Qualitätssicherung für
die NIRS/NIT-Analytik

VDLUFA

Auswertung VDLUFA-Ringversuch Silomais
NIRS-Methode 2021:
Report for VDLUFA Proficiency Test Forage Maize
NIRS method 2021:

Raps
Erbsen
Silomais
Grassilage
Maissilage
Braugerste
Backweizen

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Nur für den internen Gebrauch der Teilnehmer an diesem Ringversuch

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Inhaltsverzeichnis

1 Abkürzungen / Abreviations

CV_r	Wiederholvariationskoefizient Coefficient of variation for repeatability
CV_R	Vergleichsvariationskoefizient Coefficient of variation for reproducibility
m	Mittelwert mean value
n	Einzelwerte single results
n_1	gültige Einzelwerte in der Auswertung valid single results in report
p	Labore im Ringversuch laboratories in proficiency test
p_1	gültige Labore in der Auswertung valid laboratories in report
r	Wiederholbarkeit (-grenze) repeatability (limit)
R	Vergleichbarkeit (-sgrenze) reproducibility (limit)
s_r	Wiederholstandardabweichung repeatability standard deviation
s_R	Vergleichsstandardabweichung reproducibility standard deviation
SD	Standardabweichung standard deviation
tol_{up}	obere Toleranzgrenze upper tolerance level
tol_{low}	untere Toleranzgrenze lower tolerance level
x_a	"Wahrer Wert", (s. Kap. 2) "true value", (s. chap. 2)
Δ	Differenz difference

2 Aufbau des Ringversuchs / Design of Proficiency Test

Material/Materials : 6 Proben/Samples: Silomais

		2101	2102	2103	2104	2105	2106
Trockenmasse / dry matter	[%]	89.44	90.19	91.18	89.72	88.41	89.69
Rohprotein / XP	[% TM]	5.99	5.89	5.54	6.46	6.36	5.83
Rohfaser / XF	[% TM]	16.47	18.38	25.87	18.32	16.76	16.38
Rohfett / XL	[% TM]	2.51	2.31	1.90	2.65	2.27	2.75
Stärke / XS	[% TM]	35.91	22.87	9.48	31.91	30.05	35.54
Zucker / XZ	[% TM]	8.78	15.91	14.42	8.02	12.61	9.29
aNDFom	[% TM]	38.77	42.94	56.09	43.00	38.64	38.39
ADFom	[% TM]	20.85	23.48	33.38	22.34	21.14	20.31
ADL	[% TM]	1.91	1.25	2.44	1.74	1.69	1.64
NDF	[% TM]	39.92	43.92	57.22	43.81	40.54	39.26
ADFom	[% TM]	21.89	23.55	33.32	23.62	22.20	21.18
Elos / Cellulase	[% TM]	72.30	71.04	57.08	70.16	72.55	73.96

Für die Beschreibung der Proben wurden die Mittelwerte der Analysen dargestellt. Weil aber je nach Merkmal eine unterschiedliche Anzahl an Laboren in die Mittelwertberechnung eingehen, sind die dargestellten Werte unter Umständen rechnerisch nicht passend. D.h. logische oder rechnerische Schlussfolgerungen - z.B. ADFom < ADF oder CH4-Gehalt = Methan-Ertrag/Biogas-Ertrag - müssen hier nicht stimmen.

In the previous table the mean of the analyses from this proficiency test are listed. Because the outliers are determined per constituent different number of lab results were used to calculate the mean, which might result in inappropriate results in the above table. I.e. logical or mathematical conclusions - e.g. ADFom < ADF or methane content = methane yield / biogas yield - might not been fulfilled.

Versand / Distribution : vorvermahlen als Pulver / *preground as powder*

Methoden / Methods : alle Merkmale / *all parameters* VDLUFA 31.3

Ringversuch / PT : mit 4 Wiederholungen je Labor
with 4 repeats per laboratory

Organisation : VDLUFA NIRS GmbH, Kassel

Zeitraum / Time frame : März-Mai 2021

Labore / Participating laboratories : (Kodierung: siehe individuelle Information
Codes: see individual information)

AG Fuko, Isernhagen
BfUL, Nossen
BSA, Hannover
Caussade Semences, Recainville, F
Corteva, Buxtehude
FH Kiel, Rendsburg
Inst. Nuss, Bad Kissingen
IS Forschung, Wahlstedt
KWS, Einbeck
LELF, Paulinenaue
LfL, Fresing
LfL, Grub
LfLG, Bernburg
LHL, Kassel
LTZ Augustenberg, Karlsruhe
LUFA Nord-West, Oldenburg
LUFA NRW, Münster
LUFA Rostock, Rostock
LUFA Speyer, Speyer
MAS-Seeds, Neckarmühlbach
RAGT, Olemps, F
Syngenta, Bad Salzuflen
TLLLR, Jena
Uni Gießen, Gießen
Uni Hohenheim (350a), Stuttgart
VDLUFA NIRS, Kassel

Berechnungen / Calculations : Berechnung nach ISO 5725, Darstellung nach Pocklington
calculated accord. to ISO 5725, displayed accord. to Pocklington

Merkmal	Ausreißer-durchläufe	C-Ausreißer ignorieren
Trockenmasse / dry matter	1	x
Rohprotein / XP	1	x
Rohfaser / XF	1	x
Rohfett / XL	1	x
Stärke / XS	1	x
Zucker / XZ	1	x
aNDFom	1	x
ADFom	1	x
ADL	1	x
NDF	1	x
ADFom	1	x
Elos / Cellulase	1	x

Diese Vorgaben entsprechen den Empfehlungen der "VDLUFA FG Futtermittel" (VDLUFA 2015).

According to a recommendation of "VDLUFA FG Futtermittel" no C outliers are removed from the report (VDLUFA 2015).

Terminologie / Terminology :

Gemäß ISO 5725 werden Einzelwerte als Ausreißer bestimmt, die nicht zu den übrigen Werten dieses Labors passen. (Typ A)

Ferner werden alle Werte eines Labors markiert, wenn der Labormittelwert dieses Labors statistisch signifikant von dem Mittelwert aller Labore abweicht (Typ B) oder die laborinterne Streuung erhöht ist (Typ C).

Bei allen drei Typen von Ausreißern wird unterschieden, ob diese Ausreißer signifikant auf dem 1%-Niveau sind (Typ A, B und C) — dann werden diese Messergebnisse aus der Auswertung herausgenommen — oder ob die Signifikanz nur auf dem 5%-Niveau gegeben ist (Typ a, b, und c) — dann werden diese Werte markiert und in der weiteren Berechnung berücksichtigt.

D-Ausreißer werden per Hand, ohne statistische Berechnungen aus der Auswertung herausgenommen.

Die HORRAT-Zahl macht eine Aussage über die Güte des Ringversuchs. Dazu wird die Vergleichbarkeit relativ zum Mittelwert des Ringversuchs gesetzt und dann mit einer empirischen Verteilung verglichen. Streng genommen gilt die

HORRAT-Zahl nur für chemisch eindeutig definierte Parameter (d.h. nicht für Konventionsmethoden) und auch nicht bei Mengenbestandteilen.

Die z-Scores wurden nach DIN 38402-45 berechnet. Die Toleranzgrenzen wurden mit $m \pm 2 * s_R$ bzw. $x_a \pm 2 * s_R$ bestimmt, wenn ein "wahrer Wert" den Proben zu geordnet wurde.

According to ISO 5725 single values are marked as A outliers, if these single values don't fit to the remaining values of that laboratory (type A).

All values from a single laboratory are marked as outliers, if the laboratory mean does not fit the mean across all labs (type B) or if the the standard deviations between single labs in a laboratory is significantly increased (type C).

For all types of outliers the test is done on a significance level of 1% (type A, B, C) – the samples are removed from the report – and on the 5% level (type a, b, c) – the data are retrieved in the report.

D outliers are removed by hand, without a statistical test from the report.

The HORRAT *value makes a statement about the quality of the proficiency test. The reproducibility is calculated as a fraction of the mean in the proficiency test and compared to a empirical distribution. The* HORRAT *value is only valid for chemically defined parameter (i.e. not for conventional methods) and not for major components.*

The z scores are calculated according to DIN 38402-45. The tolerance levels were calculated with $m \pm 2 * s_R$ *and* $x_a \pm 2 * s_R$*, if the samples were assigned a "true value".*

Verweise / Literature :

DIN 38402-45 (2003): Ringversuche zur externen Qualitätskontrolle von Laboratorien (A45). DEV zur Wasser-, Abwasser- und Schlammuntersuchung.

DIN ISO 13528 (2009): Statistische Verfahren für Eignungsprüfungen durch Ringversuche. Beuth-Verlag, B.

FAO (2015): Things to know about the ring text. FAO about the FAO-IAG Ring Text. Verfügbar unter: `http://www.fao.org/ag/againfo/home/documents/2015_AnnouncemenRing_test.pdf` (abgerufen am 5. Mai 2020).

ISO 5725 (1994): Precision of Test Methods. ISO, Genf, CH.

Horwitz, W (1995): Protocol for the design, conduct and interpretation of method-performance studies. Pure & Appl Chem. 67(2)331-343.

Pocklington, W.D. (1991): Precision and accuracy of analysis: Standardisation of analytical methods. In: J.B. Rossell und J.L.R. Pritcharrd: Analysis of Oilseeds, Fats and Fatty Foods. Elsevier Science Publishers, Barking, UK. S. 1-38.

VDLUFA (2012): VDLUFA Methodenbuch Bd. III, Die chemische Untersuchung von Futtermitteln, VDLUFA-Verlag, Darmstadt.

VDLUFA ASR, Fachgruppe VI des VDLUFA: "Analysenspielräume zur Futtermitteluntersuchung". Version 10 (2016). Verfügbar unter: `http://vdlufa.de/joomla/Dokumente/Fachgruppen/FG6/VI-O-41\_Fortsetzung\_neue\_ASR\_FGVI\_Version\_01\_07\_2016.pdf` (abgerufen am 1. Juli 2016).

3 Vorbemerkung zu den im Ringversuch genutzten Geräten / Remark on the Instruments used in this Proficiency test

In Labor 125 wurden Petrischalen statt Quarzglasküvetten genutzt.

Die Labore 8, 22, 30, 125 und 135 nutzten für den Ringversuch ein Bruker MPA-Gerät, die Labor 20, 21 und 113 ein Foss XDS-Gerät, die Labore 37 und 137 ein Foss DS2500-Gerät, die Labore 3, 27, 29, 32 und 33 Unity Scientific SpectraStar-Geräte, das Labor 34 nutzen ein BlueSun Phoenix 5000 (vormals: ITG M5). Die anderen Geräte waren Foss NIRSystems-Geräte.

Alle Geräte nutzten eine gemeinsame Kalibrierung und eine gerätespezifische Kalibrierung (alles im ISI-Format).

Messungen des Labors 40 wurden nicht berücksichtigt, weil die Proben offensichtlich vor der Messung nicht feinvermahlen wurden.

In lab 125 petri dishes were used instead of quartzglass sample cups.

The labs 8, 22, 30, 125 and 135 used a Bruker MPA, the labs 20, 21 and 113 a Foss XDS, the labs 37 and 137 a Foss DS2500, the labs 3, 27, 29, 32 and 33 used Unity Scientific SpectraStar and lab 34 a BlueSun Phoenix (previously: ITG M5) instruments. The remaining instruments are Foss NIRSystems instruments.

All instruments used a uniform calibration model and an instrument specific standardisation file (all in ISI format).

Results from labs 40 were excluded from the report because the samples had not been ground prior to NIRS measurements.

4 Laborbeurteilung nach DIN ISO 13528 / Proficiency test according to DIN ISO 13528

4.1 Kriterien für die Laborbeurteilung / Criteria for proficiency test

Zur Berechnung der z-Werte wurde die folgenden Vergleichbarkeiten herangezogen. Als Grenzwerte gelten bei der Laborbeurteilung für bestanden:

$$-2 <= z - Wert <= 2$$

For calculation of the z scores the following reproducibilities were used. The limits for a successfull participating in the proficiency test is:

$$-2 <= zscore <= 2$$

Pos.	Merkmal Constituent	s_R	Einheit Unit	Quelle Source
2	Rohprotein / XP	0.38	% TM	VDLUFA ASR
3	Rohfaser / XF	1.00	% TM	VDLUFA ASR
4	Rohfett / XL	0.30	% TM	VDLUFA ASR
5	Stärke / XS	1.50	% TM	VDLUFA ASR
6	Zucker / XZ	0.75	% TM	VDLUFA ASR
7	aNDFom	1.75	% TM	VDLUFA ASR
8	ADFom	1.10	% TM	VDLUFA ASR
10	NDF	1.75	% TM	VDLUFA ASR
11	ADFom	1.10	% TM	VDLUFA ASR
12	Elos / Cellulase	1.75	% TM	VDLUFA ASR

Falls in der obigen Tabelle kein Eintrag zu einem Merkmal gemacht wurde, wurde zur Berechnung der z-Werte die Vergleichbarkeit, wie sie in diesem Ringversuch bestimmt worden ist, herangezogen.

In case of no entry in the above table for a constituent for calculation of the z scores the reproducibility as determined in this ring test was used.

Anmerkung: Die Grenzen der Analysenspielräume des VDLUFA wurden für chemische Analysen abgeleitet. Es handelt sich deshalb hierbei um eine Extrapolation der ASR auf die NIRS-Messungen.

Remark: *The tolerances from VDLFUA are derived for chemical methods. Using the ASR in this report is an extrapolation of the ASR.*

4.2 Zusammenfassung der Laborbeurteilung / Summary of proficiency test

Die Beurteilung in der folgenden Tabelle, ob für eine Probe und ein Merkmal der Ringversuch bestanden wurde, richtet sich nach den Kriterien zum z-Wert im vorigen Abschnitt.

The criterium in the next table whether a lab was successful for a single sample was given in the previous section.

Labor	Trockenmasse / dry matter	Rohprotein / XP	Rohfaser / XF	Rohfett / XL	Stärke / XS	Zucker / XZ	aNDFom	ADFom	ADL	NDF	ADFom	Elos / Cellulase
1	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
3	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
5	0 / 6	6 / 6	6 / 6	6 / 6	6 / 6	5 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
7	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	1 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
8	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
9	4 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
10	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
11	6 / 6	6 / 6	6 / 6	6 / 6	1 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
13	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
14	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
15	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
18	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
19	6 / 6	6 / 6	6 / 6	6 / 6	5 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
20	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	5 / 6	4 / 6	6 / 6	6 / 6	5 / 6	6 / 6	6 / 6
21	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	5 / 6	4 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
22	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
23	6 / 6	6 / 6	6 / 6	6 / 6	4 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
24	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
25	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
26	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	5 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
27	6 / 6	0 / 6	0 / 6	6 / 6	3 / 6	4 / 6	6 / 6	6 / 6	0 / 6	5 / 6	6 / 6	0 / 6
28	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
29	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	4 / 6	6 / 6	6 / 6	5 / 6	6 / 6	6 / 6	6 / 6
30	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
31	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
32	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
33	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	0 / 6	6 / 6	4 / 6	6 / 6	6 / 6	4 / 6	6 / 6
34	6 / 6	6 / 6	4 / 6	6 / 6	6 / 6	6 / 6	6 / 6	3 / 6	6 / 6	6 / 6	6 / 6	5 / 6
35	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
40	6 / 6	6 / 6	6 / 6	6 / 6	2 / 6	3 / 6	5 / 6	3 / 6	5 / 6	4 / 6	6 / 6	4 / 6
111	6 / 6	6 / 6	6 / 6	6 / 6	1 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
113	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	5 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
125	0 / 6	0 / 6	0 / 6	6 / 6	0 / 6	0 / 6	0 / 6	0 / 6	0 / 6	0 / 6	0 / 6	0 / 6
134	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6	6 / 6
135	0 / 6	5 / 6	2 / 6	6 / 6	2 / 6	1 / 6	4 / 6	2 / 6	5 / 6	2 / 6	2 / 6	4 / 6

Trockenmasse / dry matter

In der vorigen Tabelle sind die Analysen der verschiedenen Labore als "bestandene Proben von allen Proben" (bestanden/alle) angegeben. Wenn alle Proben bestanden sind, wird das Feld für dieses Labor für dieses Merkmal grün hinterlegt. Wenn **mindestens 80% aller Proben** bestanden sind oder bei mehr als einer Probe im Ringversuch **genau eine Probe nicht bestanden ist**, gelb, wenn weniger bestanden sind, rot hinterlegt.

*In the previous table the analyses of each lab is described as "successful samples of all samples" (successfull/all). If all samples are analysed successfully, the color for this lab and constituent is marked green. If **at least 80% of all samples** are analysed successfully or for at least two samples in the proficiency test **exactly one sample was not analysed successfully**, yellow, if less, the cell is marked red.*

4.3 Einzelne Merkmale / Constituents

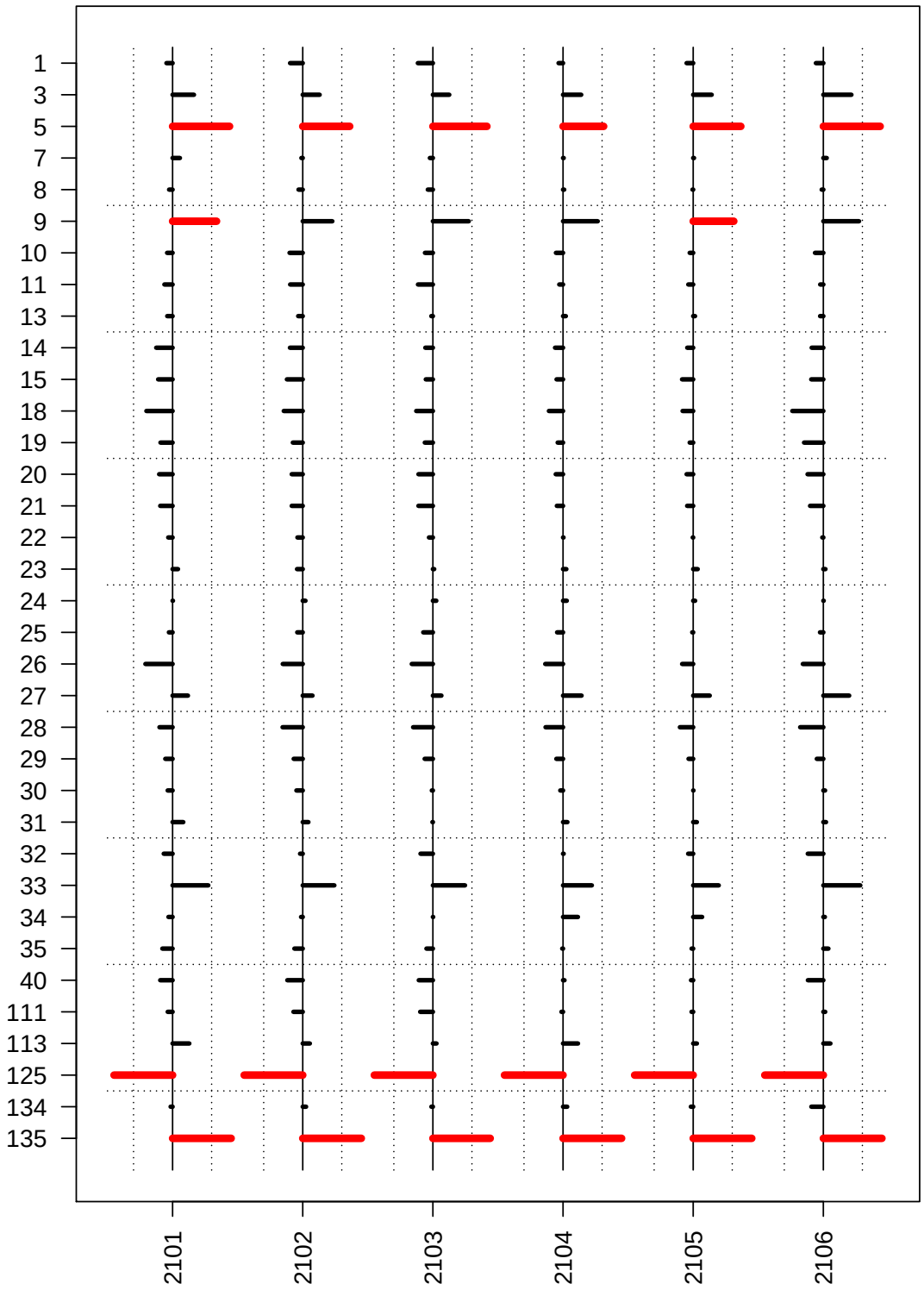
4.3.1 Merkmal / Constituent: Trockenmasse / dry matter

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wird die Vergleichbarkeit, wie sie in diesem Ringversuch bestimmt worden ist, herangezogen.

For calculation of the z scores the reproducibility as determined in this ring test was used

Trockenmasse / dry matter

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Trockenmasse / dry matter

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	89.17	-0.27	89.47	-0.72	90.29	-0.89	89.44	-0.28	87.97	-0.43	89.37	-0.32	**-0.49**	**0.59**
3	90.37	0.93	91.15	0.96	92.15	0.97	90.87	1.15	89.62	1.22	90.89	1.20	**1.07**	**1.18**
5	91.92	2.49	92.87	2.68	94.38	3.19	92.29	2.57	91.55	3.14	92.12	2.44	**2.75**	**3.03**
7	89.76	0.32	90.11	-0.08	91.00	-0.18	89.76	0.04	88.46	0.05	89.83	0.14	**0.05**	**0.18**
8	89.29	-0.15	89.95	-0.24	90.88	-0.30	89.79	0.07	88.36	-0.04	89.62	-0.07	**-0.12**	**0.19**
9	91.36	1.92	91.88	1.69	93.30	2.12	91.91	2.19	91.08	2.68	91.21	1.53	**2.02**	**2.25**
10	89.20	-0.24	89.44	-0.75	90.71	-0.47	89.27	-0.45	88.18	-0.23	89.33	-0.36	**-0.42**	**0.49**
11	89.08	-0.36	89.47	-0.72	90.30	-0.88	89.48	-0.24	88.08	-0.32	89.55	-0.13	**-0.44**	**0.57**
13	89.20	-0.23	89.93	-0.26	91.09	-0.09	89.90	0.18	88.53	0.12	89.55	-0.14	**-0.07**	**0.20**
14	88.72	-0.71	89.46	-0.73	90.74	-0.45	89.22	-0.51	88.01	-0.39	89.19	-0.50	**-0.55**	**0.62**
15	88.81	-0.63	89.29	-0.90	90.76	-0.42	89.31	-0.41	87.67	-0.73	89.17	-0.52	**-0.60**	**0.69**
18	88.29	-1.14	89.11	-1.08	90.20	-0.98	88.83	-0.89	87.71	-0.70	88.36	-1.33	**-1.02**	**1.14**
19	88.91	-0.53	89.62	-0.57	90.70	-0.48	89.38	-0.34	88.18	-0.23	88.86	-0.83	**-0.49**	**0.58**
20	88.85	-0.59	89.56	-0.63	90.33	-0.85	89.26	-0.46	87.97	-0.43	89.01	-0.68	**-0.61**	**0.68**
21	88.90	-0.54	89.56	-0.63	90.33	-0.85	89.33	-0.39	88.01	-0.40	89.12	-0.57	**-0.56**	**0.64**
22	89.25	-0.19	89.89	-0.30	90.95	-0.23	89.75	0.03	88.38	-0.03	89.64	-0.04	**-0.13**	**0.19**
23	89.67	0.24	89.86	-0.33	91.26	0.08	89.93	0.21	88.70	0.30	89.77	0.09	**0.10**	**0.25**
24	89.45	0.01	90.34	0.15	91.38	0.20	89.96	0.23	88.53	0.13	89.70	0.01	**0.12**	**0.16**
25	89.28	-0.16	89.88	-0.31	90.61	-0.57	89.35	-0.37	88.34	-0.06	89.54	-0.14	**-0.27**	**0.35**
26	88.25	-1.19	89.05	-1.14	89.93	-1.25	88.60	-1.12	87.68	-0.73	88.81	-0.88	**-1.05**	**1.17**
27	90.11	0.67	90.74	0.56	91.68	0.50	90.89	1.17	89.49	1.09	90.79	1.11	**0.85**	**0.98**
28	88.87	-0.57	89.04	-1.15	90.01	-1.17	88.62	-1.11	87.53	-0.88	88.69	-0.99	**-0.98**	**1.09**
29	89.12	-0.32	89.67	-0.52	90.70	-0.49	89.30	-0.42	88.10	-0.31	89.41	-0.28	**-0.39**	**0.44**
30	89.22	-0.21	89.83	-0.36	91.12	-0.06	89.55	-0.17	88.42	0.02	89.76	0.07	**-0.12**	**0.21**
31	89.90	0.47	90.51	0.32	91.16	-0.03	90.00	0.27	88.64	0.24	89.80	0.11	**0.23**	**0.31**
32	89.05	-0.39	90.04	-0.15	90.45	-0.73	89.76	0.04	88.08	-0.33	89.02	-0.67	**-0.37**	**0.50**
33	91.00	1.56	91.99	1.80	93.08	1.90	91.54	1.82	90.09	1.68	91.27	1.58	**1.72**	**1.89**
34	89.26	-0.18	90.10	-0.09	91.20	0.02	90.66	0.94	88.99	0.59	89.75	0.06	**0.22**	**0.50**
35	88.99	-0.45	89.71	-0.48	90.80	-0.38	89.67	-0.05	88.30	-0.10	89.90	0.22	**-0.21**	**0.35**
40	88.90	-0.54	89.31	-0.88	90.35	-0.83	89.81	0.09	88.26	-0.14	89.02	-0.66	**-0.49**	**0.67**
111	89.22	-0.21	89.66	-0.53	90.43	-0.75	89.62	-0.10	88.30	-0.11	89.77	0.08	**-0.27**	**0.43**
113	90.17	0.73	90.59	0.40	91.39	0.21	90.67	0.94	88.65	0.24	89.99	0.30	**0.47**	**0.60**
125	84.40	-5.03	85.24	-4.95	85.78	-5.40	84.92	-4.80	83.52	-4.88	84.91	-4.78	**-4.98**	**5.45**
134	89.35	-0.09	90.38	0.19	91.10	-0.09	89.98	0.26	88.25	-0.15	89.17	-0.51	**-0.06**	**0.28**
135	94.46	5.03	94.08	3.90	94.57	3.39	95.58	5.85	94.99	6.58	94.45	4.76	**4.92**	**5.52**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.2 Merkmal / Constituent: Rohprotein / XP

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

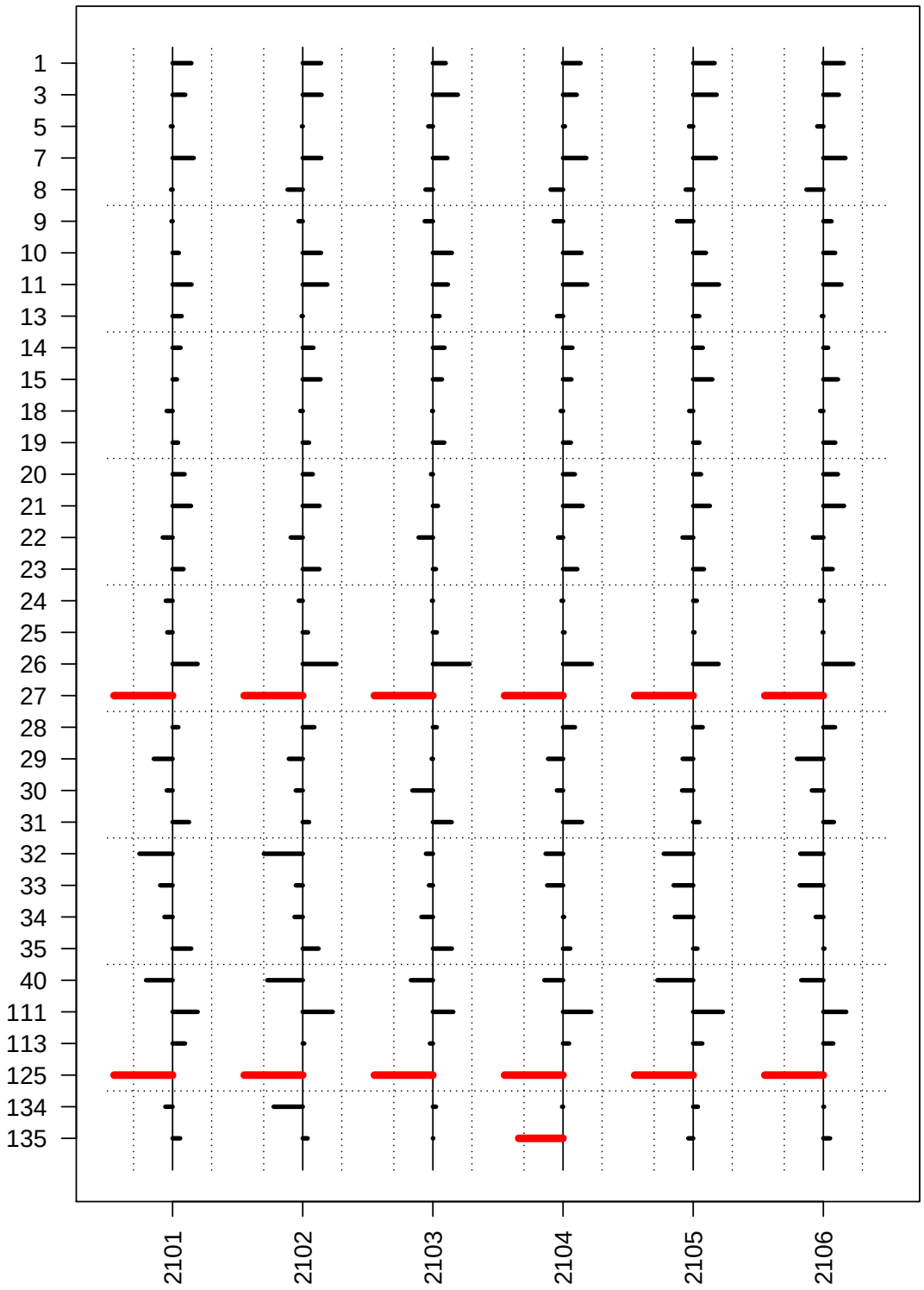
For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 0.38 % TM

Quelle / Source: VDLUFA ASR

Rohprotein / XP

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	6.35	0.36	6.24	0.35	5.78	0.25	6.80	0.34	6.78	0.41	6.22	0.39	**0.35**	**0.39**
3	6.23	0.24	6.25	0.36	6.02	0.48	6.72	0.26	6.82	0.45	6.13	0.30	**0.35**	**0.40**
5	5.96	-0.03	5.87	-0.01	5.45	-0.09	6.50	0.04	6.28	-0.08	5.72	-0.12	**-0.05**	**0.08**
7	6.39	0.40	6.24	0.36	5.82	0.28	6.91	0.45	6.80	0.44	6.26	0.42	**0.39**	**0.43**
8	5.96	-0.03	5.59	-0.29	5.40	-0.14	6.22	-0.24	6.22	-0.14	5.51	-0.32	**-0.20**	**0.24**
9	5.97	-0.02	5.81	-0.08	5.38	-0.16	6.28	-0.18	6.05	-0.31	5.99	0.16	**-0.10**	**0.19**
10	6.11	0.12	6.24	0.35	5.90	0.36	6.81	0.35	6.61	0.25	6.06	0.23	**0.28**	**0.32**
11	6.35	0.36	6.36	0.47	5.83	0.29	6.92	0.46	6.86	0.49	6.18	0.35	**0.40**	**0.45**
13	6.16	0.17	5.87	-0.02	5.67	0.13	6.34	-0.12	6.48	0.12	5.80	-0.03	**0.04**	**0.12**
14	6.14	0.15	6.09	0.20	5.76	0.22	6.64	0.18	6.55	0.18	5.92	0.09	**0.17**	**0.20**
15	6.07	0.08	6.23	0.34	5.71	0.17	6.62	0.16	6.73	0.37	6.11	0.28	**0.23**	**0.28**
18	5.88	-0.11	5.84	-0.05	5.53	-0.01	6.42	-0.04	6.29	-0.08	5.77	-0.06	**-0.06**	**0.07**
19	6.10	0.10	6.01	0.12	5.76	0.22	6.61	0.15	6.48	0.12	6.06	0.23	**0.16**	**0.18**
20	6.22	0.23	6.08	0.19	5.50	-0.03	6.69	0.23	6.51	0.15	6.11	0.28	**0.17**	**0.22**
21	6.34	0.35	6.21	0.32	5.64	0.10	6.84	0.38	6.68	0.32	6.23	0.40	**0.31**	**0.36**
22	5.80	-0.19	5.66	-0.23	5.27	-0.27	6.37	-0.10	6.16	-0.20	5.63	-0.20	**-0.20**	**0.23**
23	6.20	0.21	6.21	0.32	5.60	0.06	6.73	0.27	6.57	0.21	6.01	0.18	**0.21**	**0.24**
24	5.86	-0.13	5.81	-0.08	5.52	-0.02	6.43	-0.03	6.43	0.07	5.77	-0.06	**-0.04**	**0.08**
25	5.89	-0.10	5.99	0.10	5.62	0.08	6.49	0.03	6.39	0.02	5.82	-0.01	**0.02**	**0.07**
26	6.47	0.48	6.53	0.65	6.24	0.70	7.01	0.55	6.85	0.49	6.41	0.57	**0.57**	**0.64**
27	2.67	-3.32	2.73	-3.16	2.27	-3.27	3.50	-2.96	3.30	-3.07	3.15	-2.68	**-3.08**	**3.38**
28	6.10	0.11	6.11	0.22	5.61	0.07	6.69	0.23	6.55	0.18	6.06	0.22	**0.17**	**0.20**
29	5.63	-0.36	5.62	-0.27	5.52	-0.02	6.17	-0.29	6.16	-0.20	5.33	-0.51	**-0.27**	**0.34**
30	5.88	-0.11	5.75	-0.13	5.15	-0.39	6.34	-0.12	6.15	-0.21	5.61	-0.22	**-0.20**	**0.24**
31	6.31	0.32	6.01	0.12	5.90	0.36	6.83	0.36	6.48	0.12	6.03	0.20	**0.25**	**0.29**
32	5.35	-0.64	5.14	-0.75	5.41	-0.13	6.13	-0.33	5.80	-0.57	5.39	-0.44	**-0.48**	**0.57**
33	5.75	-0.24	5.75	-0.13	5.46	-0.08	6.16	-0.30	5.99	-0.38	5.38	-0.45	**-0.26**	**0.32**
34	5.83	-0.16	5.73	-0.16	5.32	-0.22	6.48	0.02	6.01	-0.35	5.68	-0.15	**-0.17**	**0.22**
35	6.35	0.36	6.19	0.30	5.90	0.36	6.60	0.14	6.45	0.08	5.85	0.02	**0.21**	**0.28**
40	5.48	-0.51	5.21	-0.68	5.12	-0.42	6.10	-0.36	5.68	-0.69	5.41	-0.42	**-0.51**	**0.58**
111	6.47	0.48	6.46	0.58	5.93	0.39	7.00	0.54	6.93	0.57	6.27	0.44	**0.50**	**0.55**
113	6.23	0.24	5.91	0.03	5.48	-0.06	6.58	0.12	6.54	0.17	6.02	0.19	**0.12**	**0.17**
125	3.32	-2.67	3.15	-2.74	2.58	-2.96	3.81	-2.65	3.68	-2.68	3.32	-2.52	**-2.70**	**2.96**
134	5.85	-0.14	5.33	-0.56	5.60	0.06	6.44	-0.02	6.45	0.09	5.85	0.01	**-0.09**	**0.26**
135	6.13	0.14	5.98	0.09	5.55	0.01	5.61	-0.85	6.27	-0.09	5.96	0.13	**-0.10**	**0.40**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.3 Merkmal / Constituent: Rohfaser / XF

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

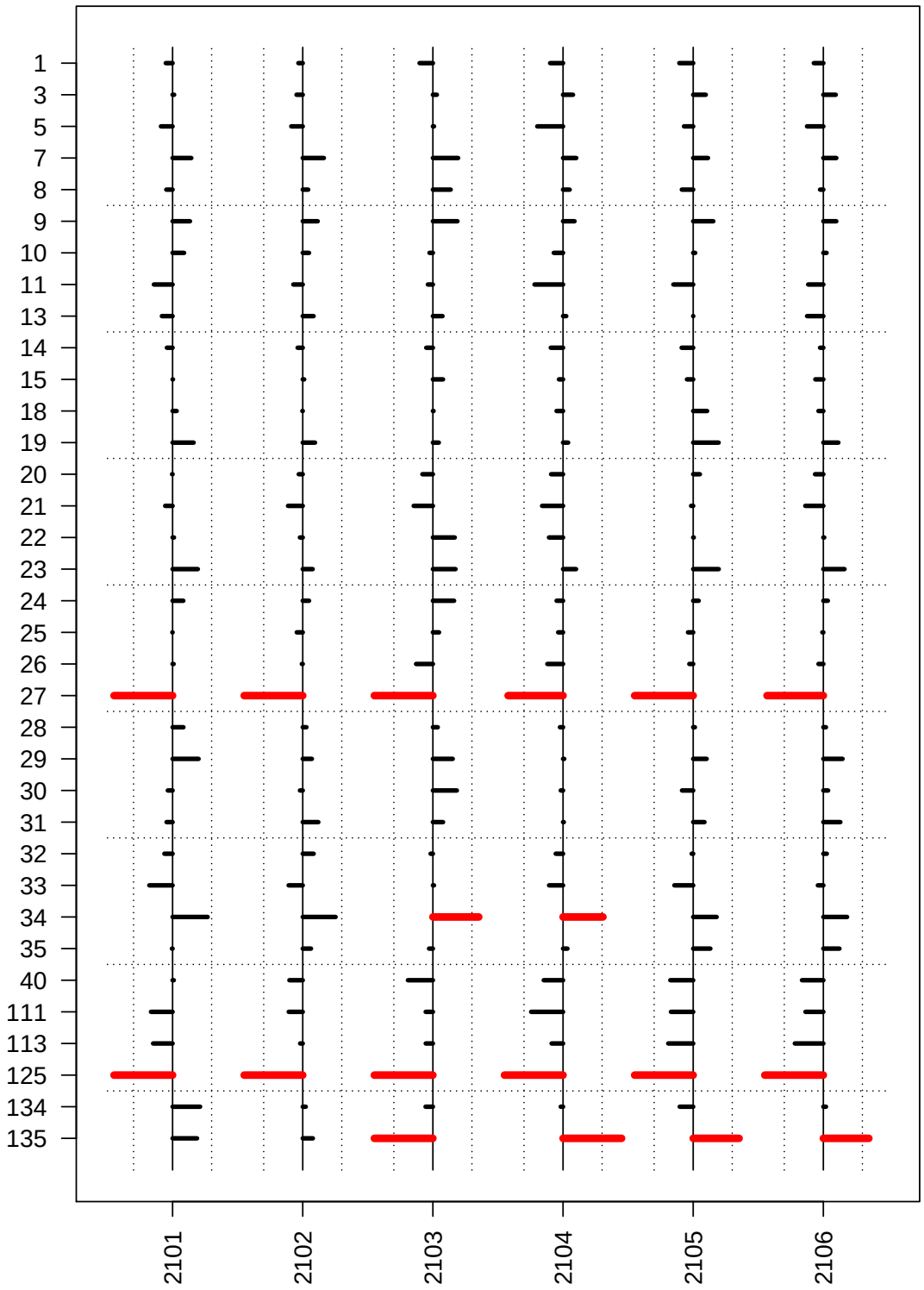
For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.00 % TM

Quelle / Source: VDLUFA ASR

Rohfaser / XF

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	16.12	-0.35	18.16	-0.22	25.19	-0.68	17.65	-0.66	16.05	-0.71	15.90	-0.49	**-0.52**	**0.60**
3	16.55	0.08	18.06	-0.32	26.07	0.20	18.83	0.51	17.40	0.64	17.02	0.64	**0.29**	**0.49**
5	15.87	-0.60	17.79	-0.59	25.92	0.06	17.00	-1.32	16.29	-0.47	15.55	-0.84	**-0.63**	**0.82**
7	17.43	0.96	19.46	1.08	27.16	1.29	18.99	0.68	17.52	0.76	17.05	0.66	**0.90**	**1.02**
8	16.15	-0.32	18.66	0.28	26.78	0.91	18.65	0.34	16.18	-0.58	16.21	-0.17	**0.08**	**0.55**
9	17.36	0.89	19.15	0.77	27.13	1.26	18.90	0.59	17.79	1.03	17.05	0.66	**0.87**	**0.98**
10	17.06	0.59	18.70	0.32	25.69	-0.17	17.84	-0.47	16.86	0.10	16.55	0.16	**0.09**	**0.38**
11	15.51	-0.96	17.90	-0.48	25.61	-0.26	16.86	-1.46	15.75	-1.01	15.61	-0.78	**-0.82**	**1.00**
13	15.92	-0.55	18.94	0.56	26.36	0.49	18.48	0.16	16.76	0.00	15.55	-0.83	**-0.03**	**0.56**
14	16.18	-0.29	18.12	-0.26	25.53	-0.34	17.69	-0.63	16.17	-0.59	16.22	-0.17	**-0.38**	**0.46**
15	16.49	0.02	18.45	0.07	26.38	0.52	18.11	-0.21	16.44	-0.32	15.97	-0.41	**-0.05**	**0.34**
18	16.68	0.21	18.36	-0.02	25.90	0.03	17.99	-0.33	17.47	0.71	16.14	-0.25	**0.06**	**0.38**
19	17.55	1.08	19.01	0.63	26.17	0.30	18.58	0.26	18.07	1.30	17.15	0.77	**0.72**	**0.89**
20	16.44	-0.03	18.18	-0.20	25.33	-0.54	17.71	-0.61	17.10	0.34	15.96	-0.43	**-0.24**	**0.45**
21	16.09	-0.38	17.63	-0.75	24.88	-0.98	17.24	-1.07	16.66	-0.11	15.46	-0.92	**-0.70**	**0.86**
22	16.54	0.07	18.24	-0.14	26.99	1.12	17.60	-0.72	16.79	0.03	16.38	-0.00	**0.06**	**0.60**
23	17.76	1.29	18.89	0.51	27.03	1.16	18.98	0.67	18.07	1.31	17.47	1.08	**1.00**	**1.15**
24	17.02	0.55	18.70	0.32	26.95	1.09	17.99	-0.33	17.04	0.28	16.61	0.23	**0.36**	**0.60**
25	16.46	-0.01	18.08	-0.31	26.18	0.32	18.07	-0.25	16.50	-0.26	16.33	-0.05	**-0.09**	**0.26**
26	16.52	0.05	18.34	-0.04	25.01	-0.86	17.51	-0.80	16.56	-0.20	16.14	-0.25	**-0.35**	**0.55**
27	12.12	-4.34	14.11	-4.27	21.14	-4.72	15.50	-2.81	13.45	-3.31	13.50	-2.89	**-3.73**	**4.16**
28	17.02	0.55	18.57	0.19	26.12	0.25	18.16	-0.16	16.85	0.09	16.52	0.13	**0.18**	**0.30**
29	17.80	1.33	18.85	0.47	26.88	1.02	18.38	0.06	17.45	0.69	17.37	0.98	**0.76**	**0.95**
30	16.22	-0.24	18.24	-0.14	27.09	1.23	18.20	-0.12	16.19	-0.57	16.63	0.24	**0.07**	**0.63**
31	16.16	-0.31	19.18	0.80	26.39	0.52	18.35	0.04	17.34	0.58	17.25	0.87	**0.42**	**0.65**
32	16.05	-0.42	18.94	0.56	25.75	-0.12	17.94	-0.37	16.68	-0.08	16.56	0.18	**-0.04**	**0.37**
33	15.28	-1.19	17.66	-0.72	25.92	0.06	17.60	-0.71	15.80	-0.96	16.10	-0.28	**-0.64**	**0.83**
34	18.26	1.79	20.06	1.68	28.22	2.35	20.36	2.04	17.96	1.20	17.60	1.22	**1.71**	**1.93**
35	16.43	-0.03	18.80	0.42	25.67	-0.20	18.54	0.22	17.64	0.88	17.21	0.82	**0.35**	**0.59**
40	16.53	0.06	17.70	-0.68	24.59	-1.28	17.33	-0.99	15.59	-1.17	15.29	-1.09	**-0.86**	**1.06**
111	15.36	-1.11	17.66	-0.72	25.50	-0.37	16.68	-1.63	15.62	-1.14	15.47	-0.92	**-0.98**	**1.16**
113	15.47	-1.00	18.25	-0.13	25.50	-0.37	17.73	-0.59	15.49	-1.28	14.92	-1.46	**-0.80**	**1.02**
125	1.24	-15.23	3.35	-15.03	10.30	-15.57	3.34	-14.98	1.16	-15.60	1.62	-14.76	**-15.19**	**16.65**
134	17.88	1.41	18.53	0.15	25.49	-0.38	18.20	-0.12	16.07	-0.69	16.52	0.13	**0.09**	**0.73**
135	17.72	1.25	18.90	0.52	21.68	-4.19	25.53	7.22	19.11	2.35	18.71	2.33	**1.58**	**4.06**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.4 Merkmal / Constituent: Rohfett / XL

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

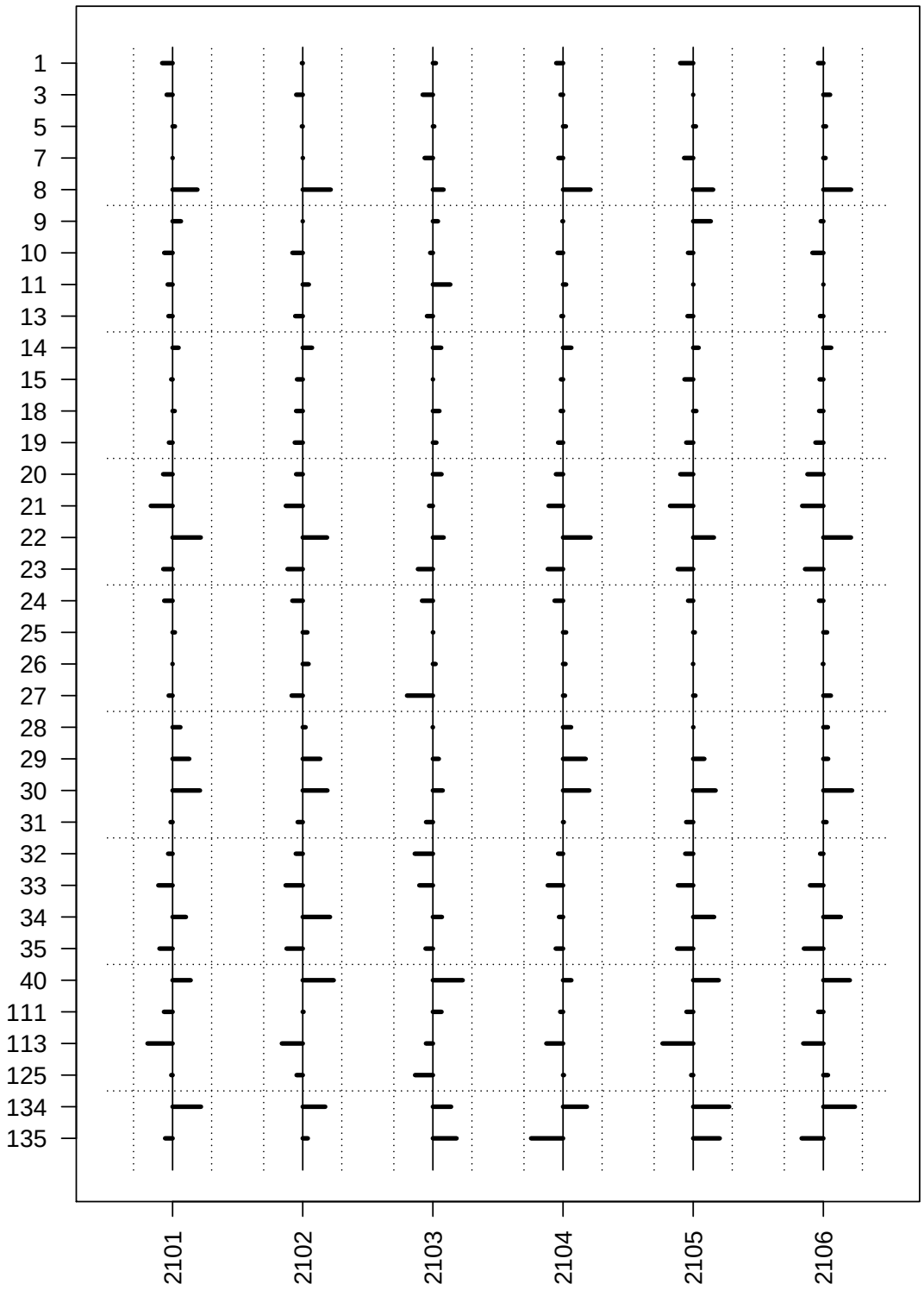
For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 0.30 % TM

Quelle / Source: VDLUFA ASR

Rohfett / XL

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	2.35	-0.16	2.30	-0.01	1.95	0.05	2.55	-0.10	2.07	-0.20	2.67	-0.08	**-0.08**	**0.13**
3	2.42	-0.09	2.21	-0.10	1.74	-0.16	2.61	-0.04	2.27	0.00	2.85	0.10	**-0.05**	**0.10**
5	2.54	0.04	2.30	-0.01	1.92	0.02	2.70	0.04	2.31	0.04	2.79	0.04	**0.03**	**0.04**
7	2.51	0.00	2.31	0.00	1.77	-0.13	2.58	-0.07	2.13	-0.14	2.78	0.03	**-0.05**	**0.09**
8	2.89	0.38	2.74	0.43	2.06	0.16	3.07	0.42	2.58	0.31	3.18	0.43	**0.35**	**0.40**
9	2.63	0.13	2.31	-0.00	1.98	0.08	2.64	-0.01	2.54	0.27	2.71	-0.04	**0.07**	**0.14**
10	2.38	-0.13	2.15	-0.16	1.86	-0.04	2.57	-0.08	2.19	-0.08	2.58	-0.17	**-0.11**	**0.13**
11	2.43	-0.08	2.40	0.09	2.17	0.27	2.70	0.05	2.27	0.00	2.75	0.00	**0.06**	**0.13**
13	2.44	-0.06	2.19	-0.12	1.81	-0.09	2.63	-0.02	2.19	-0.09	2.70	-0.05	**-0.07**	**0.09**
14	2.60	0.09	2.45	0.14	2.03	0.13	2.78	0.13	2.36	0.08	2.87	0.12	**0.12**	**0.13**
15	2.49	-0.02	2.22	-0.09	1.90	0.00	2.62	-0.03	2.14	-0.13	2.69	-0.06	**-0.05**	**0.08**
18	2.54	0.03	2.21	-0.10	2.00	0.10	2.62	-0.04	2.32	0.05	2.69	-0.06	**-0.00**	**0.08**
19	2.45	-0.06	2.19	-0.12	1.95	0.05	2.58	-0.08	2.17	-0.11	2.63	-0.12	**-0.07**	**0.10**
20	2.36	-0.14	2.21	-0.10	2.03	0.13	2.54	-0.11	2.07	-0.20	2.51	-0.24	**-0.11**	**0.18**
21	2.17	-0.33	2.05	-0.26	1.84	-0.06	2.43	-0.22	1.92	-0.36	2.43	-0.32	**-0.26**	**0.30**
22	2.94	0.43	2.68	0.37	2.06	0.16	3.07	0.42	2.59	0.32	3.17	0.42	**0.36**	**0.40**
23	2.36	-0.14	2.08	-0.23	1.67	-0.23	2.42	-0.23	2.04	-0.24	2.47	-0.28	**-0.23**	**0.25**
24	2.38	-0.13	2.15	-0.16	1.73	-0.17	2.52	-0.13	2.19	-0.08	2.68	-0.07	**-0.12**	**0.14**
25	2.54	0.04	2.38	0.07	1.90	0.00	2.70	0.05	2.30	0.03	2.81	0.06	**0.04**	**0.05**
26	2.50	-0.00	2.40	0.09	1.94	0.04	2.69	0.04	2.27	-0.00	2.74	-0.01	**0.03**	**0.05**
27	2.45	-0.06	2.14	-0.17	1.50	-0.40	2.68	0.03	2.31	0.03	2.87	0.12	**-0.07**	**0.20**
28	2.63	0.12	2.35	0.04	1.90	-0.00	2.78	0.12	2.28	0.00	2.82	0.07	**0.06**	**0.09**
29	2.76	0.26	2.58	0.27	1.99	0.09	3.00	0.35	2.44	0.17	2.82	0.07	**0.20**	**0.25**
30	2.93	0.42	2.69	0.38	2.05	0.15	3.06	0.40	2.62	0.34	3.19	0.44	**0.36**	**0.40**
31	2.48	-0.03	2.23	-0.08	1.80	-0.10	2.66	0.01	2.17	-0.11	2.80	0.05	**-0.04**	**0.08**
32	2.44	-0.07	2.20	-0.11	1.62	-0.28	2.58	-0.08	2.15	-0.12	2.70	-0.05	**-0.12**	**0.15**
33	2.29	-0.22	2.05	-0.26	1.69	-0.21	2.42	-0.23	2.04	-0.23	2.55	-0.20	**-0.23**	**0.25**
34	2.71	0.20	2.73	0.42	2.04	0.14	2.59	-0.06	2.59	0.32	3.02	0.27	**0.21**	**0.29**
35	2.30	-0.20	2.06	-0.25	1.79	-0.11	2.54	-0.11	2.03	-0.25	2.45	-0.30	**-0.20**	**0.24**
40	2.78	0.28	2.78	0.48	2.36	0.46	2.78	0.13	2.66	0.39	3.16	0.41	**0.36**	**0.41**
111	2.37	-0.13	2.32	0.01	2.03	0.13	2.61	-0.04	2.17	-0.10	2.67	-0.08	**-0.04**	**0.10**
113	2.12	-0.38	1.99	-0.32	1.79	-0.11	2.40	-0.26	1.80	-0.47	2.44	-0.31	**-0.31**	**0.36**
125	2.49	-0.02	2.21	-0.09	1.63	-0.27	2.67	0.01	2.24	-0.03	2.82	0.07	**-0.06**	**0.13**
134	2.94	0.44	2.65	0.34	2.18	0.28	3.02	0.37	2.83	0.55	3.23	0.48	**0.41**	**0.46**
135	2.39	-0.11	2.39	0.08	2.26	0.36	2.16	-0.49	2.68	0.41	2.42	-0.33	**-0.01**	**0.37**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.5 Merkmal / Constituent: Stärke / XS

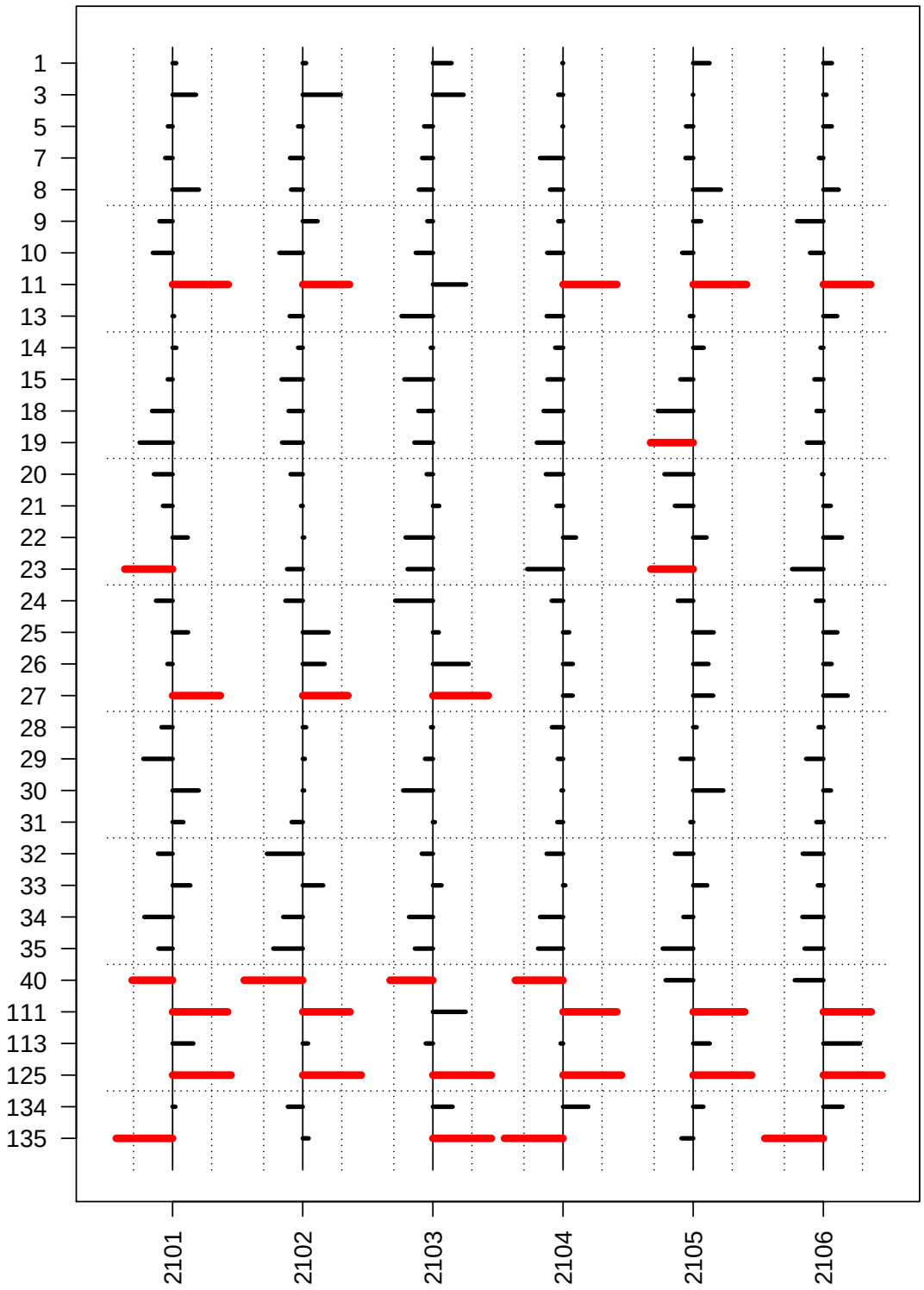
Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.50 % TM

Quelle / Source: VDLUFA ASR

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	36.19	0.28	23.13	0.26	10.91	1.43	31.86	-0.05	31.31	1.26	36.20	0.66	**0.64**	**0.92**
3	37.71	1.80	25.79	2.92	11.84	2.36	31.54	-0.37	30.03	-0.03	35.79	0.25	**1.16**	**1.87**
5	35.56	-0.36	22.51	-0.35	8.81	-0.67	31.87	-0.04	29.50	-0.55	36.19	0.65	**-0.22**	**0.53**
7	35.35	-0.57	21.89	-0.98	8.65	-0.83	30.14	-1.77	29.46	-0.59	35.20	-0.34	**-0.85**	**1.05**
8	37.94	2.02	21.97	-0.89	8.40	-1.08	30.91	-1.00	32.18	2.12	36.72	1.18	**0.39**	**1.61**
9	34.91	-1.01	24.01	1.14	9.05	-0.43	31.54	-0.37	30.66	0.61	33.53	-2.01	**-0.34**	**1.19**
10	34.40	-1.51	21.08	-1.79	8.16	-1.32	30.69	-1.22	29.20	-0.85	34.52	-1.02	**-1.29**	**1.45**
11	40.20	4.28	26.46	3.59	12.03	2.55	36.04	4.13	34.15	4.10	39.19	3.65	**3.72**	**4.12**
13	36.03	0.11	21.86	-1.00	7.07	-2.41	30.65	-1.26	29.79	-0.26	36.61	1.07	**-0.62**	**1.39**
14	36.20	0.28	22.51	-0.35	9.32	-0.16	31.31	-0.60	30.86	0.81	35.32	-0.22	**-0.04**	**0.51**
15	35.54	-0.37	21.24	-1.63	7.29	-2.19	30.71	-1.19	29.06	-0.99	34.85	-0.69	**-1.18**	**1.45**
18	34.34	-1.58	21.79	-1.08	8.37	-1.11	30.42	-1.49	27.33	-2.72	35.02	-0.52	**-1.42**	**1.72**
19	33.38	-2.53	21.28	-1.59	8.06	-1.42	29.90	-2.01	26.78	-3.27	34.28	-1.26	**-2.02**	**2.34**
20	34.48	-1.43	21.93	-0.94	9.00	-0.48	30.59	-1.32	27.84	-2.21	35.45	-0.09	**-1.08**	**1.40**
21	35.18	-0.74	22.74	-0.12	9.97	0.49	31.40	-0.50	28.64	-1.41	36.11	0.57	**-0.29**	**0.82**
22	37.08	1.17	22.98	0.11	7.38	-2.10	32.90	1.00	31.08	1.03	36.97	1.43	**0.44**	**1.40**
23	32.24	-3.67	21.67	-1.20	7.54	-1.94	29.16	-2.75	26.80	-3.25	33.14	-2.40	**-2.54**	**2.92**
24	34.64	-1.28	21.54	-1.33	6.58	-2.90	31.03	-0.87	28.87	-1.18	34.96	-0.58	**-1.36**	**1.69**
25	37.10	1.19	24.86	1.99	9.93	0.45	32.38	0.47	31.62	1.57	36.61	1.07	**1.12**	**1.37**
26	35.52	-0.39	24.55	1.68	12.22	2.74	32.66	0.75	31.23	1.18	36.18	0.64	**1.10**	**1.60**
27	39.59	3.68	26.35	3.48	13.73	4.26	32.65	0.74	31.59	1.54	37.40	1.86	**2.59**	**3.17**
28	35.06	-0.85	23.13	0.26	9.34	-0.14	31.05	-0.86	30.32	0.27	35.18	-0.36	**-0.28**	**0.59**
29	33.67	-2.25	23.03	0.16	8.87	-0.60	31.51	-0.40	29.09	-0.96	34.22	-1.32	**-0.90**	**1.29**
30	37.92	2.01	22.97	0.10	7.20	-2.28	31.79	-0.12	32.36	2.31	36.13	0.59	**0.43**	**1.73**
31	36.74	0.83	22.02	-0.85	9.63	0.15	31.47	-0.44	29.84	-0.21	35.01	-0.53	**-0.18**	**0.62**
32	34.80	-1.12	20.12	-2.75	8.63	-0.85	30.65	-1.26	28.65	-1.40	33.96	-1.58	**-1.49**	**1.77**
33	37.28	1.36	24.44	1.57	10.14	0.66	32.08	0.17	31.13	1.08	35.11	-0.43	**0.74**	**1.11**
34	33.75	-2.17	21.37	-1.50	7.65	-1.83	30.14	-1.76	29.31	-0.75	33.93	-1.61	**-1.60**	**1.82**
35	34.82	-1.09	20.61	-2.26	8.10	-1.38	29.99	-1.92	27.71	-2.34	34.10	-1.44	**-1.74**	**1.97**
40	32.80	-3.11	17.08	-5.79	6.19	-3.29	28.24	-3.67	27.93	-2.12	33.34	-2.20	**-3.36**	**3.92**
111	40.14	4.23	26.50	3.64	12.00	2.52	36.05	4.14	34.02	3.96	39.23	3.69	**3.70**	**4.10**
113	37.51	1.60	23.27	0.41	8.93	-0.55	31.72	-0.19	31.32	1.27	38.36	2.82	**0.89**	**1.59**
125	47.31	11.39	34.06	11.19	20.57	11.10	42.34	10.43	42.33	12.28	46.64	11.10	**11.25**	**12.33**
134	36.13	0.21	21.73	-1.14	10.99	1.51	33.84	1.93	30.83	0.78	37.01	1.47	**0.80**	**1.43**
135	31.58	-4.33	23.32	0.45	17.02	7.55	9.75	-22.16	29.15	-0.90	27.95	-7.59	**-4.50**	**11.18**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.6 Merkmal / Constituent: Zucker / XZ

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

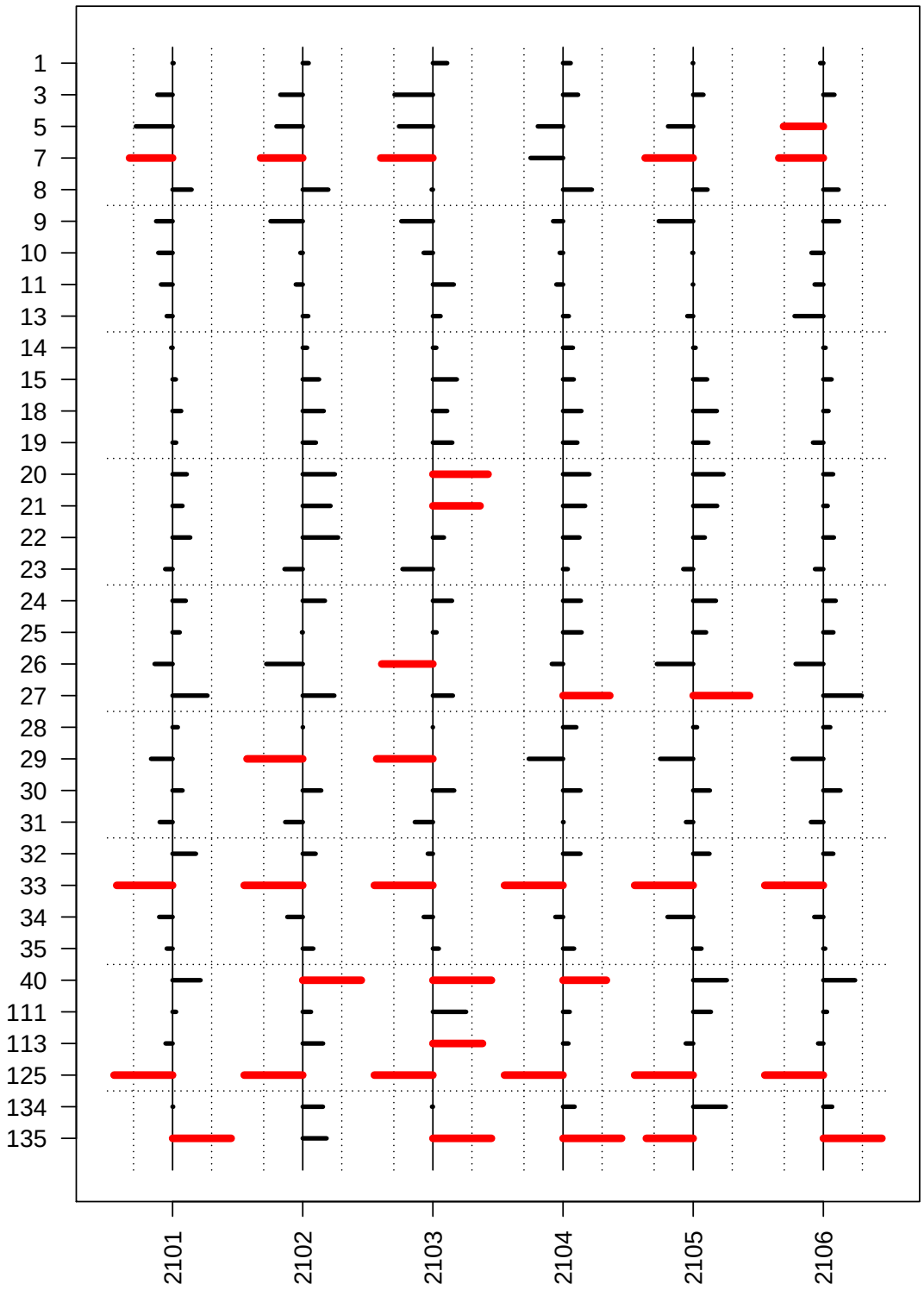
For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 0.75 % TM

Quelle / Source: VDLUFA ASR

Zucker / XZ

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	8.82	0.04	16.14	0.23	14.97	0.55	8.31	0.29	12.59	-0.02	9.17	-0.12	**0.16**	**0.30**
3	8.20	-0.58	15.05	-0.86	12.95	-1.47	8.60	0.58	13.00	0.39	9.72	0.43	**-0.25**	**0.88**
5	7.37	-1.41	14.91	-1.01	13.12	-1.30	7.05	-0.97	11.64	-0.97	7.76	-1.53	**-1.20**	**1.33**
7	7.12	-1.65	14.29	-1.62	12.42	-2.00	6.77	-1.25	10.76	-1.85	7.58	-1.71	**-1.68**	**1.86**
8	9.51	0.73	16.90	0.98	14.37	-0.05	9.13	1.11	13.16	0.55	9.88	0.58	**0.65**	**0.82**
9	8.15	-0.63	14.68	-1.24	13.21	-1.21	7.64	-0.38	11.29	-1.32	9.90	0.60	**-0.70**	**1.06**
10	8.23	-0.55	15.82	-0.09	14.06	-0.35	7.89	-0.13	12.58	-0.03	8.84	-0.46	**-0.27**	**0.36**
11	8.33	-0.45	15.65	-0.27	15.22	0.80	7.76	-0.26	12.59	-0.01	8.96	-0.33	**-0.09**	**0.47**
13	8.55	-0.22	16.12	0.21	14.71	0.29	8.24	0.22	12.38	-0.22	8.19	-1.11	**-0.14**	**0.55**
14	8.73	-0.05	16.08	0.17	14.55	0.13	8.40	0.38	12.70	0.09	9.38	0.09	**0.13**	**0.20**
15	8.90	0.13	16.54	0.63	15.34	0.92	8.43	0.41	13.14	0.53	9.61	0.32	**0.49**	**0.60**
18	9.11	0.33	16.72	0.81	14.97	0.55	8.73	0.70	13.52	0.91	9.49	0.20	**0.58**	**0.70**
19	8.92	0.14	16.42	0.51	15.16	0.74	8.57	0.55	13.19	0.58	8.90	-0.40	**0.35**	**0.57**
20	9.32	0.54	17.15	1.23	16.54	2.12	9.03	1.01	13.77	1.16	9.67	0.38	**1.07**	**1.33**
21	9.16	0.38	16.98	1.07	16.23	1.81	8.87	0.85	13.53	0.92	9.46	0.17	**0.87**	**1.11**
22	9.46	0.68	17.27	1.36	14.84	0.42	8.65	0.63	13.05	0.45	9.70	0.41	**0.66**	**0.80**
23	8.50	-0.28	15.21	-0.70	13.25	-1.17	8.20	0.18	12.23	-0.38	8.97	-0.32	**-0.44**	**0.67**
24	9.28	0.51	16.77	0.85	15.15	0.73	8.70	0.68	13.48	0.87	9.77	0.47	**0.69**	**0.77**
25	9.05	0.27	15.89	-0.03	14.56	0.14	8.73	0.71	13.10	0.49	9.68	0.39	**0.33**	**0.45**
26	8.09	-0.69	14.51	-1.40	12.45	-1.96	7.59	-0.43	11.21	-1.40	8.23	-1.06	**-1.16**	**1.38**
27	10.12	1.34	17.13	1.21	15.19	0.77	9.82	1.80	14.78	2.17	10.77	1.47	**1.46**	**1.67**
28	8.98	0.20	15.92	0.01	14.41	-0.00	8.53	0.51	12.76	0.15	9.56	0.27	**0.19**	**0.28**
29	7.95	-0.83	13.77	-2.14	12.26	-2.16	6.70	-1.32	11.34	-1.27	8.11	-1.18	**-1.48**	**1.71**
30	9.16	0.38	16.62	0.71	15.24	0.82	8.69	0.67	13.25	0.64	9.95	0.66	**0.65**	**0.72**
31	8.28	-0.49	15.24	-0.67	13.72	-0.69	8.04	0.02	12.33	-0.28	8.82	-0.48	**-0.43**	**0.54**
32	9.68	0.90	16.41	0.50	14.22	-0.20	8.69	0.67	13.23	0.62	9.68	0.38	**0.48**	**0.64**
33	6.63	-2.15	12.88	-3.04	10.29	-4.13	5.62	-2.40	9.58	-3.03	6.86	-2.43	**-2.86**	**3.22**
34	8.27	-0.51	15.32	-0.59	14.07	-0.35	7.73	-0.30	11.62	-0.98	8.95	-0.35	**-0.51**	**0.62**
35	8.55	-0.23	16.32	0.40	14.64	0.23	8.44	0.42	12.93	0.32	9.37	0.07	**0.20**	**0.33**
40	9.85	1.07	18.88	2.97	17.13	2.72	9.69	1.67	13.90	1.29	10.51	1.22	**1.82**	**2.16**
111	8.91	0.13	16.23	0.32	15.69	1.28	8.28	0.26	13.29	0.68	9.44	0.14	**0.47**	**0.68**
113	8.51	-0.27	16.70	0.78	16.32	1.91	8.23	0.21	12.32	-0.29	9.09	-0.20	**0.36**	**0.95**
125	2.55	-6.23	9.28	-6.64	7.01	-7.41	2.14	-5.88	6.20	-6.41	3.31	-5.98	**-6.42**	**7.06**
134	8.80	0.02	16.69	0.77	14.38	-0.03	8.46	0.44	13.86	1.25	9.63	0.34	**0.47**	**0.70**
135	13.07	4.29	16.83	0.91	17.28	2.87	16.25	8.22	10.81	-1.80	13.63	4.33	**3.14**	**4.84**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.7 Merkmal / Constituent: aNDFom

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

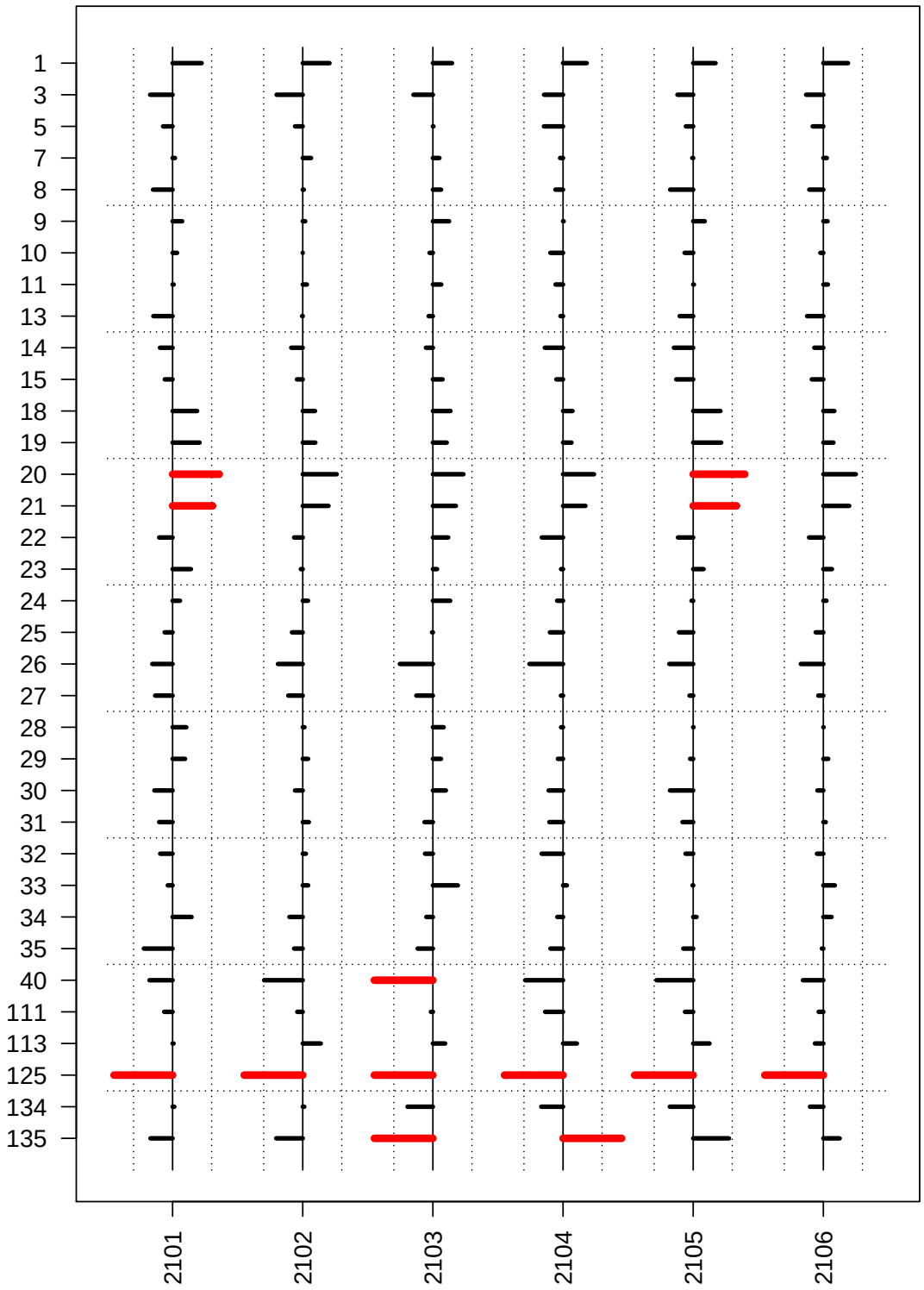
For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.75 % TM

Quelle / Source: VDLUFA ASR

aNDFom

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	41.38	2.60	45.34	2.40	57.80	1.71	45.12	2.12	40.64	2.00	40.60	2.21	**2.18**	**2.40**
3	36.76	-2.01	40.60	-2.34	54.35	-1.74	41.30	-1.70	37.23	-1.41	36.84	-1.54	**-1.79**	**1.99**
5	37.92	-0.85	42.25	-0.69	56.14	0.05	41.28	-1.71	37.98	-0.66	37.43	-0.95	**-0.80**	**1.05**
7	38.99	0.21	43.69	0.75	56.67	0.58	42.73	-0.26	38.55	-0.08	38.70	0.31	**0.25**	**0.47**
8	37.02	-1.75	43.04	0.10	56.83	0.74	42.31	-0.68	36.57	-2.07	37.13	-1.26	**-0.82**	**1.41**
9	39.63	0.86	43.17	0.22	57.54	1.45	43.05	0.06	39.67	1.03	38.77	0.38	**0.67**	**0.91**
10	39.18	0.40	42.94	-0.00	55.79	-0.30	41.86	-1.14	37.86	-0.77	38.12	-0.27	**-0.35**	**0.67**
11	38.87	0.10	43.31	0.37	56.84	0.75	42.32	-0.67	38.70	0.07	38.80	0.41	**0.17**	**0.52**
13	37.05	-1.72	42.88	-0.06	55.71	-0.38	42.77	-0.23	37.42	-1.21	36.93	-1.46	**-0.84**	**1.16**
14	37.64	-1.13	41.91	-1.03	55.47	-0.62	41.36	-1.63	36.91	-1.73	37.57	-0.81	**-1.16**	**1.34**
15	38.08	-0.70	42.42	-0.52	56.96	0.87	42.39	-0.60	37.11	-1.52	37.35	-1.04	**-0.59**	**1.03**
18	40.97	2.20	44.04	1.10	57.67	1.58	43.85	0.85	41.08	2.44	39.37	0.99	**1.53**	**1.80**
19	41.19	2.42	44.07	1.13	57.33	1.24	43.75	0.75	41.15	2.51	39.29	0.90	**1.49**	**1.81**
20	42.96	4.19	45.99	3.05	58.83	2.74	45.77	2.78	43.26	4.62	41.30	2.91	**3.38**	**3.79**
21	42.36	3.59	45.25	2.31	58.15	2.06	45.00	2.01	42.52	3.88	40.70	2.32	**2.69**	**3.06**
22	37.57	-1.21	42.17	-0.77	57.46	1.37	41.09	-1.91	37.27	-1.36	37.10	-1.28	**-0.86**	**1.49**
23	40.42	1.64	42.77	-0.17	56.46	0.37	42.82	-0.18	39.57	0.93	39.16	0.77	**0.56**	**0.94**
24	39.44	0.66	43.42	0.47	57.64	1.55	42.47	-0.53	38.49	-0.15	38.66	0.27	**0.38**	**0.83**
25	38.06	-0.71	41.98	-0.97	56.02	-0.07	41.82	-1.18	37.36	-1.27	37.70	-0.68	**-0.81**	**0.99**
26	36.95	-1.82	40.72	-2.22	53.13	-2.96	39.98	-3.01	36.49	-2.15	36.37	-2.02	**-2.36**	**2.64**
27	37.21	-1.56	41.64	-1.30	54.61	-1.48	42.81	-0.19	38.30	-0.33	37.93	-0.45	**-0.89**	**1.16**
28	40.00	1.23	43.09	0.15	57.05	0.96	42.82	-0.18	38.66	0.03	38.41	0.02	**0.37**	**0.71**
29	39.89	1.11	43.42	0.48	56.81	0.72	42.54	-0.46	38.36	-0.27	38.82	0.43	**0.34**	**0.70**
30	37.14	-1.63	42.25	-0.70	57.25	1.16	41.71	-1.29	36.55	-2.08	37.85	-0.53	**-0.85**	**1.47**
31	37.57	-1.20	43.49	0.55	55.34	-0.75	41.77	-1.23	37.68	-0.96	38.60	0.21	**-0.56**	**0.98**
32	37.67	-1.11	43.22	0.28	55.38	-0.71	41.08	-1.92	37.95	-0.69	37.81	-0.58	**-0.79**	**1.12**
33	38.34	-0.43	43.43	0.49	58.33	2.24	43.34	0.34	38.58	-0.06	39.42	1.03	**0.60**	**1.15**
34	40.47	1.70	41.75	-1.19	55.50	-0.59	42.49	-0.51	38.94	0.30	39.12	0.74	**0.07**	**1.05**
35	36.20	-2.58	42.17	-0.77	54.72	-1.37	41.87	-1.13	37.75	-0.89	38.25	-0.13	**-1.14**	**1.50**
40	36.70	-2.07	39.48	-3.46	49.97	-6.12	39.60	-3.40	35.35	-3.28	36.55	-1.84	**-3.36**	**3.98**
111	38.02	-0.75	42.45	-0.49	55.91	-0.18	41.39	-1.61	37.90	-0.73	37.97	-0.42	**-0.70**	**0.91**
113	38.86	0.09	44.56	1.62	57.19	1.10	44.24	1.24	40.10	1.46	37.63	-0.75	**0.79**	**1.27**
125	21.70	-17.07	26.36	-16.58	38.69	-17.40	26.05	-16.95	20.86	-17.78	22.18	-16.20	**-17.00**	**18.63**
134	38.93	0.15	43.08	0.14	53.82	-2.27	41.05	-1.95	36.54	-2.09	37.19	-1.20	**-1.20**	**1.72**
135	36.79	-1.98	40.56	-2.38	46.26	-9.83	53.76	10.77	41.84	3.21	39.85	1.46	**0.21**	**6.85**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.8 Merkmal / Constituent: ADFom

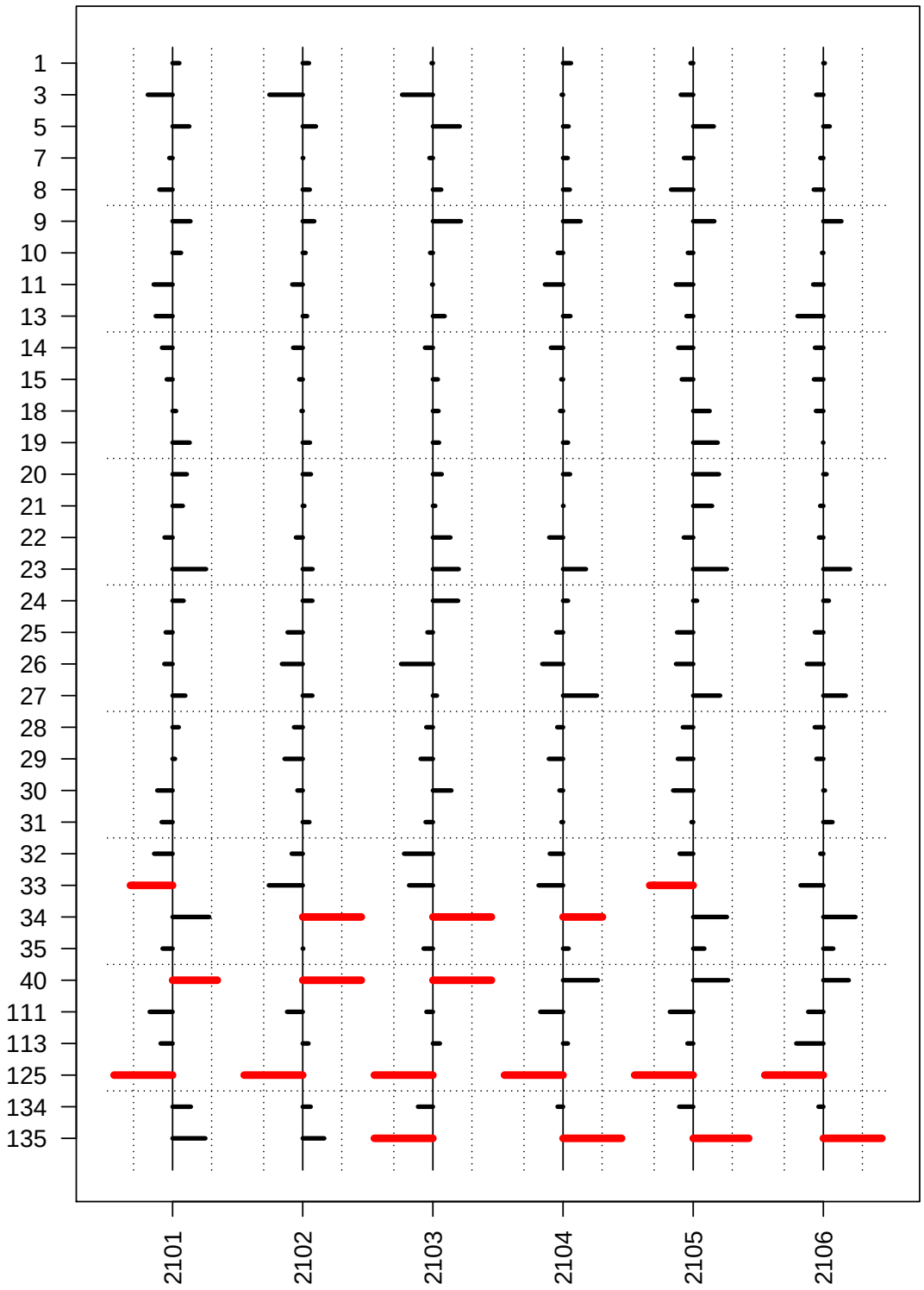
Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.10 % TM

Quelle / Source: VDLUFA ASR

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	21.23	0.38	23.83	0.35	33.30	-0.07	22.78	0.45	20.99	-0.15	20.39	0.08	**0.17**	**0.32**
3	19.45	-1.40	21.60	-1.88	31.64	-1.73	22.26	-0.07	20.44	-0.70	19.91	-0.40	**-1.03**	**1.35**
5	21.79	0.94	24.22	0.74	34.89	1.51	22.65	0.31	22.30	1.16	20.67	0.36	**0.84**	**1.03**
7	20.67	-0.18	23.51	0.03	33.18	-0.19	22.60	0.26	20.62	-0.52	20.14	-0.17	**-0.13**	**0.30**
8	20.11	-0.74	23.88	0.40	33.85	0.47	22.72	0.38	19.90	-1.24	19.77	-0.54	**-0.21**	**0.76**
9	21.86	1.01	24.13	0.65	34.95	1.58	23.32	0.99	22.33	1.19	21.33	1.02	**1.07**	**1.21**
10	21.33	0.48	23.64	0.16	33.22	-0.16	22.04	-0.30	20.84	-0.30	20.24	-0.07	**-0.03**	**0.30**
11	19.79	-1.06	22.89	-0.59	33.33	-0.04	21.32	-1.02	20.17	-0.98	19.74	-0.57	**-0.71**	**0.87**
13	19.90	-0.95	23.73	0.24	34.04	0.66	22.75	0.41	20.77	-0.38	18.86	-1.46	**-0.24**	**0.88**
14	20.25	-0.60	22.94	-0.54	32.93	-0.45	21.66	-0.68	20.30	-0.84	19.84	-0.47	**-0.60**	**0.67**
15	20.52	-0.33	23.29	-0.20	33.65	0.28	22.24	-0.10	20.50	-0.64	19.78	-0.53	**-0.25**	**0.43**
18	21.05	0.20	23.42	-0.07	33.69	0.32	22.17	-0.16	22.07	0.93	19.90	-0.42	**0.13**	**0.49**
19	21.81	0.96	23.89	0.41	33.72	0.35	22.62	0.28	22.52	1.38	20.30	-0.01	**0.56**	**0.80**
20	21.65	0.80	23.94	0.46	33.87	0.50	22.73	0.39	22.60	1.45	20.49	0.18	**0.63**	**0.82**
21	21.42	0.58	23.58	0.09	33.51	0.13	22.36	0.03	22.21	1.06	20.14	-0.18	**0.29**	**0.55**
22	20.40	-0.45	23.10	-0.38	34.36	0.99	21.56	-0.78	20.61	-0.53	20.07	-0.24	**-0.23**	**0.67**
23	22.74	1.89	24.04	0.55	34.83	1.46	23.63	1.29	23.04	1.90	21.82	1.50	**1.43**	**1.64**
24	21.47	0.62	24.03	0.54	34.80	1.42	22.62	0.28	21.36	0.22	20.62	0.31	**0.57**	**0.76**
25	20.46	-0.39	22.63	-0.85	33.07	-0.31	21.96	-0.38	20.24	-0.91	19.83	-0.48	**-0.55**	**0.66**
26	20.38	-0.47	22.31	-1.17	31.58	-1.79	21.17	-1.17	20.18	-0.97	19.39	-0.92	**-1.08**	**1.26**
27	21.57	0.72	24.03	0.54	33.60	0.23	24.25	1.91	22.66	1.52	21.57	1.26	**1.03**	**1.30**
28	21.20	0.35	22.99	-0.49	33.00	-0.37	22.01	-0.33	20.56	-0.58	19.83	-0.49	**-0.32**	**0.49**
29	20.98	0.14	22.46	-1.02	32.69	-0.69	21.54	-0.80	20.28	-0.86	19.92	-0.39	**-0.60**	**0.78**
30	19.99	-0.86	23.18	-0.30	34.42	1.04	22.14	-0.20	20.02	-1.13	20.40	0.09	**-0.23**	**0.80**
31	20.23	-0.61	23.86	0.37	32.96	-0.41	22.25	-0.09	21.05	-0.09	20.83	0.51	**-0.05**	**0.44**
32	19.81	-1.04	22.86	-0.62	31.75	-1.62	21.59	-0.75	20.38	-0.76	20.14	-0.17	**-0.83**	**1.03**
33	18.48	-2.37	21.57	-1.91	32.04	-1.34	20.96	-1.38	18.69	-2.45	19.03	-1.28	**-1.79**	**2.03**
34	22.91	2.06	26.83	3.35	37.99	4.62	24.56	2.22	23.04	1.90	22.12	1.81	**2.66**	**3.12**
35	20.29	-0.56	23.51	0.03	32.85	-0.52	22.65	0.31	21.77	0.63	20.87	0.56	**0.07**	**0.53**
40	23.37	2.52	28.18	4.70	36.95	3.58	24.30	1.97	23.11	1.97	21.74	1.43	**2.69**	**3.19**
111	19.56	-1.29	22.60	-0.88	33.01	-0.36	21.06	-1.28	19.83	-1.31	19.46	-0.85	**-1.00**	**1.15**
113	20.18	-0.67	23.80	0.32	33.77	0.39	22.61	0.27	20.82	-0.32	18.79	-1.52	**-0.26**	**0.80**
125	6.31	-14.54	9.20	-14.29	18.30	-15.07	8.46	-13.88	6.02	-15.12	6.27	-14.04	**-14.49**	**15.88**
134	21.88	1.03	23.93	0.45	32.54	-0.84	22.03	-0.31	20.36	-0.79	20.04	-0.27	**-0.12**	**0.74**
135	22.69	1.84	24.69	1.21	28.34	-5.04	33.91	11.58	24.27	3.13	24.06	3.75	**2.75**	**6.13**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

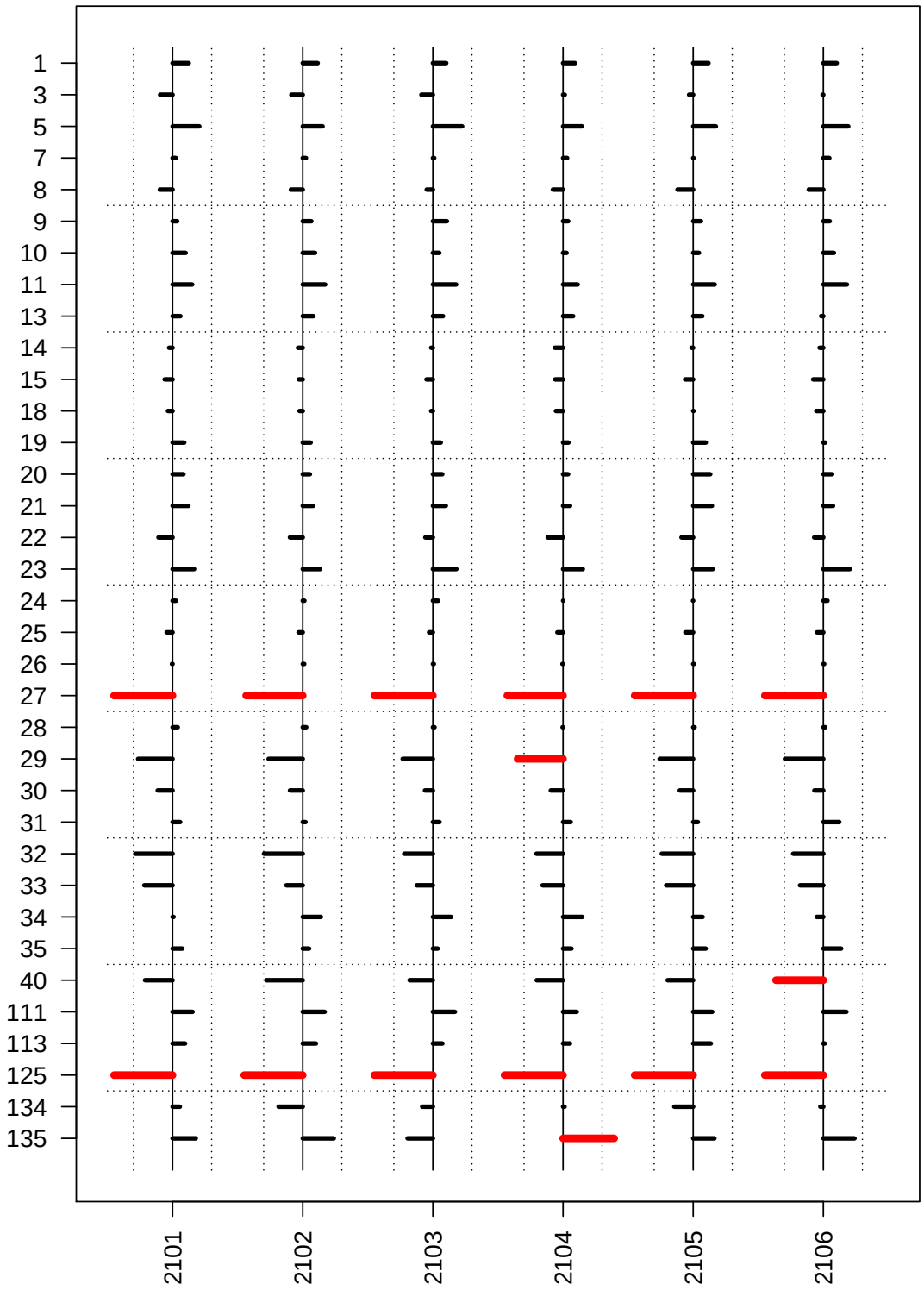
4.3.9 Merkmal / Constituent: ADL

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wird die Vergleichbarkeit, wie sie in diesem Ringversuch bestimmt worden ist, herangezogen.

For calculation of the z scores the reproducibility as determined in this ring test was used

ADL

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	2.19	0.28	1.55	0.30	2.70	0.26	1.95	0.21	2.00	0.31	1.83	0.19	**0.26**	**0.29**
3	1.69	-0.21	1.02	-0.23	2.22	-0.22	1.77	0.03	1.61	-0.08	1.62	-0.01	**-0.12**	**0.18**
5	2.37	0.46	1.65	0.40	3.01	0.57	2.07	0.33	2.15	0.45	2.00	0.36	**0.43**	**0.48**
7	1.96	0.06	1.31	0.06	2.47	0.03	1.81	0.07	1.70	0.01	1.72	0.09	**0.05**	**0.06**
8	1.69	-0.22	1.01	-0.24	2.32	-0.12	1.56	-0.18	1.38	-0.31	1.42	-0.21	**-0.21**	**0.24**
9	1.99	0.08	1.42	0.17	2.72	0.27	1.83	0.09	1.85	0.16	1.73	0.09	**0.14**	**0.17**
10	2.13	0.22	1.50	0.25	2.57	0.12	1.80	0.06	1.81	0.12	1.79	0.15	**0.15**	**0.18**
11	2.25	0.34	1.70	0.45	2.90	0.45	1.99	0.25	2.12	0.43	1.98	0.34	**0.38**	**0.42**
13	2.04	0.13	1.46	0.21	2.64	0.20	1.92	0.18	1.88	0.18	1.60	-0.03	**0.15**	**0.18**
14	1.85	-0.06	1.15	-0.10	2.41	-0.03	1.60	-0.14	1.66	-0.03	1.58	-0.05	**-0.07**	**0.09**
15	1.77	-0.14	1.17	-0.08	2.32	-0.13	1.60	-0.14	1.53	-0.16	1.49	-0.15	**-0.13**	**0.15**
18	1.83	-0.08	1.18	-0.06	2.41	-0.03	1.62	-0.12	1.70	0.01	1.53	-0.10	**-0.07**	**0.09**
19	2.11	0.20	1.41	0.16	2.60	0.15	1.84	0.09	1.95	0.25	1.66	0.03	**0.15**	**0.18**
20	2.09	0.19	1.39	0.14	2.63	0.18	1.83	0.09	2.04	0.34	1.76	0.13	**0.18**	**0.21**
21	2.18	0.27	1.46	0.21	2.70	0.25	1.86	0.12	2.07	0.38	1.78	0.14	**0.23**	**0.27**
22	1.67	-0.24	0.99	-0.26	2.30	-0.15	1.47	-0.27	1.46	-0.23	1.50	-0.13	**-0.21**	**0.24**
23	2.28	0.37	1.60	0.35	2.90	0.46	2.08	0.34	2.08	0.39	2.02	0.38	**0.38**	**0.42**
24	1.97	0.06	1.28	0.03	2.55	0.10	1.74	0.00	1.69	-0.00	1.70	0.06	**0.04**	**0.06**
25	1.81	-0.10	1.17	-0.08	2.37	-0.07	1.64	-0.10	1.54	-0.16	1.54	-0.09	**-0.10**	**0.11**
26	1.90	-0.01	1.28	0.03	2.46	0.02	1.73	-0.01	1.71	0.01	1.65	0.01	**0.01**	**0.02**
27	0.80	-1.10	0.12	-1.13	1.23	-1.21	0.77	-0.97	0.42	-1.28	0.72	-0.92	**-1.10**	**1.21**
28	2.00	0.09	1.32	0.07	2.48	0.03	1.73	-0.01	1.72	0.03	1.66	0.03	**0.04**	**0.06**
29	1.32	-0.59	0.57	-0.68	1.86	-0.59	0.95	-0.79	1.02	-0.67	1.08	-0.56	**-0.65**	**0.71**
30	1.65	-0.26	0.99	-0.25	2.29	-0.16	1.53	-0.21	1.43	-0.27	1.50	-0.13	**-0.21**	**0.24**
31	2.04	0.13	1.31	0.06	2.57	0.13	1.87	0.13	1.79	0.09	1.87	0.23	**0.13**	**0.15**
32	1.27	-0.64	0.48	-0.77	1.89	-0.56	1.28	-0.46	1.07	-0.63	1.20	-0.44	**-0.58**	**0.65**
33	1.42	-0.49	0.92	-0.33	2.13	-0.32	1.38	-0.36	1.15	-0.54	1.30	-0.34	**-0.39**	**0.44**
34	1.93	0.02	1.61	0.36	2.80	0.36	2.08	0.33	1.88	0.19	1.54	-0.10	**0.19**	**0.29**
35	2.08	0.17	1.38	0.13	2.54	0.09	1.89	0.15	1.95	0.25	1.89	0.26	**0.17**	**0.20**
40	1.44	-0.47	0.52	-0.73	1.99	-0.45	1.28	-0.46	1.18	-0.51	0.95	-0.69	**-0.55**	**0.62**
111	2.25	0.34	1.69	0.44	2.87	0.43	1.98	0.24	2.07	0.38	1.97	0.33	**0.36**	**0.40**
113	2.12	0.21	1.51	0.26	2.63	0.19	1.86	0.12	2.05	0.35	1.66	0.02	**0.19**	**0.24**
125	-0.36	-2.27	-0.86	-2.11	0.19	-2.25	-0.45	-2.19	-0.62	-2.31	-0.49	-2.13	**-2.21**	**2.42**
134	2.03	0.12	0.77	-0.48	2.24	-0.21	1.77	0.03	1.32	-0.38	1.59	-0.04	**-0.16**	**0.30**
135	2.31	0.40	1.87	0.62	1.95	-0.49	2.63	0.89	2.12	0.42	2.09	0.45	**0.38**	**0.63**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.10 Merkmal / Constituent: NDF

Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

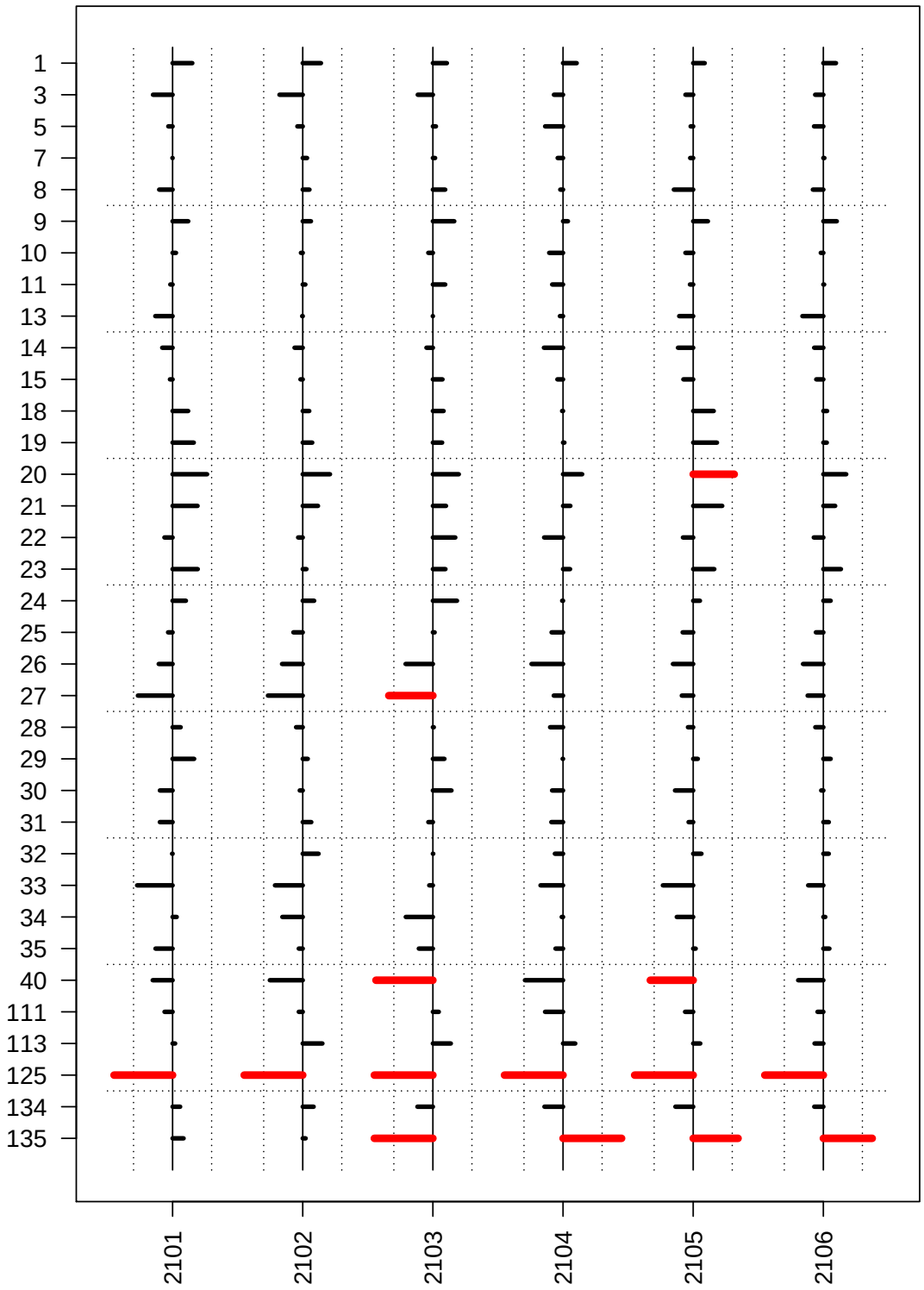
For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.75 % TM

Quelle / Source: VDLUFA ASR

NDF

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	41.68	1.77	45.55	1.63	58.47	1.25	45.03	1.22	41.58	1.03	40.39	1.13	**1.34**	**1.50**
3	38.16	-1.76	41.84	-2.08	55.86	-1.36	42.99	-0.82	39.85	-0.69	38.52	-0.73	**-1.24**	**1.48**
5	39.54	-0.38	43.44	-0.48	57.49	0.27	42.20	-1.61	40.32	-0.23	38.42	-0.83	**-0.54**	**0.87**
7	39.90	-0.01	44.31	0.39	57.42	0.20	43.33	-0.48	40.27	-0.27	39.35	0.09	**-0.01**	**0.32**
8	38.72	-1.20	44.52	0.60	58.33	1.10	43.56	-0.25	38.81	-1.73	38.32	-0.94	**-0.40**	**1.18**
9	41.32	1.40	44.66	0.74	59.14	1.91	44.25	0.44	41.86	1.32	40.46	1.21	**1.17**	**1.38**
10	40.22	0.30	43.76	-0.16	56.81	-0.41	42.57	-1.24	39.85	-0.70	39.03	-0.23	**-0.41**	**0.69**
11	39.71	-0.20	44.15	0.23	58.33	1.11	42.84	-0.97	40.25	-0.29	39.33	0.07	**-0.01**	**0.69**
13	38.37	-1.55	43.87	-0.05	57.21	-0.01	43.53	-0.28	39.29	-1.25	37.38	-1.88	**-0.84**	**1.23**
14	38.99	-0.93	43.19	-0.73	56.64	-0.58	42.10	-1.71	39.18	-1.36	38.44	-0.82	**-1.02**	**1.20**
15	39.68	-0.24	43.72	-0.20	58.08	0.86	43.30	-0.51	39.66	-0.88	38.62	-0.63	**-0.27**	**0.67**
18	41.31	1.40	44.50	0.58	58.18	0.96	43.73	-0.08	42.38	1.84	39.59	0.34	**0.84**	**1.16**
19	41.82	1.90	44.77	0.85	58.05	0.83	43.93	0.12	42.67	2.13	39.56	0.31	**1.02**	**1.39**
20	43.01	3.09	46.36	2.44	59.54	2.32	45.52	1.71	44.22	3.68	41.31	2.05	**2.55**	**2.88**
21	42.15	2.24	45.29	1.37	58.40	1.17	44.46	0.65	43.14	2.60	40.32	1.06	**1.52**	**1.82**
22	39.19	-0.73	43.51	-0.41	59.23	2.01	42.11	-1.69	39.62	-0.92	38.40	-0.86	**-0.43**	**1.35**
23	42.17	2.26	44.25	0.33	58.34	1.12	44.44	0.63	42.43	1.89	40.83	1.57	**1.30**	**1.61**
24	41.11	1.19	44.94	1.02	59.38	2.16	43.73	-0.08	41.15	0.60	39.91	0.65	**0.93**	**1.26**
25	39.51	-0.40	43.08	-0.84	57.38	0.16	42.78	-1.03	39.60	-0.94	38.59	-0.67	**-0.62**	**0.81**
26	38.68	-1.24	42.07	-1.85	54.77	-2.45	40.98	-2.82	38.73	-1.82	37.44	-1.82	**-2.00**	**2.26**
27	36.81	-3.11	40.80	-3.12	53.27	-3.95	42.98	-0.83	39.52	-1.02	37.85	-1.40	**-2.24**	**2.78**
28	40.64	0.72	43.32	-0.60	57.30	0.08	42.65	-1.16	40.07	-0.47	38.54	-0.72	**-0.36**	**0.77**
29	41.85	1.93	44.37	0.45	58.25	1.03	43.77	-0.03	40.96	0.41	39.91	0.65	**0.74**	**1.06**
30	38.78	-1.14	43.65	-0.27	58.88	1.66	42.83	-0.98	38.91	-1.63	39.07	-0.19	**-0.42**	**1.25**
31	38.78	-1.14	44.69	0.77	56.82	-0.41	42.76	-1.05	40.13	-0.41	39.75	0.49	**-0.29**	**0.84**
32	39.87	-0.04	45.34	1.42	57.25	0.03	43.08	-0.73	41.28	0.74	39.75	0.49	**0.32**	**0.82**
33	36.74	-3.18	41.43	-2.49	56.90	-0.33	41.79	-2.02	37.82	-2.72	37.90	-1.36	**-2.01**	**2.44**
34	40.28	0.37	42.09	-1.83	54.79	-2.43	43.69	-0.12	39.07	-1.47	39.43	0.17	**-0.88**	**1.52**
35	38.38	-1.53	43.56	-0.36	55.96	-1.26	43.13	-0.68	40.77	0.22	39.80	0.54	**-0.51**	**0.99**
40	38.14	-1.78	40.97	-2.95	52.12	-5.10	40.39	-3.42	36.70	-3.84	37.00	-2.25	**-3.22**	**3.73**
111	39.20	-0.72	43.57	-0.35	57.75	0.53	42.20	-1.61	39.82	-0.73	38.74	-0.52	**-0.57**	**0.93**
113	40.15	0.23	45.68	1.76	58.83	1.61	44.90	1.09	41.17	0.63	38.47	-0.79	**0.76**	**1.26**
125	11.04	-28.88	15.59	-28.33	27.43	-29.80	15.33	-28.47	10.54	-30.00	11.09	-28.17	**-28.94**	**31.71**
134	40.59	0.68	44.90	0.97	55.83	-1.39	42.14	-1.67	38.95	-1.60	38.44	-0.81	**-0.63**	**1.36**
135	40.90	0.98	44.18	0.26	49.41	-7.82	57.24	13.43	44.57	4.02	43.64	4.38	**2.54**	**7.46**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.11 Merkmal / Constituent: ADFom

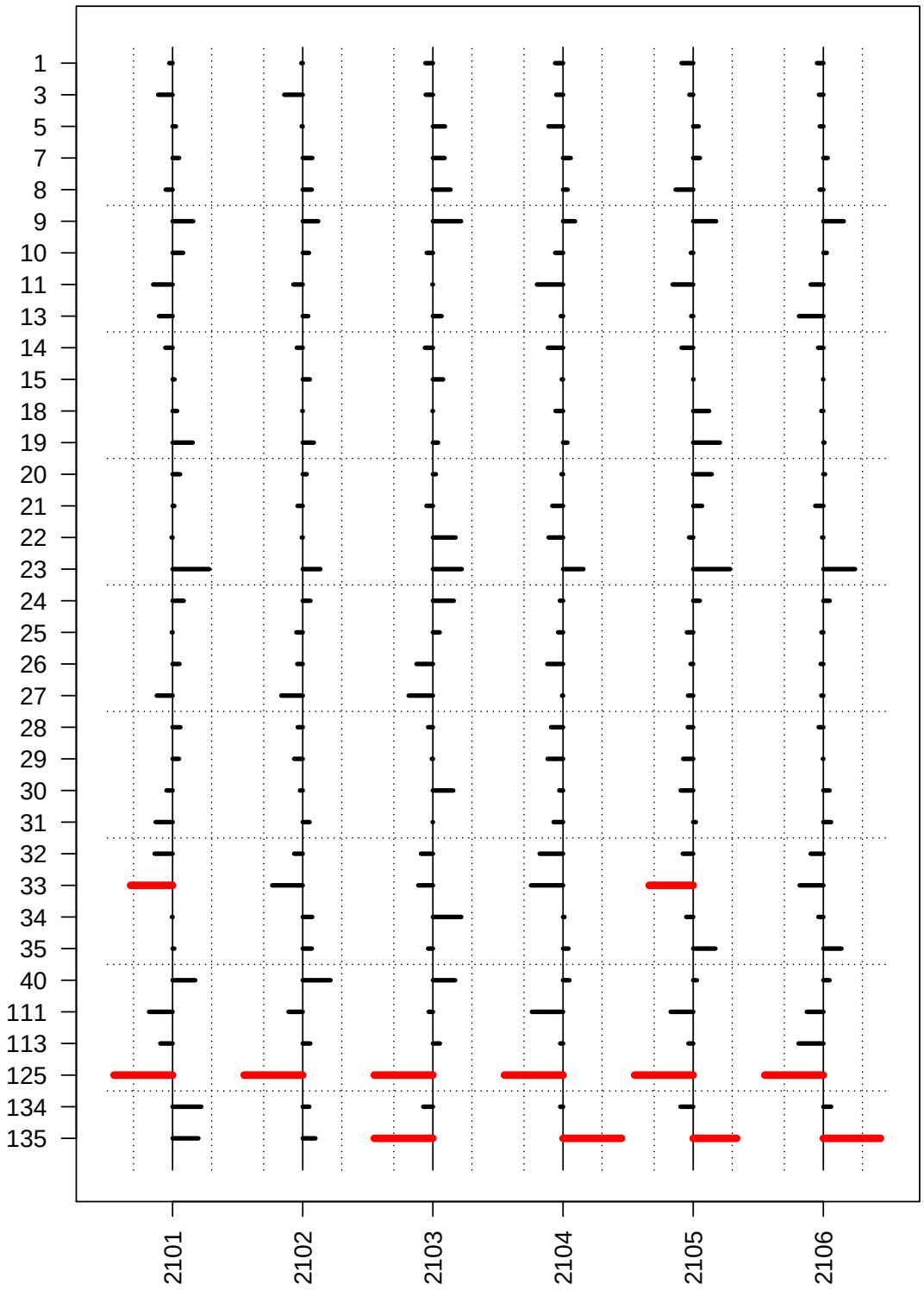
Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.10 % TM

Quelle / Source: VDLUFA ASR

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	21.71	-0.19	23.47	-0.08	32.90	-0.42	23.17	-0.44	21.55	-0.65	20.83	-0.35	**-0.36**	**0.44**
3	21.08	-0.81	22.51	-1.04	32.91	-0.40	23.24	-0.38	21.98	-0.22	20.94	-0.25	**-0.52**	**0.66**
5	22.08	0.19	23.49	-0.06	34.00	0.68	22.80	-0.82	22.51	0.31	20.99	-0.20	**0.02**	**0.51**
7	22.26	0.37	24.09	0.54	33.98	0.66	24.05	0.43	22.57	0.37	21.43	0.25	**0.44**	**0.50**
8	21.51	-0.39	24.06	0.51	34.31	0.99	23.88	0.26	21.21	-0.99	20.98	-0.21	**0.03**	**0.71**
9	23.06	1.16	24.42	0.87	34.90	1.59	24.29	0.68	23.49	1.29	22.33	1.15	**1.12**	**1.27**
10	22.49	0.59	23.90	0.35	32.97	-0.35	23.18	-0.44	22.07	-0.13	21.38	0.19	**0.04**	**0.41**
11	20.80	-1.09	23.02	-0.53	33.29	-0.03	22.15	-1.47	21.04	-1.16	20.47	-0.71	**-0.83**	**1.05**
13	21.13	-0.77	23.86	0.31	33.81	0.49	23.49	-0.13	22.09	-0.11	19.81	-1.37	**-0.26**	**0.75**
14	21.49	-0.41	23.22	-0.33	32.87	-0.45	22.76	-0.85	21.55	-0.65	20.89	-0.30	**-0.50**	**0.59**
15	22.01	0.11	23.95	0.40	33.89	0.58	23.55	-0.07	22.22	0.02	21.17	-0.01	**0.17**	**0.32**
18	22.15	0.26	23.53	-0.02	33.30	-0.02	23.20	-0.42	23.10	0.90	21.07	-0.11	**0.10**	**0.46**
19	23.03	1.13	24.17	0.62	33.61	0.29	23.86	0.25	23.70	1.51	21.25	0.06	**0.64**	**0.90**
20	22.32	0.42	23.77	0.22	33.48	0.16	23.53	-0.09	23.24	1.05	21.28	0.10	**0.31**	**0.52**
21	21.99	0.10	23.26	-0.29	32.96	-0.36	23.01	-0.61	22.70	0.50	20.73	-0.45	**-0.19**	**0.46**
22	21.84	-0.06	23.50	-0.05	34.59	1.28	22.81	-0.81	21.97	-0.23	21.12	-0.07	**0.01**	**0.69**
23	23.95	2.06	24.54	0.99	34.94	1.63	24.76	1.14	24.28	2.08	22.97	1.79	**1.61**	**1.83**
24	22.52	0.63	23.98	0.44	34.50	1.18	23.44	-0.18	22.57	0.37	21.54	0.36	**0.46**	**0.67**
25	21.85	-0.04	23.19	-0.36	33.70	0.38	23.34	-0.28	21.85	-0.35	21.08	-0.11	**-0.13**	**0.31**
26	22.28	0.39	23.24	-0.31	32.40	-0.92	22.73	-0.88	22.05	-0.15	21.03	-0.15	**-0.34**	**0.62**
27	21.00	-0.89	22.34	-1.21	31.95	-1.36	23.56	-0.05	21.91	-0.29	21.07	-0.11	**-0.65**	**0.92**
28	22.33	0.44	23.27	-0.28	33.05	-0.27	22.94	-0.67	21.90	-0.30	20.92	-0.26	**-0.22**	**0.44**
29	22.26	0.36	23.07	-0.48	33.26	-0.06	22.75	-0.87	21.63	-0.57	21.16	-0.03	**-0.27**	**0.54**
30	21.55	-0.34	23.39	-0.16	34.46	1.15	23.41	-0.21	21.49	-0.71	21.53	0.35	**0.01**	**0.65**
31	20.94	-0.95	23.93	0.38	33.31	-0.01	23.09	-0.53	22.35	0.15	21.62	0.44	**-0.09**	**0.56**
32	20.88	-1.01	23.07	-0.48	32.65	-0.67	22.30	-1.32	21.61	-0.59	20.47	-0.72	**-0.80**	**0.93**
33	19.53	-2.37	21.83	-1.72	32.50	-0.82	21.81	-1.81	19.71	-2.48	19.85	-1.33	**-1.75**	**2.02**
34	21.86	-0.04	24.08	0.53	34.91	1.60	23.70	0.08	21.81	-0.39	20.91	-0.28	**0.25**	**0.78**
35	21.99	0.09	24.06	0.51	33.05	-0.27	23.92	0.30	23.45	1.25	22.21	1.02	**0.48**	**0.78**
40	23.17	1.27	25.11	1.56	34.57	1.25	23.98	0.36	22.40	0.21	21.53	0.35	**0.83**	**1.09**
111	20.57	-1.33	22.75	-0.80	33.08	-0.23	21.87	-1.75	20.93	-1.27	20.25	-0.93	**-1.05**	**1.26**
113	21.20	-0.69	23.98	0.43	33.71	0.39	23.46	-0.16	21.93	-0.27	19.79	-1.39	**-0.28**	**0.76**
125	5.32	-16.57	7.20	-16.35	16.08	-17.24	7.27	-16.35	5.09	-17.10	5.20	-15.98	**-16.60**	**18.19**
134	23.51	1.61	23.92	0.37	32.78	-0.54	23.46	-0.16	21.48	-0.71	21.62	0.44	**0.17**	**0.87**
135	23.35	1.45	24.26	0.71	27.47	-5.84	32.67	9.05	24.65	2.45	24.40	3.22	**1.84**	**5.20**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

4.3.12 Merkmal / Constituent: Elos / Cellulase

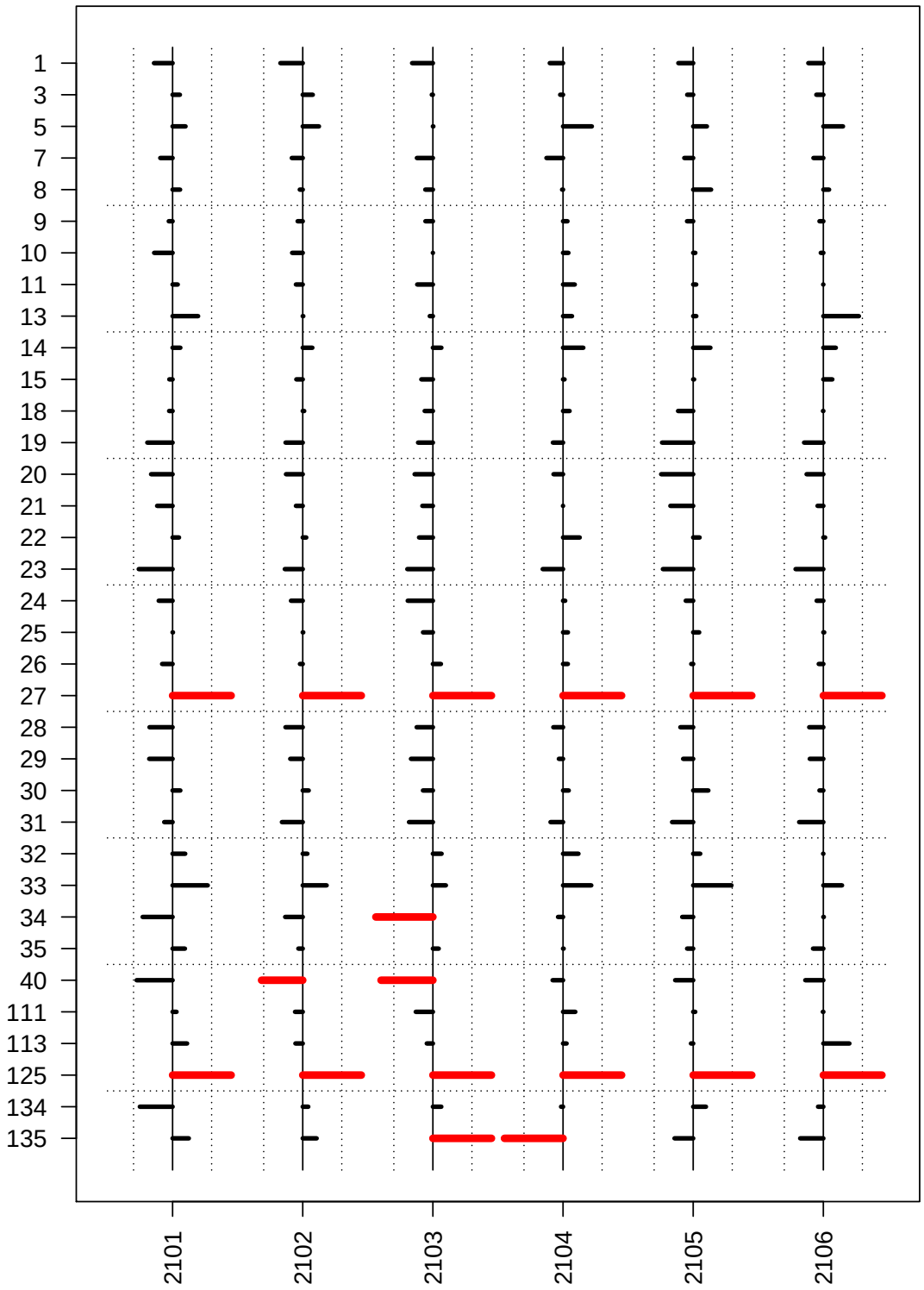
Vergleichbarkeit / reproducibility Zur Berechnung der z-Werte wurde die Vergleichbarkeit der Methode, wie sie in der Norm VDLUFA ASR beschrieben ist, herangezogen.

For calculation of the z scores the reproducibility of the method describe in VDLUFA ASR was used.

Vergleichsstandardabweichung / Reproducibility standard deviation s_R: 1.75 % TM

Quelle / Source: VDLUFA ASR

z-Werte / z Scores



Senkrecht finden sich die Labore, waagerecht jeweils die Proben.

Die Balken für die verschiedenen Proben liegen auf einer Ebene nebeneinander. Rote Balken markieren Labore, deren Labormittelwert für diese Probe einen z-Wert kleiner -2 oder größer 2 aufweist.

Die senkrechten, gestrichelten Linien markieren einen z-Wert von -2.0 bzw. 2.0. Die waagerechten, gestrichelten Linien sind Hilfslinien zur waagerechten Orientierung. Die nummerische Darstellung der z-Werte findet sich im Anhang.

Laboratories are listed vertically, samples horizontally. The bars for all samples from one lab are listed horizontally. Red bars are used to mark labs, which lab mean for this samples have a z score smaller than -2 or larger than 2.

The vertical dashed lines mark a z score of -2.0 and 2.0. The horizontal dashed lines are reading aids. The nummerical z scores are listed in the appendix.

Systematische Labordifferenz / lab bias

Probe/Sample	2101		2102		2103		2104		2105		2106		Differenz	
Labor/Lab	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[1]	Δ[2]	m[3]	SD[4]
1	70.63	-1.67	69.03	-2.00	55.22	-1.86	68.97	-1.19	71.22	-1.33	72.61	-1.35	**-1.57**	**1.75**
3	72.95	0.65	71.93	0.90	56.99	-0.10	69.91	-0.25	72.02	-0.53	73.33	-0.63	**0.01**	**0.63**
5	73.46	1.16	72.49	1.45	57.12	0.04	72.74	2.58	73.78	1.23	75.72	1.76	**1.37**	**1.72**
7	71.19	-1.10	70.06	-0.98	55.65	-1.43	68.67	-1.49	71.75	-0.80	73.07	-0.89	**-1.11**	**1.25**
8	72.97	0.67	70.77	-0.26	56.40	-0.68	70.08	-0.08	74.15	1.60	74.47	0.51	**0.29**	**0.87**
9	71.96	-0.34	70.58	-0.46	56.41	-0.67	70.56	0.40	72.00	-0.55	73.61	-0.34	**-0.33**	**0.52**
10	70.65	-1.65	70.09	-0.95	57.08	-0.00	70.64	0.48	72.74	0.19	73.73	-0.23	**-0.36**	**0.89**
11	72.76	0.46	70.43	-0.61	55.68	-1.40	71.21	1.05	72.82	0.27	73.94	-0.01	**-0.04**	**0.86**
13	74.58	2.29	71.08	0.05	56.80	-0.28	70.96	0.80	72.83	0.28	77.14	3.19	**1.05**	**1.80**
14	72.99	0.69	71.90	0.86	57.84	0.76	71.98	1.82	74.09	1.54	75.07	1.12	**1.13**	**1.32**
15	72.00	-0.29	70.46	-0.57	56.05	-1.04	70.29	0.13	72.63	0.08	74.76	0.80	**-0.15**	**0.66**
18	71.99	-0.31	71.16	0.13	56.35	-0.74	70.75	0.59	71.20	-1.35	73.93	-0.03	**-0.29**	**0.75**
19	70.03	-2.26	69.50	-1.54	55.75	-1.33	69.25	-0.91	69.76	-2.79	72.23	-1.72	**-1.76**	**2.04**
20	70.37	-1.92	69.54	-1.50	55.45	-1.63	69.31	-0.85	69.68	-2.87	72.46	-1.50	**-1.71**	**1.99**
21	70.91	-1.38	70.43	-0.61	56.14	-0.94	70.15	-0.01	70.51	-2.04	73.44	-0.52	**-0.92**	**1.23**
22	72.87	0.57	71.35	0.31	55.85	-1.24	71.65	1.49	73.12	0.57	74.11	0.16	**0.31**	**0.95**
23	69.26	-3.03	69.43	-1.61	54.79	-2.29	68.34	-1.82	69.83	-2.72	71.47	-2.49	**-2.33**	**2.60**
24	71.05	-1.24	69.98	-1.05	54.83	-2.25	70.35	0.19	71.88	-0.67	73.36	-0.60	**-0.94**	**1.31**
25	72.33	0.03	71.08	0.04	56.20	-0.88	70.60	0.44	73.09	0.54	74.03	0.08	**0.04**	**0.50**
26	71.36	-0.94	70.79	-0.25	57.80	0.72	70.59	0.43	72.38	-0.17	73.55	-0.41	**-0.10**	**0.61**
27	83.26	10.96	82.69	11.66	70.27	13.18	78.29	8.13	82.68	10.13	81.54	7.58	**10.27**	**11.45**
28	70.23	-2.07	69.49	-1.55	55.63	-1.45	69.29	-0.87	71.40	-1.15	72.69	-1.26	**-1.39**	**1.58**
29	70.20	-2.09	69.92	-1.12	55.12	-1.96	69.79	-0.37	71.65	-0.90	72.74	-1.22	**-1.28**	**1.54**
30	72.99	0.69	71.57	0.53	56.19	-0.89	70.67	0.51	73.91	1.36	73.61	-0.35	**0.31**	**0.87**
31	71.55	-0.75	69.17	-1.87	54.94	-2.14	69.04	-1.12	70.66	-1.89	71.79	-2.17	**-1.65**	**1.90**
32	73.43	1.13	71.45	0.41	57.86	0.78	71.54	1.38	73.18	0.63	73.94	-0.02	**0.72**	**0.93**
33	75.44	3.15	73.18	2.14	58.25	1.16	72.69	2.53	75.98	3.43	75.63	1.67	**2.35**	**2.71**
34	69.61	-2.68	69.46	-1.57	51.97	-5.11	69.71	-0.45	71.57	-0.98	74.00	0.04	**-1.79**	**2.72**
35	73.40	1.10	70.64	-0.39	57.60	0.52	70.21	0.05	72.01	-0.54	73.03	-0.92	**-0.03**	**0.75**
40	69.07	-3.22	67.34	-3.69	52.43	-4.65	69.23	-0.93	70.94	-1.61	72.34	-1.62	**-2.62**	**3.22**
111	72.65	0.35	70.35	-0.69	55.55	-1.54	71.26	1.10	72.73	0.18	73.91	-0.04	**-0.11**	**0.92**
113	73.59	1.30	70.38	-0.65	56.54	-0.54	70.47	0.31	72.35	-0.20	76.29	2.33	**0.42**	**1.26**
125	92.91	20.62	90.93	19.90	78.15	21.07	90.55	20.39	93.82	21.27	93.56	19.61	**20.47**	**22.44**
134	69.36	-2.94	71.53	0.49	57.83	0.75	69.98	-0.18	73.69	1.14	73.48	-0.47	**-0.20**	**1.48**
135	73.75	1.45	72.28	1.25	67.44	10.36	59.81	-10.35	70.88	-1.67	71.88	-2.07	**-0.17**	**6.71**

[1] Mittelwert der Analysen dieses Labores / *Mean of analyses of this lab*
[2] Differenz zum "wahren Wert" / *Differences to "true value"*
[3] Mittelwert der Differenzen / *Mean of differences*
[4] Standardabweichung der Differenzen / *Standard deviations of differences*

5 Ringversuchsauswertung nach ISO 5725 / Ringtest evaluation according to ISO 5725

5.1 Merkmal / Constituent: Trockenmasse / dry matter

Einheit / Unit: %

5.1.1 Anmerkungen / Annotations

5.1.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	135	138	138	138	138	134
p_1	32	33	33	33	33	32
m	89.44	90.19	91.18	89.72	88.41	89.69
s_r	0.24	0.18	0.24	0.21	0.24	0.21
CV_r	0.27	0.20	0.27	0.23	0.27	0.23
r	0.68	0.51	0.68	0.58	0.67	0.58
s_R	0.85	1.12	1.15	1.24	1.29	0.84
CV_R	0.95	1.24	1.27	1.38	1.46	0.93
R	2.41	3.16	3.27	3.50	3.65	2.37
HORRAT[1]						

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

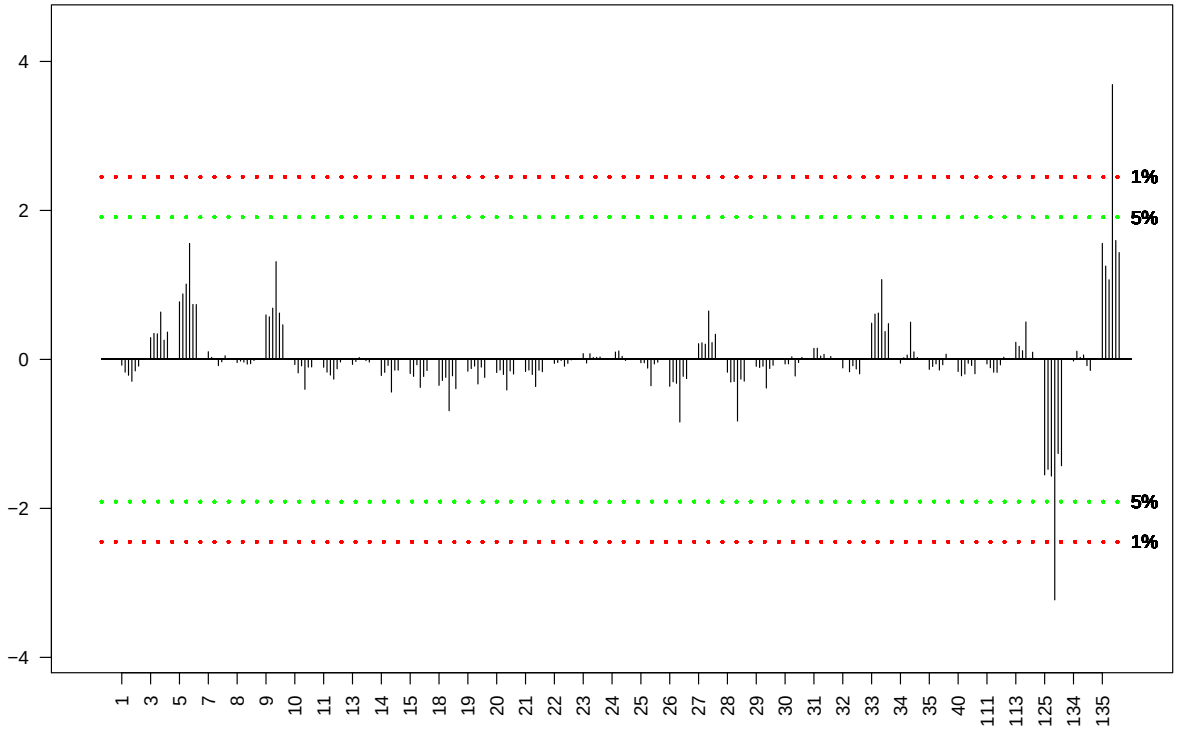
In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
5	B		B			b
9	B				C	C
11	C					
31			C			
34					c	
40	D	D	D	D	D	D
125	B	B	B	B	B	B
134	c					
135	B	B	B	B	B	B

Trockenmasse / dry matter

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



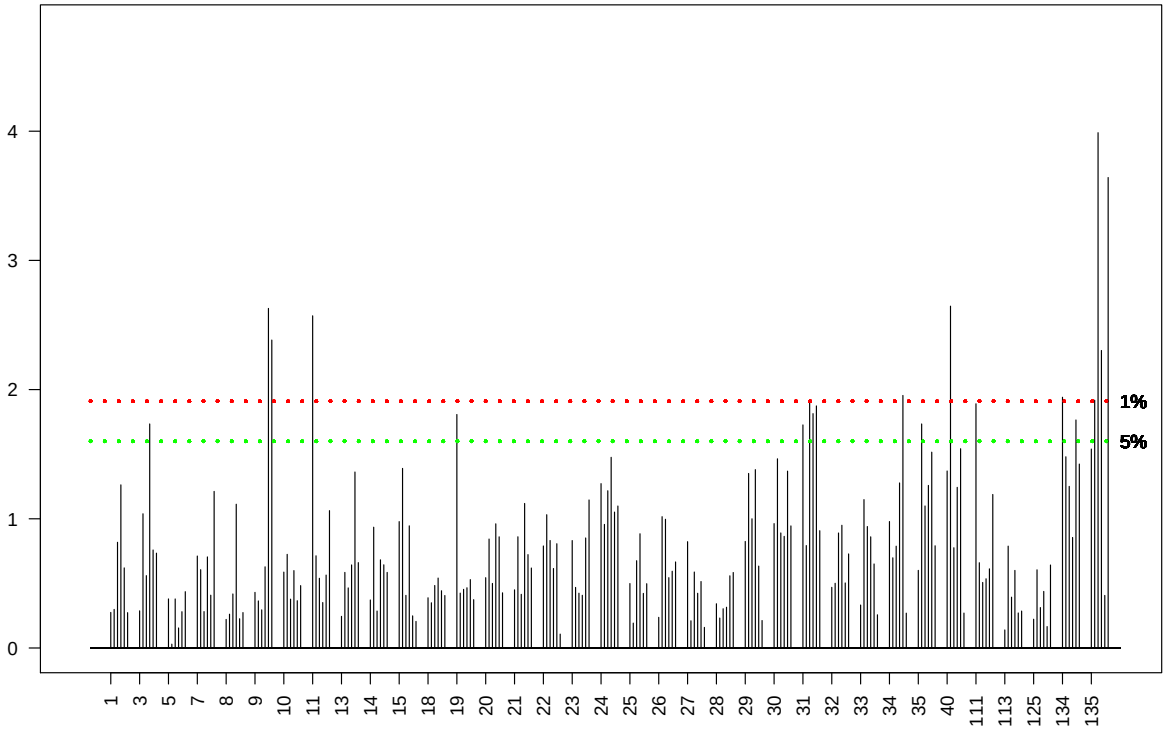
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

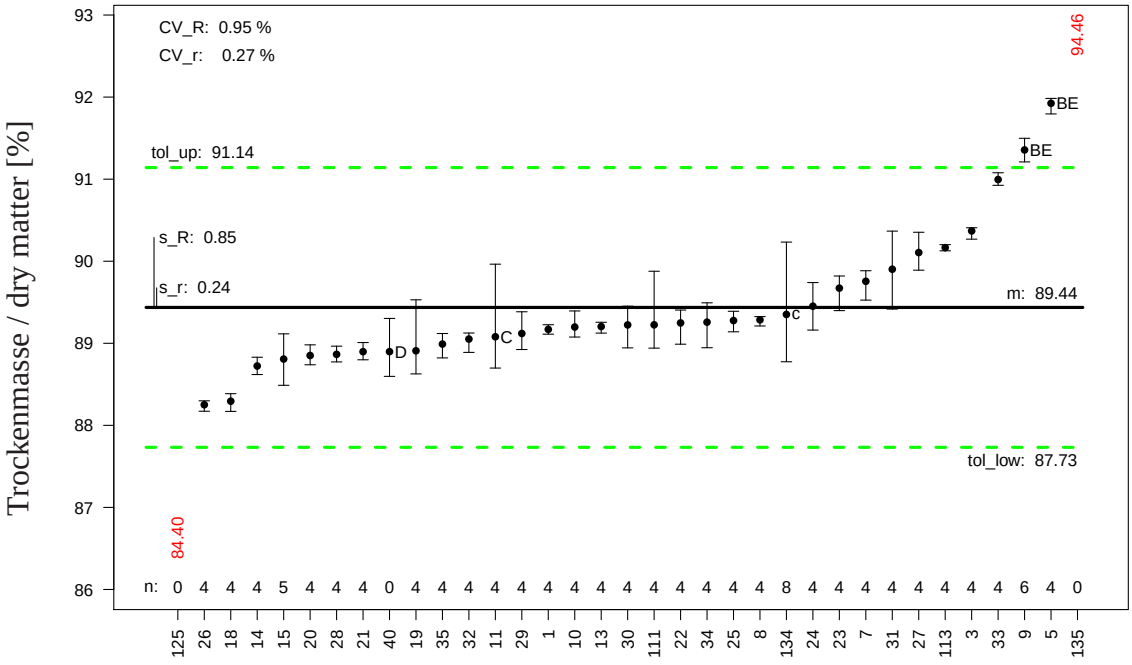
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

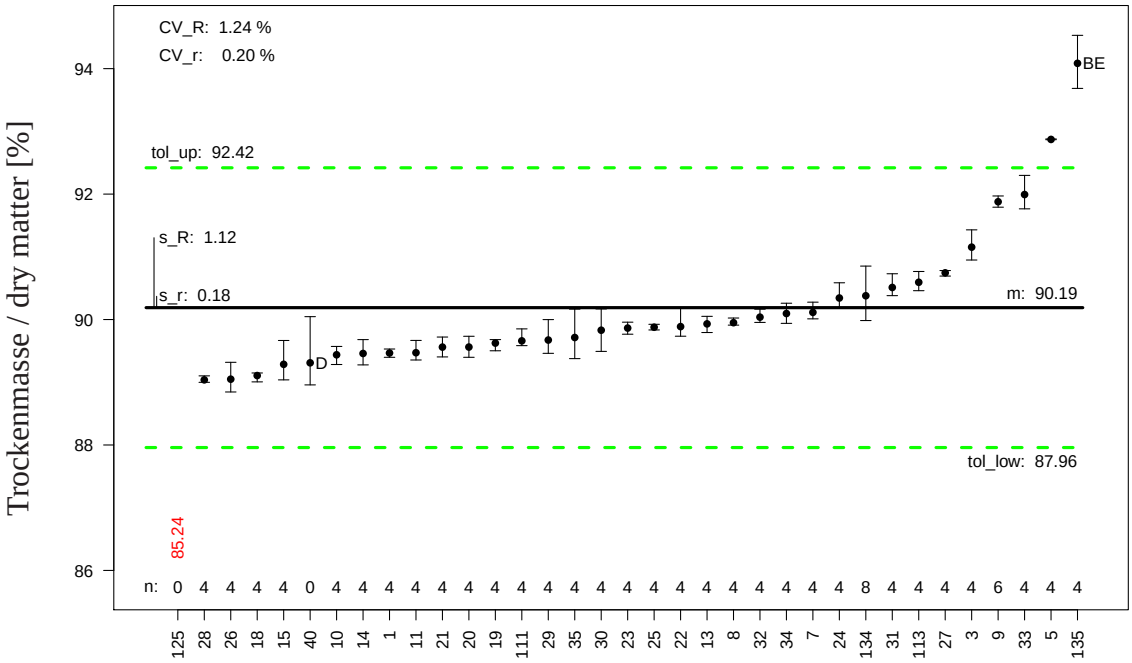
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

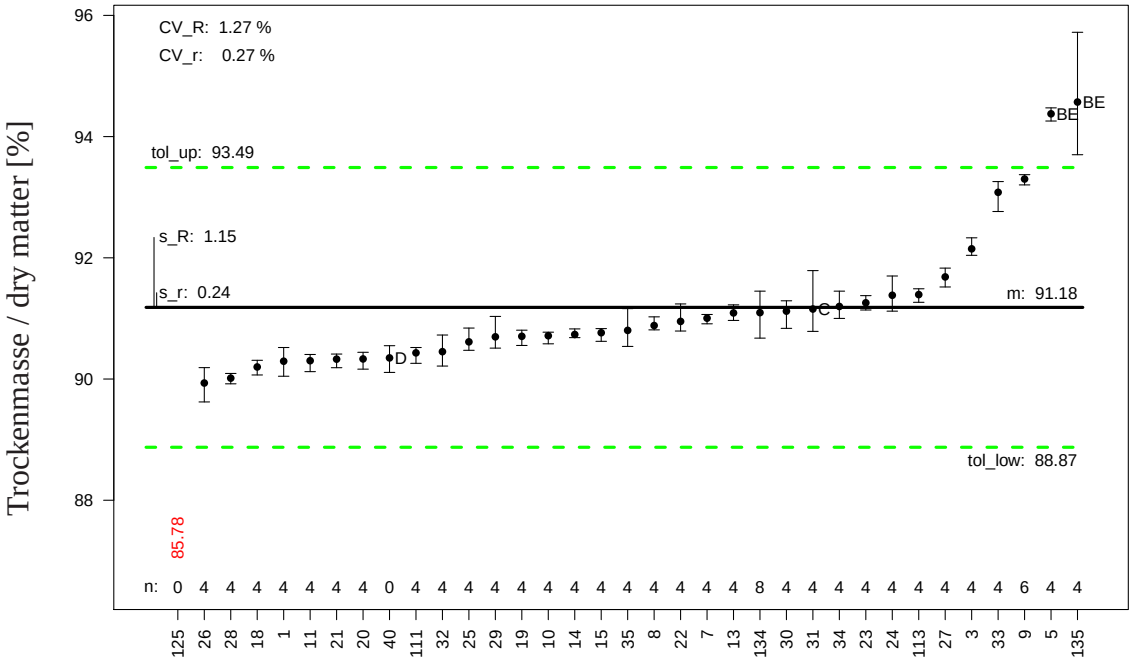
Probe/Sample 2101:



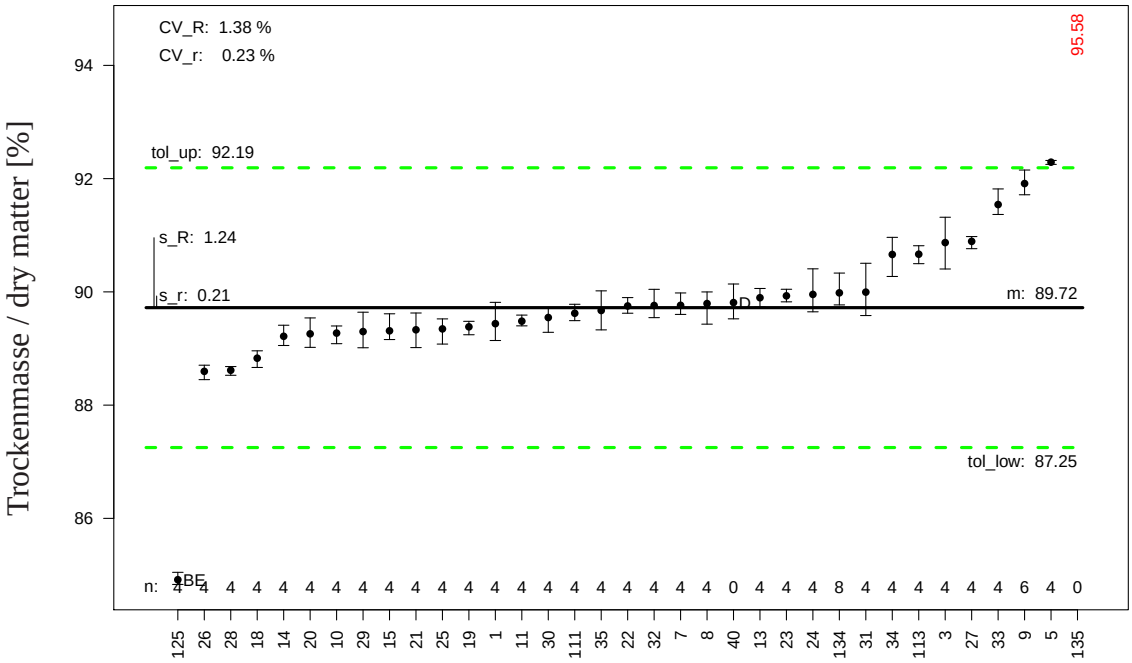
Probe/Sample 2102:



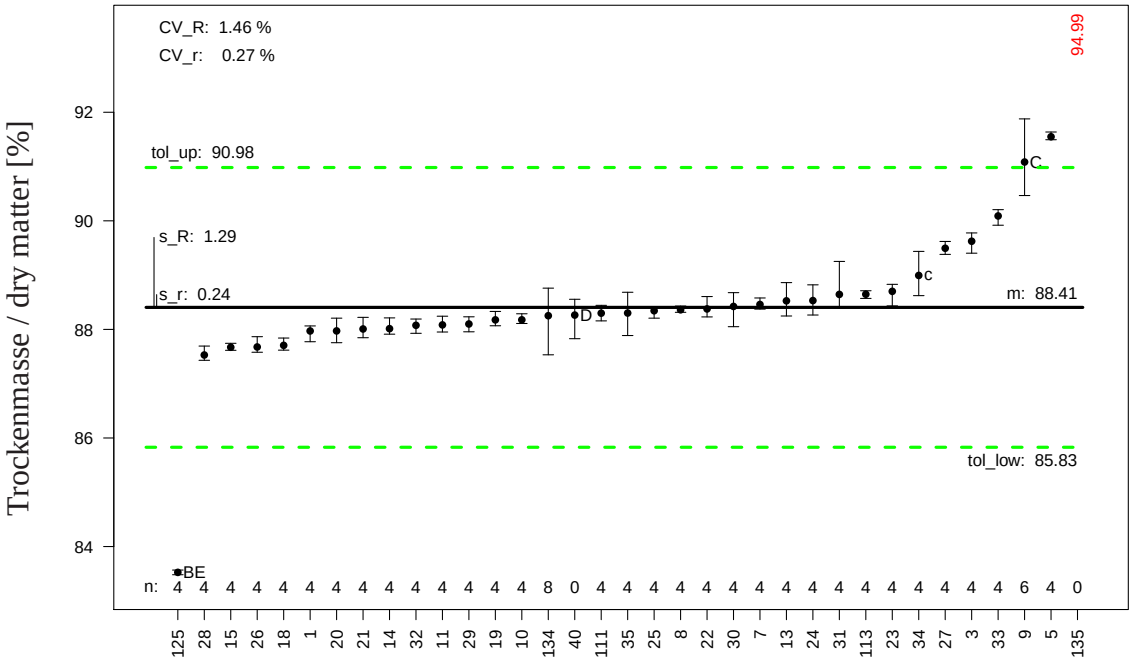
Probe/Sample 2103:



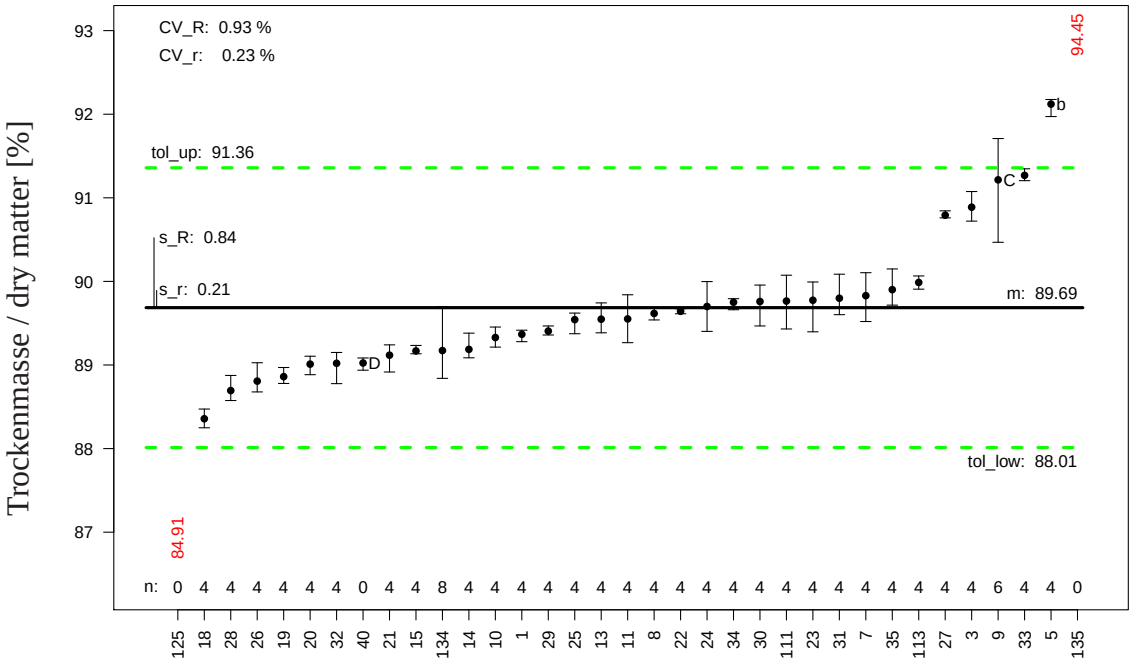
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.2 Merkmal / Constituent: Rohprotein / XP

Einheit / Unit: % TM

5.2.1 Anmerkungen / Annotations

5.2.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	138	138	138	138	
p_1	33	33	33	33	33	33	
m	5.99	5.89	5.54	6.46	6.36	5.83	
s_r	0.12	0.11	0.16	0.11	0.16	0.14	
CV_r	1.95	1.84	2.92	1.71	2.52	2.41	
r	0.33	0.31	0.46	0.31	0.45	0.40	
s_R	0.54	0.58	0.59	0.56	0.56	0.53	0.38
CV_R	9.01	9.89	10.57	8.62	8.87	9.11	
R	1.53	1.65	1.66	1.58	1.60	1.50	1.06
HORRAT[1]							

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

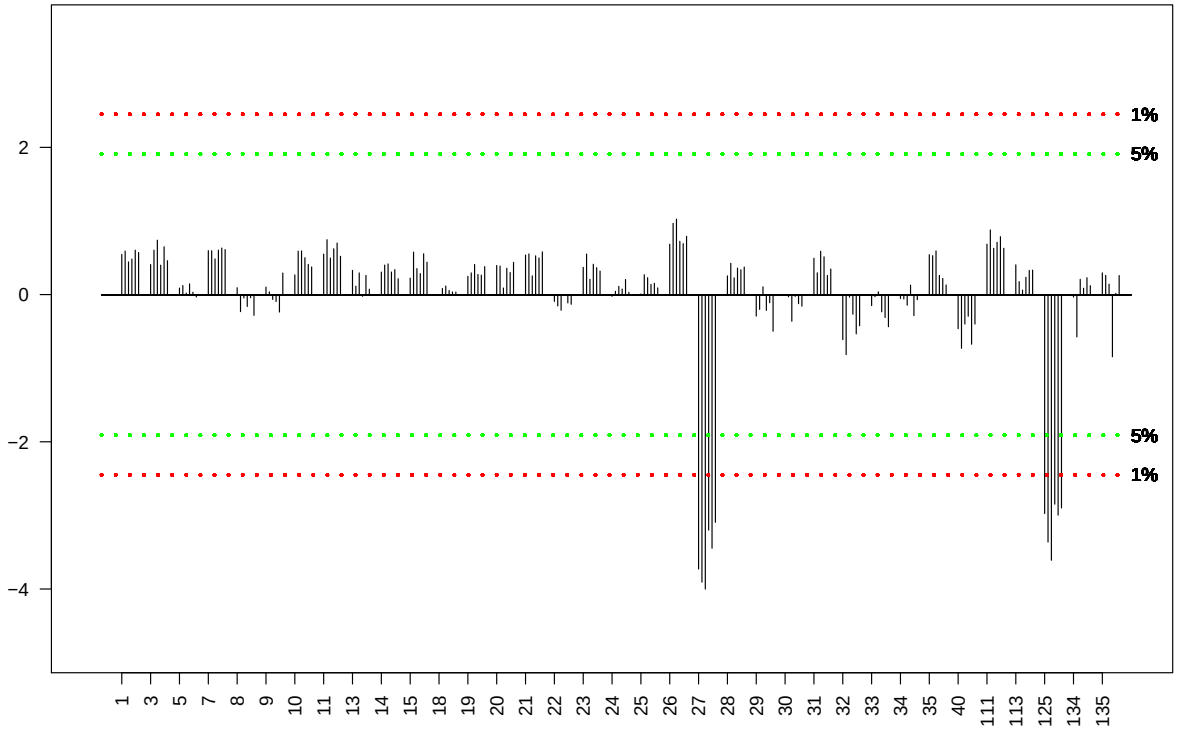
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9					C	C
27	B	B	B	B	B	B
29				C		
31	C			C		
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135					C	C

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



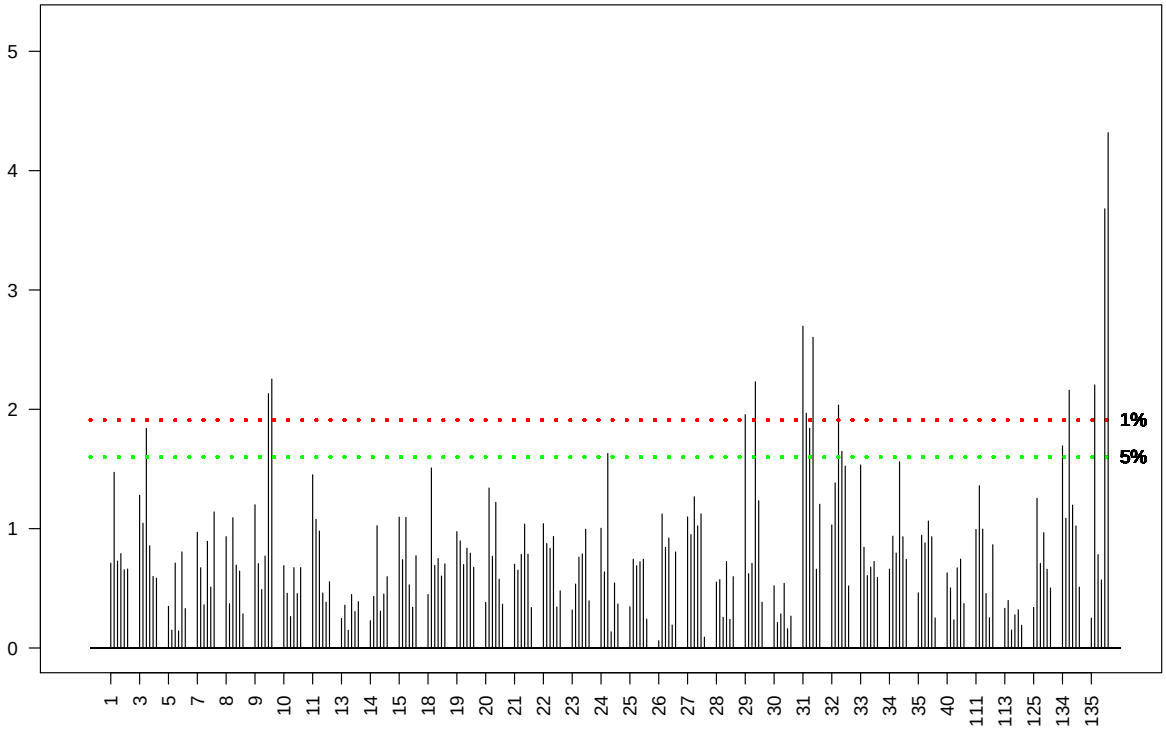
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

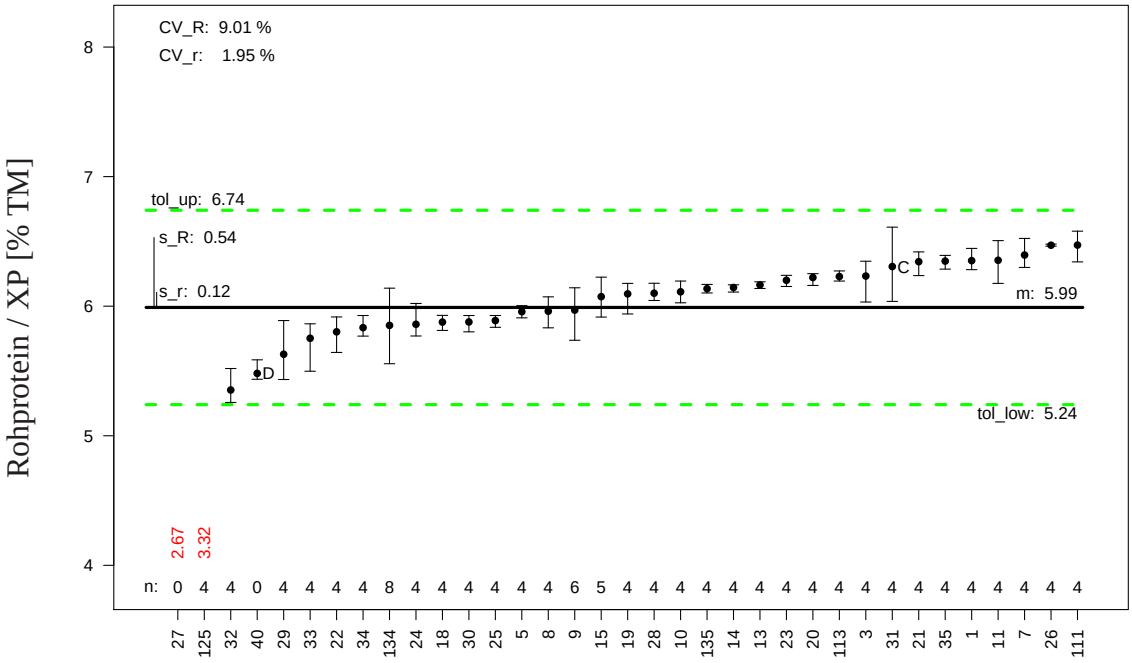
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

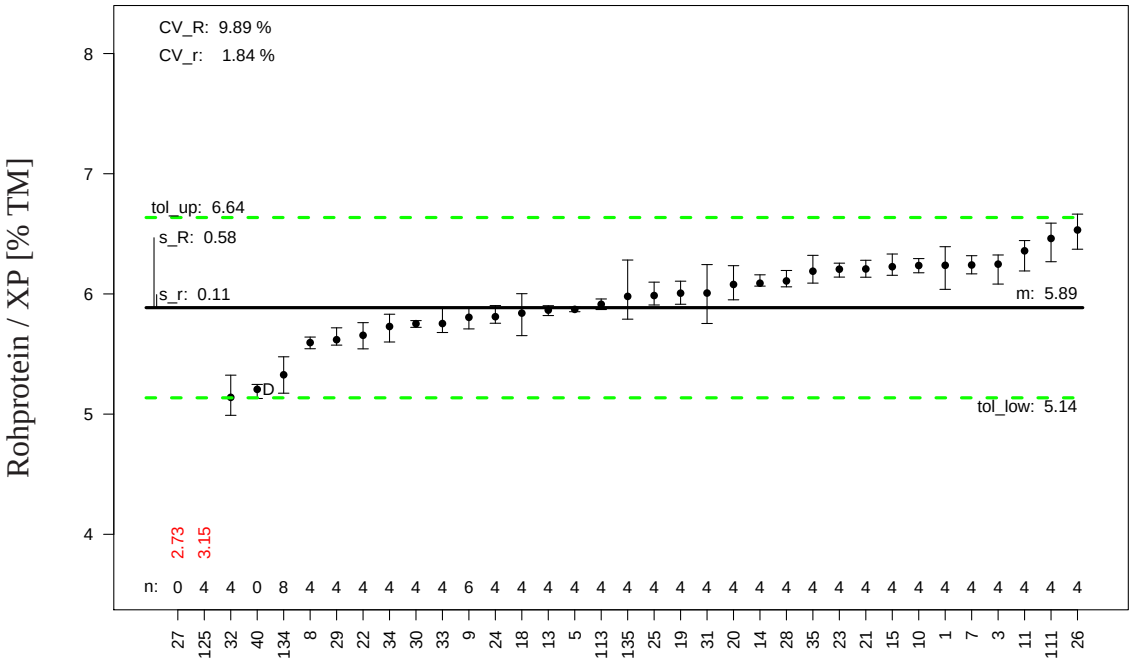
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

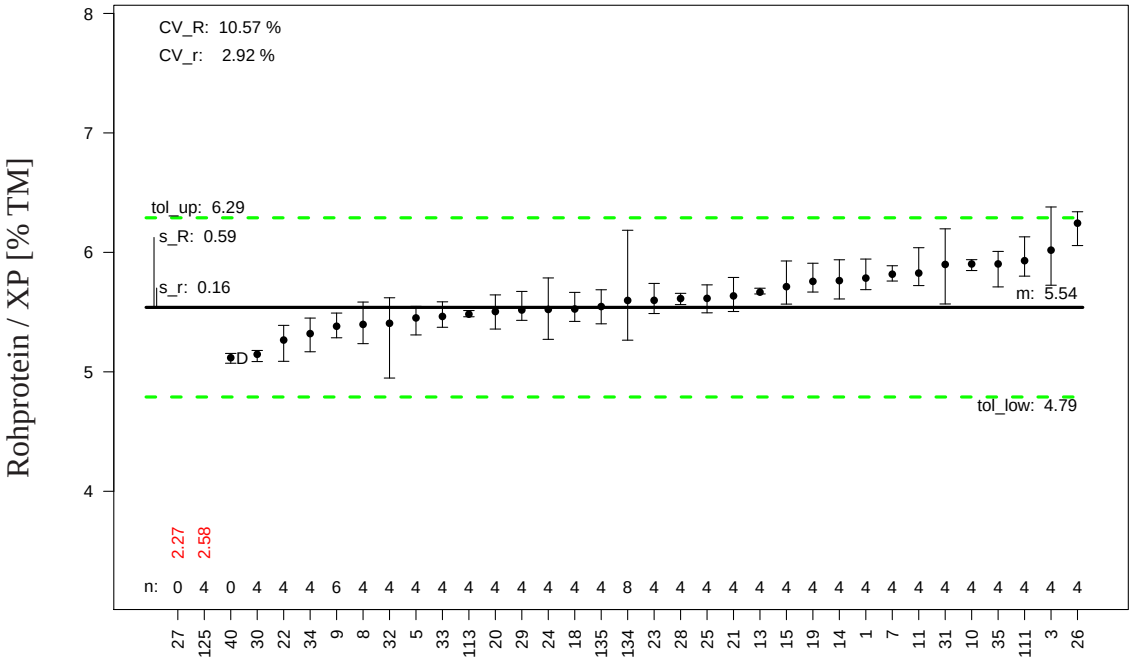
Probe/Sample 2101:



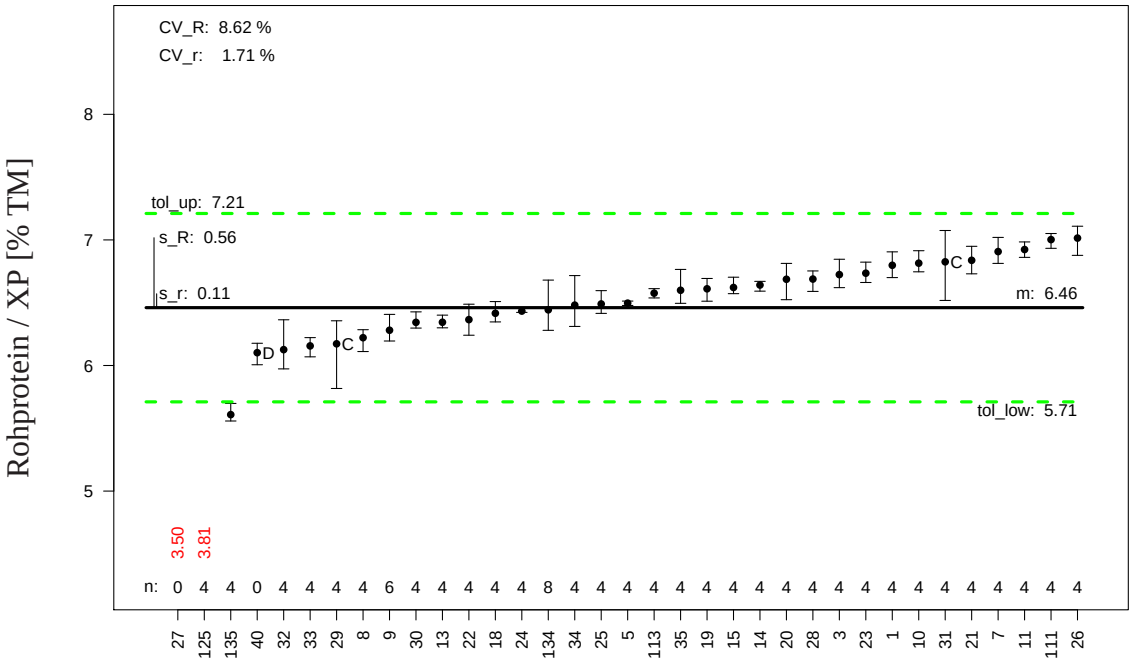
Probe/Sample 2102:



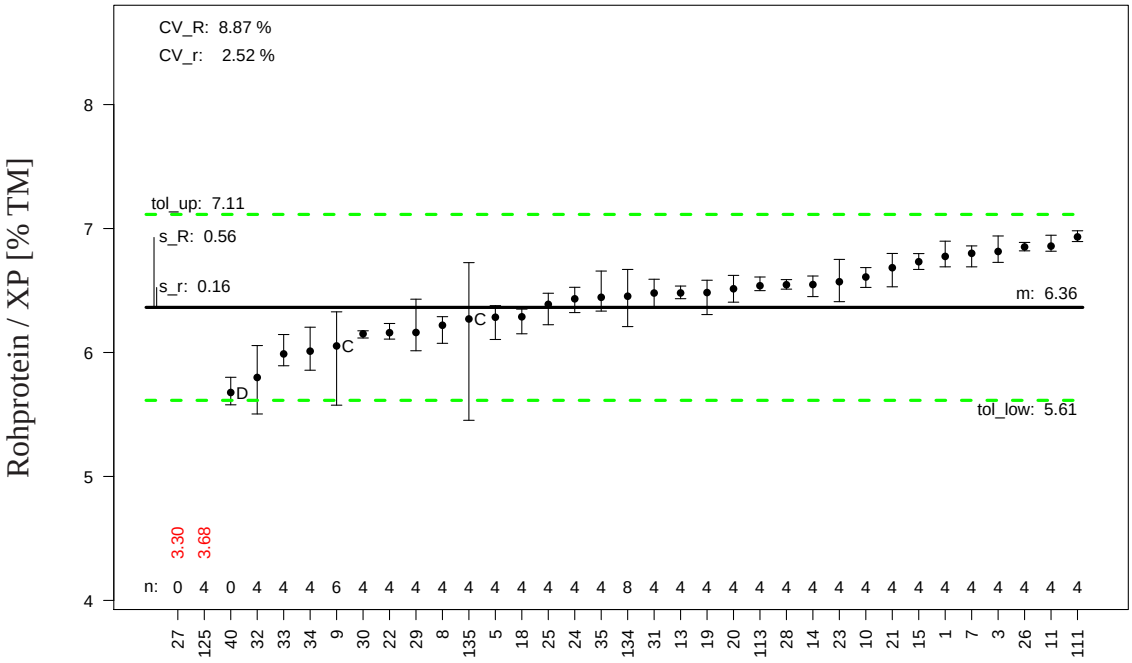
Probe/Sample 2103:



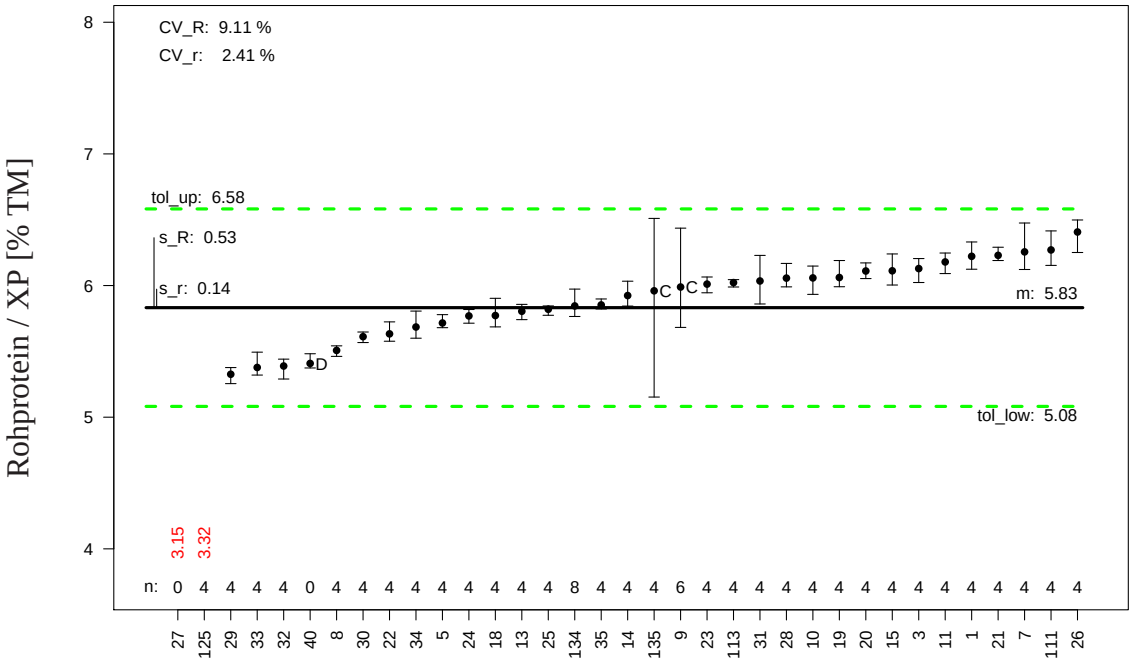
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.3 Merkmal / Constituent: Rohfaser / XF

Einheit / Unit: % TM

5.3.1 Anmerkungen / Annotations

5.3.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	138	137	138	138	
p_1	33	33	33	33	33	33	
m	16.47	18.38	25.87	18.32	16.76	16.38	
s_r	0.44	0.41	0.91	0.48	0.45	0.45	
CV_r	2.69	2.21	3.53	2.63	2.67	2.73	
r	1.25	1.15	2.59	1.36	1.27	1.27	
s_R	1.17	0.99	1.57	1.77	1.08	0.99	1.00
CV_R	7.13	5.40	6.06	9.66	6.46	6.06	
R	3.32	2.81	4.44	5.01	3.06	2.81	2.83
HORRAT[1]	2.72	2.09	2.47	3.74	2.47	2.31	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

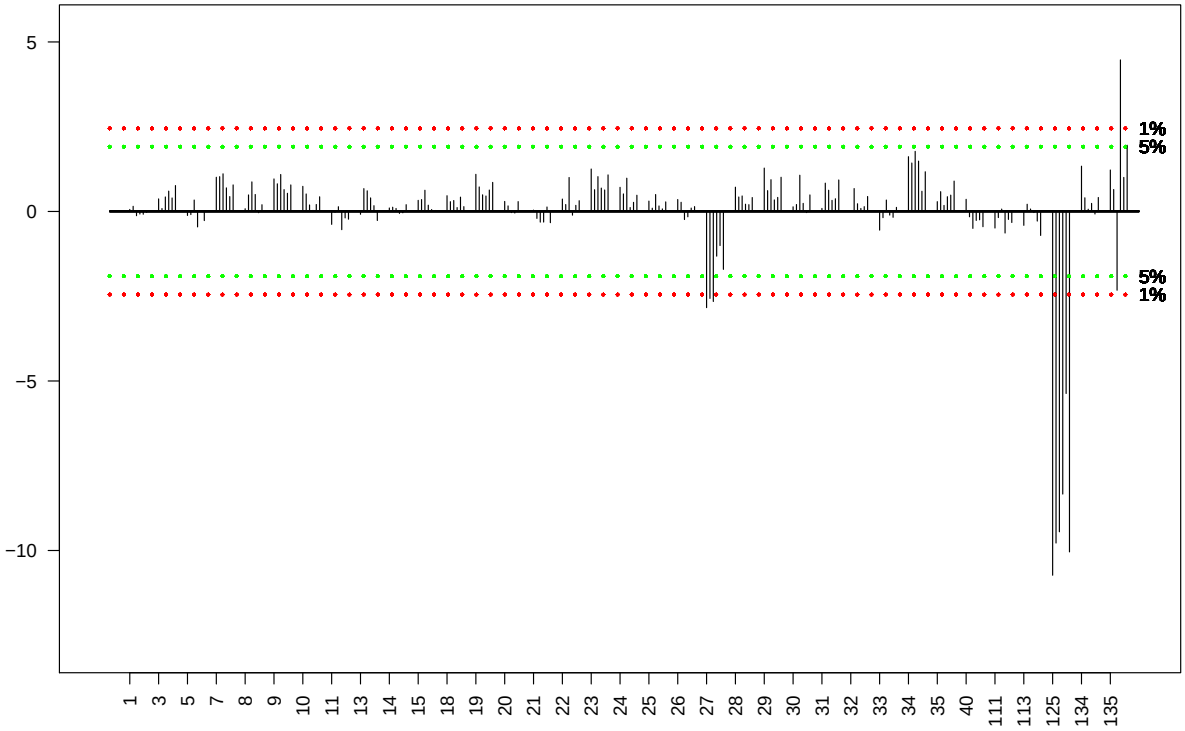
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
27	B	B	B		b	b
31	C			C		C
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135	C	C	C	B		

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



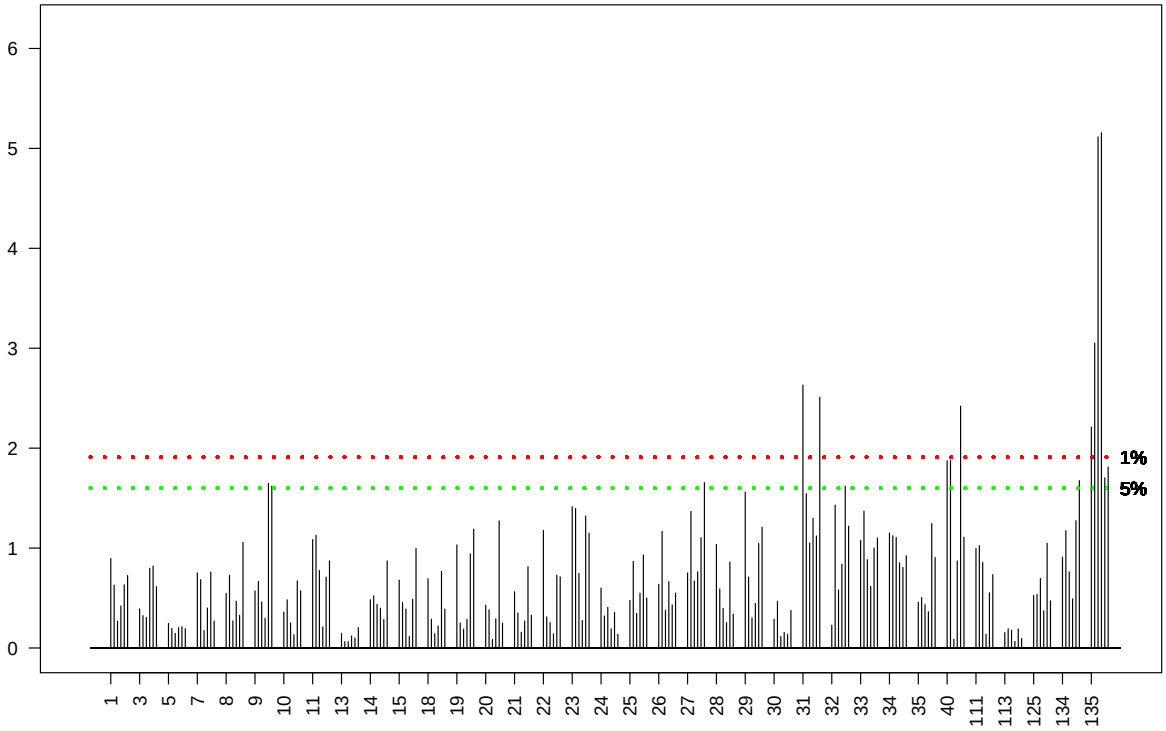
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

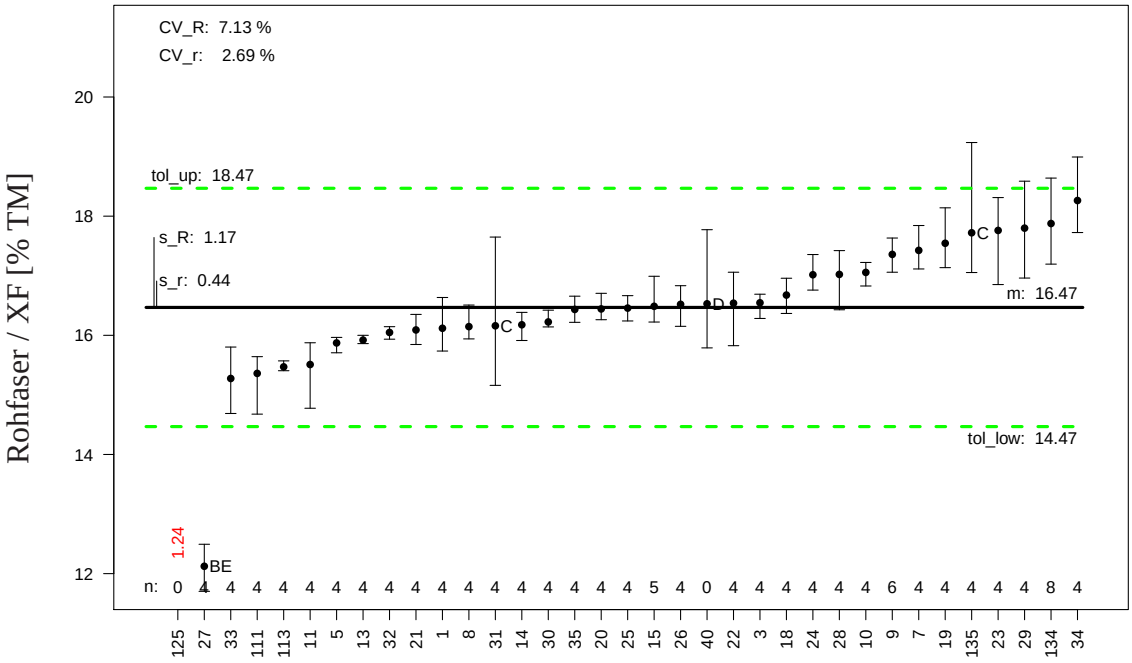
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

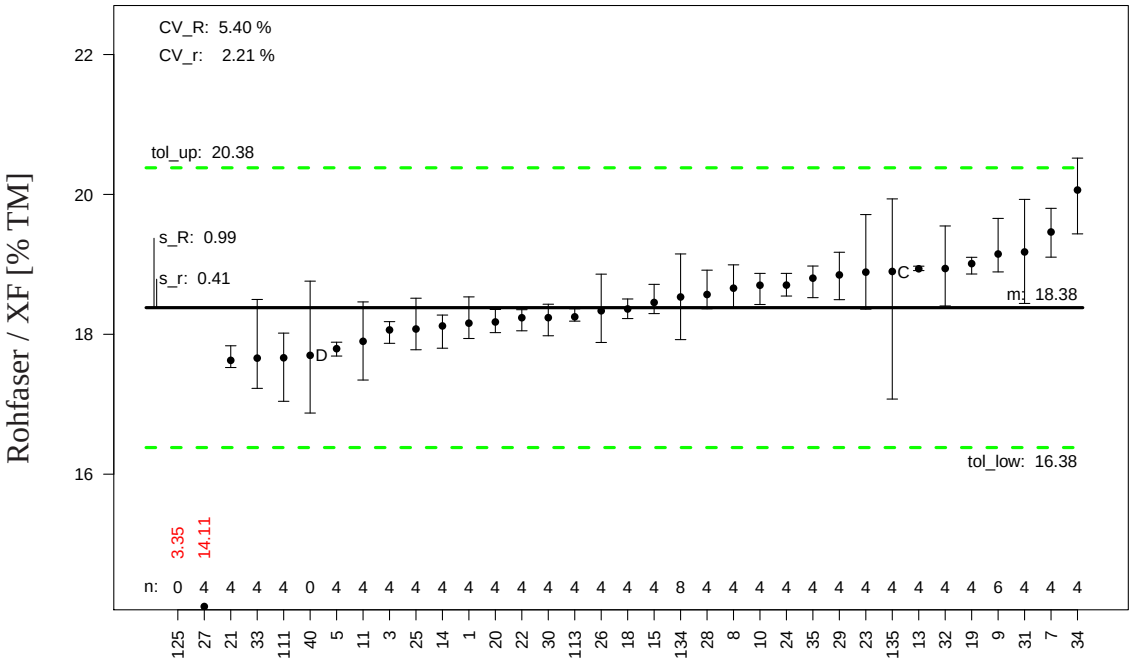
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

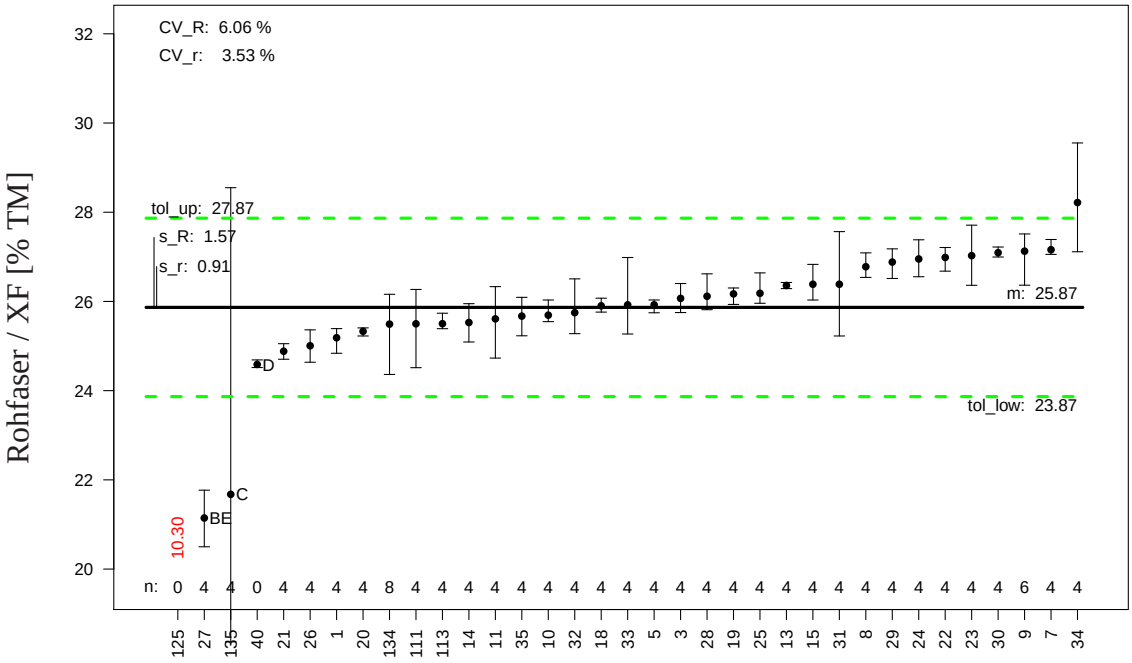
Probe/Sample 2101:



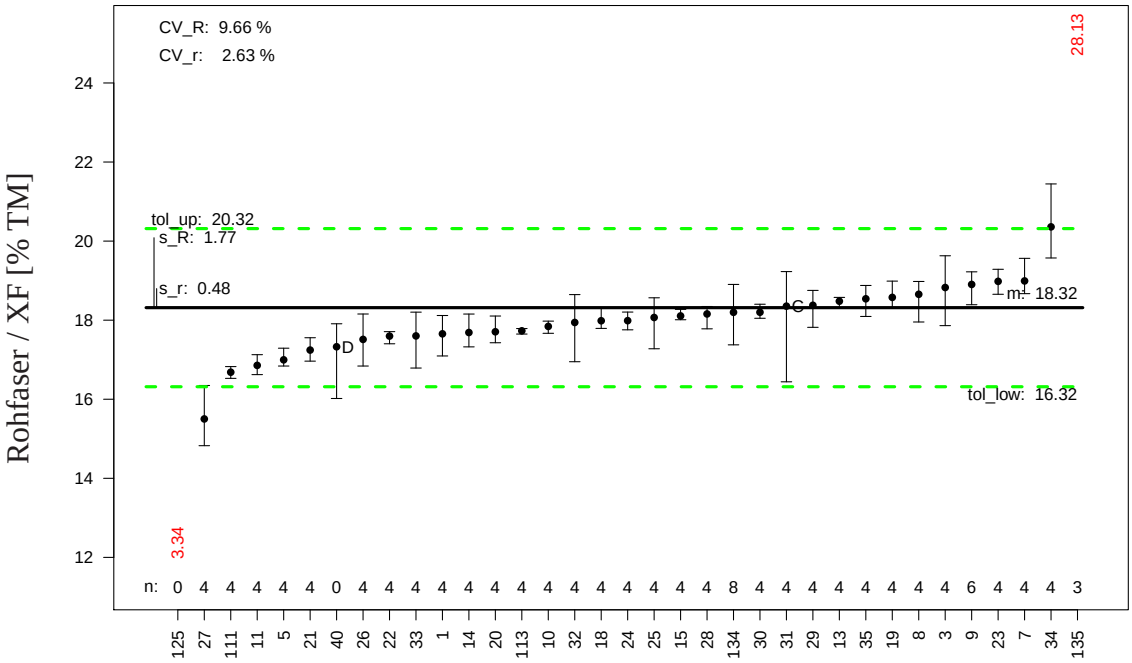
Probe/Sample 2102:



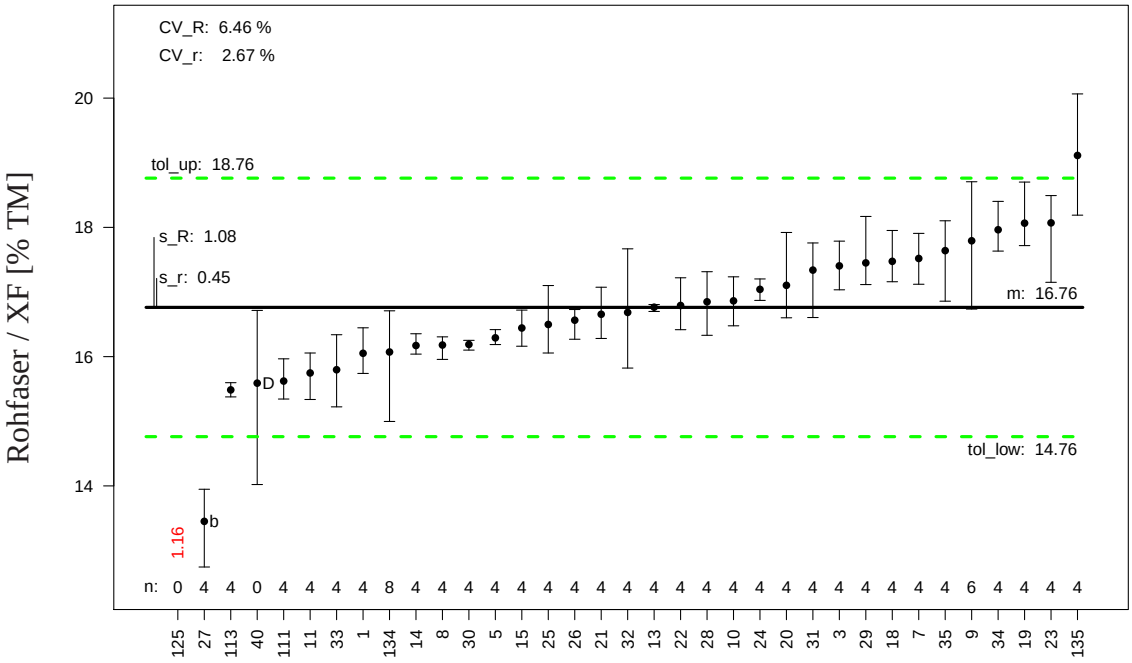
Probe/Sample 2103:



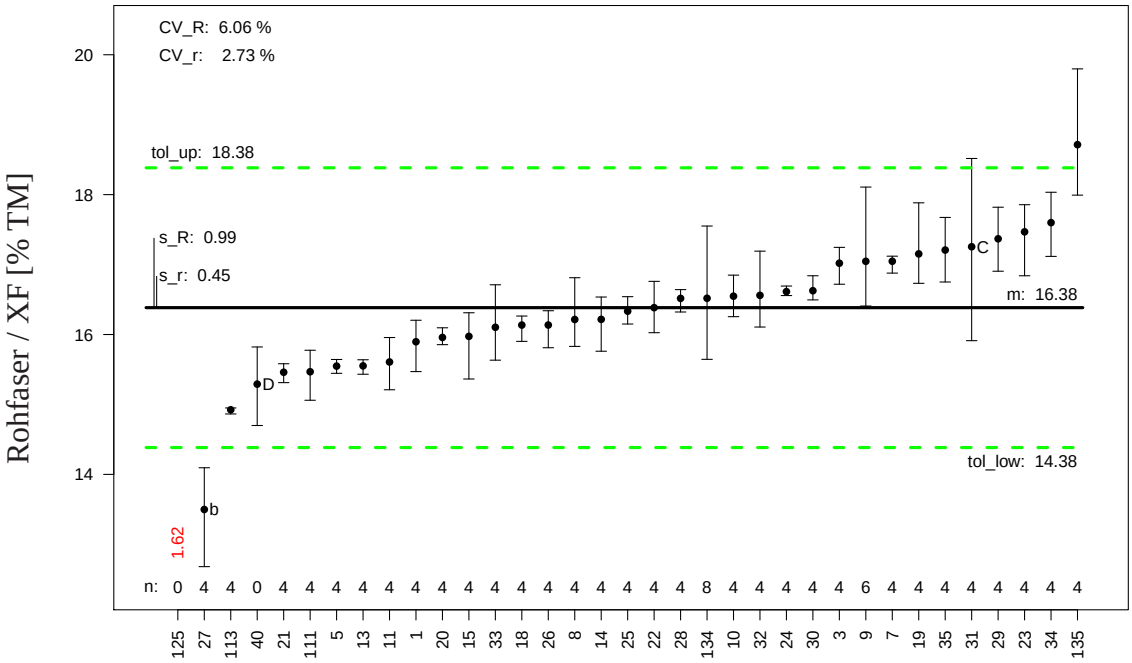
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.4 Merkmal / Constituent: Rohfett / XL

Einheit / Unit: % TM

5.4.1 Anmerkungen / Annotations

5.4.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	143	142	142	142	142	142	
p_1	34	34	34	34	34	34	
m	2.51	2.31	1.90	2.65	2.27	2.75	
s_r	0.09	0.07	0.09	0.10	0.08	0.10	
CV_r	3.59	2.92	4.82	3.80	3.74	3.65	
r	0.25	0.19	0.26	0.29	0.24	0.28	
s_R	0.23	0.22	0.19	0.23	0.25	0.25	0.30
CV_R	9.01	9.47	10.16	8.53	11.22	8.93	
R	0.64	0.62	0.55	0.64	0.72	0.70	0.85
HORRAT[1]	2.59	2.69	2.80	2.47	3.17	2.60	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

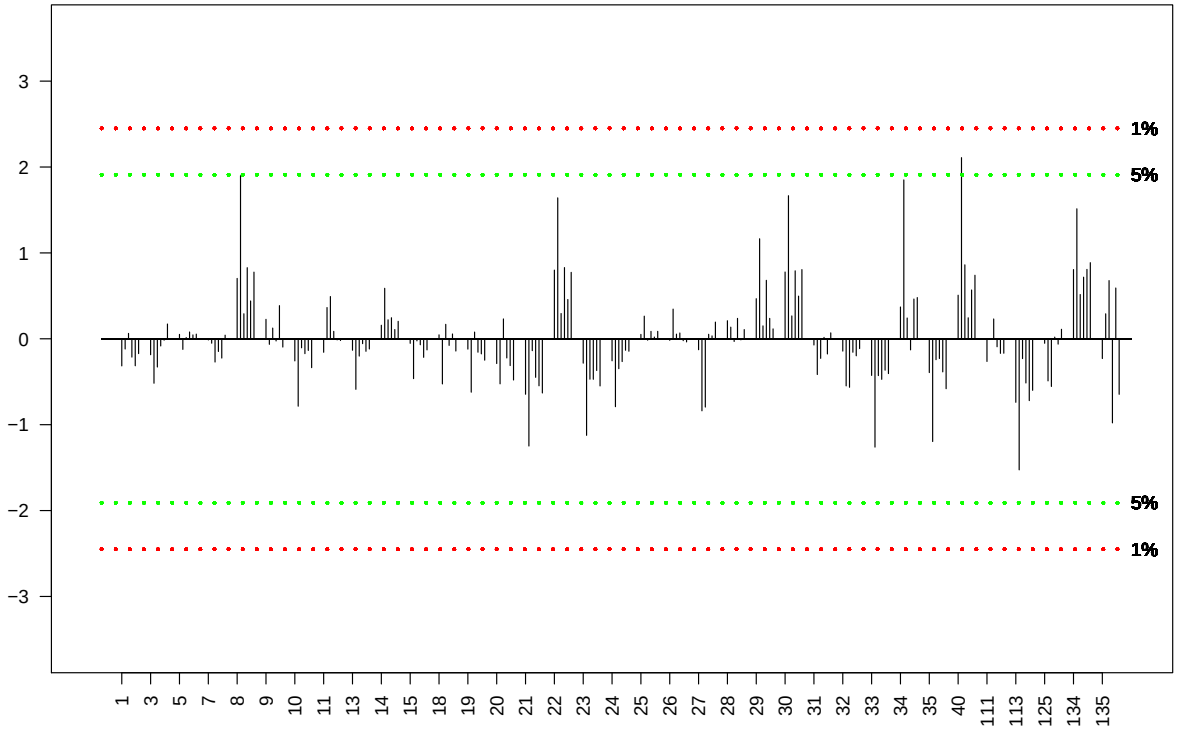
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9					C	C
31				C		
32	c					
40	D	D	D	D	D	D
135	C		C	C		C

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



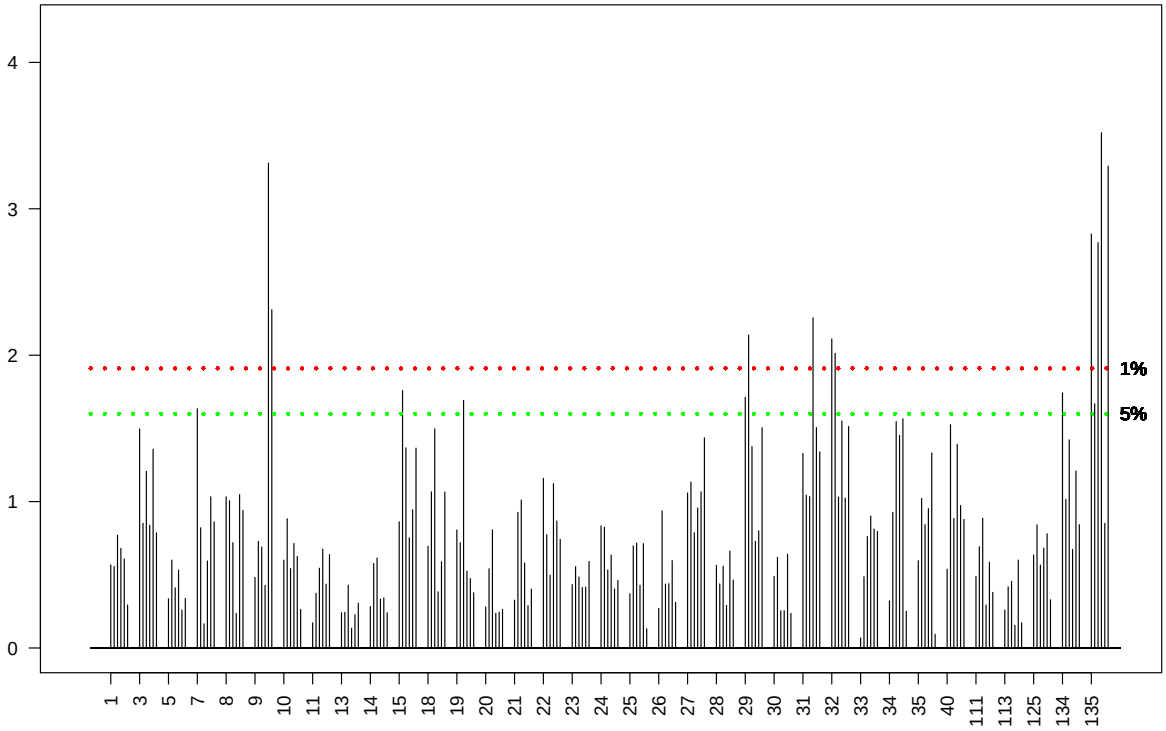
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

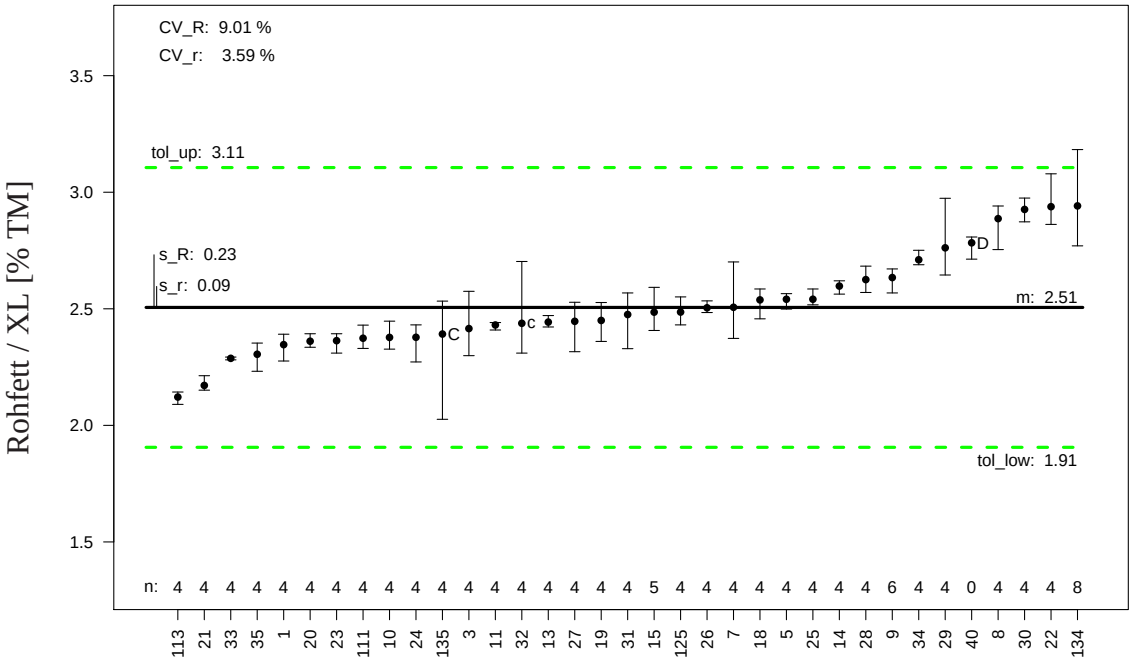
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

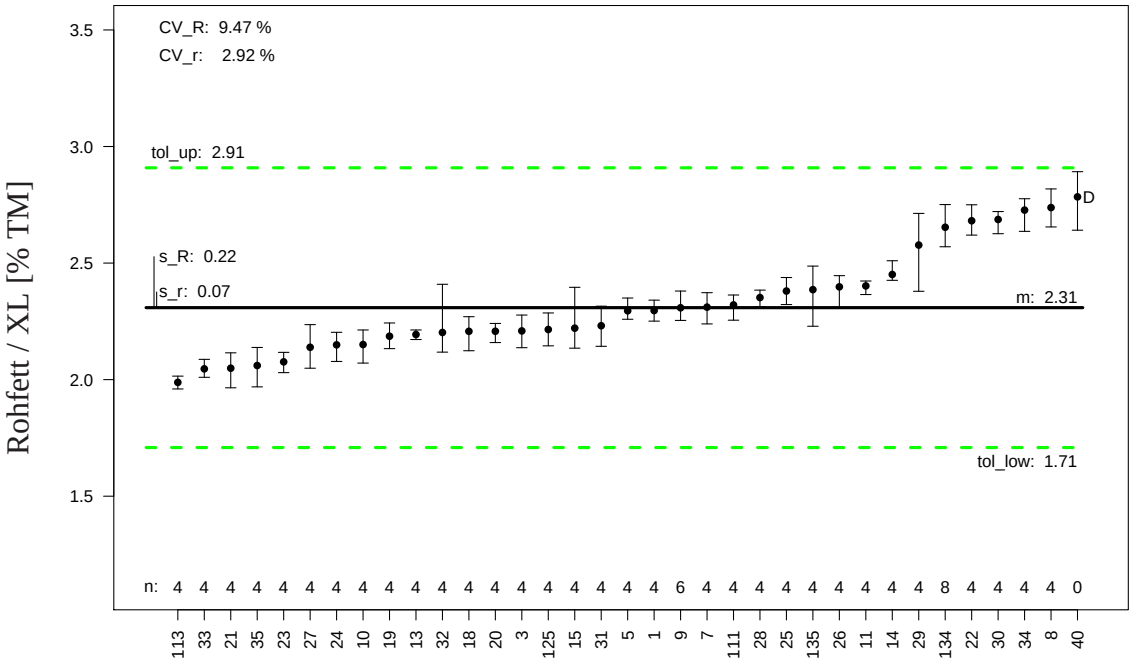
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

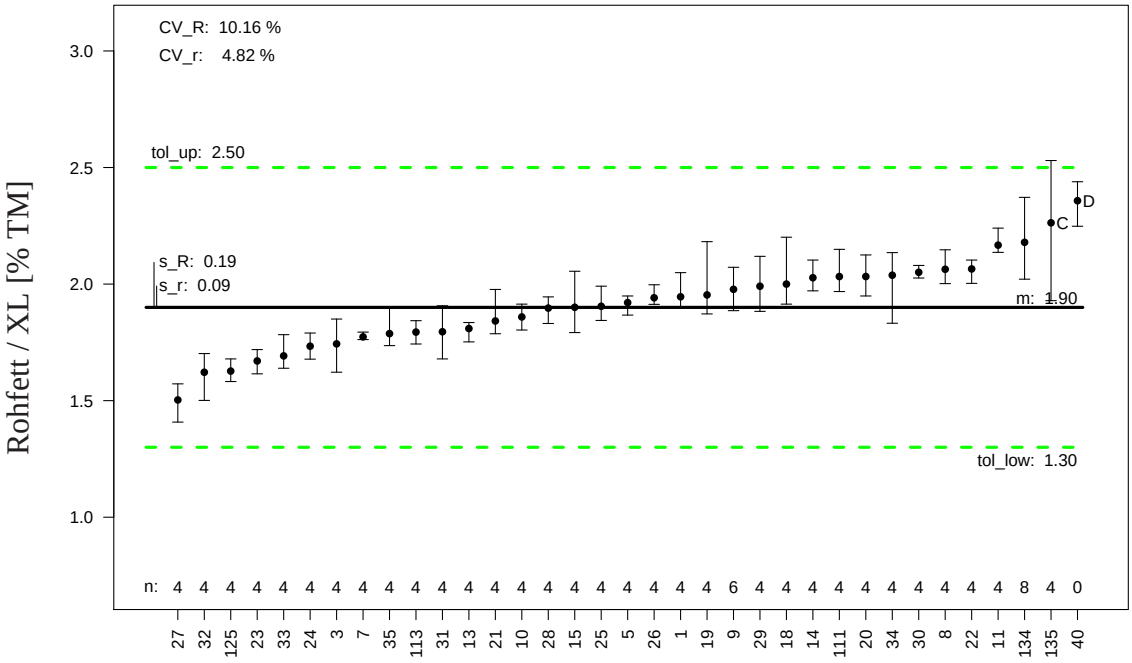
Probe/Sample 2101:



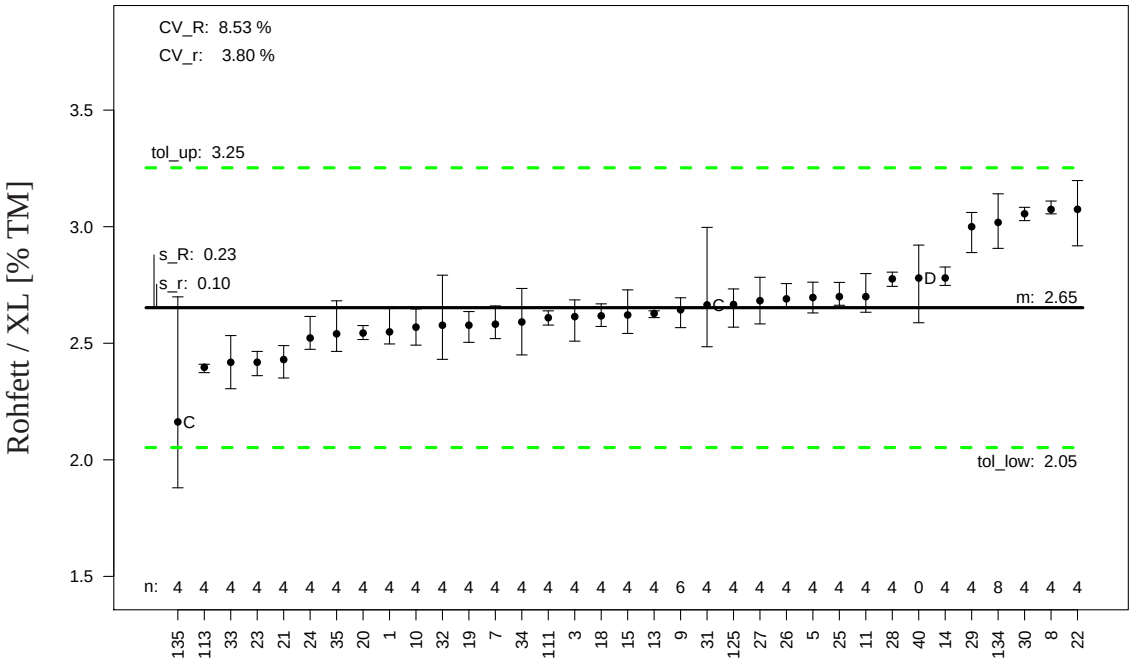
Probe/Sample 2102:



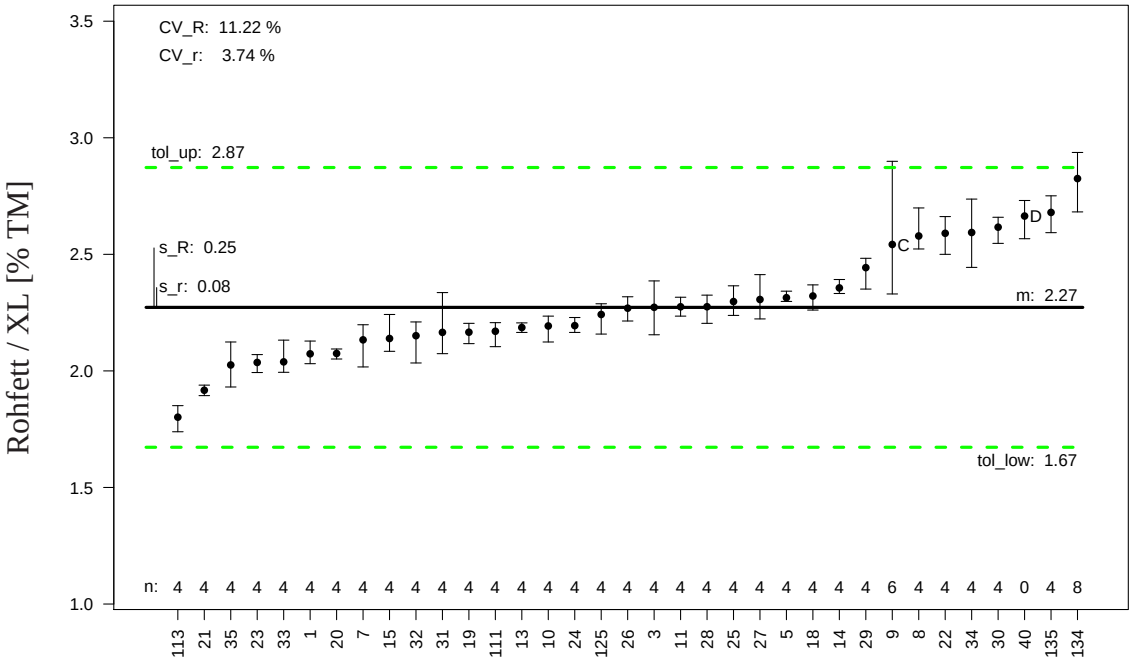
Probe/Sample 2103:



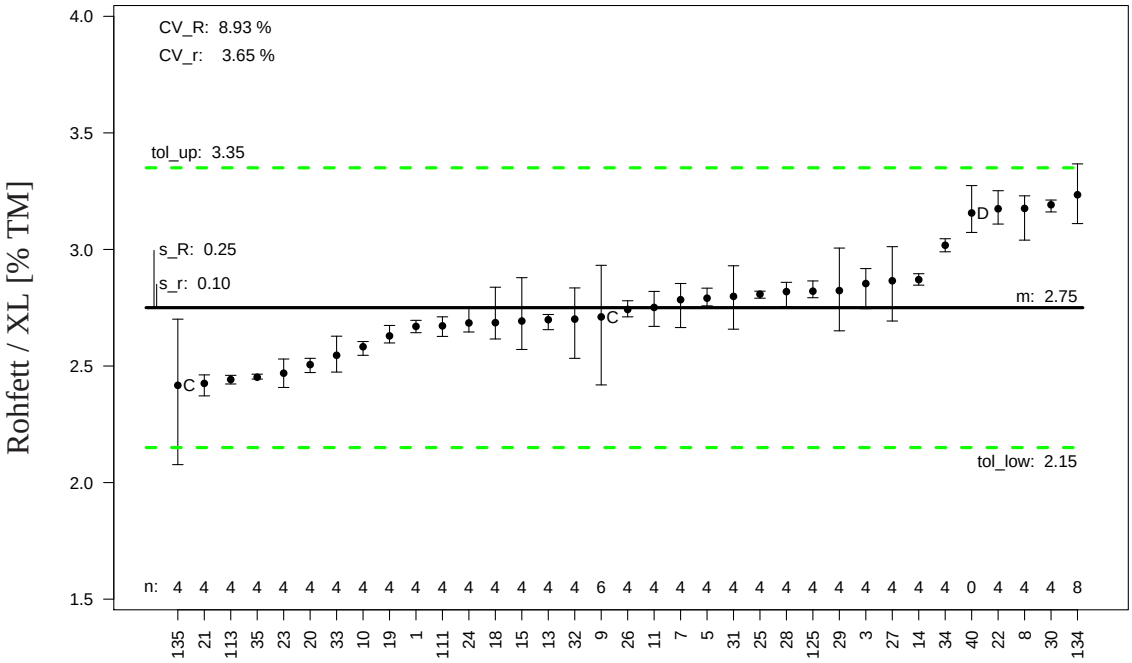
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.5 Merkmal / Constituent: Stärke / XS

Einheit / Unit: % TM

5.5.1 Anmerkungen / Annotations

5.5.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	138	138	138	138	138	136	
p_1	33	33	33	33	33	33	
m	35.91	22.87	9.48	31.91	30.05	35.54	
s_r	0.71	1.52	2.24	0.81	1.12	0.94	
CV_r	1.98	6.64	23.61	2.53	3.71	2.65	
r	2.01	4.30	6.33	2.29	3.16	2.67	
s_R	1.97	2.13	2.91	2.48	2.03	2.13	1.50
CV_R	5.48	9.33	30.69	7.76	6.74	5.99	
R	5.57	6.04	8.23	7.01	5.74	6.03	4.25
HORRAT[1]	2.35	3.74	10.76	3.27	2.81	2.56	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

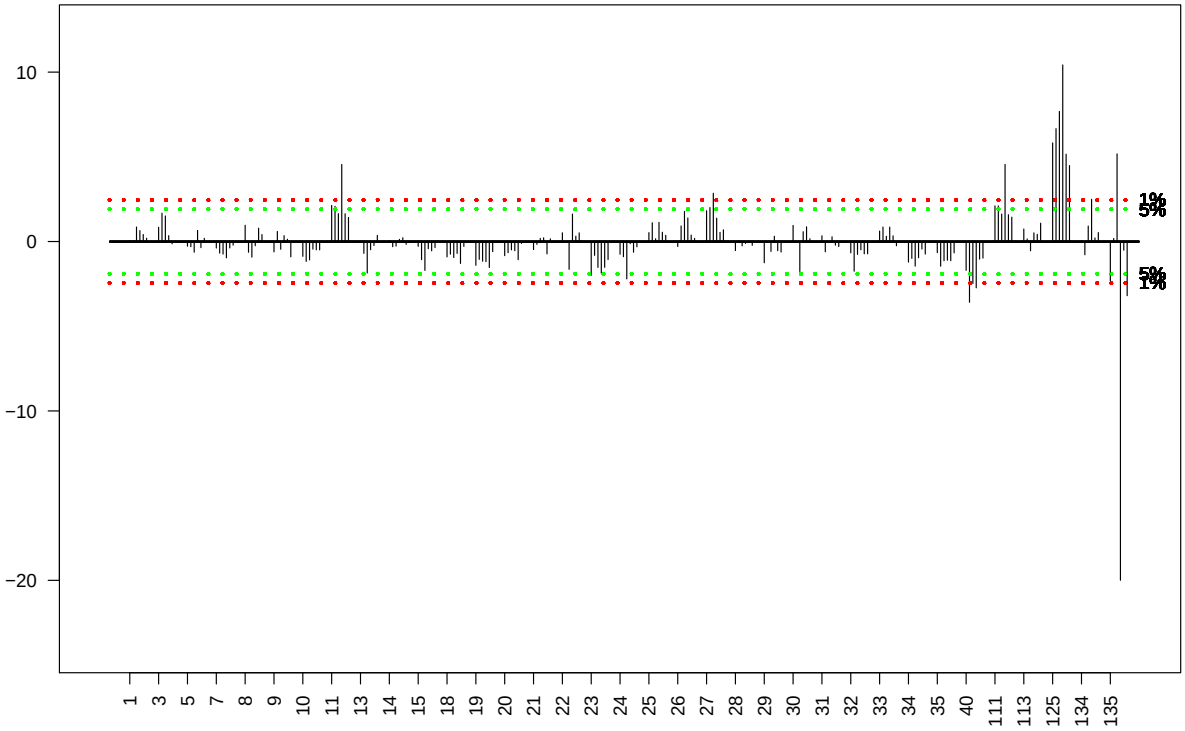
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9					C	A
31	C		C	c		
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135	A	C	B	B	C	B

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



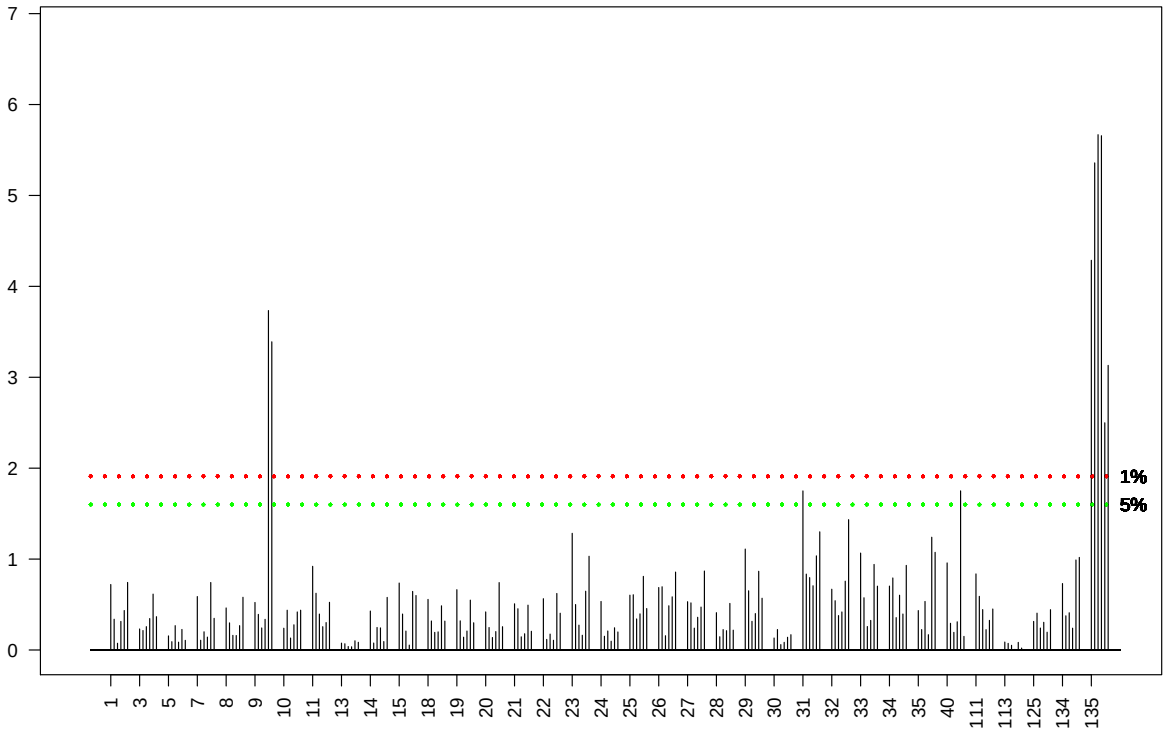
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

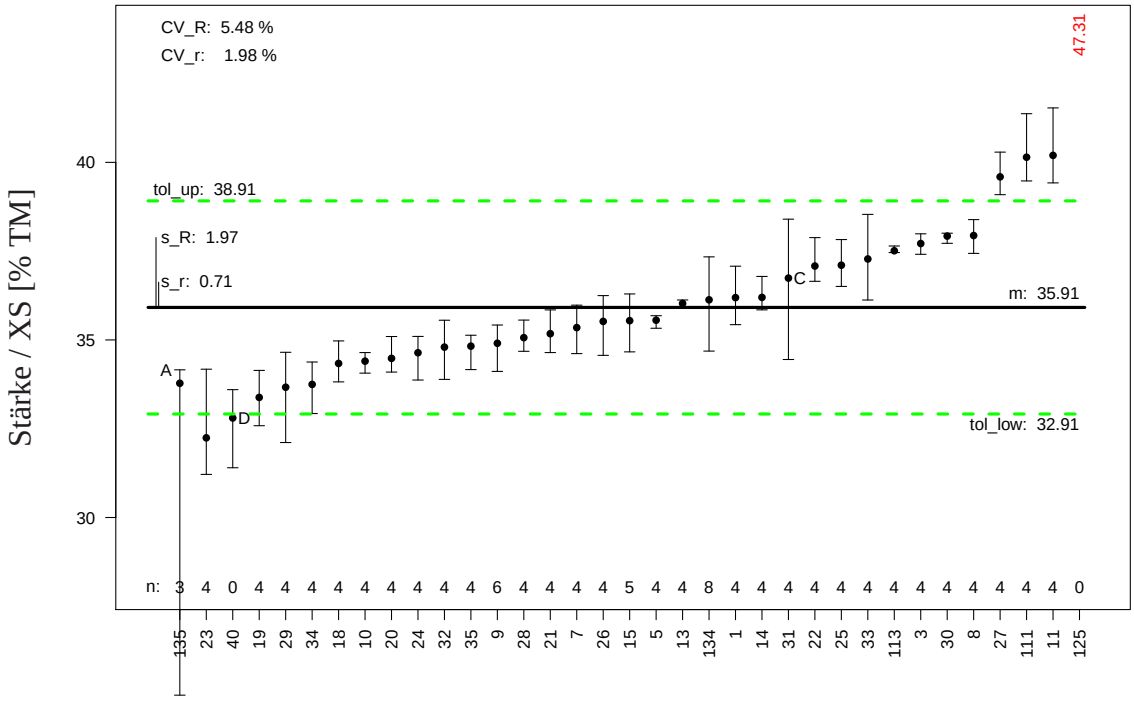
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

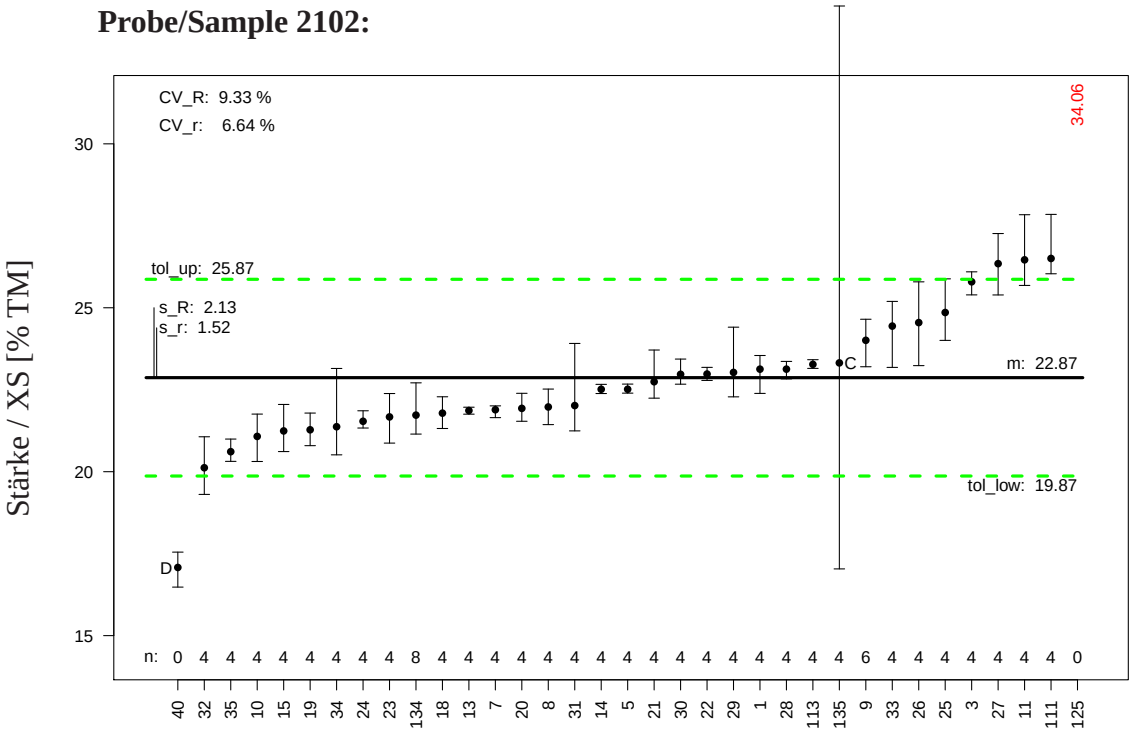
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

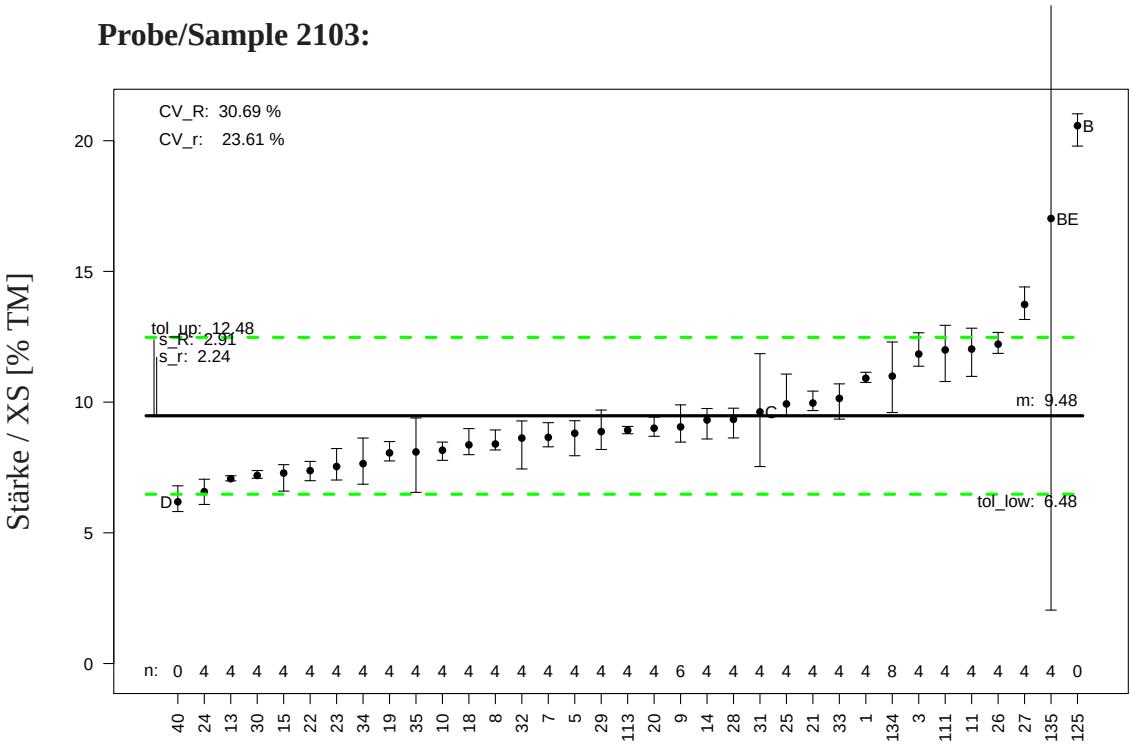
Probe/Sample 2101:



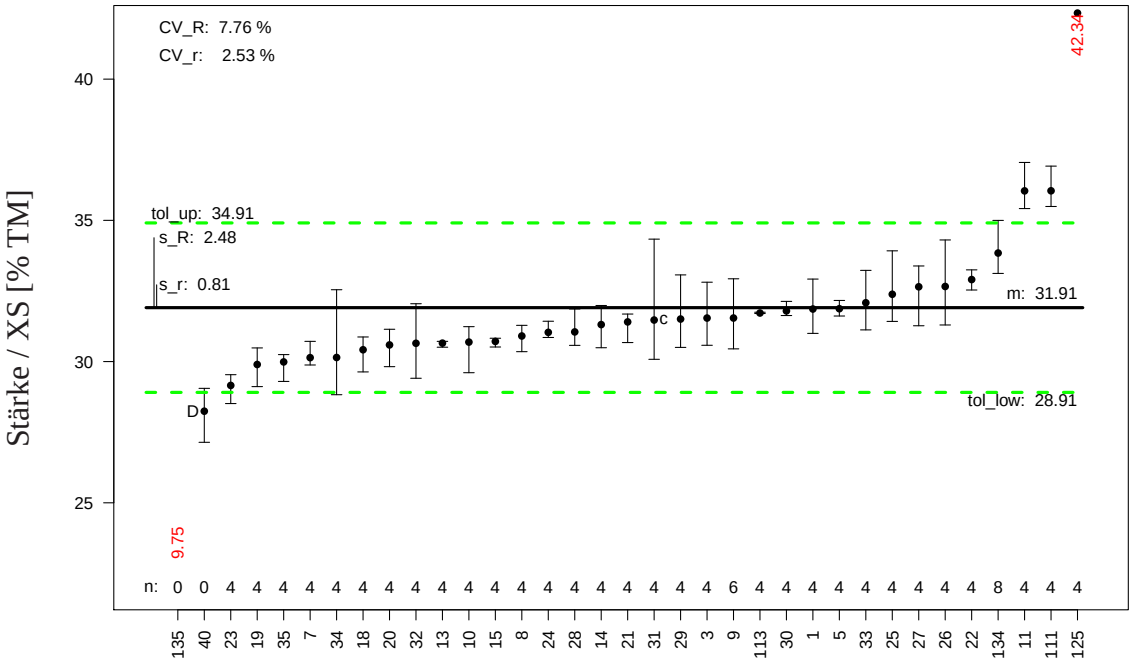
Probe/Sample 2102:



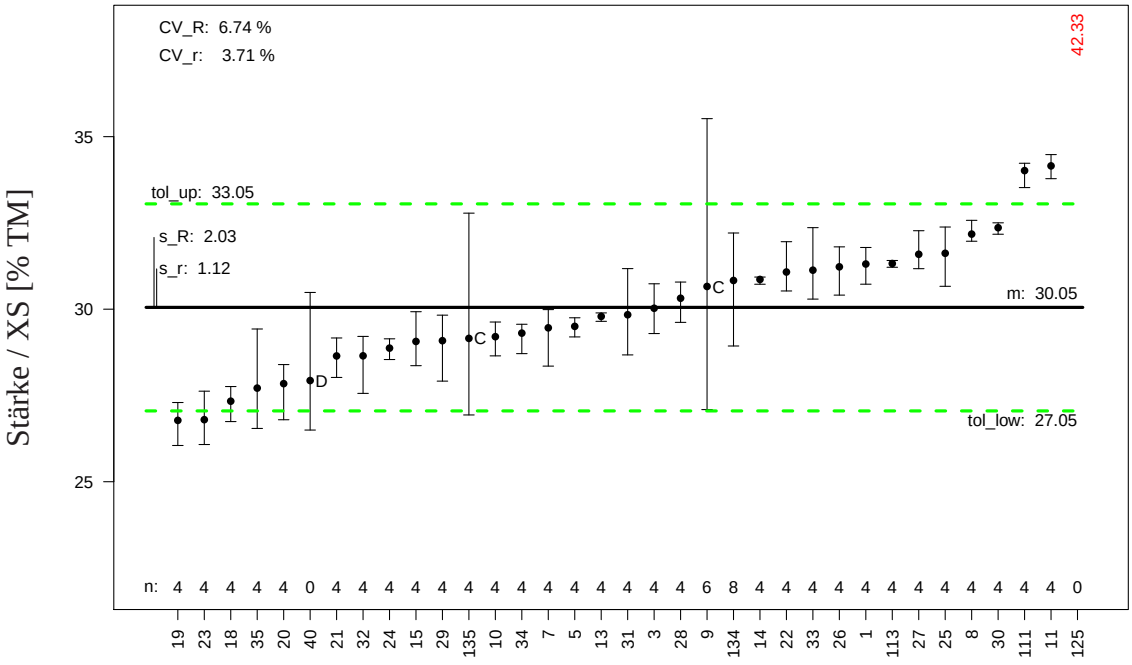
Probe/Sample 2103:



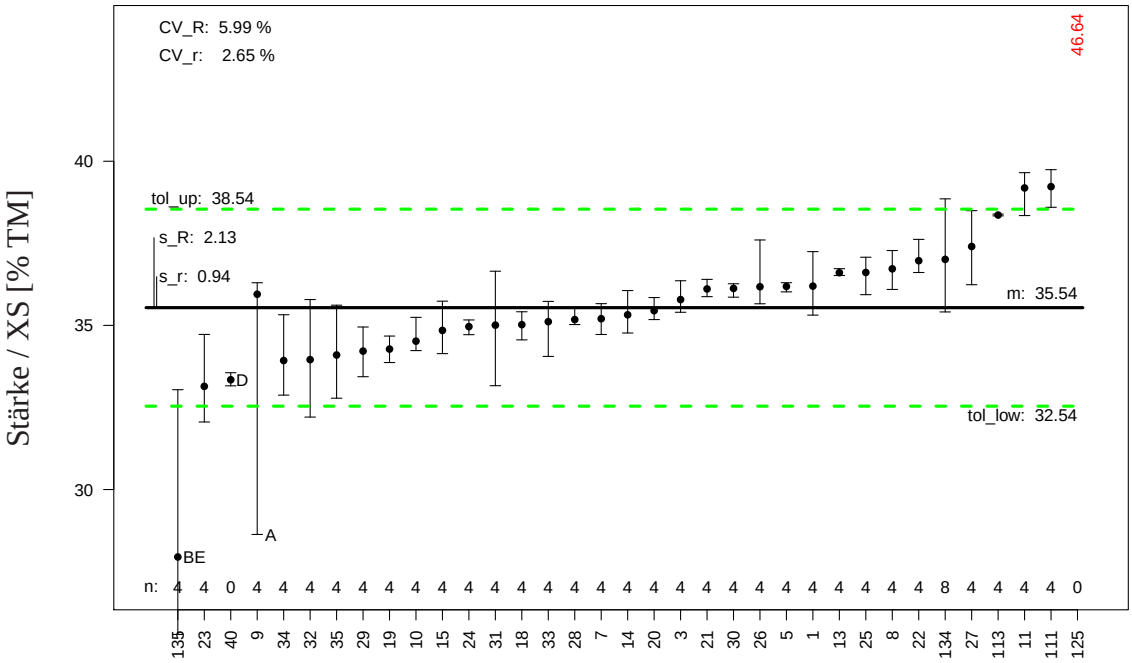
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.6 Merkmal / Constituent: Zucker / XZ

Einheit / Unit: % TM

5.6.1 Anmerkungen / Annotations

5.6.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	138	138	136	138	
p_1	33	33	33	33	33	33	
m	8.78	15.91	14.42	8.02	12.61	9.29	
s_r	0.43	0.77	0.75	0.30	0.25	0.68	
CV_r	4.90	4.83	5.18	3.80	1.98	7.32	
r	1.22	2.17	2.11	0.86	0.71	1.92	
s_R	1.10	1.24	1.53	1.32	1.07	1.24	0.75
CV_R	12.51	7.80	10.60	16.50	8.49	13.35	
R	3.11	3.51	4.32	3.74	3.03	3.51	2.12
HORRAT[1]	4.34	2.96	3.96	5.64	3.11	4.67	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

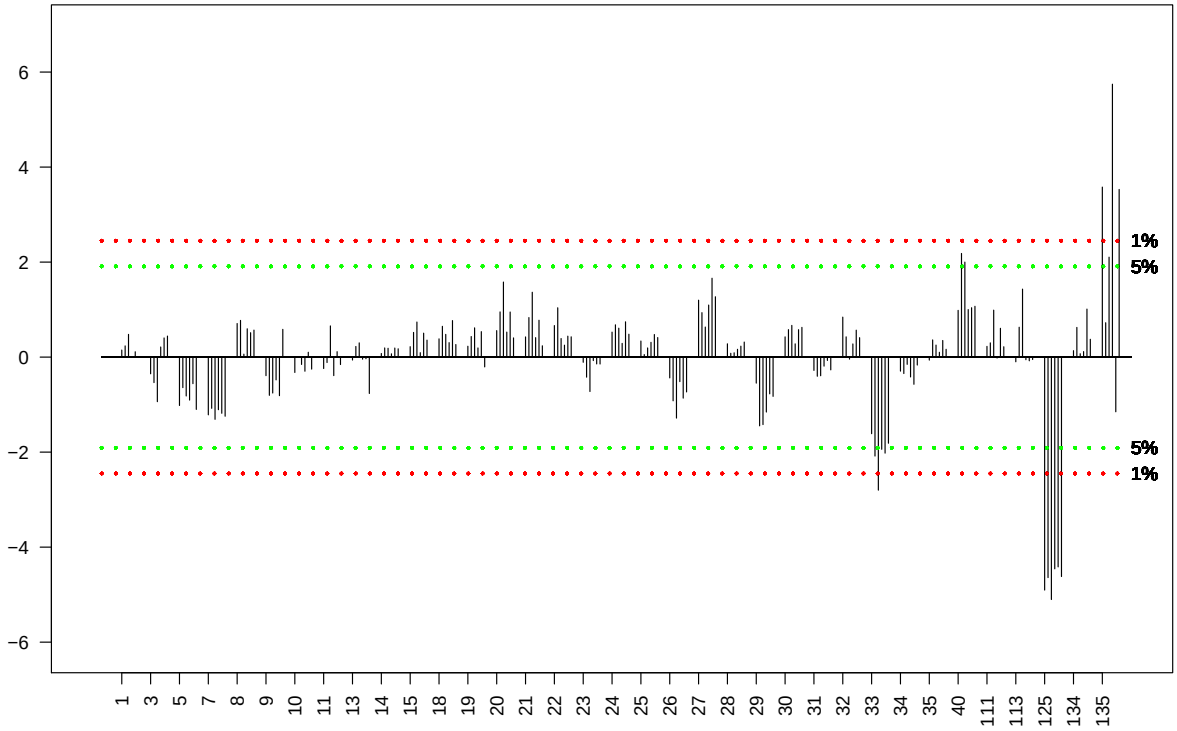
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9					A	C
29	C	b				
32				C		
33		b				
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135	B	C	C	B	C	B

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



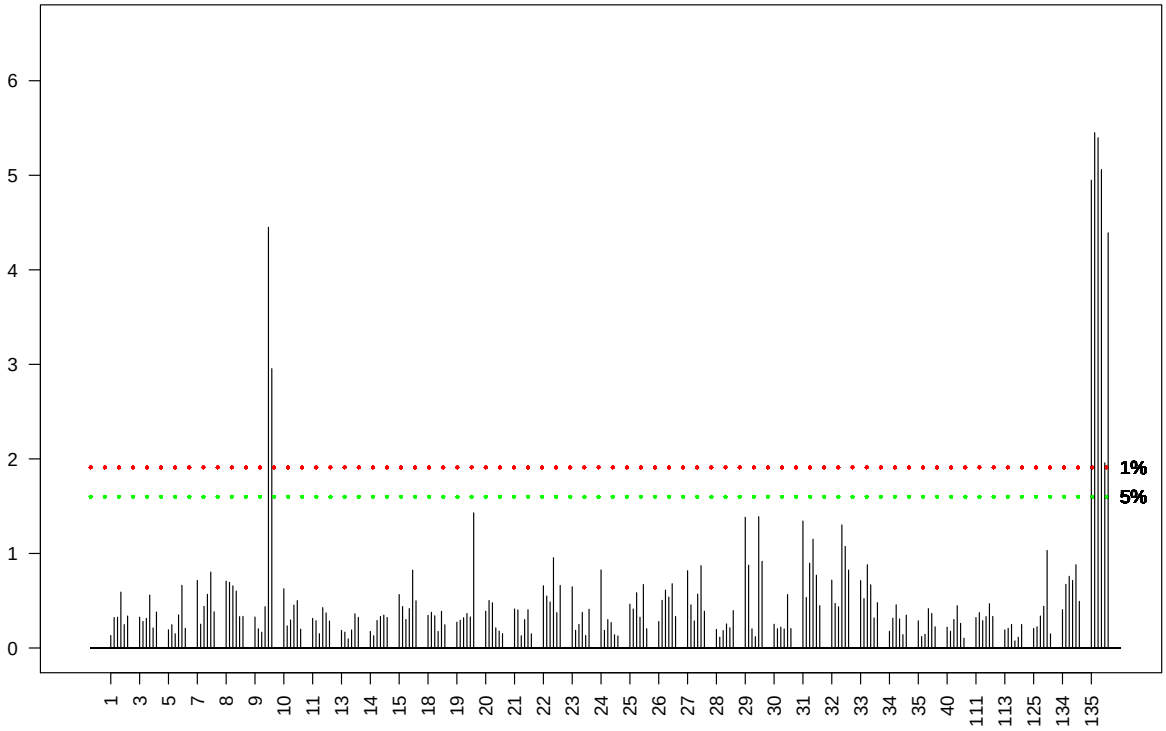
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

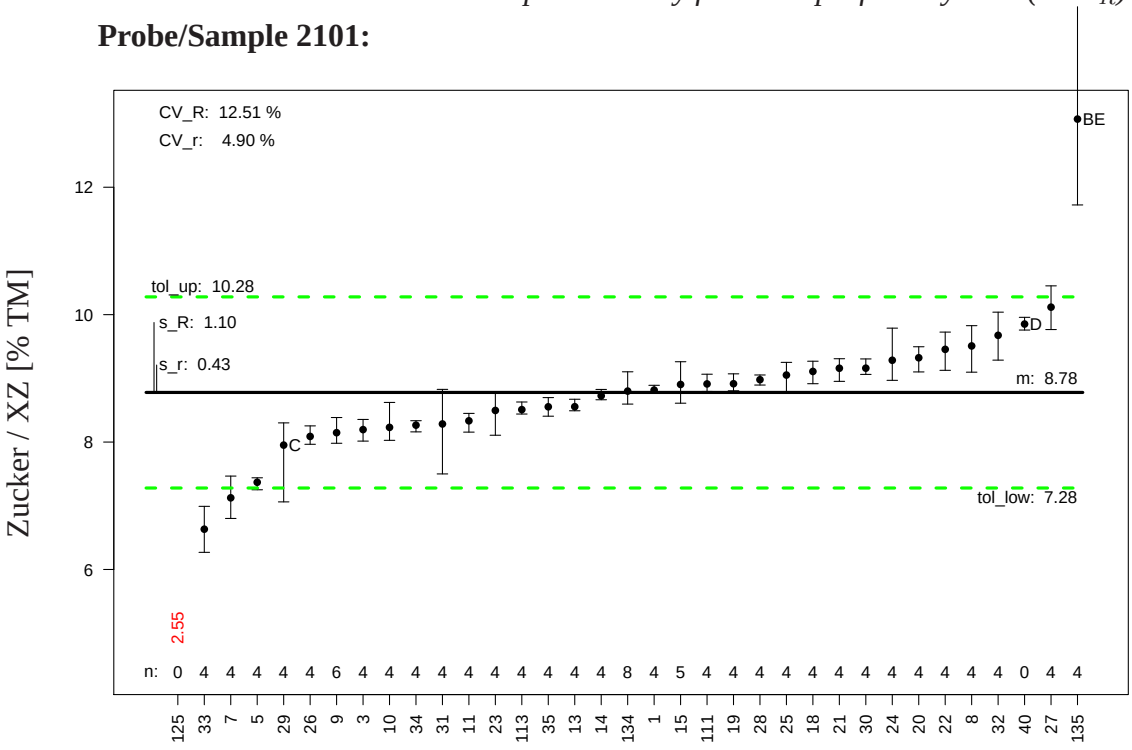
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

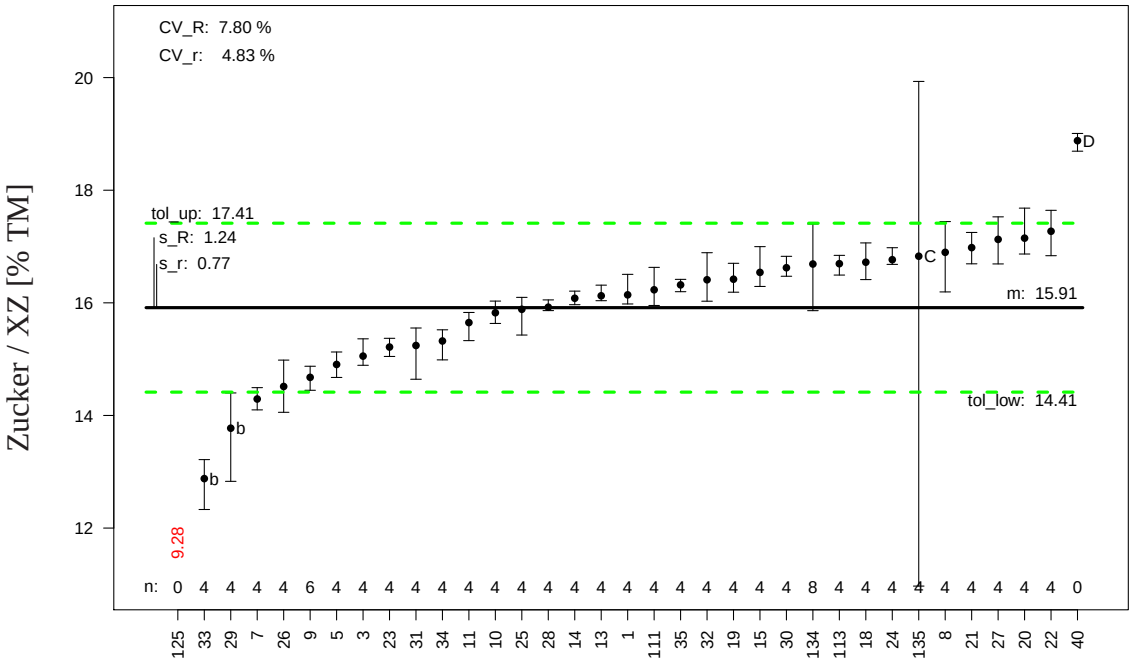
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

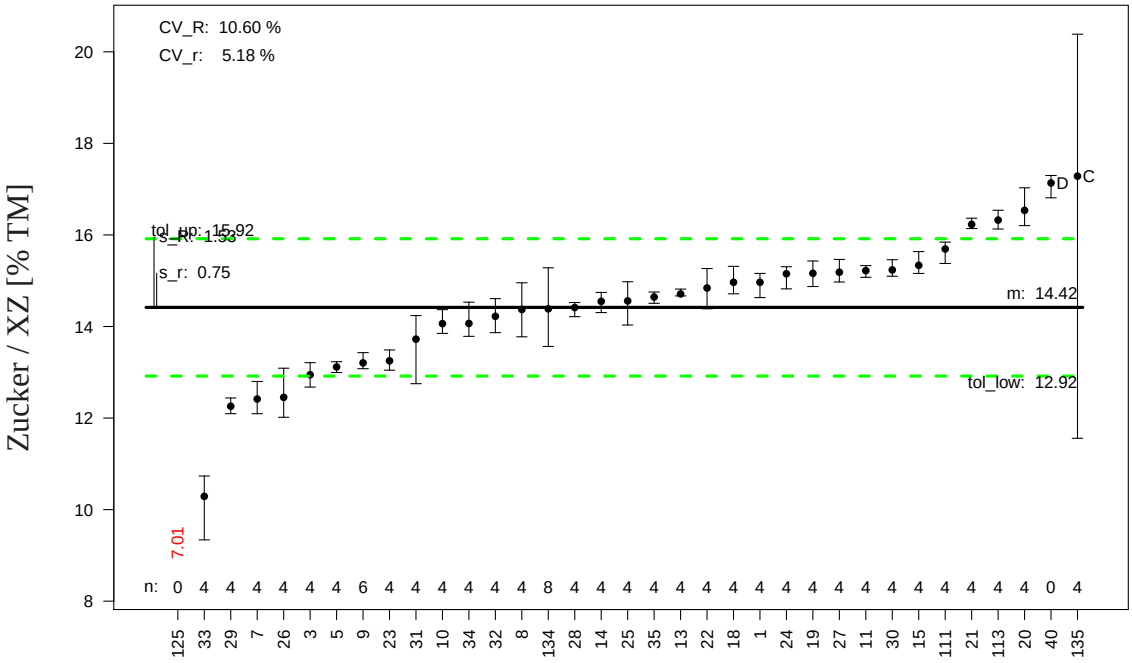
Probe/Sample 2101:



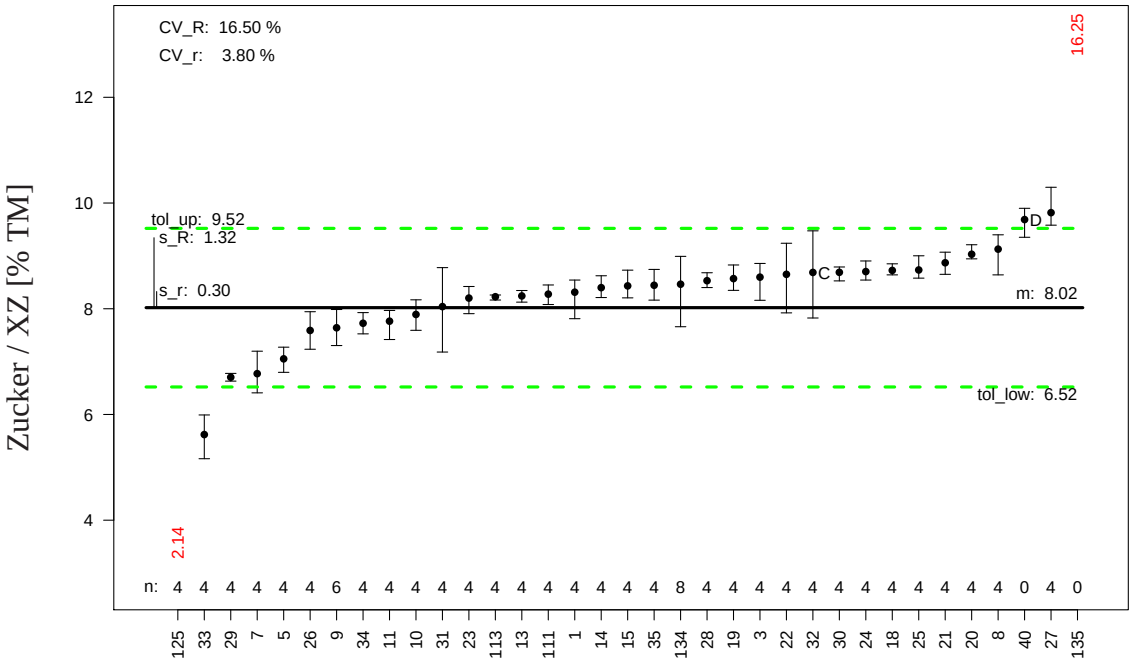
Probe/Sample 2102:



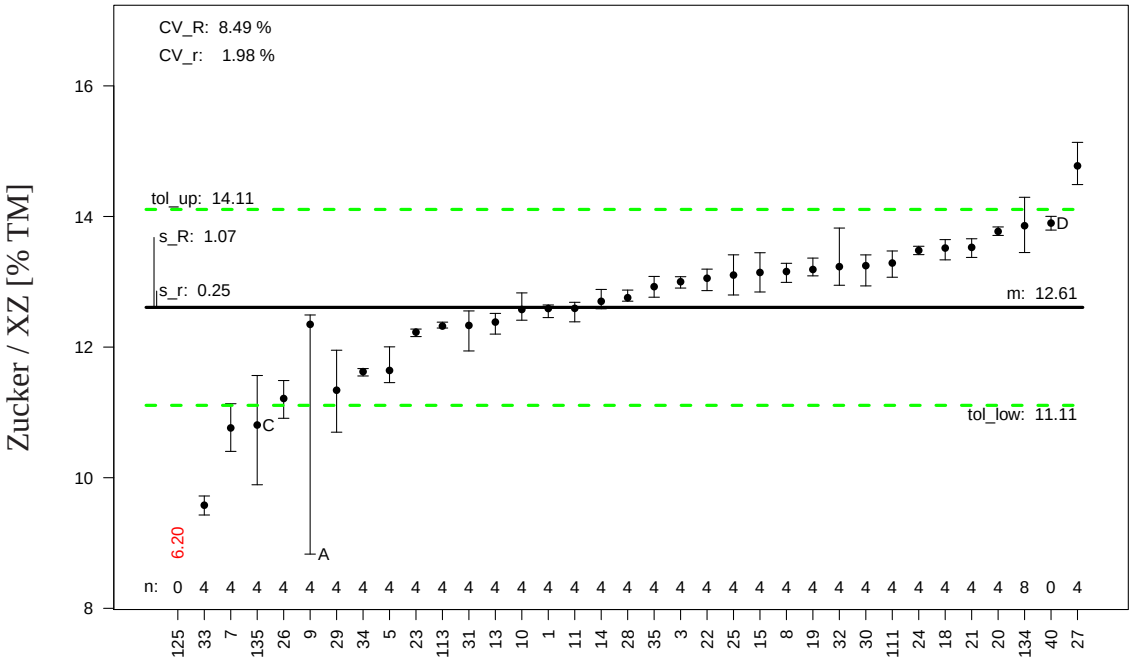
Probe/Sample 2103:



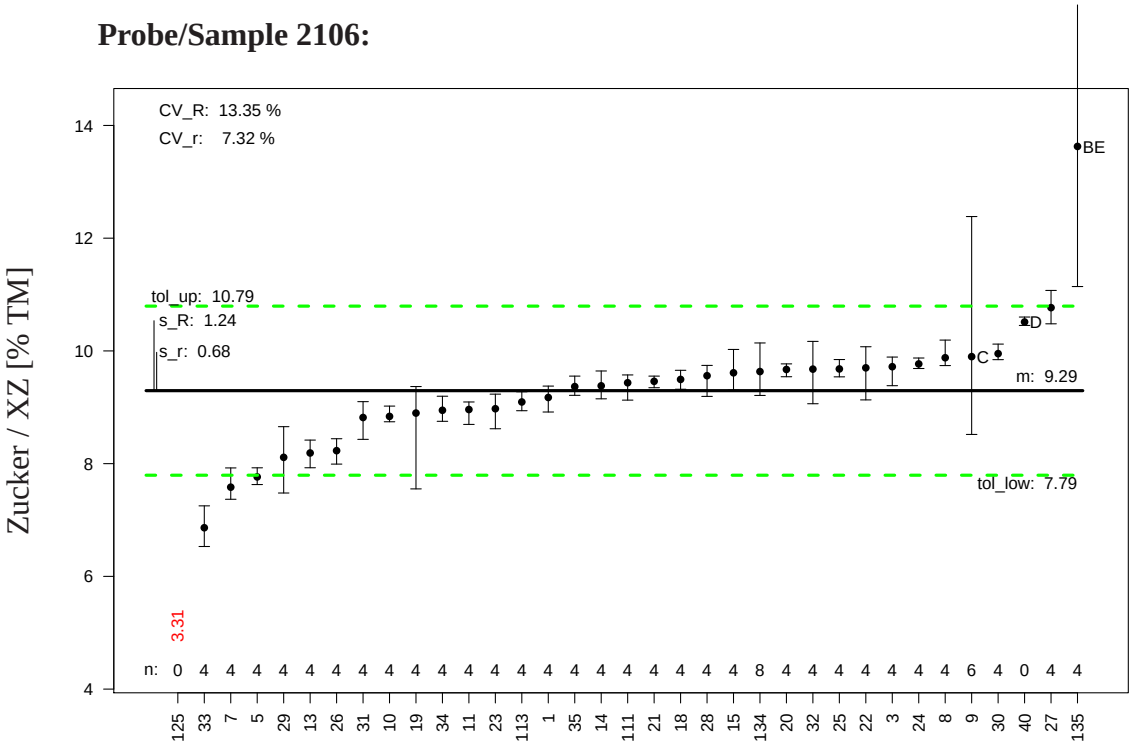
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.7 Merkmal / Constituent: aNDFom

Einheit / Unit: % TM

5.7.1 Anmerkungen / Annotations

5.7.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	138	137	138	138	
p_1	33	33	33	33	33	33	
m	38.77	42.94	56.09	43.00	38.64	38.39	
s_r	0.76	0.93	1.56	0.76	0.74	0.80	
CV_r	1.96	2.17	2.78	1.77	1.92	2.09	
r	2.15	2.64	4.41	2.15	2.10	2.27	
s_R	1.81	1.48	2.59	2.82	1.89	1.36	1.75
CV_R	4.66	3.45	4.62	6.56	4.90	3.53	
R	5.11	4.19	7.33	7.99	5.36	3.84	4.95
HORRAT[1]	2.02	1.52	2.12	2.89	2.12	1.53	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

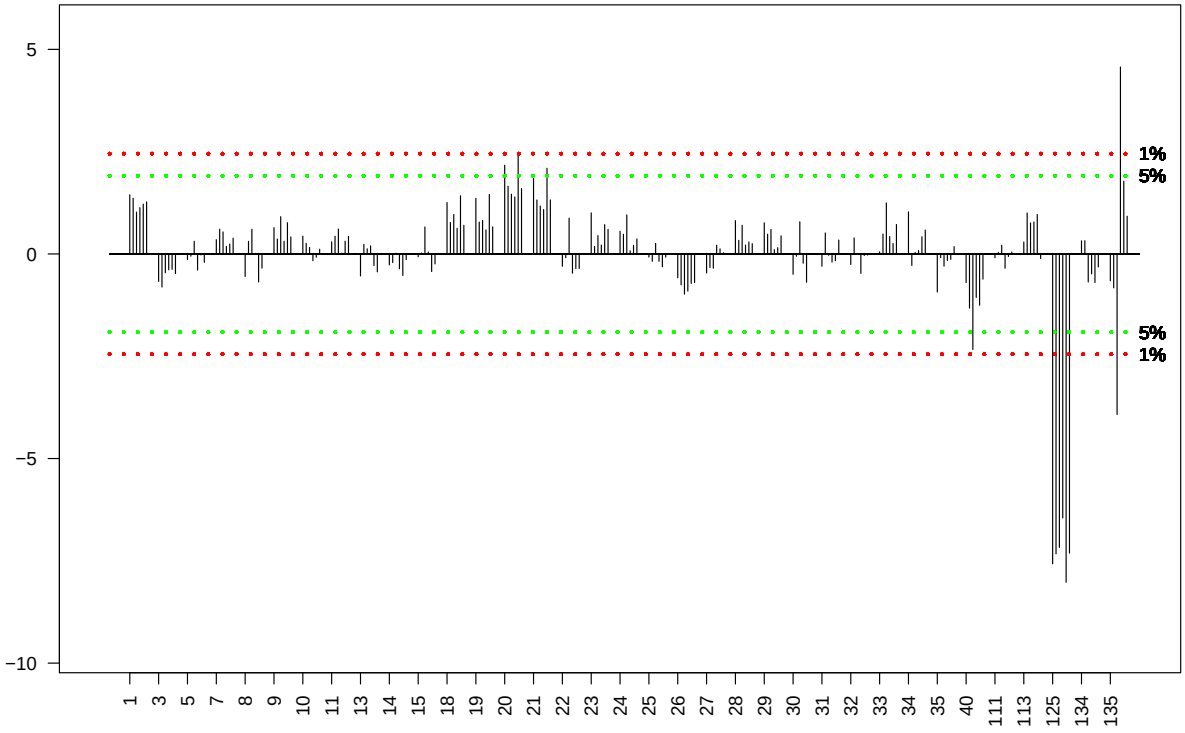
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
34	C	C		C	C	C
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135	C	C	B	B	C	C

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



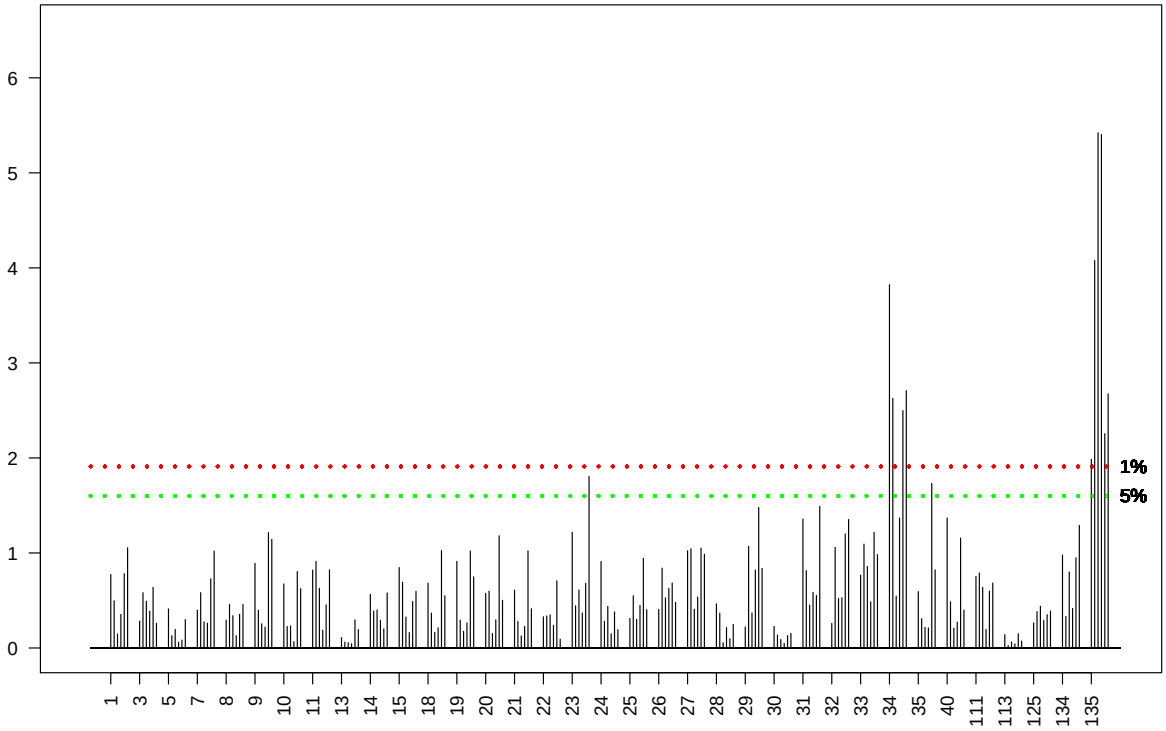
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

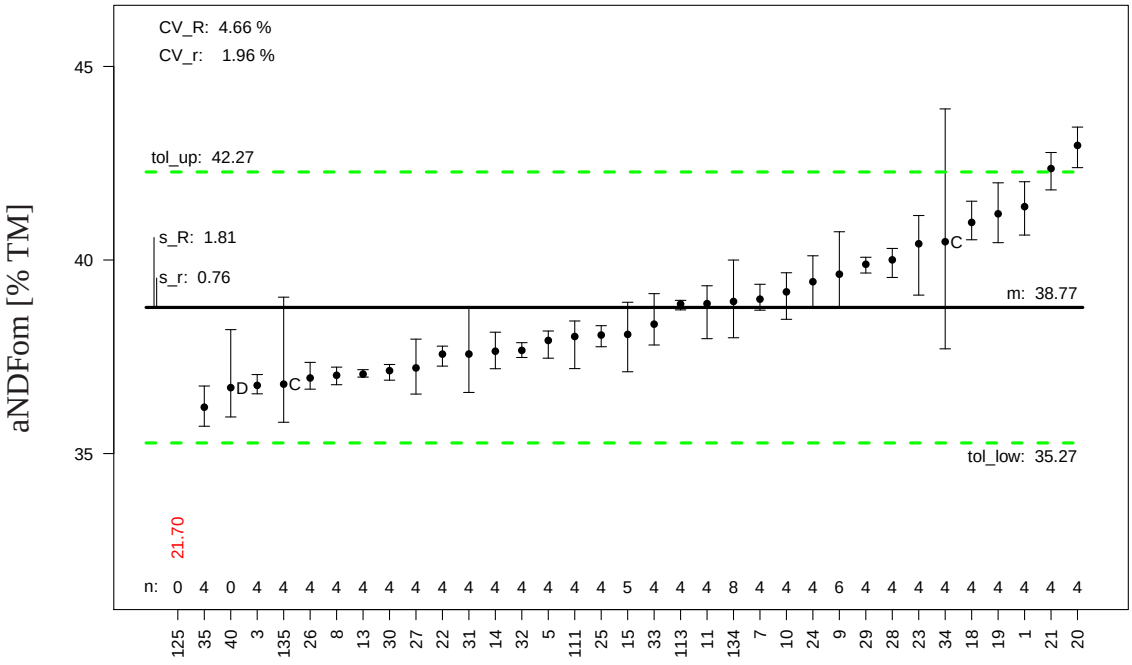
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

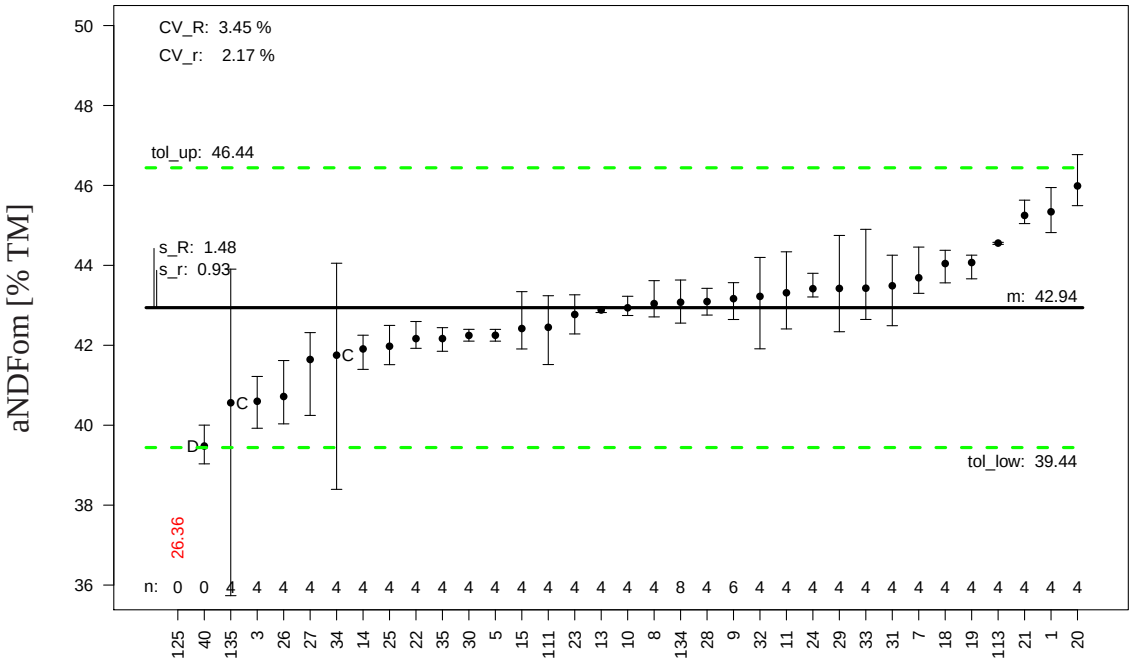
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

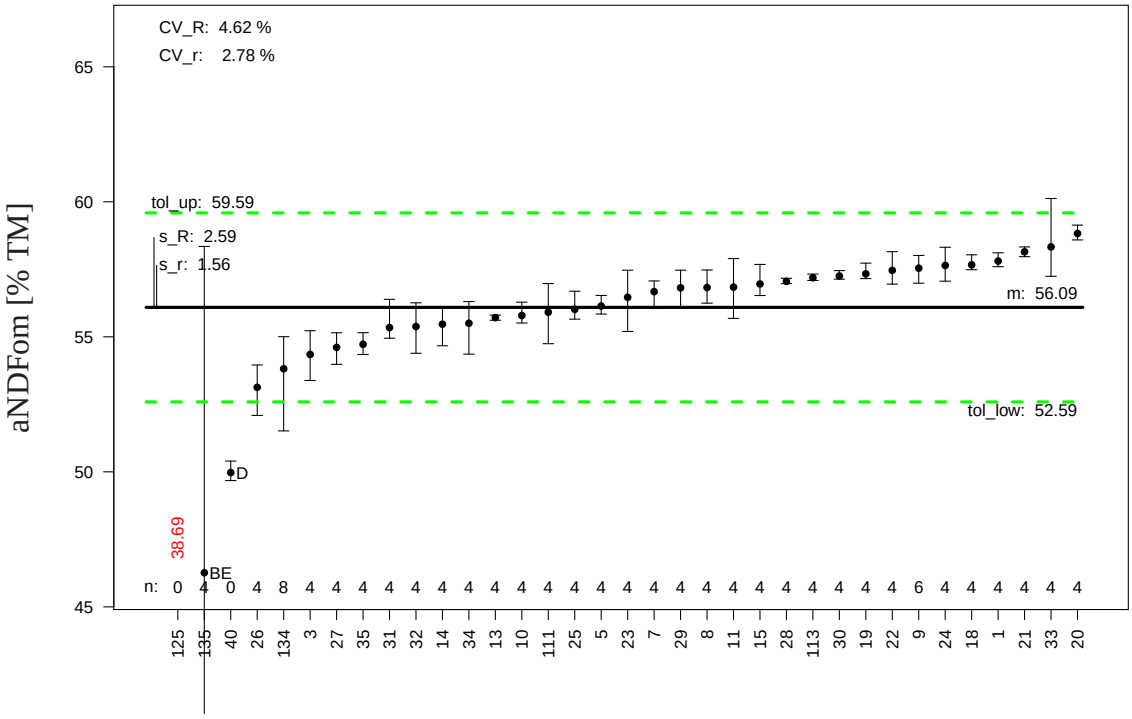
Probe/Sample 2101:



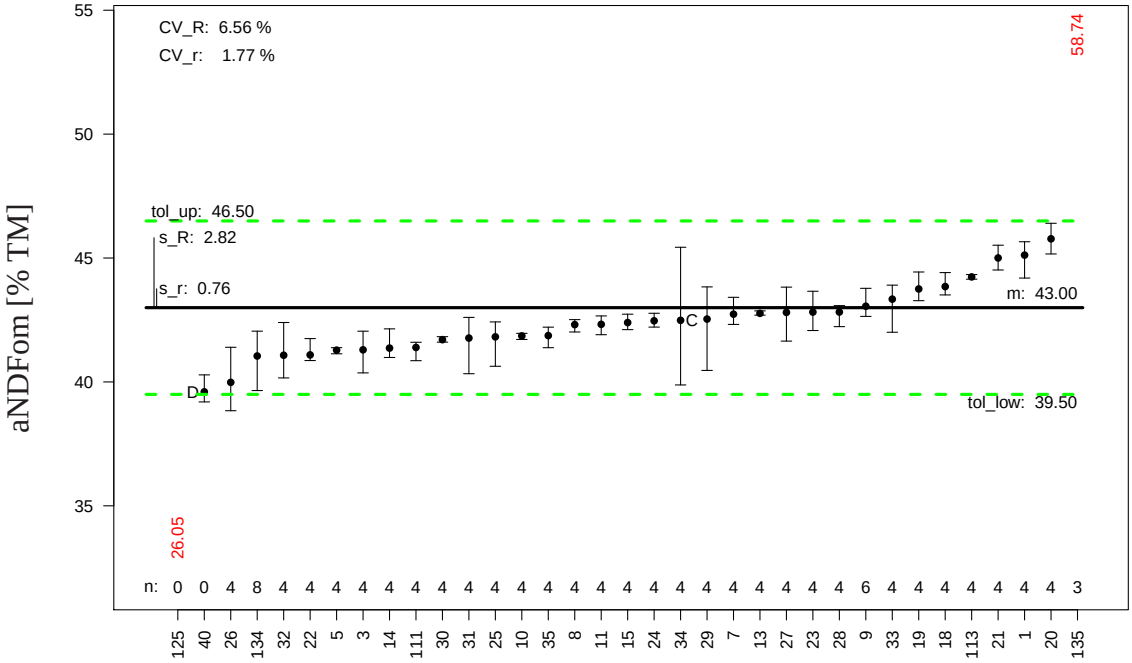
Probe/Sample 2102:



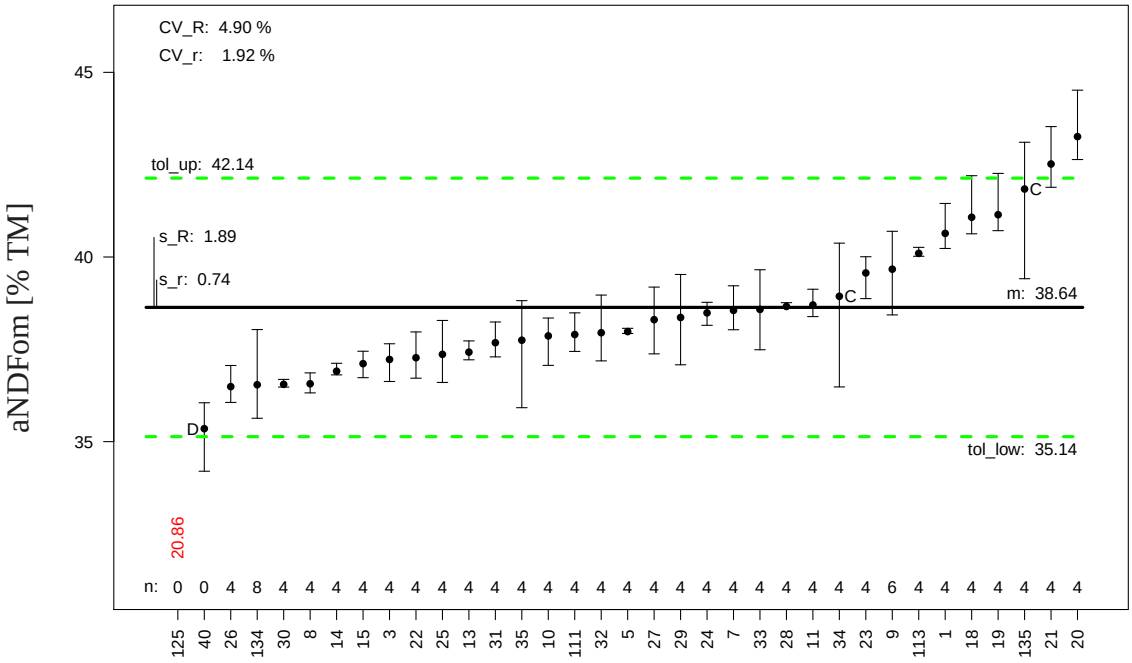
Probe/Sample 2103:



Probe/Sample 2104:

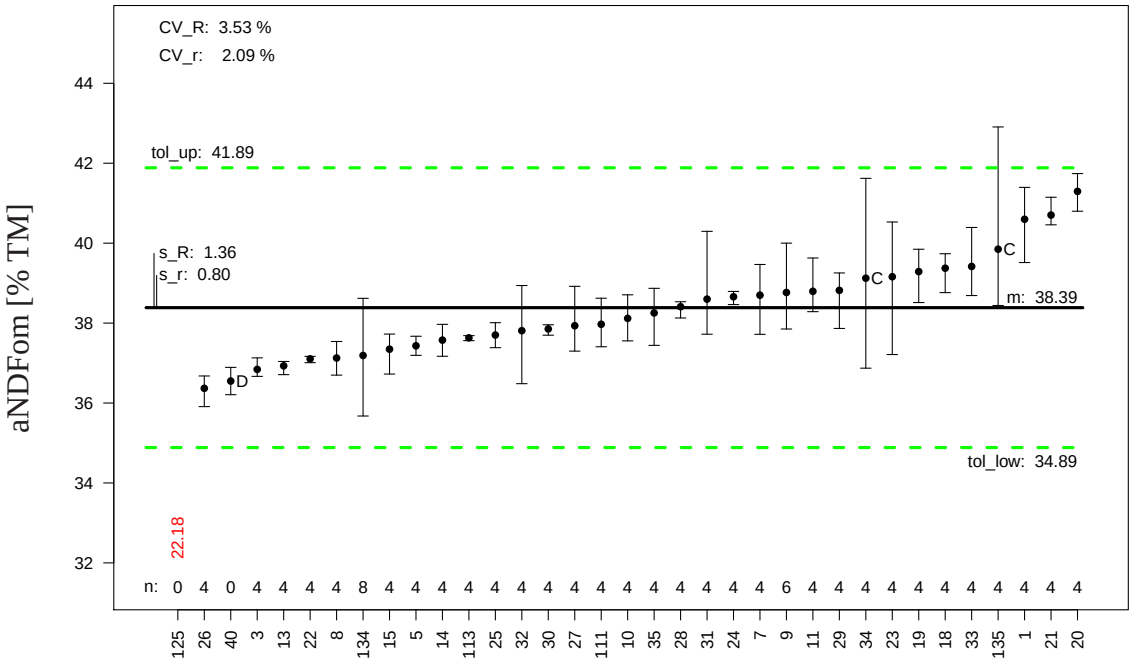


Probe/Sample 2105:



aNDFom

Probe/Sample 2106:



5.8 Merkmal / Constituent: ADFom

Einheit / Unit: % TM

5.8.1 Anmerkungen / Annotations

5.8.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	138	134	138	138	
p_1	33	33	33	32	33	33	
m	20.85	23.48	33.38	22.34	21.14	20.31	
s_r	0.49	0.54	1.24	0.50	0.54	0.49	
CV_r	2.35	2.30	3.70	2.23	2.56	2.42	
r	1.38	1.53	3.50	1.41	1.53	1.39	
s_R	1.10	1.04	1.84	0.93	1.29	1.09	1.10
CV_R	5.30	4.43	5.50	4.15	6.09	5.37	
R	3.13	2.95	5.20	2.62	3.64	3.09	3.11
HORRAT[1]	2.09	1.78	2.33	1.66	2.41	2.11	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

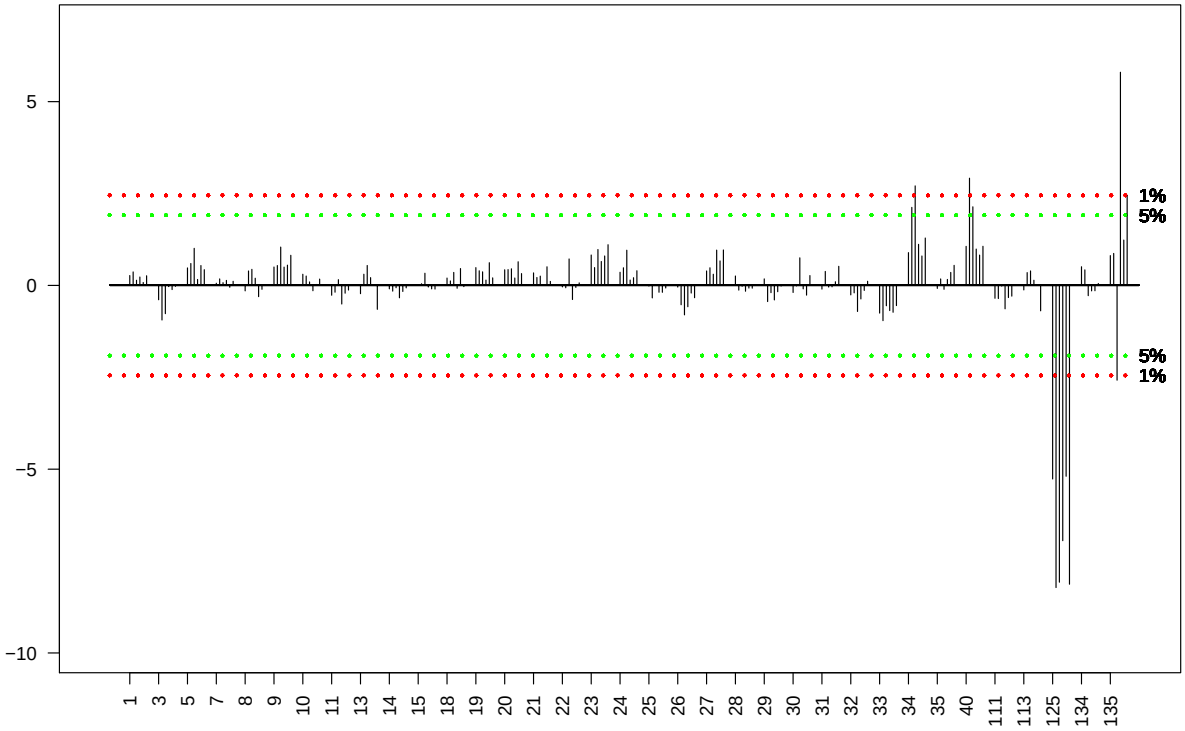
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9						c
27				b		
34		B		b		
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135		C	B	B	c	B

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



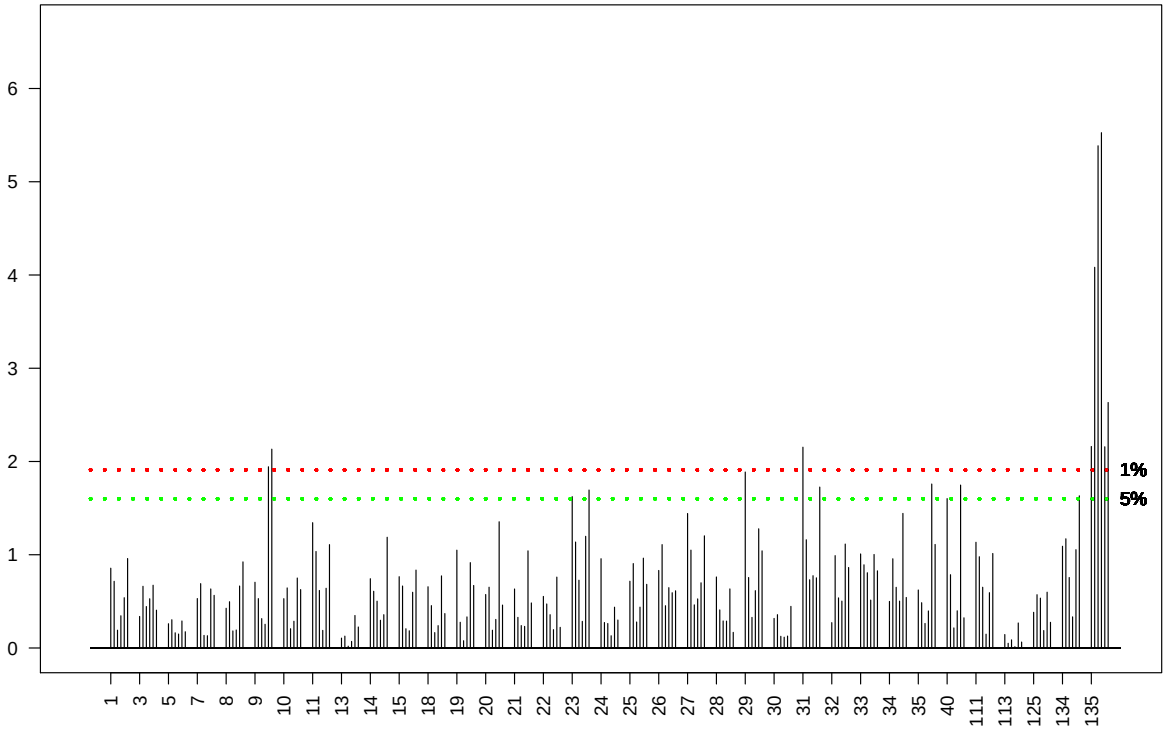
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

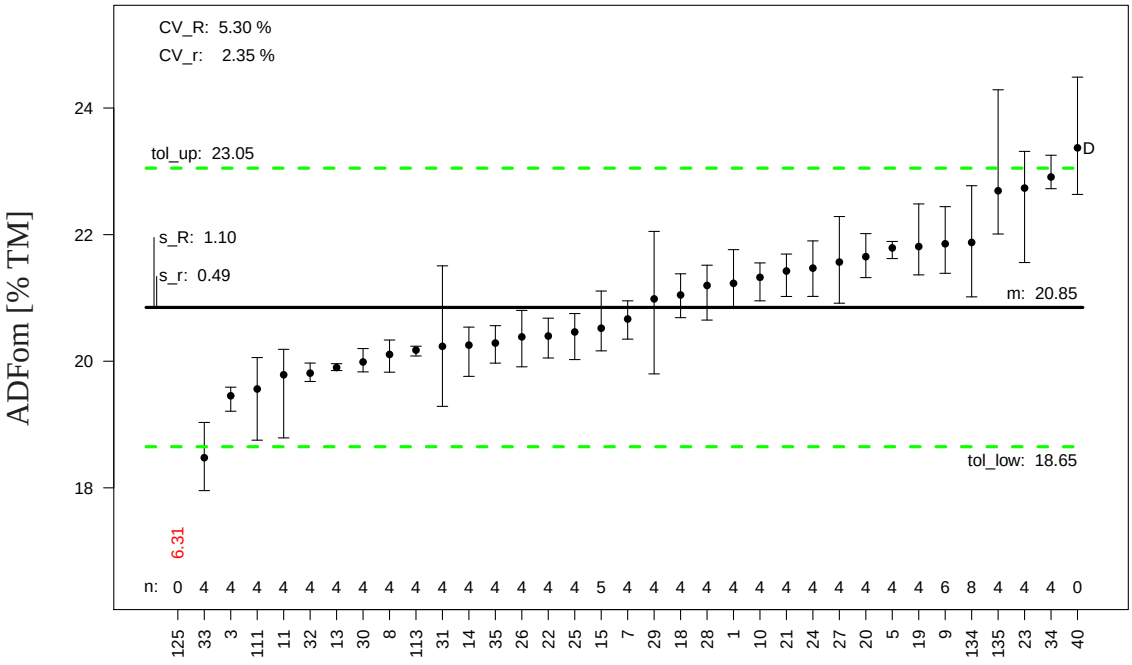
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

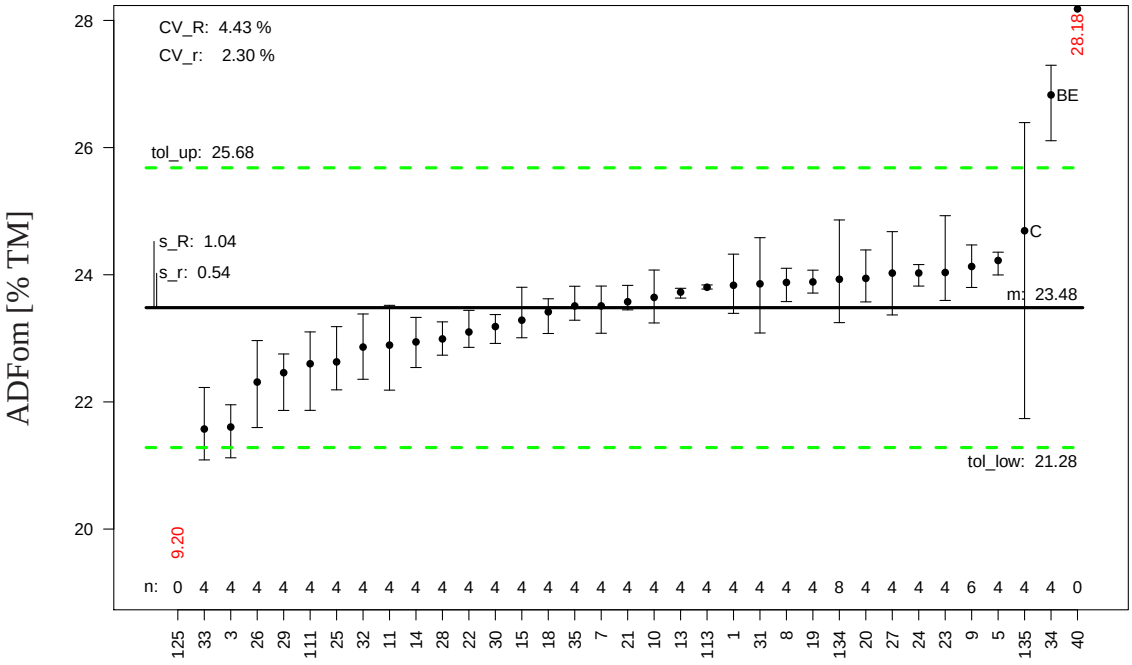
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

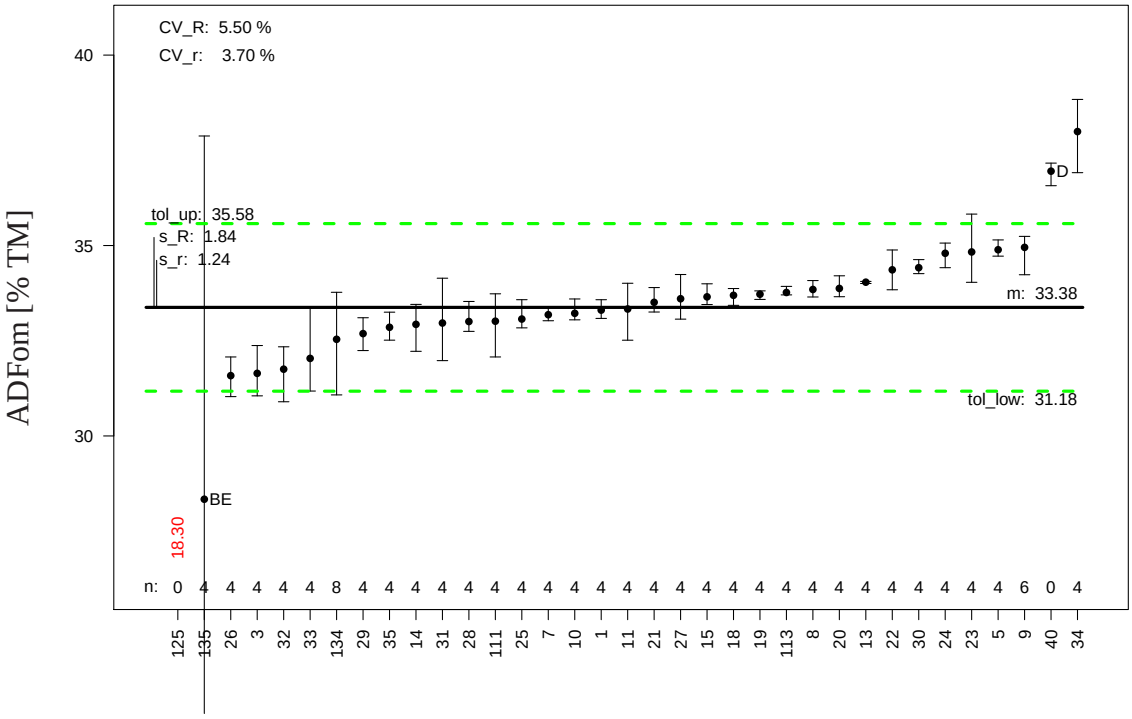
Probe/Sample 2101:



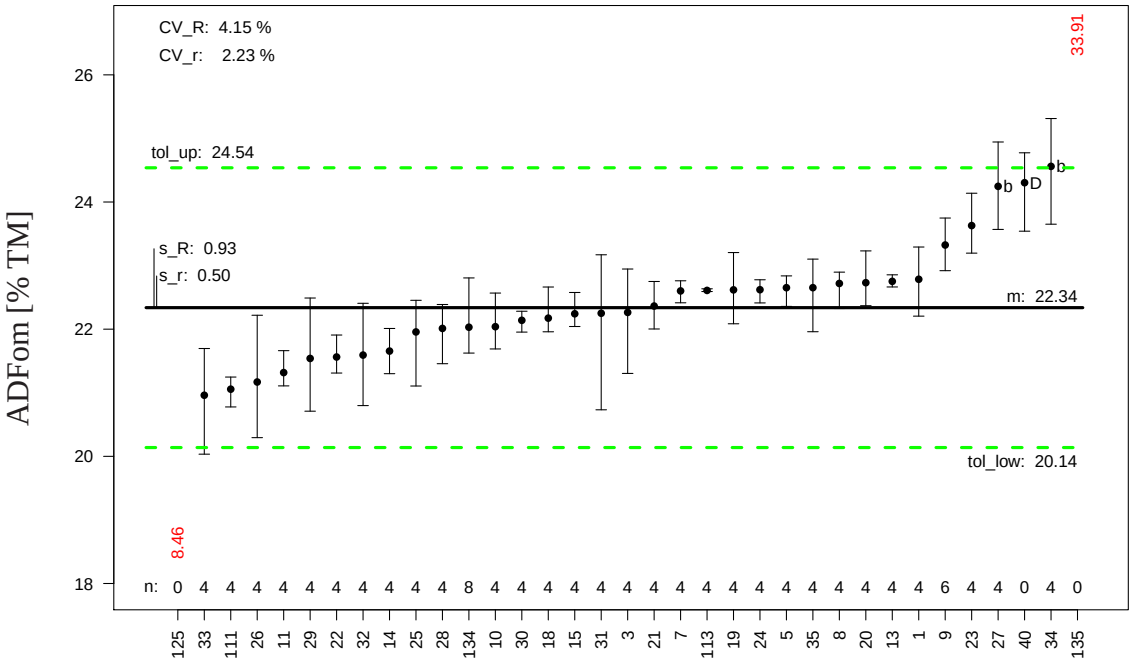
Probe/Sample 2102:



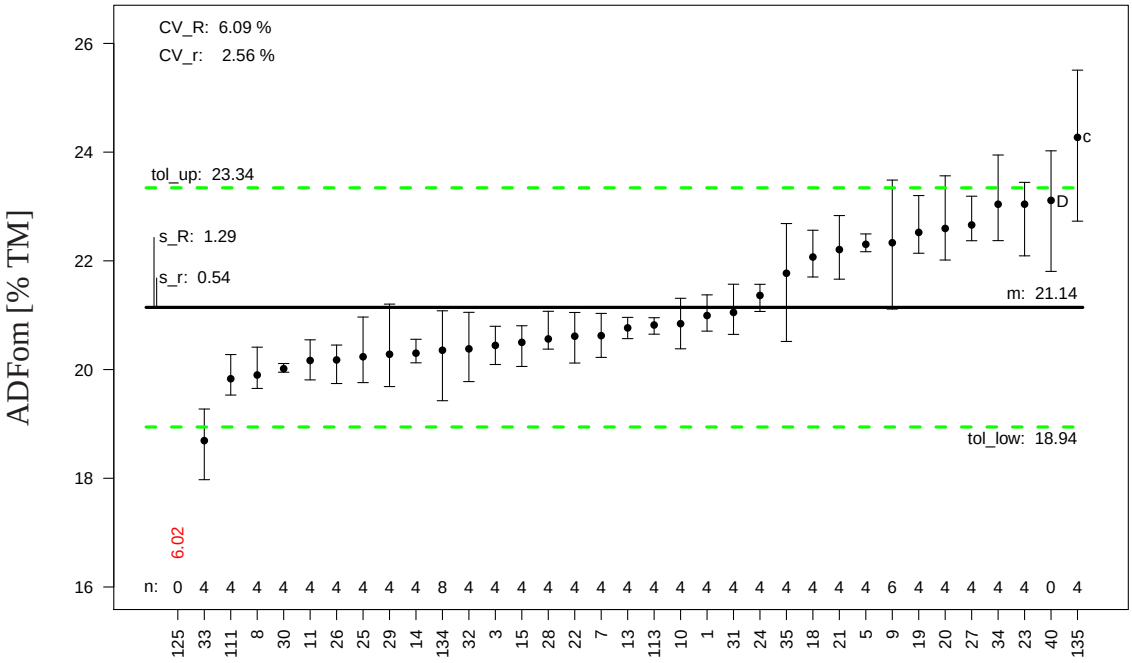
Probe/Sample 2103:



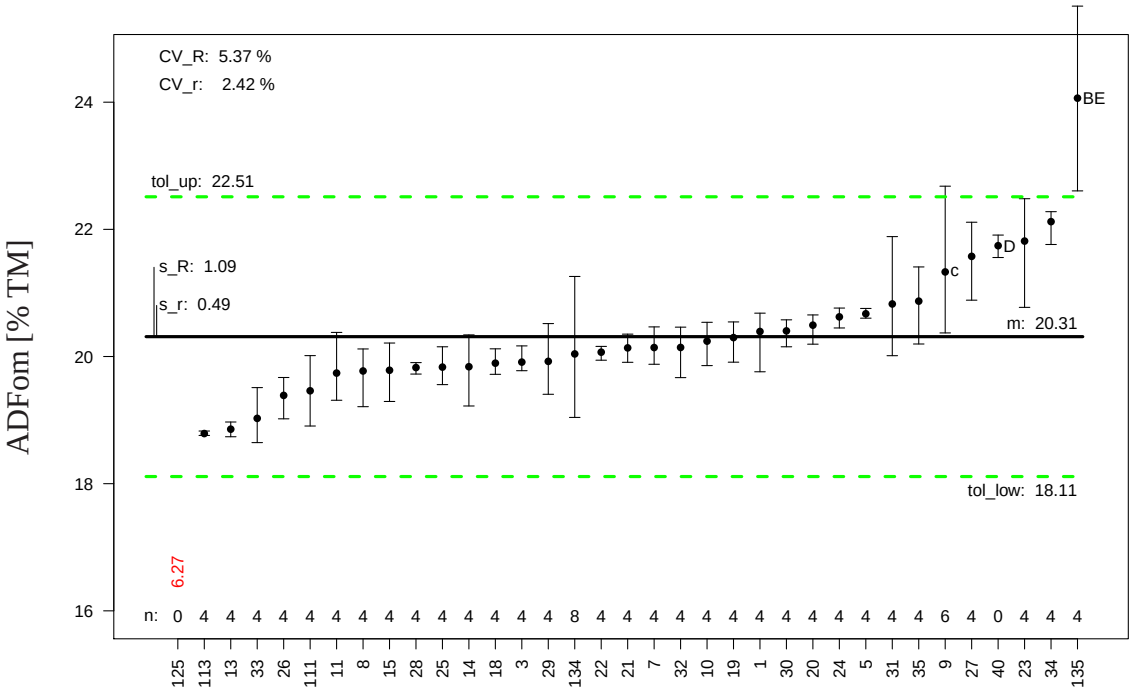
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.9 Merkmal / Constituent: ADL

Einheit / Unit: % TM

5.9.1 Anmerkungen / Annotations

5.9.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	138	138	138
p_1	33	33	33	33	33	33
m	1.91	1.25	2.44	1.74	1.69	1.64
s_r	0.07	0.11	0.16	0.11	0.08	0.07
CV_r	3.58	8.46	6.59	6.15	4.71	4.37
r	0.19	0.30	0.46	0.30	0.23	0.20
s_R	0.33	0.39	0.38	0.34	0.39	0.28
CV_R	17.55	31.18	15.53	19.45	23.05	17.32
R	0.95	1.10	1.07	0.96	1.11	0.80
HORRAT[1]	4.84	8.06	4.44	5.29	6.24	4.67

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

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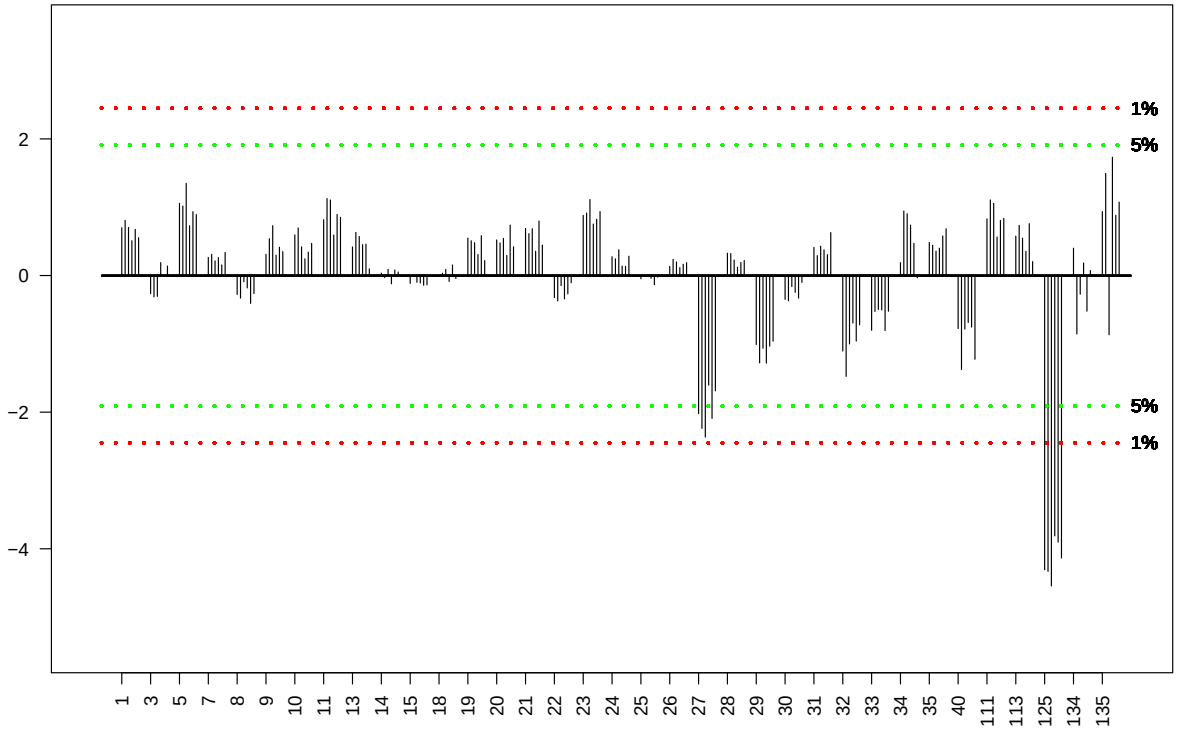
Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9					C	
27	B	b	B	b	B	B
29				b		B
32	B					
40	D	D	D	D	D	D
125	B	B	B	B	B	B
134		c				
135		C	C	C		C

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



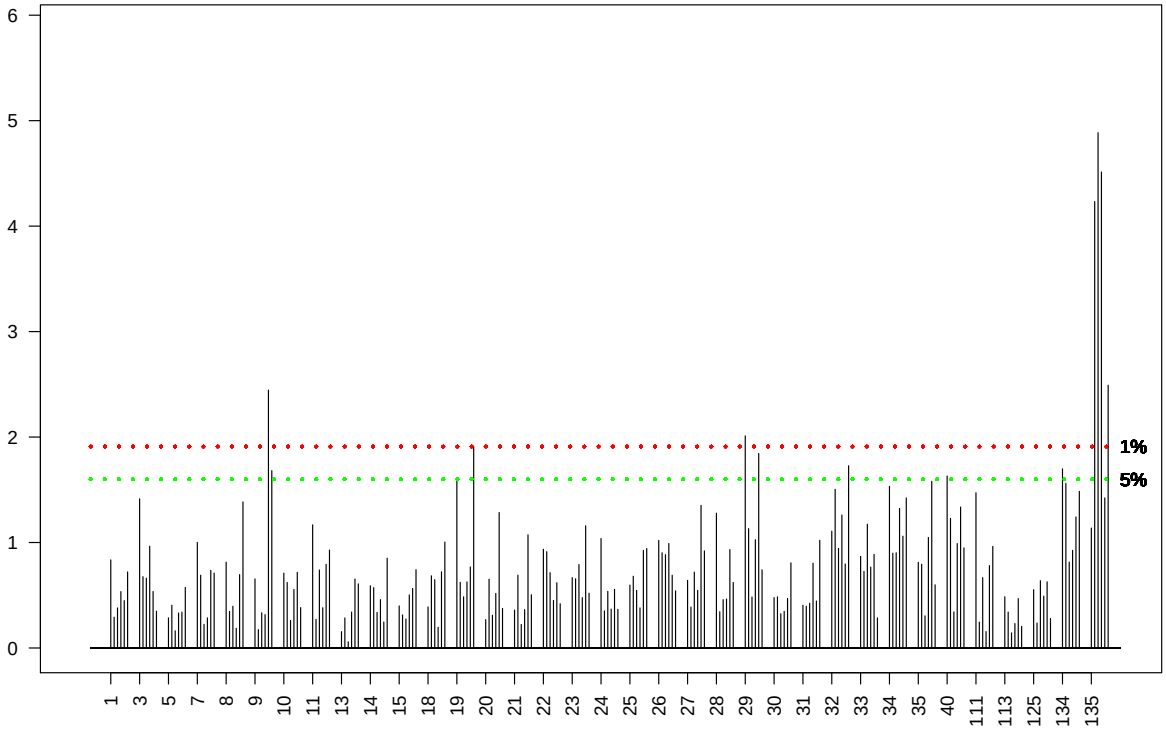
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

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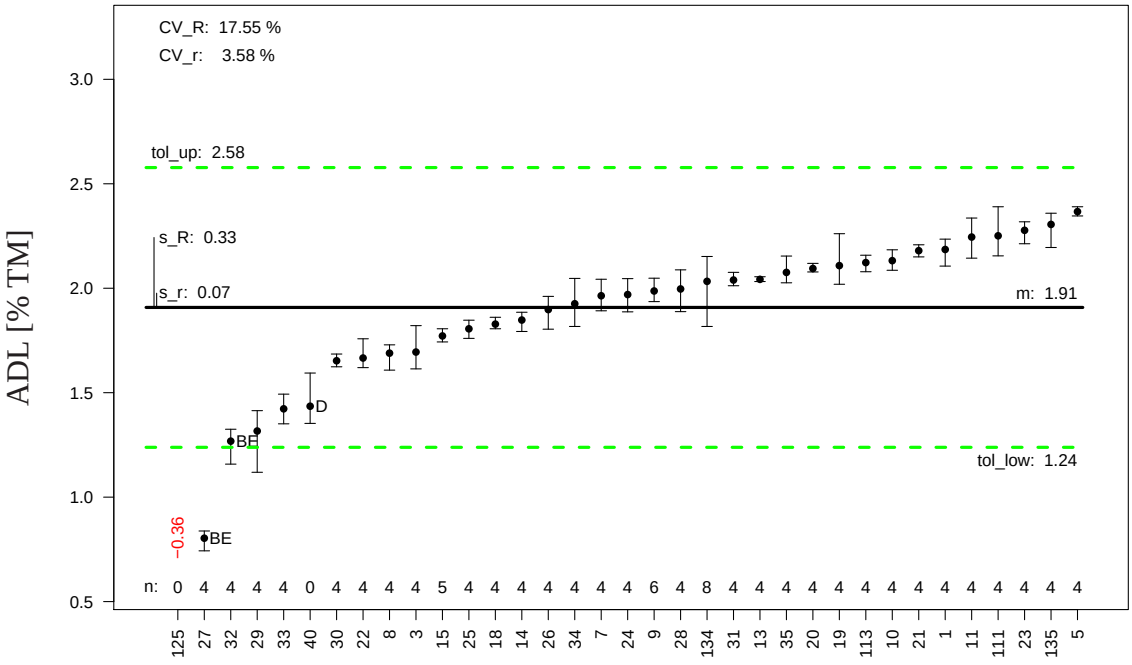
Probe/Sample 2101:



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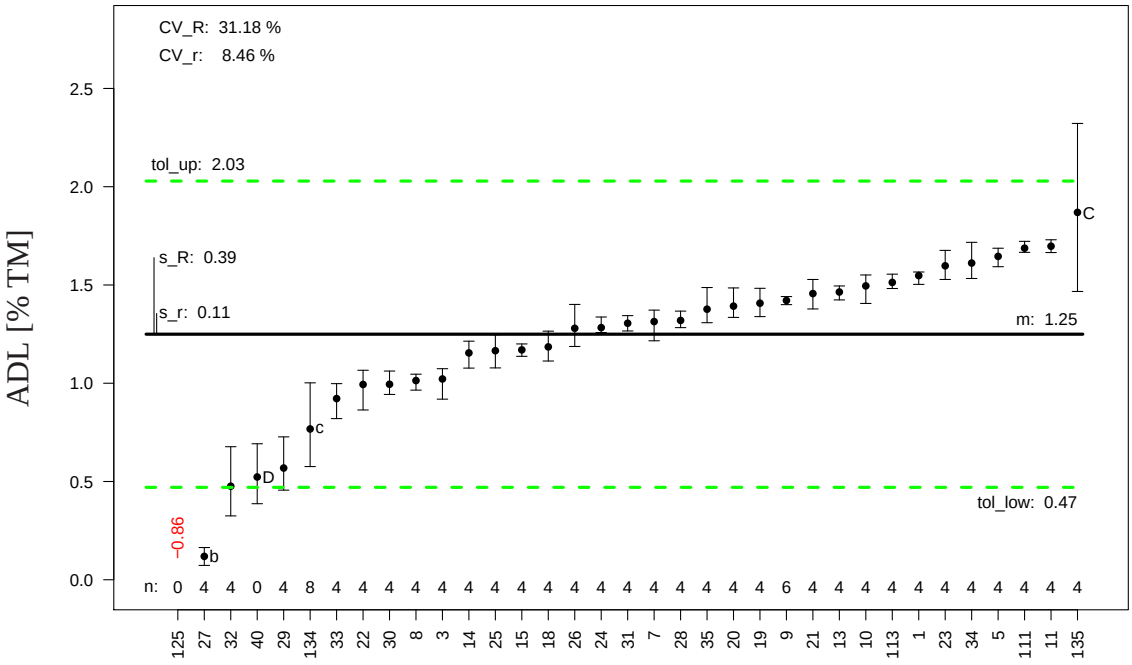
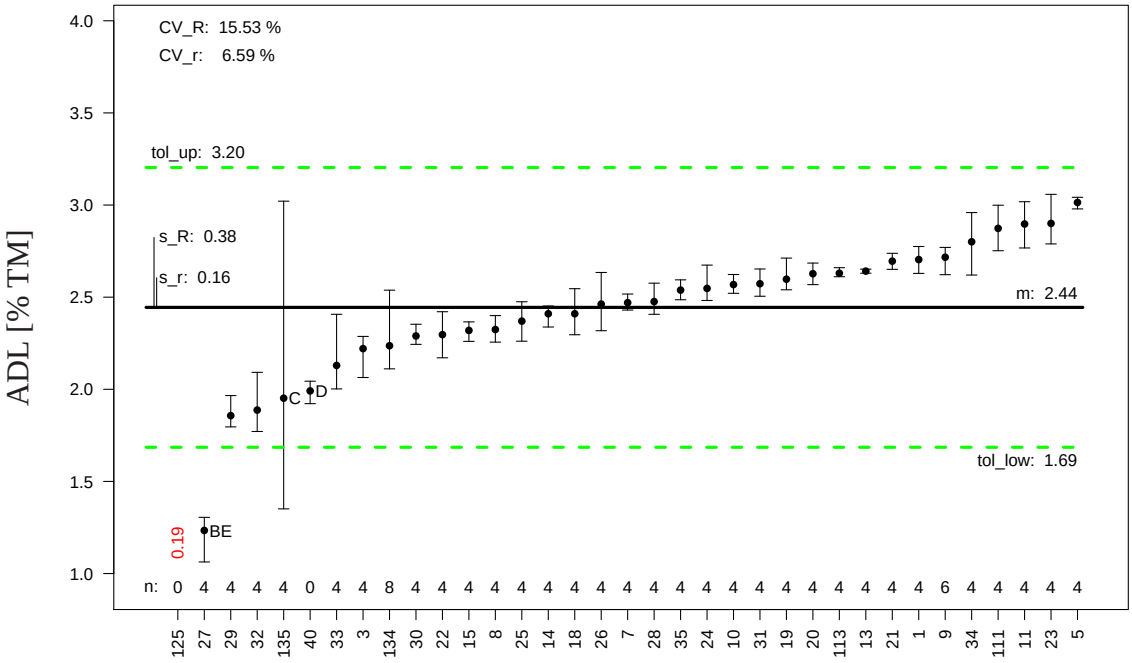
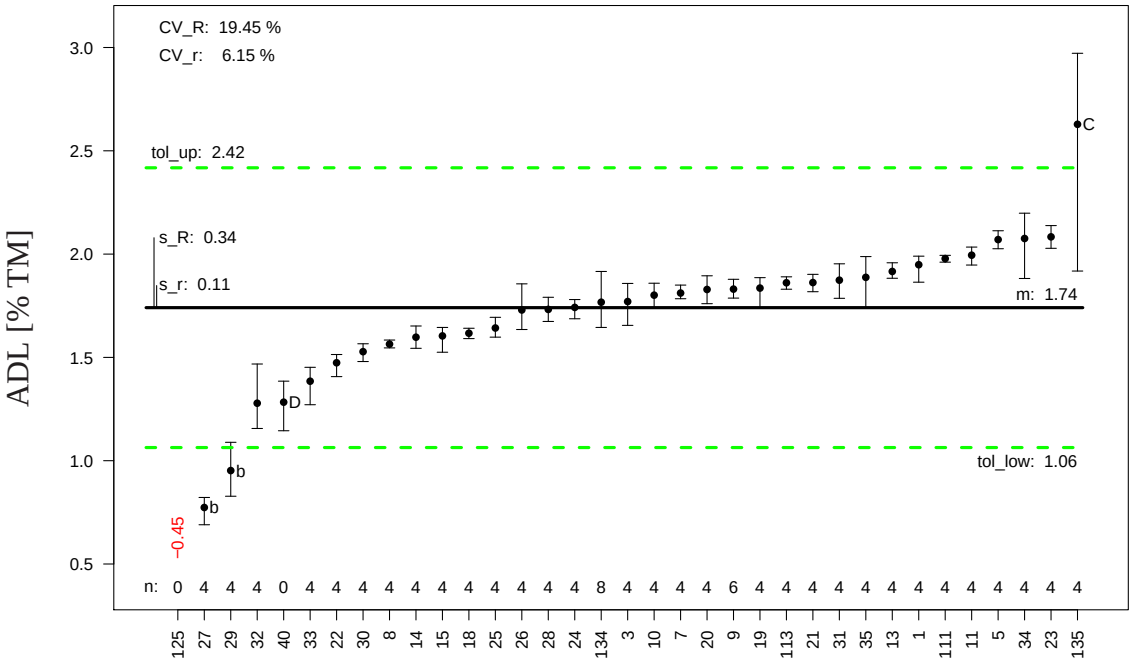


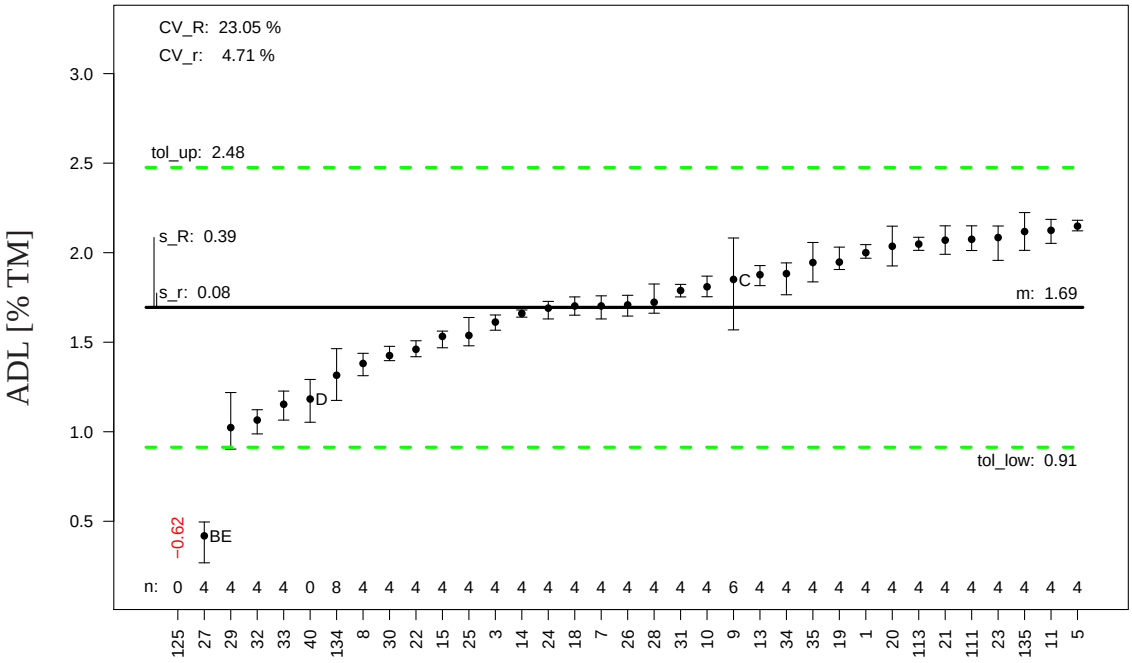
Probe/Sample 2103:



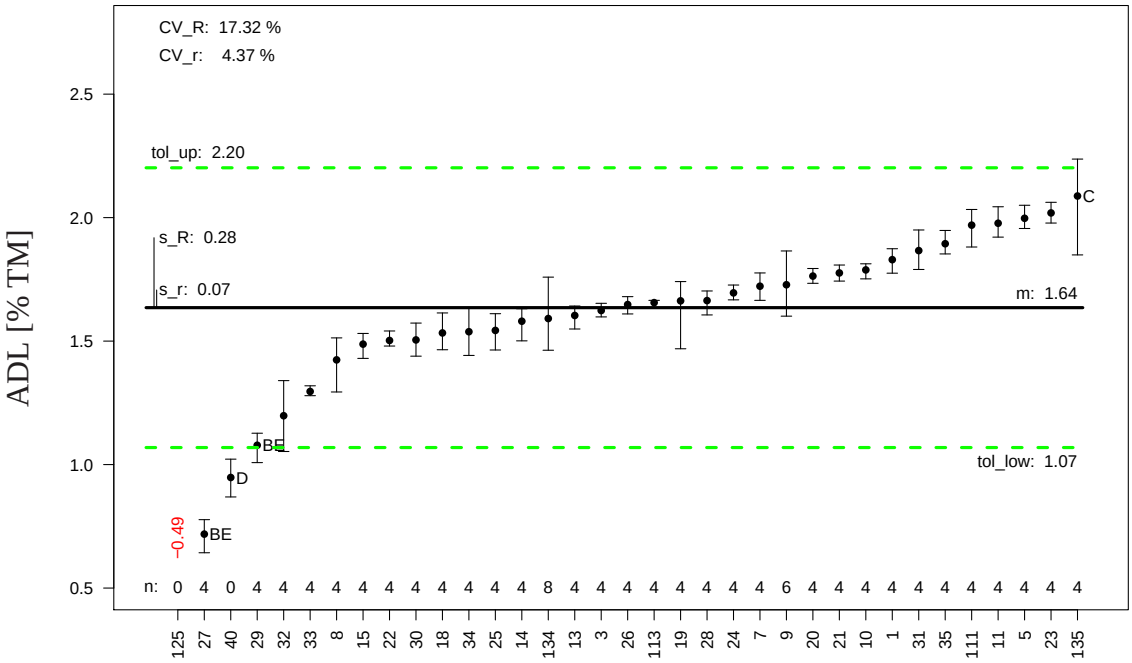
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.10 Merkmal / Constituent: NDF

Einheit / Unit: % TM

5.10.1 Anmerkungen / Annotations

5.10.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	138	138	138	137	138	138	
p_1	33	33	33	33	33	33	
m	39.92	43.92	57.22	43.81	40.54	39.26	
s_r	0.65	0.83	1.64	0.82	0.73	0.78	
CV_r	1.64	1.90	2.87	1.87	1.81	1.99	
r	1.85	2.36	4.64	2.32	2.08	2.21	
s_R	1.59	1.44	2.45	3.11	1.73	1.40	1.75
CV_R	3.98	3.27	4.28	7.10	4.26	3.57	
R	4.50	4.07	6.93	8.80	4.88	3.97	4.95
HORRAT[1]	1.73	1.44	1.97	3.14	1.86	1.55	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

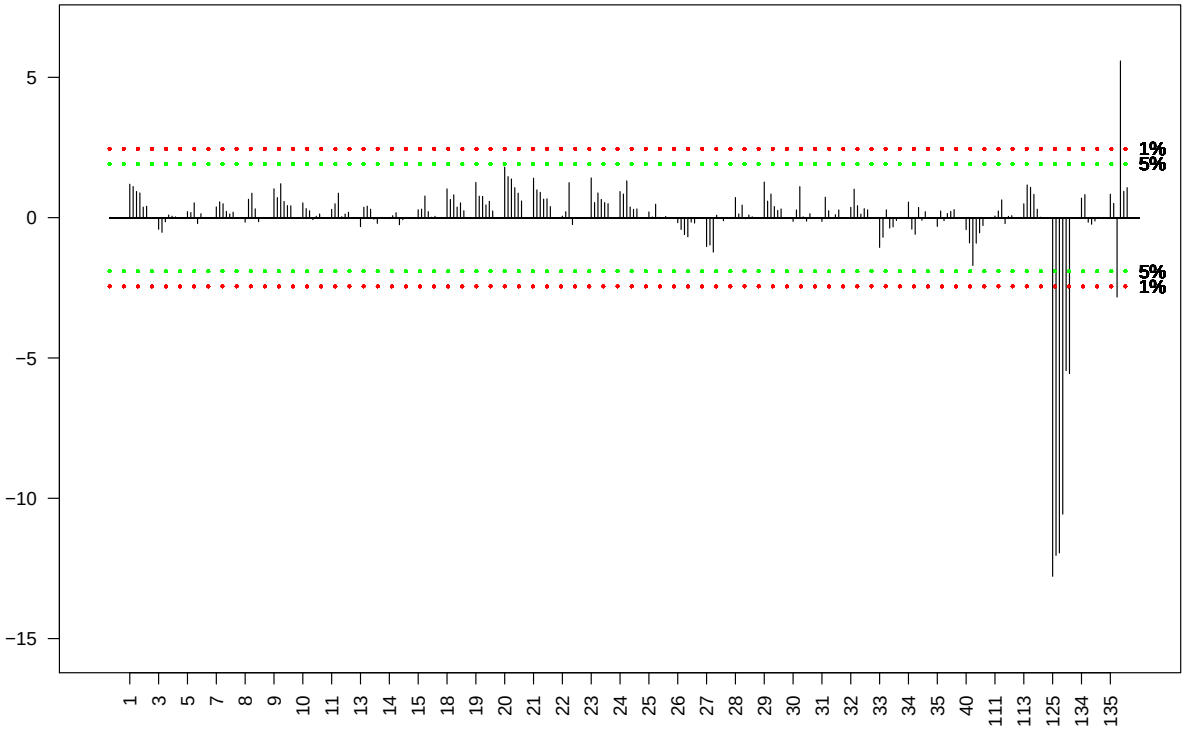
In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
31	c					
34				C		
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135	A	C	B	B	c	B

NDF

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

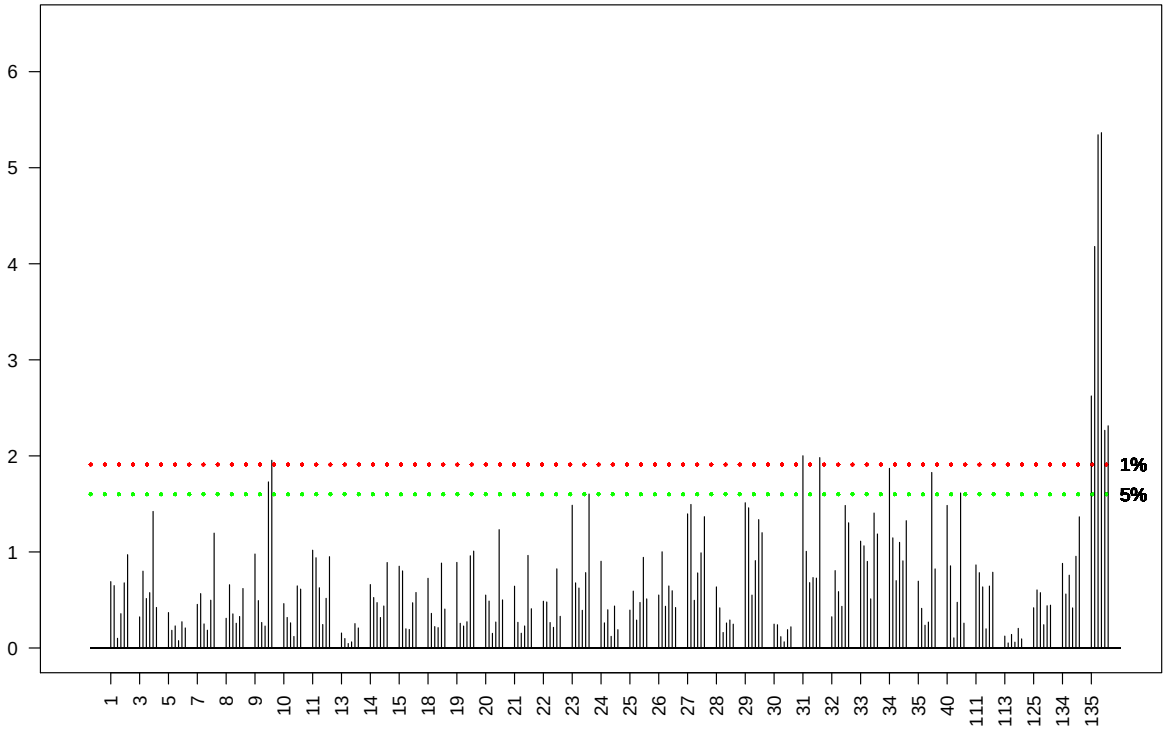
Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

NDF

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

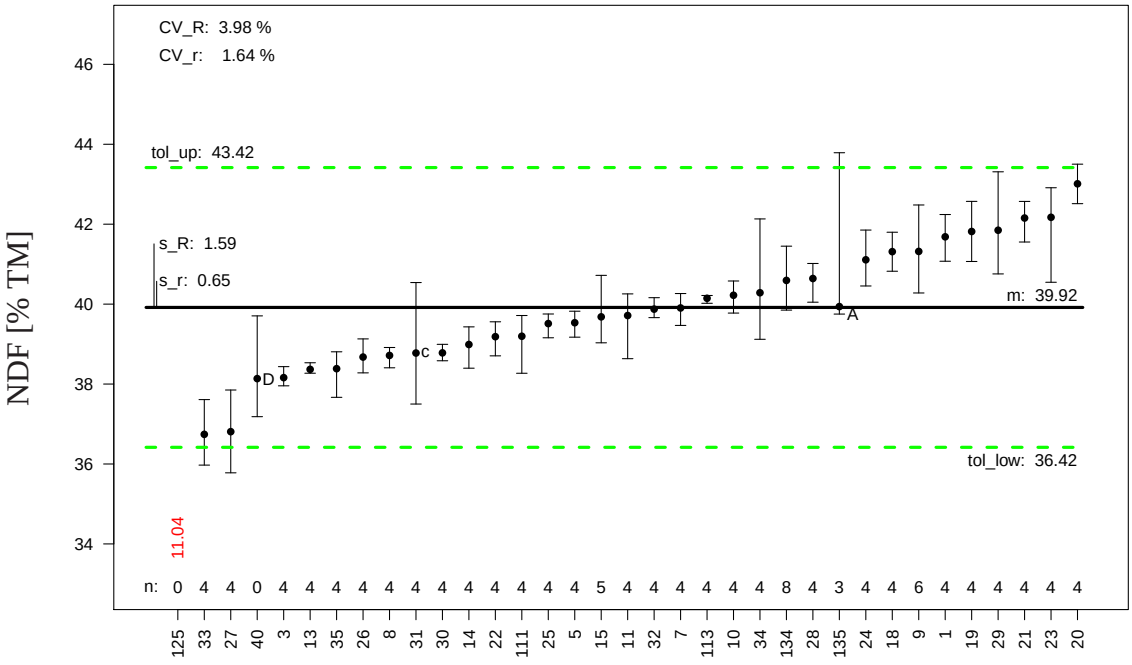
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

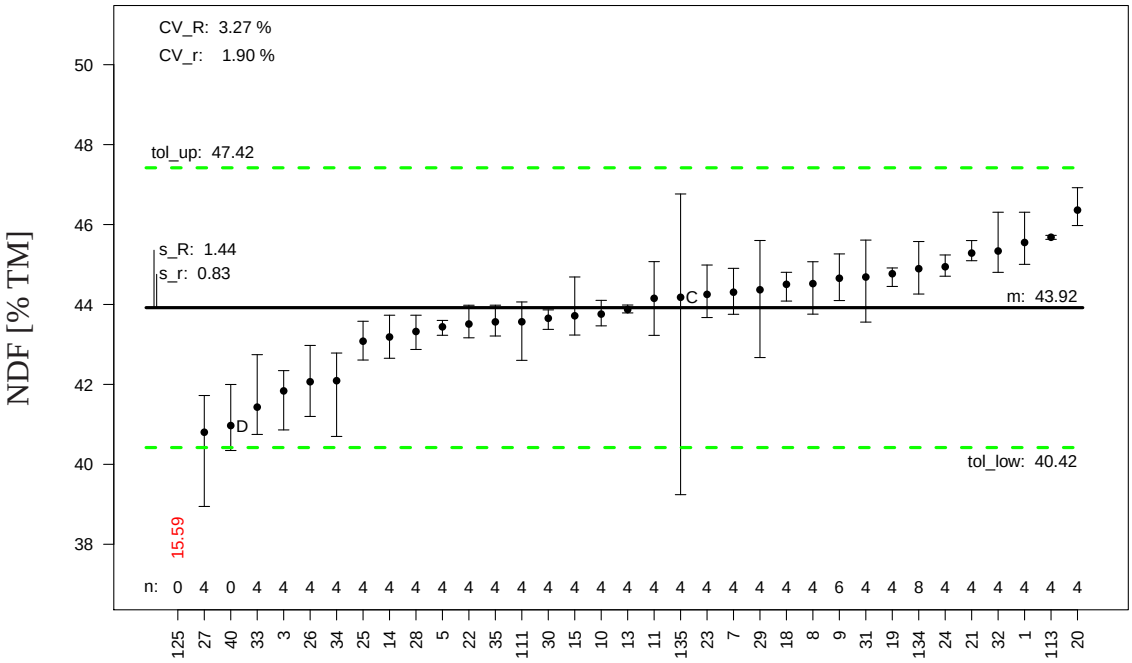
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

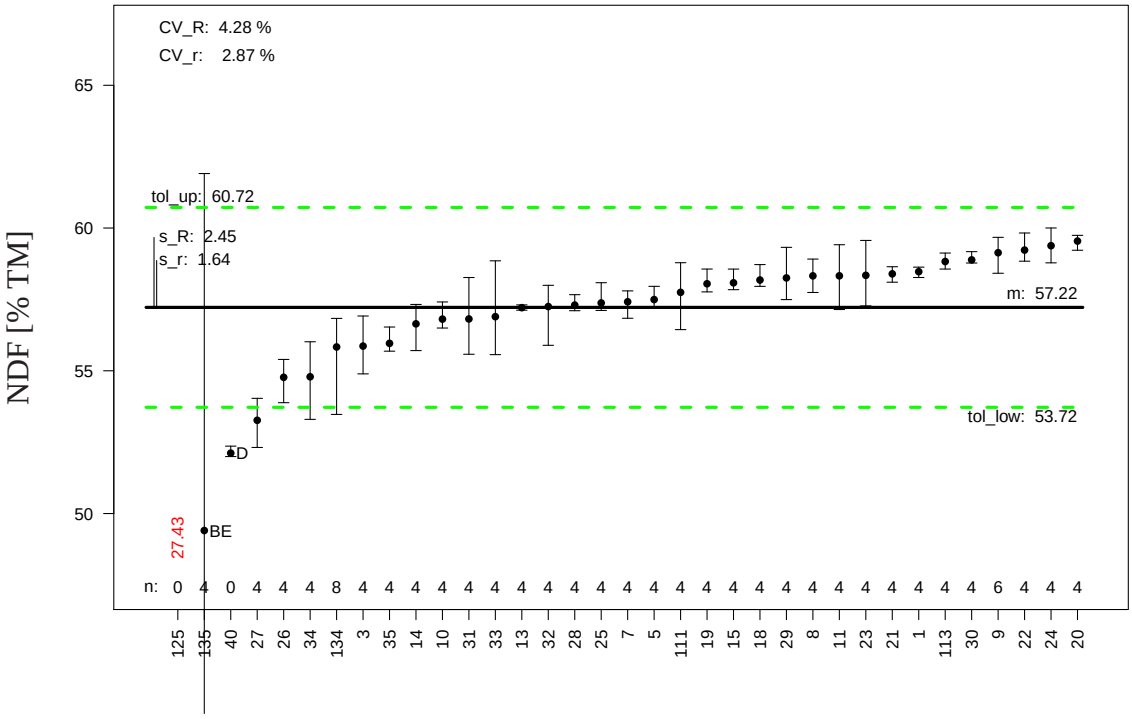
Probe/Sample 2101:



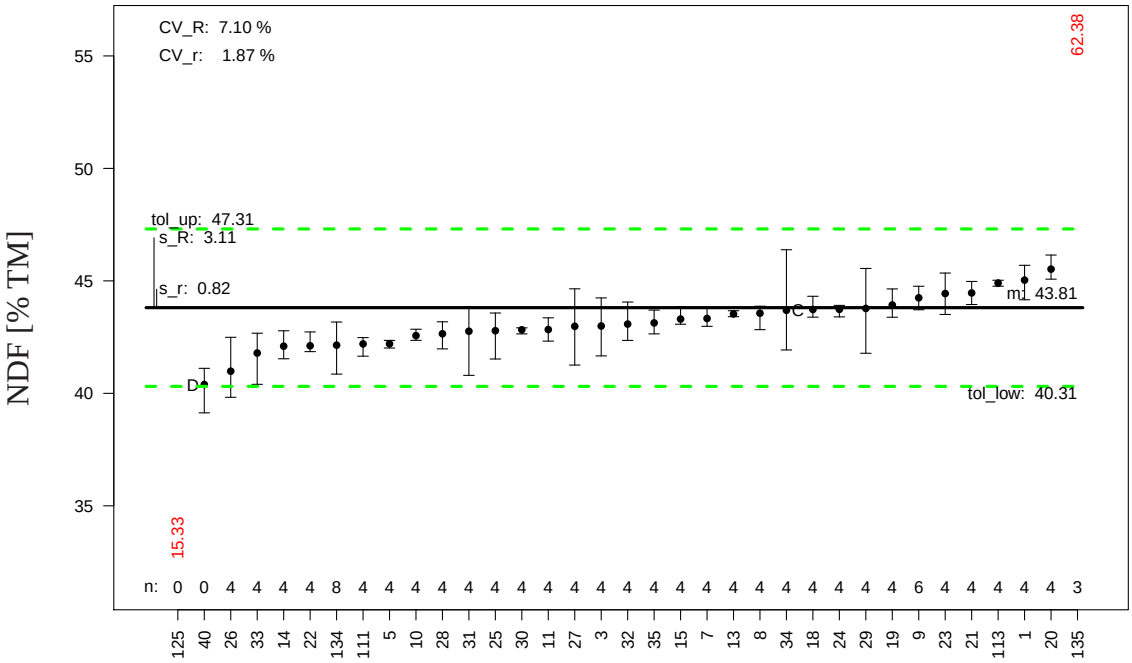
Probe/Sample 2102:



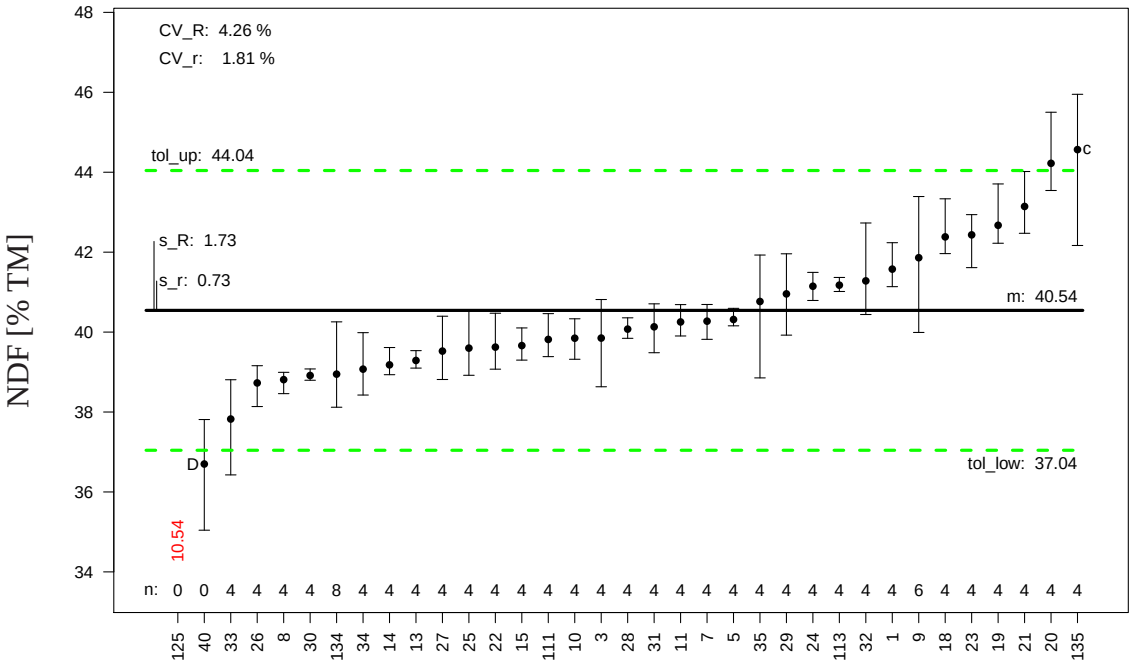
Probe/Sample 2103:



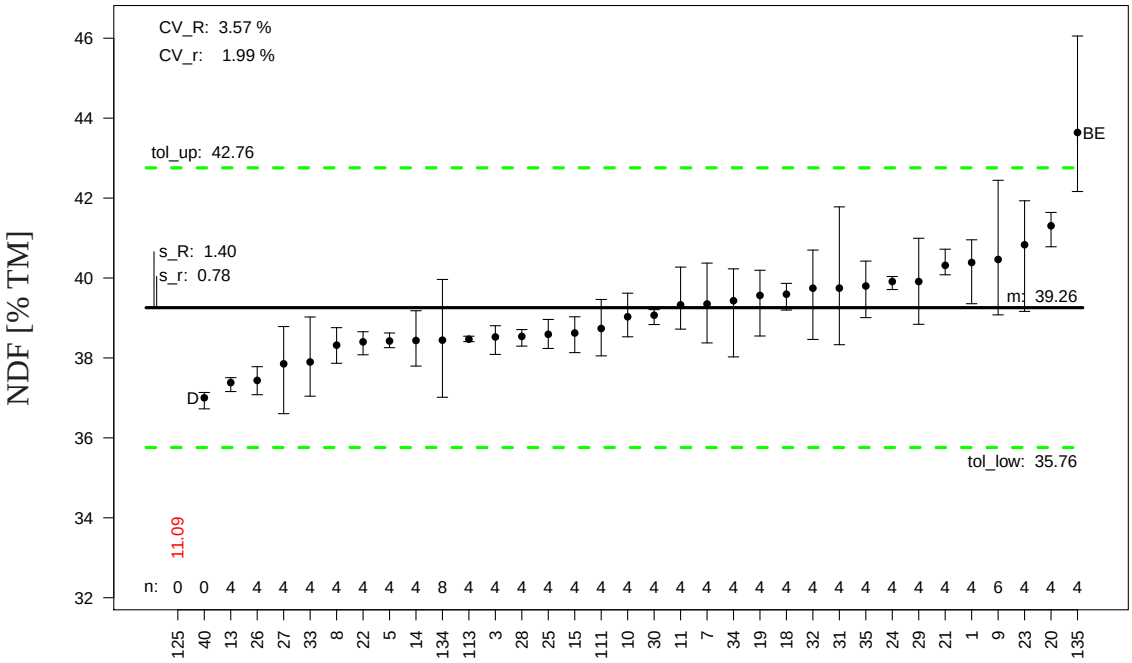
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.11 Merkmal / Constituent: ADFom

Einheit / Unit: % TM

5.11.1 Anmerkungen / Annotations

5.11.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	138	137	138	138	
p_1	33	33	33	33	33	33	
m	21.89	23.55	33.32	23.62	22.20	21.18	
s_r	0.49	0.48	1.14	0.53	0.49	0.55	
CV_r	2.22	2.02	3.43	2.23	2.21	2.60	
r	1.37	1.35	3.23	1.49	1.39	1.56	
s_R	1.04	0.74	1.63	2.04	1.08	1.00	1.10
CV_R	4.73	3.16	4.90	8.64	4.87	4.72	
R	2.93	2.10	4.62	5.78	3.06	2.83	3.11
HORRAT[1]	1.88	1.27	2.08	3.48	1.94	1.87	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

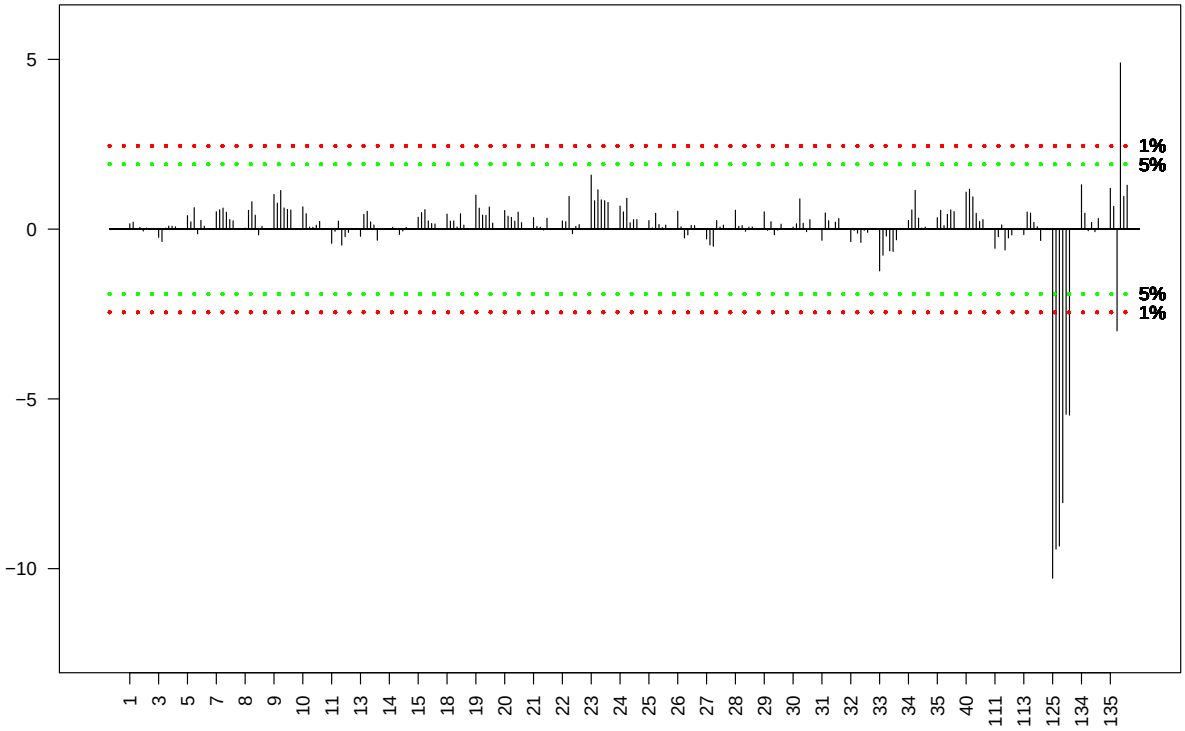
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
31	C			C		c
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135		C	B	B		B

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



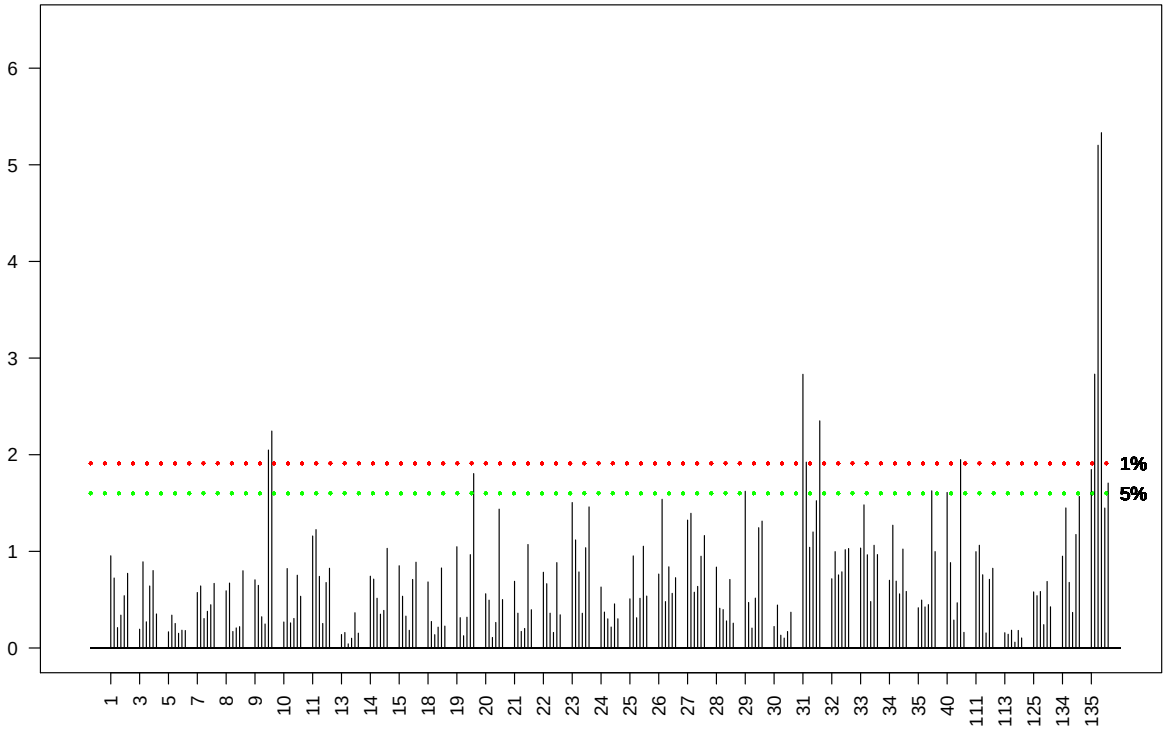
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

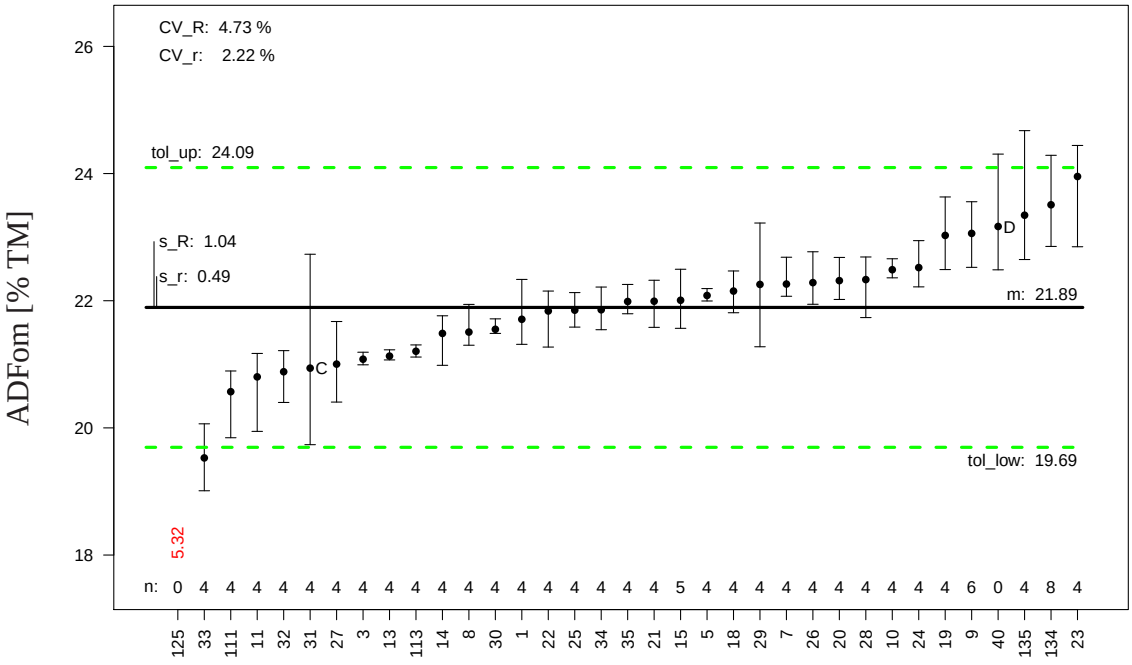
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

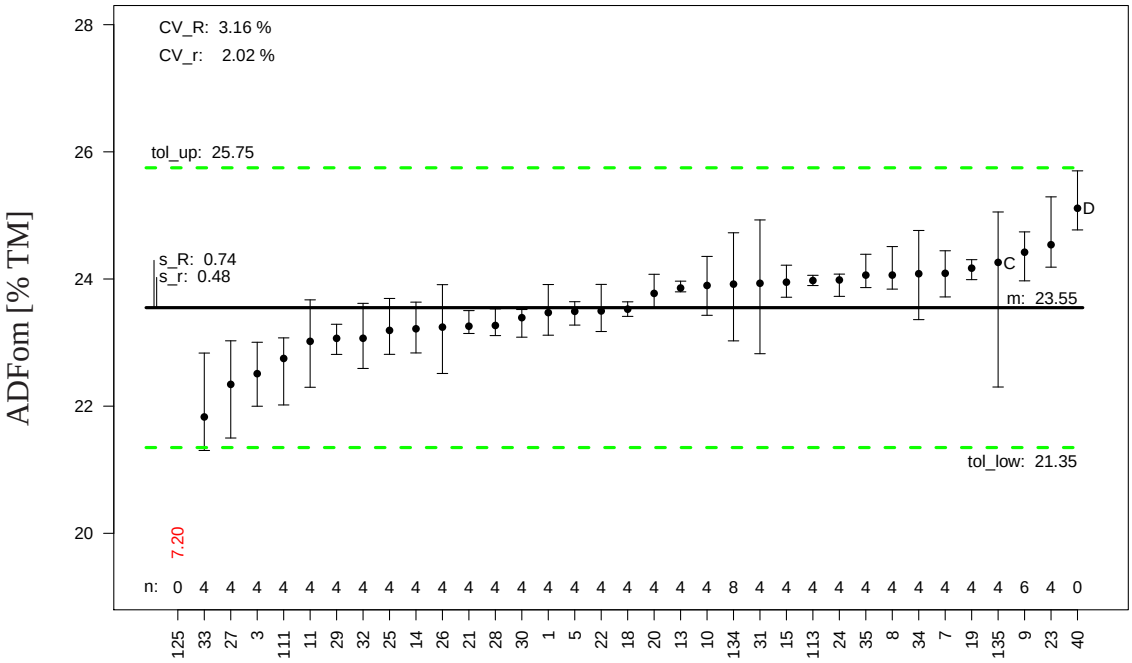
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

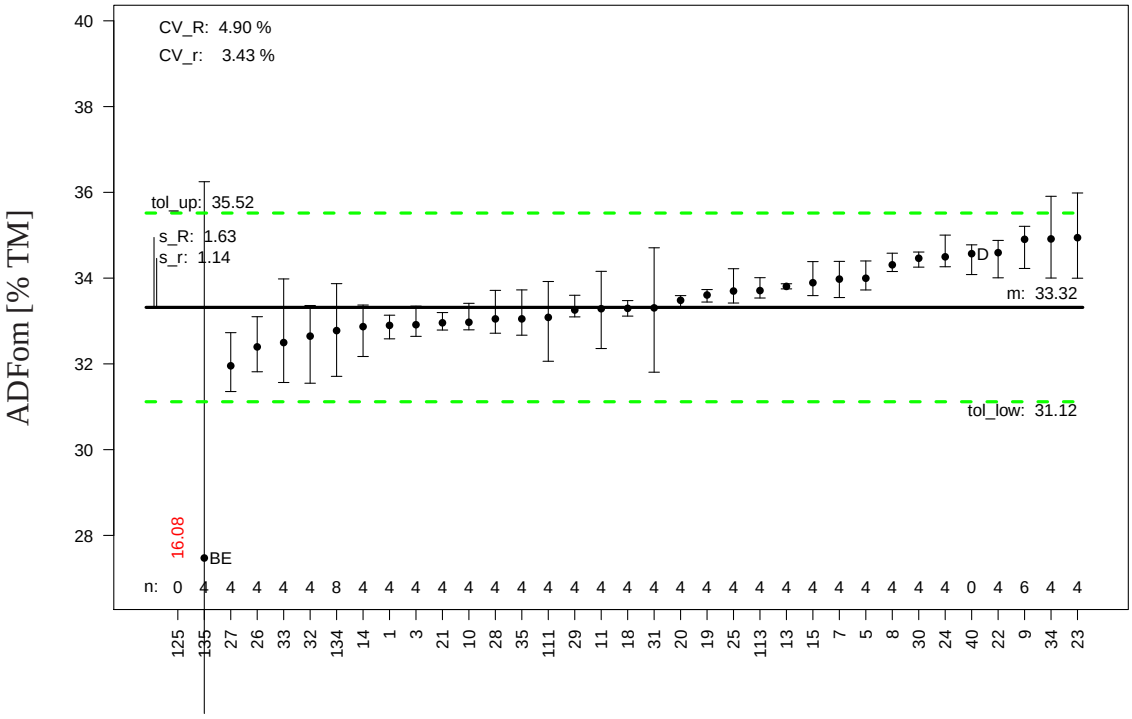
Probe/Sample 2101:



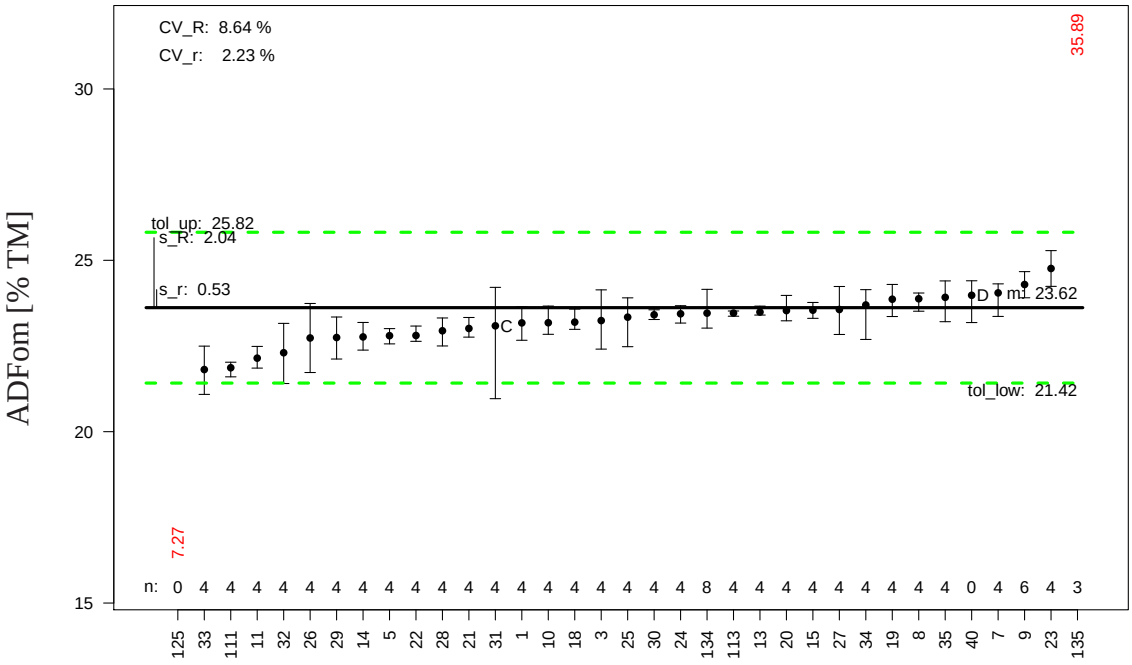
Probe/Sample 2102:



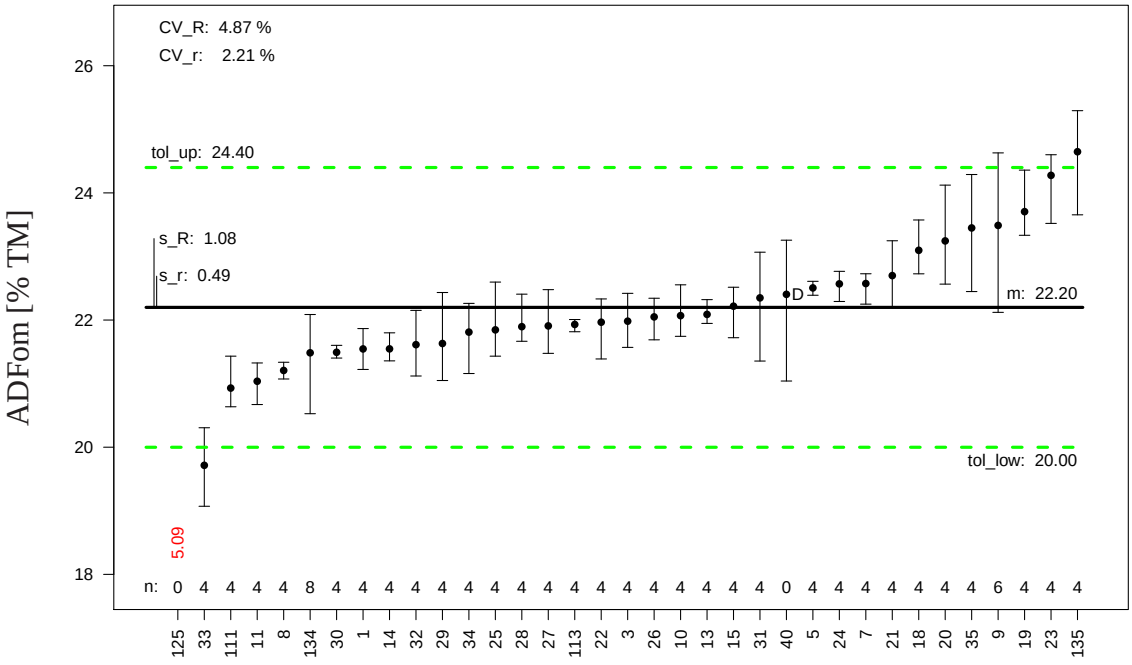
Probe/Sample 2103:



Probe/Sample 2104:

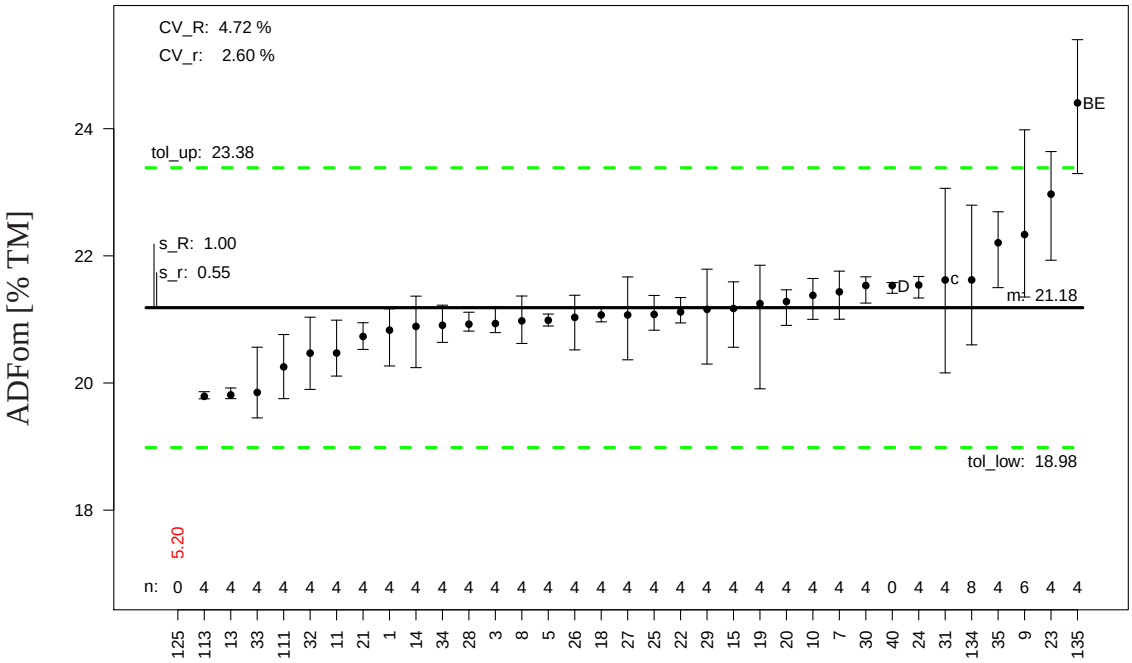


Probe/Sample 2105:



ADFom

Probe/Sample 2106:



5.12 Merkmal / Constituent: Elos / Cellulase

Einheit / Unit: % TM

5.12.1 Anmerkungen / Annotations

5.12.2 Methodenbeschreibung / Method Description

Probe/Sample	2101	2102	2103	2104	2105	2106	VDLUFA ASR
n	147	146	146	146	146	146	
p	35	35	35	35	35	35	
n_1	139	138	137	137	138	138	
p_1	33	33	33	33	33	33	
m	72.30	71.04	57.08	70.16	72.55	73.96	
s_r	0.72	0.70	0.77	0.78	0.83	0.84	
CV_r	1.00	0.99	1.34	1.11	1.15	1.14	
r	2.04	1.98	2.17	2.19	2.36	2.39	
s_R	2.57	2.36	3.55	2.92	2.37	1.96	1.75
CV_R	3.55	3.32	6.22	4.16	3.26	2.65	
R	7.27	6.67	10.05	8.25	6.69	5.54	4.95
HORRAT[1]	1.69	1.58	2.86	1.97	1.55	1.27	

[1] siehe Anmerkung zu HORRAT im Vorspann, S. 8
remark to HORRAT in preamble, page 8

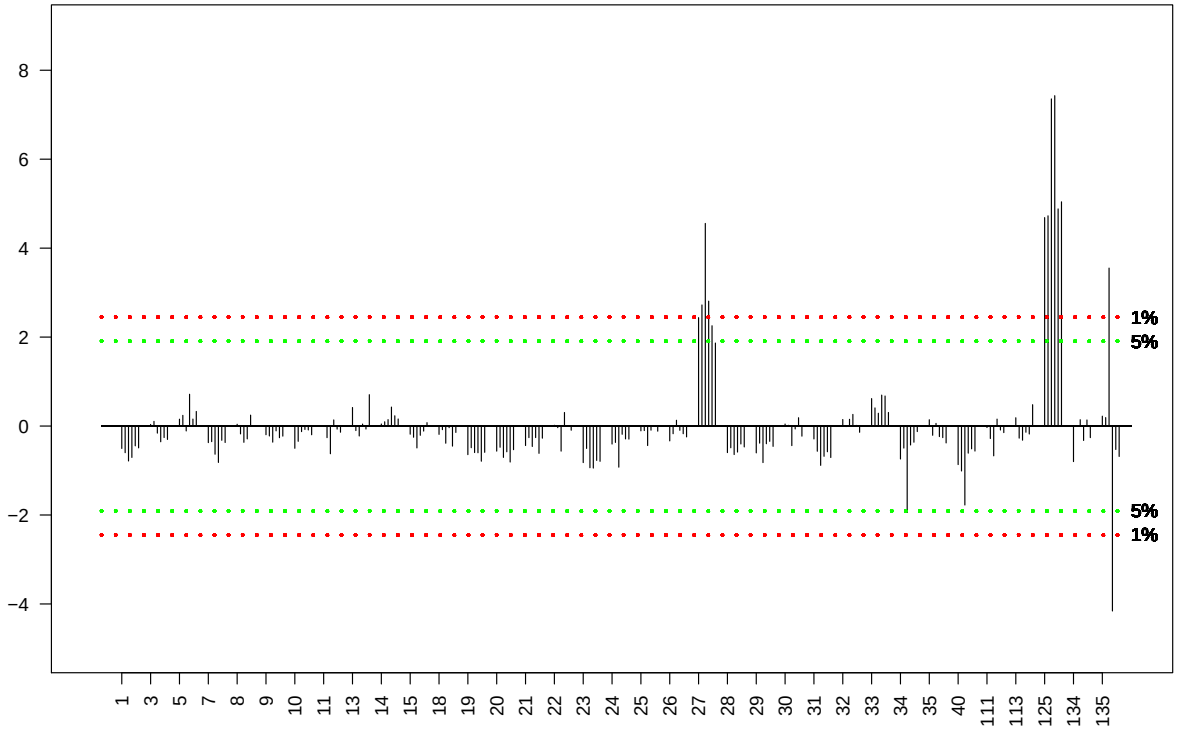
Ausreißer bei der Methodenbeschreibung nach ISO 5725 / Outlier in method description according to ISO 5725

In der folgenden Tabelle wird für jedes Labor angegeben, bei welchen Proben es als Ausreißer aufgefallen ist.

In the following table each lab is marked which was flaged as an outlier for a sample.

Labor	*2101*	*2102*	*2103*	*2104*	*2105*	*2106*
9						c
27	B	B			B	B
31				c		
40	D	D	D	D	D	D
125	B	B	B	B	B	B
135		c	B	B		

Labormittelwertvergleich nach Mandels h / Lab mean comparison to Mandel's h



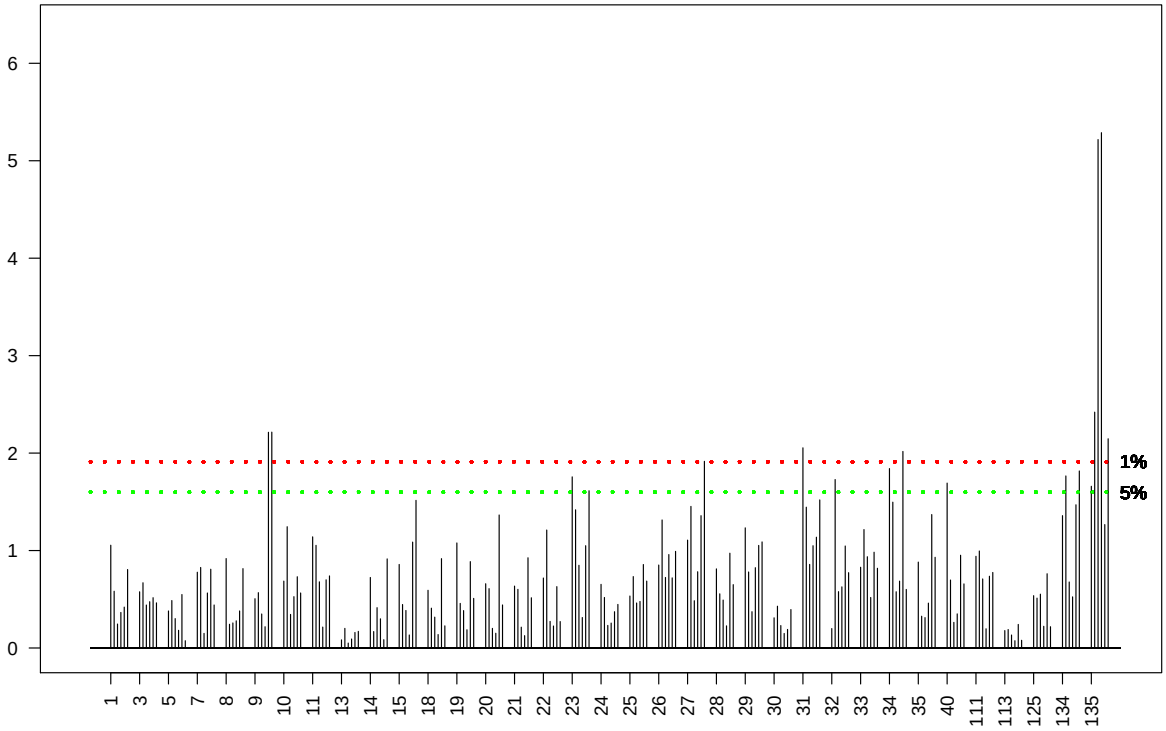
Oberste und unterste Linie 1%-Signifikanz-Niveau, mittlere Linien 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Balken nach unten sind negative Abweichungen des Messwertes dieser Proben, Balken nach oben positive Abweichungen. Die Länge der Balken ist normiert, so dass Proben mit unterschiedlichen Gehalten verglichen werden können.

Upper and lower lines 1% significance level, intermediate lines 5% significance level.

The labs are ordered horizontally with a bar for each sample. Bars oriented downwards represent negative deviations for a sample, bar oriented upwards positive deviations. The bar lengths are normed, to allow to compare samples with different concentrations.

Vergleich der laborinternen Streuung nach Mandels k / Lab internal repeatability comparison Mandel's k



Obere Linie 1%-Signifikanz-Niveau, untere Linie 5%-Signifikanz-Niveau.

Waagerecht finden sich die Labore mit jeweils einem Balken für jede Probe. Die Balken für die einzelnen Proben beginnen immer bei der Markierung der ganzen Zahl, d.h. z.B. für Labor 5 bei 5.0.

Die Balkenlänge ist die normierte laborinterne Streuung für die Wiederholungen dieser Probe. Lange Balken kennzeichnen eine große laborinterne Streuung.

Upper line 1% significance level, lower line 5% significance level.

The labs are ordered horizontally with a bar for each sample. The bar for the first sample from one lab always start at the whole number, i.e. for lab 5 at 5.0.

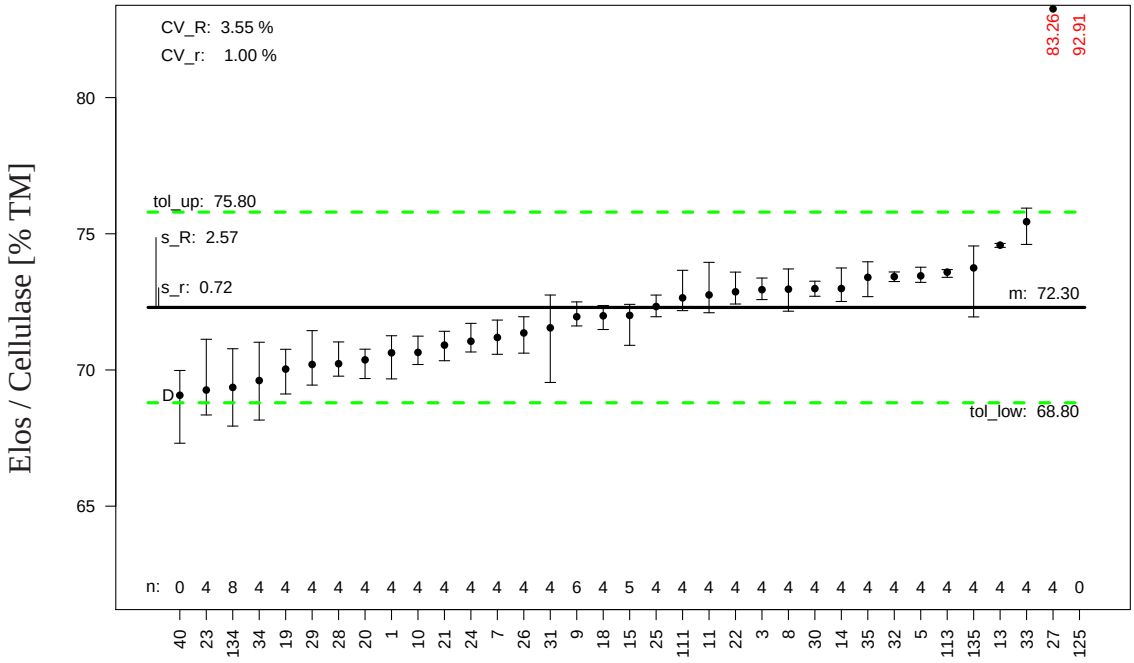
Bar lengths represent the lab internal repeatability. Long bars mark large deviations between repeats inside that laboratory.

Einzelproben / Single Samples Die durchgezogene, schwarze, waagerechte Linien kennzeichnen den Mittelwert der Analysen für die Proben in diesem Ringversuch. Falls vorhanden, markieren die schwarzen, gestrichelten Linien den "wahren Wert" für die

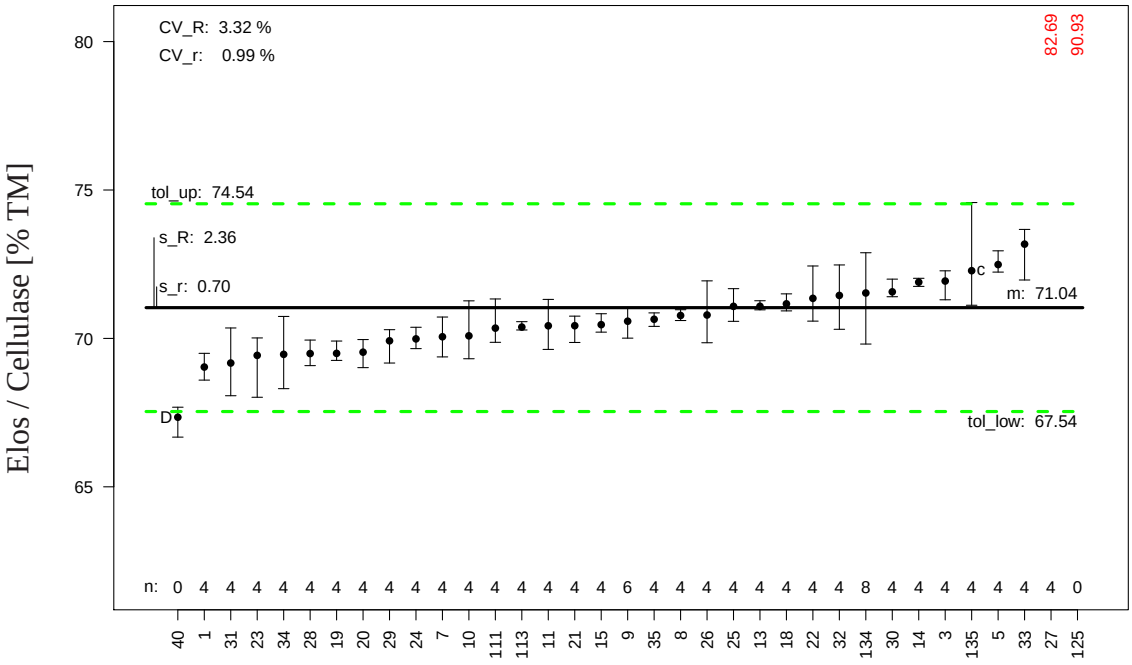
Proben. Die grünen, gestrichelten Linien markieren die Toleranz-Grenzen ($2 * s_R$) für die Analysen zu der Probe, die falls vorhanden mit der Vergleichsstandardabweichung der Methode nach Norm, sonst mit der Vergleichsstandardabweichung aus diesem Ringversuch berechnet wurden.

The solid, black, horizontal lines are the mean of analyses from this proficiency test for a sample. If present the black, dashed lines mark the "true value" of the samples. The green, dashed lines mark the tolerance limits for the analyses for the sample calculated either with the reproducibility from the method description, if given, else with the reproducibility from this proficiency trial ($2 * s_R$).

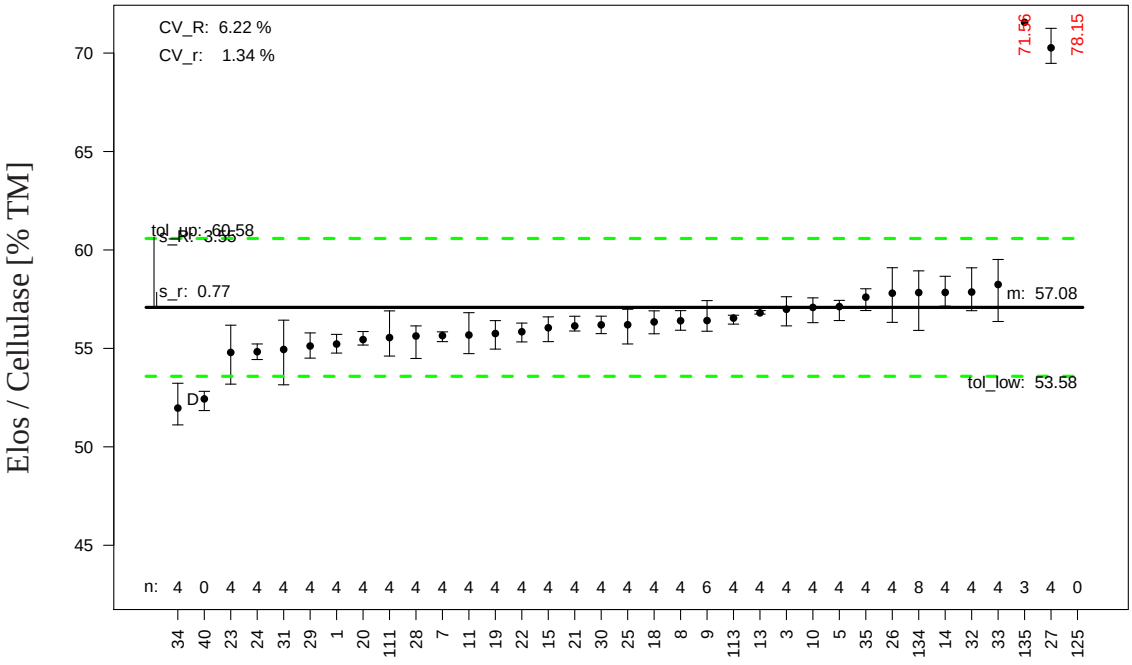
Probe/Sample 2101:



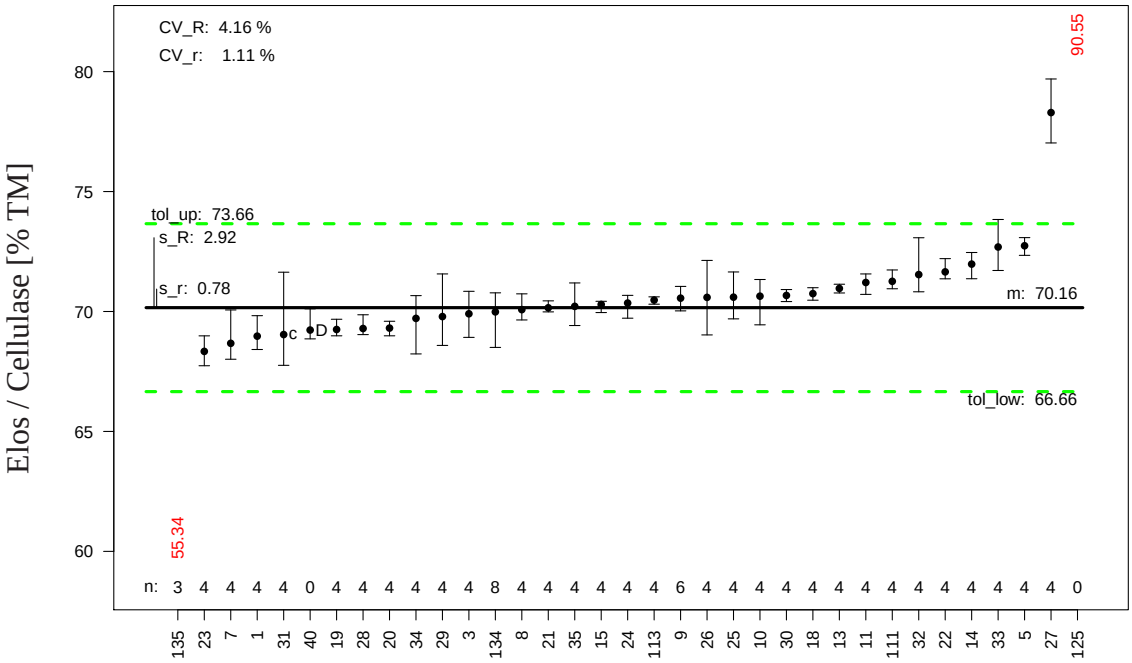
Probe/Sample 2102:



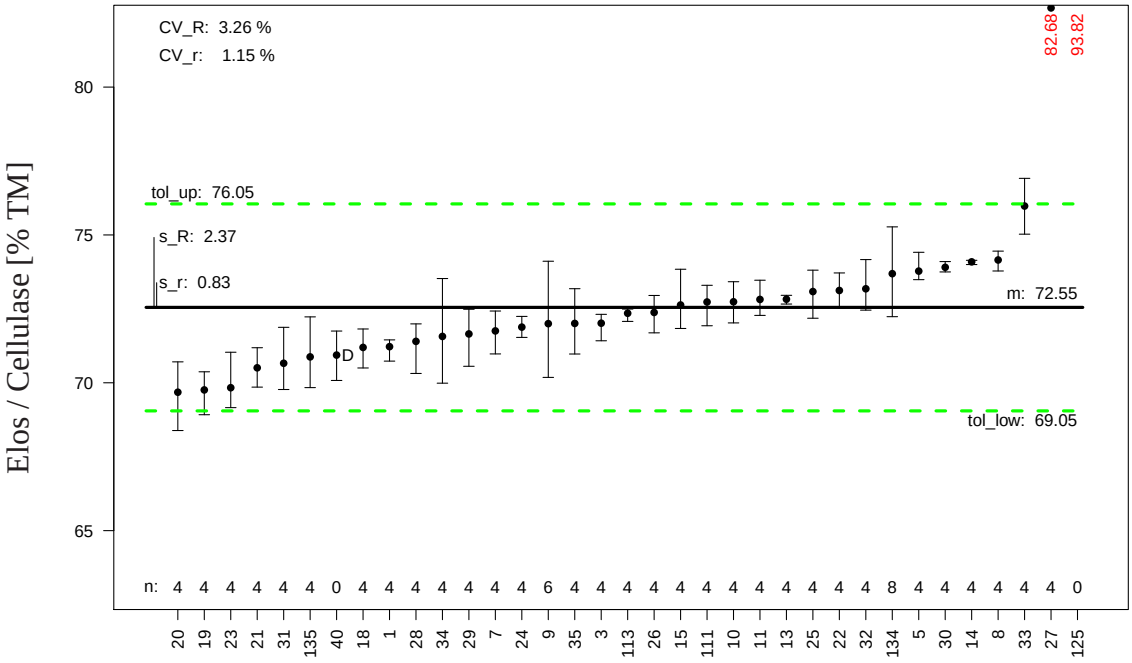
Probe/Sample 2103:



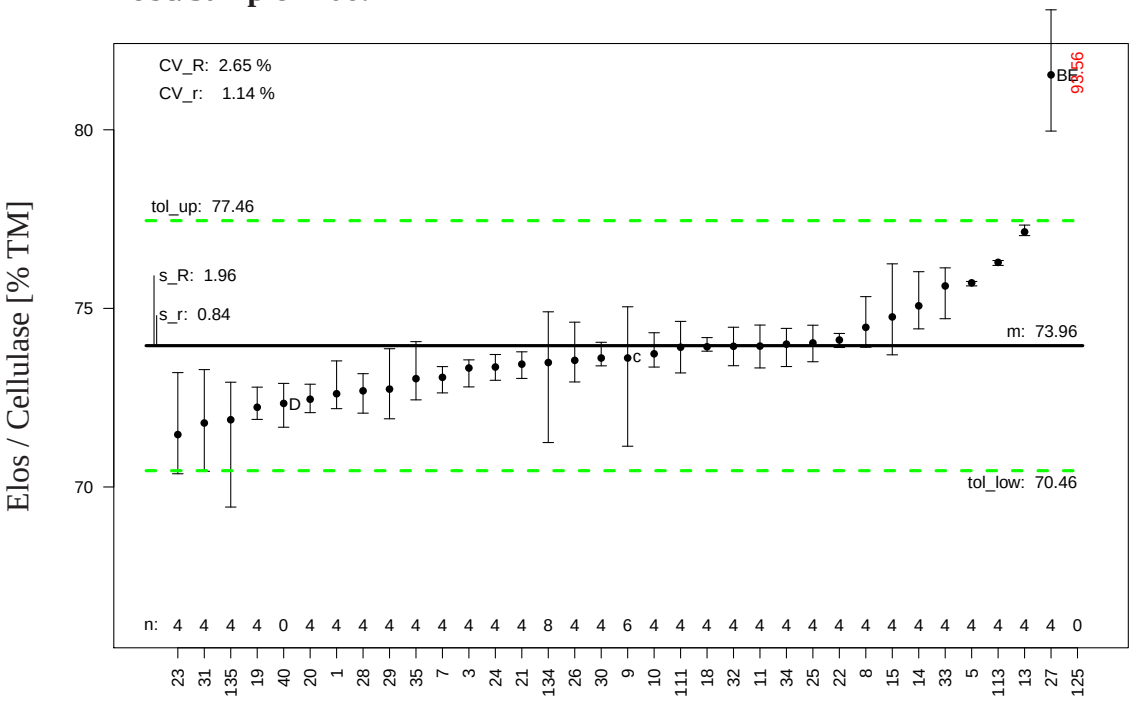
Probe/Sample 2104:



Probe/Sample 2105:



Probe/Sample 2106:



5.13 Zusammenfassung der Ausreißer / Summary of Outliers

Labor	*Trockenmasse/ dry matter*	*Rohprotein/ XP*	*Rohfaser/ XF*	*Rohfett / XL*	*Stärke / XS*	*Zucker / XZ*
1						
3						
5	BBb					
7						
8						
9	BCC	CC		CC	CA	AC
10						
11	C					
13						
14						
15						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27		BBBBBB	BBBbb			
28						
29		C				Cb
30						
31	C	CC	CCC	C	CCc	
32				c		C
33						b
34	c					
35						
40	DDDDDD	DDDDDD	DDDDDD	DDDDDD	DDDDDD	DDDDDD
111						
113						
125	BBBBBB	BBBBBB	BBBBBB		BBBBBB	BBBBBB
134	c					
135	BBBBBB	CC	CCCB	CCCC	ACBBCB	BCCBCB

Labor	*aNDFom*	*ADFom*	*ADL*	*NDF*	*ADFom*	*Elos/ Cellulase*
1						
3						
5						
7						
8						
9		c	C			c
10						
11						
13						
14						
15						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27		b	BbBbBB			BBBB
28						
29			bB			
30						
31				c	CCc	c
32			B			
33						
34	CCCCC	Bb		C		
35						
40	DDDDDD	DDDDDD	DDDDDD	DDDDDD	DDDDDD	DDDDDD
111						
113						
125	BBBBBB	BBBBBB	BBBBBB	BBBBBB	BBBBBB	BBBBBB
134			c			
135	CCBBCC	CBBcB	CCCC	ACBBcB	CBBB	cBB

6 Robuste Auswertung nach ISO 13528 vs. ISO 5725 / Robust results according to ISO 13528 vs. ISO 5725

In ISO 13528-2015 Anhang C wird eine robuste Auswertung von Ringversuchen mittels der Q/HAMPEL-Methode beschrieben, die insbesondere beim Vorhandensein von Ausreißern verlässliche Ergebnisse für den Mittelwert als auch die Streuungparamter s_R liefert. Dieser Vorteil kommt dadurch zum Tragen, dass das Eliminieren von mehrfachen Ausreißern per Hand (Typ D) entfällt, dem stets eine gewisse Willkürlichkeit inneliegt.

Rein informativ werden hier die Ergebnisse der robusten Auswertung nach ISO 13528-2015 Anhang C denen der "gewöhnlichen Auswertung nach ISO 5725" entgegengestellt.

In ISO 13528-2015 Annex C a robust protocol using the Q/HAMPEL *method is described. Robust methods are advantageous if outliers are present in the dataset. The advantage is emminent if multiple outliers are present and the elimination by hand (type D) can be avoided.*

For informative purposes the results from the robust method according to ISO 13528-2015 Annex C are listed next to the results following ISO 5725.

Trockenmasse / dry matter

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	135	138	138	138	138	134
p_1	32	33	33	33	33	32
ISO 5725						
m	89.44	90.19	91.18	89.72	88.41	89.69
s_r	0.24	0.18	0.24	0.21	0.24	0.21
s_R	0.85	1.12	1.15	1.24	1.29	0.84
ISO 13528						
m	89.31	89.91	90.86	89.78	88.33	89.57
s_r	0.12	0.13	0.13	0.15	0.13	0.11
s_R	0.70	0.75	0.75	0.78	0.62	0.73

Rohprotein / XP

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	138	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	5.99	5.89	5.54	6.46	6.36	5.83
s_r	0.12	0.11	0.16	0.11	0.16	0.14
s_R	0.54	0.58	0.59	0.56	0.56	0.53
ISO 13528						
m	6.07	5.96	5.61	6.54	6.43	5.90
s_r	0.06	0.08	0.10	0.08	0.08	0.06
s_R	0.33	0.39	0.32	0.36	0.38	0.38

Rohfaser / XF

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	137	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	16.47	18.38	25.87	18.32	16.76	16.38
s_r	0.44	0.41	0.91	0.48	0.45	0.45
s_R	1.17	0.99	1.57	1.77	1.08	0.99
ISO 13528						
m	16.60	18.48	26.06	17.99	16.76	16.37
s_r	0.29	0.22	0.27	0.27	0.30	0.26
s_R	0.97	0.76	1.14	0.95	1.05	0.98

Rohfett / XL

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	143	142	142	142	142	142
p_1	34	34	34	34	34	34
ISO 5725						
m	2.51	2.31	1.90	2.65	2.27	2.75
s_r	0.09	0.07	0.09	0.10	0.08	0.10
s_R	0.23	0.22	0.19	0.23	0.25	0.25
ISO 13528						
m	2.50	2.31	1.91	2.64	2.28	2.75
s_r	0.04	0.05	0.06	0.05	0.04	0.04
s_R	0.21	0.21	0.21	0.18	0.23	0.24

Stärke / XS

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	138	138	138	138	138	136
p_1	33	33	33	33	33	33
ISO 5725						
m	35.91	22.87	9.48	31.91	30.05	35.54
s_r	0.71	1.52	2.24	0.81	1.12	0.94
s_R	1.97	2.13	2.91	2.48	2.03	2.13
ISO 13528						
m	35.70	22.70	9.16	31.37	29.95	35.55
s_r	0.48	0.40	0.47	0.55	0.44	0.43
s_R	2.17	1.97	2.10	1.64	2.28	1.80

Zucker / XZ

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	138	136	138
p_1	33	33	33	33	33	33
ISO 5725						
m	8.78	15.91	14.42	8.02	12.61	9.29
s_r	0.43	0.77	0.75	0.30	0.25	0.68
s_R	1.10	1.24	1.53	1.32	1.07	1.24
ISO 13528						
m	8.72	16.02	14.53	8.31	12.67	9.24
s_r	0.14	0.22	0.21	0.21	0.14	0.18
s_R	0.82	1.20	1.48	0.84	1.01	0.86

aNDFom

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	137	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	38.77	42.94	56.09	43.00	38.64	38.39
s_r	0.76	0.93	1.56	0.76	0.74	0.80
s_R	1.81	1.48	2.59	2.82	1.89	1.36
ISO 13528						
m	38.65	42.83	56.38	42.39	38.43	38.29
s_r	0.34	0.40	0.43	0.39	0.43	0.40
s_R	1.95	1.46	1.70	1.71	1.87	1.40

ADFom

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	134	138	138
p_1	33	33	33	32	33	33
ISO 5725						
m	20.85	23.48	33.38	22.34	21.14	20.31
s_r	0.49	0.54	1.24	0.50	0.54	0.49
s_R	1.10	1.04	1.84	0.93	1.29	1.09
ISO 13528						
m	20.92	23.43	33.47	22.35	21.18	20.22
s_r	0.29	0.29	0.33	0.37	0.37	0.27
s_R	1.25	0.93	1.29	0.98	1.26	0.90

ADL

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	138	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	1.91	1.25	2.44	1.74	1.69	1.64
s_r	0.07	0.11	0.16	0.11	0.08	0.07
s_R	0.33	0.39	0.38	0.34	0.39	0.28
ISO 13528						
m	1.92	1.26	2.46	1.75	1.71	1.64
s_r	0.04	0.05	0.06	0.05	0.05	0.04
s_R	0.33	0.37	0.36	0.28	0.39	0.29

NDF

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	138	138	138	137	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	39.92	43.92	57.22	43.81	40.54	39.26
s_r	0.65	0.83	1.64	0.82	0.73	0.78
s_R	1.59	1.44	2.45	3.11	1.73	1.40
ISO 13528						
m	39.91	43.87	57.43	43.15	40.38	39.10
s_r	0.38	0.38	0.48	0.55	0.43	0.44
s_R	1.79	1.54	1.77	1.49	1.77	1.33

ADFom

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	138	137	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	21.89	23.55	33.32	23.62	22.20	21.18
s_r	0.49	0.48	1.14	0.53	0.49	0.55
s_R	1.04	0.74	1.63	2.04	1.08	1.00
ISO 13528						
m	21.94	23.61	33.53	23.26	22.19	21.09
s_r	0.28	0.28	0.33	0.33	0.35	0.28
s_R	1.01	0.79	1.07	0.86	1.01	0.78

Elos / Cellulase

Probe/Sample	2101	2102	2103	2104	2105	2106
n	147	146	146	146	146	146
p	35	35	35	35	35	35
n_1	139	138	137	137	138	138
p_1	33	33	33	33	33	33
ISO 5725						
m	72.30	71.04	57.08	70.16	72.55	73.96
s_r	0.72	0.70	0.77	0.78	0.83	0.84
s_R	2.57	2.36	3.55	2.92	2.37	1.96
ISO 13528						
m	71.85	70.59	56.17	70.34	72.16	73.63
s_r	0.47	0.40	0.51	0.42	0.57	0.45
s_R	2.08	1.39	1.56	1.57	1.82	1.52

7 Anhang / Appendix

7.1 Trockenmasse / dry matter

7.1.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	-0.31	-0.65	-0.77	-0.23	-0.34	-0.38
3	1.09	0.86	0.84	0.93	0.95	1.44
5	2.92	2.41	2.77	2.08	2.44	2.91
7	0.37	-0.07	-0.15	0.03	0.04	0.17
8	-0.18	-0.21	-0.26	0.06	-0.03	-0.08
9	2.25	1.51	1.84	1.77	2.08	1.83
10	-0.28	-0.67	-0.41	-0.36	-0.18	-0.43
11	-0.42	-0.64	-0.76	-0.19	-0.25	-0.16
13	-0.27	-0.23	-0.08	0.14	0.09	-0.16
14	-0.84	-0.66	-0.39	-0.41	-0.30	-0.60
15	-0.74	-0.81	-0.36	-0.33	-0.57	-0.62
18	-1.34	-0.97	-0.85	-0.72	-0.54	-1.59
19	-0.62	-0.51	-0.41	-0.27	-0.18	-0.99
20	-0.69	-0.56	-0.74	-0.37	-0.34	-0.81
21	-0.63	-0.56	-0.74	-0.32	-0.31	-0.68
22	-0.22	-0.27	-0.20	0.02	-0.02	-0.05
23	0.28	-0.29	0.07	0.17	0.23	0.11
24	0.02	0.14	0.17	0.19	0.10	0.02
25	-0.19	-0.28	-0.49	-0.30	-0.05	-0.17
26	-1.39	-1.02	-1.08	-0.91	-0.57	-1.05
27	0.78	0.50	0.44	0.95	0.85	1.32
28	-0.67	-1.03	-1.01	-0.89	-0.68	-1.19
29	-0.37	-0.46	-0.42	-0.34	-0.24	-0.33
30	-0.25	-0.32	-0.05	-0.14	0.01	0.09
31	0.55	0.29	-0.02	0.22	0.19	0.13
32	-0.45	-0.14	-0.63	0.03	-0.26	-0.80
33	1.83	1.62	1.65	1.47	1.31	1.89
34	-0.21	-0.08	0.01	0.76	0.46	0.08
35	-0.52	-0.43	-0.33	-0.04	-0.08	0.26
40	-0.63	-0.79	-0.72	0.07	-0.11	-0.79
111	-0.25	-0.47	-0.65	-0.08	-0.08	0.09
113	0.86	0.36	0.18	0.76	0.19	0.36
125	-5.91	-4.44	-4.68	-3.89	-3.79	-5.71
134	-0.10	0.17	-0.08	0.21	-0.12	-0.61
135	5.90	3.49	2.94	4.74	5.11	5.69

7.1.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	89.17	0.06	89.23	89.12	89.22	89.11
2102	1	4	89.47	0.06	89.44	89.40	89.49	89.53
2103	1	4	90.29	0.19	90.30	90.31	90.52	90.05
2104	1	4	89.44	0.28	89.14	89.81	89.46	89.34
2105	1	4	87.97	0.13	88.00	88.06	87.77	88.04
2106	1	4	89.37	0.06	89.37	89.41	89.42	89.28
2101	3	4	90.37	0.07	90.27	90.41	90.41	90.39
2102	3	4	91.15	0.20	91.13	90.95	91.10	91.43
2103	3	4	92.15	0.13	92.06	92.33	92.16	92.04

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	90.87	0.39	90.40	90.74	91.32	91.02		
2105	3	4	89.62	0.16	89.60	89.72	89.78	89.40		
2106	3	4	90.89	0.17	90.72	90.98	90.78	91.08		
2101	5	4	91.92B	0.09	91.98	91.98	91.94	91.80		
2102	5	4	92.87	0.01	92.87	92.87	92.87	92.88		
2103	5	4	94.38B	0.09	94.26	94.47	94.37	94.40		
2104	5	4	92.29	0.03	92.27	92.32	92.25	92.32		
2105	5	4	91.55	0.06	91.64	91.49	91.53	91.54		
2106	5	4	92.12 b	0.10	91.97	92.17	92.18	92.17		
2101	7	4	89.76	0.17	89.88	89.74	89.53	89.87		
2102	7	4	90.11	0.12	90.01	90.05	90.28	90.12		
2103	7	4	91.00	0.07	91.06	91.00	90.91	91.04		
2104	7	4	89.76	0.16	89.60	89.74	89.73	89.98		
2105	7	4	88.46	0.09	88.37	88.58	88.47	88.42		
2106	7	4	89.83	0.28	90.10	89.52	90.02	89.68		
2101	8	4	89.29	0.05	89.21	89.31	89.29	89.33		
2102	8	4	89.95	0.05	89.93	89.94	89.91	90.02		
2103	8	4	90.88	0.10	90.82	90.87	91.03	90.81		
2104	8	4	89.79	0.25	89.43	89.89	90.00	89.86		
2105	8	4	88.36	0.05	88.34	88.43	88.31	88.36		
2106	8	4	89.62	0.06	89.54	89.65	89.60	89.68		
2101	9	6	91.36B	0.10	91.40	91.50	91.36	91.21	91.28	91.39
2102	9	6	91.88	0.07	91.84	91.95	91.83	91.88	91.97	91.79
2103	9	6	93.30	0.07	93.37	93.36	93.30	93.20	93.23	93.34
2104	9	6	91.91	0.14	92.15	91.72	91.90	91.90	91.94	91.87
2105	9	6	91.08	0.57C	90.65	90.75	91.12	90.47	91.88	91.64
2106	9	6	91.21	0.54C	90.58	90.47	91.47	91.53	91.71	91.53
2101	10	4	89.20	0.14	89.15	89.39	89.17	89.08		
2102	10	4	89.44	0.14	89.28	89.36	89.57	89.54		
2103	10	4	90.71	0.09	90.58	90.77	90.75	90.76		
2104	10	4	89.27	0.13	89.08	89.28	89.40	89.33		
2105	10	4	88.18	0.08	88.17	88.13	88.29	88.11		
2106	10	4	89.33	0.11	89.38	89.26	89.45	89.21		
2101	11	4	89.08	0.60C	89.96	88.70	88.93	88.72		
2102	11	4	89.47	0.14	89.46	89.40	89.36	89.67		
2103	11	4	90.30	0.13	90.38	90.30	90.12	90.41		
2104	11	4	89.48	0.08	89.59	89.47	89.40	89.47		
2105	11	4	88.08	0.12	88.24	88.10	87.95	88.04		
2106	11	4	89.55	0.24	89.47	89.84	89.27	89.63		
2101	13	4	89.20	0.06	89.12	89.21	89.23	89.26		
2102	13	4	89.93	0.11	89.79	89.89	89.99	90.05		
2103	13	4	91.09	0.11	90.97	91.05	91.13	91.22		
2104	13	4	89.90	0.14	89.73	89.83	89.96	90.06		
2105	13	4	88.53	0.30	88.25	88.31	88.68	88.86		
2106	13	4	89.55	0.15	89.39	89.49	89.57	89.74		
2101	14	4	88.72	0.09	88.73	88.62	88.71	88.83		
2102	14	4	89.46	0.18	89.35	89.28	89.53	89.68		
2103	14	4	90.74	0.07	90.83	90.75	90.68	90.69		
2104	14	4	89.22	0.15	89.15	89.25	89.05	89.41		
2105	14	4	88.01	0.14	87.91	88.21	87.92	88.01		
2106	14	4	89.19	0.13	89.09	89.16	89.38	89.12		
2101	15	5	88.81	0.23	88.49	88.86	88.73	88.85	89.11	
2102	15	4	89.29	0.27	89.26	89.67	89.04	89.18		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	90.76	0.10	90.83	90.82	90.62	90.79
2104	15	4	89.31	0.21	89.31	89.61	89.16	89.17
2105	15	4	87.67	0.05	87.61	87.66	87.74	87.67
2106	15	4	89.17	0.05	89.13	89.17	89.14	89.23
2101	18	4	88.29	0.09	88.39	88.32	88.30	88.17
2102	18	4	89.11	0.07	89.13	89.14	89.15	89.01
2103	18	4	90.20	0.11	90.31	90.14	90.28	90.07
2104	18	4	88.83	0.12	88.67	88.84	88.96	88.85
2105	18	4	87.71	0.10	87.67	87.84	87.62	87.70
2106	18	4	88.36	0.09	88.25	88.47	88.34	88.37
2101	19	4	88.91	0.42	88.80	89.53	88.67	88.63
2102	19	4	89.62	0.08	89.66	89.66	89.68	89.50
2103	19	4	90.70	0.11	90.81	90.71	90.75	90.55
2104	19	4	89.38	0.10	89.24	89.37	89.48	89.44
2105	19	4	88.18	0.11	88.19	88.33	88.07	88.12
2106	19	4	88.86	0.09	88.81	88.97	88.78	88.88
2101	20	4	88.85	0.13	88.94	88.98	88.75	88.74
2102	20	4	89.56	0.16	89.67	89.73	89.45	89.40
2103	20	4	90.33	0.12	90.36	90.36	90.44	90.16
2104	20	4	89.26	0.22	89.02	89.20	89.54	89.28
2105	20	4	87.97	0.19	87.93	88.21	87.75	87.99
2106	20	4	89.01	0.10	88.88	89.11	89.06	88.99
2101	21	4	88.90	0.10	89.01	88.97	88.80	88.82
2102	21	4	89.56	0.17	89.69	89.72	89.43	89.40
2103	21	4	90.33	0.10	90.34	90.37	90.41	90.19
2104	21	4	89.33	0.25	89.02	89.38	89.63	89.30
2105	21	4	88.01	0.16	87.97	88.22	87.85	88.00
2106	21	4	89.12	0.14	88.92	89.18	89.24	89.13
2101	22	4	89.25	0.18	89.41	88.99	89.35	89.25
2102	22	4	89.89	0.20	89.80	89.73	89.84	90.18
2103	22	4	90.95	0.20	90.89	90.88	90.79	91.24
2104	22	4	89.75	0.14	89.84	89.62	89.90	89.64
2105	22	4	88.38	0.17	88.42	88.25	88.61	88.23
2106	22	4	89.64	0.02	89.64	89.67	89.61	89.64
2101	23	4	89.67	0.19	89.82	89.67	89.80	89.40
2102	23	4	89.86	0.09	89.81	89.77	89.96	89.92
2103	23	4	91.26	0.10	91.38	91.29	91.22	91.14
2104	23	4	89.93	0.09	89.82	89.94	90.05	89.91
2105	23	4	88.70	0.18	88.82	88.72	88.83	88.43
2106	23	4	89.77	0.26	89.40	89.99	89.89	89.82
2101	24	4	89.45	0.30	89.74	89.23	89.67	89.16
2102	24	4	90.34	0.19	90.59	90.39	90.22	90.18
2103	24	4	91.38	0.29	91.70	91.55	91.12	91.16
2104	24	4	89.96	0.33	90.41	89.98	89.78	89.65
2105	24	4	88.53	0.23	88.82	88.50	88.54	88.27
2106	24	4	89.70	0.25	90.00	89.77	89.63	89.40
2101	25	4	89.28	0.12	89.14	89.22	89.36	89.39
2102	25	4	89.88	0.04	89.87	89.83	89.88	89.92
2103	25	4	90.61	0.16	90.47	90.84	90.60	90.54
2104	25	4	89.35	0.20	89.08	89.32	89.47	89.52
2105	25	4	88.34	0.09	88.40	88.21	88.38	88.39
2106	25	4	89.54	0.11	89.37	89.62	89.59	89.58
2101	26	4	88.25	0.06	88.26	88.17	88.30	88.28

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	89.05	0.20	89.02	89.32	89.01	88.84
2103	26	4	89.93	0.24	90.19	89.62	90.01	89.92
2104	26	4	88.60	0.12	88.70	88.69	88.54	88.45
2105	26	4	87.68	0.13	87.64	87.62	87.58	87.87
2106	26	4	88.81	0.15	88.77	88.68	89.03	88.75
2101	27	4	90.11	0.19	90.35	90.12	90.05	89.89
2102	27	4	90.74	0.04	90.77	90.78	90.69	90.73
2103	27	4	91.68	0.14	91.63	91.76	91.83	91.52
2104	27	4	90.89	0.10	90.98	90.95	90.76	90.88
2105	27	4	89.49	0.11	89.38	89.56	89.42	89.62
2106	27	4	90.79	0.04	90.84	90.78	90.78	90.76
2101	28	4	88.87	0.08	88.88	88.97	88.84	88.77
2102	28	4	89.04	0.04	89.00	89.02	89.03	89.10
2103	28	4	90.01	0.07	89.92	90.00	90.09	90.04
2104	28	4	88.62	0.07	88.53	88.68	88.59	88.66
2105	28	4	87.53	0.12	87.43	87.44	87.55	87.69
2106	28	4	88.69	0.13	88.62	88.71	88.58	88.88
2101	29	4	89.12	0.19	89.38	89.09	89.08	88.92
2102	29	4	89.67	0.26	90.00	89.46	89.77	89.46
2103	29	4	90.70	0.24	91.03	90.69	90.55	90.51
2104	29	4	89.30	0.31	89.64	89.01	89.48	89.06
2105	29	4	88.10	0.14	88.01	88.23	87.96	88.20
2106	29	4	89.41	0.05	89.42	89.47	89.36	89.38
2101	30	4	89.22	0.22	88.94	89.15	89.35	89.45
2102	30	4	89.83	0.28	89.49	89.75	89.91	90.17
2103	30	4	91.12	0.21	90.84	91.08	91.27	91.29
2104	30	4	89.55	0.19	89.29	89.52	89.66	89.72
2105	30	4	88.42	0.30	88.05	88.32	88.65	88.68
2106	30	4	89.76	0.22	89.47	89.73	89.88	89.96
2101	31	4	89.90	0.40	90.04	89.78	90.37	89.42
2102	31	4	90.51	0.15	90.38	90.44	90.73	90.50
2103	31	4	91.16	0.45C	91.17	90.88	91.79	90.79
2104	31	4	90.00	0.41	90.50	90.12	89.58	89.77
2105	31	4	88.64	0.41	89.25	88.40	88.48	88.45
2106	31	4	89.80	0.21	90.09	89.79	89.60	89.71
2101	32	4	89.05	0.11	88.89	89.12	89.10	89.09
2102	32	4	90.04	0.10	90.17	90.06	89.95	89.97
2103	32	4	90.45	0.21	90.41	90.21	90.73	90.46
2104	32	4	89.76	0.21	89.78	89.67	89.55	90.05
2105	32	4	88.08	0.11	88.08	87.93	88.19	88.10
2106	32	4	89.02	0.17	89.07	88.78	89.09	89.15
2101	33	4	91.00	0.08	91.08	91.05	90.92	90.93
2102	33	4	91.99	0.22	91.94	91.97	91.77	92.30
2103	33	4	93.08	0.22	93.21	92.76	93.09	93.26
2104	33	4	91.54	0.19	91.82	91.37	91.48	91.50
2105	33	4	90.09	0.14	90.21	90.03	90.20	89.92
2106	33	4	91.27	0.06	91.26	91.26	91.35	91.20
2101	34	4	89.26	0.23	89.49	89.28	89.31	88.95
2102	34	4	90.10	0.14	90.26	90.13	90.05	89.94
2103	34	4	91.20	0.19	91.00	91.19	91.45	91.16
2104	34	4	90.66	0.29	90.68	90.72	90.96	90.27
2105	34	4	88.99	0.42 c	88.64	88.62	89.28	89.44
2106	34	4	89.75	0.06	89.79	89.79	89.76	89.66

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	88.99	0.14	89.12	88.93	88.82	89.09			
2102	35	4	89.71	0.34	89.57	89.38	89.74	90.17			
2103	35	4	90.80	0.26	90.75	90.77	90.54	91.16			
2104	35	4	89.67	0.28	89.33	89.64	89.70	90.02			
2105	35	4	88.30	0.33	88.27	87.89	88.37	88.68			
2106	35	4	89.90	0.18	89.87	89.87	90.15	89.72			
2101	40	0	88.90	0.32	89.00D	88.69D	89.30D	88.60D			
2102	40	0	89.31	0.51C	90.05D	88.96D	88.96D	89.27D			
2103	40	0	90.35	0.18	90.55D	90.41D	90.33D	90.11D			
2104	40	0	89.81	0.28	90.14D	89.94D	89.64D	89.52D			
2105	40	0	88.26	0.33	88.56D	88.18D	87.83D	88.50D			
2106	40	0	89.02	0.06	89.08D	89.04D	88.94D	89.03D			
2101	111	4	89.22	0.44	89.88	88.98	89.10	88.94			
2102	111	4	89.66	0.13	89.58	89.61	89.60	89.85			
2103	111	4	90.43	0.12	90.52	90.44	90.26	90.51			
2104	111	4	89.62	0.12	89.78	89.59	89.49	89.63			
2105	111	4	88.30	0.13	88.44	88.38	88.16	88.22			
2106	111	4	89.77	0.27	89.70	90.07	89.43	89.86			
2101	113	4	90.17	0.03	90.15	90.13	90.18	90.20			
2102	113	4	90.59	0.15	90.46	90.47	90.68	90.77			
2103	113	4	91.39	0.09	91.27	91.40	91.42	91.49			
2104	113	4	90.67	0.13	90.50	90.63	90.72	90.81			
2105	113	4	88.65	0.06	88.57	88.64	88.67	88.71			
2106	113	4	89.99	0.07	89.91	89.98	90.00	90.06			
2101	125	0	84.40B	0.05	84.33	84.43	84.42	84.44			
2102	125	0	85.24B	0.12	85.13	85.15	85.36	85.31			
2103	125	0	85.78B	0.07	85.86	85.69	85.75	85.81			
2104	125	4	84.92B	0.10	84.85	84.83	85.05	84.94			
2105	125	4	83.52B	0.04	83.48	83.53	83.52	83.57			
2106	125	0	84.91B	0.15	84.87	84.82	84.80	85.12			
2101	134	8	89.35	0.45 c	88.98	89.15	90.23	89.21	89.66	89.32	89.50
2102	134	8	90.38	0.29	90.60	90.55	89.98	90.09	90.36	90.21	90.39
2103	134	8	91.10	0.30	91.03	91.08	91.14	91.32	90.68	91.45	90.67
2104	134	8	89.98	0.19	89.83	90.15	90.03	89.88	90.04	90.33	89.83
2105	134	8	88.25	0.38	88.57	88.02	88.10	87.53	88.76	88.50	88.32
2106	134	8	89.17	0.32	89.03	88.84	88.87	88.84	89.28	89.49	89.70
2101	135	0	94.46B	0.36	94.80	94.59	94.51	93.96			
2102	135	4	94.08B	0.37	94.53	93.90	93.69	94.22			
2103	135	4	94.57B	0.95C	93.90	93.70	95.72	94.96			
2104	135	0	95.58B	0.52 c	95.90	95.77	95.82	94.80			
2105	135	0	94.99B	0.09	94.90	94.93	95.09	95.03			
2106	135	0	94.45B	0.83C	95.23	93.90	93.58	95.08			

7.2 Rohprotein / XP

7.2.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	0.96	0.94	0.65	0.90	1.10	1.04
3	0.65	0.97	1.28	0.70	1.20	0.79
5	-0.09	-0.04	-0.24	0.10	-0.21	-0.31
7	1.08	0.95	0.74	1.19	1.16	1.13
8	-0.08	-0.78	-0.38	-0.64	-0.38	-0.87
9	-0.06	-0.21	-0.42	-0.48	-0.83	0.42
10	0.32	0.93	0.97	0.94	0.65	0.60
11	0.97	1.26	0.77	1.23	1.32	0.93
13	0.46	-0.05	0.34	-0.31	0.31	-0.07
14	0.41	0.54	0.60	0.48	0.49	0.25
15	0.22	0.91	0.46	0.43	0.98	0.75
18	-0.30	-0.12	-0.04	-0.12	-0.20	-0.16
19	0.28	0.32	0.58	0.40	0.32	0.61
20	0.62	0.51	-0.09	0.60	0.40	0.74
21	0.94	0.86	0.26	1.01	0.85	1.06
22	-0.50	-0.61	-0.73	-0.25	-0.54	-0.53
23	0.56	0.85	0.16	0.73	0.55	0.48
24	-0.35	-0.20	-0.05	-0.07	0.18	-0.17
25	-0.27	0.27	0.20	0.08	0.07	-0.03
26	1.28	1.72	1.88	1.48	1.30	1.53
27	-8.85	-8.43	-8.71	-7.90	-8.18	-7.15
28	0.29	0.59	0.20	0.61	0.49	0.60
29	-0.96	-0.71	-0.06	-0.77	-0.54	-1.35
30	-0.30	-0.36	-1.05	-0.31	-0.57	-0.59
31	0.84	0.32	0.96	0.97	0.31	0.54
32	-1.70	-1.99	-0.36	-0.89	-1.51	-1.18
33	-0.63	-0.35	-0.20	-0.81	-1.00	-1.21
34	-0.42	-0.42	-0.59	0.05	-0.94	-0.39
35	0.95	0.81	0.97	0.37	0.22	0.06
40	-1.36	-1.81	-1.12	-0.96	-1.83	-1.13
111	1.28	1.54	1.04	1.45	1.52	1.17
113	0.64	0.07	-0.15	0.31	0.47	0.51
125	-7.12	-7.29	-7.89	-7.06	-7.15	-6.71
134	-0.37	-1.49	0.15	-0.05	0.24	0.03
135	0.39	0.25	0.02	-2.27	-0.25	0.34

7.2.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	6.35	0.08	6.28	6.29	6.45	6.39
2102	1	4	6.24	0.16	6.39	6.33	6.19	6.04
2103	1	4	5.78	0.11	5.69	5.76	5.75	5.94
2104	1	4	6.80	0.09	6.91	6.77	6.70	6.82
2105	1	4	6.78	0.10	6.82	6.90	6.69	6.69
2106	1	4	6.22	0.09	6.12	6.25	6.33	6.18
2101	3	4	6.23	0.14	6.35	6.32	6.23	6.03
2102	3	4	6.25	0.11	6.08	6.28	6.31	6.32
2103	3	4	6.02	0.28	5.90	5.72	6.38	6.07

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	6.72	0.09	6.62	6.73	6.70	6.85		
2105	3	4	6.82	0.09	6.73	6.77	6.83	6.94		
2106	3	4	6.13	0.08	6.17	6.02	6.21	6.12		
2101	5	4	5.96	0.04	5.95	5.91	5.97	6.00		
2102	5	4	5.87	0.02	5.88	5.85	5.89	5.87		
2103	5	4	5.45	0.11	5.52	5.31	5.55	5.43		
2104	5	4	6.50	0.02	6.50	6.48	6.51	6.49		
2105	5	4	6.28	0.12	6.11	6.38	6.36	6.30		
2106	5	4	5.72	0.04	5.68	5.71	5.69	5.78		
2101	7	4	6.39	0.11	6.52	6.45	6.31	6.30		
2102	7	4	6.24	0.07	6.29	6.32	6.19	6.17		
2103	7	4	5.82	0.05	5.76	5.79	5.89	5.83		
2104	7	4	6.91	0.10	7.02	6.84	6.96	6.81		
2105	7	4	6.80	0.08	6.86	6.69	6.79	6.86		
2106	7	4	6.26	0.15	6.22	6.12	6.47	6.20		
2101	8	4	5.96	0.10	6.07	6.01	5.93	5.83		
2102	8	4	5.59	0.04	5.59	5.60	5.64	5.54		
2103	8	4	5.40	0.17	5.28	5.58	5.49	5.24		
2104	8	4	6.22	0.08	6.29	6.24	6.11	6.25		
2105	8	4	6.22	0.10	6.07	6.24	6.28	6.29		
2106	8	4	5.51	0.04	5.46	5.49	5.54	5.54		
2101	9	6	5.97	0.13	6.01	5.74	5.92	6.01	6.14	6.00
2102	9	6	5.81	0.08	5.88	5.71	5.85	5.88	5.77	5.74
2103	9	6	5.38	0.07	5.29	5.34	5.35	5.49	5.38	5.44
2104	9	6	6.28	0.08	6.32	6.21	6.41	6.33	6.20	6.22
2105	9	6	6.05	0.33C	6.33	6.11	6.28	6.32	5.58	5.71
2106	9	6	5.99	0.30C	6.29	6.44	5.77	5.90	5.68	5.86
2101	10	4	6.11	0.08	6.07	6.03	6.16	6.19		
2102	10	4	6.24	0.05	6.29	6.22	6.25	6.18		
2103	10	4	5.90	0.04	5.94	5.90	5.92	5.85		
2104	10	4	6.81	0.07	6.82	6.75	6.91	6.78		
2105	10	4	6.61	0.07	6.58	6.53	6.68	6.64		
2106	10	4	6.06	0.09	6.07	6.15	5.93	6.08		
2101	11	4	6.35	0.16	6.18	6.51	6.48	6.26		
2102	11	4	6.36	0.12	6.44	6.43	6.37	6.19		
2103	11	4	5.83	0.15	5.72	5.72	6.04	5.82		
2104	11	4	6.92	0.05	6.92	6.93	6.86	6.98		
2105	11	4	6.86	0.06	6.83	6.84	6.95	6.82		
2106	11	4	6.18	0.07	6.25	6.14	6.23	6.09		
2101	13	4	6.16	0.03	6.19	6.19	6.14	6.14		
2102	13	4	5.87	0.04	5.89	5.90	5.82	5.85		
2103	13	4	5.67	0.02	5.66	5.70	5.65	5.65		
2104	13	4	6.34	0.05	6.40	6.31	6.37	6.30		
2105	13	4	6.48	0.05	6.54	6.50	6.45	6.43		
2106	13	4	5.80	0.05	5.83	5.86	5.74	5.79		
2101	14	4	6.14	0.03	6.16	6.14	6.11	6.16		
2102	14	4	6.09	0.05	6.07	6.16	6.07	6.07		
2103	14	4	5.76	0.16	5.66	5.61	5.94	5.85		
2104	14	4	6.64	0.03	6.59	6.65	6.65	6.67		
2105	14	4	6.55	0.07	6.57	6.45	6.55	6.62		
2106	14	4	5.92	0.08	6.03	5.89	5.84	5.92		
2101	15	5	6.07	0.12	6.22	6.14	6.11	5.99	5.92	
2102	15	4	6.23	0.08	6.18	6.16	6.33	6.24		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	5.71	0.17	5.93	5.76	5.60	5.57
2104	15	4	6.62	0.06	6.70	6.59	6.62	6.57
2105	15	4	6.73	0.05	6.74	6.72	6.80	6.67
2106	15	4	6.11	0.10	6.15	6.06	6.24	6.00
2101	18	4	5.88	0.05	5.90	5.81	5.87	5.93
2102	18	4	5.84	0.16	5.95	5.65	5.76	6.00
2103	18	4	5.53	0.11	5.66	5.47	5.42	5.54
2104	18	4	6.42	0.08	6.51	6.46	6.35	6.35
2105	18	4	6.29	0.09	6.31	6.15	6.35	6.34
2106	18	4	5.77	0.09	5.77	5.69	5.90	5.73
2101	19	4	6.10	0.11	6.16	5.94	6.10	6.18
2102	19	4	6.01	0.10	6.11	5.91	5.93	6.07
2103	19	4	5.76	0.11	5.91	5.71	5.67	5.75
2104	19	4	6.61	0.09	6.68	6.69	6.55	6.51
2105	19	4	6.48	0.12	6.54	6.31	6.50	6.58
2106	19	4	6.06	0.09	6.06	5.99	6.19	6.01
2101	20	4	6.22	0.04	6.22	6.16	6.25	6.25
2102	20	4	6.08	0.14	6.17	5.96	5.95	6.24
2103	20	4	5.50	0.12	5.64	5.51	5.36	5.51
2104	20	4	6.69	0.13	6.78	6.81	6.63	6.52
2105	20	4	6.51	0.09	6.62	6.41	6.53	6.50
2106	20	4	6.11	0.05	6.17	6.05	6.12	6.10
2101	21	4	6.34	0.08	6.38	6.24	6.34	6.42
2102	21	4	6.21	0.07	6.28	6.14	6.16	6.25
2103	21	4	5.64	0.12	5.79	5.60	5.50	5.65
2104	21	4	6.84	0.11	6.92	6.95	6.75	6.73
2105	21	4	6.68	0.12	6.80	6.53	6.76	6.65
2106	21	4	6.23	0.05	6.29	6.20	6.19	6.24
2101	22	4	5.80	0.12	5.85	5.80	5.64	5.92
2102	22	4	5.66	0.09	5.62	5.70	5.76	5.54
2103	22	4	5.27	0.13	5.30	5.29	5.39	5.09
2104	22	4	6.37	0.10	6.35	6.39	6.49	6.24
2105	22	4	6.16	0.05	6.11	6.23	6.15	6.15
2106	22	4	5.63	0.06	5.60	5.58	5.72	5.63
2101	23	4	6.20	0.04	6.24	6.20	6.21	6.15
2102	23	4	6.21	0.06	6.25	6.17	6.26	6.14
2103	23	4	5.60	0.12	5.49	5.64	5.52	5.74
2104	23	4	6.73	0.09	6.82	6.66	6.66	6.79
2105	23	4	6.57	0.15	6.64	6.48	6.41	6.75
2106	23	4	6.01	0.05	5.99	6.07	5.95	6.04
2101	24	4	5.86	0.11	5.85	6.02	5.77	5.80
2102	24	4	5.81	0.07	5.76	5.76	5.82	5.90
2103	24	4	5.52	0.25	5.36	5.27	5.68	5.79
2104	24	4	6.43	0.01	6.43	6.42	6.42	6.46
2105	24	4	6.43	0.08	6.45	6.43	6.32	6.53
2106	24	4	5.77	0.05	5.71	5.74	5.82	5.80
2101	25	4	5.89	0.04	5.93	5.84	5.89	5.90
2102	25	4	5.99	0.08	6.10	5.97	5.91	5.97
2103	25	4	5.62	0.10	5.57	5.49	5.73	5.67
2104	25	4	6.49	0.08	6.45	6.42	6.60	6.50
2105	25	4	6.39	0.12	6.40	6.48	6.22	6.46
2106	25	4	5.82	0.03	5.77	5.82	5.84	5.84
2101	26	4	6.47	0.01	6.46	6.47	6.48	6.47

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	6.53	0.12	6.56	6.37	6.54	6.66
2103	26	4	6.24	0.13	6.06	6.27	6.34	6.31
2104	26	4	7.01	0.10	7.07	6.88	7.01	7.11
2105	26	4	6.85	0.03	6.82	6.86	6.89	6.84
2106	26	4	6.41	0.11	6.45	6.43	6.25	6.50
2101	27	0	2.67B	0.12	2.56	2.58	2.81	2.73
2102	27	0	2.73B	0.10	2.66	2.80	2.62	2.82
2103	27	0	2.27B	0.19	2.53	2.18	2.08	2.29
2104	27	0	3.50B	0.11	3.59	3.36	3.59	3.45
2105	27	0	3.30B	0.17	3.09	3.37	3.23	3.50
2106	27	0	3.15B	0.01	3.17	3.15	3.16	3.14
2101	28	4	6.10	0.06	6.12	6.06	6.04	6.18
2102	28	4	6.11	0.06	6.11	6.07	6.06	6.20
2103	28	4	5.61	0.04	5.56	5.62	5.66	5.61
2104	28	4	6.69	0.08	6.75	6.66	6.59	6.75
2105	28	4	6.55	0.04	6.52	6.59	6.51	6.57
2106	28	4	6.06	0.08	6.06	6.01	6.17	5.99
2101	29	4	5.63	0.22	5.46	5.89	5.43	5.73
2102	29	4	5.62	0.07	5.72	5.60	5.58	5.57
2103	29	4	5.52	0.11	5.67	5.43	5.46	5.50
2104	29	4	6.17	0.24C	6.30	5.82	6.36	6.22
2105	29	4	6.16	0.19	6.43	6.01	6.04	6.16
2106	29	4	5.33	0.05	5.33	5.25	5.34	5.38
2101	30	4	5.88	0.06	5.93	5.92	5.80	5.86
2102	30	4	5.75	0.02	5.72	5.76	5.75	5.78
2103	30	4	5.15	0.04	5.18	5.09	5.18	5.15
2104	30	4	6.34	0.06	6.43	6.30	6.30	6.34
2105	30	4	6.15	0.02	6.15	6.12	6.16	6.17
2106	30	4	5.61	0.04	5.65	5.63	5.60	5.57
2101	31	4	6.31	0.30C	6.61	6.06	6.52	6.04
2102	31	4	6.01	0.21	5.93	5.75	6.10	6.24
2103	31	4	5.90	0.28	5.78	5.57	6.20	6.05
2104	31	4	6.83	0.28C	7.08	7.06	6.65	6.52
2105	31	4	6.48	0.10	6.59	6.36	6.53	6.43
2106	31	4	6.03	0.16	6.23	5.96	5.86	6.09
2101	32	4	5.35	0.12	5.52	5.26	5.30	5.33
2102	32	4	5.14	0.15	5.05	5.19	4.99	5.32
2103	32	4	5.41	0.31	5.62	4.95	5.50	5.55
2104	32	4	6.13	0.18	6.36	6.17	5.97	6.00
2105	32	4	5.80	0.24	6.06	5.50	5.74	5.90
2106	32	4	5.39	0.07	5.43	5.39	5.29	5.44
2101	33	4	5.75	0.17	5.86	5.50	5.81	5.84
2102	33	4	5.75	0.09	5.75	5.70	5.68	5.88
2103	33	4	5.46	0.09	5.48	5.59	5.42	5.37
2104	33	4	6.16	0.07	6.07	6.22	6.12	6.21
2105	33	4	5.99	0.11	5.89	6.14	5.99	5.92
2106	33	4	5.38	0.08	5.49	5.34	5.36	5.32
2101	34	4	5.83	0.07	5.77	5.86	5.78	5.93
2102	34	4	5.73	0.10	5.78	5.60	5.83	5.70
2103	34	4	5.32	0.12	5.37	5.45	5.29	5.17
2104	34	4	6.48	0.17	6.31	6.43	6.72	6.47
2105	34	4	6.01	0.14	6.01	5.86	5.97	6.20
2106	34	4	5.68	0.10	5.60	5.81	5.61	5.73

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values							
2101	35	4	6.35	0.05	6.33	6.39	6.29	6.39				
2102	35	4	6.19	0.10	6.13	6.32	6.21	6.09				
2103	35	4	5.90	0.13	6.01	5.71	5.92	5.98				
2104	35	4	6.60	0.12	6.76	6.56	6.58	6.50				
2105	35	4	6.45	0.14	6.40	6.66	6.39	6.33				
2106	35	4	5.85	0.03	5.82	5.86	5.90	5.83				
2101	40	0	5.48	0.07	5.46D	5.59D	5.45D	5.44D				
2102	40	0	5.21	0.05	5.13D	5.24D	5.25D	5.21D				
2103	40	0	5.12	0.04	5.15D	5.14D	5.11D	5.07D				
2104	40	0	6.10	0.07	6.01D	6.14D	6.18D	6.09D				
2105	40	0	5.68	0.12	5.75D	5.80D	5.58D	5.58D				
2106	40	0	5.41	0.05	5.39D	5.38D	5.48D	5.37D				
2101	111	4	6.47	0.11	6.34	6.58	6.55	6.42				
2102	111	4	6.46	0.15	6.56	6.59	6.43	6.27				
2103	111	4	5.93	0.15	5.80	5.83	6.13	5.96				
2104	111	4	7.00	0.05	7.01	7.02	6.93	7.05				
2105	111	4	6.93	0.04	6.91	6.95	6.98	6.89				
2106	111	4	6.27	0.12	6.42	6.15	6.31	6.21				
2101	113	4	6.23	0.04	6.27	6.25	6.19	6.20				
2102	113	4	5.91	0.04	5.94	5.87	5.96	5.88				
2103	113	4	5.48	0.02	5.51	5.49	5.47	5.46				
2104	113	4	6.58	0.03	6.57	6.58	6.61	6.54				
2105	113	4	6.54	0.05	6.61	6.50	6.54	6.51				
2106	113	4	6.02	0.03	6.04	6.04	5.99	6.02				
2101	125	4	3.32B	0.04	3.37	3.31	3.32	3.28				
2102	125	4	3.15B	0.13	3.13	3.23	3.27	2.97				
2103	125	4	2.58B	0.11	2.43	2.65	2.67	2.57				
2104	125	4	3.81B	0.11	3.82	3.72	3.96	3.76				
2105	125	4	3.68B	0.10	3.71	3.75	3.53	3.73				
2106	125	4	3.32B	0.07	3.40	3.33	3.27	3.26				
2101	134	8	5.85	0.19	5.63	5.56	5.77	5.90	5.92	5.98	6.14	5.92
2102	134	8	5.33	0.12	5.17	5.19	5.36	5.41	5.41	5.39	5.48	5.21
2103	134	8	5.60	0.33	5.37	5.64	5.35	5.26	6.18	5.54	5.99	5.43
2104	134	8	6.44	0.13	6.28	6.34	6.45	6.38	6.54	6.36	6.68	6.52
2105	134	8	6.45	0.16	6.33	6.38	6.21	6.46	6.65	6.67	6.54	6.40
2106	134	8	5.85	0.07	5.79	5.83	5.78	5.76	5.87	5.87	5.97	5.88
2101	135	4	6.13	0.03	6.10	6.14	6.13	6.17				
2102	135	4	5.98	0.24	6.05	5.79	5.79	6.28				
2103	135	4	5.55	0.12	5.58	5.69	5.52	5.40				
2104	135	4	5.61	0.06	5.60	5.58	5.70	5.56				
2105	135	4	6.27	0.57C	6.72	6.33	6.58	5.45				
2106	135	4	5.96	0.58C	6.51	6.18	6.00	5.15				

7.3 Rohfaser / XF

7.3.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	-0.35	-0.22	-0.68	-0.66	-0.71	-0.49
3	0.08	-0.32	0.20	0.51	0.64	0.64
5	-0.60	-0.59	0.06	-1.32	-0.47	-0.84
7	0.96	1.08	1.29	0.68	0.76	0.66
8	-0.32	0.28	0.91	0.34	-0.58	-0.17
9	0.89	0.77	1.26	0.59	1.03	0.66
10	0.59	0.32	-0.17	-0.47	0.10	0.16
11	-0.96	-0.48	-0.26	-1.46	-1.01	-0.78
13	-0.55	0.56	0.49	0.16	0.00	-0.83
14	-0.29	-0.26	-0.34	-0.63	-0.59	-0.17
15	0.02	0.07	0.52	-0.21	-0.32	-0.41
18	0.21	-0.02	0.03	-0.33	0.71	-0.25
19	1.08	0.63	0.30	0.26	1.30	0.77
20	-0.03	-0.20	-0.54	-0.61	0.34	-0.43
21	-0.38	-0.75	-0.98	-1.07	-0.11	-0.92
22	0.07	-0.14	1.12	-0.72	0.03	-0.00
23	1.29	0.51	1.16	0.67	1.31	1.08
24	0.55	0.32	1.09	-0.33	0.28	0.23
25	-0.01	-0.31	0.32	-0.25	-0.26	-0.05
26	0.05	-0.04	-0.86	-0.80	-0.20	-0.25
27	-4.34	-4.27	-4.72	-2.81	-3.31	-2.89
28	0.55	0.19	0.25	-0.16	0.09	0.13
29	1.33	0.47	1.02	0.06	0.69	0.98
30	-0.24	-0.14	1.23	-0.12	-0.57	0.24
31	-0.31	0.80	0.52	0.04	0.58	0.87
32	-0.42	0.56	-0.12	-0.37	-0.08	0.18
33	-1.19	-0.72	0.06	-0.71	-0.96	-0.28
34	1.79	1.68	2.35	2.04	1.20	1.22
35	-0.03	0.42	-0.20	0.22	0.88	0.82
40	0.06	-0.68	-1.28	-0.99	-1.17	-1.09
111	-1.11	-0.72	-0.37	-1.63	-1.14	-0.92
113	-1.00	-0.13	-0.37	-0.59	-1.28	-1.46
125	-15.23	-15.03	-15.57	-14.98	-15.60	-14.76
134	1.41	0.15	-0.38	-0.12	-0.69	0.13
135	1.25	0.52	-4.19	7.22	2.35	2.33

7.3.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	16.12	0.41	15.74	16.64	16.26	15.84
2102	1	4	18.16	0.26	17.94	18.13	18.03	18.54
2103	1	4	25.19	0.24	25.30	25.21	25.39	24.84
2104	1	4	17.65	0.42	17.09	17.64	18.12	17.77
2105	1	4	16.05	0.30	15.95	15.74	16.07	16.45
2106	1	4	15.90	0.31	16.20	15.47	15.96	15.95
2101	3	4	16.55	0.18	16.59	16.28	16.69	16.62
2102	3	4	18.06	0.14	18.13	17.87	18.18	18.07
2103	3	4	26.07	0.28	25.97	26.40	25.75	26.15

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	18.83	0.81	17.86	18.48	19.63	19.33		
2105	3	4	17.40	0.38	17.68	17.79	17.12	17.03		
2106	3	4	17.02	0.26	16.72	16.89	17.25	17.23		
2101	5	4	15.87	0.11	15.91	15.91	15.96	15.71		
2102	5	4	17.79	0.08	17.69	17.79	17.81	17.89		
2103	5	4	25.92	0.13	26.02	26.03	25.75	25.90		
2104	5	4	17.00	0.21	16.87	17.29	16.84	16.98		
2105	5	4	16.29	0.10	16.42	16.19	16.32	16.24		
2106	5	4	15.55	0.08	15.54	15.45	15.57	15.64		
2101	7	4	17.43	0.35	17.17	17.11	17.84	17.58		
2102	7	4	19.46	0.29	19.46	19.10	19.80	19.48		
2103	7	4	27.16	0.16	27.39	27.06	27.05	27.13		
2104	7	4	18.99	0.40	18.75	19.56	18.99	18.67		
2105	7	4	17.52	0.36	17.12	17.71	17.91	17.34		
2106	7	4	17.05	0.11	17.12	17.11	17.08	16.88		
2101	8	4	16.15	0.25	16.02	16.51	15.94	16.12		
2102	8	4	18.66	0.30	18.43	18.37	18.84	18.99		
2103	8	4	26.78	0.25	26.86	26.63	26.54	27.09		
2104	8	4	18.65	0.47	18.80	18.98	18.89	17.95		
2105	8	4	16.18	0.15	16.31	16.21	16.25	15.96		
2106	8	4	16.21	0.45	16.81	16.30	15.91	15.83		
2101	9	6	17.36	0.26	17.53	17.63	17.25	17.60	17.07	17.06
2102	9	6	19.15	0.28	18.93	19.66	19.04	19.16	18.89	19.20
2103	9	6	27.13	0.42	27.19	27.51	27.09	26.36	27.50	27.11
2104	9	6	18.90	0.30	18.39	18.74	18.95	19.22	18.99	19.13
2105	9	6	17.79	0.77	17.85	18.71	18.57	17.74	16.74	17.15
2106	9	6	17.05	0.69	18.11	17.58	16.50	16.41	17.13	16.56
2101	10	4	17.06	0.17	17.07	17.22	17.10	16.83		
2102	10	4	18.70	0.20	18.87	18.68	18.83	18.43		
2103	10	4	25.69	0.23	25.55	25.59	25.60	26.03		
2104	10	4	17.84	0.13	17.98	17.91	17.67	17.81		
2105	10	4	16.86	0.31	16.94	17.23	16.80	16.48		
2106	10	4	16.55	0.24	16.25	16.52	16.85	16.56		
2101	11	4	15.51	0.50	15.63	14.78	15.76	15.88		
2102	11	4	17.90	0.47	17.35	18.04	17.75	18.46		
2103	11	4	25.61	0.70	25.99	26.33	24.73	25.39		
2104	11	4	16.86	0.21	16.62	17.13	16.90	16.78		
2105	11	4	15.75	0.33	15.97	15.62	15.34	16.06		
2106	11	4	15.61	0.37	15.38	15.88	15.21	15.96		
2101	13	4	15.92	0.07	15.87	15.86	16.00	15.95		
2102	13	4	18.94	0.03	18.91	18.97	18.94	18.93		
2103	13	4	26.36	0.06	26.34	26.38	26.29	26.43		
2104	13	4	18.48	0.12	18.52	18.30	18.52	18.58		
2105	13	4	16.76	0.05	16.70	16.81	16.79	16.76		
2106	13	4	15.55	0.09	15.56	15.43	15.57	15.64		
2101	14	4	16.18	0.22	15.91	16.07	16.33	16.39		
2102	14	4	18.12	0.22	18.24	17.80	18.16	18.27		
2103	14	4	25.53	0.40	25.76	25.95	25.09	25.31		
2104	14	4	17.69	0.40	18.16	17.38	17.32	17.89		
2105	14	4	16.17	0.13	16.12	16.35	16.18	16.04		
2106	14	4	16.22	0.37	15.76	16.50	16.54	16.07		
2101	15	5	16.49	0.31	16.50	16.22	16.49	16.23	16.99	
2102	15	4	18.45	0.19	18.30	18.71	18.33	18.48		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	26.38	0.35	26.03	26.18	26.83	26.49
2104	15	4	18.11	0.12	18.05	18.27	18.01	18.10
2105	15	4	16.44	0.23	16.43	16.46	16.16	16.72
2106	15	4	15.97	0.42	16.02	16.31	15.36	16.20
2101	18	4	16.68	0.32	16.96	16.94	16.43	16.37
2102	18	4	18.36	0.12	18.31	18.50	18.41	18.23
2103	18	4	25.90	0.13	25.91	26.07	25.86	25.76
2104	18	4	17.99	0.22	17.79	17.88	17.96	18.30
2105	18	4	17.47	0.36	17.24	17.95	17.16	17.54
2106	18	4	16.14	0.17	16.26	16.24	15.90	16.14
2101	19	4	17.55	0.48	17.71	18.14	17.14	17.19
2102	19	4	19.01	0.10	19.02	19.06	19.10	18.86
2103	19	4	26.17	0.17	26.29	26.30	26.15	25.93
2104	19	4	18.58	0.29	18.48	18.52	18.31	18.99
2105	19	4	18.07	0.44	17.83	18.70	17.72	18.02
2106	19	4	17.15	0.50	17.05	16.94	17.88	16.73
2101	20	4	16.44	0.20	16.70	16.48	16.32	16.26
2102	20	4	18.18	0.16	18.06	18.36	18.27	18.02
2103	20	4	25.33	0.08	25.41	25.33	25.36	25.23
2104	20	4	17.71	0.29	17.55	17.43	17.74	18.11
2105	20	4	17.10	0.60	16.73	17.92	16.60	17.16
2106	20	4	15.96	0.11	15.90	15.98	16.10	15.86
2101	21	4	16.09	0.26	16.27	16.35	15.89	15.85
2102	21	4	17.63	0.15	17.62	17.52	17.84	17.53
2103	21	4	24.88	0.14	24.87	24.91	25.05	24.70
2104	21	4	17.24	0.27	16.96	17.08	17.38	17.56
2105	21	4	16.66	0.38	16.39	17.07	16.28	16.88
2106	21	4	15.46	0.14	15.31	15.58	15.58	15.37
2101	22	4	16.54	0.54	17.06	15.83	16.43	16.84
2102	22	4	18.24	0.13	18.05	18.27	18.28	18.35
2103	22	4	26.99	0.23	27.21	26.68	27.11	26.95
2104	22	4	17.60	0.14	17.71	17.40	17.57	17.70
2105	22	4	16.79	0.34	16.65	16.88	17.22	16.42
2106	22	4	16.38	0.30	16.42	16.33	16.76	16.03
2101	23	4	17.76	0.65	17.74	18.14	18.31	16.85
2102	23	4	18.89	0.58	18.36	19.71	18.65	18.83
2103	23	4	27.03	0.68	27.71	26.53	27.50	26.36
2104	23	4	18.98	0.28	18.87	19.12	19.29	18.66
2105	23	4	18.07	0.62	18.35	18.29	18.49	17.15
2106	23	4	17.47	0.49	16.84	17.86	17.85	17.32
2101	24	4	17.02	0.28	16.83	16.76	17.36	17.12
2102	24	4	18.70	0.13	18.87	18.72	18.55	18.67
2103	24	4	26.95	0.37	27.38	27.12	26.55	26.75
2104	24	4	17.99	0.19	17.76	18.20	17.92	18.07
2105	24	4	17.04	0.17	16.87	17.17	17.20	16.93
2106	24	4	16.61	0.06	16.69	16.59	16.61	16.56
2101	25	4	16.46	0.22	16.24	16.30	16.67	16.62
2102	25	4	18.08	0.36	17.78	18.23	18.52	17.78
2103	25	4	26.18	0.31	26.64	26.14	25.99	25.96
2104	25	4	18.07	0.55	18.57	18.27	17.28	18.16
2105	25	4	16.50	0.44	16.40	16.06	17.10	16.44
2106	25	4	16.33	0.21	16.15	16.54	16.15	16.49
2101	26	4	16.52	0.29	16.66	16.83	16.15	16.44

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	18.34	0.49	17.88	18.86	17.96	18.64
2103	26	4	25.01	0.34	25.22	24.64	24.80	25.36
2104	26	4	17.51	0.67	16.84	18.16	17.04	18.02
2105	26	4	16.56	0.20	16.64	16.27	16.73	16.61
2106	26	4	16.14	0.23	16.34	16.26	15.81	16.13
2101	27	4	12.12B	0.35	12.30	12.49	11.70	12.00
2102	27	4	14.11B	0.57	14.65	13.34	14.05	14.39
2103	27	4	21.14B	0.61	20.76	21.77	21.55	20.50
2104	27	4	15.50	0.77	14.88	16.35	14.82	15.96
2105	27	4	13.45 b	0.52	12.74	13.42	13.95	13.69
2106	27	4	13.50 b	0.70	12.68	14.07	13.14	14.10
2101	28	4	17.02	0.48	17.39	16.84	17.42	16.43
2102	28	4	18.57	0.25	18.36	18.43	18.57	18.92
2103	28	4	26.12	0.36	26.62	25.82	25.90	26.13
2104	28	4	18.16	0.26	18.35	18.28	18.23	17.78
2105	28	4	16.85	0.40	16.33	16.90	17.31	16.85
2106	28	4	16.52	0.14	16.64	16.50	16.61	16.32
2101	29	4	17.80	0.72	18.16	16.96	18.59	17.49
2102	29	4	18.85	0.30	18.50	18.99	19.17	18.74
2103	29	4	26.88	0.27	26.93	26.52	27.18	26.91
2104	29	4	18.38	0.45	17.82	18.75	18.73	18.20
2105	29	4	17.45	0.49	17.11	18.17	17.36	17.16
2106	29	4	17.37	0.51	16.91	17.82	16.94	17.80
2101	30	4	16.22	0.13	16.14	16.18	16.42	16.16
2102	30	4	18.24	0.20	17.98	18.21	18.34	18.43
2103	30	4	27.09	0.10	27.13	27.02	27.22	27.00
2104	30	4	18.20	0.16	18.11	18.05	18.24	18.40
2105	30	4	16.19	0.06	16.21	16.10	16.25	16.19
2106	30	4	16.63	0.16	16.51	16.66	16.84	16.50
2101	31	4	16.16	1.21C	15.19	16.64	15.16	17.65
2102	31	4	19.18	0.64	19.43	19.93	18.91	18.44
2103	31	4	26.39	0.95	26.37	27.57	25.23	26.38
2104	31	4	18.35	1.31C	16.44	19.23	18.57	19.18
2105	31	4	17.34	0.53	16.61	17.68	17.32	17.76
2106	31	4	17.25	1.06C	15.91	18.52	17.29	17.31
2101	32	4	16.05	0.11	15.94	16.14	15.98	16.13
2102	32	4	18.94	0.60	18.41	19.36	19.55	18.45
2103	32	4	25.75	0.53	25.62	26.51	25.59	25.28
2104	32	4	17.94	0.85	16.95	17.53	18.65	18.64
2105	32	4	16.68	0.76	16.70	17.67	15.82	16.55
2106	32	4	16.56	0.52	16.17	17.19	16.77	16.11
2101	33	4	15.28	0.50	14.69	15.54	15.80	15.07
2102	33	4	17.66	0.57	17.23	17.39	18.50	17.52
2103	33	4	25.92	0.80	25.34	25.27	26.10	26.98
2104	33	4	17.60	0.62	18.20	17.47	17.95	16.79
2105	33	4	15.80	0.47	16.34	15.22	15.68	15.95
2106	33	4	16.10	0.47	15.63	16.71	15.87	16.20
2101	34	4	18.26	0.53	18.19	18.14	17.73	18.99
2102	34	4	20.06	0.47	19.44	20.30	20.52	20.00
2103	34	4	28.22	1.00	28.10	27.11	28.10	29.55
2104	34	4	20.36	0.86	21.45	19.57	19.78	20.64
2105	34	4	17.96	0.38	17.63	18.15	18.40	17.66
2106	34	4	17.60	0.39	17.76	17.12	17.49	18.03

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	16.43	0.21	16.57	16.22	16.30	16.66			
2102	35	4	18.80	0.21	18.75	18.52	18.95	18.98			
2103	35	4	25.67	0.39	25.46	25.23	26.09	25.90			
2104	35	4	18.54	0.37	18.09	18.39	18.88	18.80			
2105	35	4	17.64	0.58	17.53	16.86	18.10	18.07			
2106	35	4	17.21	0.38	17.29	17.67	16.75	17.11			
2101	40	0	16.53	0.86	16.34D	15.79D	17.77D	16.21D			
2102	40	0	17.70	0.78	18.76D	17.54D	16.87D	17.63D			
2103	40	0	24.59	0.08	24.69D	24.61D	24.52D	24.53D			
2104	40	0	17.33	0.88	17.72D	17.66D	16.02D	17.91D			
2105	40	0	15.59	1.13 c	16.71D	15.68D	14.02D	15.95D			
2106	40	0	15.29	0.47	15.82D	15.20D	14.70D	15.44D			
2101	111	4	15.36	0.46	15.64	14.68	15.52	15.60			
2102	111	4	17.66	0.43	17.04	17.82	17.78	18.02			
2103	111	4	25.50	0.78	25.94	26.27	24.52	25.27			
2104	111	4	16.68	0.14	16.53	16.77	16.83	16.61			
2105	111	4	15.62	0.26	15.97	15.55	15.34	15.63			
2106	111	4	15.47	0.31	15.40	15.63	15.06	15.78			
2101	113	4	15.47	0.07	15.46	15.57	15.44	15.41			
2102	113	4	18.25	0.08	18.36	18.20	18.24	18.19			
2103	113	4	25.50	0.16	25.40	25.48	25.39	25.74			
2104	113	4	17.73	0.07	17.65	17.78	17.79	17.71			
2105	113	4	15.49	0.09	15.49	15.48	15.38	15.60			
2106	113	4	14.92	0.04	14.86	14.94	14.95	14.94			
2101	125	0	1.24B	0.24	1.18	1.60	1.07	1.12			
2102	125	0	3.35B	0.22	3.37	3.41	3.04	3.58			
2103	125	0	10.30B	0.63	11.19	9.94	9.77	10.30			
2104	125	0	3.34B	0.38	3.52	3.78	2.99	3.06			
2105	125	0	1.16B	0.49	1.70	0.95	1.40	0.58			
2106	125	0	1.62B	0.20	1.46	1.44	1.83	1.76			
2101	134	8	17.88	0.42	17.71	18.18	17.77	17.73	18.00	17.20	18.64
2102	134	8	18.53	0.49	18.62	18.00	18.02	17.92	19.05	18.69	19.15
2103	134	8	25.49	0.69	25.69	25.18	26.05	25.82	24.62	26.16	24.36
2104	134	8	18.20	0.50	18.47	18.18	17.97	18.27	18.90	18.66	17.75
2105	134	8	16.07	0.60	16.71	15.00	15.84	16.21	16.70	15.57	16.00
2106	134	8	16.52	0.71	15.99	15.70	16.54	16.63	17.35	16.75	17.55
2101	135	4	17.72	1.02C	17.05	17.23	17.36	19.24			
2102	135	4	18.90	1.27C	17.07	19.94	19.56	19.02			
2103	135	4	21.68	4.65C	20.20	19.58	28.55	18.37			
2104	135	3	28.13B	0.26	28.34	28.23	27.83	17.74			
2105	135	4	19.11	0.80	20.07	18.82	19.37	18.19			
2106	135	4	18.71	0.77	19.80	18.61	18.45	17.99			

7.4 Rohfett / XL

7.4.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	-0.53	-0.04	0.15	-0.35	-0.66	-0.27
3	-0.30	-0.33	-0.52	-0.13	0.00	0.34
5	0.12	-0.04	0.07	0.15	0.14	0.14
7	0.00	0.01	-0.42	-0.24	-0.46	0.11
8	1.27	1.43	0.54	1.40	1.02	1.42
9	0.43	-0.00	0.26	-0.03	0.90	-0.13
10	-0.43	-0.53	-0.14	-0.28	-0.27	-0.56
11	-0.25	0.31	0.89	0.16	0.01	0.00
13	-0.21	-0.38	-0.30	-0.08	-0.29	-0.17
14	0.31	0.47	0.42	0.42	0.28	0.40
15	-0.07	-0.29	0.00	-0.10	-0.44	-0.19
18	0.11	-0.34	0.33	-0.12	0.16	-0.21
19	-0.19	-0.41	0.18	-0.25	-0.35	-0.40
20	-0.48	-0.34	0.44	-0.36	-0.66	-0.81
21	-1.12	-0.87	-0.19	-0.74	-1.18	-1.08
22	1.44	1.24	0.55	1.41	1.06	1.41
23	-0.48	-0.77	-0.77	-0.78	-0.79	-0.94
24	-0.43	-0.53	-0.56	-0.43	-0.26	-0.22
25	0.12	0.24	0.02	0.16	0.08	0.19
26	-0.01	0.30	0.14	0.13	-0.01	-0.03
27	-0.20	-0.57	-1.32	0.10	0.11	0.38
28	0.40	0.14	-0.01	0.41	0.01	0.23
29	0.85	0.90	0.30	1.16	0.57	0.24
30	1.40	1.26	0.50	1.34	1.15	1.47
31	-0.10	-0.26	-0.35	0.04	-0.36	0.16
32	-0.23	-0.35	-0.93	-0.25	-0.40	-0.16
33	-0.73	-0.87	-0.69	-0.78	-0.78	-0.68
34	0.68	1.40	0.46	-0.20	1.07	0.89
35	-0.67	-0.83	-0.38	-0.37	-0.82	-0.99
40	0.92	1.58	1.52	0.42	1.31	1.35
111	-0.44	0.04	0.44	-0.14	-0.34	-0.26
113	-1.28	-1.07	-0.35	-0.85	-1.57	-1.03
125	-0.07	-0.31	-0.91	0.05	-0.10	0.24
134	1.45	1.15	0.93	1.22	1.84	1.61
135	-0.38	0.26	1.21	-1.63	1.36	-1.11

7.4.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	2.35	0.05	2.36	2.36	2.28	2.39
2102	1	4	2.30	0.04	2.31	2.34	2.28	2.25
2103	1	4	1.95	0.07	1.92	1.92	1.90	2.05
2104	1	4	2.55	0.07	2.65	2.50	2.50	2.55
2105	1	4	2.07	0.05	2.10	2.13	2.04	2.03
2106	1	4	2.67	0.03	2.69	2.64	2.65	2.70
2101	3	4	2.42	0.13	2.47	2.58	2.30	2.32
2102	3	4	2.21	0.06	2.14	2.19	2.23	2.28
2103	3	4	1.74	0.11	1.82	1.62	1.68	1.85

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	2.61	0.09	2.51	2.69	2.58	2.69		
2105	3	4	2.27	0.11	2.33	2.22	2.39	2.15		
2106	3	4	2.85	0.08	2.75	2.86	2.92	2.89		
2101	5	4	2.54	0.03	2.56	2.56	2.54	2.50		
2102	5	4	2.30	0.04	2.35	2.26	2.27	2.30		
2103	5	4	1.92	0.04	1.87	1.94	1.95	1.92		
2104	5	4	2.70	0.06	2.68	2.63	2.71	2.76		
2105	5	4	2.31	0.02	2.34	2.30	2.30	2.31		
2106	5	4	2.79	0.03	2.77	2.80	2.76	2.83		
2101	7	4	2.51	0.14	2.70	2.44	2.37	2.51		
2102	7	4	2.31	0.06	2.24	2.30	2.37	2.33		
2103	7	4	1.77	0.01	1.79	1.76	1.77	1.76		
2104	7	4	2.58	0.06	2.55	2.52	2.60	2.66		
2105	7	4	2.13	0.08	2.17	2.02	2.15	2.20		
2106	7	4	2.78	0.08	2.85	2.66	2.83	2.79		
2101	8	4	2.89	0.09	2.94	2.75	2.94	2.91		
2102	8	4	2.74	0.07	2.76	2.72	2.82	2.65		
2103	8	4	2.06	0.06	2.02	2.08	2.15	2.00		
2104	8	4	3.07	0.02	3.11	3.06	3.06	3.07		
2105	8	4	2.58	0.08	2.54	2.70	2.55	2.52		
2106	8	4	3.18	0.09	3.04	3.22	3.23	3.21		
2101	9	6	2.63	0.04	2.60	2.67	2.67	2.57	2.63	2.66
2102	9	6	2.31	0.05	2.35	2.26	2.32	2.38	2.28	2.25
2103	9	6	1.98	0.06	1.96	1.89	1.97	2.07	1.97	2.02
2104	9	6	2.64	0.04	2.63	2.68	2.65	2.64	2.57	2.69
2105	9	6	2.54	0.26C	2.45	2.37	2.33	2.37	2.90	2.84
2106	9	6	2.71	0.22C	2.42	2.45	2.89	2.73	2.85	2.93
2101	10	4	2.38	0.05	2.33	2.45	2.35	2.38		
2102	10	4	2.15	0.06	2.07	2.14	2.18	2.21		
2103	10	4	1.86	0.05	1.88	1.91	1.84	1.80		
2104	10	4	2.57	0.07	2.49	2.52	2.65	2.62		
2105	10	4	2.19	0.05	2.21	2.12	2.23	2.20		
2106	10	4	2.58	0.03	2.59	2.59	2.55	2.60		
2101	11	4	2.43	0.01	2.44	2.41	2.44	2.43		
2102	11	4	2.40	0.03	2.40	2.42	2.42	2.37		
2103	11	4	2.17	0.05	2.15	2.14	2.24	2.14		
2104	11	4	2.70	0.07	2.63	2.69	2.80	2.68		
2105	11	4	2.27	0.03	2.23	2.27	2.32	2.28		
2106	11	4	2.75	0.06	2.75	2.67	2.82	2.76		
2101	13	4	2.44	0.02	2.44	2.47	2.42	2.43		
2102	13	4	2.19	0.02	2.21	2.19	2.17	2.19		
2103	13	4	1.81	0.04	1.83	1.82	1.83	1.75		
2104	13	4	2.63	0.01	2.64	2.64	2.62	2.61		
2105	13	4	2.19	0.02	2.21	2.19	2.18	2.16		
2106	13	4	2.70	0.03	2.72	2.72	2.66	2.70		
2101	14	4	2.60	0.02	2.62	2.56	2.60	2.61		
2102	14	4	2.45	0.04	2.44	2.43	2.43	2.51		
2103	14	4	2.03	0.06	2.10	1.97	2.01	2.02		
2104	14	4	2.78	0.03	2.75	2.76	2.78	2.83		
2105	14	4	2.36	0.03	2.36	2.39	2.33	2.34		
2106	14	4	2.87	0.02	2.85	2.88	2.90	2.85		
2101	15	5	2.49	0.07	2.41	2.59	2.50	2.42	2.51	
2102	15	4	2.22	0.12	2.21	2.40	2.14	2.13		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	1.90	0.12	2.06	1.94	1.81	1.79
2104	15	4	2.62	0.08	2.61	2.73	2.60	2.54
2105	15	4	2.14	0.07	2.08	2.09	2.24	2.14
2106	15	4	2.69	0.13	2.57	2.64	2.88	2.68
2101	18	4	2.54	0.06	2.53	2.46	2.58	2.58
2102	18	4	2.21	0.07	2.27	2.12	2.17	2.27
2103	18	4	2.00	0.13	2.20	1.93	1.91	1.95
2104	18	4	2.62	0.04	2.61	2.57	2.62	2.67
2105	18	4	2.32	0.05	2.34	2.26	2.37	2.32
2106	18	4	2.69	0.10	2.62	2.66	2.84	2.63
2101	19	4	2.45	0.07	2.44	2.36	2.47	2.53
2102	19	4	2.19	0.05	2.24	2.13	2.16	2.21
2103	19	4	1.95	0.15	2.18	1.88	1.88	1.87
2104	19	4	2.58	0.05	2.59	2.58	2.50	2.64
2105	19	4	2.17	0.04	2.16	2.12	2.20	2.18
2106	19	4	2.63	0.04	2.60	2.60	2.67	2.64
2101	20	4	2.36	0.02	2.33	2.35	2.36	2.39
2102	20	4	2.21	0.04	2.23	2.20	2.16	2.24
2103	20	4	2.03	0.07	2.12	2.04	1.95	2.02
2104	20	4	2.54	0.02	2.54	2.54	2.52	2.58
2105	20	4	2.07	0.02	2.05	2.07	2.09	2.08
2106	20	4	2.51	0.03	2.53	2.47	2.51	2.50
2101	21	4	2.17	0.03	2.16	2.16	2.15	2.21
2102	21	4	2.05	0.06	2.12	1.97	2.04	2.08
2103	21	4	1.84	0.09	1.98	1.81	1.79	1.79
2104	21	4	2.43	0.06	2.46	2.42	2.35	2.49
2105	21	4	1.92	0.02	1.93	1.90	1.94	1.89
2106	21	4	2.43	0.04	2.46	2.37	2.44	2.42
2101	22	4	2.94	0.10	2.86	2.94	2.87	3.08
2102	22	4	2.68	0.05	2.75	2.68	2.68	2.62
2103	22	4	2.06	0.04	2.09	2.06	2.10	2.00
2104	22	4	3.07	0.12	3.07	3.20	3.11	2.92
2105	22	4	2.59	0.07	2.60	2.66	2.59	2.50
2106	22	4	3.17	0.07	3.11	3.12	3.25	3.22
2101	23	4	2.36	0.04	2.39	2.31	2.36	2.39
2102	23	4	2.08	0.04	2.12	2.03	2.10	2.06
2103	23	4	1.67	0.04	1.61	1.66	1.68	1.72
2104	23	4	2.42	0.04	2.42	2.42	2.36	2.46
2105	23	4	2.04	0.03	2.07	1.99	2.05	2.04
2106	23	4	2.47	0.06	2.41	2.53	2.44	2.50
2101	24	4	2.38	0.07	2.43	2.39	2.42	2.27
2102	24	4	2.15	0.06	2.08	2.20	2.13	2.19
2103	24	4	1.73	0.05	1.79	1.68	1.72	1.75
2104	24	4	2.52	0.07	2.62	2.47	2.52	2.48
2105	24	4	2.19	0.03	2.23	2.16	2.17	2.21
2106	24	4	2.68	0.04	2.65	2.67	2.67	2.75
2101	25	4	2.54	0.03	2.52	2.52	2.54	2.58
2102	25	4	2.38	0.05	2.39	2.44	2.32	2.37
2103	25	4	1.90	0.06	1.87	1.84	1.92	1.99
2104	25	4	2.70	0.04	2.67	2.66	2.76	2.71
2105	25	4	2.30	0.06	2.27	2.37	2.24	2.32
2106	25	4	2.81	0.01	2.81	2.79	2.81	2.82
2101	26	4	2.50	0.02	2.48	2.53	2.49	2.51

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	2.40	0.06	2.44	2.31	2.39	2.45
2103	26	4	1.94	0.04	2.00	1.91	1.91	1.94
2104	26	4	2.69	0.05	2.65	2.66	2.76	2.69
2105	26	4	2.27	0.05	2.29	2.25	2.21	2.32
2106	26	4	2.74	0.03	2.75	2.71	2.78	2.73
2101	27	4	2.45	0.09	2.46	2.53	2.49	2.32
2102	27	4	2.14	0.08	2.15	2.12	2.24	2.05
2103	27	4	1.50	0.07	1.54	1.41	1.49	1.57
2104	27	4	2.68	0.10	2.58	2.75	2.78	2.61
2105	27	4	2.31	0.08	2.41	2.26	2.33	2.22
2106	27	4	2.87	0.14	2.69	2.82	2.94	3.01
2101	28	4	2.63	0.05	2.57	2.68	2.60	2.64
2102	28	4	2.35	0.03	2.35	2.31	2.36	2.38
2103	28	4	1.90	0.05	1.83	1.95	1.93	1.89
2104	28	4	2.78	0.03	2.81	2.74	2.76	2.80
2105	28	4	2.28	0.05	2.33	2.28	2.20	2.29
2106	28	4	2.82	0.04	2.86	2.83	2.75	2.83
2101	29	4	2.76	0.15	2.68	2.97	2.64	2.75
2102	29	4	2.58	0.15	2.71	2.66	2.56	2.38
2103	29	4	1.99	0.12	1.88	1.89	2.08	2.12
2104	29	4	3.00	0.08	2.89	3.03	3.06	3.02
2105	29	4	2.44	0.06	2.48	2.35	2.48	2.46
2106	29	4	2.82	0.15	2.80	2.65	2.83	3.01
2101	30	4	2.93	0.04	2.98	2.94	2.87	2.92
2102	30	4	2.69	0.04	2.69	2.63	2.72	2.71
2103	30	4	2.05	0.02	2.04	2.08	2.06	2.03
2104	30	4	3.06	0.03	3.07	3.03	3.04	3.08
2105	30	4	2.62	0.05	2.62	2.55	2.64	2.66
2106	30	4	3.19	0.02	3.19	3.21	3.21	3.16
2101	31	4	2.48	0.12	2.57	2.44	2.57	2.33
2102	31	4	2.23	0.07	2.14	2.21	2.31	2.25
2103	31	4	1.80	0.09	1.80	1.68	1.91	1.79
2104	31	4	2.66	0.23C	2.66	3.00	2.52	2.48
2105	31	4	2.17	0.12	2.34	2.07	2.13	2.12
2106	31	4	2.80	0.13	2.72	2.88	2.66	2.93
2101	32	4	2.44	0.18 c	2.70	2.31	2.42	2.32
2102	32	4	2.20	0.14	2.12	2.13	2.15	2.41
2103	32	4	1.62	0.09	1.50	1.60	1.69	1.70
2104	32	4	2.58	0.16	2.61	2.79	2.43	2.48
2105	32	4	2.15	0.08	2.21	2.18	2.18	2.03
2106	32	4	2.70	0.15	2.53	2.62	2.83	2.81
2101	33	4	2.29	0.01	2.29	2.28	2.29	2.28
2102	33	4	2.05	0.03	2.03	2.09	2.06	2.01
2103	33	4	1.69	0.07	1.78	1.71	1.64	1.64
2104	33	4	2.42	0.09	2.53	2.43	2.31	2.40
2105	33	4	2.04	0.06	2.02	1.99	2.01	2.13
2106	33	4	2.55	0.08	2.60	2.49	2.63	2.47
2101	34	4	2.71	0.03	2.75	2.70	2.70	2.69
2102	34	4	2.73	0.06	2.64	2.78	2.77	2.73
2103	34	4	2.04	0.14	2.11	2.08	2.13	1.83
2104	34	4	2.59	0.15	2.47	2.71	2.45	2.73
2105	34	4	2.59	0.12	2.44	2.74	2.62	2.57
2106	34	4	3.02	0.02	3.01	3.03	3.05	2.99

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values							
2101	35	4	2.30	0.05	2.32	2.35	2.31	2.23				
2102	35	4	2.06	0.07	2.05	2.14	2.08	1.97				
2103	35	4	1.79	0.08	1.90	1.77	1.74	1.74				
2104	35	4	2.54	0.10	2.68	2.46	2.48	2.54				
2105	35	4	2.03	0.10	2.10	2.12	1.93	1.94				
2106	35	4	2.45	0.01	2.45	2.44	2.45	2.46				
2101	40	0	2.78	0.05	2.81D	2.81D	2.71D	2.81D				
2102	40	0	2.78	0.11	2.64D	2.81D	2.89D	2.79D				
2103	40	0	2.36	0.08	2.25D	2.38D	2.37D	2.44D				
2104	40	0	2.78	0.14	2.59D	2.85D	2.92D	2.76D				
2105	40	0	2.66	0.08	2.64D	2.73D	2.72D	2.57D				
2106	40	0	3.16	0.08	3.07D	3.13D	3.27D	3.15D				
2101	111	4	2.37	0.04	2.33	2.36	2.38	2.43				
2102	111	4	2.32	0.05	2.25	2.32	2.36	2.35				
2103	111	4	2.03	0.08	1.97	2.00	2.15	2.01				
2104	111	4	2.61	0.03	2.64	2.59	2.63	2.58				
2105	111	4	2.17	0.05	2.10	2.19	2.21	2.18				
2106	111	4	2.67	0.04	2.69	2.63	2.71	2.66				
2101	113	4	2.12	0.02	2.14	2.12	2.09	2.13				
2102	113	4	1.99	0.03	2.02	2.01	1.97	1.96				
2103	113	4	1.79	0.04	1.84	1.80	1.79	1.74				
2104	113	4	2.40	0.02	2.37	2.40	2.41	2.41				
2105	113	4	1.80	0.05	1.81	1.80	1.85	1.74				
2106	113	4	2.44	0.02	2.46	2.42	2.43	2.45				
2101	125	4	2.49	0.06	2.43	2.45	2.51	2.55				
2102	125	4	2.21	0.06	2.29	2.21	2.22	2.14				
2103	125	4	1.63	0.05	1.58	1.66	1.68	1.58				
2104	125	4	2.67	0.07	2.57	2.66	2.70	2.73				
2105	125	4	2.24	0.06	2.16	2.28	2.24	2.29				
2106	125	4	2.82	0.03	2.80	2.79	2.82	2.87				
2101	134	8	2.94	0.15	2.77	2.85	2.85	2.85	2.99	3.14	3.18	2.89
2102	134	8	2.65	0.07	2.58	2.62	2.60	2.75	2.57	2.68	2.70	2.73
2103	134	8	2.18	0.13	2.14	2.22	2.08	2.02	2.36	2.37	2.11	2.13
2104	134	8	3.02	0.07	2.96	3.01	3.03	3.04	2.91	3.07	2.99	3.14
2105	134	8	2.83	0.09	2.80	2.68	2.85	2.70	2.87	2.92	2.94	2.84
2106	134	8	3.23	0.08	3.22	3.23	3.24	3.15	3.37	3.25	3.11	3.31
2101	135	4	2.39	0.25C	2.48	2.53	2.53	2.03				
2102	135	4	2.39	0.11	2.49	2.37	2.45	2.23				
2103	135	4	2.26	0.25C	2.33	2.27	1.93	2.53				
2104	135	4	2.16	0.37C	2.07	2.00	1.88	2.70				
2105	135	4	2.68	0.07	2.75	2.70	2.67	2.59				
2106	135	4	2.42	0.32C	2.70	2.21	2.08	2.68				

7.5 Stärke / XS

7.5.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	0.18	0.17	0.96	-0.03	0.84	0.44
3	1.20	1.95	1.57	-0.25	-0.02	0.16
5	-0.24	-0.24	-0.45	-0.02	-0.37	0.43
7	-0.38	-0.65	-0.55	-1.18	-0.39	-0.22
8	1.35	-0.60	-0.72	-0.67	1.42	0.79
9	-0.67	0.76	-0.28	-0.24	0.40	-1.34
10	-1.01	-1.19	-0.88	-0.81	-0.57	-0.68
11	2.85	2.40	1.70	2.76	2.73	2.43
13	0.08	-0.67	-1.60	-0.84	-0.17	0.71
14	0.19	-0.24	-0.11	-0.40	0.54	-0.14
15	-0.25	-1.08	-1.46	-0.80	-0.66	-0.46
18	-1.05	-0.72	-0.74	-0.99	-1.81	-0.35
19	-1.69	-1.06	-0.95	-1.34	-2.18	-0.84
20	-0.96	-0.62	-0.32	-0.88	-1.47	-0.06
21	-0.49	-0.08	0.32	-0.34	-0.94	0.38
22	0.78	0.07	-1.40	0.66	0.68	0.95
23	-2.45	-0.80	-1.29	-1.84	-2.17	-1.60
24	-0.85	-0.89	-1.93	-0.58	-0.79	-0.38
25	0.79	1.32	0.30	0.32	1.05	0.71
26	-0.26	1.12	1.83	0.50	0.78	0.43
27	2.45	2.32	2.84	0.49	1.03	1.24
28	-0.57	0.17	-0.09	-0.57	0.18	-0.24
29	-1.50	0.11	-0.40	-0.27	-0.64	-0.88
30	1.34	0.07	-1.52	-0.08	1.54	0.39
31	0.55	-0.57	0.10	-0.29	-0.14	-0.35
32	-0.74	-1.83	-0.57	-0.84	-0.94	-1.06
33	0.91	1.05	0.44	0.12	0.72	-0.28
34	-1.44	-1.00	-1.22	-1.18	-0.50	-1.07
35	-0.73	-1.51	-0.92	-1.28	-1.56	-0.96
40	-2.07	-3.86	-2.19	-2.44	-1.41	-1.46
111	2.82	2.42	1.68	2.76	2.64	2.46
113	1.06	0.27	-0.37	-0.13	0.85	1.88
125	7.59	7.46	7.40	6.95	8.19	7.40
134	0.14	-0.76	1.01	1.29	0.52	0.98
135	-2.89	0.30	5.03	-14.77	-0.60	-5.06

7.5.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	36.19	0.74	37.08	35.43	35.76	36.50
2102	1	4	23.13	0.51	23.54	23.19	23.39	22.39
2103	1	4	10.91	0.17	10.85	10.75	10.91	11.14
2104	1	4	31.86	0.86	32.17	32.92	31.00	31.35
2105	1	4	31.31	0.44	31.33	31.79	31.40	30.72
2106	1	4	36.20	0.82	35.31	37.25	36.38	35.85
2101	3	4	37.71	0.24	37.41	37.70	37.99	37.76
2102	3	4	25.79	0.33	25.66	26.01	25.39	26.10
2103	3	4	11.84	0.57	11.37	11.52	12.65	11.81

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	31.54	0.95	32.81	31.61	31.16	30.58		
2105	3	4	30.03	0.62	29.29	29.79	30.74	30.29		
2106	3	4	35.79	0.41	35.70	36.36	35.40	35.69		
2101	5	4	35.56	0.16	35.65	35.33	35.56	35.68		
2102	5	4	22.51	0.14	22.67	22.40	22.59	22.40		
2103	5	4	8.81	0.60	7.95	9.29	8.87	9.12		
2104	5	4	31.87	0.24	31.61	31.94	32.16	31.77		
2105	5	4	29.50	0.23	29.52	29.54	29.20	29.75		
2106	5	4	36.19	0.12	36.30	36.22	36.20	36.02		
2101	7	4	35.35	0.60	35.98	35.67	35.12	34.62		
2102	7	4	21.89	0.16	21.95	21.95	22.01	21.65		
2103	7	4	8.65	0.45	8.29	8.81	9.21	8.29		
2104	7	4	30.14	0.39	30.01	29.95	29.88	30.72		
2105	7	4	29.46	0.75	29.84	29.99	29.66	28.35		
2106	7	4	35.20	0.39	35.66	35.27	35.16	34.72		
2101	8	4	37.94	0.47	37.63	37.44	38.39	38.30		
2102	8	4	21.97	0.45	22.52	22.09	21.44	21.85		
2103	8	4	8.40	0.36	8.23	8.26	8.94	8.17		
2104	8	4	30.91	0.44	31.28	30.35	30.77	31.22		
2105	8	4	32.18	0.27	32.08	32.58	32.08	31.97		
2106	8	4	36.72	0.64	36.24	36.09	37.28	37.27		
2101	9	6	34.91	0.54	34.87	34.11	35.24	34.43	35.36	35.42
2102	9	6	24.01	0.59	24.48	23.20	24.39	23.90	24.65	23.43
2103	9	6	9.05	0.54	8.73	8.77	9.52	9.89	8.47	8.93
2104	9	6	31.54	0.92	32.93	30.96	31.60	30.45	32.28	31.04
2105	9	6	30.66	3.78C	29.16	27.81	27.09	29.02	35.52	35.35
2106	9	4	35.95	0.36	28.63A	28.74A	36.30	35.74	35.56	36.20
2101	10	4	34.40	0.25	34.06	34.40	34.50	34.64		
2102	10	4	21.08	0.66	20.31	20.75	21.49	21.76		
2103	10	4	8.16	0.29	8.27	8.47	8.13	7.77		
2104	10	4	30.69	0.76	29.61	30.73	31.19	31.24		
2105	10	4	29.20	0.42	29.13	28.65	29.41	29.63		
2106	10	4	34.52	0.49	35.24	34.26	34.23	34.34		
2101	11	4	40.20	0.94	40.17	41.53	39.66	39.42		
2102	11	4	26.46	0.95	27.84	26.09	26.24	25.68		
2103	11	4	12.03	0.88	11.62	10.98	12.83	12.69		
2104	11	4	36.04	0.70	37.05	35.42	35.85	35.85		
2105	11	4	34.15	0.31	33.78	34.48	34.31	34.04		
2106	11	4	39.19	0.58	39.27	39.65	39.48	38.34		
2101	13	4	36.03	0.08	36.02	36.12	35.94	36.03		
2102	13	4	21.86	0.10	21.80	21.97	21.75	21.94		
2103	13	4	7.07	0.09	6.99	7.09	7.18	7.02		
2104	13	4	30.65	0.10	30.72	30.71	30.51	30.68		
2105	13	4	29.79	0.10	29.81	29.89	29.65	29.81		
2106	13	4	36.61	0.09	36.63	36.52	36.73	36.54		
2101	14	4	36.20	0.44	36.79	36.28	35.85	35.88		
2102	14	4	22.51	0.12	22.38	22.48	22.66	22.53		
2103	14	4	9.32	0.55	9.18	8.59	9.76	9.74		
2104	14	4	31.31	0.67	30.49	31.98	31.69	31.07		
2105	14	4	30.86	0.09	30.90	30.72	30.89	30.93		
2106	14	4	35.32	0.64	36.06	34.80	34.77	35.66		
2101	15	5	35.54	0.76	34.66	36.30	35.58	36.27	34.90	
2102	15	4	21.24	0.60	22.05	21.06	20.61	21.25		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	7.29	0.46	7.61	7.46	6.59	7.47
2104	15	4	30.71	0.15	30.83	30.83	30.69	30.52
2105	15	4	29.06	0.65	29.10	28.86	29.93	28.36
2106	15	4	34.85	0.66	34.66	34.14	35.74	34.85
2101	18	4	34.34	0.57	33.89	33.82	34.67	34.97
2102	18	4	21.79	0.48	21.32	22.29	22.11	21.43
2103	18	4	8.37	0.43	8.99	8.20	8.28	7.99
2104	18	4	30.42	0.55	30.49	30.68	30.87	29.63
2105	18	4	27.33	0.49	27.72	26.74	27.76	27.11
2106	18	4	35.02	0.35	34.56	35.03	35.08	35.41
2101	19	4	33.38	0.68	33.10	32.59	33.70	34.14
2102	19	4	21.28	0.49	20.94	21.79	21.59	20.79
2103	19	4	8.06	0.31	8.49	7.94	8.05	7.75
2104	19	4	29.90	0.57	29.98	30.01	30.48	29.11
2105	19	4	26.78	0.56	27.11	26.05	27.30	26.65
2106	19	4	34.28	0.33	33.87	34.23	34.34	34.67
2101	20	4	34.48	0.43	34.09	34.35	34.39	35.10
2102	20	4	21.93	0.38	21.73	22.06	22.39	21.54
2103	20	4	9.00	0.31	9.43	8.93	8.96	8.69
2104	20	4	30.59	0.55	30.71	31.14	30.68	29.82
2105	20	4	27.84	0.75	28.38	26.80	28.39	27.80
2106	20	4	35.45	0.28	35.18	35.39	35.37	35.85
2101	21	4	35.18	0.52	34.91	34.64	35.30	35.85
2102	21	4	22.74	0.69	22.26	23.71	22.77	22.24
2103	21	4	9.97	0.32	10.42	9.82	9.68	9.95
2104	21	4	31.40	0.49	31.59	31.67	31.68	30.67
2105	21	4	28.64	0.50	28.90	28.02	29.17	28.49
2106	21	4	36.11	0.23	35.88	36.00	36.17	36.40
2101	22	4	37.08	0.58	37.13	37.88	36.65	36.66
2102	22	4	22.98	0.18	23.06	22.78	23.18	22.89
2103	22	4	7.38	0.39	6.99	7.70	7.09	7.73
2104	22	4	32.90	0.29	32.95	32.88	33.25	32.53
2105	22	4	31.08	0.63	31.09	30.53	30.74	31.96
2106	22	4	36.97	0.45	36.61	36.75	36.90	37.62
2101	23	4	32.24	1.32	31.84	31.74	31.21	34.18
2102	23	4	21.67	0.76	22.25	20.87	21.18	22.38
2103	23	4	7.54	0.61	7.02	8.22	7.03	7.88
2104	23	4	29.16	0.44	29.26	29.31	28.51	29.54
2105	23	4	26.80	0.65	26.08	26.95	26.55	27.62
2106	23	4	33.14	1.14	34.73	32.06	32.65	33.14
2101	24	4	34.64	0.55	35.10	34.95	34.63	33.87
2102	24	4	21.54	0.23	21.42	21.33	21.86	21.54
2103	24	4	6.58	0.47	6.09	6.89	6.28	7.05
2104	24	4	31.03	0.26	31.43	30.92	30.93	30.85
2105	24	4	28.87	0.25	29.14	28.54	28.91	28.89
2106	24	4	34.96	0.22	34.72	35.17	34.84	35.13
2101	25	4	37.10	0.62	37.83	37.40	36.51	36.68
2102	25	4	24.86	0.92	25.88	24.15	24.00	25.39
2103	25	4	9.93	0.76	9.57	11.07	9.61	9.47
2104	25	4	32.38	1.09	31.42	31.88	33.92	32.31
2105	25	4	31.62	0.82	32.22	32.38	30.66	31.22
2106	25	4	36.61	0.51	37.08	36.53	36.91	35.94
2101	26	4	35.52	0.71	35.52	34.57	36.25	35.75

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	24.55	1.06	25.79	24.39	24.78	23.23
2103	26	4	12.22	0.35	12.67	12.03	12.30	11.86
2104	26	4	32.66	1.33	34.31	31.30	33.11	31.92
2105	26	4	31.23	0.59	31.25	31.81	30.41	31.44
2106	26	4	36.18	0.95	35.77	35.68	37.60	35.66
2101	27	4	39.59	0.55	39.23	39.09	40.29	39.76
2102	27	4	26.35	0.79	26.14	27.26	26.59	25.39
2103	27	4	13.73	0.54	14.41	13.16	13.48	13.89
2104	27	4	32.65	0.98	33.38	31.27	33.33	32.61
2105	27	4	31.59	0.48	32.27	31.53	31.17	31.39
2106	27	4	37.40	0.96	38.49	36.24	37.78	37.09
2101	28	4	35.06	0.42	34.75	35.27	34.68	35.56
2102	28	4	23.13	0.22	23.36	23.13	23.18	22.83
2103	28	4	9.34	0.50	8.63	9.36	9.60	9.77
2104	28	4	31.05	0.58	30.69	31.07	30.57	31.86
2105	28	4	30.32	0.52	30.79	30.24	29.62	30.62
2106	28	4	35.18	0.24	35.02	35.07	35.08	35.54
2101	29	4	33.67	1.14	33.54	34.37	32.11	34.65
2102	29	4	23.03	0.99	24.41	22.34	22.28	23.08
2103	29	4	8.87	0.70	9.21	9.70	8.19	8.40
2104	29	4	31.51	1.10	33.07	31.23	30.50	31.22
2105	29	4	29.09	0.88	29.83	27.91	28.92	29.68
2106	29	4	34.22	0.63	34.08	34.40	34.95	33.44
2101	30	4	37.92	0.14	38.01	37.98	37.72	37.99
2102	30	4	22.97	0.34	23.43	22.77	23.01	22.67
2103	30	4	7.20	0.13	7.12	7.38	7.09	7.20
2104	30	4	31.79	0.23	31.75	32.13	31.63	31.66
2105	30	4	32.36	0.14	32.42	32.50	32.17	32.34
2106	30	4	36.13	0.19	36.27	36.24	35.86	36.14
2101	31	4	36.74	1.80C	37.92	36.20	38.40	34.45
2102	31	4	22.02	1.27	21.43	21.25	21.48	23.91
2103	31	4	9.63	1.78C	9.82	7.54	11.85	9.30
2104	31	4	31.47	1.93 c	34.34	30.71	30.76	30.08
2105	31	4	29.84	1.05	31.18	28.68	30.02	29.49
2106	31	4	35.01	1.44	36.65	33.16	34.87	35.35
2101	32	4	34.80	0.69	33.89	34.91	35.55	34.84
2102	32	4	20.12	0.82	20.54	19.57	19.31	21.07
2103	32	4	8.63	0.84	9.28	7.44	9.19	8.59
2104	32	4	30.65	1.15	32.05	31.03	29.41	30.10
2105	32	4	28.65	0.77	28.66	27.56	29.16	29.21
2106	32	4	33.96	1.59	34.68	32.21	33.15	35.79
2101	33	4	37.28	1.09	38.53	36.65	36.12	37.81
2102	33	4	24.44	0.87	25.19	24.71	23.18	24.68
2103	33	4	10.14	0.58	10.70	10.38	10.14	9.35
2104	33	4	32.08	0.89	31.12	31.74	32.24	33.23
2105	33	4	31.13	0.95	30.29	32.36	31.39	30.47
2106	33	4	35.11	0.78	35.67	34.05	35.73	35.00
2101	34	4	33.75	0.72	33.36	34.38	34.33	32.93
2102	34	4	21.37	1.20	23.15	21.02	20.51	20.80
2103	34	4	7.65	0.79	7.94	8.63	7.16	6.86
2104	34	4	30.14	1.65	29.40	29.80	32.54	28.83
2105	34	4	29.31	0.40	29.56	29.53	28.71	29.42
2106	34	4	33.93	1.03	32.88	35.32	33.96	33.55

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	34.82	0.45	35.03	35.13	34.97	34.16			
2102	35	4	20.61	0.34	21.00	20.80	20.33	20.32			
2103	35	4	8.10	1.19	8.49	9.39	6.55	7.95			
2104	35	4	29.99	0.46	30.21	30.25	30.20	29.30			
2105	35	4	27.71	1.26	27.82	29.43	26.54	27.06			
2106	35	4	34.10	1.19	34.32	32.78	35.62	33.67			
2101	40	0	32.80	0.98	33.35D	33.60D	31.40D	32.87D			
2102	40	0	17.08	0.45	16.48D	17.07D	17.55D	17.22D			
2103	40	0	6.19	0.43	6.80D	5.81D	6.17D	5.96D			
2104	40	0	28.24	0.85	29.05D	27.14D	28.75D	28.03D			
2105	40	0	27.93	1.77	26.50D	27.04D	30.48D	27.71D			
2106	40	0	33.34	0.17	33.36D	33.30D	33.56D	33.16D			
2101	111	4	40.14	0.86	40.10	41.37	39.63	39.48			
2102	111	4	26.50	0.90	27.85	26.06	26.04	26.07			
2103	111	4	12.00	0.99	11.60	10.79	12.94	12.66			
2104	111	4	36.05	0.61	36.92	35.49	35.85	35.93			
2105	111	4	34.02	0.33	33.52	34.17	34.23	34.14			
2106	111	4	39.23	0.50	39.08	39.74	39.48	38.60			
2101	113	4	37.51	0.09	37.47	37.46	37.47	37.65			
2102	113	4	23.27	0.11	23.29	23.42	23.24	23.15			
2103	113	4	8.93	0.11	8.94	8.91	9.07	8.79			
2104	113	4	31.72	0.02	31.71	31.70	31.71	31.75			
2105	113	4	31.32	0.08	31.41	31.30	31.36	31.21			
2106	113	4	38.36	0.02	38.37	38.34	38.39	38.35			
2101	125	0	47.31B	0.32	46.88	47.27	47.64	47.44			
2102	125	0	34.06B	0.62	33.42	34.01	34.90	33.91			
2103	125	0	20.57B	0.54	19.79	20.78	21.03	20.69			
2104	125	4	42.34B	0.83	41.78	41.48	43.18	42.91			
2105	125	0	42.33B	0.20	42.08	42.53	42.27	42.43			
2106	125	0	46.64B	0.49	47.27	46.56	46.07	46.65			
2101	134	8	36.13	0.75	35.99	35.91	35.90	36.57	36.38	37.34	34.69
2102	134	8	21.73	0.57	21.90	22.25	21.15	21.15	21.67	21.82	21.15
2103	134	8	10.99	0.91	10.36	11.35	9.60	10.05	11.56	11.68	12.30
2104	134	8	33.84	0.66	33.33	33.62	33.67	33.12	33.46	33.88	34.66
2105	134	8	30.83	1.00	28.93	31.64	31.21	30.61	30.05	30.90	32.21
2106	134	8	37.01	1.13	37.87	37.90	35.41	36.80	36.75	36.57	35.94
2101	135	3	33.78	0.35	33.70	34.16	33.48	25.00A			
2102	135	4	23.32	8.14C	34.20	17.04	17.14	24.89			
2103	135	4	17.02B	12.65C	16.04	17.03	2.04	32.99			
2104	135	0	9.75B	15.48	1.73	1.47	2.85	32.96			
2105	135	4	29.15	2.53C	26.93	28.20	28.70	32.78			
2106	135	4	27.95B	3.47C	27.26	25.90	25.59	33.04			

7.6 Zucker / XZ

7.6.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	0.05	0.30	0.73	0.39	-0.02	-0.16
3	-0.78	-1.15	-1.96	0.77	0.52	0.57
5	-1.88	-1.35	-1.73	-1.29	-1.29	-2.04
7	-2.21	-2.16	-2.67	-1.66	-2.46	-2.28
8	0.97	1.31	-0.06	1.48	0.73	0.78
9	-0.84	-1.65	-1.62	-0.51	-1.76	0.81
10	-0.73	-0.12	-0.47	-0.17	-0.04	-0.61
11	-0.59	-0.35	1.07	-0.34	-0.02	-0.45
13	-0.30	0.28	0.39	0.30	-0.30	-1.47
14	-0.07	0.22	0.18	0.50	0.12	0.11
15	0.17	0.84	1.23	0.55	0.71	0.42
18	0.44	1.08	0.73	0.94	1.21	0.27
19	0.18	0.67	0.99	0.73	0.77	-0.53
20	0.73	1.65	2.83	1.35	1.55	0.50
21	0.51	1.42	2.42	1.13	1.23	0.22
22	0.90	1.81	0.57	0.84	0.59	0.54
23	-0.38	-0.93	-1.56	0.24	-0.51	-0.43
24	0.67	1.14	0.98	0.91	1.16	0.63
25	0.36	-0.04	0.19	0.95	0.66	0.51
26	-0.92	-1.87	-2.62	-0.57	-1.86	-1.42
27	1.78	1.62	1.02	2.40	2.89	1.96
28	0.27	0.01	-0.00	0.68	0.20	0.35
29	-1.10	-2.85	-2.88	-1.75	-1.69	-1.58
30	0.51	0.95	1.09	0.89	0.85	0.88
31	-0.66	-0.90	-0.92	0.03	-0.37	-0.63
32	1.20	0.66	-0.26	0.89	0.83	0.51
33	-2.86	-4.05	-5.50	-3.20	-4.04	-3.24
34	-0.68	-0.79	-0.47	-0.39	-1.31	-0.46
35	-0.30	0.54	0.30	0.56	0.42	0.10
40	1.43	3.95	3.62	2.22	1.72	1.62
111	0.18	0.42	1.70	0.34	0.91	0.19
113	-0.36	1.04	2.54	0.28	-0.38	-0.27
125	-8.30	-8.85	-9.88	-7.84	-8.54	-7.98
134	0.03	1.03	-0.04	0.59	1.67	0.45
135	5.72	1.22	3.82	10.97	-2.40	5.78

7.6.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	8.82	0.06	8.89	8.76	8.83	8.78
2102	1	4	16.14	0.25	16.01	16.07	15.98	16.51
2103	1	4	14.97	0.24	14.95	15.16	15.12	14.63
2104	1	4	8.31	0.34	8.54	7.81	8.44	8.46
2105	1	4	12.59	0.09	12.64	12.64	12.45	12.63
2106	1	4	9.17	0.21	9.32	8.92	9.09	9.38
2101	3	4	8.20	0.14	8.36	8.19	8.23	8.02
2102	3	4	15.05	0.21	14.89	15.36	14.93	15.04
2103	3	4	12.95	0.23	13.21	12.85	13.04	12.68

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	8.60	0.32	8.16	8.56	8.81	8.86		
2105	3	4	13.00	0.08	12.97	13.08	13.05	12.90		
2106	3	4	9.72	0.24	9.72	9.38	9.89	9.89		
2101	5	4	7.37	0.08	7.44	7.41	7.25	7.38		
2102	5	4	14.91	0.19	15.13	14.68	14.95	14.87		
2103	5	4	13.12	0.11	13.23	13.19	13.05	12.99		
2104	5	4	7.05	0.20	7.27	6.80	7.12	7.02		
2105	5	4	11.64	0.25	12.00	11.46	11.60	11.51		
2106	5	4	7.76	0.13	7.63	7.81	7.69	7.93		
2101	7	4	7.12	0.31	6.80	7.29	6.94	7.47		
2102	7	4	14.29	0.19	14.16	14.41	14.10	14.49		
2103	7	4	12.42	0.33	12.80	12.57	12.10	12.20		
2104	7	4	6.77	0.32	6.41	6.73	6.76	7.20		
2105	7	4	10.76	0.30	11.13	10.40	10.71	10.80		
2106	7	4	7.58	0.24	7.55	7.37	7.49	7.92		
2101	8	4	9.51	0.30	9.59	9.83	9.10	9.52		
2102	8	4	16.90	0.53	17.44	16.84	17.11	16.19		
2103	8	4	14.37	0.49	14.46	14.96	14.29	13.78		
2104	8	4	9.13	0.34	9.33	9.14	8.64	9.40		
2105	8	4	13.16	0.12	12.99	13.28	13.15	13.21		
2106	8	4	9.88	0.21	9.74	10.19	9.79	9.79		
2101	9	6	8.15	0.14	8.03	8.17	8.38	8.17	7.98	8.15
2102	9	6	14.68	0.15	14.61	14.79	14.45	14.87	14.60	14.74
2103	9	6	13.21	0.12	13.21	13.08	13.22	13.11	13.18	13.43
2104	9	6	7.64	0.25	7.47	7.99	7.61	7.61	7.30	7.86
2105	9	4	12.35	0.18	12.38	12.49	12.42	12.09	9.49A	8.83A
2106	9	6	9.90	1.85C	12.18	12.38	8.62	8.98	8.71	8.52
2101	10	4	8.23	0.27	8.03	8.62	8.08	8.19		
2102	10	4	15.82	0.18	15.72	15.91	15.63	16.03		
2103	10	4	14.06	0.22	14.04	14.37	13.99	13.85		
2104	10	4	7.89	0.26	8.03	7.77	8.17	7.59		
2105	10	4	12.58	0.19	12.83	12.46	12.41	12.60		
2106	10	4	8.84	0.12	8.74	8.81	8.78	9.02		
2101	11	4	8.33	0.13	8.30	8.16	8.45	8.43		
2102	11	4	15.65	0.22	15.33	15.71	15.83	15.72		
2103	11	4	15.22	0.11	15.20	15.28	15.33	15.07		
2104	11	4	7.76	0.24	7.42	7.78	7.89	7.97		
2105	11	4	12.59	0.14	12.64	12.66	12.69	12.39		
2106	11	4	8.96	0.18	9.02	8.70	9.09	9.03		
2101	13	4	8.55	0.08	8.67	8.54	8.52	8.49		
2102	13	4	16.12	0.13	16.31	16.06	16.09	16.04		
2103	13	4	14.71	0.07	14.82	14.69	14.67	14.67		
2104	13	4	8.24	0.11	8.18	8.32	8.35	8.12		
2105	13	4	12.38	0.14	12.44	12.38	12.52	12.20		
2106	13	4	8.19	0.20	8.24	8.42	7.93	8.17		
2101	14	4	8.73	0.08	8.74	8.66	8.83	8.67		
2102	14	4	16.08	0.10	16.21	16.07	16.08	15.97		
2103	14	4	14.55	0.22	14.72	14.30	14.74	14.43		
2104	14	4	8.40	0.19	8.28	8.21	8.49	8.62		
2105	14	4	12.70	0.13	12.70	12.88	12.63	12.59		
2106	14	4	9.38	0.20	9.15	9.37	9.64	9.36		
2101	15	5	8.90	0.24	8.61	8.77	8.97	8.91	9.26	
2102	15	4	16.54	0.33	16.29	17.00	16.58	16.29		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	15.34	0.22	15.38	15.64	15.17	15.16
2104	15	4	8.43	0.24	8.51	8.73	8.21	8.28
2105	15	4	13.14	0.31	12.84	12.91	13.45	13.37
2106	15	4	9.61	0.31	9.30	9.45	9.66	10.03
2101	18	4	9.11	0.15	9.09	9.16	9.27	8.92
2102	18	4	16.72	0.29	16.84	16.41	16.57	17.06
2103	18	4	14.97	0.25	14.71	14.95	14.89	15.31
2104	18	4	8.73	0.10	8.64	8.65	8.85	8.76
2105	18	4	13.52	0.14	13.65	13.46	13.62	13.34
2106	18	4	9.49	0.15	9.59	9.66	9.32	9.42
2101	19	4	8.92	0.12	8.94	8.85	9.07	8.80
2102	19	4	16.42	0.22	16.48	16.31	16.19	16.70
2103	19	4	15.16	0.24	14.87	15.09	15.25	15.43
2104	19	4	8.57	0.21	8.35	8.47	8.83	8.63
2105	19	4	13.19	0.12	13.36	13.18	13.12	13.09
2106	19	4	8.90	0.90	9.32	9.35	7.55	9.37
2101	20	4	9.32	0.17	9.30	9.39	9.50	9.10
2102	20	4	17.15	0.38	17.17	16.87	16.87	17.68
2103	20	4	16.54	0.35	16.20	16.52	16.39	17.03
2104	20	4	9.03	0.12	8.98	8.94	9.21	8.99
2105	20	4	13.77	0.07	13.72	13.71	13.82	13.84
2106	20	4	9.67	0.10	9.67	9.54	9.77	9.71
2101	21	4	9.16	0.18	9.07	9.31	9.31	8.95
2102	21	4	16.98	0.31	17.25	16.69	16.74	17.24
2103	21	4	16.23	0.10	16.14	16.20	16.21	16.37
2104	21	4	8.87	0.17	8.65	8.88	8.88	9.07
2105	21	4	13.53	0.15	13.66	13.42	13.66	13.37
2106	21	4	9.46	0.09	9.55	9.42	9.35	9.52
2101	22	4	9.46	0.28	9.13	9.31	9.65	9.73
2102	22	4	17.27	0.42	16.84	17.62	17.64	16.99
2103	22	4	14.84	0.36	14.82	15.27	14.89	14.39
2104	22	4	8.65	0.54	8.70	9.24	8.74	7.92
2105	22	4	13.05	0.14	13.11	13.19	13.05	12.87
2106	22	4	9.70	0.42	10.07	9.67	9.93	9.13
2101	23	4	8.50	0.28	8.56	8.77	8.55	8.11
2102	23	4	15.21	0.14	15.29	15.15	15.37	15.05
2103	23	4	13.25	0.18	13.28	13.05	13.19	13.49
2104	23	4	8.20	0.21	8.22	7.91	8.42	8.26
2105	23	4	12.23	0.05	12.23	12.25	12.16	12.28
2106	23	4	8.97	0.26	8.62	9.03	9.01	9.23
2101	24	4	9.28	0.36	9.25	8.97	9.13	9.79
2102	24	4	16.77	0.14	16.68	16.98	16.70	16.70
2103	24	4	15.15	0.22	15.30	15.23	15.25	14.82
2104	24	4	8.70	0.15	8.73	8.54	8.90	8.64
2105	24	4	13.48	0.05	13.54	13.42	13.48	13.48
2106	24	4	9.77	0.08	9.78	9.69	9.73	9.87
2101	25	4	9.05	0.20	8.78	9.10	9.08	9.25
2102	25	4	15.89	0.31	15.43	16.09	16.10	15.93
2103	25	4	14.56	0.43	14.38	14.03	14.98	14.84
2104	25	4	8.73	0.19	9.00	8.70	8.58	8.66
2105	25	4	13.10	0.25	12.80	13.11	13.09	13.41
2106	25	4	9.68	0.13	9.64	9.69	9.54	9.85
2101	26	4	8.09	0.12	8.06	8.25	7.96	8.07

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	14.51	0.38	14.43	14.06	14.98	14.59
2103	26	4	12.45	0.45	12.37	13.09	12.34	12.02
2104	26	4	7.59	0.31	7.47	7.71	7.94	7.23
2105	26	4	11.21	0.25	11.49	10.91	11.34	11.11
2106	26	4	8.23	0.21	8.36	8.44	7.99	8.12
2101	27	4	10.12	0.35	10.45	10.39	9.87	9.77
2102	27	4	17.13	0.35	17.07	17.53	16.69	17.22
2103	27	4	15.19	0.21	14.97	15.08	15.22	15.46
2104	27	4	9.82	0.32	9.68	10.30	9.71	9.58
2105	27	4	14.78	0.33	15.13	14.97	14.49	14.51
2106	27	4	10.77	0.24	10.48	10.72	11.07	10.80
2101	28	4	8.98	0.08	8.92	8.89	9.05	9.05
2102	28	4	15.92	0.09	16.05	15.89	15.89	15.86
2103	28	4	14.41	0.14	14.46	14.46	14.52	14.21
2104	28	4	8.53	0.15	8.63	8.41	8.68	8.40
2105	28	4	12.76	0.08	12.87	12.71	12.70	12.75
2106	28	4	9.56	0.25	9.65	9.74	9.19	9.65
2101	29	4	7.95	0.60C	8.24	8.21	8.30	7.06
2102	29	4	13.77 b	0.67 c	13.96	13.91	14.40	12.83
2103	29	4	12.26	0.15	12.18	12.10	12.31	12.44
2104	29	4	6.70	0.07	6.63	6.75	6.66	6.78
2105	29	4	11.34	0.52	11.25	11.95	11.46	10.70
2106	29	4	8.11	0.58	8.66	7.48	7.77	8.54
2101	30	4	9.16	0.11	9.18	9.10	9.06	9.30
2102	30	4	16.62	0.16	16.47	16.66	16.83	16.54
2103	30	4	15.24	0.16	15.46	15.10	15.26	15.13
2104	30	4	8.69	0.11	8.79	8.53	8.74	8.70
2105	30	4	13.25	0.21	13.31	12.94	13.41	13.33
2106	30	4	9.95	0.13	9.86	10.12	9.98	9.85
2101	31	4	8.28	0.58	8.22	8.58	7.50	8.83
2102	31	4	15.24	0.41	15.36	15.42	15.55	14.64
2103	31	4	13.72	0.66	14.24	14.02	12.75	13.89
2104	31	4	8.04	0.66	7.18	8.78	8.08	8.13
2105	31	4	12.33	0.29	11.94	12.55	12.29	12.54
2106	31	4	8.82	0.28	8.43	8.91	8.84	9.10
2101	32	4	9.68	0.31	10.04	9.72	9.29	9.65
2102	32	4	16.41	0.36	16.42	16.30	16.03	16.89
2103	32	4	14.22	0.32	13.87	14.61	14.07	14.34
2104	32	4	8.69	0.74C	8.35	9.47	9.10	7.83
2105	32	4	13.23	0.40	13.14	12.95	13.82	13.02
2106	32	4	9.68	0.52	9.06	10.04	10.17	9.44
2101	33	4	6.63	0.31	6.27	6.74	6.99	6.53
2102	33	4	12.88 b	0.40	12.84	13.22	12.33	13.12
2103	33	4	10.29	0.65	10.73	10.69	10.39	9.34
2104	33	4	5.62	0.38	5.99	5.46	5.16	5.87
2105	33	4	9.58	0.12	9.59	9.58	9.43	9.72
2106	33	4	6.86	0.30	6.90	6.77	7.25	6.53
2101	34	4	8.27	0.08	8.16	8.30	8.26	8.34
2102	34	4	15.32	0.24	14.99	15.31	15.52	15.47
2103	34	4	14.07	0.34	13.79	14.10	14.53	13.85
2104	34	4	7.73	0.18	7.53	7.65	7.80	7.93
2105	34	4	11.62	0.05	11.56	11.60	11.66	11.67
2106	34	4	8.95	0.22	8.75	8.78	9.20	9.06

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	8.55	0.12	8.60	8.41	8.51	8.70			
2102	35	4	16.32	0.09	16.42	16.20	16.35	16.31			
2103	35	4	14.64	0.11	14.75	14.51	14.70	14.62			
2104	35	4	8.44	0.24	8.16	8.43	8.44	8.74			
2105	35	4	12.93	0.14	12.88	12.76	13.08	12.98			
2106	35	4	9.37	0.14	9.37	9.34	9.21	9.55			
2101	40	0	9.85	0.09	9.79D	9.76D	9.96D	9.90D			
2102	40	0	18.88	0.14	18.69D	18.94D	19.01D	18.88D			
2103	40	0	17.13	0.22	16.81D	17.27D	17.16D	17.30D			
2104	40	0	9.69	0.26	9.35D	9.90D	9.87D	9.62D			
2105	40	0	13.90	0.10	14.00D	13.96D	13.79D	13.84D			
2106	40	0	10.51	0.07	10.45D	10.52D	10.48D	10.60D			
2101	111	4	8.91	0.14	8.80	8.79	8.99	9.06			
2102	111	4	16.23	0.29	15.95	16.19	16.63	16.15			
2103	111	4	15.69	0.21	15.38	15.84	15.80	15.75			
2104	111	4	8.28	0.19	8.08	8.45	8.15	8.43			
2105	111	4	13.29	0.18	13.38	13.47	13.23	13.07			
2106	111	4	9.44	0.21	9.57	9.13	9.48	9.56			
2101	113	4	8.51	0.08	8.44	8.48	8.63	8.49			
2102	113	4	16.70	0.16	16.65	16.49	16.80	16.84			
2103	113	4	16.32	0.19	16.54	16.41	16.22	16.13			
2104	113	4	8.23	0.04	8.26	8.16	8.24	8.25			
2105	113	4	12.32	0.04	12.32	12.29	12.29	12.38			
2106	113	4	9.09	0.16	9.28	9.17	8.99	8.94			
2101	125	0	2.55B	0.09	2.60	2.65	2.48	2.47			
2102	125	0	9.28B	0.17	9.20	9.07	9.43	9.41			
2103	125	0	7.01B	0.25	6.96	6.82	7.37	6.88			
2104	125	4	2.14B	0.25	2.37	2.28	1.80	2.12			
2105	125	0	6.20B	0.39	5.68	6.52	6.14	6.46			
2106	125	0	3.31B	0.09	3.38	3.28	3.19	3.39			
2101	134	8	8.80	0.17	9.10	8.68	8.82	8.62	8.60	8.96	8.
2102	134	8	16.69	0.51	16.51	16.77	17.39	17.40	15.86	16.70	16.
2103	134	8	14.38	0.56	14.78	14.38	15.28	14.33	14.79	14.20	13.
2104	134	8	8.46	0.41	8.60	8.77	8.99	8.65	8.46	8.16	7.
2105	134	8	13.86	0.33	14.27	13.91	13.45	14.06	14.29	13.76	13.
2106	134	8	9.63	0.31	9.70	9.95	10.14	9.72	9.21	9.56	9.
2101	135	4	13.07B	2.13C	11.72	11.81	12.52	16.22			
2102	135	4	16.83	4.15C	10.97	19.93	19.62	16.79			
2103	135	4	17.28	4.00C	20.39	19.62	17.57	11.56			
2104	135	0	16.25B	2.89C	17.93	17.89	17.21	11.95			
2105	135	4	10.81	0.73C	11.19	10.58	9.89	11.56			
2106	135	4	13.63B	2.76C	11.14	16.25	15.76	11.36			

7.7 aNDFom

7.7.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	1.49	1.37	0.98	1.21	1.15	1.26
3	-1.15	-1.34	-1.00	-0.97	-0.81	-0.88
5	-0.49	-0.39	0.03	-0.98	-0.37	-0.55
7	0.12	0.43	0.33	-0.15	-0.05	0.18
8	-1.00	0.06	0.42	-0.39	-1.18	-0.72
9	0.49	0.13	0.83	0.03	0.59	0.22
10	0.23	-0.00	-0.17	-0.65	-0.44	-0.15
11	0.06	0.21	0.43	-0.38	0.04	0.23
13	-0.98	-0.03	-0.22	-0.13	-0.69	-0.83
14	-0.65	-0.59	-0.36	-0.93	-0.99	-0.46
15	-0.40	-0.30	0.50	-0.34	-0.87	-0.59
18	1.25	0.63	0.90	0.49	1.39	0.56
19	1.38	0.65	0.71	0.43	1.43	0.52
20	2.39	1.74	1.56	1.59	2.64	1.66
21	2.05	1.32	1.18	1.15	2.22	1.32
22	-0.69	-0.44	0.78	-1.09	-0.78	-0.73
23	0.94	-0.10	0.21	-0.10	0.53	0.44
24	0.38	0.27	0.89	-0.30	-0.08	0.16
25	-0.41	-0.55	-0.04	-0.67	-0.73	-0.39
26	-1.04	-1.27	-1.69	-1.72	-1.23	-1.15
27	-0.89	-0.74	-0.85	-0.11	-0.19	-0.26
28	0.70	0.09	0.55	-0.10	0.01	0.01
29	0.64	0.27	0.41	-0.26	-0.16	0.25
30	-0.93	-0.40	0.66	-0.74	-1.19	-0.30
31	-0.69	0.31	-0.43	-0.70	-0.55	0.12
32	-0.63	0.16	-0.40	-1.10	-0.39	-0.33
33	-0.25	0.28	1.28	0.20	-0.03	0.59
34	0.97	-0.68	-0.34	-0.29	0.17	0.42
35	-1.47	-0.44	-0.78	-0.64	-0.51	-0.08
40	-1.18	-1.98	-3.50	-1.94	-1.88	-1.05
111	-0.43	-0.28	-0.10	-0.92	-0.42	-0.24
113	0.05	0.92	0.63	0.71	0.84	-0.43
125	-9.75	-9.48	-9.94	-9.69	-10.16	-9.26
134	0.09	0.08	-1.30	-1.11	-1.20	-0.68
135	-1.13	-1.36	-5.62	6.15	1.83	0.84

7.7.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	41.38	0.59	40.64	42.02	41.63	41.22
2102	1	4	45.34	0.46	44.82	45.35	45.24	45.95
2103	1	4	57.80	0.23	58.11	57.60	57.67	57.84
2104	1	4	45.12	0.65	44.19	45.15	45.66	45.48
2105	1	4	40.64	0.57	40.23	40.24	40.64	41.45
2106	1	4	40.60	0.82	41.40	39.52	40.47	41.01
2101	3	4	36.76	0.22	36.81	36.65	36.54	37.04
2102	3	4	40.60	0.54	41.22	39.92	40.78	40.47
2103	3	4	54.35	0.76	54.52	55.23	53.38	54.26

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	41.30	0.71	40.36	41.18	42.05	41.59		
2105	3	4	37.23	0.47	37.65	37.54	37.08	36.63		
2106	3	4	36.84	0.20	36.82	37.13	36.75	36.67		
2101	5	4	37.92	0.31	38.06	38.17	38.00	37.46		
2102	5	4	42.25	0.12	42.10	42.40	42.25	42.25		
2103	5	4	56.14	0.30	56.53	56.21	55.84	55.97		
2104	5	4	41.28	0.11	41.13	41.38	41.25	41.36		
2105	5	4	37.98	0.06	37.93	37.96	38.07	37.96		
2106	5	4	37.43	0.23	37.58	37.19	37.28	37.67		
2101	7	4	38.99	0.30	39.08	38.70	39.37	38.79		
2102	7	4	43.69	0.54	43.70	43.30	44.46	43.30		
2103	7	4	56.67	0.43	57.07	56.76	56.80	56.07		
2104	7	4	42.73	0.48	42.48	43.41	42.72	42.32		
2105	7	4	38.55	0.53	38.23	38.74	39.22	38.03		
2106	7	4	38.70	0.79	39.47	38.42	39.19	37.72		
2101	8	4	37.02	0.22	37.19	37.23	36.78	36.89		
2102	8	4	43.04	0.43	42.71	42.72	43.12	43.62		
2103	8	4	56.83	0.53	56.25	56.61	56.97	57.48		
2104	8	4	42.31	0.24	42.51	42.22	42.50	42.02		
2105	8	4	36.57	0.26	36.86	36.32	36.38	36.71		
2106	8	4	37.13	0.36	37.24	37.54	36.70	37.02		
2101	9	6	39.63	0.68	39.70	40.73	39.37	39.98	38.76	39.26
2102	9	6	43.17	0.37	43.18	43.57	43.45	42.79	42.65	43.37
2103	9	6	57.54	0.39	57.92	58.01	57.30	56.99	57.66	57.37
2104	9	6	43.05	0.41	42.64	42.95	42.83	43.78	42.87	43.25
2105	9	6	39.67	0.89	39.16	40.70	40.63	39.85	39.26	38.43
2106	9	6	38.77	0.88	40.00	39.73	37.85	38.48	38.43	38.10
2101	10	4	39.18	0.51	39.38	39.67	39.19	38.47		
2102	10	4	42.94	0.21	43.23	42.96	42.82	42.74		
2103	10	4	55.79	0.36	55.53	55.83	55.51	56.28		
2104	10	4	41.86	0.12	41.96	41.96	41.71	41.80		
2105	10	4	37.86	0.59	38.35	38.27	37.77	37.06		
2106	10	4	38.12	0.48	37.55	38.23	38.71	37.97		
2101	11	4	38.87	0.62	38.95	37.97	39.24	39.34		
2102	11	4	43.31	0.85	42.41	43.64	42.87	44.34		
2103	11	4	56.84	0.97	57.31	57.90	55.68	56.47		
2104	11	4	42.32	0.35	41.91	42.66	42.55	42.18		
2105	11	4	38.70	0.33	39.13	38.50	38.39	38.80		
2106	11	4	38.80	0.64	38.29	38.95	38.31	39.63		
2101	13	4	37.05	0.08	37.01	37.05	37.17	36.98		
2102	13	4	42.88	0.06	42.82	42.87	42.96	42.88		
2103	13	4	55.71	0.09	55.66	55.76	55.61	55.80		
2104	13	4	42.77	0.08	42.70	42.70	42.87	42.80		
2105	13	4	37.42	0.22	37.35	37.22	37.40	37.73		
2106	13	4	36.93	0.15	36.71	37.04	36.98	37.00		
2101	14	4	37.64	0.43	37.19	37.39	38.13	37.86		
2102	14	4	41.91	0.36	42.03	41.40	41.96	42.25		
2103	14	4	55.47	0.62	55.77	56.10	54.67	55.33		
2104	14	4	41.36	0.54	42.14	40.99	41.01	41.32		
2105	14	4	36.91	0.15	36.89	37.12	36.81	36.81		
2106	14	4	37.57	0.45	37.17	37.95	37.97	37.20		
2101	15	5	38.08	0.64	38.01	38.28	38.08	37.11	38.91	
2102	15	4	42.42	0.65	41.91	43.34	42.39	42.04		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	56.96	0.50	56.87	56.75	57.68	56.53
2104	15	4	42.39	0.30	42.56	42.73	42.11	42.18
2105	15	4	37.11	0.36	36.88	37.39	36.73	37.45
2106	15	4	37.35	0.46	37.27	37.67	36.73	37.73
2101	18	4	40.97	0.52	41.52	41.31	40.52	40.53
2102	18	4	44.04	0.34	44.13	44.38	44.11	43.56
2103	18	4	57.67	0.25	58.04	57.48	57.63	57.52
2104	18	4	43.85	0.39	43.51	43.69	43.78	44.41
2105	18	4	41.08	0.75	40.63	42.20	40.70	40.77
2106	18	4	39.37	0.43	39.56	39.74	38.76	39.44
2101	19	4	41.19	0.69	41.52	41.99	40.81	40.45
2102	19	4	44.07	0.27	44.20	44.26	44.16	43.66
2103	19	4	57.33	0.27	57.73	57.28	57.16	57.16
2104	19	4	43.75	0.49	43.61	43.69	43.28	44.44
2105	19	4	41.15	0.75	40.73	42.26	40.71	40.87
2106	19	4	39.29	0.58	39.59	39.85	38.51	39.21
2101	20	4	42.96	0.44	43.43	43.10	42.92	42.39
2102	20	4	45.99	0.56	45.70	46.77	45.98	45.49
2103	20	4	58.83	0.24	58.87	58.72	59.14	58.59
2104	20	4	45.77	0.55	45.16	45.51	46.02	46.40
2105	20	4	43.26	0.87	42.74	44.52	42.64	43.14
2106	20	4	41.30	0.39	41.27	41.74	41.38	40.80
2101	21	4	42.36	0.46	42.71	42.78	42.15	41.81
2102	21	4	45.25	0.26	45.17	45.15	45.63	45.05
2103	21	4	58.15	0.20	57.97	58.31	58.33	57.99
2104	21	4	45.00	0.42	44.52	44.88	45.09	45.52
2105	21	4	42.52	0.75	42.02	43.53	41.89	42.63
2106	21	4	40.70	0.32	40.48	41.15	40.72	40.46
2101	22	4	37.57	0.25	37.77	37.26	37.77	37.47
2102	22	4	42.17	0.32	41.93	42.21	41.92	42.59
2103	22	4	57.46	0.54	56.95	57.13	57.61	58.15
2104	22	4	41.09	0.44	40.88	40.87	40.86	41.75
2105	22	4	37.27	0.52	37.22	36.72	37.97	37.18
2106	22	4	37.10	0.07	37.09	37.01	37.17	37.15
2101	23	4	40.42	0.93	40.95	40.48	41.15	39.09
2102	23	4	42.77	0.42	42.63	42.91	43.26	42.28
2103	23	4	56.46	0.94	57.47	56.48	56.71	55.20
2104	23	4	42.82	0.68	42.52	43.02	43.66	42.07
2105	23	4	39.57	0.50	40.01	39.84	39.55	38.87
2106	23	4	39.16	1.40	37.21	40.53	39.37	39.53
2101	24	4	39.44	0.69	38.91	38.77	40.11	39.96
2102	24	4	43.42	0.26	43.30	43.80	43.21	43.35
2103	24	4	57.64	0.68	58.32	58.13	57.06	57.06
2104	24	4	42.47	0.28	42.26	42.63	42.77	42.21
2105	24	4	38.49	0.28	38.15	38.65	38.77	38.38
2106	24	4	38.66	0.15	38.63	38.79	38.76	38.46
2101	25	4	38.06	0.24	37.76	38.00	38.19	38.30
2102	25	4	41.98	0.51	41.55	42.34	42.50	41.52
2103	25	4	56.02	0.47	56.69	55.97	55.65	55.76
2104	25	4	41.82	0.83	42.42	42.34	40.63	41.88
2105	25	4	37.36	0.69	37.33	36.60	38.28	37.24
2106	25	4	37.70	0.31	37.38	37.92	37.48	38.01
2101	26	4	36.95	0.31	37.03	37.36	36.66	36.76

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	40.72	0.79	40.03	41.62	40.08	41.14
2103	26	4	53.13	0.82	53.96	52.09	52.91	53.56
2104	26	4	39.98	1.16	38.84	41.40	39.27	40.43
2105	26	4	36.49	0.50	36.07	36.06	36.76	37.06
2106	26	4	36.37	0.37	36.66	36.22	35.91	36.68
2101	27	4	37.21	0.78	37.96	37.81	36.54	36.54
2102	27	4	41.64	0.98	42.32	40.24	41.70	42.31
2103	27	4	54.61	0.63	54.15	55.15	55.15	53.98
2104	27	4	42.81	0.99	41.65	43.83	42.35	43.40
2105	27	4	38.30	0.77	37.38	38.05	39.19	38.60
2106	27	4	37.93	0.76	37.30	38.92	37.36	38.15
2101	28	4	40.00	0.35	39.90	40.27	40.30	39.55
2102	28	4	43.09	0.34	42.76	42.85	43.35	43.42
2103	28	4	57.05	0.09	57.01	57.07	57.17	56.97
2104	28	4	42.82	0.40	43.00	42.97	43.08	42.23
2105	28	4	38.66	0.07	38.61	38.66	38.76	38.61
2106	28	4	38.41	0.19	38.45	38.53	38.13	38.53
2101	29	4	39.89	0.17	39.93	39.66	39.89	40.07
2102	29	4	43.42	1.00	42.34	43.46	43.15	44.75
2103	29	4	56.81	0.57	56.08	56.79	57.47	56.92
2104	29	4	42.54	1.51	40.46	43.46	43.84	42.38
2105	29	4	38.36	1.08	37.08	38.93	39.53	37.91
2106	29	4	38.82	0.65	37.87	39.19	39.26	38.97
2101	30	4	37.14	0.17	37.16	37.20	37.30	36.90
2102	30	4	42.25	0.13	42.10	42.40	42.19	42.30
2103	30	4	57.25	0.14	57.14	57.24	57.45	57.18
2104	30	4	41.71	0.09	41.83	41.61	41.70	41.69
2105	30	4	36.55	0.10	36.55	36.49	36.69	36.48
2106	30	4	37.85	0.12	37.70	37.96	37.83	37.93
2101	31	4	37.57	1.03	36.58	38.06	36.86	38.78
2102	31	4	43.49	0.76	43.35	44.25	43.86	42.49
2103	31	4	55.34	0.70	54.95	56.39	54.99	55.04
2104	31	4	41.77	1.08	40.33	42.59	41.55	42.60
2105	31	4	37.68	0.41	37.30	38.24	37.50	37.68
2106	31	4	38.60	1.15	37.72	40.30	38.23	38.15
2101	32	4	37.67	0.20	37.48	37.80	37.51	37.87
2102	32	4	43.22	0.99	43.06	43.73	44.20	41.91
2103	32	4	55.38	0.80	54.39	56.26	55.74	55.14
2104	32	4	41.08	0.97	40.16	40.58	41.17	42.40
2105	32	4	37.95	0.88	38.40	38.97	37.24	37.19
2106	32	4	37.81	1.05	38.25	38.94	37.57	36.48
2101	33	4	38.34	0.58	37.80	38.42	39.13	38.02
2102	33	4	43.43	1.02	42.84	42.65	44.90	43.32
2103	33	4	58.33	1.33	57.24	57.42	58.53	60.12
2104	33	4	43.34	0.89	43.91	43.71	43.74	42.00
2105	33	4	38.58	0.89	39.65	37.49	38.43	38.74
2106	33	4	39.42	0.76	38.96	40.39	38.69	39.62
2101	34	4	40.47	2.91C	41.84	37.71	38.44	43.90
2102	34	4	41.75	2.46C	38.40	42.98	41.58	44.05
2103	34	4	55.50	0.84	55.92	54.36	56.31	55.42
2104	34	4	42.49	2.52C	45.43	40.99	39.88	43.64
2105	34	4	38.94	1.83C	38.59	40.38	40.30	36.48
2106	34	4	39.12	2.09C	39.95	36.87	41.62	38.05

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	36.20	0.45	36.74	35.71	35.98	36.36			
2102	35	4	42.17	0.29	41.85	42.00	42.44	42.38			
2103	35	4	54.72	0.34	54.62	54.77	55.15	54.35			
2104	35	4	41.87	0.39	41.73	41.38	42.16	42.21			
2105	35	4	37.75	1.27	37.95	35.92	38.82	38.30			
2106	35	4	38.25	0.64	38.63	38.87	37.44	38.07			
2101	40	0	36.70	1.04	36.05D	35.95D	38.20D	36.62D			
2102	40	0	39.48	0.46	40.00D	39.03D	39.71D	39.17D			
2103	40	0	49.97	0.32	50.40D	49.68D	49.77D	50.05D			
2104	40	0	39.60	0.50	39.26D	40.28D	39.19D	39.67D			
2105	40	0	35.35	0.85	35.92D	36.05D	34.20D	35.23D			
2106	40	0	36.55	0.31	36.21D	36.71D	36.39D	36.89D			
2101	111	4	38.02	0.57	38.09	37.20	38.39	38.42			
2102	111	4	42.45	0.74	41.52	42.78	42.26	43.24			
2103	111	4	55.91	0.99	56.43	56.97	54.75	55.51			
2104	111	4	41.39	0.36	40.86	41.54	41.60	41.56			
2105	111	4	37.90	0.44	38.49	37.74	37.44	37.93			
2106	111	4	37.97	0.53	37.71	38.14	37.41	38.62			
2101	113	4	38.86	0.11	38.87	38.71	38.91	38.96			
2102	113	4	44.56	0.02	44.52	44.58	44.55	44.58			
2103	113	4	57.19	0.10	57.17	57.17	57.09	57.32			
2104	113	4	44.24	0.08	44.21	44.15	44.26	44.33			
2105	113	4	40.10	0.11	40.02	40.26	40.04	40.07			
2106	113	4	37.63	0.06	37.61	37.67	37.69	37.56			
2101	125	0	21.70B	0.20	21.64	21.97	21.72	21.49			
2102	125	0	26.36B	0.36	26.52	26.30	25.89	26.73			
2103	125	0	38.69B	0.68	39.67	38.44	38.11	38.54			
2104	125	0	26.05B	0.53	26.68	26.27	25.50	25.73			
2105	125	0	20.86B	0.26	21.12	20.58	21.03	20.70			
2106	125	0	22.18B	0.30	21.81	22.07	22.47	22.39			
2101	134	8	38.93	0.75	38.86	39.82	38.85	38.44	39.34	37.99	40.00
2102	134	8	43.08	0.31	43.10	43.05	43.03	42.93	43.32	42.55	43.63
2103	134	8	53.82	1.24	54.76	54.10	54.47	55.01	52.31	54.26	51.52
2104	134	8	41.05	0.77	41.40	42.05	40.83	41.21	41.27	41.66	40.30
2105	134	8	36.54	0.70	38.03	36.15	36.43	36.69	36.70	36.19	35.63
2106	134	8	37.19	1.00	36.54	36.37	38.32	36.99	37.59	37.41	38.62
2101	135	4	36.79	1.51C	36.32	36.01	35.81	39.04			
2102	135	4	40.56	3.81C	35.73	43.31	43.91	39.29			
2103	135	4	46.26B	8.38C	44.33	43.32	58.35	39.05			
2104	135	3	58.74B	0.33	58.79	59.05	58.39	38.82			
2105	135	4	41.84	1.65C	43.11	42.55	42.29	39.41			
2106	135	4	39.85	2.07C	42.91	38.44	38.76	39.28			

7.8 ADFom

7.8.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	0.35	0.32	-0.07	0.41	-0.14	0.07
3	-1.27	-1.71	-1.57	-0.07	-0.64	-0.36
5	0.85	0.67	1.38	0.29	1.06	0.33
7	-0.17	0.03	-0.17	0.24	-0.47	-0.16
8	-0.68	0.36	0.43	0.35	-1.13	-0.49
9	0.91	0.59	1.43	0.90	1.08	0.93
10	0.43	0.15	-0.14	-0.27	-0.27	-0.06
11	-0.97	-0.54	-0.04	-0.93	-0.89	-0.52
13	-0.86	0.22	0.60	0.38	-0.34	-1.32
14	-0.54	-0.49	-0.40	-0.62	-0.77	-0.43
15	-0.30	-0.18	0.25	-0.09	-0.58	-0.48
18	0.18	-0.06	0.29	-0.15	0.84	-0.38
19	0.87	0.37	0.31	0.25	1.25	-0.01
20	0.73	0.42	0.45	0.36	1.32	0.16
21	0.52	0.08	0.12	0.02	0.97	-0.16
22	-0.41	-0.35	0.90	-0.71	-0.48	-0.22
23	1.71	0.50	1.32	1.17	1.73	1.37
24	0.56	0.50	1.29	0.26	0.20	0.28
25	-0.35	-0.78	-0.28	-0.35	-0.83	-0.44
26	-0.42	-1.06	-1.63	-1.06	-0.88	-0.84
27	0.65	0.49	0.21	1.73	1.38	1.15
28	0.32	-0.45	-0.34	-0.30	-0.53	-0.44
29	0.12	-0.93	-0.63	-0.73	-0.78	-0.35
30	-0.78	-0.27	0.95	-0.18	-1.02	0.08
31	-0.56	0.34	-0.37	-0.08	-0.08	0.47
32	-0.94	-0.56	-1.48	-0.68	-0.69	-0.15
33	-2.16	-1.74	-1.22	-1.25	-2.23	-1.17
34	1.87	3.04	4.20	2.02	1.73	1.64
35	-0.51	0.02	-0.48	0.29	0.57	0.51
40	2.29	4.27	3.25	1.79	1.79	1.30
111	-1.17	-0.80	-0.33	-1.17	-1.19	-0.77
113	-0.61	0.29	0.36	0.25	-0.29	-1.39
125	-13.22	-12.99	-13.70	-12.62	-13.75	-12.76
134	0.93	0.41	-0.76	-0.28	-0.72	-0.25
135	1.68	1.10	-4.58	10.52	2.84	3.41

7.8.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	21.23	0.42	20.93	21.76	21.38	20.85
2102	1	4	23.83	0.38	23.39	23.82	23.80	24.32
2103	1	4	33.30	0.23	33.42	33.09	33.58	33.13
2104	1	4	22.78	0.48	22.20	22.62	23.29	23.02
2105	1	4	20.99	0.29	20.85	20.71	21.05	21.37
2106	1	4	20.39	0.43	20.66	19.76	20.47	20.68
2101	3	4	19.45	0.17	19.52	19.59	19.49	19.21
2102	3	4	21.60	0.35	21.61	21.12	21.95	21.73
2103	3	4	31.64	0.55	31.59	32.37	31.05	31.56

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	22.26	0.73	21.30	22.12	22.95	22.68		
2105	3	4	20.44	0.36	20.80	20.71	20.09	20.18		
2106	3	4	19.91	0.18	19.78	19.92	20.17	19.78		
2101	5	4	21.79	0.13	21.76	21.89	21.89	21.62		
2102	5	4	24.22	0.16	24.00	24.22	24.32	24.36		
2103	5	4	34.89	0.20	35.15	34.95	34.74	34.72		
2104	5	4	22.65	0.21	22.72	22.84	22.36	22.69		
2105	5	4	22.30	0.16	22.50	22.17	22.37	22.19		
2106	5	4	20.67	0.08	20.60	20.61	20.76	20.72		
2101	7	4	20.67	0.26	20.57	20.35	20.79	20.95		
2102	7	4	23.51	0.37	23.33	23.08	23.81	23.82		
2103	7	4	33.18	0.17	33.39	33.02	33.08	33.24		
2104	7	4	22.60	0.18	22.48	22.75	22.76	22.41		
2105	7	4	20.62	0.34	20.22	20.52	20.71	21.03		
2106	7	4	20.14	0.25	20.47	19.88	20.20	20.02		
2101	8	4	20.11	0.21	20.10	20.34	19.83	20.17		
2102	8	4	23.88	0.26	23.73	23.58	24.10	24.10		
2103	8	4	33.85	0.22	34.08	33.65	33.66	34.00		
2104	8	4	22.72	0.27	22.80	22.90	22.85	22.32		
2105	8	4	19.90	0.36	20.41	19.66	19.65	19.87		
2106	8	4	19.77	0.42	20.06	20.12	19.21	19.70		
2101	9	6	21.86	0.35	21.95	22.44	21.76	21.90	21.39	21.69
2102	9	6	24.13	0.28	23.86	24.45	24.11	24.08	23.80	24.47
2103	9	6	34.95	0.39	35.24	35.23	34.87	34.23	35.21	34.93
2104	9	6	23.32	0.35	22.92	23.39	23.19	23.75	23.00	23.70
2105	9	6	22.33	1.04	22.34	23.49	23.40	22.52	21.14	21.11
2106	9	6	21.33	0.96 c	22.68	22.37	20.37	20.90	21.09	20.57
2101	10	4	21.33	0.26	21.55	21.45	21.34	20.95		
2102	10	4	23.64	0.34	24.07	23.69	23.57	23.24		
2103	10	4	33.22	0.25	33.10	33.05	33.13	33.60		
2104	10	4	22.04	0.39	22.57	22.11	21.69	21.79		
2105	10	4	20.84	0.40	21.00	21.31	20.68	20.38		
2106	10	4	20.24	0.28	19.86	20.28	20.54	20.29		
2101	11	4	19.79	0.67	20.09	18.79	20.07	20.19		
2102	11	4	22.89	0.55	22.18	23.02	22.84	23.52		
2103	11	4	33.33	0.76	33.94	34.01	32.51	32.87		
2104	11	4	21.32	0.26	21.11	21.66	21.37	21.12		
2105	11	4	20.17	0.34	20.55	19.95	19.81	20.36		
2106	11	4	19.74	0.50	19.37	19.89	19.31	20.38		
2101	13	4	19.90	0.05	19.86	19.85	19.96	19.93		
2102	13	4	23.73	0.07	23.63	23.72	23.79	23.76		
2103	13	4	34.04	0.02	34.00	34.04	34.05	34.06		
2104	13	4	22.75	0.10	22.66	22.67	22.82	22.86		
2105	13	4	20.77	0.19	20.57	20.65	20.89	20.96		
2106	13	4	18.86	0.10	18.82	18.74	18.97	18.91		
2101	14	4	20.25	0.37	19.76	20.18	20.53	20.54		
2102	14	4	22.94	0.32	22.91	22.54	23.00	23.33		
2103	14	4	32.93	0.62	33.44	33.45	32.22	32.61		
2104	14	4	21.66	0.41	22.01	21.30	21.30	22.01		
2105	14	4	20.30	0.19	20.33	20.56	20.19	20.12		
2106	14	4	19.84	0.54	19.22	20.23	20.34	19.56		
2101	15	5	20.52	0.38	20.68	20.29	20.36	20.16	21.11	
2102	15	4	23.29	0.35	23.12	23.80	23.21	23.01		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	33.65	0.25	33.47	33.45	33.99	33.69
2104	15	4	22.24	0.25	22.05	22.58	22.04	22.30
2105	15	4	20.50	0.32	20.63	20.51	20.06	20.81
2106	15	4	19.78	0.38	19.83	20.21	19.29	19.80
2101	18	4	21.05	0.33	21.26	21.38	20.86	20.69
2102	18	4	23.42	0.24	23.42	23.62	23.55	23.08
2103	18	4	33.69	0.20	33.83	33.64	33.87	33.43
2104	18	4	22.17	0.33	21.96	22.00	22.08	22.66
2105	18	4	22.07	0.41	21.75	22.56	21.70	22.26
2106	18	4	19.90	0.17	19.88	20.12	19.86	19.72
2101	19	4	21.81	0.52	21.96	22.48	21.44	21.36
2102	19	4	23.89	0.15	23.88	23.88	24.07	23.71
2103	19	4	33.72	0.10	33.81	33.74	33.75	33.59
2104	19	4	22.62	0.46	22.56	22.62	22.09	23.20
2105	19	4	22.52	0.49	22.19	23.20	22.14	22.57
2106	19	4	20.30	0.30	20.53	20.54	19.91	20.20
2101	20	4	21.65	0.28	22.02	21.65	21.62	21.32
2102	20	4	23.94	0.35	23.80	24.39	24.01	23.57
2103	20	4	33.87	0.23	33.80	33.83	34.20	33.66
2104	20	4	22.73	0.42	22.37	22.39	22.93	23.23
2105	20	4	22.60	0.73	22.06	23.56	22.02	22.74
2106	20	4	20.49	0.21	20.51	20.65	20.61	20.19
2101	21	4	21.42	0.31	21.69	21.66	21.33	21.02
2102	21	4	23.58	0.18	23.53	23.49	23.83	23.45
2103	21	4	33.51	0.30	33.25	33.58	33.90	33.30
2104	21	4	22.36	0.32	22.00	22.24	22.46	22.75
2105	21	4	22.21	0.56	21.82	22.83	21.66	22.52
2106	21	4	20.14	0.22	19.99	20.29	20.35	19.91
2101	22	4	20.40	0.27	20.54	20.05	20.68	20.32
2102	22	4	23.10	0.25	22.86	23.12	22.98	23.44
2103	22	4	34.36	0.44	34.24	33.84	34.49	34.88
2104	22	4	21.56	0.27	21.64	21.31	21.39	21.91
2105	22	4	20.61	0.41	20.82	20.47	21.05	20.12
2106	22	4	20.07	0.10	20.14	20.16	20.04	19.94
2101	23	4	22.74	0.81	22.88	23.19	23.32	21.56
2102	23	4	24.04	0.61	23.60	24.93	23.86	23.75
2103	23	4	34.83	0.89	35.83	34.03	35.34	34.12
2104	23	4	23.63	0.39	23.51	23.68	24.14	23.20
2105	23	4	23.04	0.64	23.44	23.21	23.42	22.09
2106	23	4	21.82	0.76	20.77	22.48	22.28	21.73
2101	24	4	21.47	0.47	21.10	21.02	21.90	21.86
2102	24	4	24.03	0.15	24.04	24.16	23.82	24.09
2103	24	4	34.80	0.32	35.06	35.06	34.42	34.64
2104	24	4	22.62	0.18	22.41	22.78	22.53	22.77
2105	24	4	21.36	0.23	21.07	21.54	21.57	21.28
2106	24	4	20.62	0.14	20.69	20.59	20.76	20.45
2101	25	4	20.46	0.36	20.03	20.32	20.75	20.75
2102	25	4	22.63	0.48	22.26	22.88	23.18	22.19
2103	25	4	33.07	0.34	33.58	32.93	32.93	32.84
2104	25	4	21.96	0.60	22.45	22.30	21.11	21.96
2105	25	4	20.24	0.52	20.05	19.76	20.97	20.17
2106	25	4	19.83	0.31	19.58	20.04	19.56	20.15
2101	26	4	20.38	0.41	20.65	20.80	20.18	19.91

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	22.31	0.59	21.60	22.96	22.11	22.58
2103	26	4	31.58	0.56	32.05	31.03	31.18	32.07
2104	26	4	21.17	0.89	20.29	22.22	20.58	21.58
2105	26	4	20.18	0.32	20.14	19.74	20.45	20.37
2106	26	4	19.39	0.28	19.67	19.36	19.02	19.51
2101	27	4	21.57	0.72	22.08	22.29	20.92	20.99
2102	27	4	24.03	0.56	24.68	23.37	23.83	24.23
2103	27	4	33.60	0.57	33.19	34.24	33.92	33.07
2104	27	4	24.25 b	0.72	23.57	24.94	23.68	24.80
2105	27	4	22.66	0.37	22.37	22.42	23.19	22.66
2106	27	4	21.57	0.54	20.89	21.89	21.42	22.11
2101	28	4	21.20	0.38	21.33	21.29	21.52	20.65
2102	28	4	22.99	0.22	22.73	23.03	22.93	23.26
2103	28	4	33.00	0.36	33.53	32.75	32.88	32.86
2104	28	4	22.01	0.40	22.04	22.16	22.39	21.46
2105	28	4	20.56	0.34	20.38	20.39	21.07	20.42
2106	28	4	19.83	0.08	19.90	19.72	19.85	19.82
2101	29	4	20.98	0.94	21.25	19.80	22.05	20.84
2102	29	4	22.46	0.40	21.87	22.57	22.75	22.65
2103	29	4	32.69	0.40	32.46	32.24	32.94	33.10
2104	29	4	21.54	0.85	20.71	22.00	22.49	20.95
2105	29	4	20.28	0.68	19.84	21.20	20.39	19.69
2106	29	4	19.92	0.47	19.41	20.03	19.75	20.52
2101	30	4	19.99	0.16	20.00	19.83	20.20	19.92
2102	30	4	23.18	0.19	22.92	23.23	23.22	23.37
2103	30	4	34.42	0.15	34.38	34.26	34.63	34.39
2104	30	4	22.14	0.16	22.06	21.95	22.28	22.26
2105	30	4	20.02	0.07	19.99	19.95	20.11	20.02
2106	30	4	20.40	0.20	20.15	20.33	20.55	20.58
2101	31	4	20.23	1.07	19.29	20.73	19.42	21.51
2102	31	4	23.86	0.62	23.99	24.58	23.77	23.08
2103	31	4	32.96	0.90	33.01	34.14	31.98	32.73
2104	31	4	22.25	1.07	20.73	22.75	22.34	23.17
2105	31	4	21.05	0.40	20.65	21.57	20.84	21.15
2106	31	4	20.83	0.78	20.01	21.89	20.65	20.75
2101	32	4	19.81	0.13	19.87	19.97	19.72	19.68
2102	32	4	22.86	0.53	22.46	23.38	23.25	22.36
2103	32	4	31.75	0.66	30.90	32.34	32.20	31.58
2104	32	4	21.59	0.69	20.80	21.32	21.85	22.41
2105	32	4	20.38	0.60	20.70	21.05	19.78	19.99
2106	32	4	20.14	0.39	19.67	20.46	20.46	19.98
2101	33	4	18.48	0.50	17.96	18.75	19.03	18.17
2102	33	4	21.57	0.48	21.09	21.46	22.23	21.52
2103	33	4	32.04	0.99	31.42	31.18	32.17	33.38
2104	33	4	20.96	0.71	21.70	20.86	21.26	20.03
2105	33	4	18.69	0.54	19.27	17.97	18.80	18.73
2106	33	4	19.03	0.37	18.65	19.51	18.85	19.11
2101	34	4	22.91	0.25	23.25	22.93	22.73	22.73
2102	34	4	26.83B	0.51	26.11	27.30	27.03	26.88
2103	34	4	37.99	0.80	38.05	36.91	38.17	38.84
2104	34	4	24.56 b	0.69	24.76	24.52	23.65	25.31
2105	34	4	23.04	0.77	22.37	23.95	23.42	22.42
2106	34	4	22.12	0.24	22.17	21.76	22.28	22.27

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	20.29	0.31	20.54	19.97	20.07	20.56			
2102	35	4	23.51	0.26	23.31	23.29	23.63	23.82			
2103	35	4	32.85	0.32	32.68	32.52	33.25	32.96			
2104	35	4	22.65	0.55	21.96	22.47	23.08	23.10			
2105	35	4	21.77	0.94	21.63	20.52	22.69	22.25			
2106	35	4	20.87	0.50	20.95	21.41	20.20	20.92			
2101	40	0	23.37	0.79	23.05D	22.64D	24.49D	23.31D			
2102	40	0	28.18	0.42	28.79D	28.12D	27.87D	27.95D			
2103	40	0	36.95	0.26	36.57D	36.99D	37.09D	37.16D			
2104	40	0	24.30	0.55	24.28D	24.77D	23.54D	24.62D			
2105	40	0	23.11	0.94	24.02D	23.39D	21.81D	23.22D			
2106	40	0	21.74	0.15	21.91D	21.78D	21.56D	21.73D			
2101	111	4	19.56	0.56	20.06	18.75	19.70	19.73			
2102	111	4	22.60	0.52	21.87	22.70	22.74	23.10			
2103	111	4	33.01	0.80	33.62	33.73	32.07	32.63			
2104	111	4	21.06	0.20	20.78	21.25	21.16	21.04			
2105	111	4	19.83	0.32	20.28	19.71	19.53	19.80			
2106	111	4	19.46	0.46	19.38	19.55	18.91	20.01			
2101	113	4	20.18	0.07	20.08	20.24	20.23	20.16			
2102	113	4	23.80	0.03	23.80	23.77	23.80	23.84			
2103	113	4	33.77	0.11	33.71	33.73	33.70	33.93			
2104	113	4	22.61	0.02	22.60	22.59	22.64	22.61			
2105	113	4	20.82	0.14	20.65	20.92	20.75	20.95			
2106	113	4	18.79	0.03	18.78	18.83	18.78	18.76			
2101	125	0	6.31B	0.19	6.30	6.49	6.05	6.41			
2102	125	0	9.20B	0.30	9.41	9.32	8.74	9.31			
2103	125	0	18.30B	0.66	19.27	17.99	17.81	18.15			
2104	125	0	8.46B	0.26	8.62	8.71	8.15	8.34			
2105	125	0	6.02B	0.32	6.42	5.76	6.14	5.76			
2106	125	0	6.27B	0.12	6.16	6.20	6.44	6.28			
2101	134	8	21.88	0.54	21.02	21.95	21.72	21.49	22.28	21.60	22.77
2102	134	8	23.93	0.62	23.85	23.44	23.43	23.25	24.51	23.54	24.86
2103	134	8	32.54	0.93	32.76	32.32	33.01	32.86	31.31	33.77	31.08
2104	134	8	22.03	0.46	21.81	22.15	21.65	21.84	22.64	22.81	21.73
2105	134	8	20.36	0.56	20.99	19.43	19.95	20.29	21.08	20.00	20.38
2106	134	8	20.04	0.74	19.48	19.29	20.22	20.07	20.55	20.43	21.26
2101	135	4	22.69	1.07	22.14	22.01	22.34	24.29			
2102	135	4	24.69	2.18C	21.74	26.39	26.27	24.37			
2103	135	4	28.34B	6.61C	26.71	26.12	37.88	22.64			
2104	135	0	33.91B	7.60	37.79	38.09	37.25	22.52			
2105	135	4	24.27	1.16 c	25.51	24.60	24.25	22.73			
2106	135	4	24.06B	1.19C	25.51	23.99	24.15	22.61			

7.9 ADL

7.9.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	0.83	0.77	0.68	0.61	0.78	0.69
3	-0.64	-0.58	-0.59	0.09	-0.21	-0.04
5	1.37	1.02	1.50	0.97	1.16	1.28
7	0.17	0.16	0.07	0.21	0.02	0.31
8	-0.65	-0.61	-0.32	-0.52	-0.80	-0.75
9	0.24	0.44	0.72	0.27	0.40	0.33
10	0.67	0.63	0.33	0.18	0.29	0.54
11	1.01	1.15	1.19	0.75	1.10	1.21
13	0.40	0.55	0.52	0.52	0.47	-0.11
14	-0.18	-0.24	-0.09	-0.42	-0.09	-0.19
15	-0.41	-0.20	-0.33	-0.40	-0.41	-0.52
18	-0.24	-0.17	-0.09	-0.37	0.02	-0.36
19	0.60	0.40	0.40	0.28	0.65	0.10
20	0.56	0.37	0.48	0.26	0.87	0.45
21	0.81	0.53	0.66	0.36	0.96	0.50
22	-0.72	-0.66	-0.39	-0.79	-0.60	-0.47
23	1.10	0.89	1.20	1.01	1.00	1.35
24	0.18	0.09	0.27	0.00	-0.01	0.21
25	-0.31	-0.22	-0.20	-0.29	-0.40	-0.33
26	-0.03	0.08	0.05	-0.03	0.04	0.04
27	-3.30	-2.90	-3.19	-2.86	-3.27	-3.24
28	0.26	0.18	0.08	-0.03	0.07	0.10
29	-1.77	-1.75	-1.55	-2.33	-1.72	-1.97
30	-0.76	-0.65	-0.41	-0.63	-0.69	-0.46
31	0.39	0.14	0.34	0.39	0.24	0.82
32	-1.91	-1.99	-1.47	-1.37	-1.61	-1.55
33	-1.45	-0.84	-0.83	-1.05	-1.39	-1.20
34	0.05	0.93	0.94	0.99	0.48	-0.34
35	0.50	0.33	0.25	0.43	0.64	0.91
40	-1.41	-1.86	-1.19	-1.35	-1.31	-2.43
111	1.02	1.12	1.13	0.70	0.97	1.18
113	0.64	0.68	0.49	0.36	0.91	0.07
125	-6.77	-5.42	-5.94	-6.48	-5.92	-7.52
134	0.37	-1.24	-0.55	0.08	-0.97	-0.16
135	1.19	1.59	-1.30	2.62	1.08	1.60

7.9.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	2.19	0.06	2.19	2.23	2.21	2.11
2102	1	4	1.55	0.03	1.50	1.57	1.56	1.57
2103	1	4	2.70	0.06	2.72	2.63	2.77	2.69
2104	1	4	1.95	0.06	1.86	1.97	1.98	1.99
2105	1	4	2.00	0.03	1.98	2.01	1.97	2.04
2106	1	4	1.83	0.05	1.80	1.77	1.87	1.87
2101	3	4	1.69	0.10	1.63	1.72	1.82	1.61
2102	3	4	1.02	0.07	1.07	0.92	1.05	1.04
2103	3	4	2.22	0.11	2.06	2.25	2.29	2.28

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	1.77	0.10	1.66	1.71	1.86	1.86		
2105	3	4	1.61	0.04	1.65	1.64	1.57	1.59		
2106	3	4	1.62	0.02	1.65	1.61	1.63	1.60		
2101	5	4	2.37	0.02	2.35	2.37	2.39	2.36		
2102	5	4	1.65	0.04	1.59	1.63	1.69	1.67		
2103	5	4	3.01	0.03	3.02	3.04	3.02	2.98		
2104	5	4	2.07	0.04	2.07	2.11	2.03	2.07		
2105	5	4	2.15	0.03	2.12	2.13	2.18	2.15		
2106	5	4	2.00	0.04	1.96	1.99	2.05	1.99		
2101	7	4	1.96	0.07	1.89	1.93	1.99	2.04		
2102	7	4	1.31	0.07	1.31	1.22	1.37	1.36		
2103	7	4	2.47	0.04	2.47	2.43	2.46	2.52		
2104	7	4	1.81	0.03	1.78	1.82	1.85	1.79		
2105	7	4	1.70	0.06	1.63	1.69	1.73	1.76		
2106	7	4	1.72	0.05	1.74	1.66	1.78	1.70		
2101	8	4	1.69	0.05	1.71	1.71	1.61	1.73		
2102	8	4	1.01	0.04	1.01	1.03	0.96	1.05		
2103	8	4	2.32	0.06	2.40	2.35	2.26	2.29		
2104	8	4	1.56	0.02	1.58	1.55	1.58	1.55		
2105	8	4	1.38	0.05	1.44	1.31	1.37	1.40		
2106	8	4	1.42	0.09	1.42	1.51	1.29	1.47		
2101	9	6	1.99	0.04	1.96	2.05	1.99	2.03	1.94	1.96
2102	9	6	1.42	0.02	1.42	1.42	1.44	1.40	1.40	1.44
2103	9	6	2.72	0.05	2.73	2.77	2.73	2.62	2.75	2.69
2104	9	6	1.83	0.03	1.84	1.79	1.82	1.86	1.80	1.88
2105	9	6	1.85	0.19C	1.87	1.98	2.08	1.89	1.57	1.71
2106	9	6	1.73	0.11	1.86	1.86	1.60	1.73	1.70	1.61
2101	10	4	2.13	0.05	2.18	2.10	2.16	2.09		
2102	10	4	1.50	0.06	1.55	1.49	1.53	1.41		
2103	10	4	2.57	0.04	2.57	2.52	2.56	2.62		
2104	10	4	1.80	0.06	1.86	1.84	1.74	1.76		
2105	10	4	1.81	0.05	1.84	1.87	1.77	1.75		
2106	10	4	1.79	0.03	1.75	1.79	1.80	1.81		
2101	11	4	2.25	0.08	2.34	2.14	2.24	2.26		
2102	11	4	1.70	0.03	1.69	1.71	1.66	1.73		
2103	11	4	2.90	0.12	3.02	2.97	2.77	2.83		
2104	11	4	1.99	0.04	2.02	2.03	1.98	1.95		
2105	11	4	2.12	0.06	2.19	2.10	2.05	2.16		
2106	11	4	1.98	0.06	1.93	2.02	1.92	2.04		
2101	13	4	2.04	0.01	2.03	2.04	2.05	2.06		
2102	13	4	1.46	0.03	1.42	1.47	1.47	1.50		
2103	13	4	2.64	0.01	2.64	2.65	2.63	2.64		
2104	13	4	1.92	0.04	1.88	1.89	1.94	1.96		
2105	13	4	1.88	0.05	1.82	1.86	1.90	1.93		
2106	13	4	1.60	0.04	1.60	1.55	1.63	1.64		
2101	14	4	1.85	0.04	1.79	1.85	1.88	1.87		
2102	14	4	1.15	0.06	1.14	1.08	1.18	1.21		
2103	14	4	2.41	0.05	2.45	2.45	2.34	2.40		
2104	14	4	1.60	0.05	1.62	1.54	1.57	1.65		
2105	14	4	1.66	0.02	1.65	1.68	1.67	1.64		
2106	14	4	1.58	0.06	1.50	1.63	1.61	1.58		
2101	15	5	1.77	0.03	1.81	1.76	1.76	1.74	1.79	
2102	15	4	1.17	0.03	1.20	1.20	1.14	1.15		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	2.32	0.04	2.33	2.26	2.37	2.32
2104	15	4	1.60	0.05	1.62	1.64	1.52	1.63
2105	15	4	1.53	0.04	1.56	1.55	1.47	1.55
2106	15	4	1.49	0.05	1.53	1.53	1.43	1.46
2101	18	4	1.83	0.03	1.84	1.86	1.81	1.81
2102	18	4	1.18	0.07	1.14	1.26	1.22	1.11
2103	18	4	2.41	0.10	2.55	2.38	2.42	2.30
2104	18	4	1.62	0.02	1.59	1.62	1.64	1.61
2105	18	4	1.70	0.05	1.66	1.75	1.65	1.75
2106	18	4	1.53	0.07	1.47	1.56	1.61	1.49
2101	19	4	2.11	0.11	2.10	2.26	2.02	2.05
2102	19	4	1.41	0.06	1.37	1.44	1.48	1.34
2103	19	4	2.60	0.08	2.71	2.56	2.58	2.54
2104	19	4	1.84	0.07	1.85	1.89	1.74	1.87
2105	19	4	1.95	0.06	1.91	2.03	1.91	1.94
2106	19	4	1.66	0.13	1.74	1.72	1.47	1.72
2101	20	4	2.09	0.02	2.12	2.08	2.10	2.08
2102	20	4	1.39	0.07	1.35	1.49	1.40	1.33
2103	20	4	2.63	0.05	2.64	2.61	2.68	2.57
2104	20	4	1.83	0.06	1.76	1.84	1.90	1.82
2105	20	4	2.04	0.10	1.99	2.15	1.93	2.08
2106	20	4	1.76	0.03	1.75	1.79	1.77	1.73
2101	21	4	2.18	0.02	2.21	2.19	2.17	2.15
2102	21	4	1.46	0.07	1.38	1.53	1.50	1.42
2103	21	4	2.70	0.04	2.70	2.69	2.74	2.65
2104	21	4	1.86	0.04	1.82	1.89	1.90	1.84
2105	21	4	2.07	0.08	2.01	2.15	1.99	2.13
2106	21	4	1.78	0.03	1.74	1.80	1.81	1.75
2101	22	4	1.67	0.06	1.66	1.63	1.76	1.62
2102	22	4	0.99	0.09	0.86	0.98	1.07	1.06
2103	22	4	2.30	0.11	2.23	2.17	2.42	2.36
2104	22	4	1.47	0.05	1.50	1.41	1.47	1.51
2105	22	4	1.46	0.05	1.42	1.49	1.51	1.42
2106	22	4	1.50	0.03	1.48	1.51	1.48	1.54
2101	23	4	2.28	0.05	2.29	2.29	2.32	2.21
2102	23	4	1.60	0.07	1.53	1.68	1.56	1.63
2103	23	4	2.90	0.13	3.06	2.81	2.95	2.79
2104	23	4	2.08	0.05	2.03	2.11	2.14	2.05
2105	23	4	2.08	0.09	2.13	2.10	2.15	1.96
2106	23	4	2.02	0.04	1.98	2.03	2.06	2.01
2101	24	4	1.97	0.07	1.89	1.94	2.05	2.00
2102	24	4	1.28	0.04	1.26	1.27	1.27	1.34
2103	24	4	2.55	0.09	2.51	2.52	2.48	2.67
2104	24	4	1.74	0.04	1.69	1.76	1.75	1.78
2105	24	4	1.69	0.04	1.63	1.70	1.73	1.70
2106	24	4	1.70	0.02	1.67	1.69	1.73	1.70
2101	25	4	1.81	0.04	1.76	1.78	1.85	1.83
2102	25	4	1.17	0.07	1.18	1.15	1.25	1.08
2103	25	4	2.37	0.09	2.48	2.38	2.37	2.26
2104	25	4	1.64	0.04	1.69	1.65	1.60	1.63
2105	25	4	1.54	0.07	1.53	1.50	1.64	1.48
2106	25	4	1.54	0.06	1.46	1.57	1.52	1.61
2101	26	4	1.90	0.07	1.96	1.94	1.89	1.80

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	1.28	0.09	1.19	1.40	1.23	1.30
2103	26	4	2.46	0.14	2.52	2.32	2.38	2.63
2104	26	4	1.73	0.11	1.65	1.86	1.64	1.78
2105	26	4	1.71	0.05	1.69	1.65	1.74	1.76
2106	26	4	1.65	0.04	1.68	1.62	1.61	1.68
2101	27	4	0.80B	0.04	0.83	0.84	0.74	0.80
2102	27	4	0.12 b	0.04	0.16	0.10	0.07	0.14
2103	27	4	1.23B	0.12	1.30	1.30	1.27	1.06
2104	27	4	0.77 b	0.06	0.78	0.80	0.69	0.82
2105	27	4	0.42B	0.10	0.27	0.50	0.46	0.44
2106	27	4	0.72B	0.06	0.69	0.78	0.64	0.76
2101	28	4	2.00	0.09	2.09	1.97	2.04	1.89
2102	28	4	1.32	0.04	1.32	1.31	1.28	1.37
2103	28	4	2.48	0.07	2.58	2.41	2.44	2.48
2104	28	4	1.73	0.05	1.72	1.79	1.75	1.67
2105	28	4	1.72	0.07	1.66	1.71	1.82	1.70
2106	28	4	1.66	0.04	1.68	1.61	1.70	1.66
2101	29	4	1.32	0.14	1.40	1.12	1.41	1.34
2102	29	4	0.57	0.12	0.51	0.46	0.73	0.58
2103	29	4	1.86	0.08	1.97	1.86	1.80	1.81
2104	29	4	0.95 b	0.11	0.98	0.91	1.09	0.83
2105	29	4	1.02	0.14	1.02	1.22	0.95	0.90
2106	29	4	1.08B	0.05	1.01	1.13	1.09	1.08
2101	30	4	1.65	0.03	1.63	1.62	1.68	1.68
2102	30	4	0.99	0.05	0.94	1.00	0.98	1.06
2103	30	4	2.29	0.05	2.24	2.25	2.35	2.31
2104	30	4	1.53	0.04	1.48	1.52	1.57	1.55
2105	30	4	1.43	0.04	1.40	1.41	1.42	1.48
2106	30	4	1.50	0.05	1.44	1.50	1.51	1.57
2101	31	4	2.04	0.03	2.01	2.04	2.03	2.08
2102	31	4	1.31	0.04	1.27	1.34	1.27	1.34
2103	31	4	2.57	0.07	2.50	2.60	2.65	2.53
2104	31	4	1.87	0.09	1.81	1.95	1.79	1.94
2105	31	4	1.79	0.03	1.82	1.81	1.75	1.77
2106	31	4	1.87	0.07	1.83	1.95	1.79	1.89
2101	32	4	1.27B	0.07	1.16	1.30	1.29	1.32
2102	32	4	0.48	0.16	0.39	0.68	0.51	0.32
2103	32	4	1.89	0.15	1.77	1.77	2.09	1.91
2104	32	4	1.28	0.13	1.22	1.16	1.27	1.47
2105	32	4	1.07	0.06	1.10	0.99	1.12	1.05
2106	32	4	1.20	0.12	1.20	1.19	1.05	1.34
2101	33	4	1.42	0.06	1.43	1.35	1.49	1.41
2102	33	4	0.92	0.07	0.92	0.82	1.00	0.95
2103	33	4	2.13	0.19	2.00	2.03	2.08	2.41
2104	33	4	1.38	0.08	1.45	1.38	1.44	1.27
2105	33	4	1.15	0.07	1.23	1.15	1.17	1.06
2106	33	4	1.30	0.02	1.30	1.28	1.28	1.32
2101	34	4	1.93	0.10	1.97	2.05	1.82	1.87
2102	34	4	1.61	0.09	1.66	1.53	1.53	1.72
2103	34	4	2.80	0.14	2.86	2.76	2.62	2.96
2104	34	4	2.08	0.14	2.06	1.88	2.20	2.16
2105	34	4	1.88	0.08	1.94	1.76	1.90	1.92
2106	34	4	1.54	0.10	1.44	1.63	1.47	1.61

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values							
2101	35	4	2.08	0.05	2.06	2.06	2.03	2.15				
2102	35	4	1.38	0.08	1.32	1.31	1.39	1.49				
2103	35	4	2.54	0.05	2.49	2.51	2.56	2.59				
2104	35	4	1.89	0.11	1.74	1.86	1.99	1.96				
2105	35	4	1.95	0.12	1.85	1.84	2.06	2.04				
2106	35	4	1.89	0.04	1.85	1.90	1.88	1.95				
2101	40	0	1.44	0.11	1.42D	1.37D	1.59D	1.35D				
2102	40	0	0.52	0.13	0.69D	0.49D	0.39D	0.52D				
2103	40	0	1.99	0.05	2.04D	1.97D	2.02D	1.92D				
2104	40	0	1.28	0.11	1.38D	1.26D	1.14D	1.34D				
2105	40	0	1.18	0.10	1.29D	1.16D	1.05D	1.22D				
2106	40	0	0.95	0.06	1.02D	0.93D	0.87D	0.97D				
2101	111	4	2.25	0.10	2.39	2.15	2.24	2.22				
2102	111	4	1.69	0.03	1.67	1.72	1.67	1.69				
2103	111	4	2.87	0.11	3.00	2.91	2.75	2.83				
2104	111	4	1.98	0.02	1.96	1.99	1.97	1.99				
2105	111	4	2.07	0.06	2.15	2.05	2.01	2.09				
2106	111	4	1.97	0.07	2.00	1.96	1.88	2.03				
2101	113	4	2.12	0.03	2.08	2.16	2.13	2.12				
2102	113	4	1.51	0.04	1.49	1.48	1.55	1.53				
2103	113	4	2.63	0.02	2.61	2.61	2.63	2.66				
2104	113	4	1.86	0.02	1.83	1.86	1.89	1.87				
2105	113	4	2.05	0.04	2.01	2.07	2.02	2.09				
2106	113	4	1.66	0.01	1.66	1.66	1.64	1.66				
2101	125	0	-0.36B	0.04	-0.35	-0.39	-0.38	-0.31				
2102	125	0	-0.86B	0.02	-0.88	-0.88	-0.86	-0.83				
2103	125	0	0.19B	0.10	0.34	0.14	0.10	0.18				
2104	125	0	-0.45B	0.05	-0.50	-0.50	-0.40	-0.42				
2105	125	0	-0.62B	0.05	-0.58	-0.66	-0.57	-0.66				
2106	125	0	-0.49B	0.02	-0.47	-0.51	-0.50	-0.50				
2101	134	8	2.03	0.11	1.82	1.96	2.15	2.02	2.13	1.98	2.15	2.04
2102	134	8	0.77	0.16 c	0.75	0.66	0.62	0.58	0.91	0.69	1.00	0.94
2103	134	8	2.24	0.13	2.19	2.23	2.14	2.23	2.20	2.54	2.11	2.25
2104	134	8	1.77	0.10	1.68	1.74	1.64	1.69	1.90	1.92	1.79	1.78
2105	134	8	1.32	0.09	1.31	1.24	1.18	1.28	1.39	1.27	1.39	1.46
2106	134	8	1.59	0.10	1.46	1.57	1.51	1.61	1.71	1.60	1.76	1.52
2101	135	4	2.31	0.08	2.36	2.31	2.36	2.19				
2102	135	4	1.87	0.44C	2.32	1.47	1.52	2.16				
2103	135	4	1.95	0.78C	1.35	1.38	3.02	2.05				
2104	135	4	2.63	0.48C	2.74	2.88	2.97	1.92				
2105	135	4	2.12	0.11	2.22	2.20	2.04	2.01				
2106	135	4	2.09	0.17C	2.24	2.17	2.10	1.85				

7.10 NDF

7.10.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	1.01	0.93	0.72	0.70	0.59	0.65
3	-1.00	-1.19	-0.77	-0.47	-0.40	-0.42
5	-0.22	-0.27	0.16	-0.92	-0.13	-0.48
7	-0.01	0.22	0.11	-0.27	-0.15	0.05
8	-0.69	0.34	0.63	-0.14	-0.99	-0.54
9	0.80	0.42	1.09	0.25	0.75	0.69
10	0.17	-0.09	-0.23	-0.71	-0.40	-0.13
11	-0.12	0.13	0.63	-0.56	-0.17	0.04
13	-0.89	-0.03	-0.01	-0.16	-0.72	-1.07
14	-0.53	-0.42	-0.33	-0.98	-0.78	-0.47
15	-0.13	-0.12	0.49	-0.29	-0.50	-0.36
18	0.80	0.33	0.55	-0.05	1.05	0.19
19	1.09	0.49	0.47	0.07	1.22	0.17
20	1.77	1.40	1.33	0.98	2.10	1.17
21	1.28	0.78	0.67	0.37	1.49	0.60
22	-0.42	-0.23	1.15	-0.97	-0.53	-0.49
23	1.29	0.19	0.64	0.36	1.08	0.90
24	0.68	0.58	1.23	-0.04	0.35	0.37
25	-0.23	-0.48	0.09	-0.59	-0.54	-0.38
26	-0.71	-1.06	-1.40	-1.61	-1.04	-1.04
27	-1.78	-1.78	-2.26	-0.47	-0.58	-0.80
28	0.41	-0.34	0.05	-0.66	-0.27	-0.41
29	1.10	0.26	0.59	-0.02	0.24	0.37
30	-0.65	-0.15	0.95	-0.56	-0.93	-0.11
31	-0.65	0.44	-0.23	-0.60	-0.24	0.28
32	-0.02	0.81	0.02	-0.42	0.42	0.28
33	-1.81	-1.42	-0.19	-1.15	-1.55	-0.78
34	0.21	-1.04	-1.39	-0.07	-0.84	0.10
35	-0.88	-0.20	-0.72	-0.39	0.13	0.31
40	-1.02	-1.69	-2.92	-1.95	-2.20	-1.29
111	-0.41	-0.20	0.30	-0.92	-0.42	-0.30
113	0.13	1.01	0.92	0.62	0.36	-0.45
125	-16.50	-16.19	-17.03	-16.27	-17.14	-16.10
134	0.39	0.56	-0.79	-0.95	-0.91	-0.46
135	0.56	0.15	-4.47	7.68	2.30	2.50

7.10.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	41.68	0.51	41.07	42.24	41.92	41.50
2102	1	4	45.55	0.55	45.00	45.44	45.46	46.31
2103	1	4	58.47	0.16	58.58	58.27	58.63	58.41
2104	1	4	45.03	0.69	44.16	44.84	45.69	45.45
2105	1	4	41.58	0.49	41.27	41.14	41.66	42.24
2106	1	4	40.39	0.71	40.96	39.36	40.49	40.75
2101	3	4	38.16	0.24	37.97	38.28	37.96	38.44
2102	3	4	41.84	0.67	42.34	40.86	42.21	41.94
2103	3	4	55.86	0.84	55.99	56.92	54.89	55.66

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	42.99	1.10	41.66	42.62	44.24	43.44		
2105	3	4	39.85	1.04	40.81	40.60	39.35	38.63		
2106	3	4	38.52	0.31	38.09	38.55	38.81	38.66		
2101	5	4	39.54	0.27	39.62	39.82	39.53	39.17		
2102	5	4	43.44	0.15	43.23	43.47	43.47	43.60		
2103	5	4	57.49	0.37	57.96	57.64	57.19	57.20		
2104	5	4	42.20	0.15	42.28	42.35	42.02	42.17		
2105	5	4	40.32	0.20	40.59	40.16	40.32	40.19		
2106	5	4	38.42	0.15	38.38	38.26	38.43	38.62		
2101	7	4	39.90	0.33	40.27	39.47	40.01	39.87		
2102	7	4	44.31	0.48	44.20	43.75	44.90	44.38		
2103	7	4	57.42	0.41	57.80	57.55	57.48	56.84		
2104	7	4	43.33	0.36	42.98	43.81	43.36	43.17		
2105	7	4	40.27	0.36	39.82	40.37	40.69	40.21		
2106	7	4	39.35	0.88	40.37	38.93	39.72	38.38		
2101	8	4	38.72	0.23	38.85	38.91	38.41	38.69		
2102	8	4	44.52	0.55	44.55	43.76	44.71	45.07		
2103	8	4	58.33	0.58	57.92	57.74	58.72	58.91		
2104	8	4	43.56	0.49	43.85	43.70	43.87	42.83		
2105	8	4	38.81	0.24	38.99	38.92	38.46	38.87		
2106	8	4	38.32	0.45	38.66	38.76	37.87	37.99		
2101	9	6	41.32	0.72	41.45	42.48	41.13	41.51	40.28	41.06
2102	9	6	44.66	0.41	44.34	45.27	44.70	44.60	44.10	44.93
2103	9	6	59.14	0.43	59.67	59.47	59.05	58.42	59.15	59.05
2104	9	6	44.25	0.44	43.72	44.48	44.02	44.76	43.86	44.64
2105	9	6	41.86	1.26	41.77	43.39	42.94	42.13	40.94	39.99
2106	9	6	40.46	1.43	42.45	42.06	39.08	39.83	40.04	39.32
2101	10	4	40.22	0.34	40.35	40.58	40.18	39.78		
2102	10	4	43.76	0.27	44.10	43.80	43.67	43.47		
2103	10	4	56.81	0.43	56.50	56.82	56.51	57.41		
2104	10	4	42.57	0.23	42.85	42.66	42.40	42.36		
2105	10	4	39.85	0.47	40.14	40.33	39.59	39.32		
2106	10	4	39.03	0.45	38.53	39.03	39.62	38.94		
2101	11	4	39.71	0.75	39.79	38.63	40.18	40.26		
2102	11	4	44.15	0.79	43.23	44.45	43.87	45.07		
2103	11	4	58.33	1.02	58.90	59.41	57.15	57.85		
2104	11	4	42.84	0.47	42.32	43.36	43.08	42.58		
2105	11	4	40.25	0.38	40.69	39.98	39.90	40.45		
2106	11	4	39.33	0.70	38.89	39.43	38.72	40.27		
2101	13	4	38.37	0.11	38.32	38.34	38.53	38.27		
2102	13	4	43.87	0.08	43.87	43.85	43.99	43.79		
2103	13	4	57.21	0.08	57.12	57.21	57.21	57.31		
2104	13	4	43.53	0.12	43.45	43.41	43.67	43.59		
2105	13	4	39.29	0.19	39.22	39.10	39.31	39.54		
2106	13	4	37.38	0.15	37.16	37.51	37.43	37.44		
2101	14	4	38.99	0.49	38.40	38.79	39.43	39.34		
2102	14	4	43.19	0.44	43.23	42.65	43.13	43.73		
2103	14	4	56.64	0.77	57.23	57.32	55.71	56.32		
2104	14	4	42.10	0.61	42.78	41.63	41.54	42.43		
2105	14	4	39.18	0.32	39.22	39.61	38.95	38.93		
2106	14	4	38.44	0.65	37.80	38.78	39.18	37.99		
2101	15	5	39.68	0.63	39.65	39.47	39.54	39.03	40.72	
2102	15	4	43.72	0.67	43.23	44.69	43.66	43.28		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	58.08	0.33	57.96	57.97	58.56	57.84
2104	15	4	43.30	0.37	43.14	43.85	43.07	43.14
2105	15	4	39.66	0.34	39.52	39.73	39.30	40.10
2106	15	4	38.62	0.42	38.41	39.03	38.13	38.92
2101	18	4	41.31	0.53	41.80	41.75	40.88	40.82
2102	18	4	44.50	0.30	44.53	44.80	44.60	44.09
2103	18	4	58.18	0.36	58.72	57.98	58.06	57.96
2104	18	4	43.73	0.41	43.39	43.56	43.65	44.31
2105	18	4	42.38	0.64	42.02	43.34	41.96	42.22
2106	18	4	39.59	0.30	39.77	39.87	39.20	39.54
2101	19	4	41.82	0.66	42.10	42.57	41.53	41.07
2102	19	4	44.77	0.22	44.82	44.90	44.91	44.45
2103	19	4	58.05	0.37	58.56	58.08	57.78	57.76
2104	19	4	43.93	0.52	43.81	43.88	43.38	44.64
2105	19	4	42.67	0.70	42.27	43.71	42.22	42.49
2106	19	4	39.56	0.74	40.02	40.19	38.55	39.49
2101	20	4	43.01	0.40	43.50	43.06	42.97	42.51
2102	20	4	46.36	0.41	46.16	46.92	46.39	45.98
2103	20	4	59.54	0.25	59.74	59.47	59.74	59.22
2104	20	4	45.52	0.52	45.08	45.12	45.75	46.15
2105	20	4	44.22	0.90	43.65	45.50	43.54	44.19
2106	20	4	41.31	0.37	41.39	41.64	41.41	40.78
2101	21	4	42.15	0.47	42.49	42.57	42.00	41.55
2102	21	4	45.29	0.22	45.29	45.16	45.60	45.09
2103	21	4	58.40	0.25	58.28	58.56	58.65	58.10
2104	21	4	44.46	0.44	43.95	44.30	44.63	44.98
2105	21	4	43.14	0.70	42.69	44.02	42.47	43.39
2106	21	4	40.32	0.30	40.10	40.72	40.37	40.08
2101	22	4	39.19	0.36	39.56	38.71	39.17	39.31
2102	22	4	43.51	0.40	43.19	43.71	43.17	43.98
2103	22	4	59.23	0.43	58.84	59.00	59.24	59.83
2104	22	4	42.11	0.41	41.85	41.93	41.94	42.73
2105	22	4	39.62	0.60	39.56	39.39	40.47	39.07
2106	22	4	38.40	0.24	38.66	38.48	38.39	38.08
2101	23	4	42.17	1.09	42.59	42.64	42.91	40.55
2102	23	4	44.25	0.57	43.97	44.99	44.38	43.67
2103	23	4	58.34	1.02	59.57	57.79	58.74	57.27
2104	23	4	44.44	0.75	44.40	44.49	45.35	43.51
2105	23	4	42.43	0.57	42.64	42.94	42.54	41.61
2106	23	4	40.83	1.18	39.16	41.93	41.16	41.06
2101	24	4	41.11	0.66	40.66	40.45	41.85	41.48
2102	24	4	44.94	0.22	44.91	45.24	44.71	44.92
2103	24	4	59.38	0.65	60.00	59.88	58.86	58.78
2104	24	4	43.73	0.23	43.40	43.87	43.75	43.91
2105	24	4	41.15	0.32	40.79	41.32	41.49	40.98
2106	24	4	39.91	0.14	39.94	39.96	40.04	39.71
2101	25	4	39.51	0.29	39.16	39.40	39.75	39.75
2102	25	4	43.08	0.50	42.61	43.44	43.58	42.70
2103	25	4	57.38	0.47	58.09	57.19	57.12	57.11
2104	25	4	42.78	0.91	43.57	43.31	41.53	42.73
2105	25	4	39.60	0.69	39.35	38.92	40.54	39.59
2106	25	4	38.59	0.38	38.30	38.86	38.24	38.96
2101	26	4	38.68	0.41	38.90	39.13	38.39	38.28

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	42.07	0.84	41.20	42.98	41.52	42.57
2103	26	4	54.77	0.71	55.40	53.88	54.52	55.28
2104	26	4	40.98	1.24	39.83	42.49	40.13	41.49
2105	26	4	38.73	0.43	38.71	38.14	38.90	39.16
2106	26	4	37.44	0.31	37.78	37.30	37.08	37.59
2101	27	4	36.81	1.03	37.52	37.85	35.78	36.09
2102	27	4	40.80	1.26	41.72	38.95	41.30	41.25
2103	27	4	53.27	0.81	52.31	53.83	54.03	52.88
2104	27	4	42.98	1.50	41.26	44.65	42.30	43.71
2105	27	4	39.52	0.72	39.07	38.81	40.40	39.82
2106	27	4	37.85	1.00	36.61	38.79	37.49	38.53
2101	28	4	40.64	0.47	40.48	41.01	41.02	40.05
2102	28	4	43.32	0.35	42.87	43.32	43.37	43.73
2103	28	4	57.30	0.26	57.67	57.11	57.32	57.10
2104	28	4	42.65	0.50	42.67	42.77	43.18	41.98
2105	28	4	40.07	0.21	40.07	39.84	40.36	40.03
2106	28	4	38.54	0.18	38.51	38.71	38.30	38.64
2101	29	4	41.85	1.11	42.06	40.76	43.31	41.27
2102	29	4	44.37	1.23	42.67	44.53	44.67	45.60
2103	29	4	58.25	0.90	57.53	57.49	59.32	58.66
2104	29	4	43.77	1.74	41.78	44.88	45.55	42.89
2105	29	4	40.96	0.97	39.92	41.96	41.59	40.35
2106	29	4	39.91	0.88	38.84	39.98	39.83	40.99
2101	30	4	38.78	0.18	38.69	38.86	38.99	38.58
2102	30	4	43.65	0.20	43.38	43.87	43.67	43.70
2103	30	4	58.88	0.19	58.79	58.80	59.17	58.77
2104	30	4	42.83	0.12	42.88	42.64	42.87	42.91
2105	30	4	38.91	0.14	38.98	38.80	39.08	38.80
2106	30	4	39.07	0.16	38.84	39.13	39.21	39.10
2101	31	4	38.78	1.47 c	37.50	39.44	37.63	40.54
2102	31	4	44.69	0.85	44.79	45.61	44.78	43.56
2103	31	4	56.82	1.11	56.84	58.27	55.58	56.58
2104	31	4	42.76	1.41	40.80	43.85	42.69	43.71
2105	31	4	40.13	0.53	39.48	40.71	39.95	40.38
2106	31	4	39.75	1.45	38.33	41.78	39.34	39.54
2101	32	4	39.87	0.24	40.16	39.98	39.66	39.69
2102	32	4	45.34	0.68	44.95	45.28	46.31	44.80
2103	32	4	57.25	0.96	55.89	57.99	57.84	57.27
2104	32	4	43.08	0.83	42.42	42.35	43.48	44.06
2105	32	4	41.28	1.08	41.49	42.73	40.44	40.47
2106	32	4	39.75	0.96	39.65	40.70	40.17	38.46
2101	33	4	36.74	0.82	35.97	37.26	37.61	36.12
2102	33	4	41.43	0.89	40.75	41.04	42.74	41.19
2103	33	4	56.90	1.47	56.00	55.57	57.17	58.85
2104	33	4	41.79	0.98	42.67	41.90	42.19	40.40
2105	33	4	37.82	1.02	38.81	36.43	37.77	38.30
2106	33	4	37.90	0.87	37.04	39.02	37.42	38.11
2101	34	4	40.28	1.37	40.52	39.12	39.37	42.13
2102	34	4	42.09	0.96	40.70	42.78	42.68	42.20
2103	34	4	54.79	1.14	55.20	53.30	54.65	56.02
2104	34	4	43.69	2.11C	46.38	41.93	42.10	44.36
2105	34	4	39.07	0.66	38.83	39.05	39.99	38.42
2106	34	4	39.43	0.97	39.88	38.03	39.59	40.23

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	38.38	0.51	38.81	37.67	38.38	38.69			
2102	35	4	43.56	0.35	43.21	43.36	43.70	43.98			
2103	35	4	55.96	0.39	55.79	55.69	56.53	55.84			
2104	35	4	43.13	0.52	42.64	42.75	43.44	43.70			
2105	35	4	40.77	1.33	41.00	38.85	41.93	41.28			
2106	35	4	39.80	0.60	40.07	40.42	39.01	39.70			
2101	40	0	38.14	1.09	37.75D	37.18D	39.71D	37.90D			
2102	40	0	40.97	0.72	42.00D	40.66D	40.35D	40.88D			
2103	40	0	52.12	0.17	52.00D	52.00D	52.11D	52.36D			
2104	40	0	40.39	0.91	40.32D	41.01D	39.13D	41.11D			
2105	40	0	36.70	1.18	37.81D	37.08D	35.04D	36.86D			
2106	40	0	37.00	0.19	37.04D	37.14D	36.73D	37.12D			
2101	111	4	39.20	0.64	39.37	38.27	39.44	39.72			
2102	111	4	43.57	0.66	42.60	43.89	43.71	44.06			
2103	111	4	57.75	1.04	58.33	58.79	56.44	57.43			
2104	111	4	42.20	0.38	41.65	42.45	42.48	42.21			
2105	111	4	39.82	0.47	40.46	39.57	39.39	39.85			
2106	111	4	38.74	0.58	38.65	38.78	38.05	39.46			
2101	113	4	40.15	0.09	40.13	40.02	40.22	40.21			
2102	113	4	45.68	0.04	45.70	45.73	45.63	45.66			
2103	113	4	58.83	0.23	58.83	58.80	58.56	59.12			
2104	113	4	44.90	0.12	45.03	44.76	44.86	44.96			
2105	113	4	41.17	0.15	41.02	41.37	41.11	41.20			
2106	113	4	38.47	0.07	38.41	38.51	38.54	38.41			
2101	125	0	11.04B	0.31	10.71	11.45	10.94	11.05			
2102	125	0	15.59B	0.51	15.95	15.61	14.87	15.94			
2103	125	0	27.43B	0.94	28.76	27.17	26.57	27.20			
2104	125	0	15.33B	0.46	15.94	15.46	14.97	14.97			
2105	125	0	10.54B	0.32	10.81	10.18	10.82	10.36			
2106	125	0	11.09B	0.33	10.69	10.96	11.30	11.41			
2101	134	8	40.59	0.65	40.41	41.45	40.45	39.97	41.12	40.08	41.41
2102	134	8	44.90	0.47	44.96	44.86	44.70	44.28	45.34	44.26	45.58
2103	134	8	55.83	1.24	56.69	55.81	56.66	56.84	54.41	56.49	53.47
2104	134	8	42.14	0.80	42.32	42.96	41.88	42.21	42.53	43.17	41.22
2105	134	8	38.95	0.70	40.26	38.12	38.71	38.91	39.53	38.29	38.60
2106	134	8	38.44	1.00	37.60	37.52	39.20	38.37	38.81	39.08	39.96
2101	135	3	39.94	0.16	40.03	39.75	40.03	43.79A			
2102	135	4	44.18	3.51C	39.24	46.62	46.77	44.09			
2103	135	4	49.41B	8.71C	47.66	46.30	61.91	41.75			
2104	135	3	62.38B	0.83	63.00	62.69	61.44	41.84			
2105	135	4	44.57	1.65 c	45.95	45.10	45.05	42.17			
2106	135	4	43.64B	1.70 c	46.05	42.86	43.49	42.16			

7.11 ADFom

7.11.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	-0.17	-0.07	-0.38	-0.40	-0.59	-0.32
3	-0.74	-0.94	-0.37	-0.34	-0.20	-0.23
5	0.17	-0.05	0.62	-0.74	0.28	-0.18
7	0.33	0.49	0.60	0.39	0.34	0.23
8	-0.35	0.47	0.90	0.24	-0.90	-0.19
9	1.06	0.79	1.44	0.61	1.17	1.05
10	0.54	0.32	-0.32	-0.40	-0.12	0.18
11	-0.99	-0.48	-0.03	-1.34	-1.06	-0.65
13	-0.70	0.28	0.44	-0.12	-0.10	-1.25
14	-0.37	-0.30	-0.41	-0.78	-0.59	-0.27
15	0.10	0.36	0.52	-0.07	0.02	-0.01
18	0.23	-0.02	-0.02	-0.38	0.82	-0.10
19	1.03	0.56	0.26	0.22	1.37	0.06
20	0.38	0.20	0.15	-0.08	0.95	0.09
21	0.09	-0.27	-0.33	-0.55	0.45	-0.41
22	-0.05	-0.05	1.16	-0.74	-0.21	-0.06
23	1.87	0.90	1.48	1.04	1.89	1.62
24	0.57	0.40	1.07	-0.16	0.34	0.32
25	-0.04	-0.33	0.35	-0.25	-0.32	-0.10
26	0.35	-0.28	-0.84	-0.80	-0.14	-0.14
27	-0.81	-1.10	-1.24	-0.05	-0.26	-0.10
28	0.40	-0.25	-0.24	-0.61	-0.28	-0.24
29	0.33	-0.44	-0.06	-0.79	-0.52	-0.02
30	-0.31	-0.14	1.04	-0.19	-0.64	0.32
31	-0.87	0.35	-0.01	-0.48	0.14	0.40
32	-0.92	-0.44	-0.61	-1.20	-0.53	-0.65
33	-2.15	-1.56	-0.75	-1.64	-2.26	-1.21
34	-0.03	0.49	1.45	0.07	-0.35	-0.25
35	0.08	0.47	-0.24	0.27	1.14	0.93
40	1.16	1.42	1.14	0.33	0.19	0.32
111	-1.20	-0.73	-0.21	-1.59	-1.15	-0.85
113	-0.63	0.39	0.36	-0.14	-0.24	-1.27
125	-15.07	-14.86	-15.67	-14.86	-15.55	-14.53
134	1.47	0.34	-0.49	-0.15	-0.65	0.40
135	1.32	0.65	-5.31	8.23	2.23	2.93

7.11.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	21.71	0.47	21.37	22.34	21.81	21.31
2102	1	4	23.47	0.33	23.12	23.50	23.35	23.91
2103	1	4	32.90	0.24	33.02	32.85	33.13	32.58
2104	1	4	23.17	0.41	22.67	23.07	23.64	23.32
2105	1	4	21.55	0.26	21.51	21.22	21.58	21.87
2106	1	4	20.83	0.39	21.17	20.27	20.92	20.97
2101	3	4	21.08	0.10	21.13	20.99	21.19	21.01
2102	3	4	22.51	0.41	22.48	22.00	23.00	22.56
2103	3	4	32.91	0.31	32.91	33.35	32.64	32.76

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	23.24	0.77	22.41	22.82	24.14	23.60		
2105	3	4	21.98	0.39	22.19	22.42	21.75	21.57		
2106	3	4	20.94	0.18	20.79	20.89	21.20	20.86		
2101	5	4	22.08	0.08	22.00	22.19	22.09	22.05		
2102	5	4	23.49	0.16	23.27	23.56	23.49	23.64		
2103	5	4	34.00	0.29	34.40	33.98	33.88	33.72		
2104	5	4	22.80	0.18	22.84	23.01	22.56	22.80		
2105	5	4	22.51	0.09	22.52	22.39	22.61	22.50		
2106	5	4	20.99	0.09	20.92	20.90	21.08	21.04		
2101	7	4	22.26	0.28	22.07	22.18	22.68	22.12		
2102	7	4	24.09	0.30	24.12	23.72	24.44	24.08		
2103	7	4	33.98	0.35	34.39	34.04	33.93	33.55		
2104	7	4	24.05	0.46	24.27	24.31	24.25	23.36		
2105	7	4	22.57	0.22	22.25	22.66	22.73	22.66		
2106	7	4	21.43	0.34	21.76	21.64	21.34	21.00		
2101	8	4	21.51	0.29	21.30	21.94	21.39	21.39		
2102	8	4	24.06	0.31	23.86	23.84	24.03	24.51		
2103	8	4	34.31	0.19	34.32	34.15	34.19	34.58		
2104	8	4	23.88	0.25	23.91	24.05	24.04	23.52		
2105	8	4	21.21	0.11	21.34	21.20	21.07	21.22		
2106	8	4	20.98	0.40	21.37	21.28	20.62	20.64		
2101	9	6	23.06	0.35	23.24	23.56	23.01	23.15	22.52	22.87
2102	9	6	24.42	0.30	24.21	24.73	24.46	24.41	23.97	24.74
2103	9	6	34.90	0.37	35.12	35.21	34.88	34.23	35.16	34.83
2104	9	6	24.29	0.30	23.91	24.34	24.14	24.67	24.11	24.61
2105	9	6	23.49	1.00	23.60	24.63	24.42	23.64	22.52	22.12
2106	9	6	22.33	1.13	23.98	23.53	21.35	21.53	22.06	21.55
2101	10	4	22.49	0.13	22.66	22.41	22.52	22.36		
2102	10	4	23.90	0.38	24.36	23.95	23.86	23.43		
2103	10	4	32.97	0.30	32.79	32.82	32.85	33.41		
2104	10	4	23.18	0.37	23.66	23.26	22.95	22.84		
2105	10	4	22.07	0.37	22.15	22.55	21.83	21.74		
2106	10	4	21.38	0.27	21.00	21.42	21.64	21.45		
2101	11	4	20.80	0.57	21.04	19.95	21.06	21.17		
2102	11	4	23.02	0.57	22.30	23.14	22.97	23.67		
2103	11	4	33.29	0.84	33.82	34.16	32.36	32.81		
2104	11	4	22.15	0.31	21.86	22.49	22.32	21.92		
2105	11	4	21.04	0.33	21.32	20.84	20.67	21.31		
2106	11	4	20.47	0.42	20.16	20.63	20.11	20.99		
2101	13	4	21.13	0.07	21.12	21.10	21.23	21.07		
2102	13	4	23.86	0.07	23.80	23.83	23.97	23.84		
2103	13	4	33.81	0.05	33.81	33.80	33.75	33.87		
2104	13	4	23.49	0.12	23.41	23.40	23.49	23.66		
2105	13	4	22.09	0.18	21.95	21.95	22.14	22.32		
2106	13	4	19.81	0.08	19.76	19.75	19.82	19.92		
2101	14	4	21.49	0.37	20.98	21.43	21.76	21.76		
2102	14	4	23.22	0.33	23.25	22.84	23.15	23.64		
2103	14	4	32.87	0.59	33.33	33.37	32.17	32.59		
2104	14	4	22.76	0.42	23.19	22.42	22.38	23.07		
2105	14	4	21.55	0.19	21.57	21.80	21.46	21.36		
2106	14	4	20.89	0.52	20.24	21.25	21.37	20.70		
2101	15	5	22.01	0.42	22.40	21.57	21.89	21.68	22.50	
2102	15	4	23.95	0.25	23.71	24.22	24.10	23.77		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	33.89	0.38	33.61	33.59	34.38	33.99
2104	15	4	23.55	0.22	23.31	23.77	23.41	23.69
2105	15	4	22.22	0.35	22.37	22.26	21.72	22.52
2106	15	4	21.17	0.45	21.41	21.59	20.56	21.13
2101	18	4	22.15	0.34	22.47	22.42	21.91	21.81
2102	18	4	23.53	0.13	23.42	23.63	23.64	23.41
2103	18	4	33.30	0.16	33.48	33.36	33.23	33.11
2104	18	4	23.20	0.26	22.99	23.11	23.11	23.58
2105	18	4	23.10	0.40	22.80	23.57	22.73	23.29
2106	18	4	21.07	0.11	21.18	21.16	20.96	20.98
2101	19	4	23.03	0.52	23.27	23.63	22.72	22.49
2102	19	4	24.17	0.15	24.12	24.27	24.30	23.99
2103	19	4	33.61	0.14	33.73	33.72	33.53	33.44
2104	19	4	23.86	0.38	23.89	23.91	23.36	24.30
2105	19	4	23.70	0.47	23.33	24.36	23.39	23.74
2106	19	4	21.25	0.91	21.85	21.80	19.91	21.44
2101	20	4	22.32	0.28	22.68	22.35	22.21	22.02
2102	20	4	23.77	0.23	23.67	24.07	23.81	23.54
2103	20	4	33.48	0.12	33.51	33.52	33.59	33.30
2104	20	4	23.53	0.32	23.39	23.23	23.53	23.98
2105	20	4	23.24	0.70	22.81	24.12	22.57	23.48
2106	20	4	21.28	0.25	21.38	21.37	21.47	20.91
2101	21	4	21.99	0.34	22.22	22.32	21.85	21.58
2102	21	4	23.26	0.17	23.22	23.17	23.50	23.14
2103	21	4	32.96	0.20	32.81	33.04	33.20	32.79
2104	21	4	23.01	0.24	22.76	22.91	23.05	23.33
2105	21	4	22.70	0.52	22.30	23.25	22.21	23.04
2106	21	4	20.73	0.20	20.60	20.85	20.95	20.53
2101	22	4	21.84	0.39	22.15	21.27	21.96	21.97
2102	22	4	23.50	0.31	23.17	23.43	23.47	23.91
2103	22	4	34.59	0.41	34.62	34.01	34.88	34.87
2104	22	4	22.81	0.19	22.79	22.64	22.72	23.08
2105	22	4	21.97	0.43	21.89	22.26	22.33	21.39
2106	22	4	21.12	0.17	21.15	21.03	21.34	20.95
2101	23	4	23.95	0.75	24.16	24.36	24.44	22.85
2102	23	4	24.54	0.52	24.19	25.29	24.46	24.21
2103	23	4	34.94	0.90	35.98	34.44	35.35	34.00
2104	23	4	24.76	0.43	24.66	24.86	25.28	24.24
2105	23	4	24.28	0.51	24.60	24.51	24.47	23.52
2106	23	4	22.97	0.74	21.93	23.64	23.29	23.02
2101	24	4	22.52	0.31	22.22	22.38	22.95	22.55
2102	24	4	23.98	0.17	24.07	24.07	23.73	24.08
2103	24	4	34.50	0.34	35.00	34.31	34.27	34.41
2104	24	4	23.44	0.26	23.17	23.65	23.26	23.68
2105	24	4	22.57	0.22	22.29	22.77	22.73	22.49
2106	24	4	21.54	0.15	21.64	21.51	21.68	21.34
2101	25	4	21.85	0.25	21.59	21.70	22.13	21.99
2102	25	4	23.19	0.44	22.82	23.43	23.69	22.83
2103	25	4	33.70	0.36	34.22	33.61	33.54	33.42
2104	25	4	23.34	0.62	23.91	23.65	22.48	23.33
2105	25	4	21.85	0.51	21.66	21.43	22.60	21.69
2106	25	4	21.08	0.27	20.87	21.24	20.83	21.38
2101	26	4	22.28	0.38	22.40	22.77	21.94	22.03

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	23.24	0.71	22.51	23.91	22.75	23.79
2103	26	4	32.40	0.55	32.50	31.82	32.17	33.10
2104	26	4	22.73	1.01	21.73	23.74	22.01	23.46
2105	26	4	22.05	0.28	22.01	21.69	22.34	22.16
2106	26	4	21.03	0.37	21.38	21.04	20.52	21.18
2101	27	4	21.00	0.66	21.46	21.67	20.41	20.48
2102	27	4	22.34	0.64	23.03	21.50	22.26	22.58
2103	27	4	31.95	0.66	31.36	32.73	32.27	31.47
2104	27	4	23.56	0.77	22.84	24.24	22.96	24.22
2105	27	4	21.91	0.46	21.48	21.59	22.48	22.09
2106	27	4	21.07	0.59	20.36	21.42	20.83	21.67
2101	28	4	22.33	0.41	22.50	22.41	22.69	21.73
2102	28	4	23.27	0.19	23.11	23.29	23.15	23.53
2103	28	4	33.05	0.45	33.71	32.72	32.94	32.83
2104	28	4	22.94	0.34	22.93	23.03	23.32	22.50
2105	28	4	21.90	0.35	21.67	21.70	22.41	21.81
2106	28	4	20.92	0.13	20.89	20.88	21.11	20.82
2101	29	4	22.26	0.80	22.41	21.28	23.22	22.11
2102	29	4	23.07	0.22	22.81	22.96	23.29	23.20
2103	29	4	33.26	0.23	33.10	33.21	33.60	33.12
2104	29	4	22.75	0.62	22.12	23.35	23.22	22.31
2105	29	4	21.63	0.61	21.05	22.43	21.75	21.30
2106	29	4	21.16	0.66	20.30	21.55	21.00	21.79
2101	30	4	21.55	0.11	21.49	21.49	21.71	21.51
2102	30	4	23.39	0.21	23.09	23.49	23.47	23.52
2103	30	4	34.46	0.15	34.46	34.26	34.61	34.53
2104	30	4	23.41	0.12	23.35	23.27	23.56	23.46
2105	30	4	21.49	0.08	21.50	21.40	21.60	21.47
2106	30	4	21.53	0.19	21.26	21.61	21.67	21.59
2101	31	4	20.94	1.40C	19.91	21.38	19.74	22.73
2102	31	4	23.93	0.89	24.26	24.93	23.72	22.82
2103	31	4	33.31	1.19	33.34	34.71	31.81	33.37
2104	31	4	23.09	1.45C	20.96	23.69	23.49	24.21
2105	31	4	22.35	0.74	21.36	23.07	22.24	22.73
2106	31	4	21.62	1.19 c	20.16	23.06	21.73	21.53
2101	32	4	20.88	0.36	20.85	21.07	20.40	21.21
2102	32	4	23.07	0.46	22.80	23.26	23.62	22.59
2103	32	4	32.65	0.86	31.55	33.30	33.36	32.37
2104	32	4	22.30	0.95	21.41	21.56	23.09	23.16
2105	32	4	21.61	0.50	21.91	22.15	21.12	21.27
2106	32	4	20.47	0.52	19.90	21.04	20.76	20.18
2101	33	4	19.53	0.51	19.01	19.86	20.06	19.18
2102	33	4	21.83	0.68	21.30	21.54	22.84	21.65
2103	33	4	32.50	1.10	31.78	31.57	32.66	33.98
2104	33	4	21.81	0.58	22.50	21.74	21.92	21.09
2105	33	4	19.71	0.52	20.31	19.07	19.60	19.89
2106	33	4	19.85	0.49	19.45	20.56	19.68	19.71
2101	34	4	21.86	0.35	22.21	21.58	22.10	21.54
2102	34	4	24.08	0.59	23.94	24.76	24.26	23.36
2103	34	4	34.91	0.79	35.01	34.00	34.74	35.91
2104	34	4	23.70	0.68	23.94	24.01	22.69	24.14
2105	34	4	21.81	0.50	21.16	22.26	22.14	21.68
2106	34	4	20.91	0.30	21.22	20.67	20.64	21.09

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	21.99	0.21	22.04	21.80	21.86	22.26			
2102	35	4	24.06	0.23	23.86	23.96	24.04	24.39			
2103	35	4	33.05	0.48	32.73	32.67	33.73	33.07			
2104	35	4	23.92	0.54	23.21	23.79	24.40	24.28			
2105	35	4	23.45	0.79	23.24	22.45	24.29	23.82			
2106	35	4	22.21	0.50	22.35	22.69	21.50	22.28			
2101	40	0	23.17	0.80	22.79D	22.49D	24.31D	23.09D			
2102	40	0	25.11	0.41	25.70D	25.05D	24.77D	24.93D			
2103	40	0	34.57	0.33	34.08D	34.76D	34.66D	34.78D			
2104	40	0	23.98	0.56	23.97D	24.40D	23.18D	24.36D			
2105	40	0	22.40	0.95	23.26D	22.69D	21.04D	22.63D			
2106	40	0	21.53	0.08	21.58D	21.57D	21.41D	21.57D			
2101	111	4	20.57	0.49	20.89	19.84	20.66	20.87			
2102	111	4	22.75	0.49	22.02	22.92	22.99	23.07			
2103	111	4	33.08	0.86	33.66	33.92	32.06	32.70			
2104	111	4	21.87	0.19	21.60	22.03	21.96	21.87			
2105	111	4	20.93	0.35	21.43	20.81	20.64	20.84			
2106	111	4	20.25	0.42	20.17	20.33	19.75	20.76			
2101	113	4	21.20	0.08	21.11	21.20	21.20	21.30			
2102	113	4	23.98	0.07	24.06	23.90	23.97	23.98			
2103	113	4	33.71	0.21	33.61	33.68	33.54	34.01			
2104	113	4	23.46	0.07	23.52	23.37	23.43	23.52			
2105	113	4	21.93	0.09	21.91	21.99	21.82	22.01			
2106	113	4	19.79	0.05	19.75	19.86	19.79	19.75			
2101	125	0	5.32B	0.29	5.01	5.70	5.22	5.35			
2102	125	0	7.20B	0.25	7.25	7.25	6.86	7.46			
2103	125	0	16.08B	0.67	17.04	15.71	15.57	16.00			
2104	125	0	7.27B	0.29	7.47	7.57	6.98	7.06			
2105	125	0	5.09B	0.34	5.40	4.92	5.35	4.71			
2106	125	0	5.20B	0.22	4.92	5.15	5.40	5.34			
2101	134	8	23.51	0.47	22.85	23.52	23.34	23.19	23.89	23.15	24.29
2102	134	8	23.92	0.67	23.71	23.41	23.27	23.03	24.70	24.00	24.73
2103	134	8	32.78	0.77	33.05	32.34	33.20	32.78	31.81	33.87	31.71
2104	134	8	23.46	0.44	23.45	23.33	23.09	23.25	24.15	24.14	23.24
2105	134	8	21.48	0.57	22.07	20.53	21.02	21.65	22.09	20.98	21.65
2106	134	8	21.62	0.79	20.98	20.60	21.67	21.66	22.39	22.11	22.80
2101	135	4	23.35	0.92	22.65	23.20	22.86	24.68			
2102	135	4	24.26	1.31C	22.30	25.05	24.82	24.87			
2103	135	4	27.47B	5.92C	25.68	24.53	36.25	23.44			
2104	135	3	35.89B	0.38	35.98	36.22	35.46	23.03			
2105	135	4	24.65	0.71	25.29	24.96	24.68	23.66			
2106	135	4	24.40B	0.86	25.40	24.45	24.47	23.29			

7.12 Elos / Cellulase

7.12.1 z-Werte / z Scores

Labor/Lab	2101	2102	2103	2104	2105	2106
1	-0.95	-1.14	-1.06	-0.68	-0.76	-0.77
3	0.37	0.51	-0.06	-0.15	-0.31	-0.36
5	0.66	0.83	0.02	1.47	0.70	1.00
7	-0.63	-0.56	-0.82	-0.85	-0.45	-0.51
8	0.38	-0.15	-0.39	-0.05	0.92	0.29
9	-0.19	-0.26	-0.38	0.23	-0.31	-0.20
10	-0.94	-0.54	-0.00	0.27	0.11	-0.13
11	0.26	-0.35	-0.80	0.60	0.15	-0.01
13	1.31	0.03	-0.16	0.46	0.16	1.82
14	0.40	0.49	0.43	1.04	0.88	0.64
15	-0.17	-0.33	-0.59	0.08	0.05	0.46
18	-0.18	0.07	-0.42	0.33	-0.77	-0.02
19	-1.29	-0.88	-0.76	-0.52	-1.60	-0.99
20	-1.10	-0.86	-0.93	-0.49	-1.64	-0.86
21	-0.79	-0.35	-0.54	-0.00	-1.17	-0.30
22	0.33	0.18	-0.71	0.85	0.33	0.09
23	-1.73	-0.92	-1.31	-1.04	-1.55	-1.42
24	-0.71	-0.60	-1.29	0.11	-0.38	-0.34
25	0.02	0.03	-0.50	0.25	0.31	0.04
26	-0.54	-0.14	0.41	0.24	-0.10	-0.24
27	6.26	6.66	7.53	4.65	5.79	4.33
28	-1.18	-0.88	-0.83	-0.50	-0.66	-0.72
29	-1.20	-0.64	-1.12	-0.21	-0.51	-0.70
30	0.40	0.30	-0.51	0.29	0.77	-0.20
31	-0.43	-1.07	-1.22	-0.64	-1.08	-1.24
32	0.65	0.24	0.44	0.79	0.36	-0.01
33	1.80	1.22	0.66	1.45	1.96	0.96
34	-1.53	-0.90	-2.92	-0.26	-0.56	0.02
35	0.63	-0.22	0.30	0.03	-0.31	-0.53
40	-1.84	-2.11	-2.66	-0.53	-0.92	-0.92
111	0.20	-0.39	-0.88	0.63	0.10	-0.03
113	0.74	-0.37	-0.31	0.18	-0.11	1.33
125	11.78	11.37	12.04	11.65	12.15	11.20
134	-1.68	0.28	0.43	-0.10	0.65	-0.27
135	0.83	0.71	5.92	-5.91	-0.96	-1.19

7.12.2 Einzelwerte / Single Values

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single values			
2101	1	4	70.63	0.77	71.26	69.67	70.34	71.25
2102	1	4	69.03	0.39	69.50	68.87	69.18	68.59
2103	1	4	55.22	0.39	55.18	55.23	54.76	55.71
2104	1	4	68.97	0.62	69.83	69.00	68.42	68.65
2105	1	4	71.22	0.33	71.35	71.45	71.36	70.73
2106	1	4	72.61	0.62	72.19	73.53	72.34	72.37
2101	3	4	72.95	0.42	72.59	73.24	72.58	73.38
2102	3	4	71.93	0.45	72.22	72.28	71.30	71.94
2103	3	4	56.99	0.70	57.49	56.14	57.62	56.69

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values					
2104	3	4	69.91	0.80	70.84	70.14	68.92	69.72		
2105	3	4	72.02	0.40	72.22	71.42	72.31	72.11		
2106	3	4	73.33	0.36	73.52	73.45	72.80	73.56		
2101	5	4	73.46	0.28	73.60	73.77	73.22	73.23		
2102	5	4	72.49	0.32	72.95	72.47	72.23	72.29		
2103	5	4	57.12	0.48	56.41	57.28	57.36	57.44		
2104	5	4	72.74	0.31	72.83	72.34	73.08	72.71		
2105	5	4	73.78	0.43	74.41	73.49	73.55	73.66		
2106	5	4	75.72	0.06	75.75	75.74	75.73	75.63		
2101	7	4	71.19	0.57	71.83	71.48	70.58	70.89		
2102	7	4	70.06	0.55	70.14	70.72	69.38	69.99		
2103	7	4	55.65	0.24	55.34	55.83	55.58	55.84		
2104	7	4	68.67	0.96	68.09	68.53	68.01	70.06		
2105	7	4	71.75	0.63	72.43	72.07	71.54	70.98		
2106	7	4	73.07	0.34	72.97	73.37	72.63	73.30		
2101	8	4	72.97	0.67	72.74	72.16	73.71	73.26		
2102	8	4	70.77	0.16	70.60	70.97	70.68	70.84		
2103	8	4	56.40	0.41	55.92	56.38	56.92	56.39		
2104	8	4	70.08	0.47	69.65	69.85	70.07	70.74		
2105	8	4	74.15	0.30	73.78	74.45	74.06	74.32		
2106	8	4	74.47	0.63	73.91	74.12	75.33	74.52		
2101	9	6	71.96	0.37	71.62	71.64	72.00	71.71	72.50	72.28
2102	9	6	70.58	0.38	70.61	70.50	70.37	71.04	70.94	70.01
2103	9	6	56.41	0.55	56.36	55.87	56.41	57.43	55.97	56.44
2104	9	6	70.56	0.37	70.87	71.05	70.55	70.03	70.53	70.31
2105	9	6	72.00	1.74	71.95	70.33	70.18	71.39	74.11	74.04
2106	9	6	73.61	1.70c	71.14	71.76	75.05	74.79	74.37	74.56
2101	10	4	70.65	0.50	70.20	71.24	70.26	70.87		
2102	10	4	70.09	0.83	69.31	69.86	69.90	71.27		
2103	10	4	57.08	0.55	57.31	57.57	57.14	56.31		
2104	10	4	70.64	0.89	69.44	70.47	71.33	71.31		
2105	10	4	72.74	0.57	72.67	72.03	72.84	73.42		
2106	10	4	73.73	0.43	74.32	73.36	73.45	73.78		
2101	11	4	72.76	0.83	72.67	73.95	72.10	72.30		
2102	11	4	70.43	0.70	71.31	70.21	70.54	69.63		
2103	11	4	55.68	1.07	54.79	54.73	56.81	56.38		
2104	11	4	71.21	0.36	71.57	70.71	71.20	71.36		
2105	11	4	72.82	0.55	72.28	73.07	73.47	72.46		
2106	11	4	73.94	0.57	74.31	73.60	74.53	73.33		
2101	13	4	74.58	0.06	74.60	74.58	74.50	74.65		
2102	13	4	71.08	0.13	71.27	71.01	71.09	70.96		
2103	13	4	56.80	0.08	56.80	56.76	56.92	56.74		
2104	13	4	70.96	0.16	71.03	71.14	70.91	70.77		
2105	13	4	72.83	0.12	72.96	72.81	72.66	72.88		
2106	13	4	77.14	0.13	77.08	77.33	77.04	77.12		
2101	14	4	72.99	0.53	73.75	72.83	72.87	72.52		
2102	14	4	71.90	0.11	71.88	72.03	71.75	71.92		
2103	14	4	57.84	0.65	57.53	57.15	58.66	58.03		
2104	14	4	71.98	0.51	71.37	72.32	72.46	71.76		
2105	14	4	74.09	0.07	74.00	74.14	74.14	74.08		
2106	14	4	75.07	0.70	76.03	74.43	74.69	75.14		
2101	15	5	72.00	0.62	70.91	72.41	72.20	72.37	72.14	
2102	15	4	70.46	0.30	70.23	70.83	70.21	70.58		

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2103	15	4	56.05	0.61	56.60	56.51	55.34	55.73
2104	15	4	70.29	0.23	70.42	70.36	70.42	69.96
2105	15	4	72.63	0.85	71.84	72.45	73.84	72.40
2106	15	4	74.76	1.16	73.70	73.98	76.25	75.11
2101	18	4	71.99	0.43	71.49	71.77	72.33	72.37
2102	18	4	71.16	0.27	71.27	70.93	70.96	71.50
2103	18	4	56.35	0.50	55.74	56.18	56.56	56.91
2104	18	4	70.75	0.23	70.99	70.64	70.88	70.47
2105	18	4	71.20	0.72	71.82	70.65	71.81	70.50
2106	18	4	73.93	0.17	73.89	73.80	73.83	74.18
2101	19	4	70.03	0.79	69.64	69.12	70.76	70.61
2102	19	4	69.50	0.31	69.54	69.26	69.27	69.91
2103	19	4	55.75	0.61	54.96	55.68	55.96	56.41
2104	19	4	69.25	0.32	69.30	68.99	69.68	69.03
2105	19	4	69.76	0.70	70.37	68.92	70.29	69.45
2106	19	4	72.23	0.39	72.10	72.14	71.89	72.80
2101	20	4	70.37	0.48	69.69	70.63	70.40	70.76
2102	20	4	69.54	0.41	69.72	69.02	69.44	69.96
2103	20	4	55.45	0.32	55.17	55.54	55.22	55.86
2104	20	4	69.31	0.26	69.59	69.41	69.25	68.99
2105	20	4	69.68	1.07	70.39	68.39	70.71	69.24
2106	20	4	72.46	0.34	72.55	72.32	72.08	72.88
2101	21	4	70.91	0.46	70.34	70.78	71.11	71.42
2102	21	4	70.43	0.40	70.67	70.42	69.86	70.75
2103	21	4	56.14	0.34	55.97	56.08	55.88	56.63
2104	21	4	70.15	0.21	70.44	69.98	70.19	70.00
2105	21	4	70.51	0.73	71.08	69.85	71.19	69.91
2106	21	4	73.44	0.40	73.77	73.16	73.04	73.78
2101	22	4	72.87	0.52	72.42	73.59	72.56	72.91
2102	22	4	71.35	0.81	72.44	71.44	70.94	70.58
2103	22	4	55.85	0.43	56.29	56.10	55.33	55.66
2104	22	4	71.65	0.38	71.36	72.20	71.61	71.43
2105	22	4	73.12	0.49	73.25	73.00	72.53	73.72
2106	22	4	74.11	0.21	73.91	74.29	73.97	74.30
2101	23	4	69.26	1.28	69.07	68.51	68.35	71.13
2102	23	4	69.43	0.95	70.02	68.02	69.91	69.77
2103	23	4	54.79	1.34	53.18	55.57	54.24	56.18
2104	23	4	68.34	0.53	68.49	68.14	67.74	68.98
2105	23	4	69.83	0.82	69.16	69.54	69.60	71.03
2106	23	4	71.47	1.24	73.20	70.37	70.84	71.46
2101	24	4	71.05	0.48	71.71	71.09	70.75	70.66
2102	24	4	69.98	0.35	69.66	70.38	70.17	69.73
2103	24	4	54.83	0.37	54.62	55.04	55.23	54.43
2104	24	4	70.35	0.43	70.67	69.72	70.59	70.43
2105	24	4	71.88	0.29	72.25	71.53	71.92	71.83
2106	24	4	73.36	0.34	72.99	73.58	73.15	73.71
2101	25	4	72.33	0.39	72.75	72.57	71.95	72.05
2102	25	4	71.08	0.49	71.26	70.81	70.58	71.68
2103	25	4	56.20	0.73	55.23	56.38	56.21	56.99
2104	25	4	70.60	0.81	69.69	70.41	71.65	70.64
2105	25	4	73.09	0.67	73.17	73.81	72.18	73.17
2106	25	4	74.03	0.53	74.53	73.66	74.44	73.51
2101	26	4	71.36	0.62	71.08	70.62	71.95	71.78

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values			
2102	26	4	70.79	0.88	71.94	70.47	70.89	69.85
2103	26	4	57.80	1.14	57.74	59.10	58.05	56.32
2104	26	4	70.59	1.62	72.13	69.02	71.84	69.36
2105	26	4	72.38	0.56	72.70	72.95	71.69	72.17
2106	26	4	73.55	0.76	72.94	73.56	74.61	73.06
2101	27	4	83.26B	0.81	82.67	82.49	84.16	83.72
2102	27	4	82.69B	0.97	81.76	83.89	83.05	82.07
2103	27	4	70.27	0.77	70.43	69.48	69.90	71.26
2104	27	4	78.29	1.32	79.69	77.03	79.14	77.31
2105	27	4	82.68B	1.06	84.05	82.92	81.59	82.15
2106	27	4	81.54B	1.47	83.36	80.84	81.99	79.96
2101	28	4	70.23	0.59	69.79	70.33	69.77	71.03
2102	28	4	69.49	0.37	69.94	69.32	69.61	69.08
2103	28	4	55.63	0.78	54.49	56.11	56.14	55.78
2104	28	4	69.29	0.38	69.15	69.11	69.04	69.86
2105	28	4	71.40	0.76	71.99	71.43	70.32	71.87
2106	28	4	72.69	0.50	72.52	73.17	72.07	73.00
2101	29	4	70.20	0.90	70.27	71.44	69.44	69.65
2102	29	4	69.92	0.52	70.25	70.29	69.96	69.17
2103	29	4	55.12	0.59	55.42	55.79	54.51	54.76
2104	29	4	69.79	1.40	71.57	68.77	68.59	70.23
2105	29	4	71.65	0.83	72.02	70.56	71.54	72.49
2106	29	4	72.74	0.84	73.87	72.39	72.79	71.91
2101	30	4	72.99	0.23	73.00	73.26	72.71	72.99
2102	30	4	71.57	0.29	72.00	71.45	71.40	71.42
2103	30	4	56.19	0.36	56.15	56.64	55.75	56.25
2104	30	4	70.67	0.25	70.86	70.92	70.49	70.41
2105	30	4	73.91	0.15	73.93	74.10	73.75	73.84
2106	30	4	73.61	0.30	74.05	73.43	73.39	73.56
2101	31	4	71.55	1.50	72.75	71.27	72.63	69.54
2102	31	4	69.17	0.96	68.83	68.07	69.43	70.35
2103	31	4	54.94	1.36	55.24	53.15	56.43	54.95
2104	31	4	69.04	1.78c	71.64	67.76	68.69	68.07
2105	31	4	70.66	0.89	71.88	69.77	70.68	70.31
2106	31	4	71.79	1.17	73.29	70.44	71.64	71.80
2101	32	4	73.43	0.15	73.40	73.46	73.60	73.25
2102	32	4	71.45	1.15	72.41	70.60	70.31	72.47
2103	32	4	57.86	0.91	59.09	57.55	56.91	57.88
2104	32	4	71.54	1.06	73.08	71.42	70.82	70.83
2105	32	4	73.18	0.82	72.46	72.55	74.17	73.54
2106	32	4	73.94	0.59	74.43	73.46	73.39	74.47
2101	33	4	75.44	0.60	75.94	75.39	74.61	75.83
2102	33	4	73.18	0.81	73.67	73.62	71.97	73.45
2103	33	4	58.25	1.48	59.34	59.52	57.76	56.37
2104	33	4	72.69	0.88	71.71	72.70	72.50	73.84
2105	33	4	75.98	0.77	75.03	76.91	75.98	75.99
2106	33	4	75.63	0.63	76.14	74.71	75.80	75.87
2101	34	4	69.61	1.34	68.82	71.02	70.45	68.16
2102	34	4	69.46	1.00	70.74	68.31	69.31	69.50
2103	34	4	51.97	0.91	51.99	53.23	51.54	51.11
2104	34	4	69.71	1.16	69.34	70.61	70.66	68.23
2105	34	4	71.57	1.58	73.53	69.99	70.64	72.12
2106	34	4	74.00	0.46	73.96	74.22	73.37	74.44

Probe/Sample	Labor/Lab	n	Mittel/Mean	Std/SD	Einzelwerte/Single Values						
2101	35	4	73.40	0.64	73.02	73.97	73.92	72.69			
2102	35	4	70.64	0.22	70.86	70.80	70.52	70.41			
2103	35	4	57.60	0.49	58.03	57.90	56.92	57.56			
2104	35	4	70.21	0.78	71.19	70.45	69.42	69.80			
2105	35	4	72.01	1.07	72.64	73.18	70.97	71.23			
2106	35	4	73.03	0.71	72.88	72.44	74.07	72.75			
2101	40	0	69.07	1.23	69.87D	69.98D	67.31D	69.13D			
2102	40	0	67.34	0.47	67.68D	67.38D	66.67D	67.64D			
2103	40	0	52.43	0.42	52.82D	52.53D	52.54D	51.84D			
2104	40	0	69.23	0.59	70.11D	68.86D	68.98D	68.95D			
2105	40	0	70.94	0.75	70.59D	70.08D	71.75D	71.33D			
2106	40	0	72.34	0.51	72.90D	72.42D	71.67D	72.36D			
2101	111	4	72.65	0.69	72.18	73.66	72.27	72.48			
2102	111	4	70.35	0.66	71.33	70.13	70.06	69.87			
2103	111	4	55.55	1.12	54.61	54.64	56.91	56.03			
2104	111	4	71.26	0.33	71.73	70.95	71.17	71.18			
2105	111	4	72.73	0.58	71.93	72.79	73.30	72.92			
2106	111	4	73.91	0.60	74.02	73.81	74.64	73.19			
2101	113	4	73.59	0.13	73.69	73.40	73.62	73.67			
2102	113	4	70.38	0.13	70.31	70.56	70.28	70.37			
2103	113	4	56.54	0.21	56.69	56.56	56.67	56.23			
2104	113	4	70.47	0.13	70.61	70.49	70.31	70.49			
2105	113	4	72.35	0.19	72.38	72.46	72.49	72.08			
2106	113	4	76.29	0.06	76.34	76.20	76.32	76.29			
2101	125	0	92.91B	0.39	92.98	92.42	93.37	92.89			
2102	125	0	90.93B	0.34	90.98	90.89	91.35	90.52			
2103	125	0	78.15B	0.87	76.92	78.55	78.92	78.21			
2104	125	0	90.55B	0.38	90.35	90.11	90.90	90.83			
2105	125	0	93.82B	0.60	93.14	94.18	93.51	94.44			
2106	125	0	93.56B	0.17	93.71	93.70	93.38	93.47			
2101	134	8	69.36	0.99	70.78	69.50	69.87	69.99	68.49	69.96	67.94
2102	134	8	71.53	1.18	71.82	72.68	72.57	72.89	70.13	71.51	69.81
2103	134	8	57.83	1.07	58.18	58.90	57.56	57.92	58.56	55.91	58.94
2104	134	8	69.98	0.89	70.44	70.31	70.78	70.42	68.50	68.73	69.91
2105	134	8	73.69	1.15	72.89	75.27	74.94	74.36	72.28	73.90	73.65
2106	134	8	73.48	1.39	74.72	74.90	73.92	73.85	71.93	72.59	71.24
2101	135	4	73.75	1.21	74.17	74.55	74.32	71.95			
2102	135	4	72.28	1.62c	74.58	71.12	71.19	72.25			
2103	135	3	71.56B	0.28	71.55	71.29	55.06	71.85			
2104	135	3	55.34B	0.26	55.09	55.62	55.31	73.23			
2105	135	4	70.88	0.99	69.84	70.70	70.73	72.23			
2106	135	4	71.88	1.65	69.44	72.35	72.81	72.93			