Supplementary Files

Table S1. Significance (p) of the analysed factors (different agricultural company and different LAB strains used for fermentation) and their interaction on amino acids (AA) and gamma amino-butyric acid (GABA) content in bovine colostrum.

Dependent Variable	Significance (p) of the analysed factors and their interaction		
	Agricultural company	LAB strains used for fermentation	Interaction of analysed factors
Arginine	<0.001	0.180	<0.001
Glutamine	0.357	0.204	0.181
Glutamic acid	0.004	0.459	0.394
Serine	<0.001	0.442	<0.001
Aspartic acid	<0.001	<0.001	<0.001
Threonine	0.006	0.017	0.003
Glycine	0.012	0.001	0.001
Alanine	<0.001	<0.001	0.033
Proline	0.112	0.250	0.006
Valine	<0.001	0.350	0.239
Methionine	<0.001	<0.001	<0.001
Phenylalanine	<0.001	0.043	<0.001
Leucine and isoleucine	0.013	0.322	0.299
Lysine	<0.001	<0.001	<0.001
Histidine	<0.001	0.016	<0.001
Tyrosine	<0.001	<0.001	<0.001
Gamma-aminobutyric acid	0.105	<0.001	<0.001

Influence of the factor on dependent variable is significant when $p \leq 0.05$.

Table S2. Pearson correlations (r) between amino acids (AA) content with lactic acid bacteria (LAB) viable counts and pH of samples, and their significance (p).

Amino acids	pH		Lactic acid bacteria viable counts	
	r	p	r	p
Arginine	-0.161	0.291	0.176	0.248
Glutamine	-0.174	0.254	0.051	0.741
Glutamic acid	-0.140	0.358	0.296*	0.049
Serine	-0.084	0.587	0.066	0.670
Aspartic acid	0.148	0.331	0.065	0.671
Threonine	0.076	0.618	0.170	0.265
Glycine	0.422**	0.004	0.197	0.195
Alanine	0.409**	0.005	0.124	0.418
Proline	-0.124	0.417	0.186	0.221
Valine	-0.060	0.693	0.207	0.173
Methionine	-0.182	0.232	0.126	0.410
Phenylalanine	-0.050	0.744	0.151	0.321
Leucine and isoleucine	0.010	0.948	0.123	0.420
Lysine	0.074	0.627	0.207	0.172
Histidine	-0.176	0.248	0.140	0.359
Tyrosine	0.009	0.954	0.167	0.273
GABA	0.026	0.864	0.214	0.158

r – Pearson correlation; p – significance.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table S3. Pearson correlations (r) between biogenic amine (BA) content with lactic acid bacteria (LAB) viable counts, pH of the samples, amino acids (AA) and gamma-aminobutyric acid (GABA) concentration, and their significance (p).

Amino acids, gamma-aminobutyric acid, lactic acid bacteria count, samples pH	Biogenic amine											
	Tryptamine		Phenylethylamine		Putrescine		Cadaverine		Tyramine		Total biogenic amine content	
	r	p	r	p	r	p	r	p	r	p	r	p
pH	-0.069	0.654	-0.143	0.349	-0.004	0.979	-0.091	0.551	0.312*	0.037	0.041	0.791
Lactic acid bacteria count	-0.119	0.437	0.057	0.708	0.007	0.966	-0.036	0.815	0.010	0.946	-0.144	0.344
Arginine	-0.229	0.130	-0.086	0.576	**0.321***	**0.031**	-0.047	0.761	-0.054	0.722	0.062	0.684
Glutamine	0.178	0.243	-0.077	0.616	**0.144**	**0.346**	0.091	0.552	-0.247	0.102	0.088	0.567
Glutamic acid	-0.148	0.333	-0.100	0.512	**-0.353***	**0.017**	**-0.356***	**0.017**	-0.110	0.473	**-0.410****	**0.005**
Serine	-0.096	0.535	0.042	0.784	**-0.434****	**0.003**	**-0.356***	**0.018**	-0.260	0.088	**-0.349***	**0.020**
Aspartic acid	0.009	0.955	-0.248	0.101	**-0.453****	**0.002**	**-0.384****	**0.009**	**-.0369***	**0.013**	**-0.342***	**0.021**
Threonine	-0.032	0.836	-0.159	0.295	0.037	0.809	-0.240	0.113	-0.202	0.183	0.131	0.390
Glycine	-0.288	0.055	0.089	0.563	**0.312***	**0.037**	0.012	0.935	0.231	0.127	0.132	0.386
Alanine	**-0.337***	**0.024**	0.219	0.149	**0.330***	**0.027**	0.037	0.808	**0.324***	**0.030**	0.269	0.074
Proline	0.036	0.816	0.050	0.745	-0.035	0.819	-0.251	0.097	-0.259	0.086	-0.102	0.504
Valine	-0.129	0.397	-0.185	0.223	-0.256	0.090	**-0.449****	**0.002**	-0.244	0.107	**-0.318***	**0.034**
Methionine	-0.085	0.578	0.188	0.217	**-0.361***	**0.015**	-0.245	0.105	-0.277	0.066	**-0.332***	**0.026**
Phenylalanine	-0.088	0.566	-0.126	0.408	**-0.475****	**<0.001**	**-0.408****	**0.005**	-0.198	0.192	**-0.395****	**0.007**
Leucine and isoleucine	-0.126	0.410	-0.057	0.711	-0.288	0.055	**-0.337***	**0.023**	-0.144	0.347	-0.237	0.117
Lysine	**-.0306***	**0.041**	**-0.376***	**0.011**	-0.093	0.544	**-0.299***	**0.046**	-0.069	0.654	-0.165	0.278
Histidine	0.114	0.455	-0.162	0.289	**-0.536****	**<.0001**	**-0.458****	**0.002**	**-0.367***	**0.013**	**-0.449****	**0.002**
Tyrosine	**-0.568****	**<0.001**	-0.176	0.246	0.003	0.983	-0.220	0.146	0.102	0.503	-0.083	0.590
Gamma-aminobutyric acid	0.055	0.718	0.126	0.410	-0.307*	0.040	-0.361*	0.015	-0.030	0.845	**-0.305***	**0.042**

r – Pearson correlation; p – significance.
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
The values in Bold are significant.

Table S4. Significance (p) of the analysed factors (different agricultural company and different LAB strains used for fermentation) and their interaction on biogenic amine (BA) content in bovine colostrum.

Dependent Variable	Significance (p) of the analysed factors and their interaction		
	Agricultural company	LAB strains used for fermentation	Interaction of duration of analysed factors
Tryptamine	**<0.001**	**<0.001**	**<0.001**
Phenylethylamine	**0.004**	**<0.001**	**<0.001**
Putrescine	**<0.001**	**0.037**	**0.008**
Cadaverine	**0.026**	**0.009**	0.300
Tyramine	**0.002**	0.134	0.258
Total biogenic amine content	**<0.001**	0.214	0.507

Influence of the factor on dependent variable is significant when $p \leq 0.05$.
The values in Bold are significant.

Table S5. Significance (p) of the analysed factors (different agricultural company and different LAB strains used for fermentation) and their interaction on fatty acid (FA) content in bovine colostrum.

Dependent Variable	Significance (p) of the analysed factors and their interaction		
	Agricultural company	LAB strains used for fermentation	Interaction of duration of analysed factors
C4:0	0.151	0.693	0.467
C6:0	**<.0001**	**0.004**	**0.013**
C8:0	**0.002**	0.140	0.107
C10:0	**<0.001**	**<0.001**	**<0.001**
C11:0	0.328	**<0.001**	0.329
C12:0	0.429	**<0.001**	0.460
C13:0	0.095	**<0.001**	0.058
C14:0	0.798	0.117	0.844
C14:1	0.410	**<0.001**	0.426
C15:0	0.240	**<0.001**	0.130
C15:1	0.052	**<0.001**	**0.025**
C16:0	0.724	**0.007**	0.920
C16:1	1.000	**<0.001**	1.000
C17:0	0.185	**<0.001**	0.942
C17:1	**0.037**	**<0.001**	**0.015**
C18:0	0.762	**<0.001**	0.269
C18:1	0.772	**<0.001**	0.886
C18:2	0.065	**<0.001**	0.208
C18:3 α	0.075	**<0.001**	0.251
C20:4	0.896	**<0.001**	0.973

C4:0 – butyric; C6:0 – caproic; C8:0 – caprylic; C10:0 – capric; C11:0 – undecanoic; C12:0 – lauric; C13:0 – tridecanoic; C14:0 – myristic; C14:1 – myristoleic; C15:0 – pentadecanoic; C15:1 – *cis*-10-pentadecenoic; C16:0 – palmitic; C16:1 – palmitoleic; C17:0 – heptadecanoic; C17:1 - cis-10-heptadecenoic; C18:0 – stearic; C18:1 – oleic; C18:2 – linoleic; C18:3 α - α-linolenic; C20:4 – arachidonic.

Influence of the factor on dependent variable is significant when $p \leq 0.05$.

The values in Bold are significant.