Dear Editor,

Thank you very much for your letter about review of our manuscript. Authors are grateful for Reviewer’s suggestions, and according to them, we are sending you replies to Reviewer’s comments in following text. All authors agreed with corrections and final form of manuscript.

All changes and corrections made in manuscript are made by using track changes. All Reviewer’s comments were numbered and the numbers were added in the form of the comments in the manuscript in order to make review process more clear and organized.

During corrections according to the Reviewer’s comments, technical mistakes in Table 1 and Table 5 that was noticed were corrected and this did not influence any of the results in the paper. They are also corrected by using track changes.

As it can be seen, authors completely adopted all corrections and provided replies to all questions and remarks from the Reviewers, which, by our opinion, improved the quality of the manuscript. Authors hope you will find this manuscript suitable for publication.

Looking forward to your reply.

Yours sincerely,

**Reviewer B:**

The Subject of This study is Kinetics modelling of sweet cherry in the vacuum dryer. Since a vacuum drying of sweet cherries is a good preservation technique, so kinetics modelling of this drying system could be of great importance.

In this paper, the Midilli et al. model was selected as most reliable for determining the drying kinetics of sweet cherries in the vacuum dryer. However, a Major Revision for this study is needed for publishing in the Journal, since Midillies et al. model is not adapted for entire pressure and temperature range.

**B.1. For the chosen Midilli et al. model as most suitable for describing the drying of sweet cherries, it is necessary to modify some of the parameters (a, b, k, n). These parameters should be in a function of pressure (a, b, k, n) =f (p), or in the function of both temperature and pressure. This parameter modification would give a concrete model for describing the kinetics of sweet cherries drying in a vacuum dryer. Currently, in Table 4. a calculated Midilli et al. model parameters for each experiment are shown separately, which is not for practical use. By displaying the parameters, a, b, k, and n for each experiment separately, simplifying this study, and in this form, it is at the student level.**

RESPONSE: Authors appreciate the Reviewer’s comment and suggestion and accordingly, the correlation between the coefficients (a, k, n and b) and drying process parameters (temperature and pressure) has been added in the paper in the part „3.1. Kinetics models of vacuum drying“. Also, regarding the presentation of the parameters separately, it is in accordance with other papers where the kinetics modeling has been investigated, such as for example:

Shi Q, Zheng Y, Zhao Y. Mathematical modeling on thin-layer heat pump drying of yacon (*Smallanthus sonchifolius*) slices. Energ Convers and Manage. 2013, 71, 208−216. <https://doi.org/10.1016/j.enconman.2013.03.032>

Meisami-Asl E, Rafiee S, Keyhani A, Tabatabaeefar A. Mathematical modeling of moisture content of apple slices (Var. Golab) during drying. Pak J Nutr. 2009, 8: 804−809.

Henríquez C, Córdova A, Almonacid S, Saavedra J. Kinetic modeling of phenolic compound degradation during drum-drying of apple peel by-products. J Food Eng. 2014, 143: 146−153. https://doi.org/10.1016/j.jfoodeng.2014.06.037

Sacilik K, Elicin AK. The thin layer drying characteristics of organic apple slices. J Food Eng. 2006, 73: 281–289. <https://doi.org/10.1016/j.jfoodeng.2005.03.024>

Adetoro, A. O., Tsige, A. A., Opara, U. L., & Fawole, O. A. (2020). Mathematical Modelling of Blanch-Assisted Drying of Pomegranate (Punica granatum) Arils in a Hot-Air Drier. Processes, 8(5), 611. <https://doi.org/10.3390/pr8050611>

**B.2. In Table 4. for the temperature of 60°C and p=20 mbar, a different parameter (a, k, n, and b) values are shown for the same drying conditions. Explain why the drying kinetics (for samples 11, 12, 13) are so different if drying conditions are the same (60°C and p=20 mbar).**

RESPONSE: The experiment with input parameters 60 °C temperature and 20 mbar pressure was used as a referent point in this research. Since the plant material has been used, i.e. the sweet cherries, the deviations are a normal occurrence. This was also one of the reasons why experiment on each conditions has been repeated three times, to show also the deviations that occurs during drying more times at the same conditions. This was also the reason for including 27 experiments with five different pressures and five different temperature values and statistical processing of the results in order to have complete overview and perform general conclusion that could be applied both in the scientific and industrial field.

**B.3. Since Texture Analyses were performed (repeated) 12 times for each experiment, add minimal and maximal values for each parameter in Table 5. If average values of texture parameters are given in Table 5, the standard deviation of the experimental values with respect to those values also should be presented. Under which drying conditions is the difference between the minimum and maximum values the smallest?**

RESPONSE: The standard deviation for each experiment has been added in the Table 5. Also, the smallest differences for each texture analyze were obtained for different combinations of drying temperatures and pressures, i.e. the smallest difference between the minimum and maximum values for shear force was obtained in sample dried at 65 °C and 110 mbar; for penetration force in sample dried at 55 °C and 200 mbar; for both hardness and springiness in the same sample 50 °C and 200 mbar; for cohesiveness in sample dried at 70 °C and 200 mbar; for gumminess in sample dried at 65 °C and 200 mbar and for chewiness in samples dried at 60°C and 155 mbar. This has been added in the paper in the part “3. 2. Texture analysis”.

Also, thanks to the Reviewer’s suggestion the mistake was noticed and corrected in the paper, the number of the repetitions was seven and not twelve times.

**B.4. Based on drying kinetics and textural properties of dried sweet cherries which drying conditions are most suitable for drying from the standpoint of Energy Efficiency?**

RESPONSE: In the framework of this paper most suitable drying conditions from the standpoint of Energy Efficiency were not investigated. Further, this will be considered in some of our studies in future in the field of fruit drying.

**B.5. In the Literature provide a full References for [14] and [15].**

RESPONSE: These references were not provided since in the file “Ensuring a Blind Peer Review” during the submission process was stated the following “The authors of the document have deleted their names from the text, with "Author" and year used in the references and footnotes, instead of the authors' name, article title, etc.”.

**Reviewer C:**

**C.1. Line 92: Author et al.: is this unpublished data? If yes, I believe it cannot be used as reference.**

RESPONSE: This reference is published but this references were not provided since in the file “Ensuring a Blind Peer Review” during the submission process was stated the following “The authors of the document have deleted their names from the text, with "Author" and year used in the references and footnotes, instead of the authors' name, article title, etc.”.

**C.2. Table 1: Were experiments 11, 12 and 13 repetitions at the center point? In this case, I believe the pressure used should be 90 mbar. I believe that the experiments should be randomized, except from the center points. Was this the case?**

RESPONSE: The experiments 11, 12 and 13 with input parameters 60 °C temperature and 20 mbar pressure were used as a referent point. The reason for choosing these conditions are previous author’s years of experience in the field of vacuum drying different materials and searching for their optimal drying conditions.

The first step of the experiment was drying the sample at these conditions and analyzing the most important safety parameters (moisture content and water activity) and quality parameters (total phenolic, flavonoid and anthocyanins content and antioxidant activity (FRAP, DPPH and ABTS test) and after the observation that these conditions satisfied the optimal properties of all investigated parameters in terms of safety and quality, the research was continued. These results for each experiment are presented in following study by Vakula et al. (2020) that is currently in press and is not published yet.

Vakula, A., Pavlić, B., Pezo, L., Tepić Horecki, A., Daničić, T., Raičević, Lj., Ljubojević, M., & Šumić, Z. (2020). Vacuum drying of sweet cherry: Artificial neural networks approach in process optimization. Journal of food Processing and Preservation.

Also, for example in the paper by Tepić Horecki et al. (2017) the kinetics modeling and physico‐chemical properties of cornelian cherries were investigated and it was obtained that sample dried at similar drying conditions (63 °C and 20 mbar) resulted in the lowest moisture content, the highest rehydration power and the lowest loss of total anthocyanins content, compared to other samples, dried at different drying conditions.

Tepić Horecki, A., Vakula, A., Pavlić, B., Jokanović, M., Malbaša, R., Vitas, J., Aćimović, V., & Šumić, Z. (2018). Comparative drying of cornelian cherries: Kinetics modeling and physico‐chemical properties. Journal of Food Processing and Preservation, 42(3), e13562.

The order of the experiments of drying was the same as it is stated in Table 1.

**C.3. Line 109: Author et al.: please see comment for line 92.**

RESPONSE: This reference is published but this references were not provided since in the file “Ensuring a Blind Peer Review” during the submission process was stated the following “The authors of the document have deleted their names from the text, with "Author" and year used in the references and footnotes, instead of the authors' name, article title, etc.”.

**C.4. Table 2: what you used in these equations is not moisture content, but moisture ratio. You should present the equation for moisture ratio and change MC by MR.**

RESPONSE: The explanation and equation has been added in the part „2.3. Mathematical modelling“.

**C.5. Line 171: Author et al.: please see comment for line 92.**

RESPONSE: This reference is published but this references were not provided since in the file “Ensuring a Blind Peer Review” during the submission process was stated the following “The authors of the document have deleted their names from the text, with "Author" and year used in the references and footnotes, instead of the authors' name, article title, etc.”.

**C.6. Figures 1 and 2: These are not experimental vs predicted values graphics, but drying curves (changes in moisture content with drying time). And they look very awkward: I expected a typical drying curve with a constant rate period and a falling rate period. I believe that you need to use the equation for moisture ratio and the moisture must be converted to dry basis, then you will obtain a typical, correct drying curve.**

RESPONSE: The current graphics have been removed and the new graphics corrected according to Reviewer’s suggestion have been added in the paper. Also since the moisture ratio has been used now in the whole paper, all changes regarding to this have been added in the paper and they are marked as a response to this Reviewer’s comment.

**C.7. Line 213: I could not see a clear tendency for the effect of pressure on the k parameter. For some temperatures, k is higher at lower pressure, for other temperatures, it is higher at intermediate pressure, and for other temperatures, it is higher at higher pressures. Please rewrite the sentence between lines 213-215.**

RESPONSE: This part has been rewritten in order to be more precise and clear according to Reviewer’s suggestion

**C.8. Line 236: Author et al.: please see comment for line 92.**

RESPONSE: This reference is published but this references were not provided since in the file “Ensuring a Blind Peer Review” during the submission process was stated the following “The authors of the document have deleted their names from the text, with "Author" and year used in the references and footnotes, instead of the authors' name, article title, etc.”.

**C.9. Line 216: texture analysis: a better discussion must be provided to explain the effect of high pressure on textural parameters and the lack of effect of temperature in the light of other studies.**

RESPONSE: The comparison with the literature data in order to get a better overview of obtained results has been added in the part “3. 2. Texture analysis”. Also the discussion about the influence of pressure and temperature on the texture has been corrected in order to be more clear.

**C.10. Line 246: it is not necessary to mention the less suitable model.**

RESPONSE: This part has been deleted from the part “4. Conclusion”

**C.11. References: too few references.**

RESPONSE: According to the all corrections by reviewers, new references have been added in the paper.