Answers to respected Editor and Reviewers

We sincerely thank the respected Editor and Reviewers for especially useful expertise, his time, helpful comments, and assistance in improving the scientific article. Following the Reviewer ‘s advices, we are resubmitting the article manuscript with the corrections made, which we explain in detail in the answer below.

Comment

Executive Editor decision: Publish subject to technical corrections

Comment to the author

Thank you for the revisions. I agree with the Topical Editor that your paper is now ready for publication. Please consider the final remarks made by the topical editor. Also make sure that you remove small typo's (CO2 vs C02) and that you remove the undefined acronyms in the abstract.

Answer

According to Reviewer comment Abstract was corrected - removed small typo's (CO2 vs C02) and corrected acronyms, such as:

CO_2 (carbon dioxide);

GHG (Greenhouse gases);

LSD (east significant difference).

Comment

Dear authors,

Thank you for the revisions. I agree with the Topical Editor that your paper is now ready for publication. Please consider the final remarks made by the topical editor.

The manuscript has improved very much following the advices of referees and editor. Just a couple more of corrections to improve the readibility of the paper are needed:

Please can you rewrite the part of the abstract where you mention SC7 and SC8?, The explanations of these scenarios come much later in the paper, and the abstract needs to be self-explanatory, can you substitute their names by short descriptions of the main components of those preparations? Otherwise is impossible to understand what both short names mean.

Answer

According to Reviewer comment Abstract was fulfilled with explanations of mentioned scenarios:

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 using biopreparations with Azotobacter chroococcum, Azotospirilum brasilense and with various herbs, Marine algae extracts, oils of plants, mineral substances.

Comment

Can you please rewrite the conclusions paying less attention to quantitative details already given in the results (particularly the two first paragraphs)? The conclusions do not have to be a short description of results but just a couple of take-home messsages.

Answers

According to Reviewer comments conclusions were rewritten.

Conclusions

- Due to the interaction between the long-term use of biopreparations and meteorological conditions it was fixed increase of total porosity of the soil till 74 %.
- It was established that due to half of biopreparations usage the soil temperature significantly increasing.
- The cumulative effect of biopreparation application on CO_2 emissions from soil was most pronounced in the third year.
- Studies confirmed that biopreparations components - Marine algae extracts and bacteria can significantly reduce the CO_2 emission intensity from the soil after tillage.
-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, when the compound were 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, 0.01% zinc, 0.01% manganese, 0.01% iron, 0.01% calcium, 0.005% sodium molybdate, *Azotobacter spp.* mixed with water, and Marine algae extracts, *Azotobacter chroococcum*, *Azotospirilum brasilense*, Phosphorus, Potassium, and water.
- The multiple regression model showed that as soil aeration porosity increases, CO_2 emissions from the soil decrease, while CO_2 emissions increase as soil temperature increases. It was established that soil temperature has a greater influence on the variation of CO_2 emissions than soil aeration porosity.