Dear Editor,

We appreciate your comments, suggestions, and recommendations to improve the quality of the manuscript. We hope that we have implemented the comments and the quality of the manuscript has improved. Comments were taken into account and the manuscript was revised. All corrections are highlighted in the text. Responses to the comments are provided below:

Statistics comments:

This paper has still many problems, we appreciate the effort in reviewing but you did not follow the main problem arised by Referee 2, and you do not justify why, your answer is just an statement" Non-parametric correlation is used, since we do not use regressions, we have omitted them" and it is not acceptable. Please take very seriously the comments done by Reviewer 2 and supported by the editor. You just can not rely on correlations to justify the effect of biopreparations, since CO2 emissions are also mediated by temperature and moisture. A new statistical approach is needed, Referee 2 suggest multiple regression with CO2 emissions as dependent variable and temperature, moisture and biopreparations indicators (porosity parameters) as independent variables to understand the weight of each of them and previously testing the collinearity between variables.

Your new statistical analysis if focussed on repeating the correlation analysis, now you used non-parametric correlations, why? when you are explaining that your correlations are normally distributed (Line 222). This does not solve the problem of the statistical approach of the paper.

Anyway it is very important to consider this advice, please do not skip it and address it: 'The main concern deals with the lack of clarity in the methods and experimental design used and also the statistical approach which is too poor for explaining the role of the biopreparations on the studied properties. In this sense, the biopreparation effect on CO2 emissions is not well isolated from the soil temperature and soil moisture effect (strongly related to CO2 emissions). I suggest using multiple regression analysis in order to know the weight of each variable (soil temperature, soil moisture and biopreparations) in the final response. In addition, some of the aspects mentioned in the discussion and conclusions for explaining the observed changes, for example CO2 emissions, within treatments (such as tillage, cover crops density, height) are not given through the manuscript'.

Line 222 why did you perform non-parametric correlations if your variables were normally distributed? If your variables are normally distributed, you have to use parametric correlations.

Responses. We have prepared a new statistical analysis in response to the very helpful comments. We used multiple regression analysis with the help of a mathematical scientist for the statistical evaluation. The new statistical analysis is presented in section 3.5 of the manuscript, and section 2.5 has been updated with the methods used. After performing the new statistical analysis, we eliminated non-parametric correlations.

In response to the comment regarding lack of clarity in the methods and experimental design, we have included additional information in sections 2.2, 2.3, and 2.4.

Some aspects (such as tillage, cover crops density, height) mentioned in the discussion and conclusions but not given through the manuscript were removed.

Other comments:

Comment. I do not think the English of the title is correct. Can you check please with a native English speaker?

Response. We checked the title with a native English speaker, and according to recommendation the title was corrected: "The effect of different biopreparations on soil physical properties and CO_2 emissions when growing winter wheat, and winter oilseed rape".

Comment. The title is not improved according to the demand of Referee 2, can you say what type of crops are: horticultural crops, or specific crops?

Response. We have improved the title by adding specific crops: "The effect of different biopreparations on soil physical properties and CO_2 emissions when growing winter wheat, and winter oilseed rape".

Comment. Could you finalize the abstract with a conclusion?

Response. The abstract was finalized with the conclusions: "Evaluating the effectiveness of biopreparations on soil porosity, temperature, and CO_2 emission from the soil, it can be stated that the best effect was achieved in all three research years in SC7, and SC8. The multiple regression model showed that soil temperature has a greater influence on the variation of CO_2 emissions than soil aeration porosity."

Comment. Line 126 "analysis of" The verb is missing, you could add "was carried out" **Response.** The sentence was corrected adding the verb: "Analysis of changes in soil physical properties and CO₂ emissions was carried out under the influence of biopreparations of different composition in North-East Europe (Lithuania) on the left bank of river Nemunas, in Kaunas district."

Comment. Line 253, why to add all this information as a note at the foot of the Figures? Is this information the same than Table 1? In that case, please delete the notes at the foot of the Figures because introduces too much noise.

Response. This information is the same as in Table 1. We deleted duplicate notes at the foot of the figures.

Comment. The conclusions are very confusing, I would like to know which scenario, which biopreparation has a better effect on soil properties. And how is this evolution on time.

Response. We added addition conclusion: "Evaluating the effectiveness of biological preparations on soil porosity, temperature and C02 emission from the soil, it can be stated that the best effect was achieved in all three research years in SC7, when the compound of biopreparations 40 species of various herbs, Marine algae extracts, Essential oils of plants, Mineral oils, 4.5% of humic acids, 0.5% gibberellic acid, 0.01% copper (Cu), 0.01% zinc (Zn), 0.01% manganese (Mn), 0.01% iron (Fe), 0.01% calcium (Ca), 0.005% sodium molybdate

(Na₂MoO₄), Azotobacter spp. mixed with water, and SC8 - Marine algae extracts, *Azotobacter chroococcum, Azotospirilum brasilense*, Phosphorus P (P₂O₅), Potassium K(K₂O), and water."