

Review of: "The anti-staphylococcal activity of probiotic- contain gelatin and whey coatings on processed chicken breast"

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Potential competing interests: No potential competing interests to declare.

The submitted manuscript is extremely interesting and scientifically valuable and is therefore suitable for publication in this journal. The objectives and rationale of the study are not clearly stated. However, the authors omitted several aspects. Below I present my comments to help authors improve the text and increase its scholarly and practical value.

- *Lactobacillus plantarum* and *Bifidobacterium bifidum* – Please correct on „*Lactiplantibacillus plantarum*” (see: <http://lactobacillus.ualberta.ca/>) and „*Bifidobacterium bifidum*” (see: <https://psn.dsmz.de/species/bifidobacterium-bifidum>).
- The entire text of the manuscript – Please pay attention to the spelling of Latin bacteria names - they must be written in Italian. In my opinion, the text would be valuable after language correction by a native speaker. Please correct the abbreviation „Man, Rogosa, and Sharpe” on „De Man, Rogosa, and Sharpe”).
- Section “2.2. Preparing probiotic bacteria” – Please indicate the centrifugation temperature of the bacterial biomass (RT value).
- Section „2.4. Coating Chicken Breast Samples with the solutions” – Please describe the packaging in the vacuum in detail. What was the temperature in the refrigerator? How were the sampling attempts of the *Staphylococcus aureus* population characterized? Was the probiotic population examined during sample storage?
- Section „Results and Discussion” – While the manuscript presents interesting findings, the interpretation of the results and the drawn conclusions are not adequately supported by the data. Please discuss the results taking into account the research purpose but also the impact of vacuum packaging and the differences between the results for coatings containing whey protein or gelatin. Which metabolites of the probiotics used can show antimicrobial activity in these conditions? What is the chance that probiotics survived for 45 days of refrigeration samples? What is the chance that probiotics survived refrigerated samples for 45 days? What is the probability that probiotics produced antimicrobial metabolites during 45 days of sample storage in the refrigerator? Why were such and no other research findings observed? The authors could further enhance the clarity and impact of their work by more prominently highlighting the strengths and the limitations of their study design, methodology, and findings.
- Table 1 – Why the statistical analysis was performed only in rows and not columns. I suggest doing a two-factor analysis (treatment and time). Only on the basis of such an analysis can the results be discussed reliably.
- Figure 1 – These data are listed in Table 1. I propose to delete Figure 1 as it was created incorrectly and contains

numerous errors in content.

- Section „Conclusions" - Please edit this section considering the objective and key results you examined. Also indicate the weaknesses and strengths of your own research system and results. Indicate what research should be carried out in the future. Suggest the innovation potential of your own research and its application value to other researchers or industry.