

Tab.1: method dependent results

Tab.1: 47. microbiological interlaboratory study - Nov. 2015 - method dependent evaluations

parameter	reference value			analysts	plate count	difference		Standard-deviation	measuring tolerance		
	geometric mean		method - dilution procedure	investigations	cfU/ml	abs. %	log units			-2xlog s _R	+2xlog s _R
ref.milk 1				n=							
Total count	23.868		mean - reference value	1218	23.868			0,07	0,14	17.291	32.947
	log	4,38	"3" (10/90)	95	24.942	4%	0,02	0,04	0,08	20.885	29.786
			"4" (1/99)	200	23.997	1%	0,00	0,06	0,13	17.915	32.144
			"5" (1/9)	377	22.226	-7%	-0,03	0,07	0,14	16.132	30.620
			"6" (Spiralplater)	30	26.877	11%	0,05	0,04	0,07	22.776	31.716
			"7" (Petrifilm)	52	23.842	0%	0,00	0,14	0,29	12.367	45.965
			"8" (surface plating)	116	27.624	14%	0,06	0,07	0,14	20.214	37.750
			"9" (drop plating)	72	23.568	-1%	-0,01	0,03	0,07	20.141	27.578
			"3a" (10/90+1/9)	178	24.163	1%	0,01	0,06	0,12	18.171	32.131
ref.milk 2											
Total count	200.636		mean - reference value	1218	200.636			0,10	0,20	126.593	317.987
	log	5,30	"3" (10/90)	95	205.350	2%	0,01	0,05	0,10	161.274	261.471
			"4" (1/99)	200	218.528	8%	0,04	0,07	0,14	157.751	302.720
			"5" (1/9)	377	179.628	-12%	-0,05	0,10	0,20	113.110	285.263
			"6" (Spiralplater)	30	218.737	8%	0,04	0,05	0,11	170.537	280.561
			"7" (Petrifilm)	52	191.854	-5%	-0,02	0,18	0,35	85.270	431.663
			"8" (surface plating)	116	233.251	14%	0,07	0,08	0,15	163.362	333.040
			"9" (drop plating)	72	207.680	3%	0,01	0,06	0,13	154.342	279.453
			"3a" (10/90+1/9)	178	198.613	-1%	0,00	0,08	0,16	138.440	284.940

remarks

Ref.M 1 resp.. Ref.M 2

Reference value

deviation/difference

lg-s_R

uncertainty of measurement

measuring tolerance

= Referencematerial resp. reference Milk

= ref. value for the particular testmaterial. The declared measuring tolerances shouldn't exceeded.

= absolutely (%) to geometric mean resp. log-deviation to logarithmic mean

= deviation of reproducibility

= measurement uncertainty of the method (= lg-s_R x 2)

= tolerable range of the plate counts for a given measurement uncertainty

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parameter	reference value			analysts	plate count	difference		Standard-deviation	measuring tolerance			
	geometric mean					method - dilution procedure	investigations		cfU/ml	abs. %	log units	uncertainty of measurement
				n=								
Enterobakterien	28.000			mean - reference value	420	28.000			0,17	0,34	12.798	61.257
Ref. A	log	4,45	VRBD	224	28.000	0%	0,00	0,16	0,32	13.402	58.500	
				chromogenic media	196	27.000	-4%	-0,02	0,18	0,23	15.899	45.853
Enterobakterien	185.500			mean - reference value	419	185.500			0,22	0,44	67.351	510.909
Ref. B	log	5,27	VRBD	224	182.000	-2%	-0,01	0,20	0,40	72.456	457.163	
				chromogenic media	195	192.000	3%	0,01	0,24	63.577	579.831	
				n=								
Coliforme	34.000			mean - reference value	154	34.000			0,19	0,38	14.174	81.560
Ref. A	log	4,53	VRB	71	33.000	-3%	-0,01	0,10	0,21	20.348	53.520	
				chromogenic media	44	31.000	-10%	-0,04	0,16	0,32	14.838	64.768
				LST (MUG)	28	50.000	54%	0,17	0,31	0,62	11.994	208.435
				Petrifilm	11	29.000	21%	-0,07	0,06	0,12	21.999	38.229
Coliforme	232.000			Gesamt	150	232.000			0,25	0,50	73.365	733.648
Ref. B	log	5,37	VRB	70	243.000	5%	0,02	0,14	0,28	127.528	463.027	
				chromogene Medien	44	207.000	-12%	-0,05	0,24	0,48	68.544	625.130
				LST (MUG)	25	304.000	24%	0,12	0,45	0,90	38.271	2.414.758
				Petrifilm	11	193.000	35%	-0,08	0,12	0,24	111.060	335.396
				n=								
E.coli	23.000			mean - reference value	216	23.000			0,23	0,46	7.975	66.333
Ref. A	log	4,36	chromogenic media	94	23.500	2%	0,01	0,13	0,26	12.914	42.763	
				TBX-44°C	72	19.300	-19%	-0,08	0,15	0,30	9.673	38.509
				LST-BRILA-MUG	40	48.000	52%	0,32	0,32	0,64	10.996	209.528
				Petrifilm	10	13.000	-77%	-0,99	0,14	0,28	6.822	24.771
E.coli	126.000			mean - reference value	215	126.000			0,32	0,64	28.865	550.010
Ref. B	log	5,10	chromogenic media	93	141.500	11%	0,05	0,19	0,38	58.987	339.435	
				TBX-44°C	72	83.400	-51%	-0,18	0,22	0,44	30.281	229.703
				LST-BRILA-MUG	40	307.000	59%	0,39	0,45	0,90	38.649	2.438.588
				Petrifilm	10	103.000	-22%	-0,09	0,18	0,36	44.961	235.959

remarks

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				n=								
yeats	21.400			mean - reference value	156	21.400			0,23	0,46	7.420	61.718
Milk A	log	4,33	pour culturing	101	19.000	-13%	-0,05	0,24	0,48	6.291	57.379	
			surface plating	55	25.200	15%	0,07	0,21	0,42	9.581	66.283	
Yeasts	202.000			mean - reference value	156	202.000			0,24	0,48	66.888	610.030
Milk B	log	5,31	pour culturing	101	180.000	-12%	-0,05	0,27	0,54	51.913	624.126	
			surface plating	55	237.000	15%	0,07	0,17	0,34	108.330	518.500	
				n=								
Geotrichum	780			mean - reference value	159	780			0,20	0,40	311	1.959
Milk A	log	2,89	pour culturing	105	740	-5%	-0,02	0,20	0,40	295	1.859	
			surface plating	54	840	7%	0,03	0,18	0,36	367	1.924	
Geotrichum	6.900			mean - reference value	152	6.900			0,22	0,44	2.505	19.004
Milk B	log	3,84	pour culturing	98	6.700	-3%	-0,01	0,24	0,48	2.219	20.234	
			surface plating	54	7.600	9%	0,04	0,20	0,40	3.026	19.090	
				n=								
koag.pos.Staph.	50.000			mean - reference value	134	50.000			0,22	0,44	18.154	137.711
Milch A	log	4,70	BP-Agar	66	55.000	9%	0,04	0,24	0,48	18.212	166.097	
			BP-RPF Agar	68	42.000	-19%	-0,08	0,18	0,36	18.334	96.216	
			Petrifilm	6	66.000	24%	0,12	0,06	0,12	50.066	87.005	
koag.pos.Staph.	424.000			mean - reference value	140	424.000			0,22	0,44	153.945	1.167.793
Milch B	log	5,63	BP-Agar	66	474.500	11%	0,05	0,24	0,48	157.122	1.432.967	
			BP-RPF Agar	68	363.000	-17%	-0,07	0,19	0,36	#ZAHL!	#ZAHL!	
			Petrifilm	6	519.000	18%	0,09	0,03	0,06	452.030	595.892	
				n=								
Enterokokken	Ref.M 1	24.000	Total	35	24.000			0,05	0,10	19.064	30.214	
Enterokokken	Ref.M 2	190.000	Total	35	190.000			0,03	0,06	165.483	218.149	

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