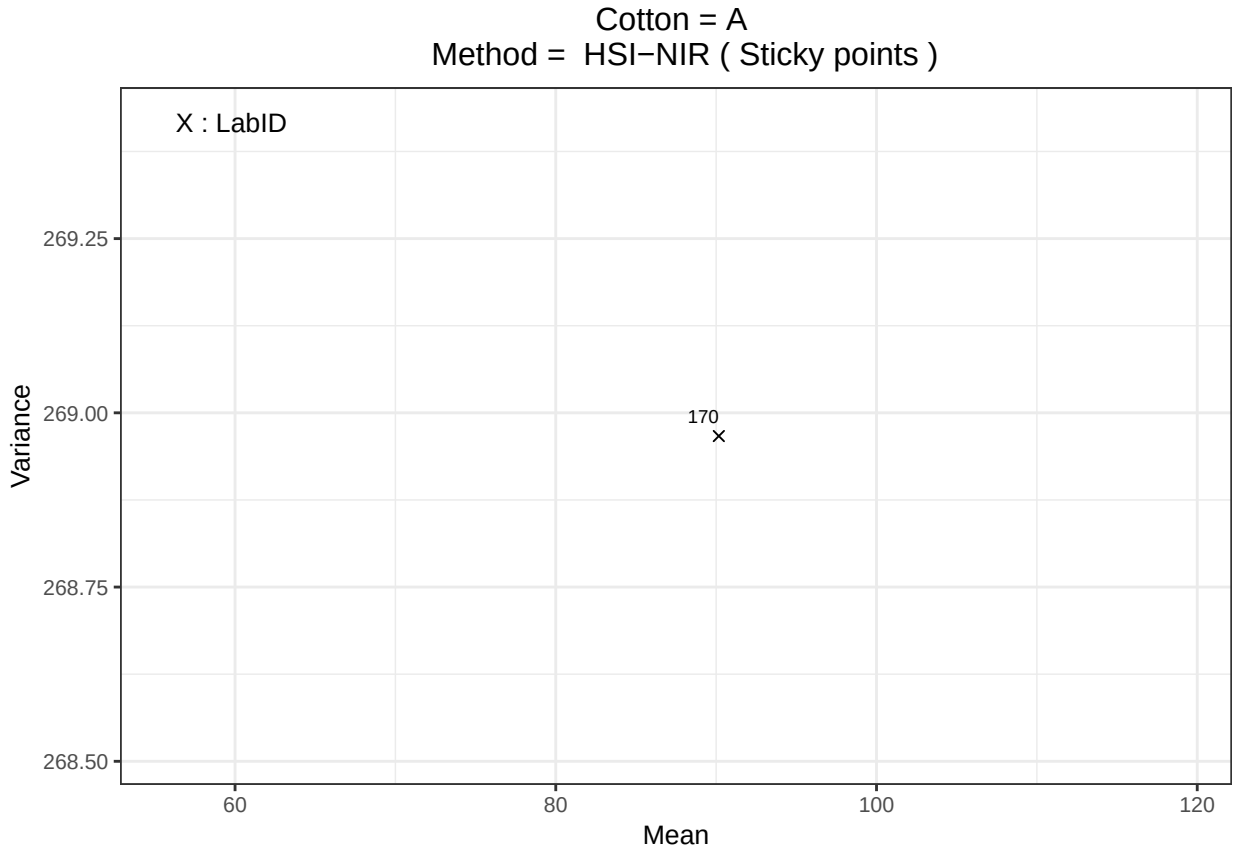

Cotton = A
Method = Clinitest (Color Chart)
X : LabID
60
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
−1
0
1
2
3
4

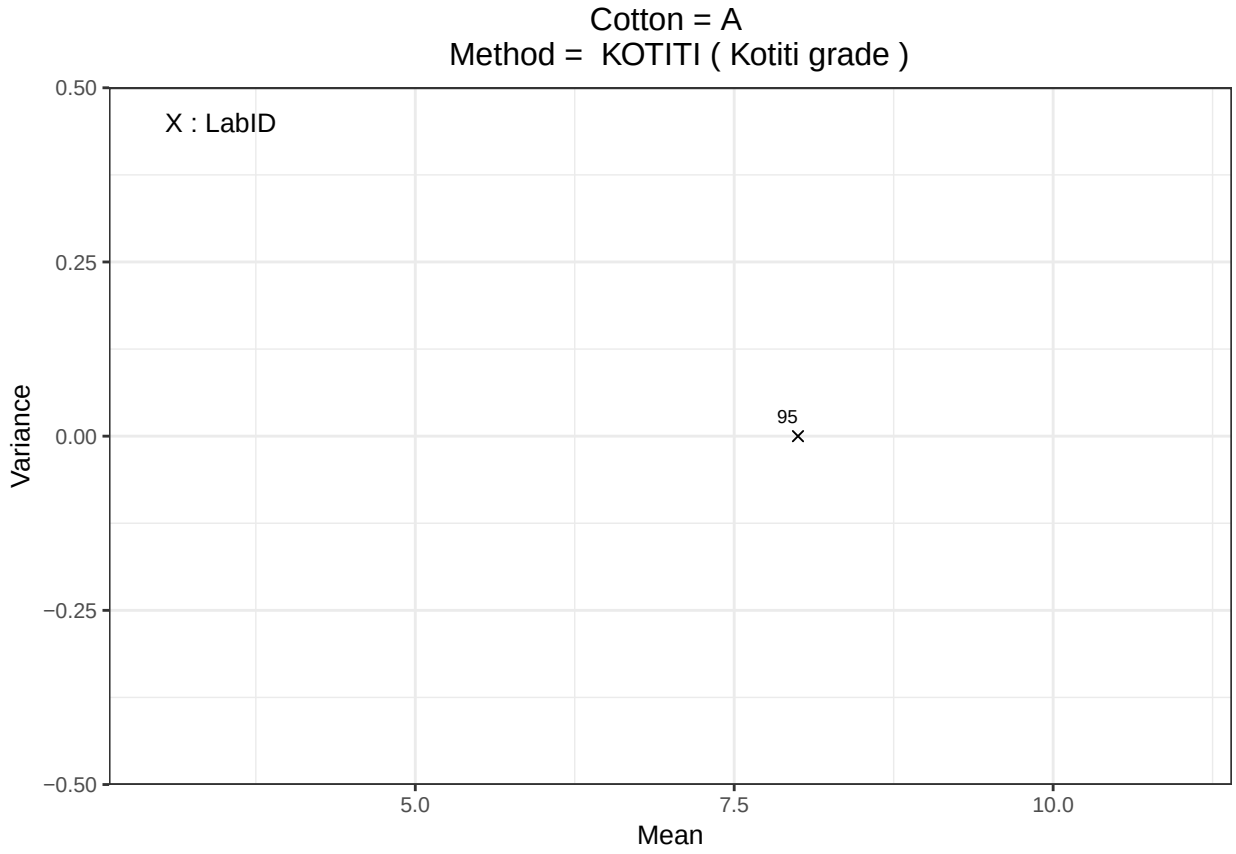

Cotton = A
Method = Contest (Contest grade)
X : LabID
120
115
10
7500
5000
2500
Variance
200
400
600
800
Mean

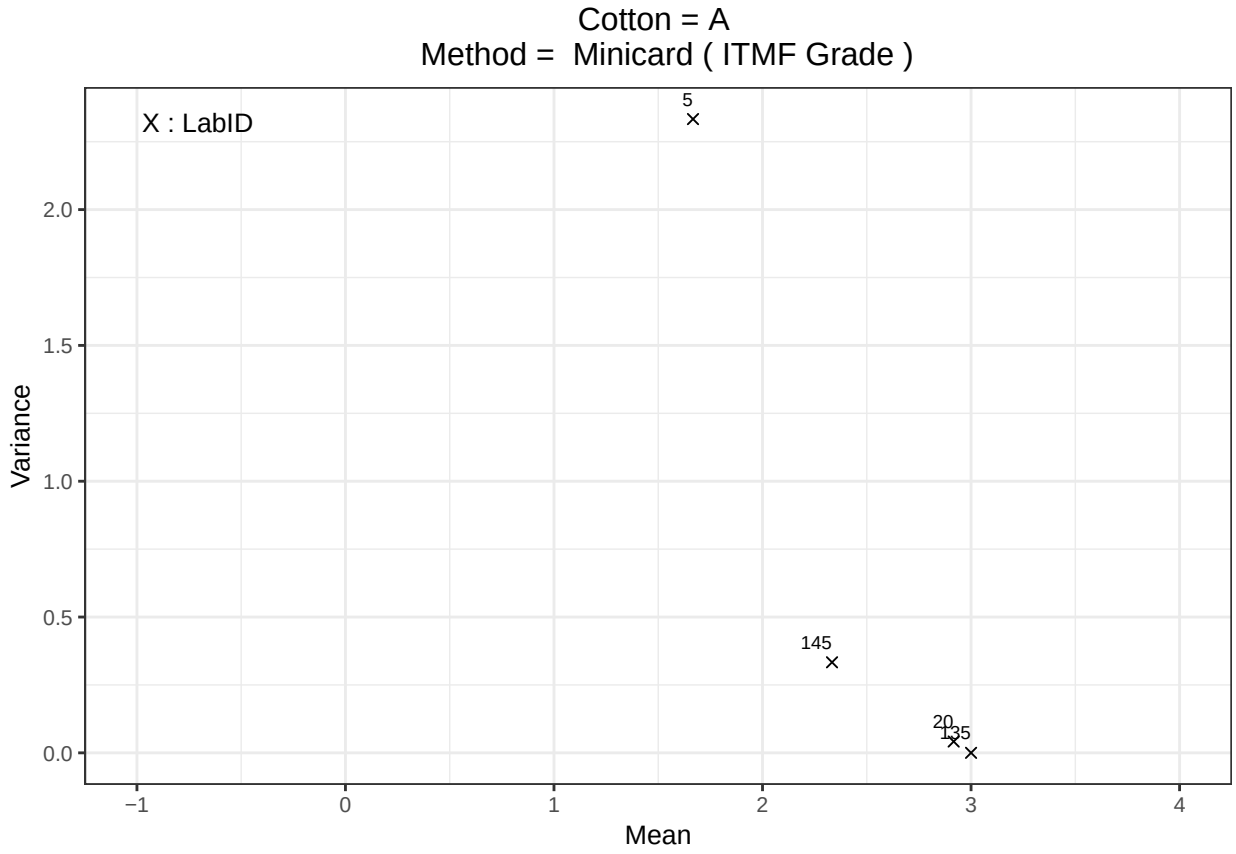

Cotton = A
Method = Fibermap (Fibermap grade)
X : LabID
75
90
Variance
Mean
7000
6000
5000
4000
3000
2000
1000
200
400
600

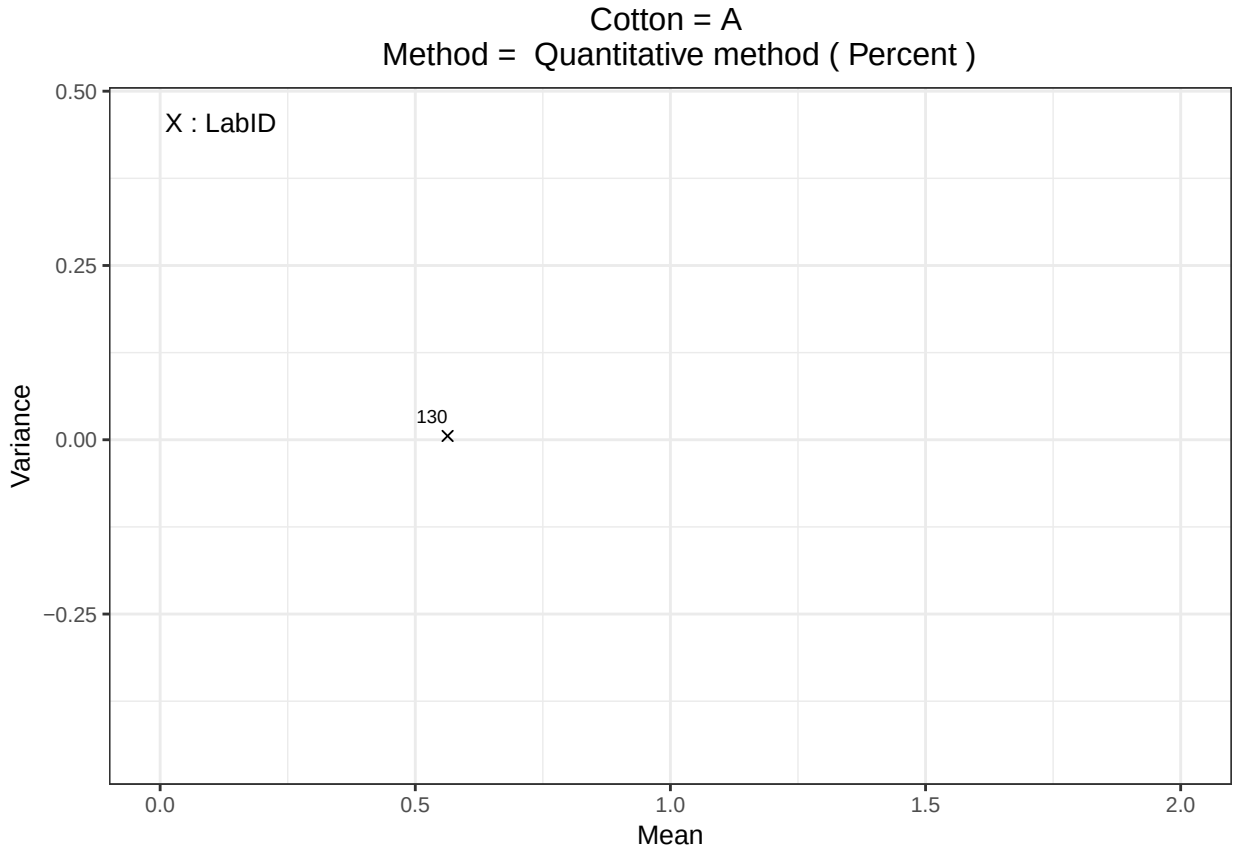

Cotton = A
Method = GB/T13785−1992 (Color degree)
X : LabID
55
Variance
0.75
0.50
0.25
0.00
0
1
2
3
4
Mean

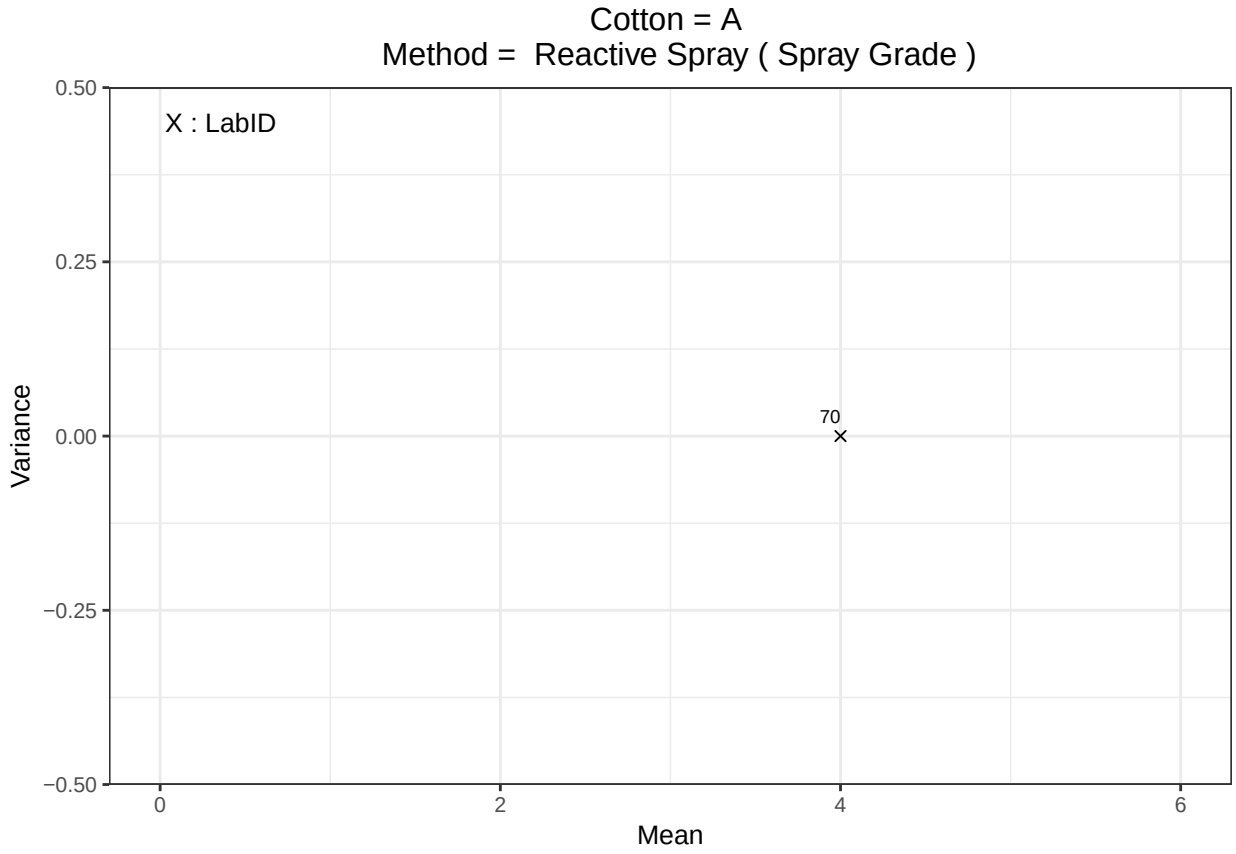

Cotton = A
Method = H2SD (Sticky points)
X : LabID
15
165
100
Variance
100
50
0
20
40
60
Mean

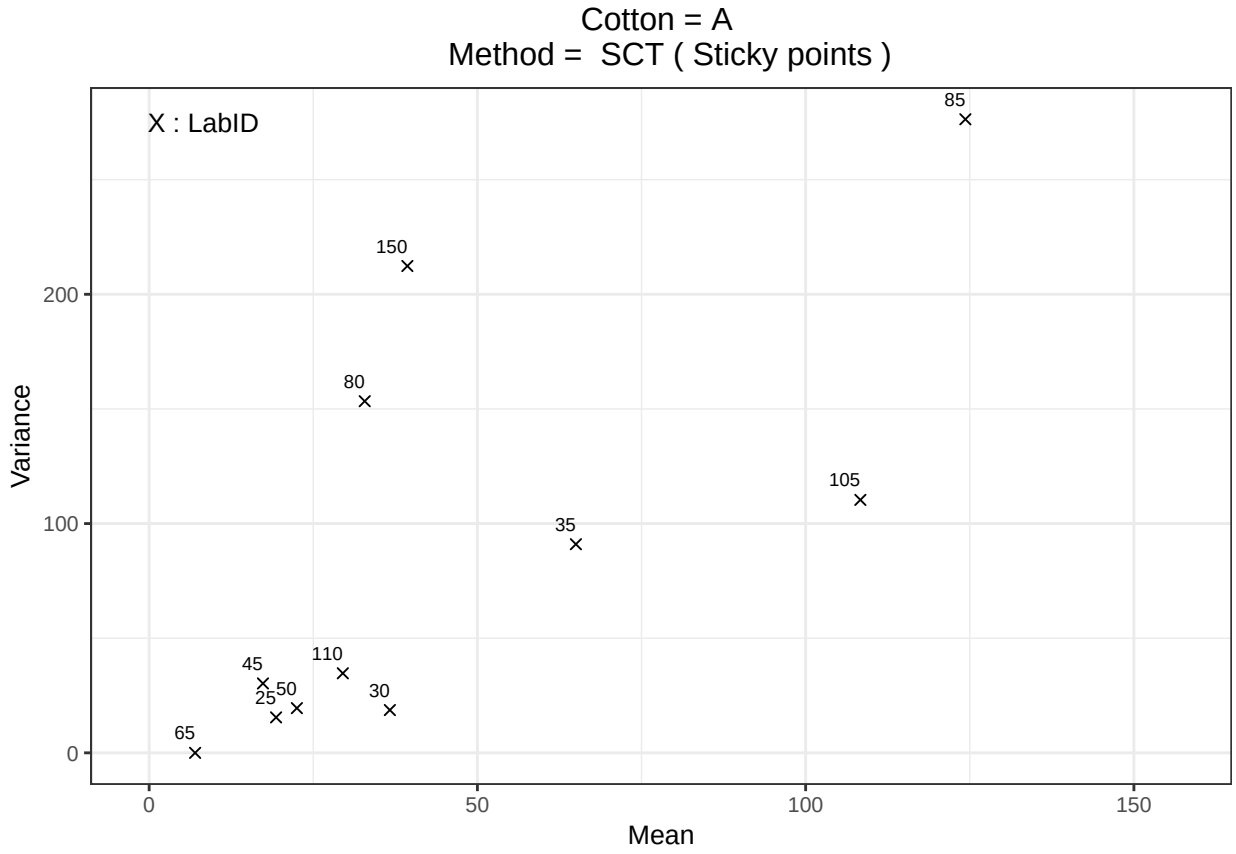

Cotton = A
Method = HSI−NIR (Sticky points)
X : LabID
269.25
269.00
268.75
268.50
Variance
170
60
80
100
120
Mean


Cotton = A
Method = KOTITI (Kotiti grade)
X : LabID
95
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
5.0
7.5
10.0

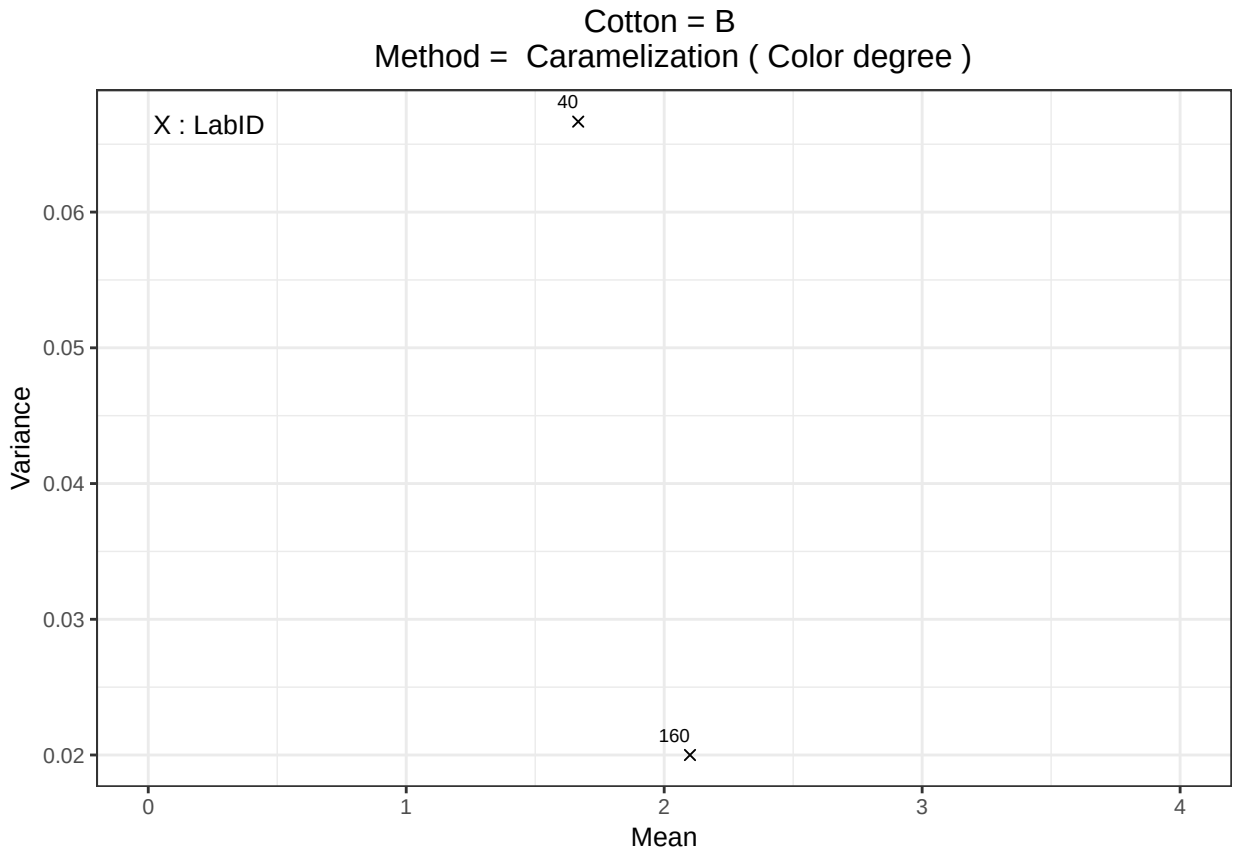

Cotton = A
Method = Minicard (ITMF Grade)
X : LabID
5
145
20
135
Variance
Mean
2.0
1.5
1.0
0.5
0.0
−1
0
1
2
3
4

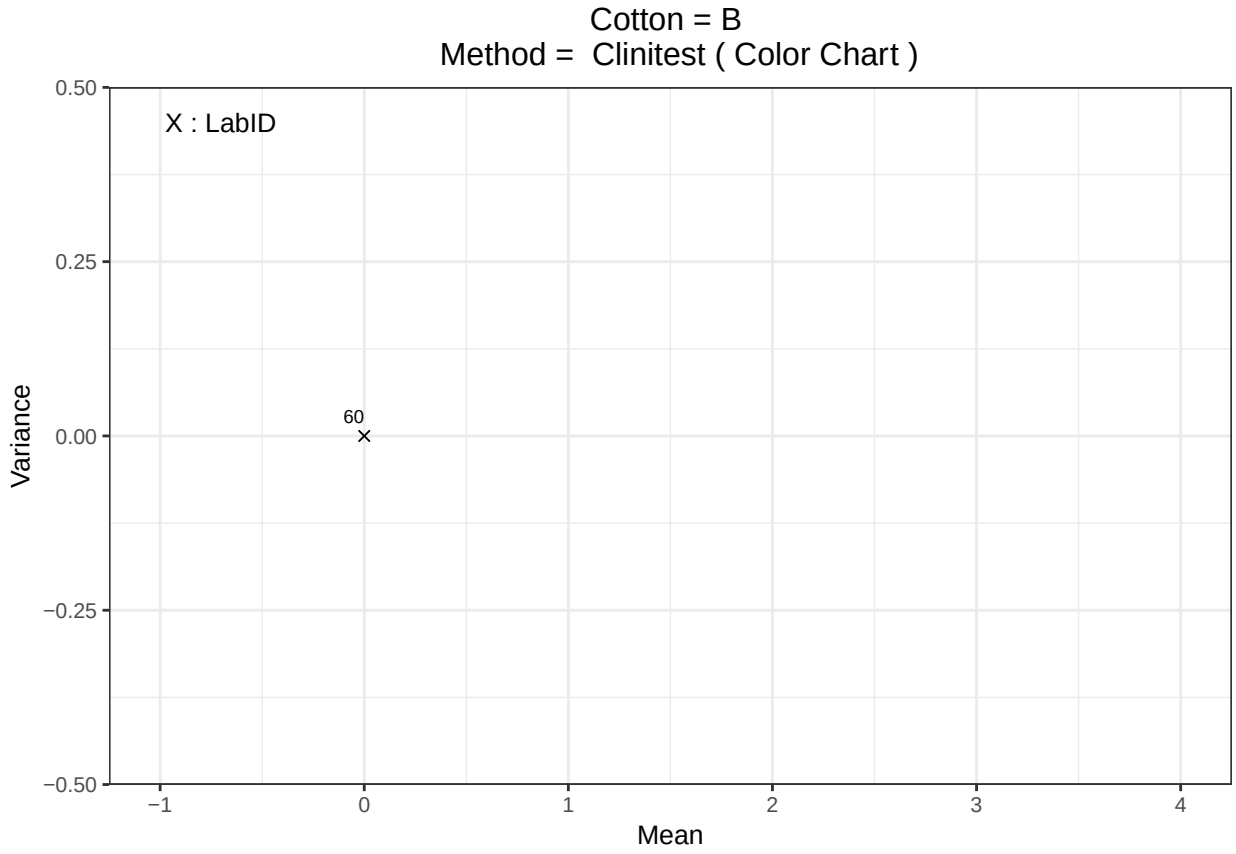

Cotton = A
Method = Quantitative method (Percent)
X : LabID
130
Variance
Mean
0.50
0.25
0.00
−0.25
0.0
0.5
1.0
1.5
2.0

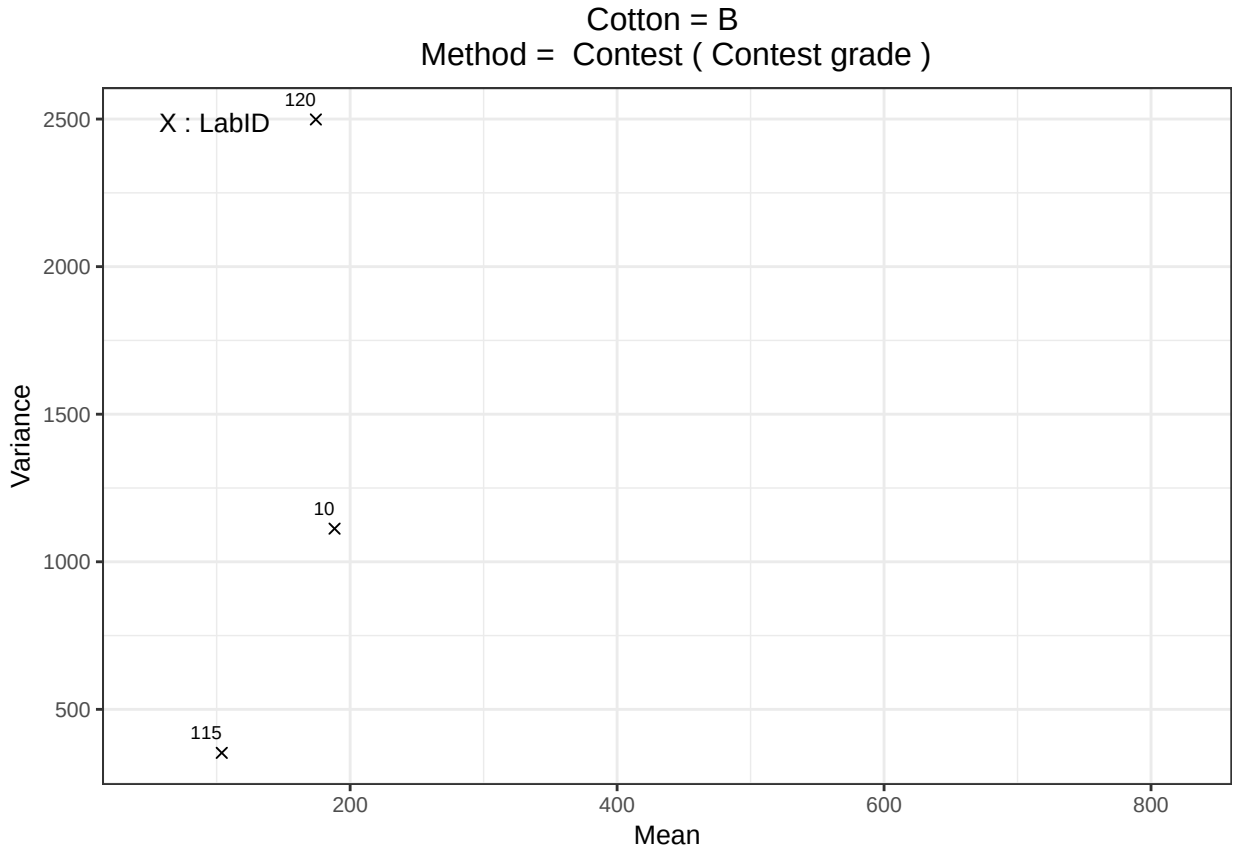

Cotton = A
Method = Reactive Spray (Spray Grade)
X : LabID
70
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
0
2
4
6

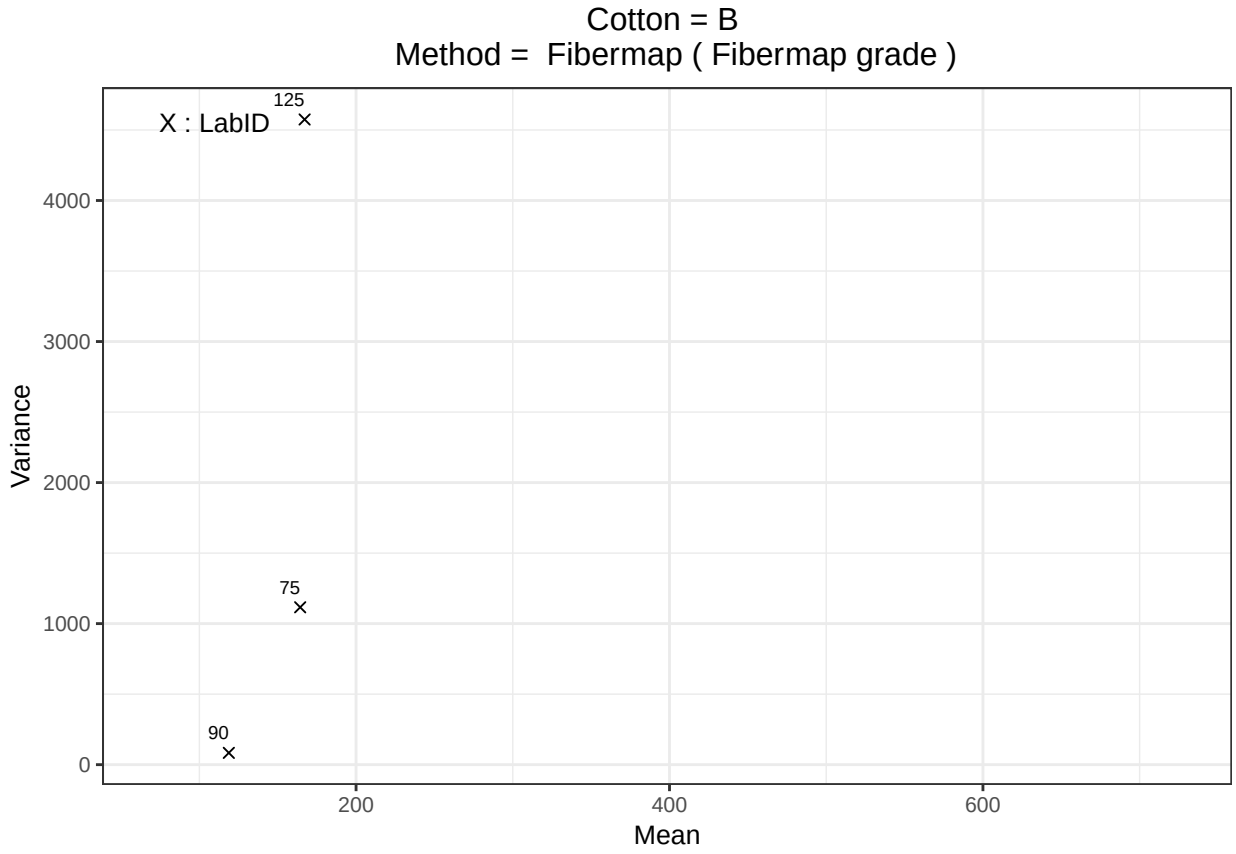

Cotton = A
Method = SCT (Sticky points)
X : LabID
Variance
Mean
0
100
200
0
50
100
150
85
150
80
105
35
45
110
50
25
30
65

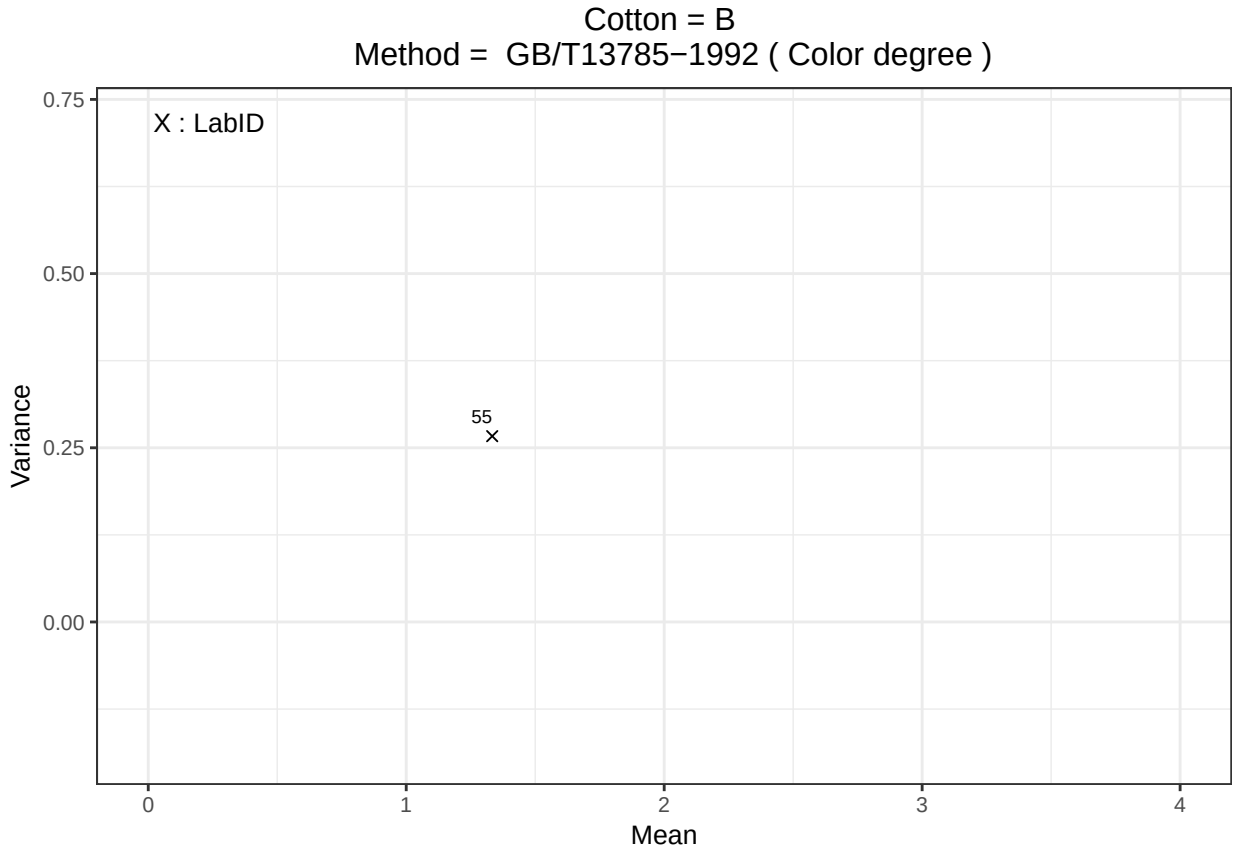
For Cotton B

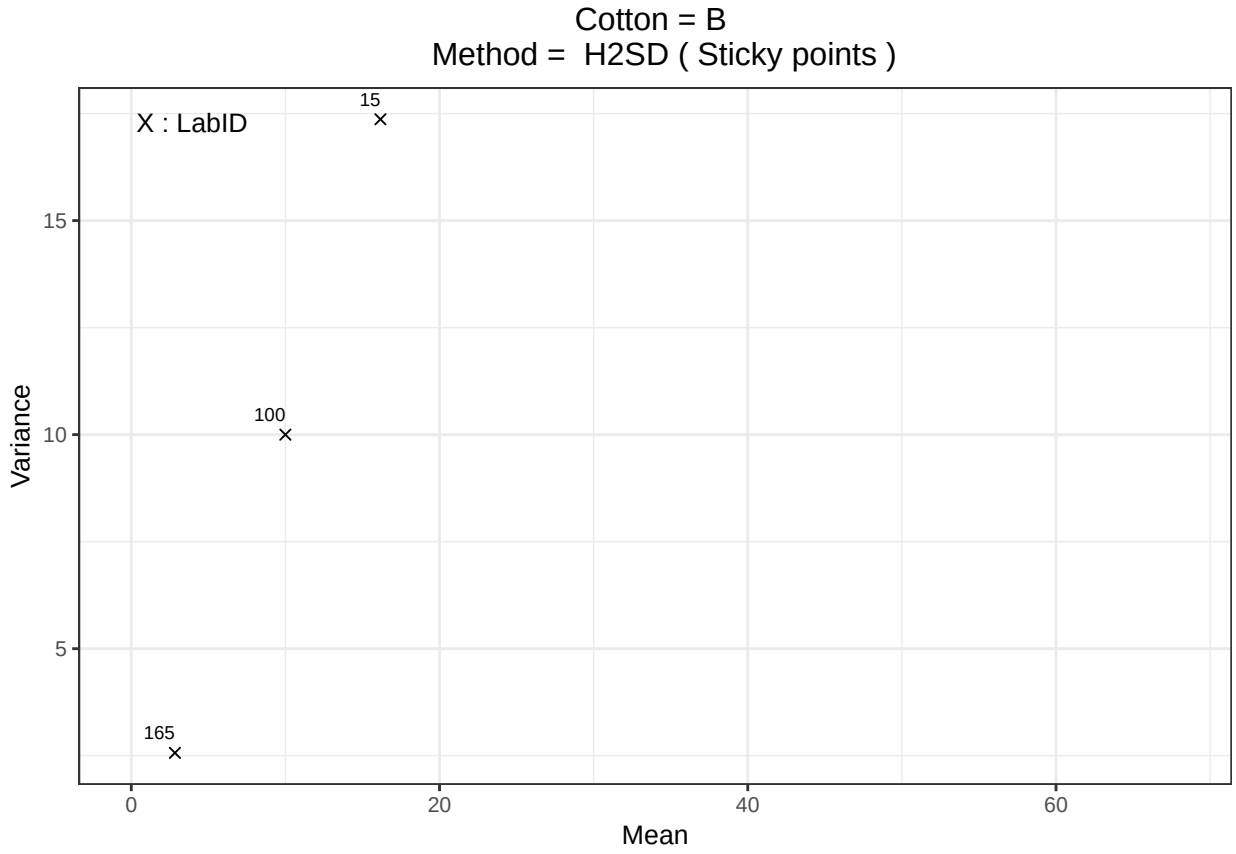

Cotton = B
Method = Caramelization (Color degree)
X : LabID
40
160
Variance
0.06
0.05
0.04
0.03
0.02
0
1
2
3
4
Mean

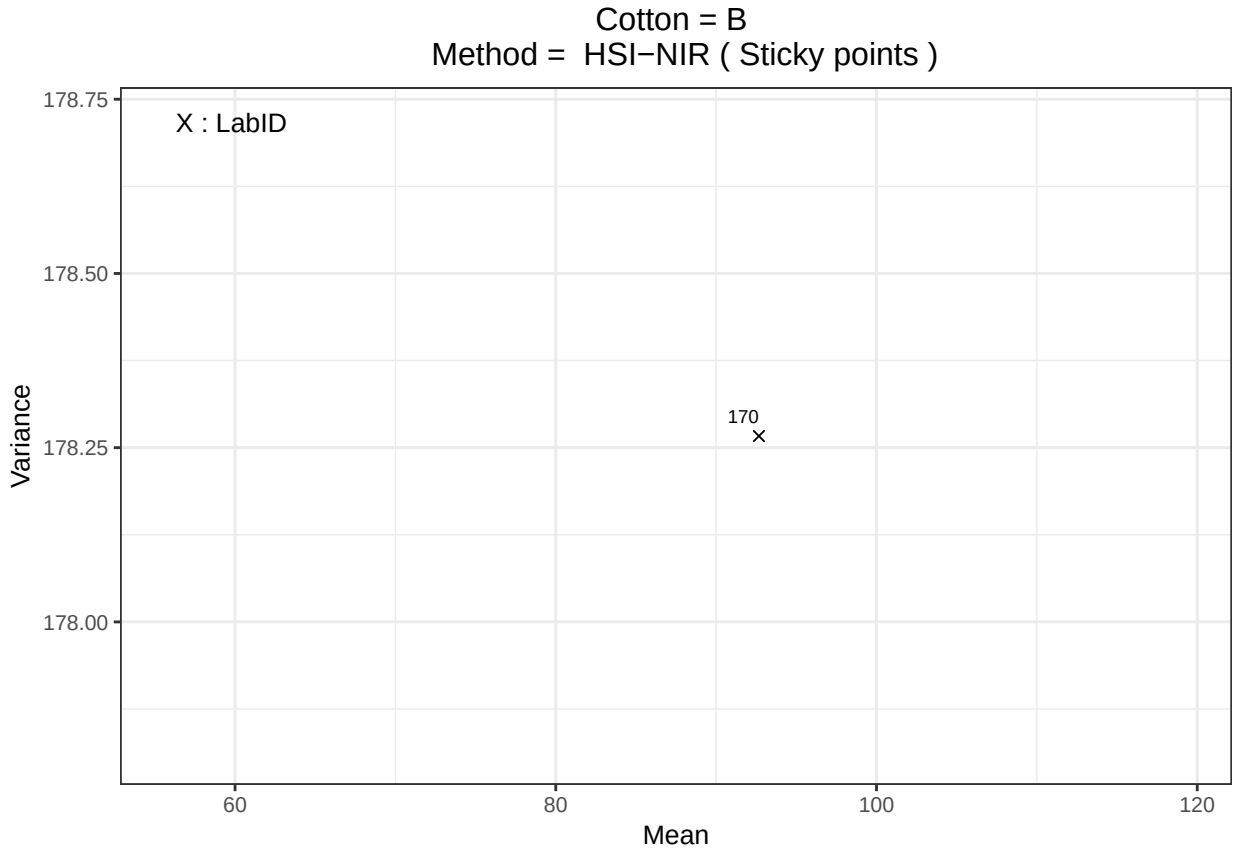

Cotton = B
Method = Clinitest (Color Chart)
X : LabID
60
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
−1
0
1
2
3
4

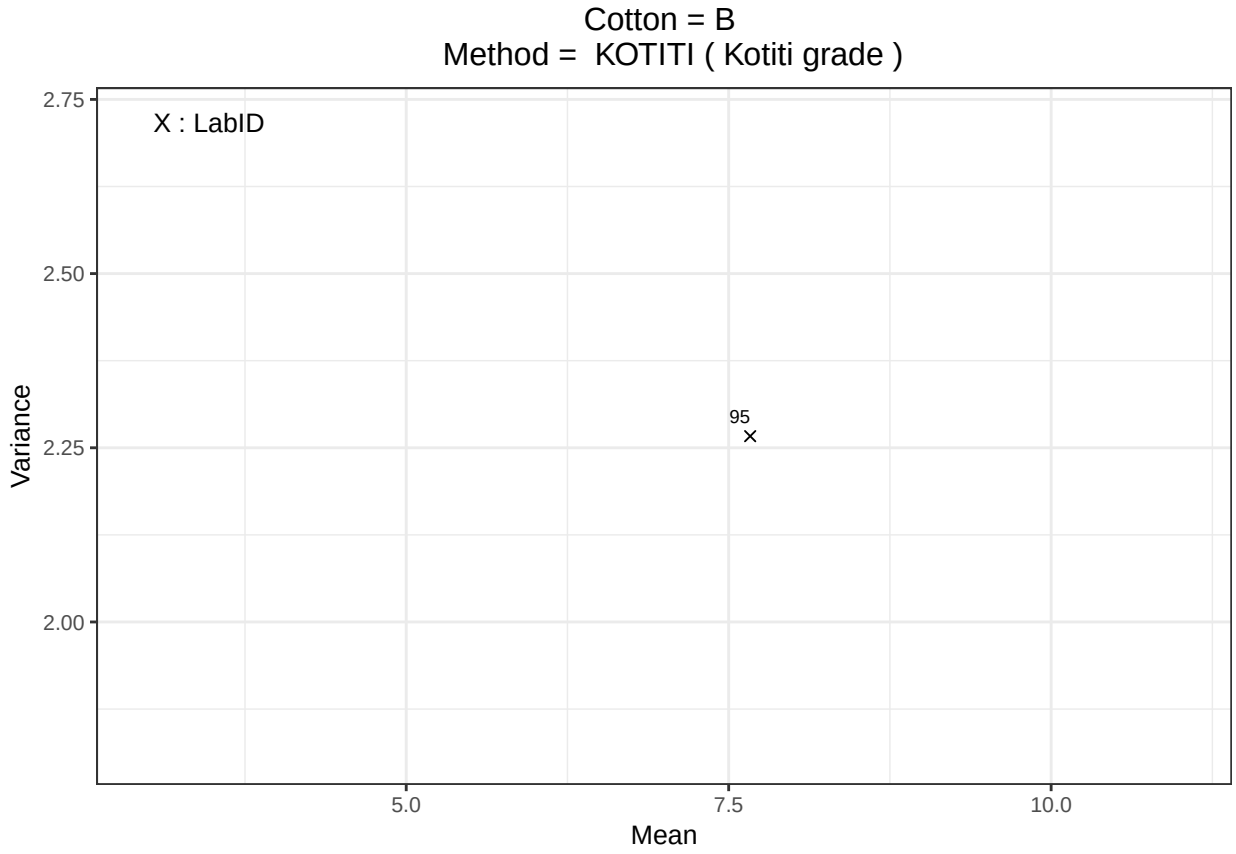

Cotton = B
Method = Contest (Contest grade)
X : LabID
120
10
115
Variance
Mean
2500
2000
1500
1000
500
200
400
600
800

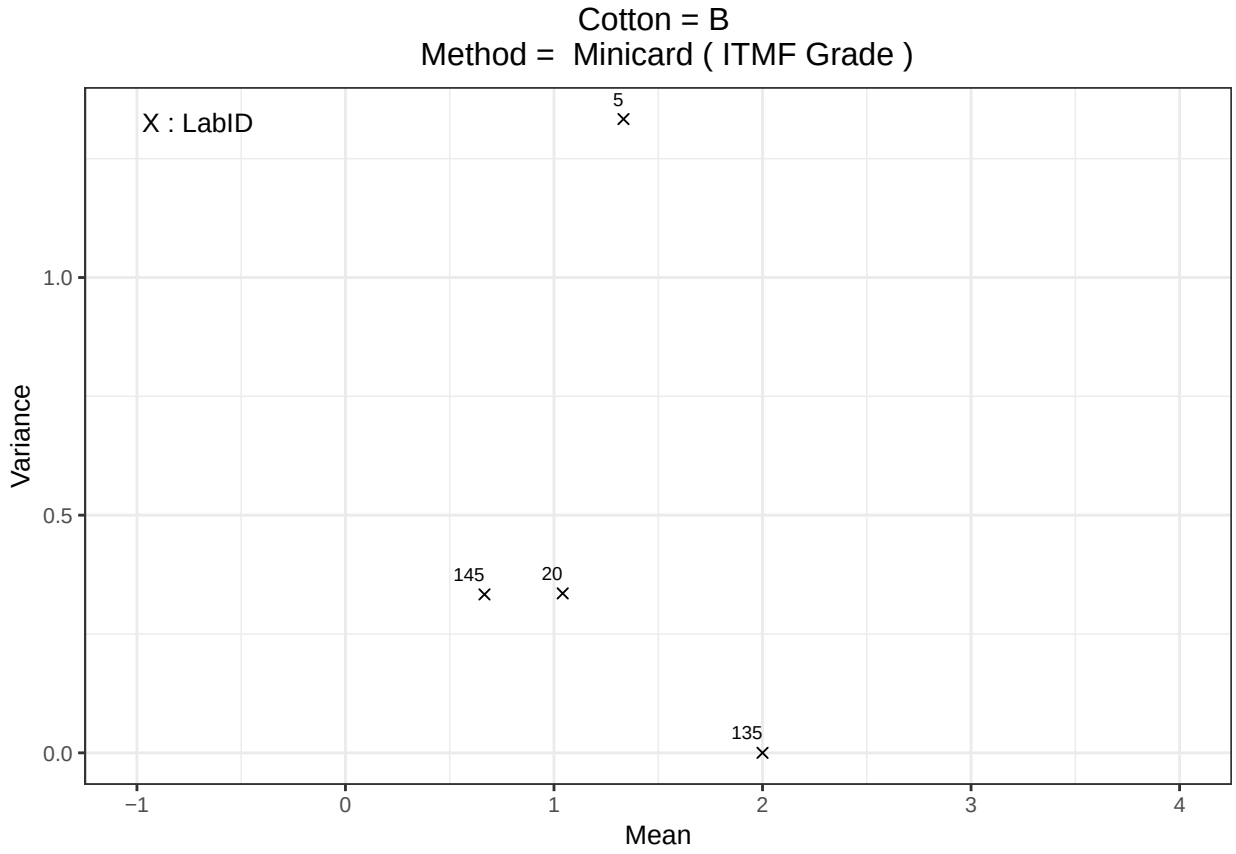

Cotton = B
Method = Fibermap (Fibermap grade)
X : LabID
125
75
90
4000
3000
2000
1000
0
Variance
200
400
600
Mean

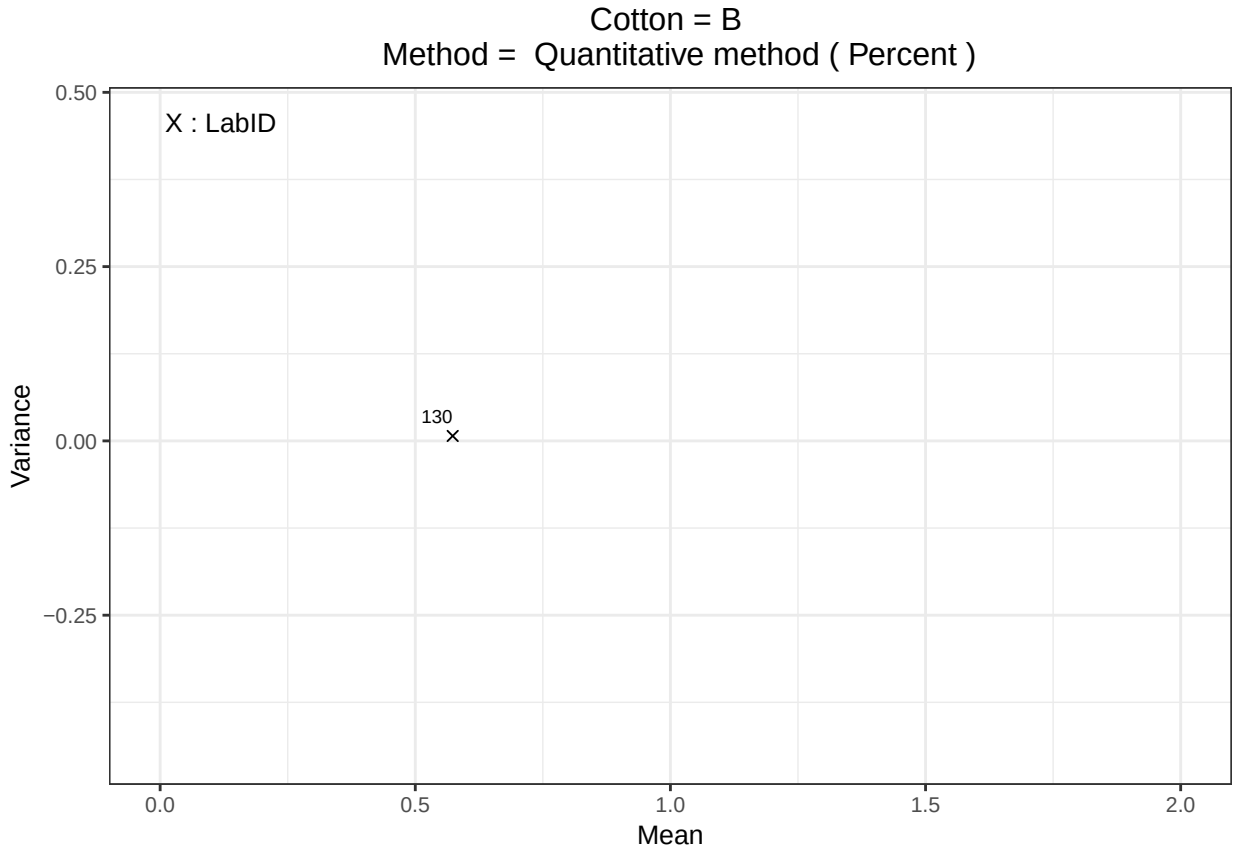

Cotton = B
Method = GB/T13785−1992 (Color degree)
X : LabID
55
Variance
0.75
0.50
0.25
0.00
0
1
2
3
4
Mean

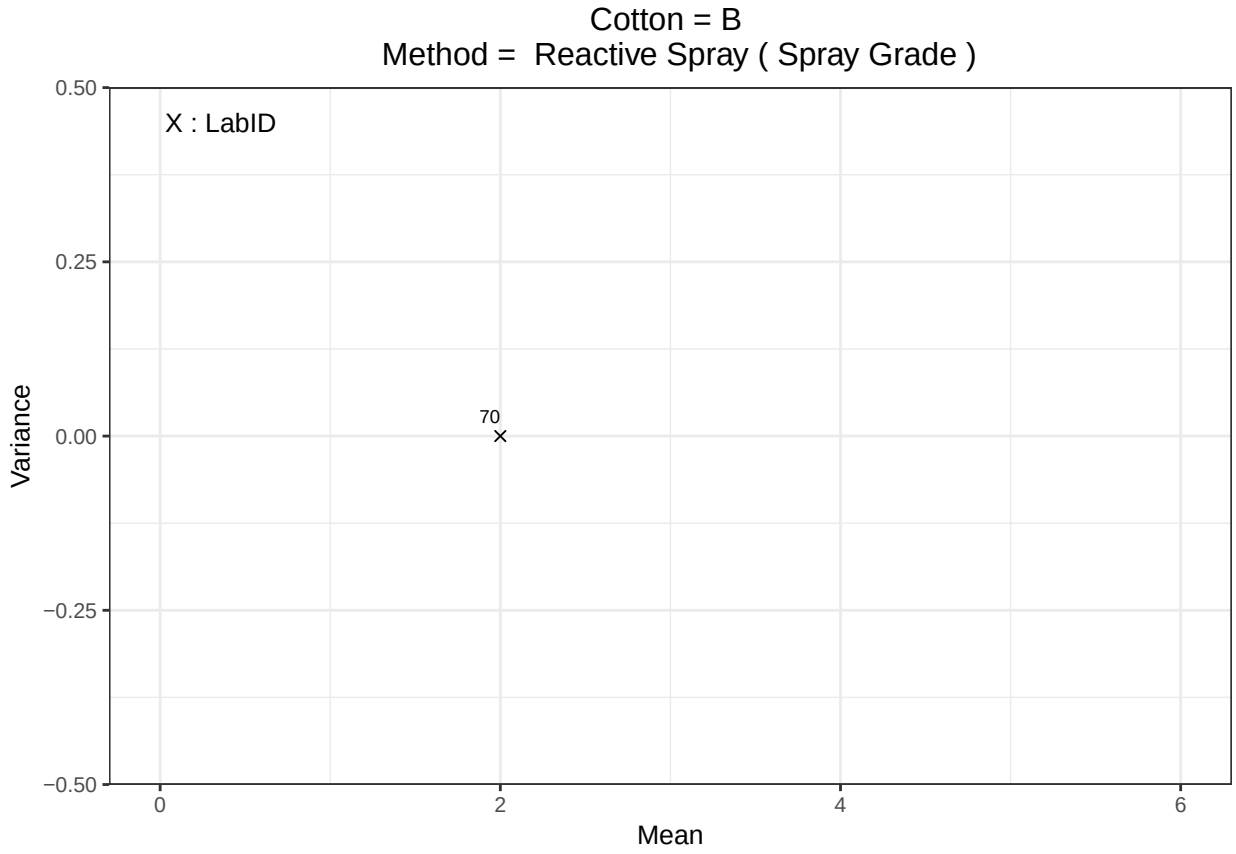

Cotton = B
Method = H2SD (Sticky points)
X : LabID
15
100
165
Variance
Mean
0
20
40
60
5
10
15

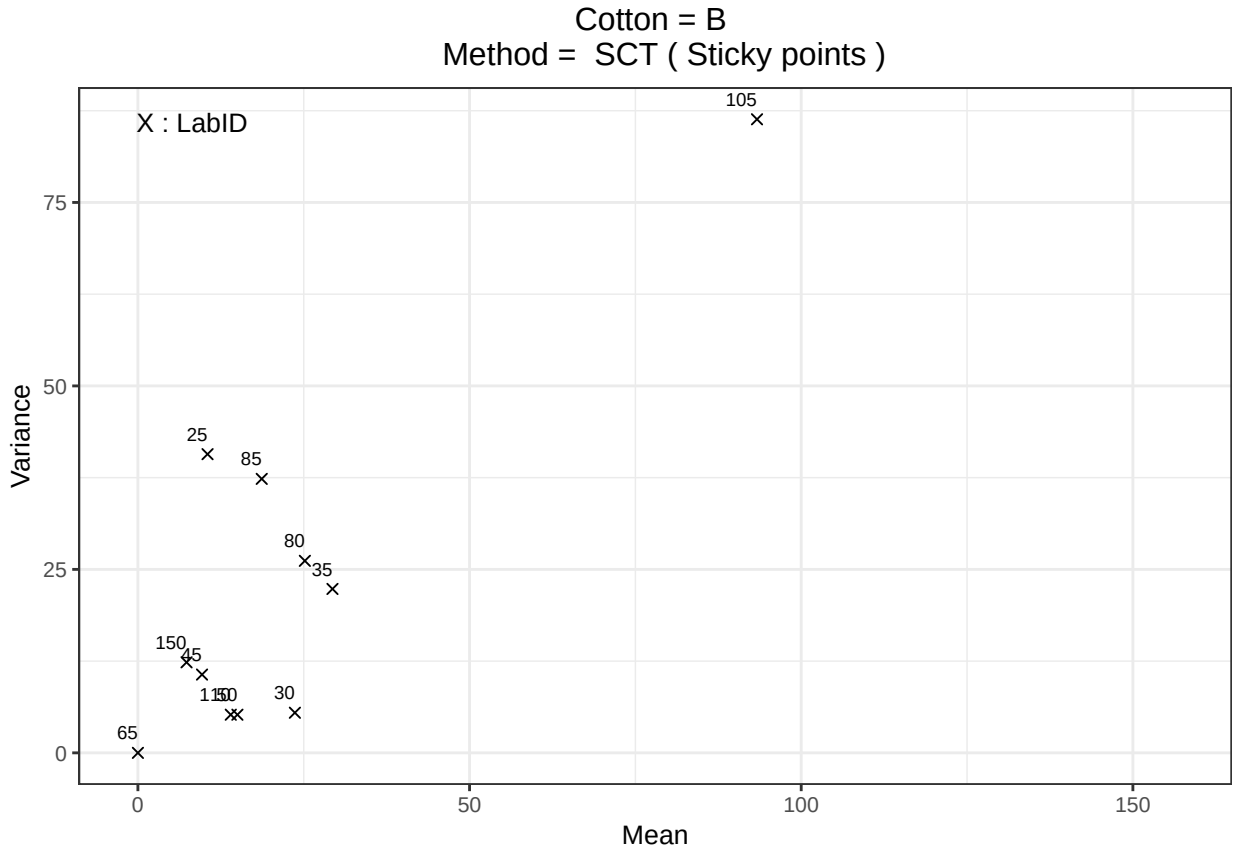

Cotton = B
Method = HSI−NIR (Sticky points)
X : LabID
170
Variance
178.75
178.50
178.25
178.00
60
80
100
120
Mean


Cotton = B
Method = KOTITI (Kotiti grade)
X : LabID
95
Variance
2.75
2.50
2.25
2.00
5.0
7.5
10.0
Mean

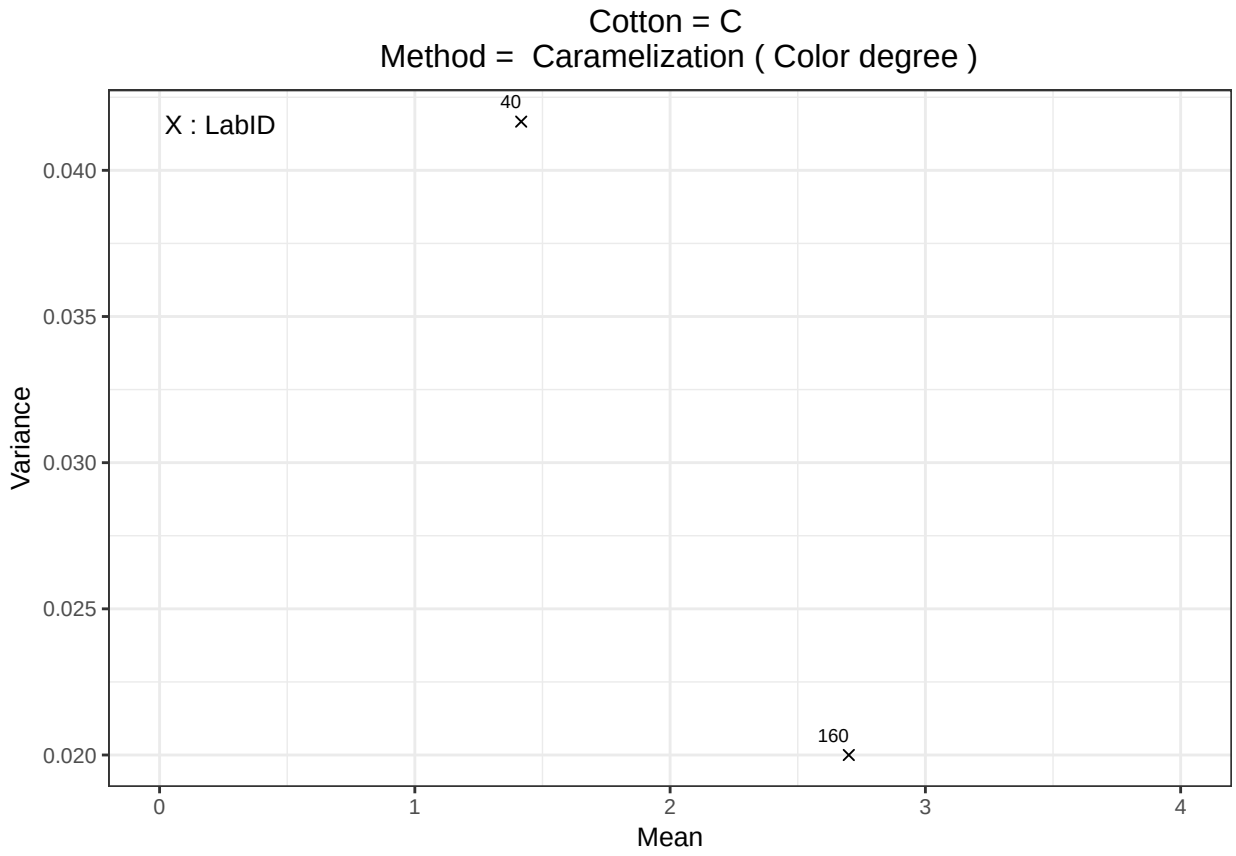

Cotton = B
Method = Minicard (ITMF Grade)
X : LabID
5
145
20
135
Variance
Mean
1.0
0.5
0.0
−1
0
1
2
3
4

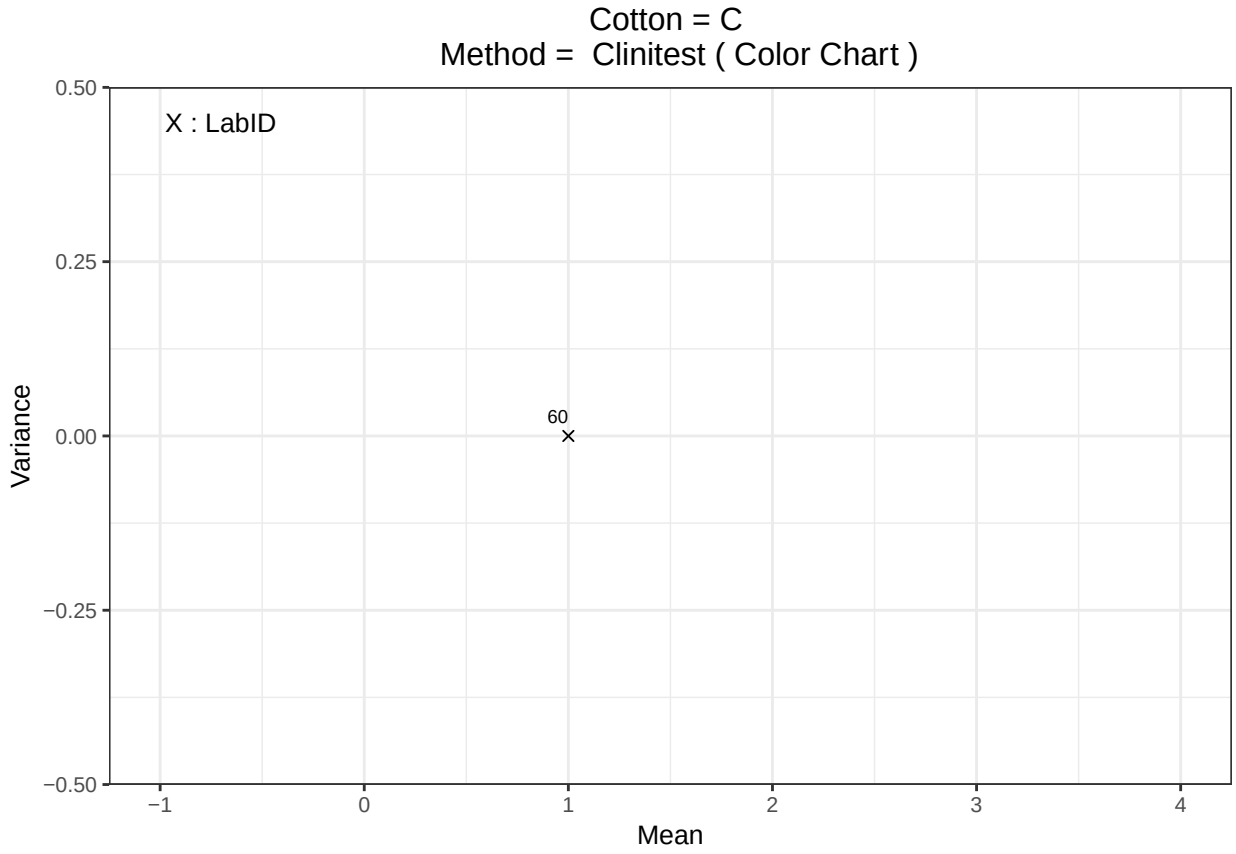

Cotton = B
Method = Quantitative method (Percent)
X : LabID
130
Variance
Mean
0.50
0.25
0.00
−0.25
0.0
0.5
1.0
1.5
2.0

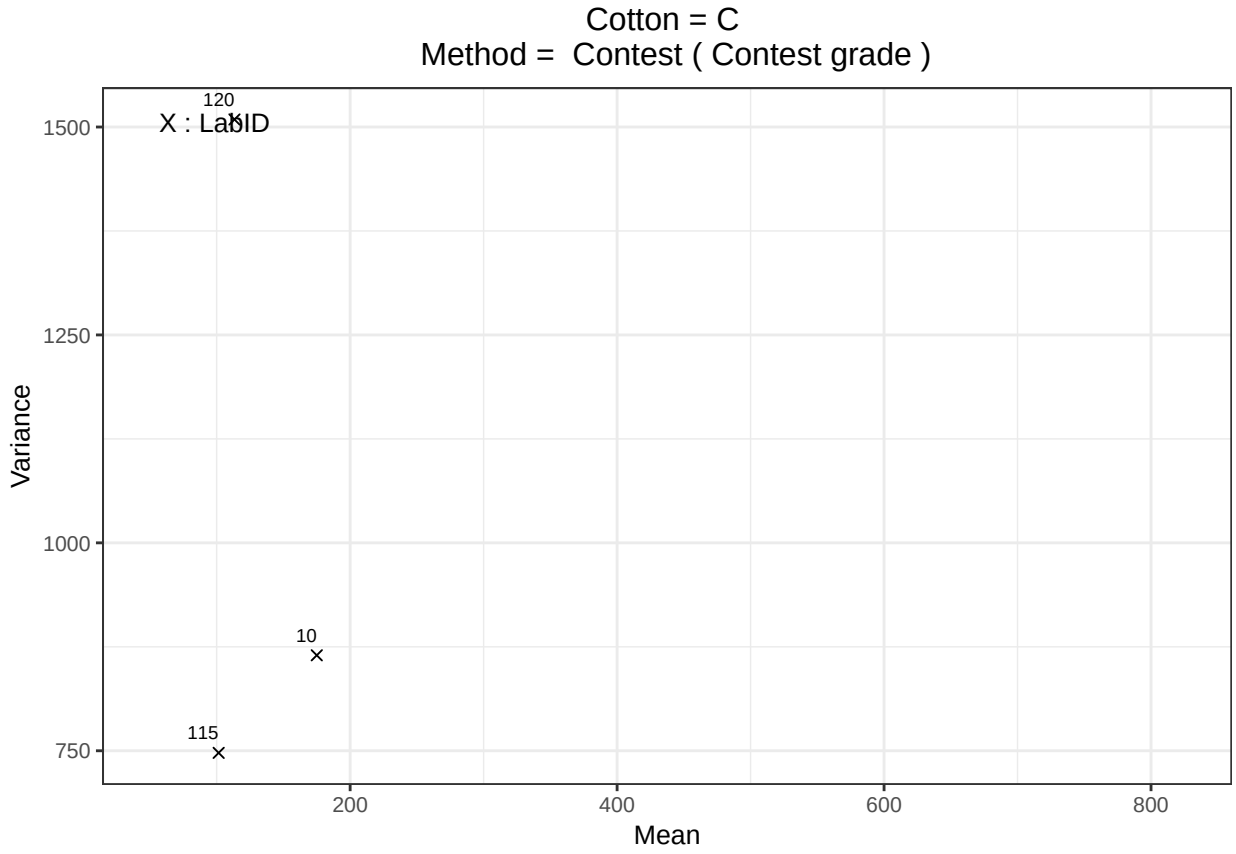

Cotton = B
Method = Reactive Spray (Spray Grade)
X : LabID
70
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
0
2
4
6

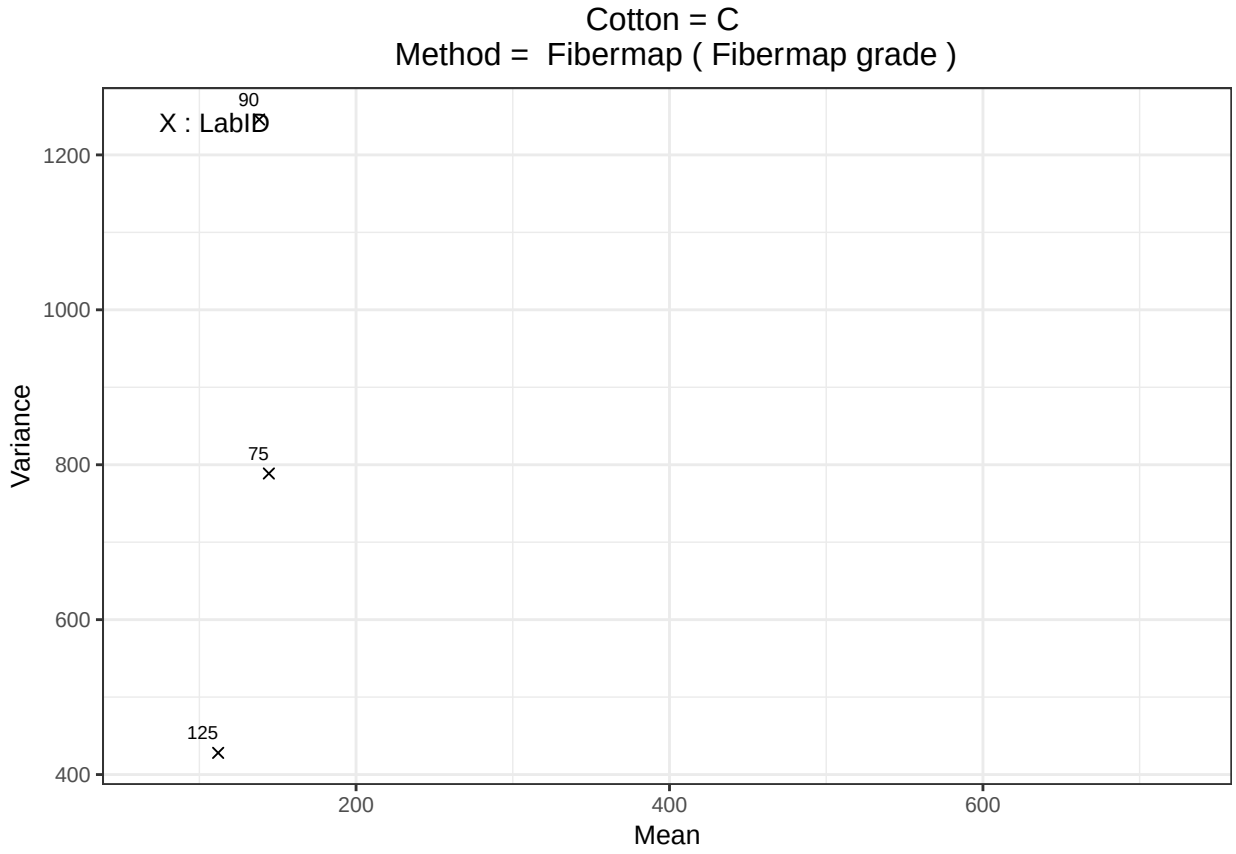

Cotton = B
Method = SCT (Sticky points)
X : LabID
105
25
85
80
35
150
45
30
65
Variance
Mean
0
25
50
75
0
50
100
150

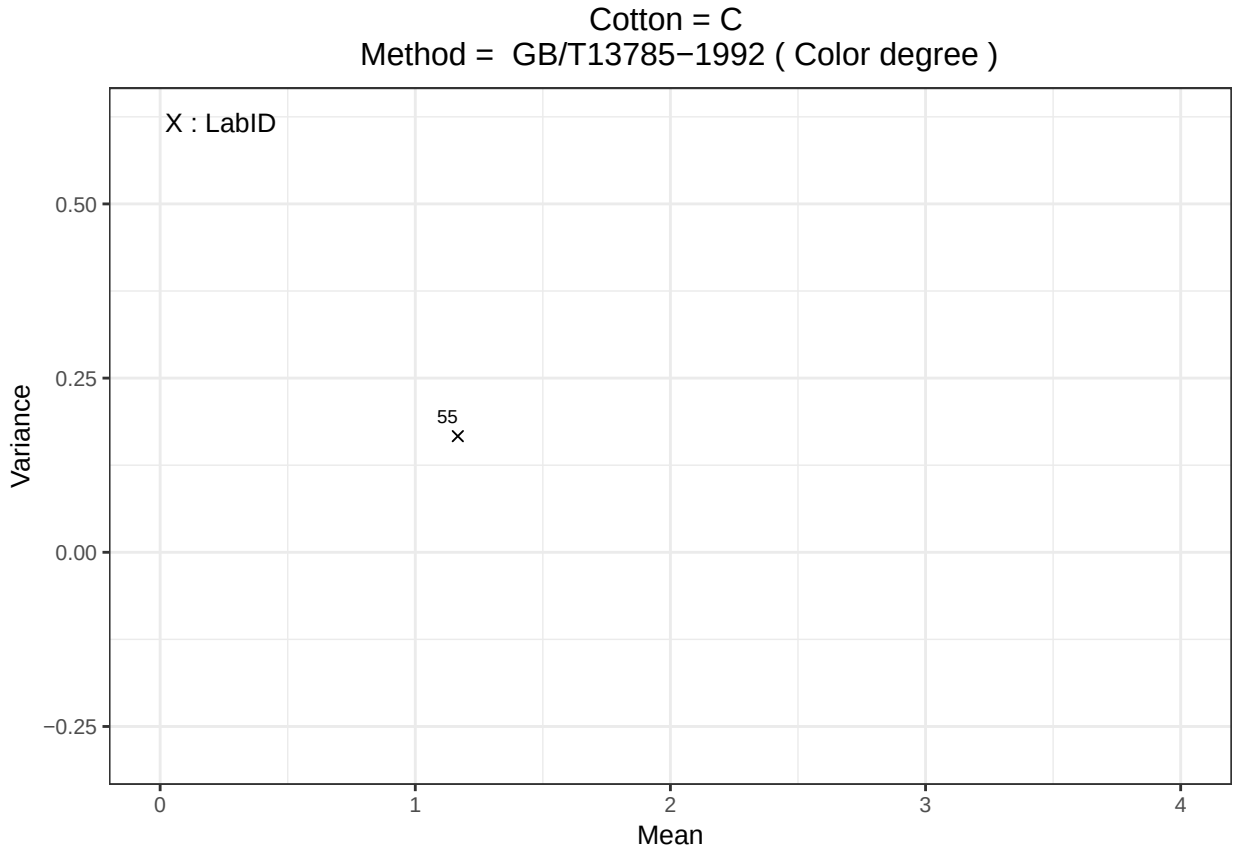
For Cotton C

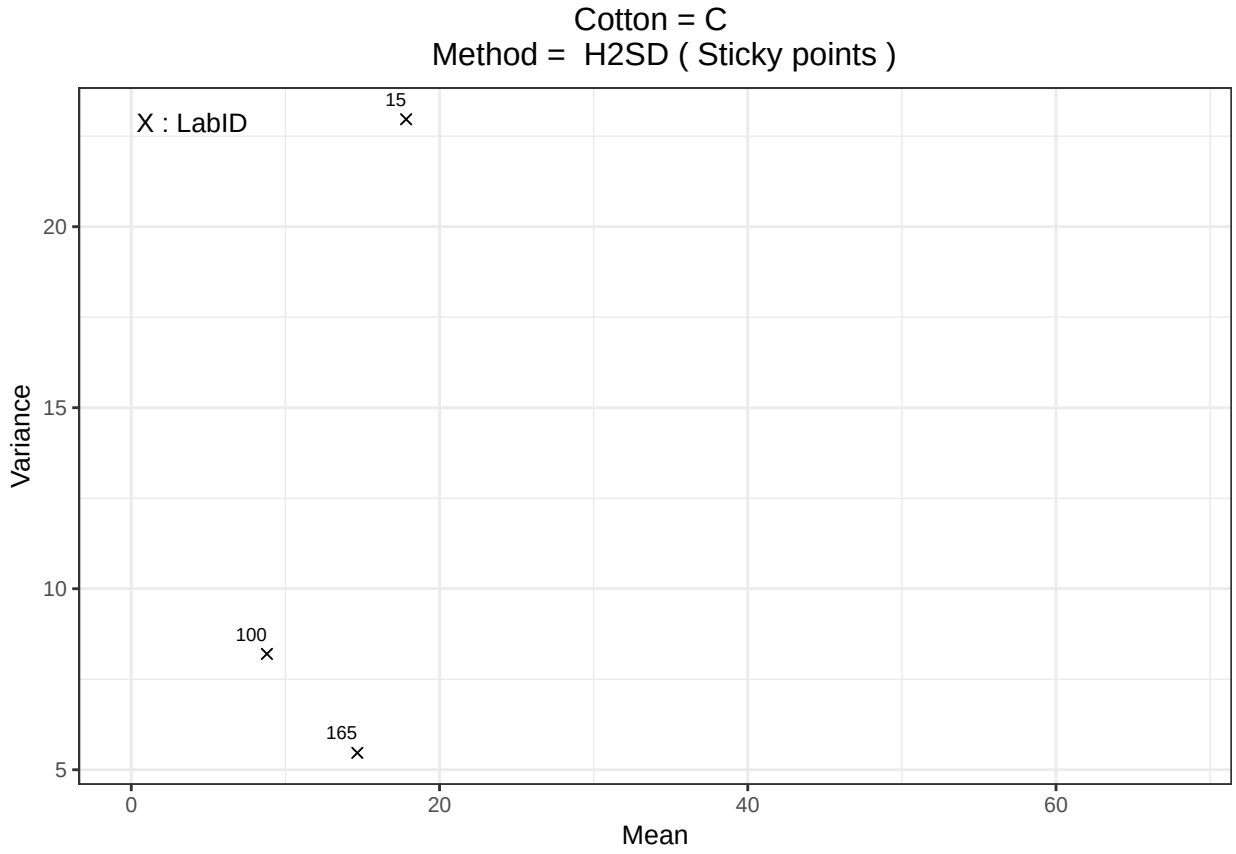

Cotton = C
Method = Caramelization (Color degree)
X : LabID
40
160
0.040
0.035
0.030
0.025
0.020
Variance
0
1
2
3
4
Mean

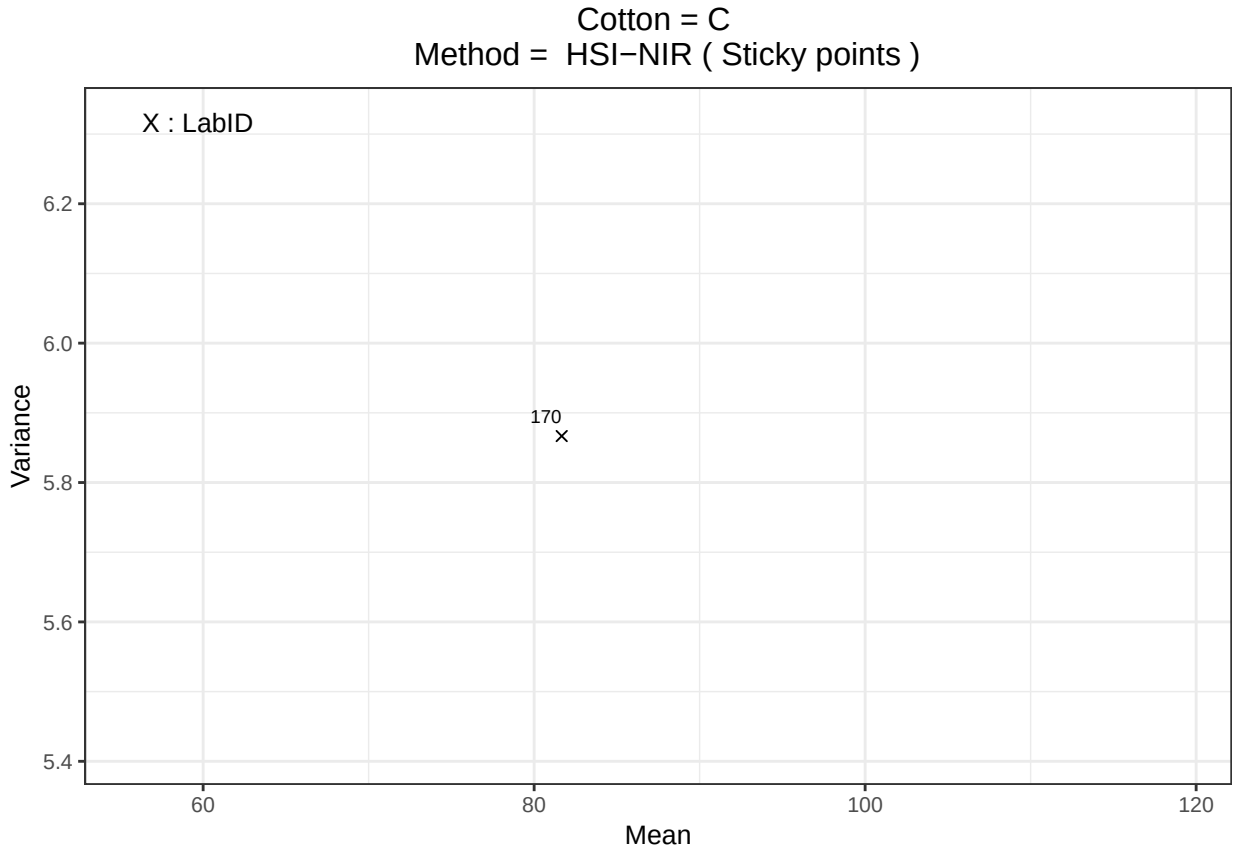

Cotton = C
Method = Clinitest (Color Chart)
X : LabID
60
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
−1
0
1
2
3
4

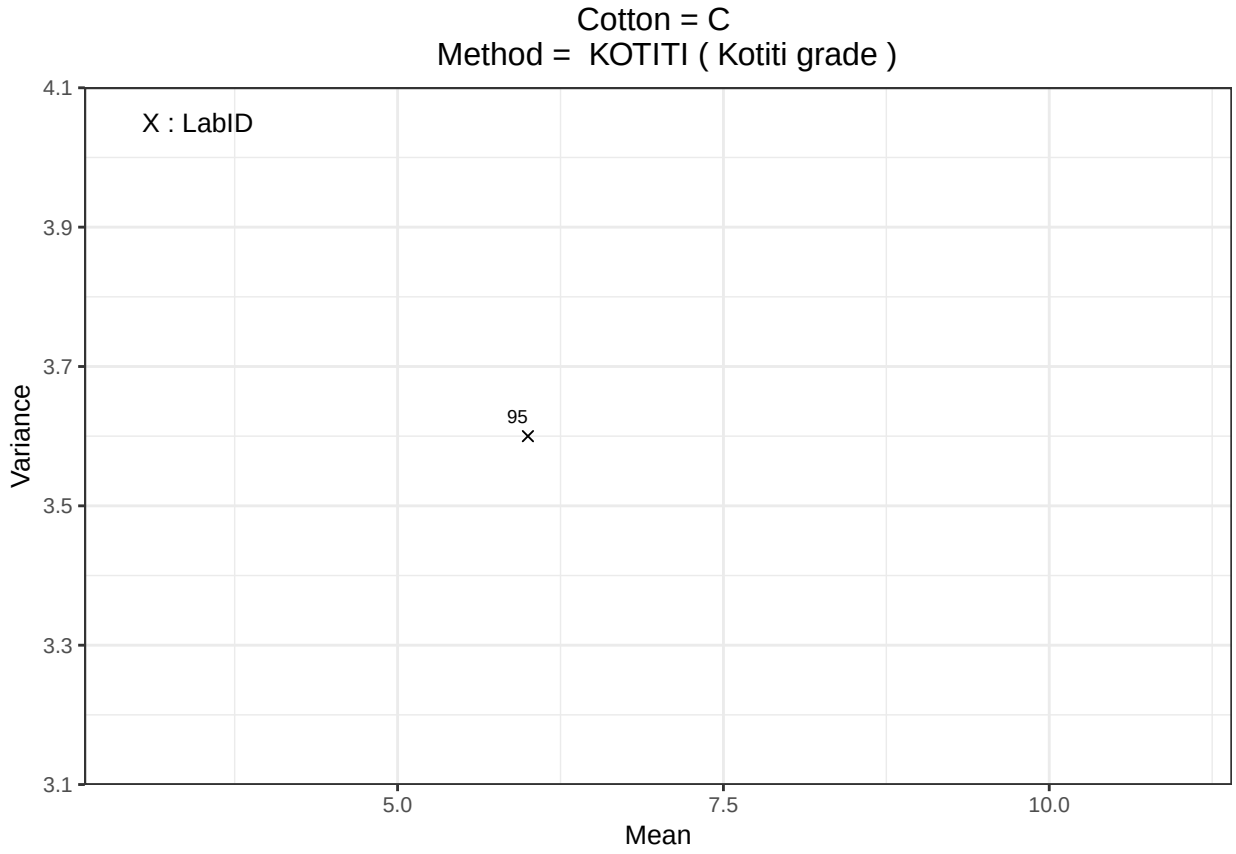

Cotton = C
Method = Contest (Contest grade)
X : LabID
120
10
115
1500
1250
1000
750
Variance
200
400
600
800
Mean

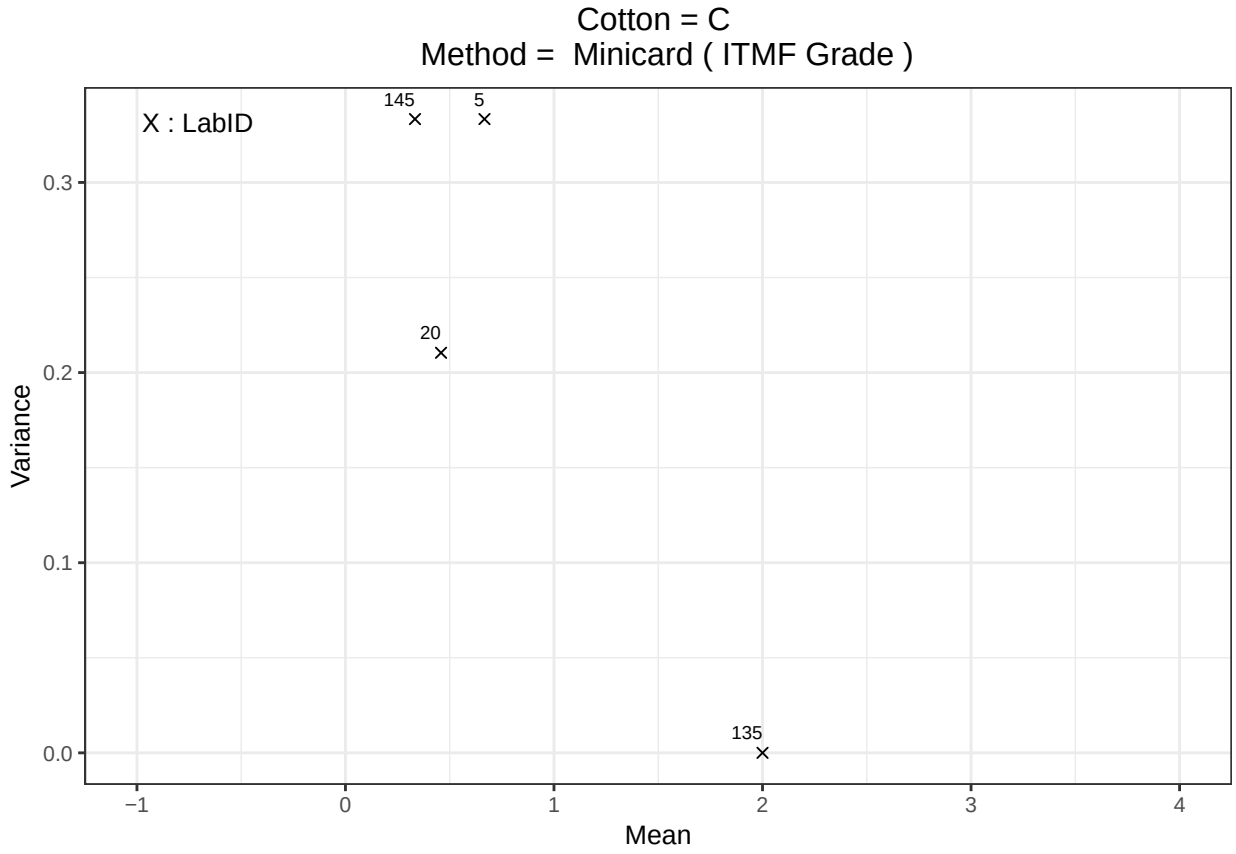

Cotton = C
Method = Fibermap (Fibermap grade)
X : LabID
90
75
125
Variance
Mean
1200
1000
800
600
400
200
400
600

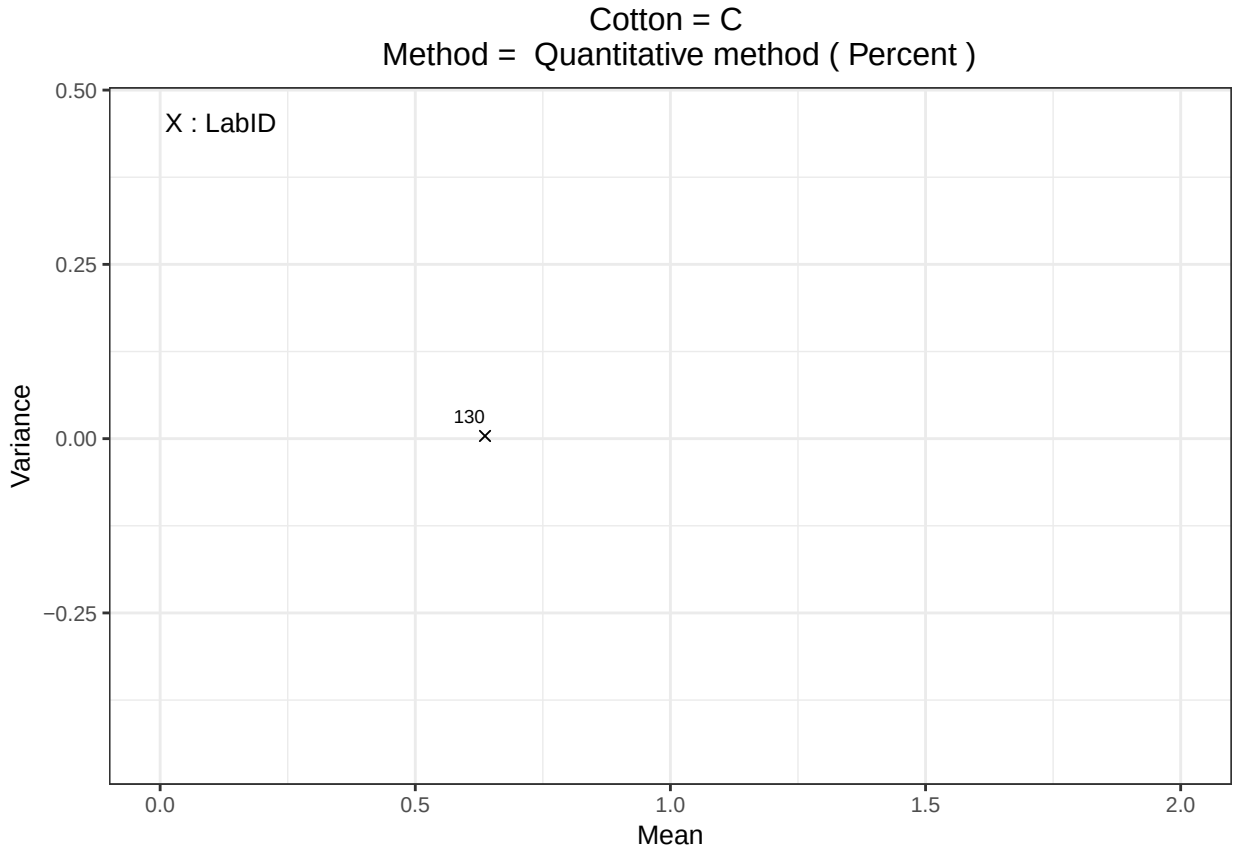

Cotton = C
Method = GB/T13785−1992 (Color degree)
X : LabID
0.50
0.25
0.00
−0.25
Variance
55
0
1
2
3
4
Mean

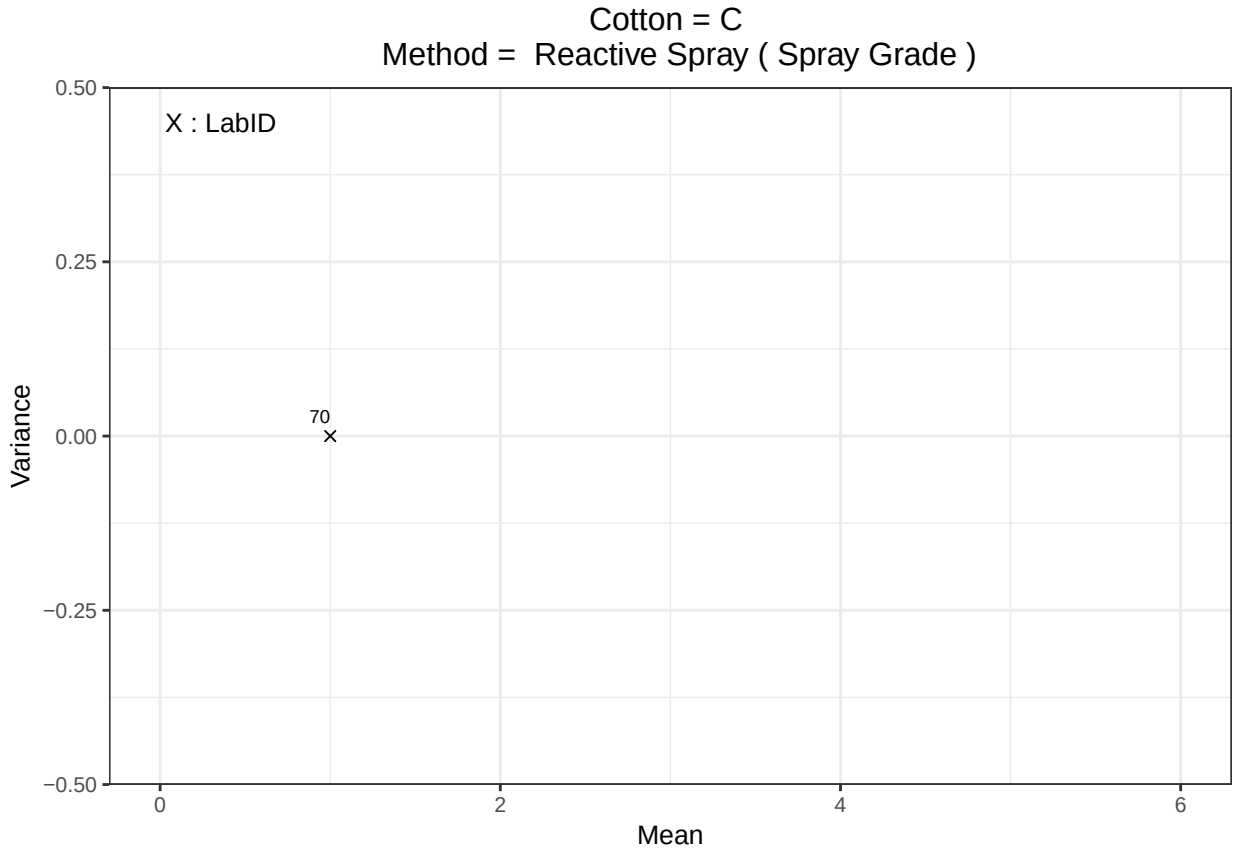

Cotton = C
Method = H2SD (Sticky points)
X : LabID
15
100
165
Variance
Mean
5
10
15
20
0
20
40
60

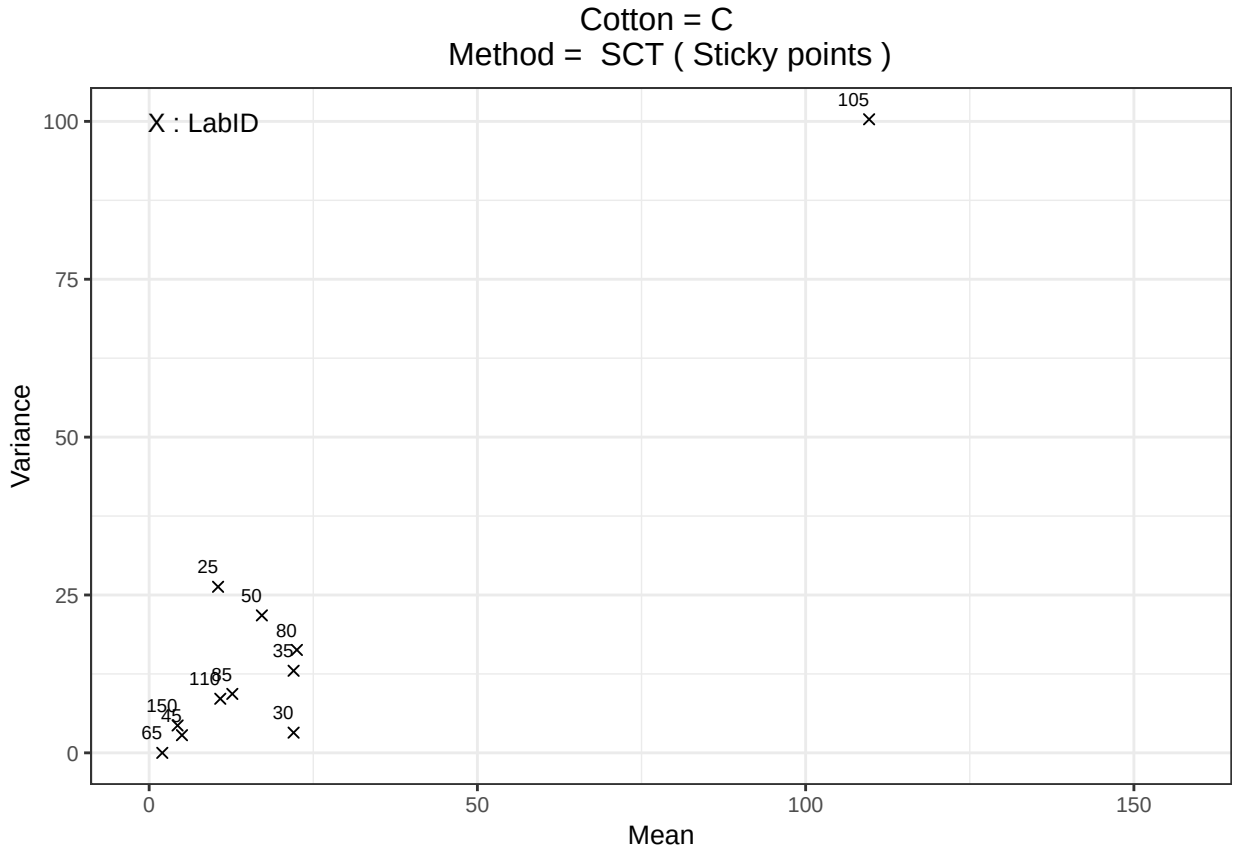

Cotton = C
Method = HSI−NIR (Sticky points)
X : LabID
170
Variance
6.2
6.0
5.8
5.6
5.4
60
80
100
120
Mean


Cotton = C
Method = KOTITI (Kotiti grade)
X : LabID
95
Variance
Mean
4.1
3.9
3.7
3.5
3.3
3.1
5.0
7.5
10.0

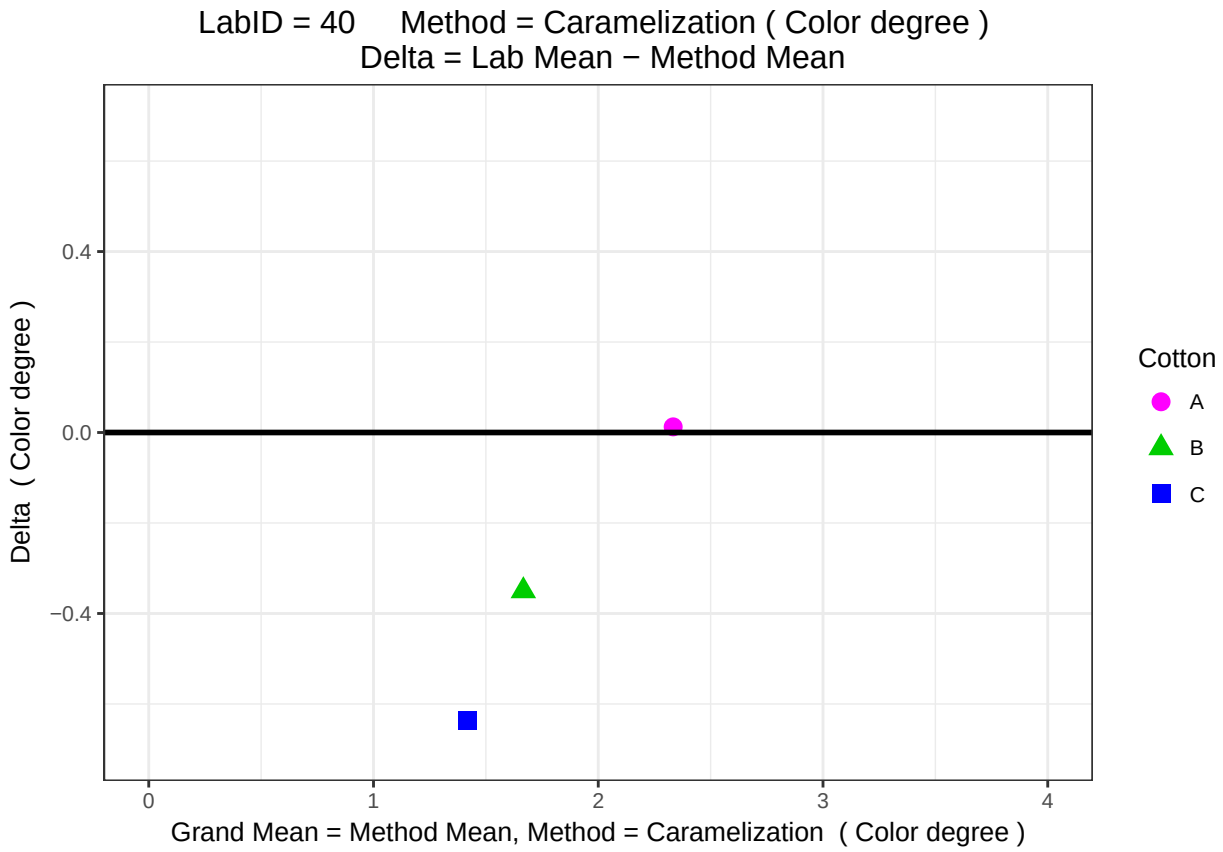

Cotton = C
Method = Minicard (ITMF Grade)
X : LabID
145
5
20
135
Variance
Mean
0.0
0.1
0.2
0.3
−1
0
1
2
3
4


Cotton = C
Method = Quantitative method (Percent)
X : LabID
130
0.50
0.25
0.00
−0.25
Variance
0.0
0.5
1.0
1.5
2.0
Mean


Cotton = C
Method = Reactive Spray (Spray Grade)
X : LabID
70
Variance
Mean
0.50
0.25
0.00
−0.25
−0.50
0
2
4
6

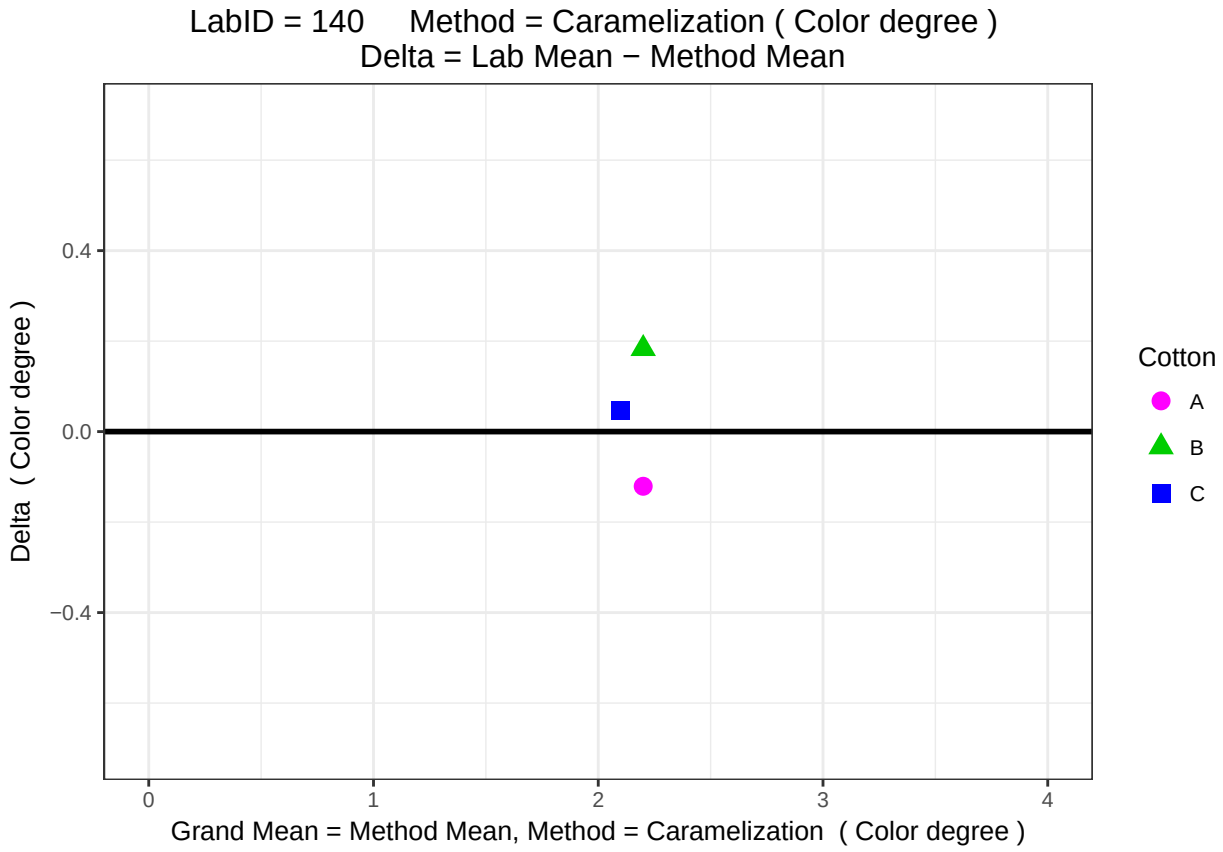

Cotton = C
Method = SCT (Sticky points)
X : LabID
Variance
Mean
105
25
50
80
35
85
110
150
45
65
30
0
25
50
75
100
0
50
100
150

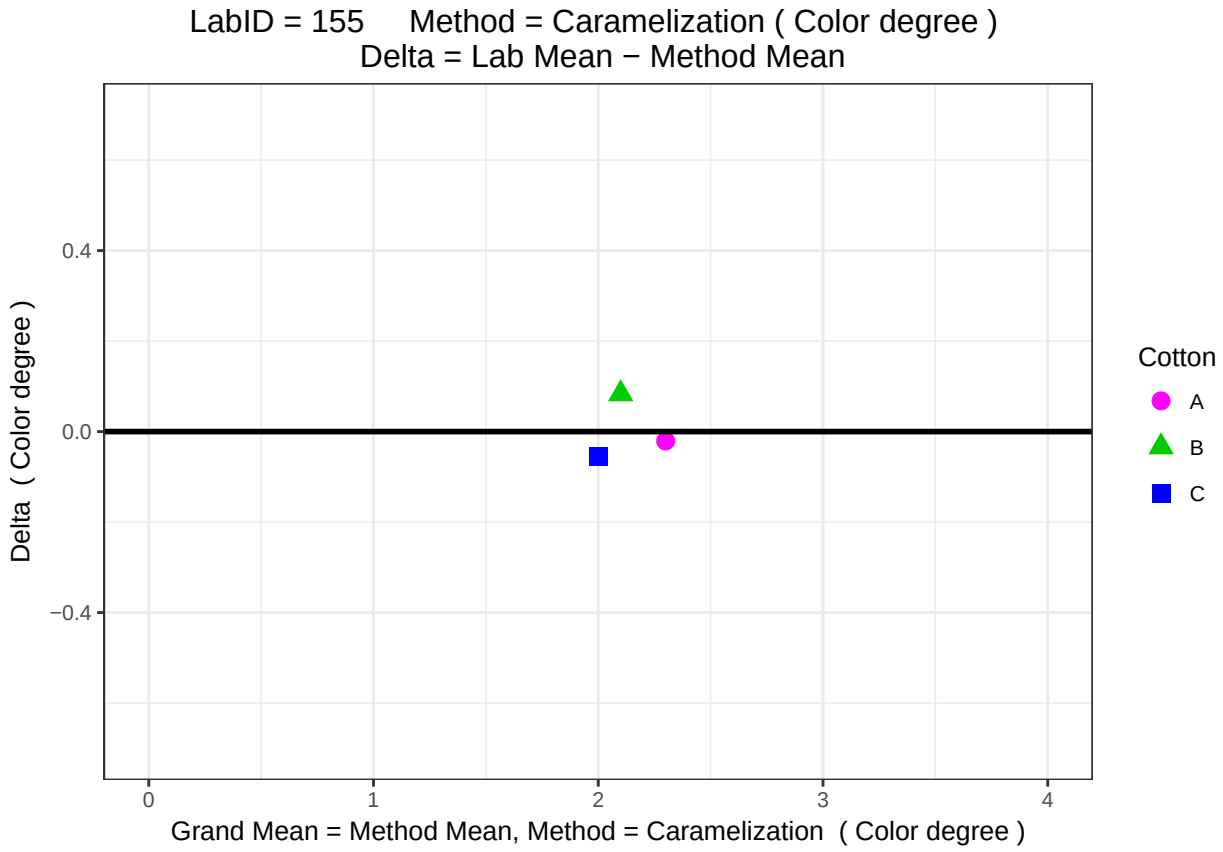
CSITC type charts: distance of LabID readings to the Grand Mean by Method, and by LabID [6]

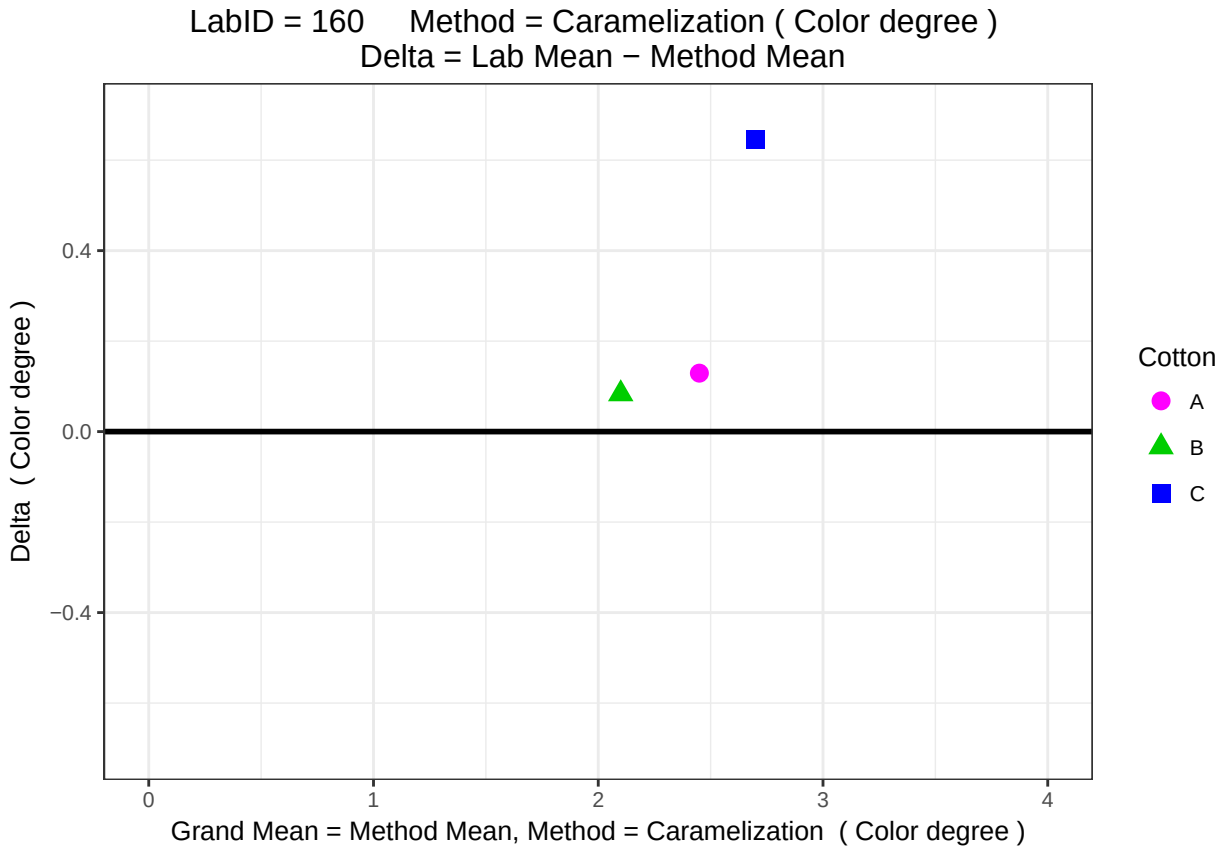


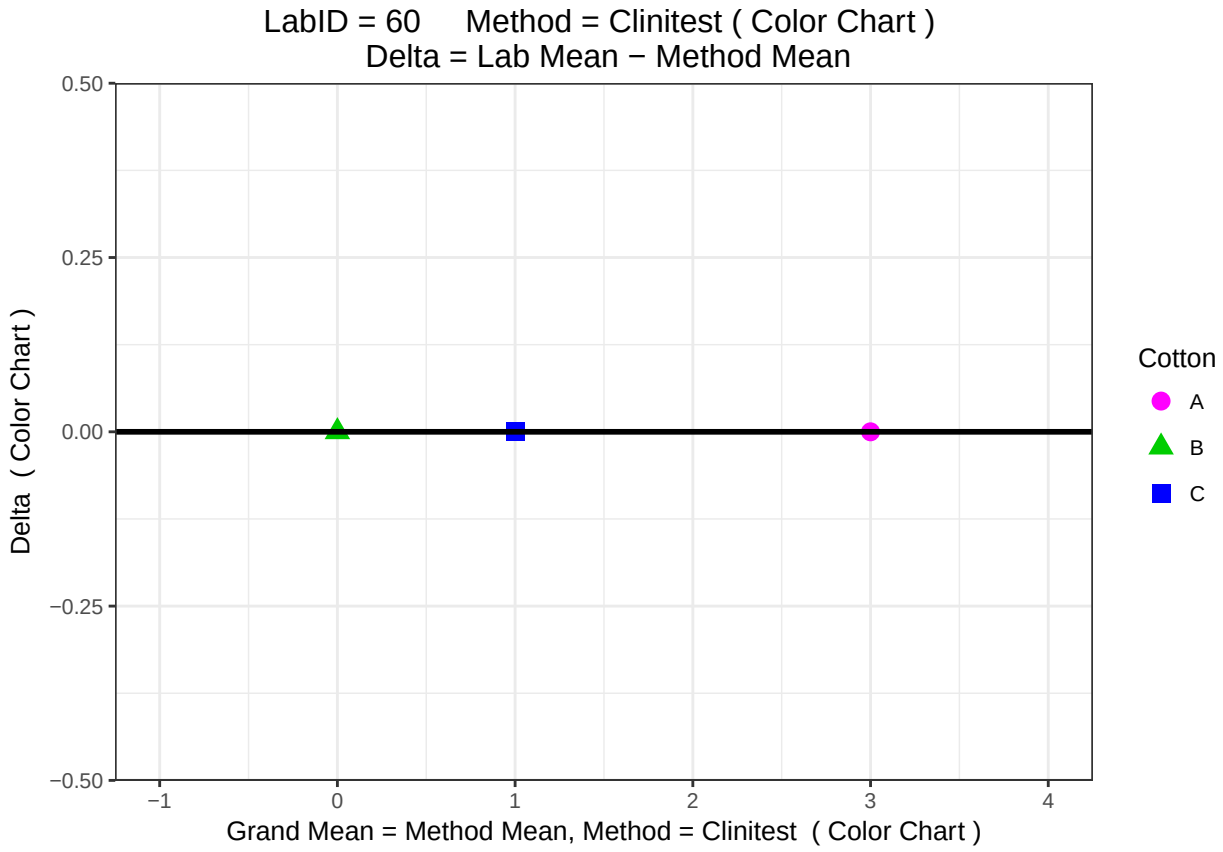
[6] Footnote

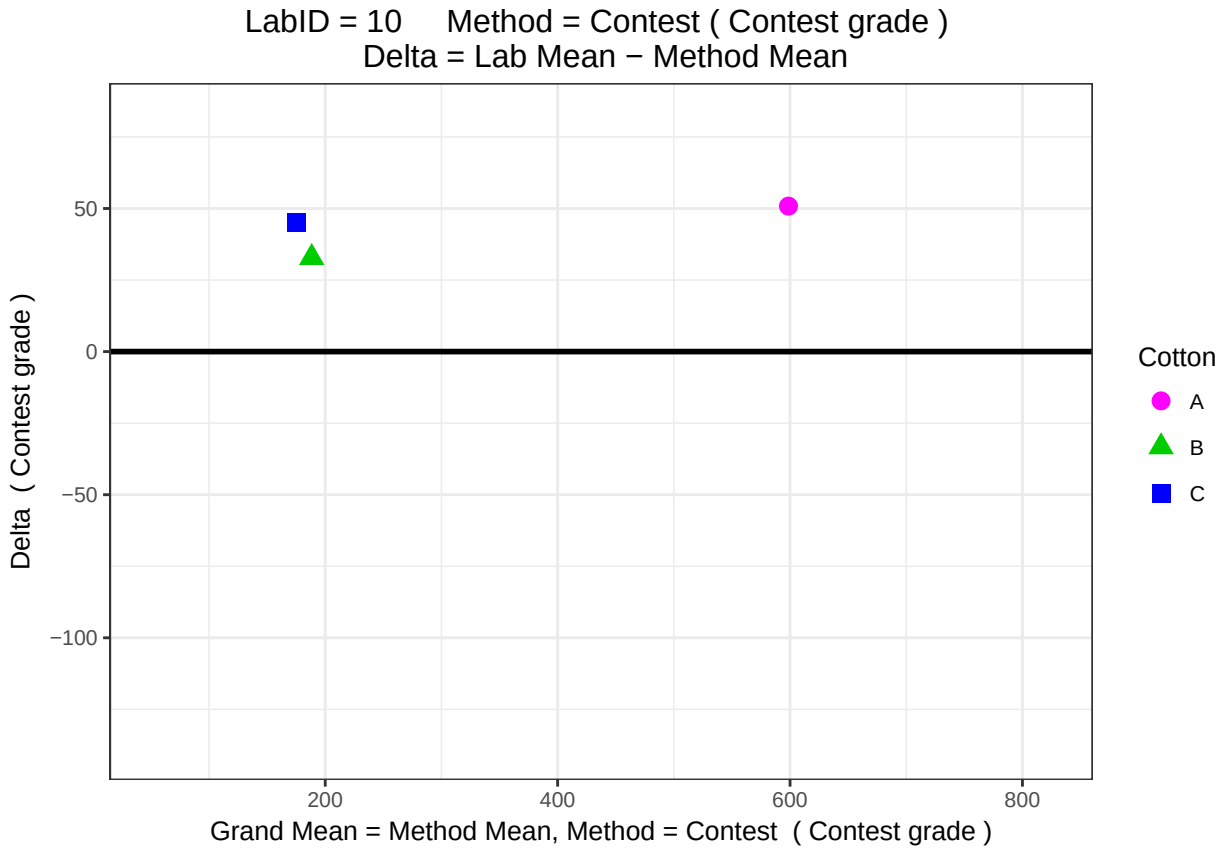
* GMean = Grand Mean of all laboratory means, calculated by Method.
* Chart abscissa axis is given in the original individual readings scale.

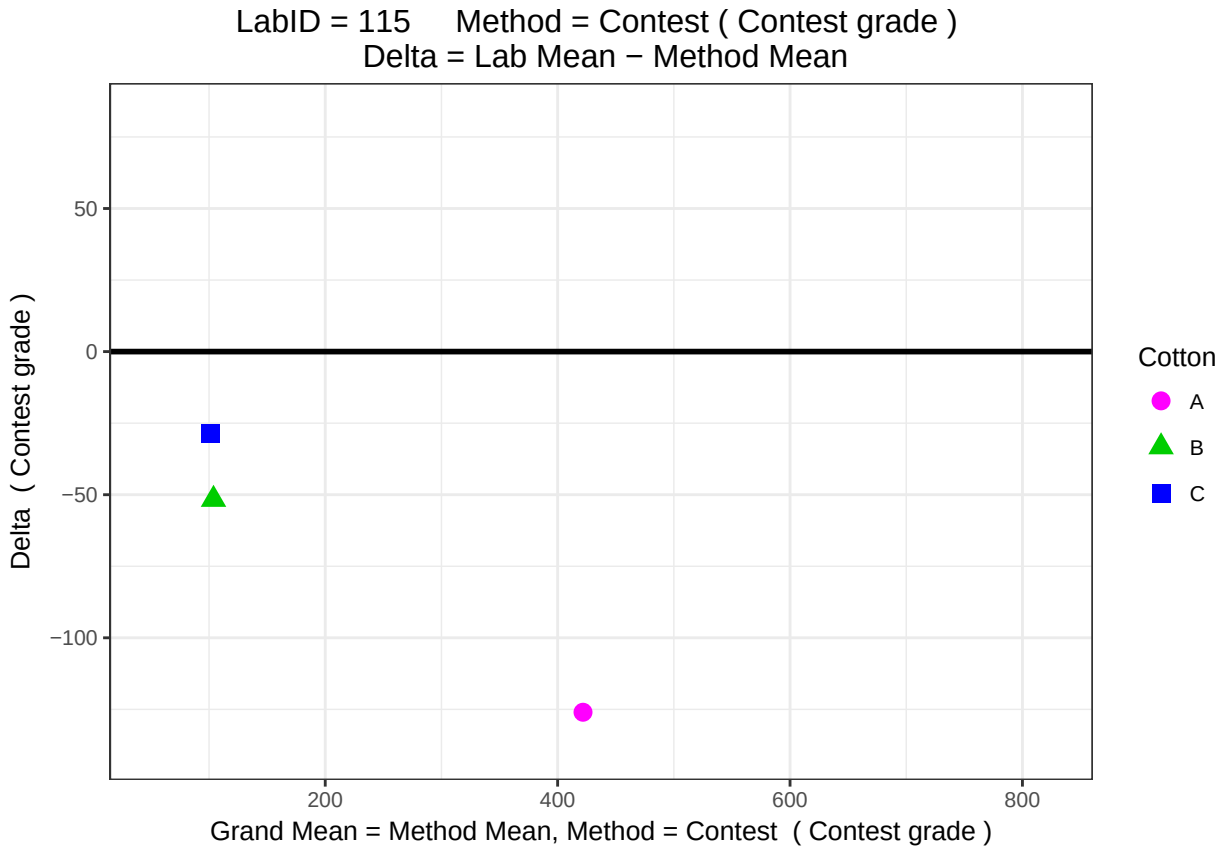

LabID = 140 Method = Caramelization (Color degree)
Delta = Lab Mean − Method Mean
Delta (Color degree)
0.4
0.0
−0.4
0
1
2
3
4
Grand Mean = Method Mean, Method = Caramelization (Color degree)
Cotton
A
B
C

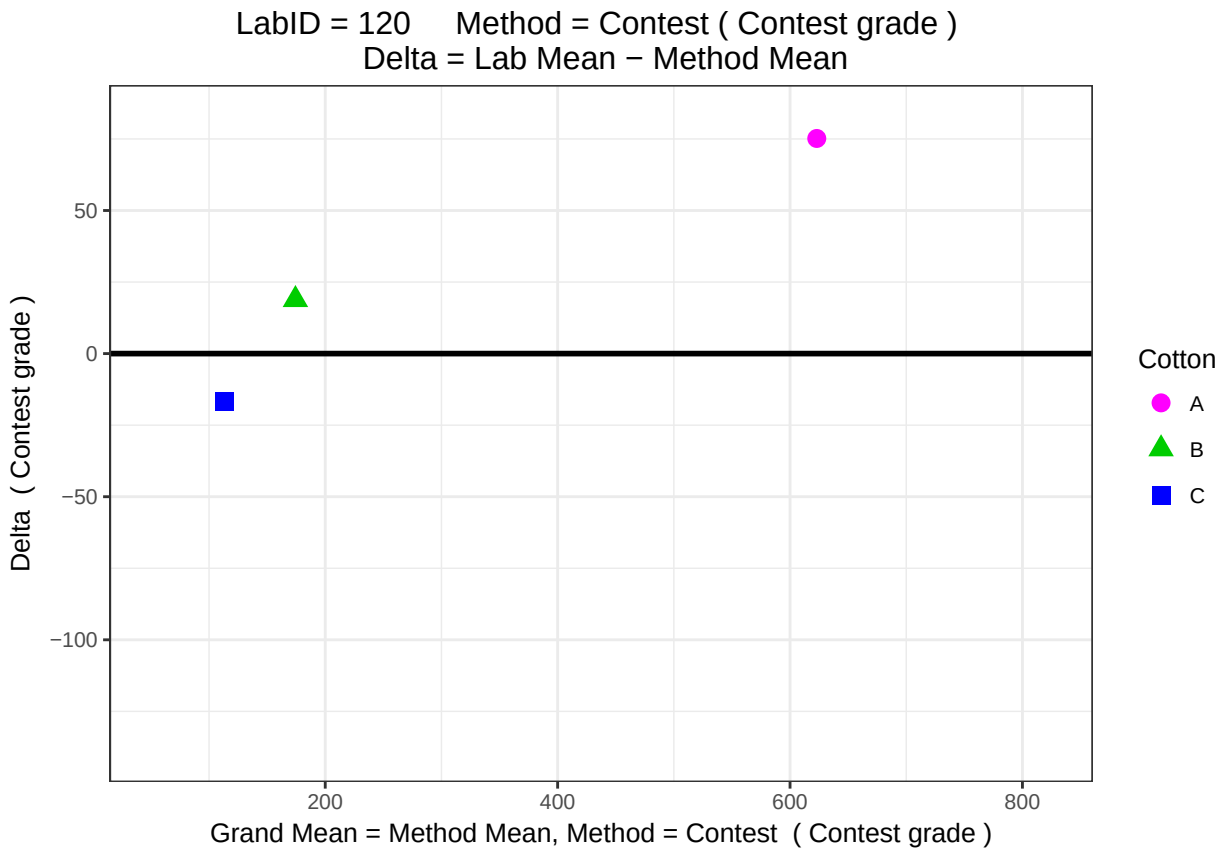

LabID = 155 Method = Caramelization (Color degree)
Delta = Lab Mean − Method Mean
Delta (Color degree)
0.4
0.0
−0.4
0
1
2
3
4
Grand Mean = Method Mean, Method = Caramelization (Color degree)
Cotton
A
B
C

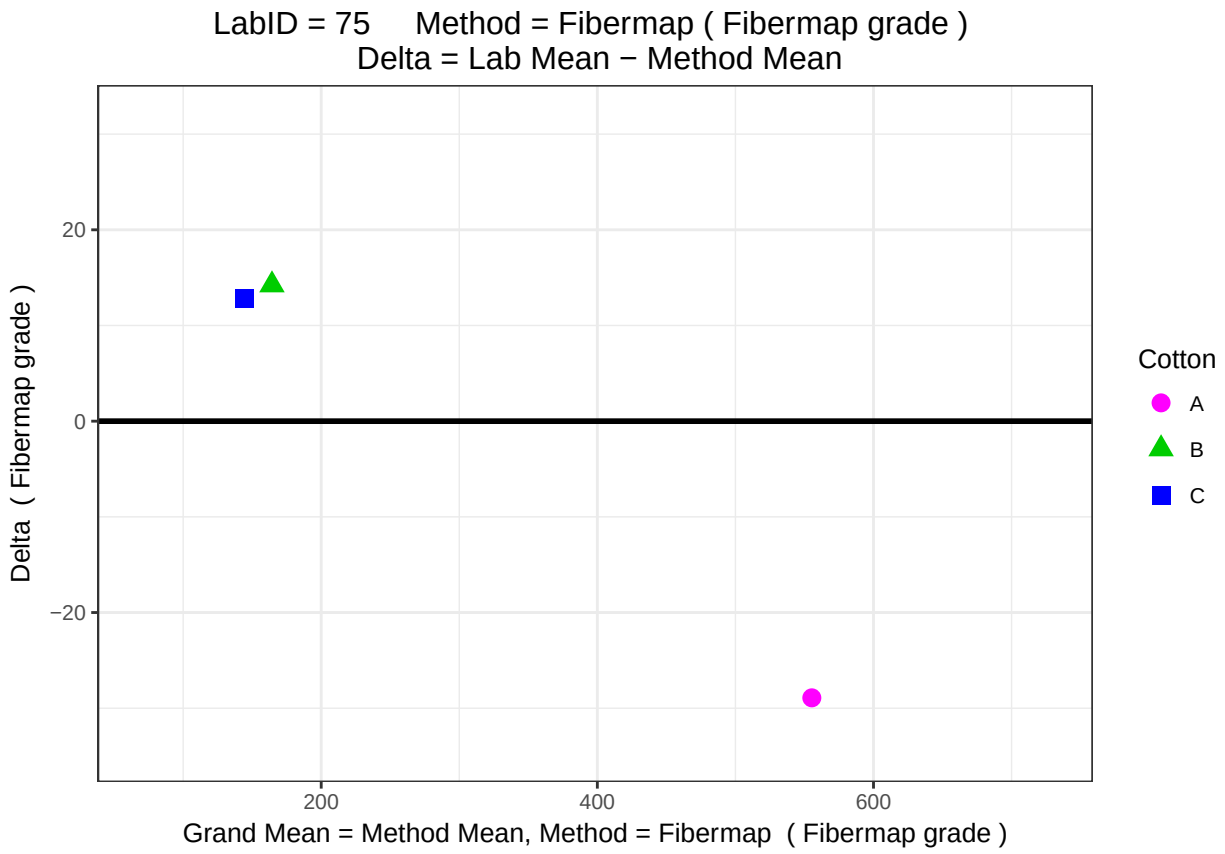

LabID = 160 Method = Caramelization (Color degree)
Delta = Lab Mean − Method Mean
Delta (Color degree)
0.4
0.0
−0.4
0
1
2
3
4
Grand Mean = Method Mean, Method = Caramelization (Color degree)
Cotton
A
B
C

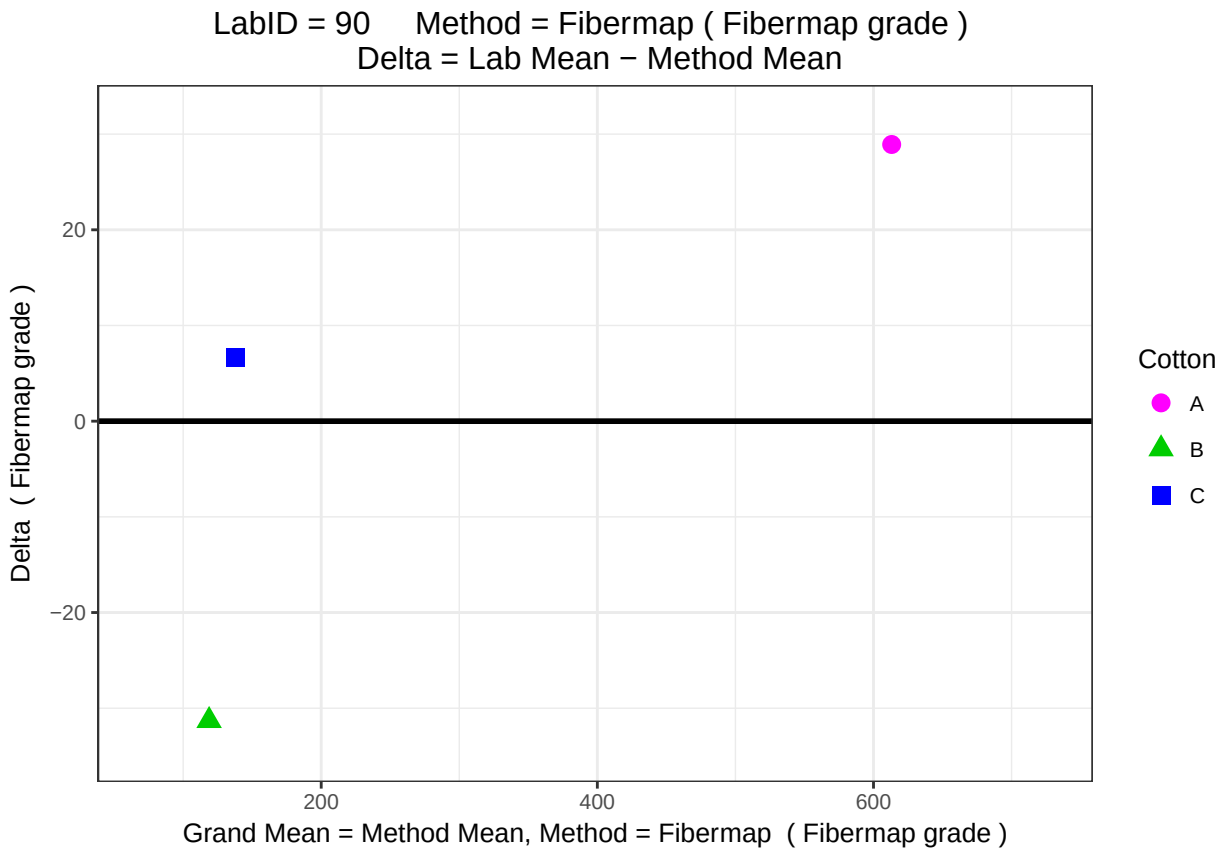

LabID = 60 Method = Clinitest (Color Chart)
Delta = Lab Mean − Method Mean
0.50
0.25
0.00
−0.25
−0.50
Delta (Color Chart)
−1
0
1
2
3
4
Grand Mean = Method Mean, Method = Clinitest (Color Chart)
Cotton
A
B
C

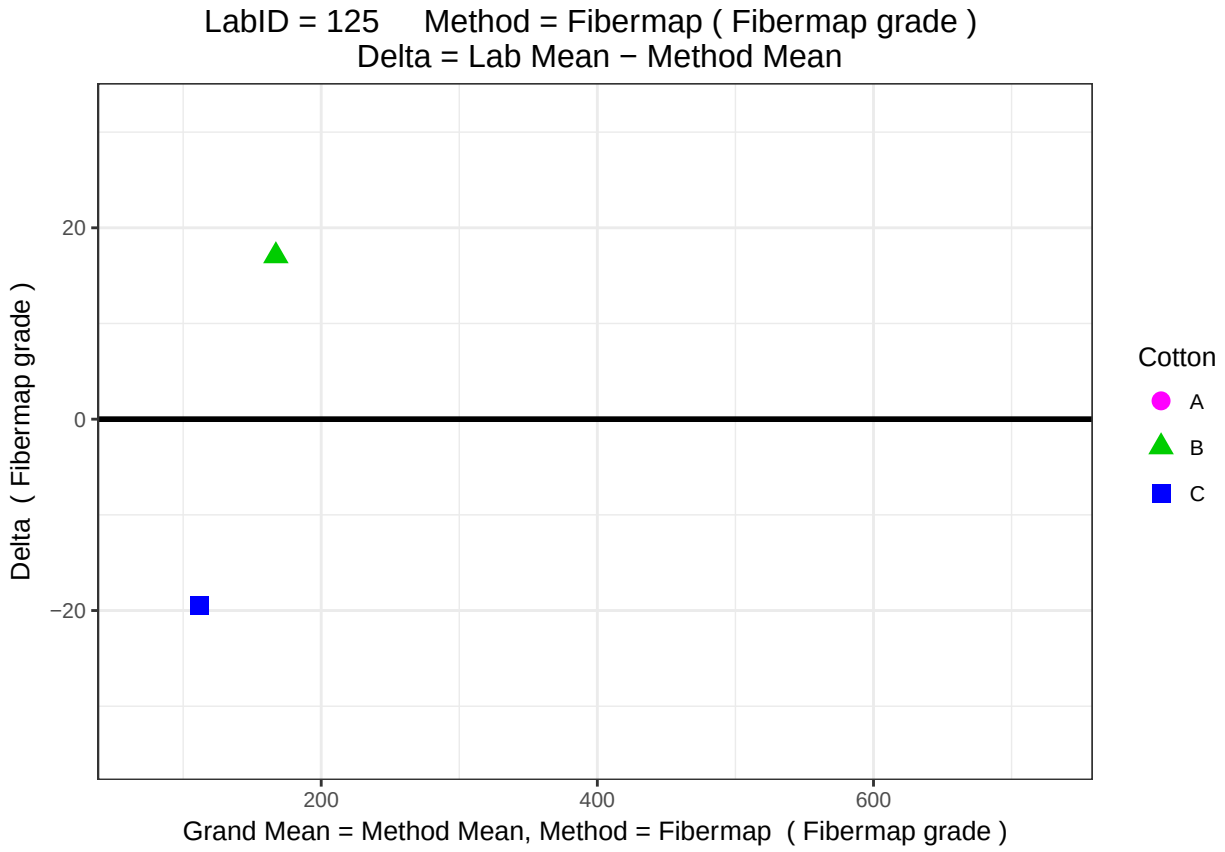

LabID = 10 Method = Contest (Contest grade)
Delta = Lab Mean − Method Mean
Delta (Contest grade)
50
0
−50
−100
200
400
600
800
Grand Mean = Method Mean, Method = Contest (Contest grade)
Cotton
A
B
C

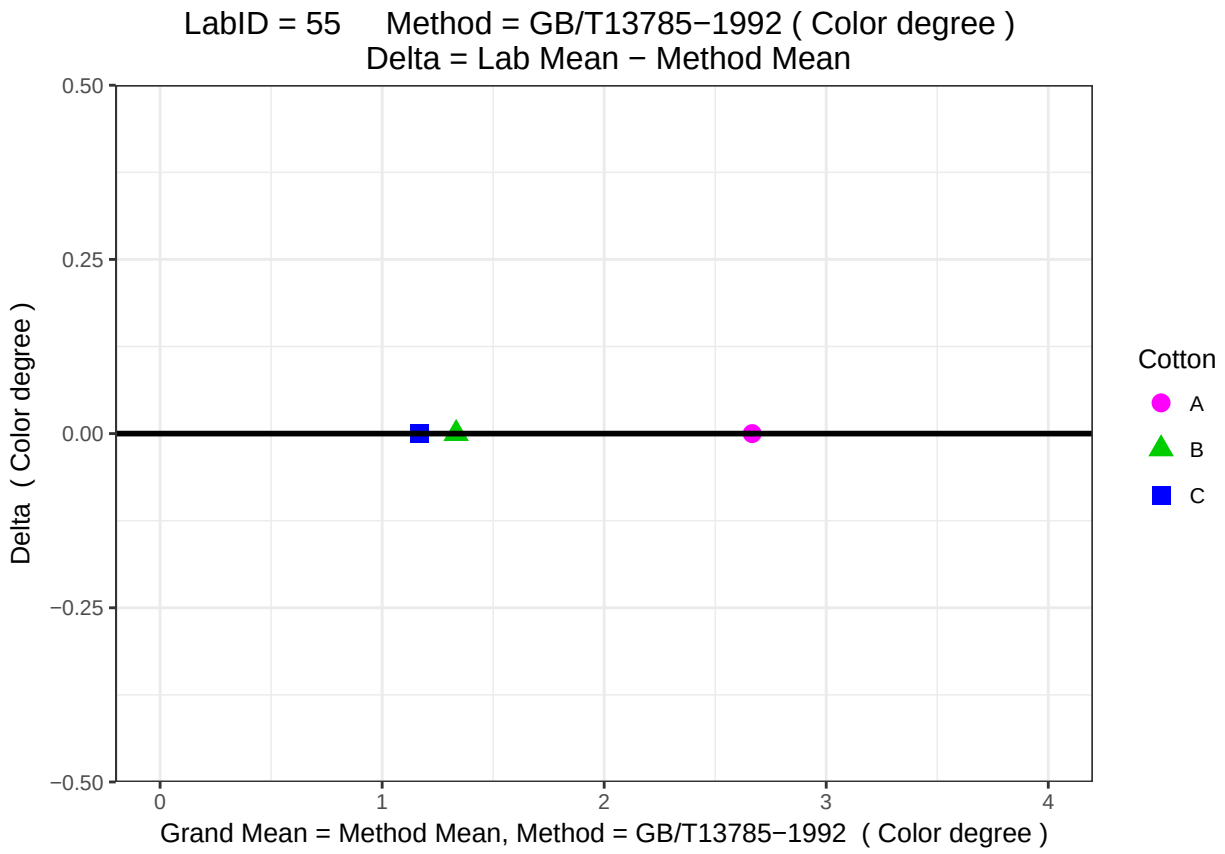

LabID = 115 Method = Contest (Contest grade)
Delta = Lab Mean − Method Mean
Delta (Contest grade)
50
0
−50
−100
200
400
600
800
Grand Mean = Method Mean, Method = Contest (Contest grade)
Cotton
A
B
C

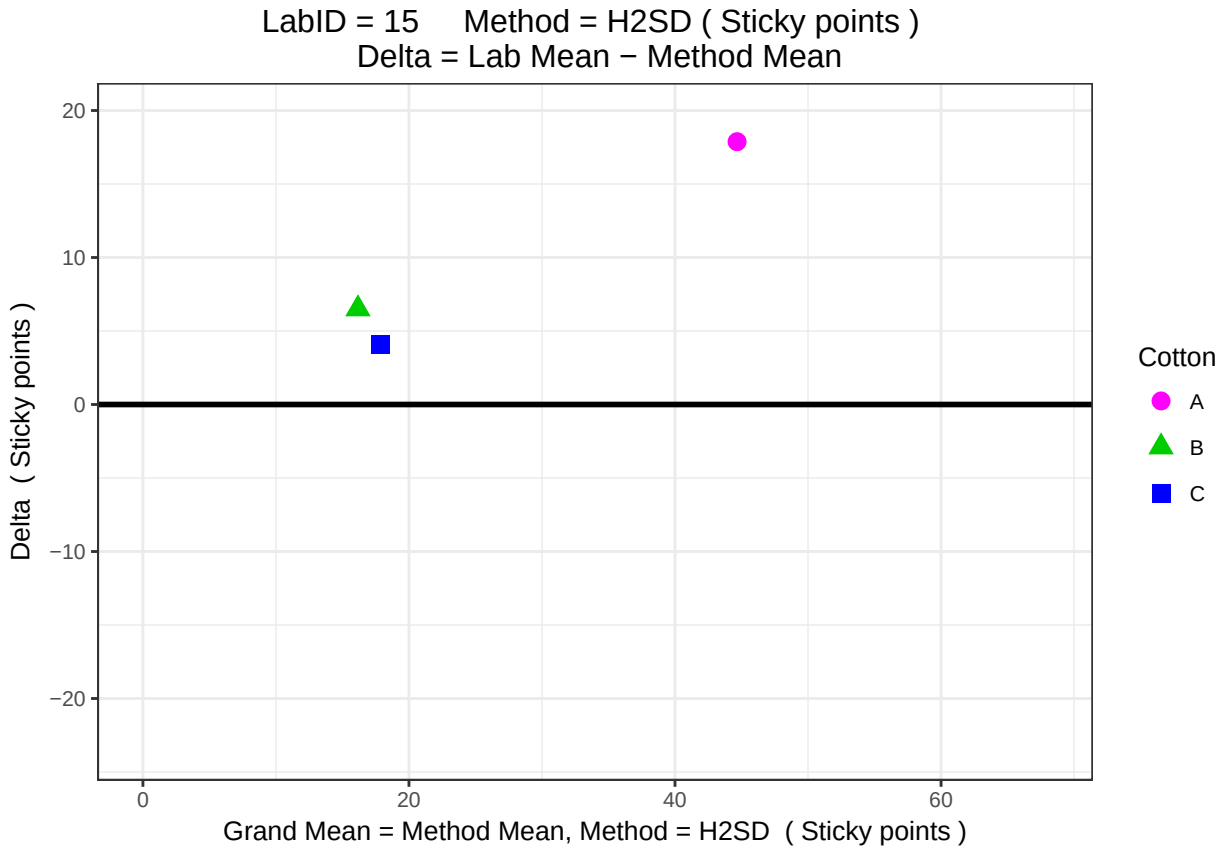

LabID = 120 Method = Contest (Contest grade)
Delta = Lab Mean − Method Mean
Delta (Contest grade)
50
0
−50
−100
200
400
600
800
Grand Mean = Method Mean, Method = Contest (Contest grade)
Cotton
A
B
C

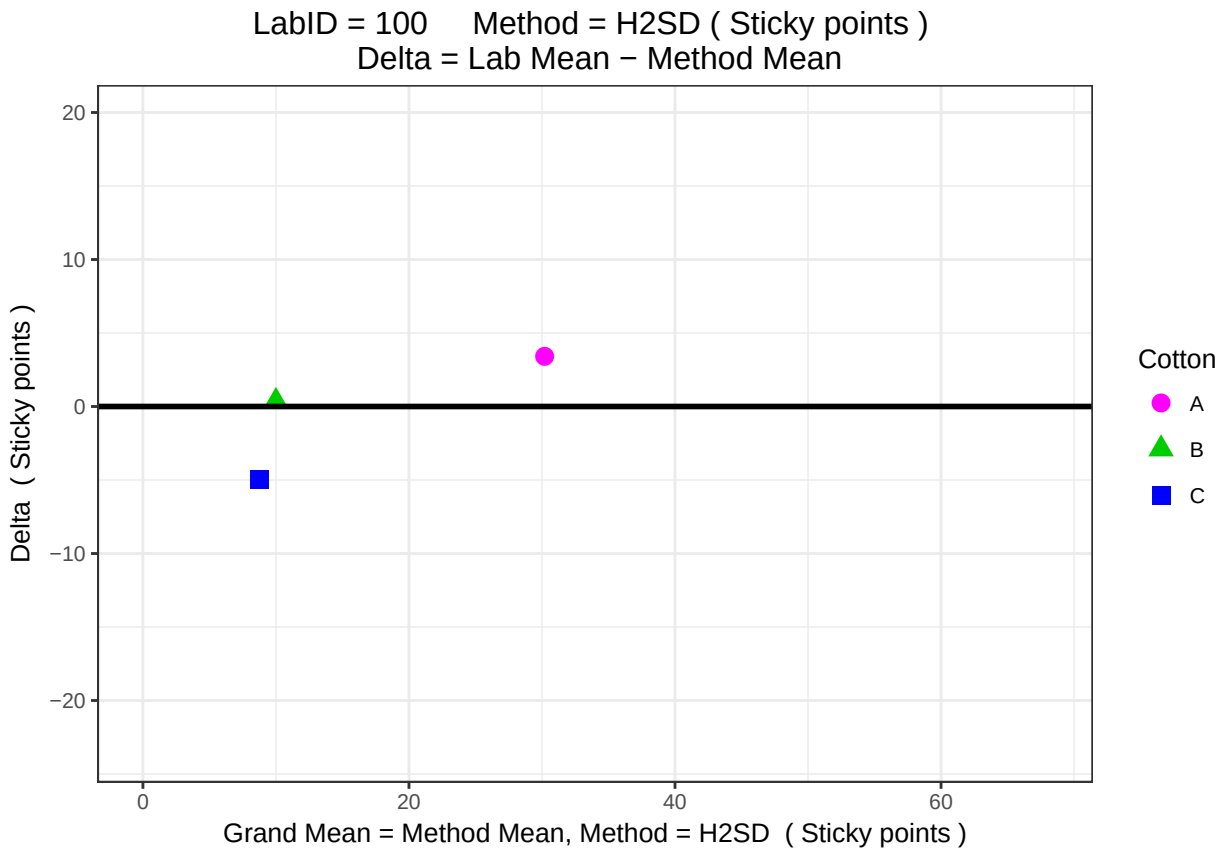

LabID = 75 Method = Fibermap (Fibermap grade)
Delta = Lab Mean − Method Mean
Delta (Fibermap grade)
20
0
−20
200
400
600
Grand Mean = Method Mean, Method = Fibermap (Fibermap grade)
Cotton
A
B
C

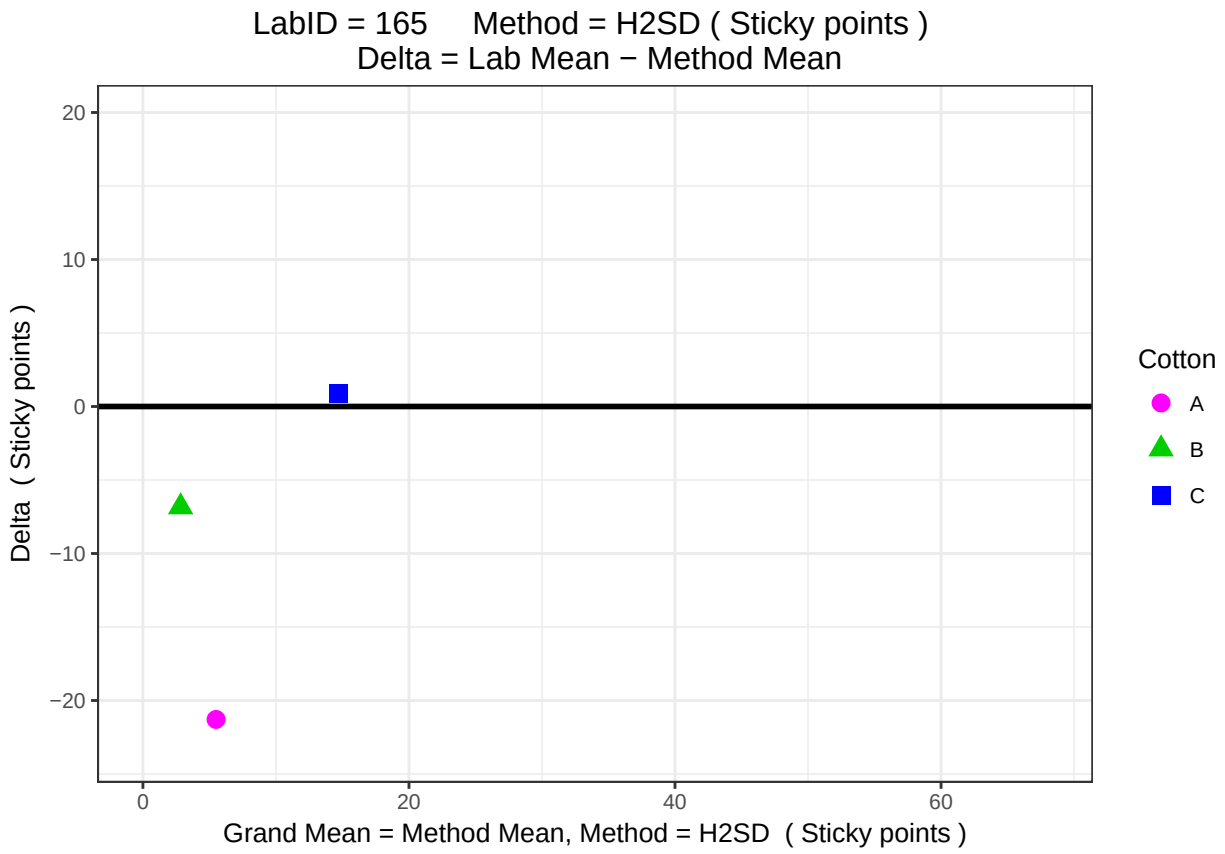

LabID = 90 Method = Fibermap (Fibermap grade)
Delta = Lab Mean − Method Mean
Delta (Fibermap grade)
20
0
−20
200
400
600
Grand Mean = Method Mean, Method = Fibermap (Fibermap grade)
Cotton
A
B
C

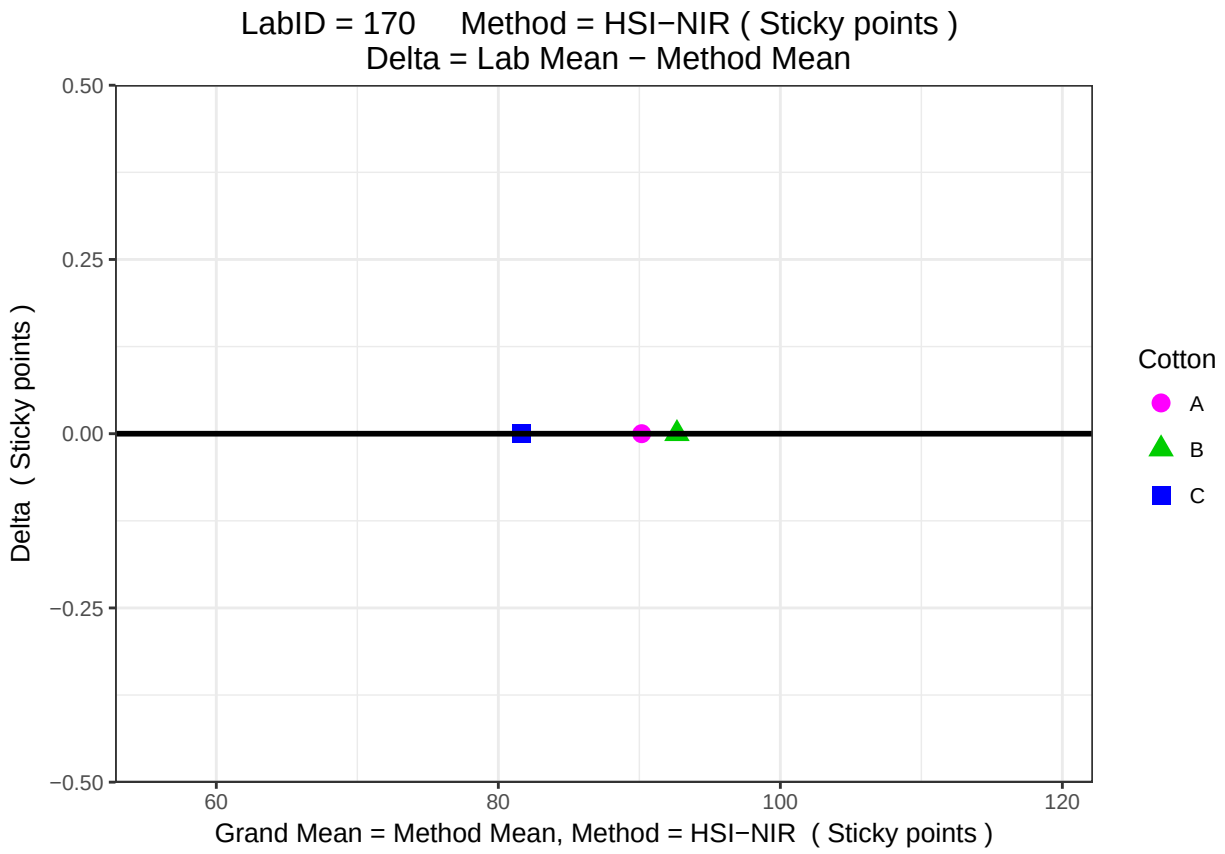

LabID = 125 Method = Fibermap (Fibermap grade)
Delta = Lab Mean − Method Mean
Delta (Fibermap grade)
20
0
−20
200
400
600
Grand Mean = Method Mean, Method = Fibermap (Fibermap grade)
Cotton
A
B
C

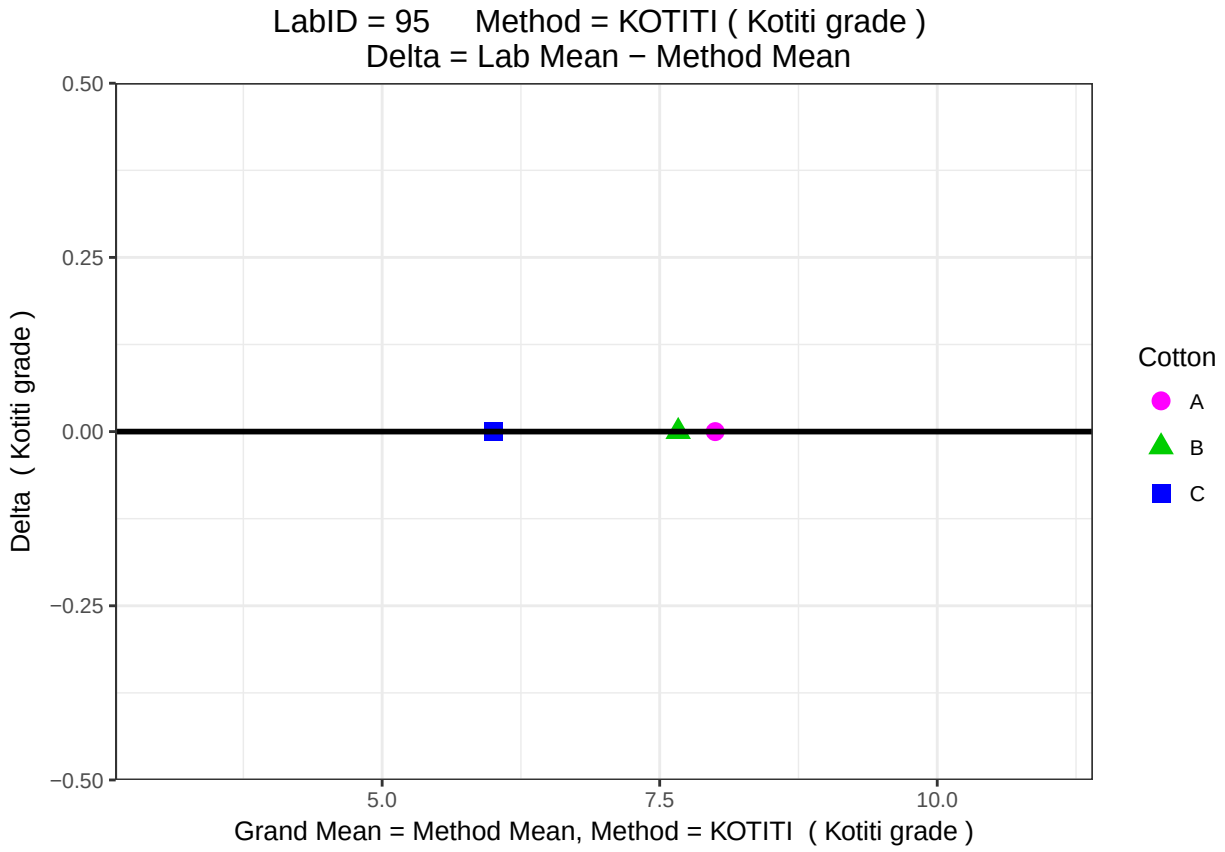

LabID = 55 Method = GB/T13785−1992 (Color degree)
Delta = Lab Mean − Method Mean
0.50
0.25
0.00
−0.25
−0.50
Delta (Color degree)
0
1
2
3
4
Grand Mean = Method Mean, Method = GB/T13785−1992 (Color degree)
Cotton
A
B
C

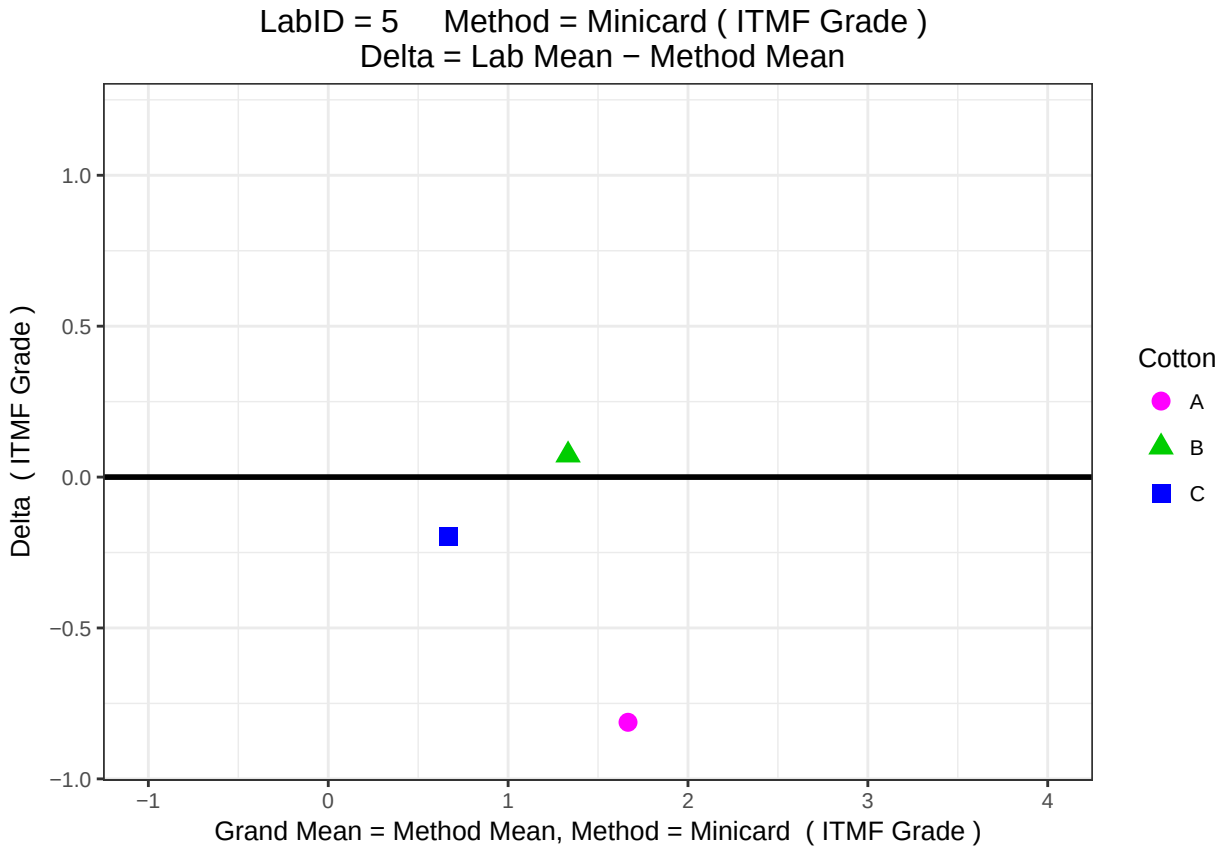

LabID = 15 Method = H2SD (Sticky points)
Delta = Lab Mean − Method Mean
Delta (Sticky points)
20
10
0
−10
−20
0
20
40
60
Grand Mean = Method Mean, Method = H2SD (Sticky points)
Cotton
A
B
C

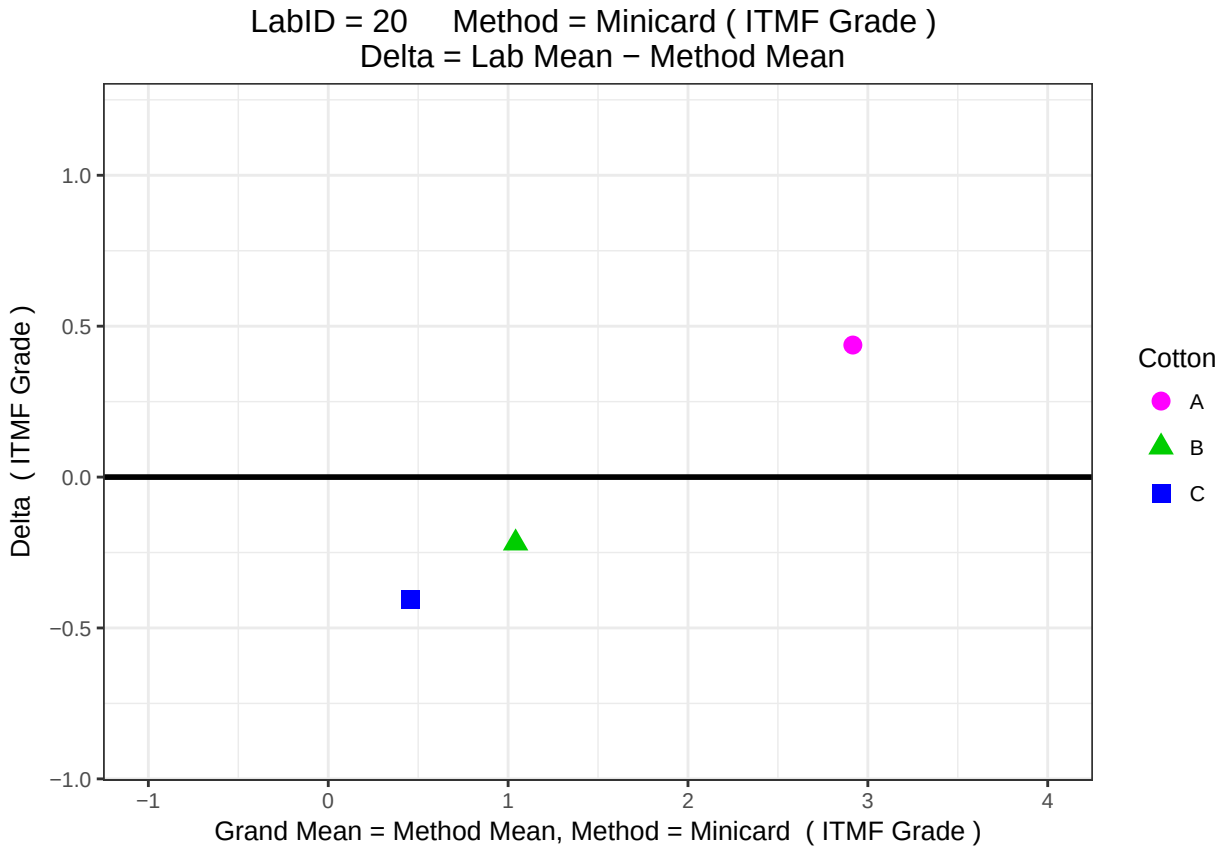

LabID = 100 Method = H2SD (Sticky points)
Delta = Lab Mean − Method Mean
Delta (Sticky points)
20
10
0
−10
−20
0
20
40
60
Grand Mean = Method Mean, Method = H2SD (Sticky points)
Cotton
A
B
C

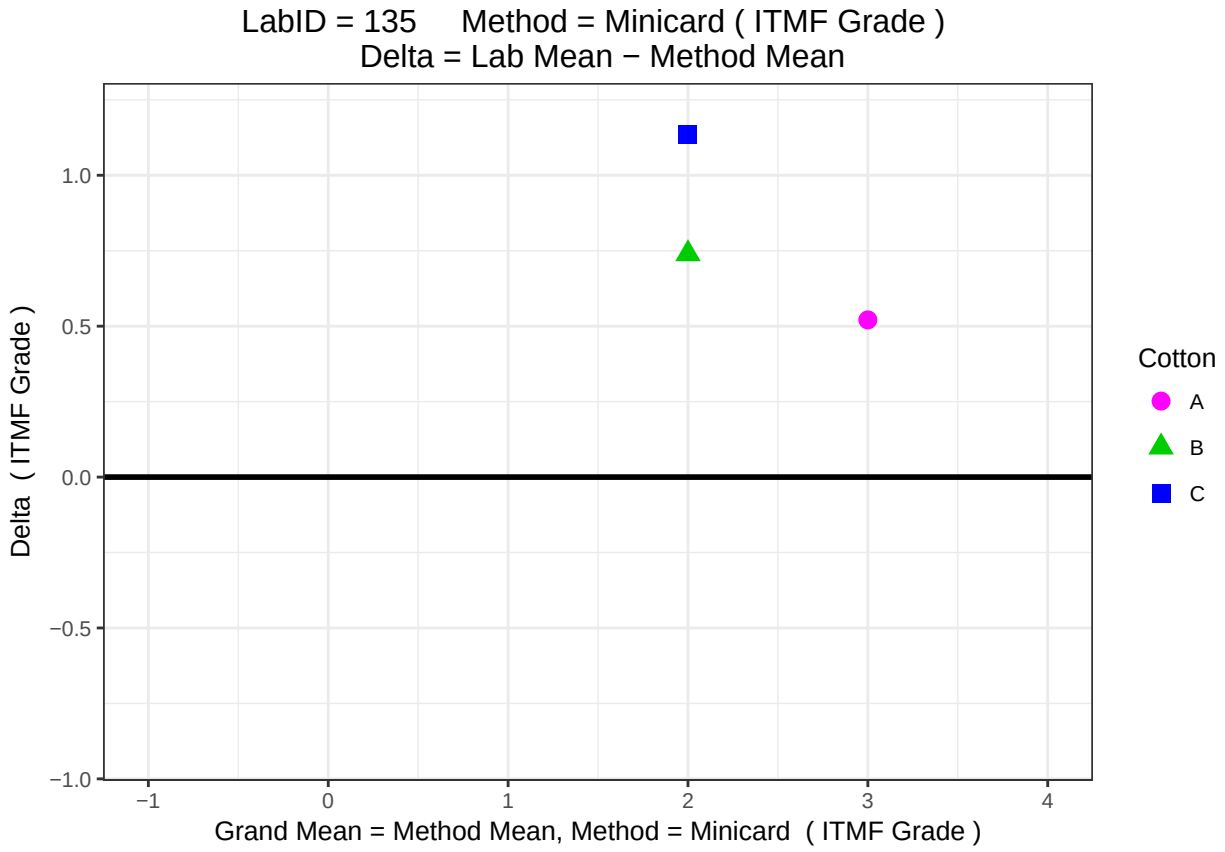

LabID = 165 Method = H2SD (Sticky points)
Delta = Lab Mean − Method Mean
Delta (Sticky points)
20
10
0
−10
−20
0
20
40
60
Grand Mean = Method Mean, Method = H2SD (Sticky points)
Cotton
A
B
C

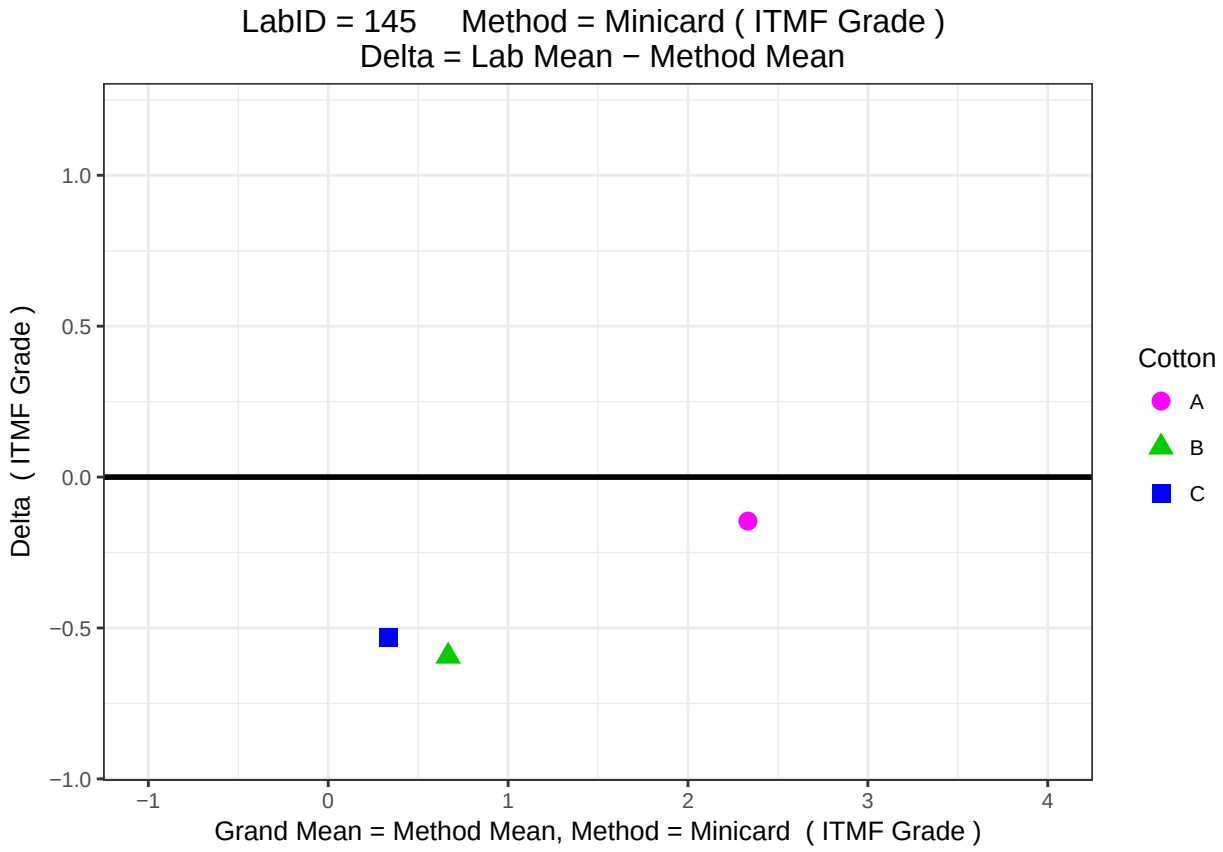

LabID = 170 Method = HSI−NIR (Sticky points)
Delta = Lab Mean − Method Mean
0.50
0.25
0.00
−0.25
−0.50
Delta (Sticky points)
60
80
100
120
Grand Mean = Method Mean, Method = HSI−NIR (Sticky points)
Cotton
A
B
C

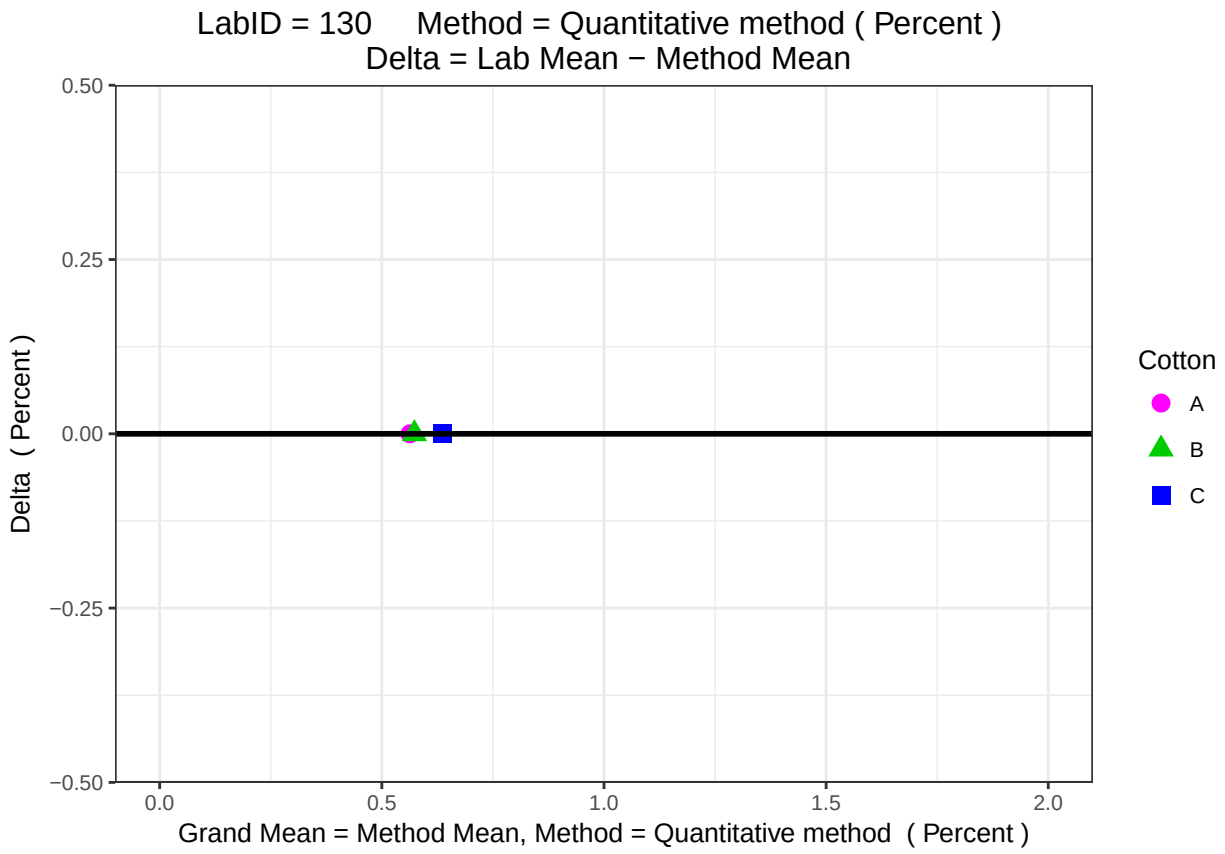

LabID = 95 Method = KOTITI (Kotiti grade)
Delta = Lab Mean − Method Mean
0.50
0.25
0.00
−0.25
−0.50
Delta (Kotiti grade)
5.0
7.5
10.0
Grand Mean = Method Mean, Method = KOTITI (Kotiti grade)
Cotton
A
B
C

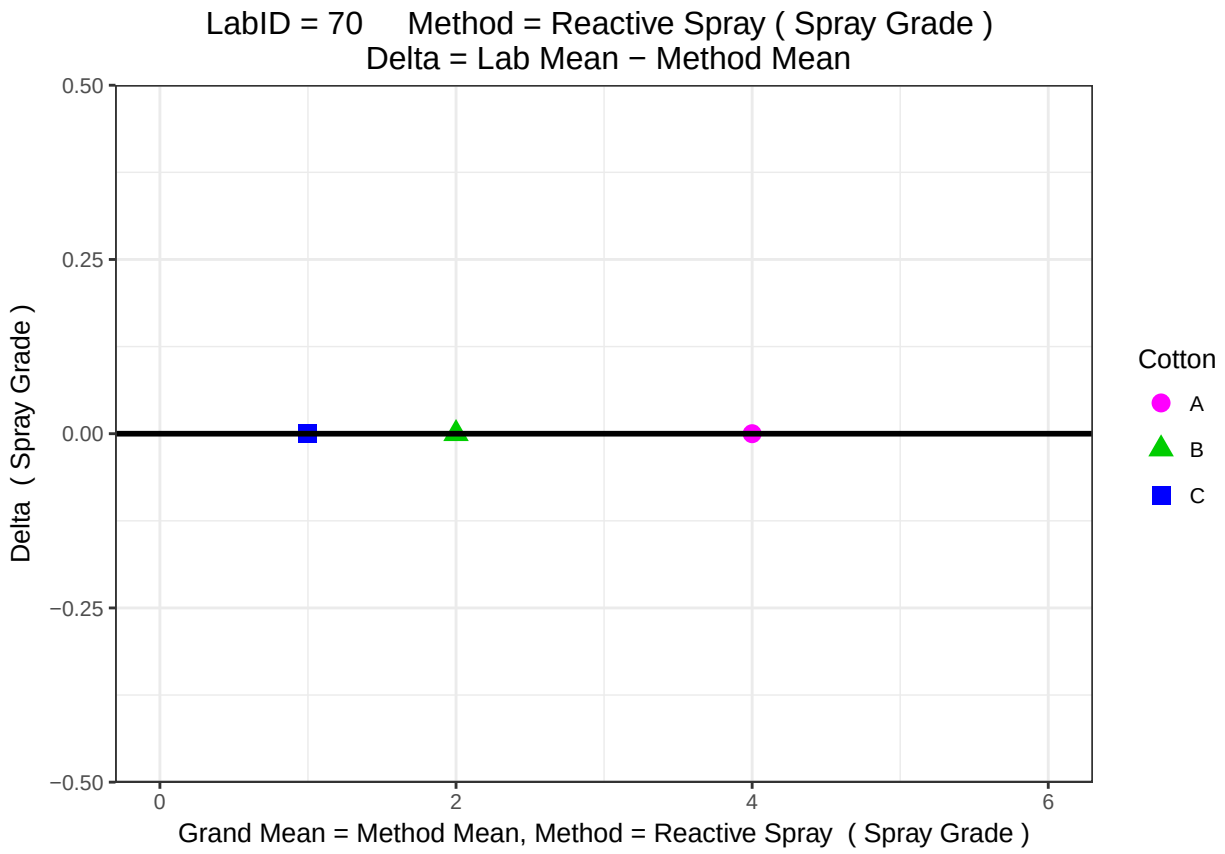

LabID = 5 Method = Minicard (ITMF Grade)
Delta = Lab Mean − Method Mean
Delta (ITMF Grade)
1.0
0.5
0.0
−0.5
−1.0
−1
0
1
2
3
4
Grand Mean = Method Mean, Method = Minicard (ITMF Grade)
Cotton
A
B
C

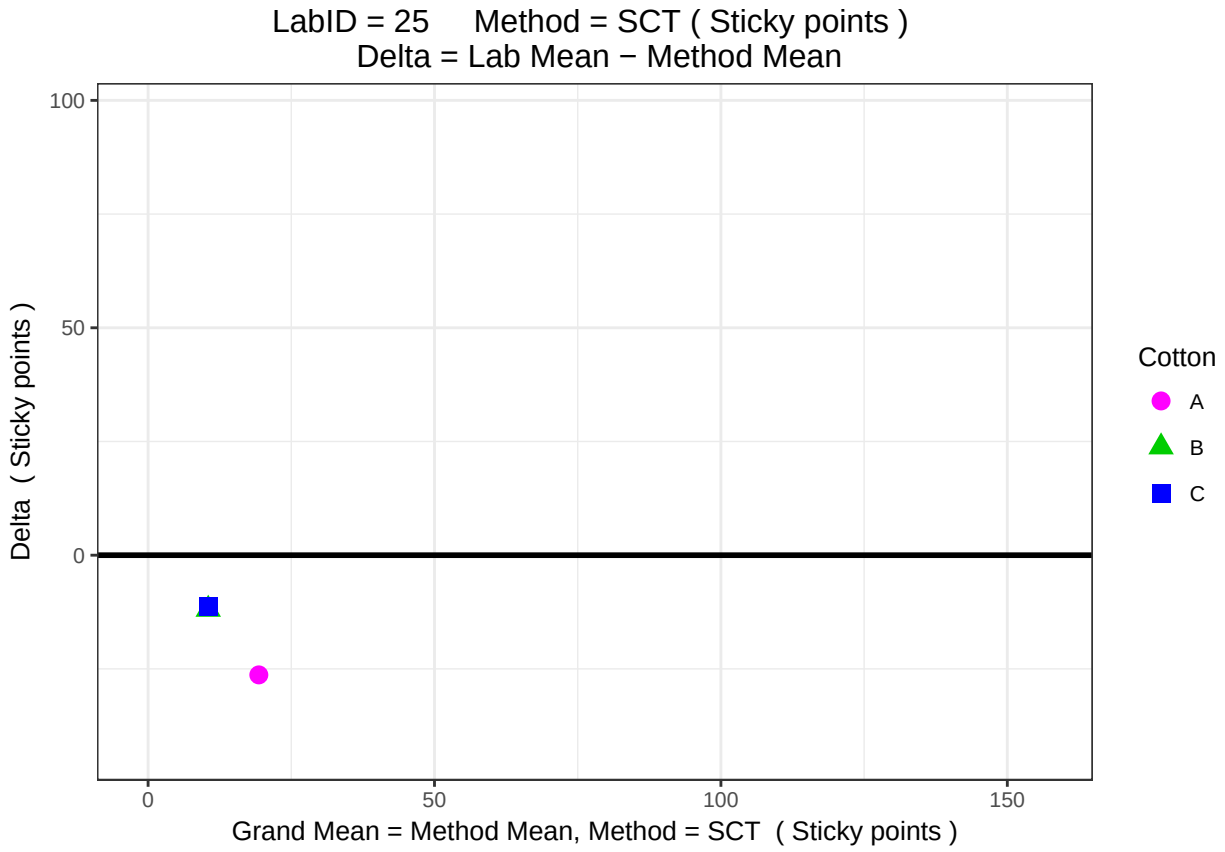

LabID = 20 Method = Minicard (ITMF Grade)
Delta = Lab Mean − Method Mean
Delta (ITMF Grade)
1.0
0.5
0.0
−0.5
−1.0
−1
0
1
2
3
4
Grand Mean = Method Mean, Method = Minicard (ITMF Grade)
Cotton
A
B
C

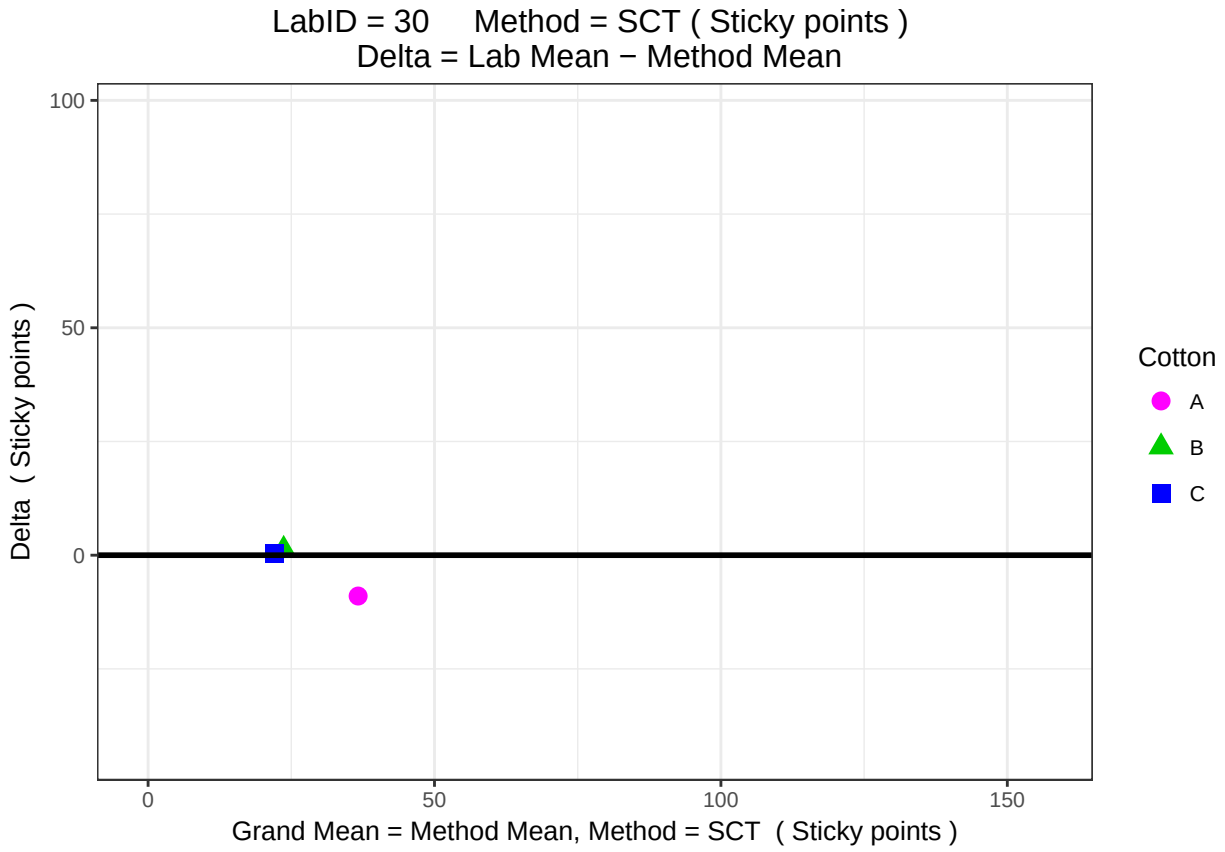

LabID = 135 Method = Minicard (ITMF Grade)
Delta = Lab Mean − Method Mean
Delta (ITMF Grade)
1.0
0.5
0.0
−0.5
−1.0
−1
0
1
2
3
4
Grand Mean = Method Mean, Method = Minicard (ITMF Grade)
Cotton
A
B
C

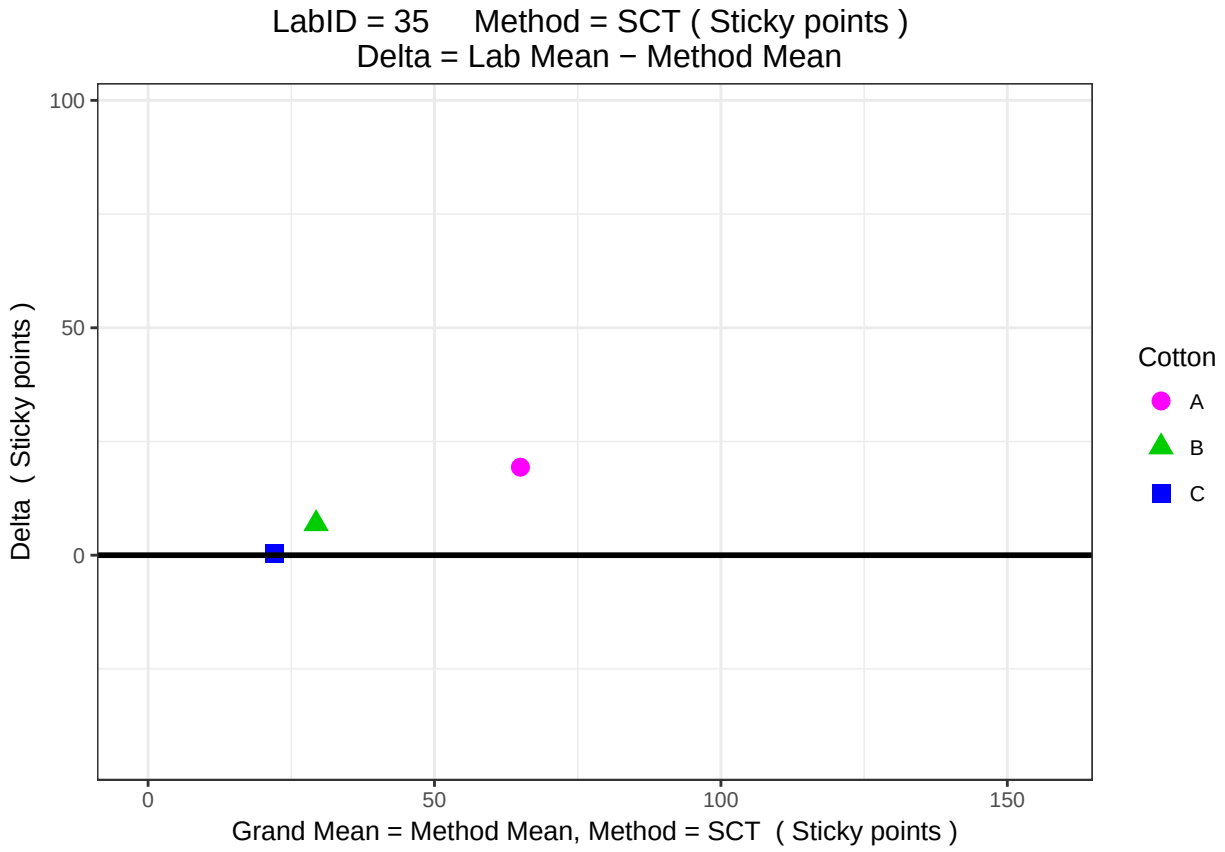

LabID = 145 Method = Minicard (ITMF Grade)
Delta = Lab Mean − Method Mean
Delta (ITMF Grade)
1.0
0.5
0.0
−0.5
−1.0
−1
0
1
2
3
4
Grand Mean = Method Mean, Method = Minicard (ITMF Grade)
Cotton
A
B
C

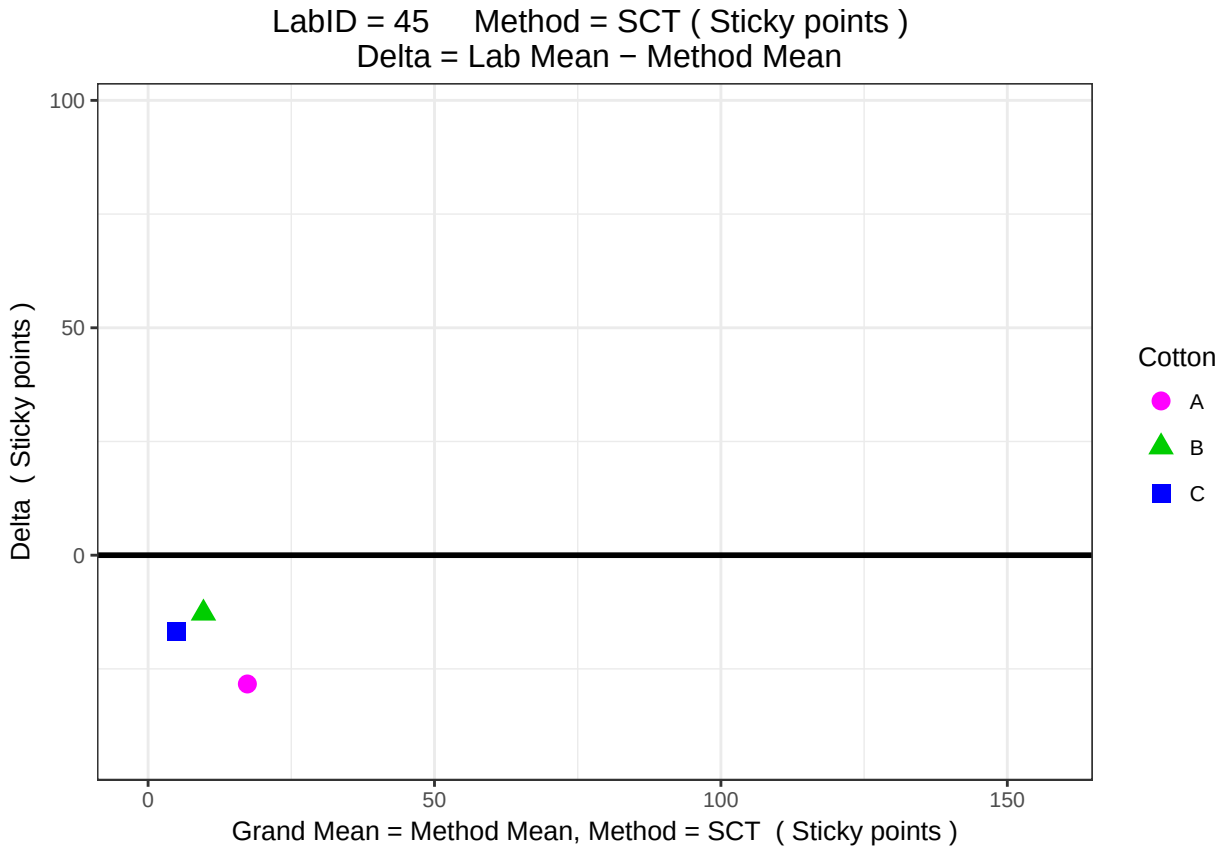

LabID = 130 Method = Quantitative method (Percent)
Delta = Lab Mean − Method Mean
0.50
0.25
0.00
−0.25
−0.50
Delta (Percent)
0.0
0.5
1.0
1.5
2.0
Grand Mean = Method Mean, Method = Quantitative method (Percent)
Cotton
A
B
C

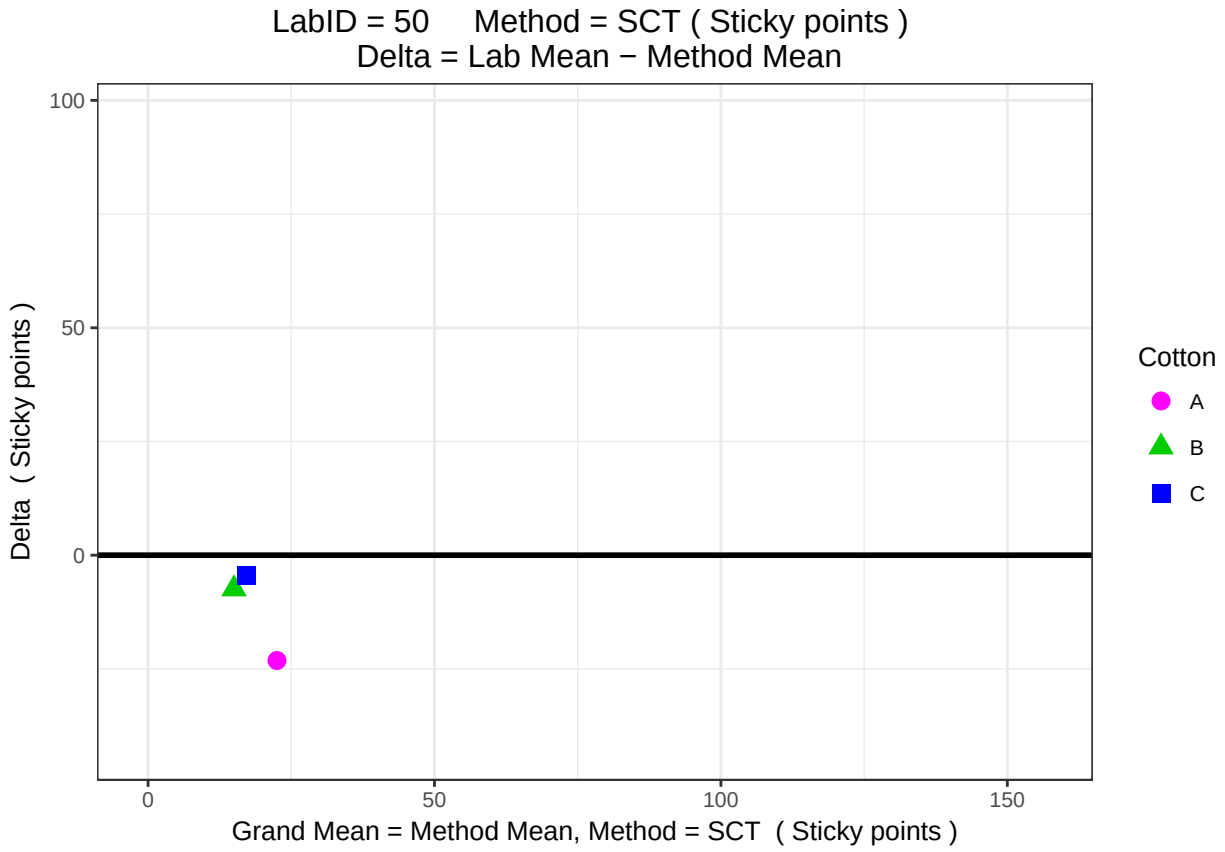

LabID = 70 Method = Reactive Spray (Spray Grade)
Delta = Lab Mean − Method Mean
0.50
0.25
0.00
−0.25
−0.50
Delta (Spray Grade)
0
2
4
6
Grand Mean = Method Mean, Method = Reactive Spray (Spray Grade)
Cotton
A
B
C

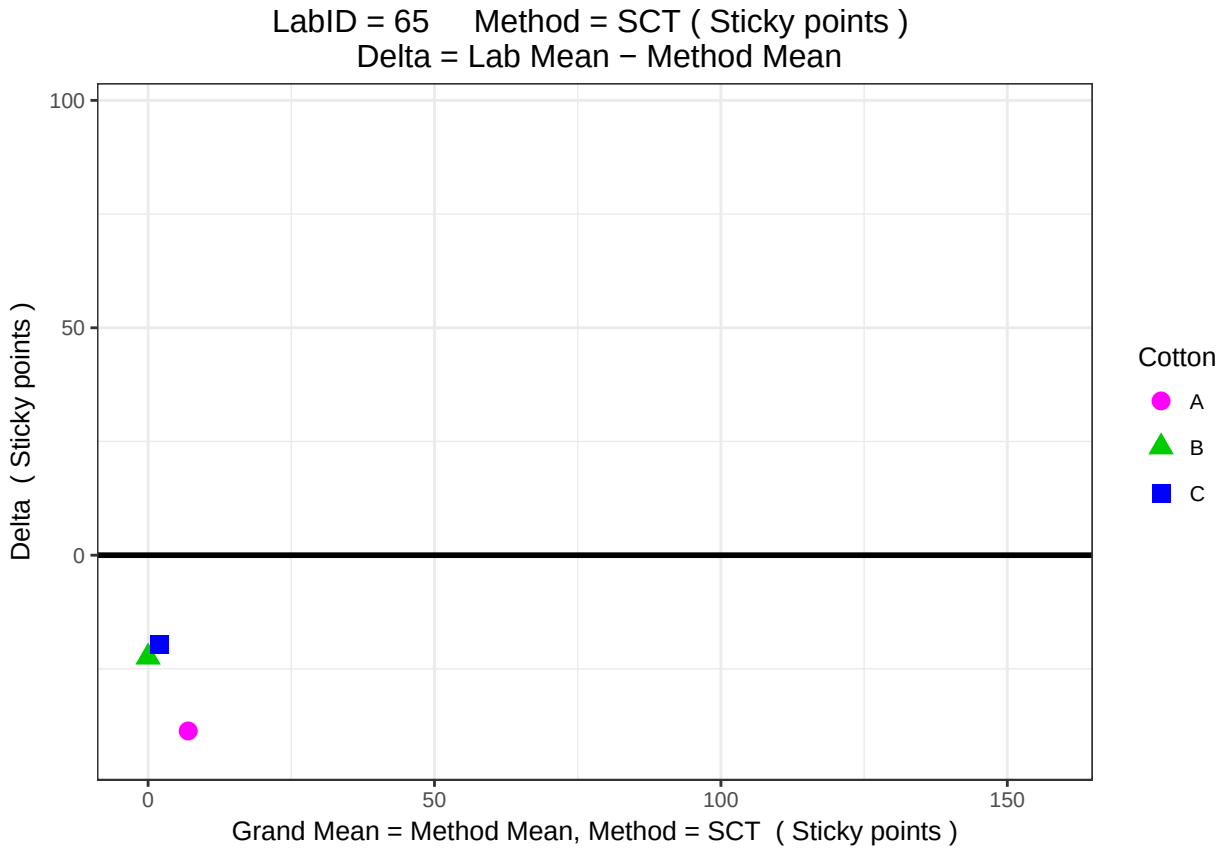

LabID = 25 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C

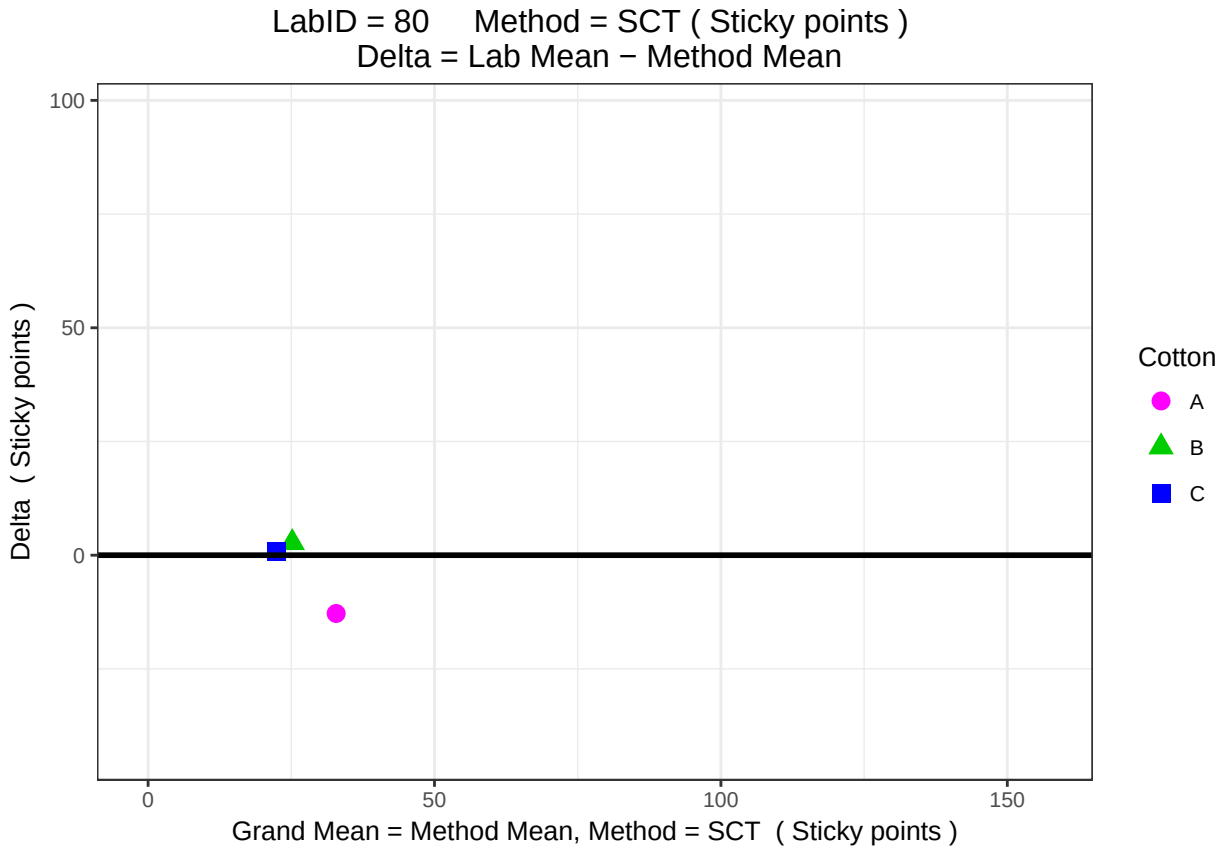

LabID = 30 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C

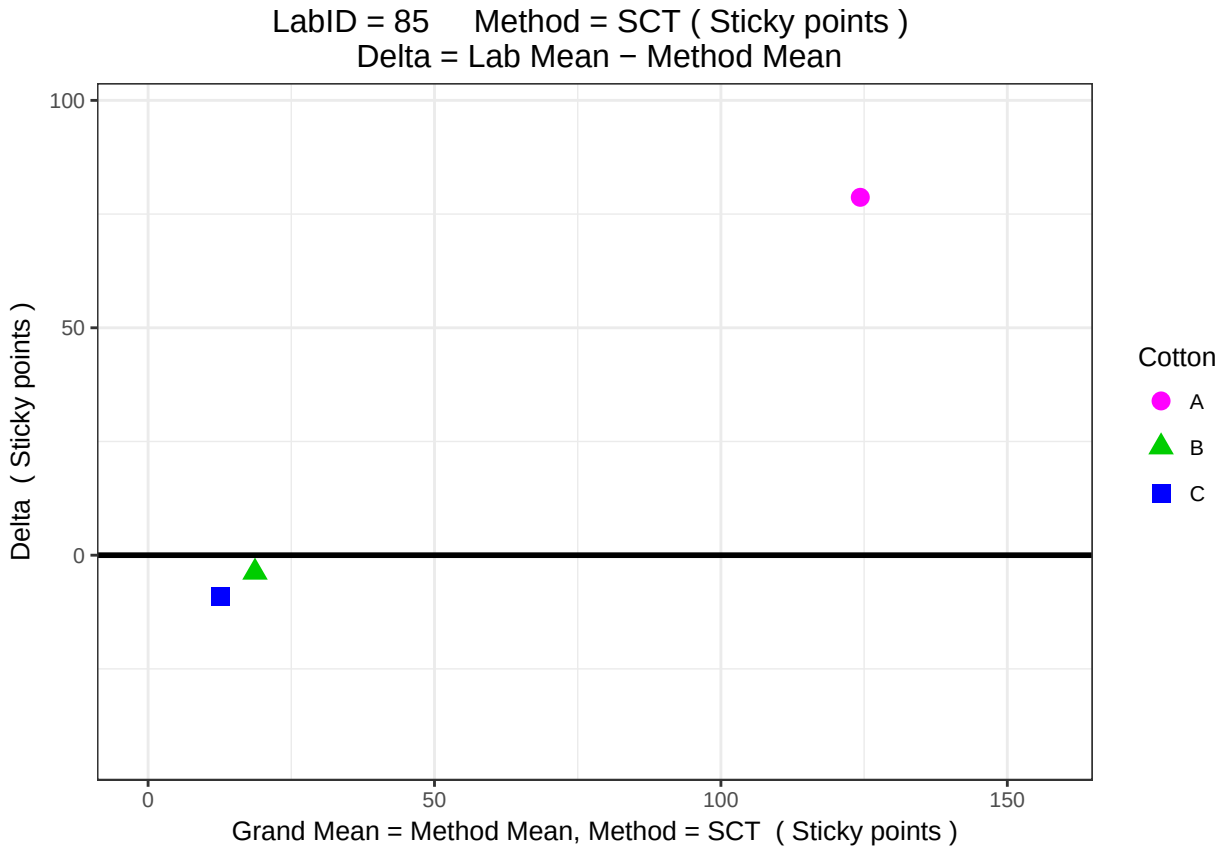

LabID = 35 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C

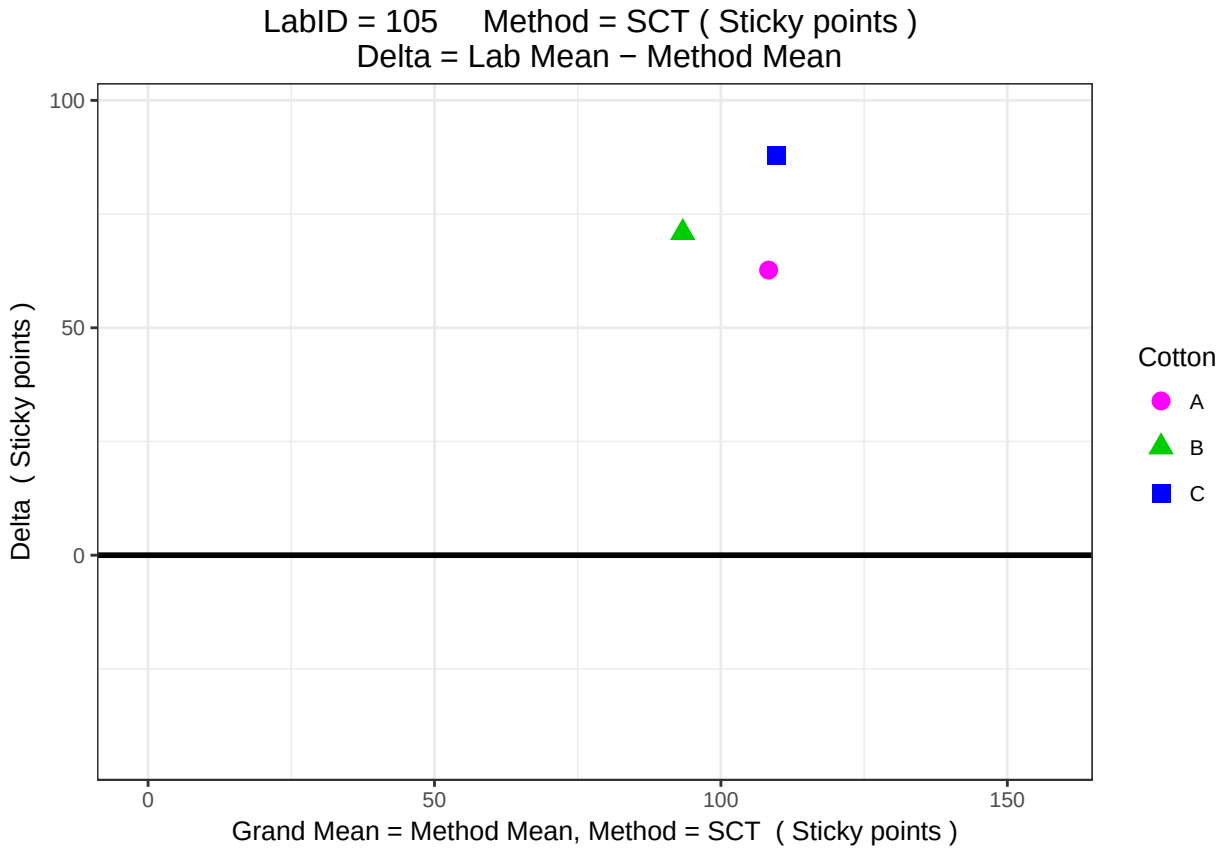

LabID = 45 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C

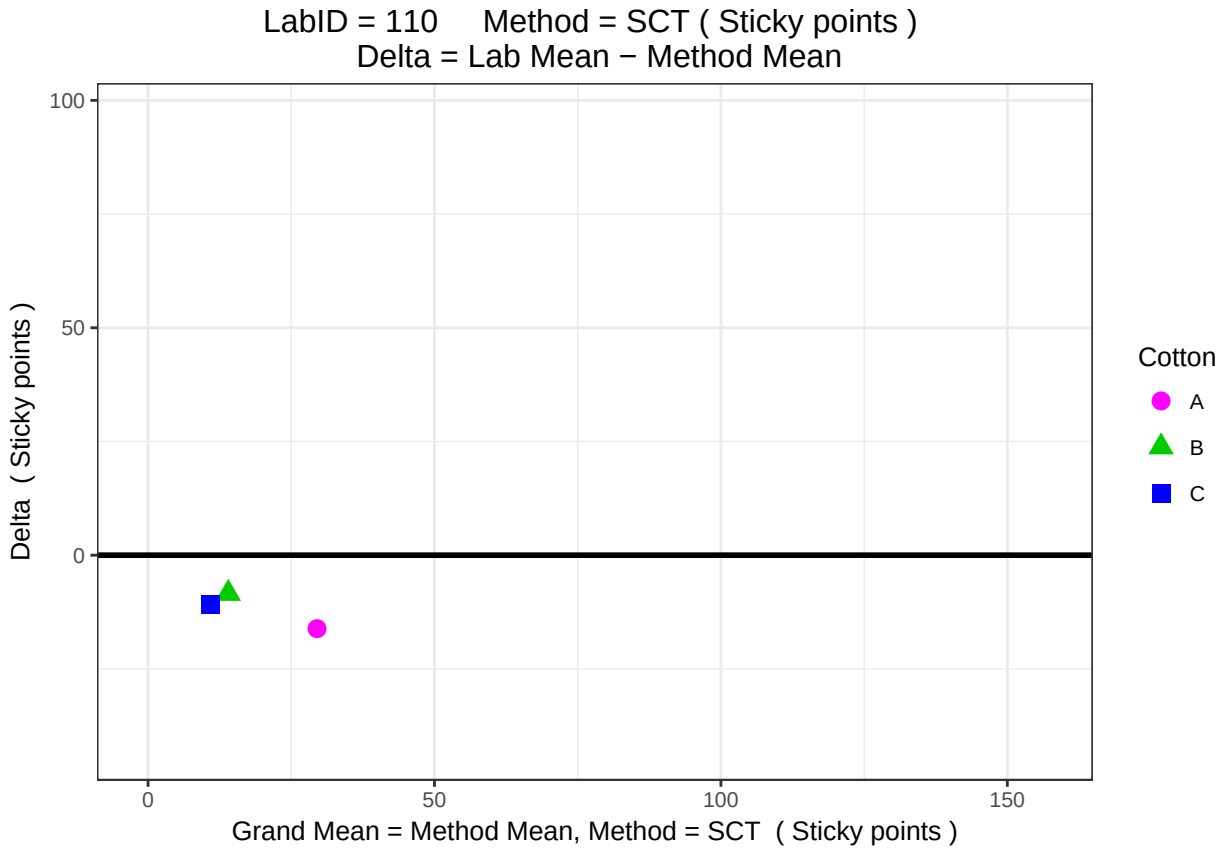

LabID = 50 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C

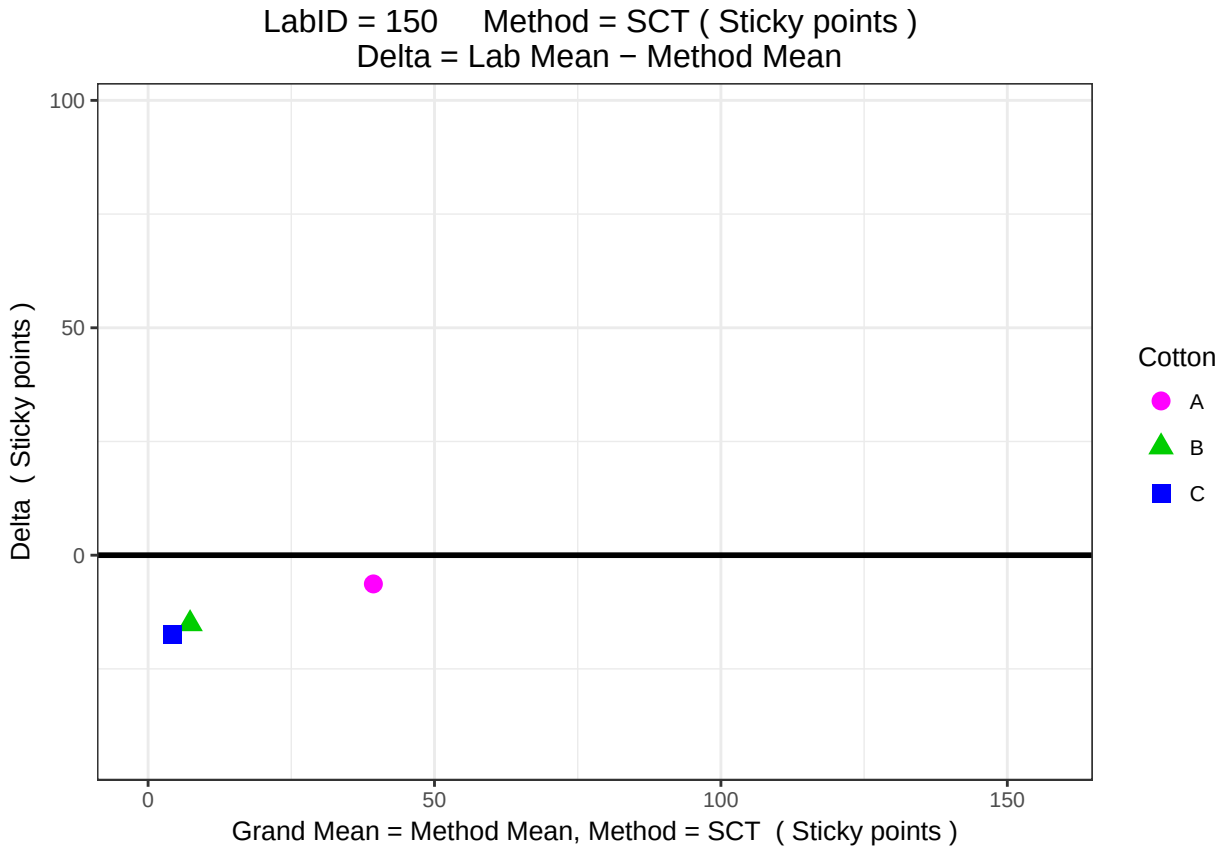

LabID = 65 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C


LabID = 80 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C


LabID = 85 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C


LabID = 105 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C


LabID = 110 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C


LabID = 150 Method = SCT (Sticky points)
Delta = Lab Mean − Method Mean
100
50
0
Delta (Sticky points)
0
50
100
150
Grand Mean = Method Mean, Method = SCT (Sticky points)
Cotton
A
B
C