

Table S1. Influence of the analysed factors [lactic acid bacteria (LAB) used for fermentation; duration of fermentation; fermentation conditions] and their interaction on lactic acid bacteria viable counts and pH of the *Spirulina* samples.

Spirulina parameters	LAB	Duration of fermentation	SMF-SSF	LAB × Duration of fermentation	LAB × SMF-SSF	Duration of fermentation × SMF-SSF	LAB × Duration of fermentation × SMF-SSF
p values							
pH	0.724	0.524	0.066	0.527	0.246	0.124	0.795
LAB viable counts	0.154	0.481	0.067	0.439	0.533	0.284	0.693

LAB – lactic acid bacteria strain used for fermentation; SMF – submerged fermentation; SSF – solid-state fermentation; Factor or factors interaction is significant, when $p \leq 0.05$

Table S2. Influence of the analysed factors [lactic acid bacteria (LAB) used for fermentation; duration of fermentation; fermentation conditions] and their interaction on the concentrations of L-glutamic (L-Glu) and gamma-aminobutyric (GABA) acids in *Spirulina* samples.

Spirulina parameters	LAB	Duration of fermentation	SMF-SSF	LAB × Duration of fermentation	LAB × SMF-SSF	Duration of fermentation × SMF-SSF	LAB × Duration of fermentation × SMF-SSF
p values							
GABA	0.001	0.868	0.019	0.561	0.011	0.497	0.503
L-Glu	0.368	0.910	0.0001	0.889	0.433	0.937	0.771

GABA – gamma-aminobutyric acid; L-Glu – L-glutamic acid; LAB – lactic acid bacteria strain used for fermentation; SMF – submerged fermentation; SSF – solid-state fermentation; Factor or factors interaction is significant, when $p \leq 0.05$.

Table S3. Influence of the analysed factors [lactic acid bacteria (LAB) used for fermentation; duration of fermentation; fermentation conditions] and their interaction on biogenic amine (BA) content in *Spirulina*.

Spirulina parameters	LAB	Duration of fermentation	SMF-SSF	LAB × Duration of fermentation	LAB × SMF-SSF	Duration of fermentation × SMF-SSF	LAB × Duration of fermentation × SMF-SSF
p values							
TRP	0.001	0.021	0.0001	0.001	0.0001	0.0001	0.0001
PUT	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
CAD	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
HIS	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
TYR	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
SPRMD	0.0001	0.370	0.0001	0.082	0.0001	0.229	0.020
SPRM	0.0001	0.263	0.0001	0.0001	0.0001	0.001	0.001

LAB – lactic acid bacteria strain used for fermentation; SMF – submerged fermentation; SSF – solid-state fermentation; TRP – tryptamine; PHE – phenylethylamine; PUT – putrescine; CAD – cadaverine; HIS – histamine; TYR – tyramine; SPRMD – spermidine; SPRM – spermine; Factor or factors interaction is significant, when $p \leq 0.05$.

Table S4. Influence of the analysed factors [lactic acid bacteria used for fermentation; duration of fermentation; fermentation conditions] and their interaction on diameter of inhibition zones (DIZ) by *Spirulina* against *Staphylococcus aureus*.

Spirulina parameters	LAB	Duration of fermentation	SMF-SSF	LAB × Duration of fermentation	LAB × SMF-SSF	Duration of fermentation × SMF-SSF	LAB × Duration of fermentation × SMF-SSF
p values							
DIZ	0.0001	0.209	0.514	0.0001	0.822	0.0001	0.0001

DIZ – diameter of inhibition zones; LAB – lactic acid bacteria strain used for fermentation; SMF – submerged fermentation; SSF – solid-state fermentation; Factor or factors interaction is significant, when $p \leq 0.05$.