



SVEUČILIŠTE U ZAGREBU AGRONOMSKI FAKULTET ■ UNIVERSITY OF ZAGREB FACULTY OF AGRICULTURE

ZAVOD ZA MLJEKARSTVO
REFERENTNI LABORATORIJ
ZA MLJEKO I MLJEČNE PROIZVODE

■
DEPARTMENT OF DAIRY SCIENCE
REFERENCE LABORATORY
FOR MILK AND DAIRY PRODUCTS

17043-HAA



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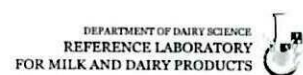
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Zagreb, 12.06.2026.

(RI code: 158/26, 159/26)



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Milk fat (g/100g)

Table 1. Sample 1

Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	Reference value $\pm$ uncertainty		
									6.16 $\pm$ 0.04		
3450	6.15	6.15	6.15	6.15	6.15	6.15	IR spectrometry	MSC 7 RM; KS-7	-0.25	-0.22	-0.12
2935 (1)	6.20	6.20	-	-	-	6.20	IR spectrometry	MSC FT 120 1S	1.00	0.89	-
2935 (2)	6.17	6.15	-	-	-	6.16	IR spectrometry	MSC FT 120 4S	0.00	0.00	-
9140	6.15	6.15	6.16	6.16	6.16	6.16	IR spectrometry	MSC 7 RM	0.00	0.00	0.00

Table 2. Sample 1

Standard deviation of participant results	S_R^*	0.02
Standard deviation of participant results without outliers	S_R	-
Median score of participants	x^*	6.16
Robust standard deviation of participant scores	s^*	0.01
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	σ_{rel}	0.04
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Milk fat (g/100g)

Table 3. Sample 2

Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	Reference value $\pm$ uncertainty		
									6.80 $\pm$ 0.05		
3450	6.80	6.81	6.81	6.82	6.81	6.81	IR spectrometry	MSC 7 RM; KS-7	0.20	0.18	0.13
2935 (1)	6.82	6.82	-	-	-	6.82	IR spectrometry	MSC FT 120 1S	0.40	0.36	-
2935 (2)	6.79	6.77	-	-	-	6.78	IR spectrometry	MSC FT 120 4S	-0.40	-0.36	-
9140	6.79	6.79	6.80	6.79	6.79	6.79	IR spectrometry	MSC 7 RM	-0.20	-0.18	-0.09

Table 4. Sample 2

Standard deviation of participant results	S_R^*	0.02
Standard deviation of participant results without outliers	S_R	-
Median score of participants	x^*	6.80
Robust standard deviation of participant scores	s^*	0.03
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	σ_R^*	0.05
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Milk fat (g/100g)

Table 5. Sample 3

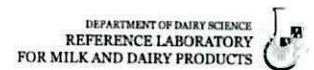
Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	Reference value $\pm$ uncertainty		
									7.03 $\pm$ 0.05		
3450	7.01	7.01	7.01	7.01	7.01	7.01	IR spectrometry	MSC 7 RM; KS-7	-0.40	-0.36	-0.26
2935 (1)	7.02	7.00	-	-	-	7.01	IR spectrometry	MSC FT 120 1S	-0.40	-0.36	-
2935 (2)	6.99	7.00	-	-	-	7.00	IR spectrometry	MSC FT 120 4S	-0.60	-0.54	-
9140	7.04	7.05	7.05	7.04	7.05	7.05	IR spectrometry	MSC 7 RM	0.40	0.36	0.18

Table 6. Sample 3

Standard deviation of participant results	S_R^*	0.02
Standard deviation of participant results without outliers	S_R	-
Median score of participants	x^*	7.01
Robust standard deviation of participant scores	s^*	0.01
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	$\sigma_{z,z'}$	0.05
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Protein (g/100g)

Table 7. Sample 1

Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	Reference value $\pm$ uncertainty		
									5.24 $\pm$ 0.05		
3450	5.26	5.26	5.27	5.27	5.25	5.26	IR spectrometry	MSC 7 RM, KS-7	0.40	0.36	0.23
2935 (1)	5.24	5.25	-	-	-	5.25	IR spectrometry	MSC FT 120 1S	0.20	0.18	-
2935 (2)	5.24	5.24	-	-	-	5.24	IR spectrometry	MSC FT 120 4S	0.00	0.00	-
9140	5.23	5.23	5.23	5.23	5.23	5.23	IR spectrometry	MSC 7 RM	-0.20	-0.18	-0.20

Table 8. Sample 1

Standard deviation of participant results	S_R^*	0.01
Standard deviation of participant results without outliers	S_R	-
Median score of participants	x^*	5.25
Robust standard deviation of participant scores	s^*	0.01
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	σ_{μ}	0.05
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Protein (g/100g)

Table 9. Sample 2

Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	Reference value $\pm$ uncertainty		
									5.68 $\pm$ 0.05		
3450	5.70	5.70	5.69	5.69	5.69	5.69	IR spectrometry	MSC 7 RM, KS-7	0.20	0.18	0.13
2935 (1)	5.68	5.68	-	-	-	5.68	IR spectrometry	MSC FT 120 1S	0.00	0.00	-
2935 (2)	5.68	5.68	-	-	-	5.68	IR spectrometry	MSC FT 120 4S	0.00	0.00	-
9140	5.66	5.66	5.66	5.66	5.66	5.66	IR spectrometry	MSC 7 RM	-0.40	-0.36	-0.40

Table 10. Sample 2

Standard deviation of participant results	S_R^*	0.01
Standard deviation of participant results without outliers	S_R	-
Median score of participants	χ^*	5.68
Robust standard deviation of participant scores	s^*	0.01
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	σ_{μ}	0.05
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Protein (g/100g)

Table 11. Sample 3

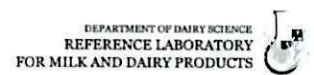
							Reference value $\pm$ uncertainty				
							5.92 $\pm$ 0.06				
Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	z	z'	En
3450	5.87	5.88	5.87	5.88	5.87	5.87	IR spectrometry	MSC 7 RM; KS-7	-0.83	-0.75	-0.59
2935 (1)	5.99	5.96	-	-	-	5.98	IR spectrometry	MSC FT 120 1S	1.00	0.89	-
2935 (2)	5.96	5.97	-	-	-	5.97	IR spectrometry	MSC FT 120 4S	0.83	0.75	-
9140	5.94	5.93	5.93	5.93	5.93	5.93	IR spectrometry	MSC 7 RM	0.17	0.15	0.09

Table 12. Sample 3

Standard deviation of participant results	S_R^*	0.05
Standard deviation of participant results without outliers	S_R	-
Median score of participants	x^*	5.95
Robust standard deviation of participant scores	s^*	0.04
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	σ_R	0.06
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Lactose (anhydride) (g/100g)

Table 13. Sample 1

							Reference value $\pm$ uncertainty				
							4.63 $\pm$ 0.03				
Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	z	z'	En
3450	4.64	4.64	4.64	4.63	4.64	4.64	IR spectrometry	MSC 7 RM; KS-7	0.33	0.30	0.17
2935 (1)	4.63	4.63	-	-	-	4.63	IR spectrometry	MSC FT 120 1S	0.00	0.00	-
2935 (2)	4.64	4.64	-	-	-	4.64	IR spectrometry	MSC FT 120 4S	0.33	0.30	-
9140	4.60	4.61	4.61	4.61	4.61	4.61	IR spectrometry	MSC 7 RM	-0.67	-0.60	-0.67

Table 14. Sample 1

Standard deviation of participant results	S_R^*	0.01
Standard deviation of participant results without outliers	S_R	-
Median score of participants	x^*	4.64
Robust standard deviation of participant scores	s^*	0.01
Confidence interval	Δx	-
Standard deviation for determination of z and z' score	σ_{pt}	0.03
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-



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Lactose (anhydride) (g/100g)

Table 15. Sample 2

							Reference value $\pm$ uncertainty				
							4.78 $\pm$ 0.03				
Participant ID	Value 1	Value 2	Value 3	Value 4	Value 5	Mean value	Method	Comment	z	z'	En
3450	4.77	4.77	4.77	4.77	4.77	4.77	IR spectrometry	MSC 7 RM; KS-7	-0.33	-0.30	-0.17
2935 (1)	4.78	4.77	-	-	-	4.78	IR spectrometry	MSC FT 120 1S	0.00	0.00	-
2935 (2)	4.78	4.79	-	-	-	4.79	IR spectrometry	MSC FT 120 4S	0.33	0.30	-
9140	4.77	4.77	4.77	4.77	4.77	4.77	IR spectrometry	MSC 7 RM	-0.33	-0.30	-0.33

Table 16. Sample 2

Standard deviation of participant results	S_R^*	0.01
Standard deviation of participant results without outliers	S_n	-
Median score of participants	χ^*	4.78
Robust standard deviation of participant scores	s^*	0.01
Confidence interval	Δ_c	-
Standard deviation for determination of z and z' score	σ_{pt}	0.03
Total number of participants (measurements)	N	4
Total number of participants (measurements) without outliers	n	-