

[Back to article](#)

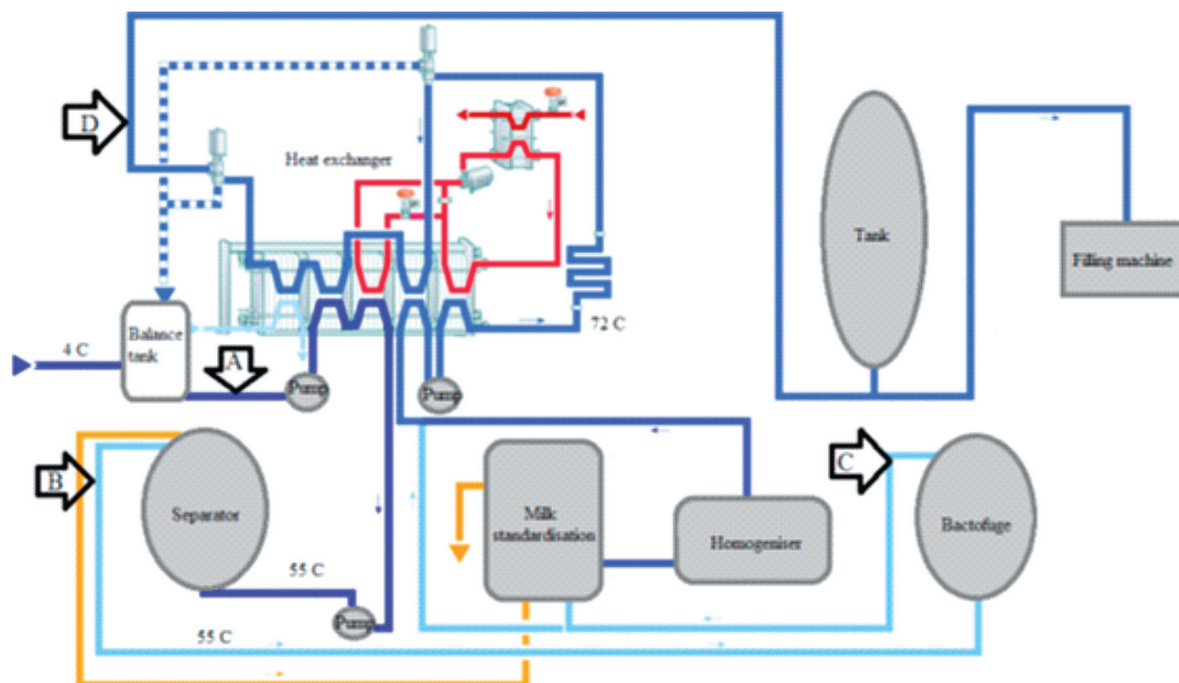


Fig. S1. Sampling locations of the same treatment batch: A=before the separator (raw whole milk), B=after the separator (skimmed milk), C=after the bactofuge (skimmed bactofuged milk), and D=at the outlet from the heat exchanger (pasteurized milk as a reference sample)

[Back to article](#)

Table S1. Pearson correlation matrix, milk composition and sensory properties of milk samples in experimental treatment A ($P=200$ W, $v=24$ kHz, $t=20$ °C)

Variable	Titratable acidity/°SH	pH	TS	SNF	Fat	Protein	Lactose	Ca	Appearance	Colour	Odour	Taste	Total sensory evaluation
°SH	1	0.1148	-0.6892	0.5397	-0.6852	0.5549	0.5312	0.3907	/	/	-0.2386	-0.4712	-0.4610
pH	0.1148	1	-0.6869	0.5398	-0.6862	0.4948	0.5728	0.3255	/	/	0.1782	0.2235	0.2289
TS	-0.6892	-0.6869	1	-0.7651	0.9939	-0.7094	-0.8187	-0.4641	/	/	0.0783	0.2830	0.2666
SNF	0.5397	0.5398	-0.7651	1	-0.8310	0.9017	0.9340	0.6261	/	/	0.1112	-0.1215	-0.0915
Fat	-0.6852	-0.6862	0.9939	-0.8310	1	-0.7619	-0.8691	-0.4997	/	/	0.0496	0.2627	0.2438
Protein	0.5549	0.4948	-0.7094	0.9017	-0.7619	1	0.7109	0.8959	/	/	0.1579	-0.1759	-0.1330
Lactose	0.5312	0.5728	-0.8187	0.9340	-0.8691	0.7109	1	0.3368	/	/	0.0259	-0.1128	-0.0972
Ca	0.3907	0.3255	-0.4641	0.6261	-0.4997	0.8959	0.3368	1	/	/	0.1397	-0.2357	-0.1896
Appearance	/	/	/	/	/	/	/	/	/	/	/	/	/
Colour	/	/	/	/	/	/	/	/	/	/	/	/	/
Odour	-0.2386	0.1782	0.0783	0.1112	0.0496	0.1579	0.0259	0.1397	/	/	1	0.5917	0.6896
Taste	-0.4712	0.2235	0.2830	-0.1215	0.2627	-0.1759	-0.1128	-0.2357	/	/	0.5917	1	0.9918
Total sensory evaluation	-0.4610	0.2289	0.2666	-0.0915	0.2438	-0.1330	-0.0972	-0.1896	/	/	0.6896	0.9918	1

Significance level 5 %. Bold values=significant correlation ($p<0.05$). TS=total solids, SNF=non-fat solids

Back to article

Table S2. Pearson correlation matrix, milk composition and sensory properties of milk samples in experimental treatment B ($P=200$ W, $v=24$ kHz, $t=55$ °C)

Variable	Titratable acidity/°SH	pH	TS	SNF	Fat	Protein	Lactose	Ca	Appearance	Colour	Odour	Taste	Total sensory evaluation
°SH	1	-0.6003	-0.0330	-0.1416	-0.0284	0.3655	-0.3386	0.5229	-0.0716	/	0.0444	-0.1734	-0.1643
pH	-0.6003	1	-0.2489	0.4827	-0.2697	0.2190	0.4886	0.1469	0.3742	/	0.2140	0.4031	0.4223
TS	-0.0330	-0.2489	1	-0.7352	0.9943	-0.7866	-0.6319	-0.5648	-0.3796	/	0.0324	-0.6700	-0.6533
SNF	-0.1416	0.4827	-0.7352	1	-0.7979	0.6865	0.9414	0.4532	0.3057	/	0.1874	0.7687	0.7625
Fat	-0.0284	-0.2697	0.9943	-0.7979	1	-0.8023	-0.6947	-0.5709	-0.3797	/	-0.0002	-0.7099	-0.6940
Protein	0.3655	0.2190	-0.7866	0.6865	-0.8023	1	0.4203	0.9114	0.2818	/	0.2124	0.6739	0.6736
Lactose	-0.3386	0.4886	-0.6319	0.9414	-0.6947	0.4203	1	0.1557	0.2662	/	0.0916	0.6599	0.6485
Ca	0.5229	0.1469	-0.5648	0.4532	-0.5709	0.9114	0.1557	1	0.0771	/	0.1510	0.3973	0.3945
Appearance	-0.0716	0.3742	-0.3796	0.3057	-0.3797	0.2818	0.2662	0.0771	1	/	-0.1240	0.3739	0.3991
Colour	/	/	/	/	/	/	/	/	/	/	/	/	/
Odour	0.0444	0.2140	0.0324	0.1874	-0.0002	0.2124	0.0916	0.1510	-0.1240	/	1	0.3051	0.3725
Taste	-0.1734	0.4031	-0.6700	0.7687	-0.7099	0.6739	0.6599	0.3973	0.3739	/	0.3051	1	0.9962
Total sensory evaluation	-0.1643	0.4223	-0.6533	0.7625	-0.6940	0.6736	0.6485	0.3945	0.3991	/	0.3725	0.9962	1

Significance level 5 %. Bold values=significant correlation ($p<0.05$). TS=total solids, SNF=non-fat solids

Back to article

Table S3. Pearson correlation matrix, milk composition and sensory properties of milk samples in experimental treatment C ($P= 400$ W, $v=24$ kHz, $t=20$ °C)

Variable	Titratable acidity/°SH	pH	TS	SNF	Fat	Protein	Lactose	Ca	Appearance	Colour	Odour	Taste	Total sensory evaluation
°SH	1	-0.8606	0.4570	-0.0542	0.5975	0.0287	-0.4929	-0.4711	-0.6283	/	-0.9245	-0.8168	-0.8860
pH	-0.8606	1	-0.5134	0.2534	-0.7918	0.2039	0.6937	0.6156	0.5652	/	0.8546	0.6935	0.7693
TS	0.4570	-0.5134	1	-0.8341	0.5200	0.2628	-0.5653	-0.6228	-0.2267	/	-0.4599	-0.4222	-0.4487
SNF	-0.0542	0.2534	-0.8341	1	-0.4471	-0.0040	0.6549	0.5335	0.0288	/	0.1197	0.0633	0.0781
Fat	0.5975	-0.7918	0.5200	-0.4471	1	-0.5889	-0.8523	-0.7578	-0.3970	/	-0.6137	-0.3220	-0.4120
Protein	0.0287	0.2039	0.2628	-0.0040	-0.5889	1	0.5494	0.2545	0.0531	/	0.0192	-0.1975	-0.1499
Lactose	-0.4929	0.6937	-0.5653	0.6549	-0.8523	0.5494	1	0.6561	0.3278	/	0.5239	0.3810	0.4354
Ca	-0.4711	0.6156	-0.6228	0.5335	-0.7578	0.2545	0.6561	1	0.2085	/	0.5287	0.4219	0.4625
Appearance	-0.6283	0.5652	-0.2267	0.0288	-0.3970	0.0531	0.3278	0.2085	1	/	0.3952	0.3810	0.4444
Colour	/	/	/	/	/	/	/	/	/	/	/	/	/
Odour	-0.9245	0.8546	-0.4599	0.1197	-0.6137	0.0192	0.5239	0.5287	0.3952	/	1	0.7889	0.8675
Taste	-0.8168	0.6935	-0.4222	0.0633	-0.3220	-0.1975	0.3810	0.4219	0.3810	/	0.7889	1	0.9885
Total sensory evaluation	-0.8860	0.7693	-0.4487	0.0781	-0.4120	-0.1499	0.4354	0.4625	0.4444	/	0.8675	0.9885	1

Significance level 5 %. Bold values=significant correlation ($p<0.05$). TS=total solids, SNF=non-fat solids

Back to article

Table S4. Pearson correlation matrix, milk composition and sensory properties of milk samples in experimental treatment D ($P=400$ W, $v=24$ kHz, $t=55$ °C)

Variable	Titratable acidity/°SH	pH	TS	SNF	Fat	Protein	Lactose	Ca	Appearance	Colour	Odour	Taste	Total sensory evaluation
°SH	1	0.3383	-0.4058	0.2940	-0.4154	0.5044	0.1364	0.1326	0.3466	/	0.3720	0.0472	0.1101
pH	0.3383	1	-0.4310	0.6122	-0.4696	0.5874	0.5082	0.3760	0.3461	/	0.1993	-0.0978	-0.0386
TS	-0.4058	-0.4310	1	-0.7340	0.9960	-0.6689	-0.7384	-0.3291	-0.3585	/	-0.5412	-0.2414	-0.3016
SNF	0.2940	0.6122	-0.7340	1	-0.7900	0.8365	0.9221	0.6448	0.4238	/	0.4826	0.2251	0.2833
Fat	-0.4154	-0.4696	0.9960	-0.7900	1	-0.7203	-0.7776	-0.3731	-0.3817	/	-0.5513	-0.2483	-0.3102
Protein	0.5044	0.5874	-0.6689	0.8365	-0.7203	1	0.5842	0.2526	0.3743	/	0.3342	0.1226	0.1718
Lactose	0.1364	0.5082	-0.7384	0.9221	-0.7776	0.5842	1	0.7671	0.4538	/	0.5647	0.2890	0.3512
Ca	0.1326	0.3760	-0.3291	0.6448	-0.3731	0.2526	0.7671	1	0.5603	/	0.5421	0.3285	0.3883
Appearance	0.3466	0.3461	-0.3585	0.4238	-0.3817	0.3743	0.4538	0.5603	1	/	0.7474	0.4809	0.5723
Colour	/	/	/	/	/	/	/	/	/	/	/	/	/
Odour	0.3720	0.1993	-0.5412	0.4826	-0.5513	0.3342	0.5647	0.5421	0.7474	/	1	0.7417	0.8178
Taste	0.0472	-0.0978	-0.2414	0.2251	-0.2483	0.1226	0.2890	0.3285	0.4809	/	0.7417	1	0.9918
Total sensory evaluation	0.1101	-0.0386	-0.3016	0.2833	-0.3102	0.1718	0.3512	0.3883	0.5723	/	0.8178	0.9918	1

Significance level 5 %. Bold values=significant correlation ($p<0.05$). TS=total solids, SNF=non-fat solids