Dear editor,

The manuscript titled "The impact of Morchella application under limited irrigation conditions in horticulture on bacterial diversity and abundance in the plant root zone", which I had previously reviewed and suggested many corrections, was revised by the authors. However, when I checked the edits, I did not see any significant improvement on the manuscript. As can be seen line by line in the report, the authors claimed that they corrected most of the criticisms/suggestions/errors, but did not make any changes to almost any of them. I would humbly recommend rejecting this manuscript due to insufficient author response. As you can see in detail in the report, these actions are clearly deception.

Best Regards.

Dear author(s),

Dear Authors, your manuscript titled "The impact of Morchella application under limited irrigation conditions in horticulture on bacterial diversity and abundance in the plant root zone", which I had previously reviewed and suggested many corrections, was revised by you and re-uploaded to the journal. In the author response letter you prepared, you stated that you took each criticism into consideration. However, I could not see any significant improvement in the text. I would suggest revising the text according to referees' suggestions. Please find attached document for detailed report.

Kind regards.

İntroduction

There are inconsistencies in the sentences constructed with citations in the "Introduction" section of the manuscript. Additionally, there are instances of in-text citations in the "Introduction" section that do not adhere to journal guidelines. The identified errors are listed below, and the ones not mentioned should also be corrected. Furthermore, a literature search should be conducted to make additions to the "Introduction" section regarding the changes in microbial and soil properties occurring in the plant rhizosphere due to fungal applications.

The introduction of the article has been generally reviewed and generally corrected.

Line 38: According to the journal guidelines, in citations made to publications with 4 or more authors, the last name of the first author should be used with 'et al.' The manuscript contains similar errors throughout and should be corrected. Additionally, in citations to publications by authors with the same surname in the same year, the initial word of the first name has been used and should be corrected. Instead, the publications should be listed as a, b, and c. "Such as Yin et al., 2022a; Yin et al., 2022b."

Criticism taken into account.

Line 40: The comma used after the second author in the citation to the three-authored publication (*Hartmann, Lemanceau & Prosser, 2008*) should be removed. If there are similar errors in the manuscript, they should be corrected.

Criticism taken into account.

Line 41: The same error as in line 38.

Criticism taken into account.

Lines 43-44: The same errors as in line 38.

Criticism taken into account.

Line 46: The uninterpretable space at the beginning of the line should be corrected or clarified.

Criticism taken into account.

Line 47: There is no direct study mentioned in the publication regarding the plants "*Prunus*" and "*Lens* (likely *Lens culinaris*)". However, a species from the genus "*Festuca*" is studied in the mentioned publication. If there are similar errors throughout the manuscript, they should be corrected. In this example, although the publication mentions the species *Prunus lauracerasus* L., the reference should be made to the publication that the mentioned publication itself refers to.

Sentence deleted.

Line 48: Although the mentioned publication refers to the overlap between the species mentioned in line, there is no specific reference to a publication discussing the overlap among these three species in 47th line. The criteria or basis on which this overlap was determined should be explained.

Sentence deleted.

Lines 59-62: The sentence that starts in the 59th line contains the word "and" four times. Similarly, throughout the manuscript, there are several instances where the same situation occurs and needs to be corrected. These types of sentences should be reconsidered and different conjunctions should be used.

It was stated that the criticism was taken into consideration, but it was not.

Lines 63-65: The same error as in line 59-62.

Criticism taken into account.

Line 65: The same errors as in line 38.

Criticism taken into account.

Line 72: Indeed, using "farmers" instead of "cultivators" may be more appropriate.

It was stated that the criticism was taken into consideration, but it was not.

Materials & Methods

There are certain errors identified in the “Materials & Methods” section of the manuscript, as mentioned below. However, no issues have been detected regarding the experimental design and statistical analyses. The identified errors especially concern the referencing like throughout the manuscript. Specifically, when referring to the methods, citations should be made to the publications that originally developed or subsequently modified those methods.

Most of the requested corrections in the material-method section were not made. But it has been claimed that it was done.

Line 89: What was the basis for determining the light intensity of 3000Lx?

It was stated that the criticism was taken into consideration, but it was not. The reference should be made to the relevant section in the method, not to the response to reviewer’s report.

Lines 90-91: In nature, relative humidity increases as the temperature decreases during nighttime. However, in your experiment, you reduced the nighttime humidity by 1/4 to 60%. Since the purpose of the study was not to examine the effect of decreasing relative humidity during nighttime, the method studied does not align with natural conditions and appears artificial. Could you explain the reason behind this choice?

Criticism taken into account.

Lines 93-102: All the references to the preferred methods for determining soil chemical properties are essentially publications that have used those methods rather than publications that have developed the methods. In such cases, it is important to cite the publications that have developed or modified the methods being used. It is crucial to find and cite the original publications that have developed all three methods. Additionally, the errors made in the 38th line have been repeated in the citations. Moreover, in the references to be made starting with 'method of...', the format 'method of Wilson et al. (2020).' should be used.

It was stated that the criticism was taken into consideration, but it was not.

Line 104: The publication by Kuscu (2019), which states the use of the method for determining soil catalase activity, does not even contain a single reference regarding this matter. Kuscu (2019) also did not specify the basis for determining catalase activity in his publication. It is crucial to make a reference to the original publication that first applied the method for determining soil catalase activity. Additionally, the citation format is not in accordance with the journal guidelines.

It was stated that the criticism was taken into consideration, but it was not.

Lines 105-106: The citation format is not in accordance with the journal guidelines.

Criticism taken into account.

Lines 106-107: The publication by Pradeep & Narasimha (2012), which claims ownership of the method used to determine soil protease activity, states that the method they used is not their own. They also provide references to the publication of the developers of the method. If there are similar errors in the manuscript, it is of utmost importance to review the entire the manuscript.

It was stated that the criticism was taken into consideration, but it was not.

Lines 123-125: The citation pattern seems to be confused. After the method/methods used, reference should be made to the publication that developed or modified that method.

It was stated that the criticism was taken into consideration, but it was not.

Line 124: The same errors as in line 38.

It was stated that the criticism was taken into consideration, but it was not.

Lines 126-127: The same errors as in line 38.

Criticism taken into account.

Results

The "Results" section of the manuscript is generally well-written. However, there is a common issue observed in both the "Materials & Methods" section and the "Results", which is the lack of clear explanation for abbreviations upon their first use. Additionally, the presence of long sentences and excessive use of the word "and" in these sentences detracts from the readability of the text.

Corrections have been made in general. However, the language of the article is still inadequate. It should be reviewed.

Lines 148-150: In the 149th line, another conjunction like "while" can be used instead of "and." Throughout the manuscript, there is an excessive use of "and" within sentences. It can be observed that in some sentences, "and" is used 5 times. Furthermore, within a sentence, the same word should not be used more than once if possible. For example, the word "treatment" may not be repeated after its initial usage. For instance, "AK increased in the 30% and 70% treatments, while PA decreased in the 30% and 50%."

It was stated that the criticism was taken into consideration, but it was not.

Lines 154-161: A single sentence spanning eight lines can not only disrupt the meaning but also hinder the understanding for the reader. Therefore, it is necessary to divide this sentence into multiple sentences.

It was stated that the criticism was taken into consideration, but it was not.

Lines 169-171, 176-178, 184-186, 194-196: It would be more appropriate to make comments about the results in the discussion section. Similar sentences among the results should be transferred to the discussion section.

It was stated that the criticism was taken into consideration, but it was not.

Lines 188 and 192: The second use of the word "soil" in the sentence can be removed.

Line 192: It was stated that the criticism was taken into consideration, but it was not.

Line 188: Criticism taken into account.

Line 205: The meaning of the terms PCoA, PCoA1, and PCoA2 should be clearly stated when it is first used. If there are similar terms in the manuscript, they should also be clearly stated when they are first used.

Criticism taken into account.

Line 208: The words "of cases" at the beginning of the line can be removed.

Criticism taken into account.

Lines 214-216: The sentence should be rewritten with a different conjunction.

Criticism taken into account.

Line 219: It would be more accurate to use the term "soil factors" instead of "environmental factors" because all of the mentioned factors are related to soil.

Criticism taken into account.

Lines 221-222: The meaning of the terms RDA, RDA1, and RDA2 should be clearly stated when it is first used.

Criticism taken into account.

Lines 229-237: The sentences between the lines contain an excessive use of the word "and." To improve the expression, the sentences need to be rewritten, replacing "and" with other conjunctions.

It was stated that the criticism was taken into consideration, but it was not. Only one word "and" was deleted.

Discussion

The "Discussion" section of the manuscript is generally inadequate and contains numerous errors. Particularly, there is a lack of discussion regarding the main focus of your study, which is "the impact of fungal application on microbial presence in the plant rhizosphere". Additionally, the issue of inconsistency between the statements made in the discussion and the references cited is a significant problem that needs to be addressed. It is essential to thoroughly scanning the literature and provide a comprehensive discussion on the changes in microbial presence in the plant rhizosphere resulting from fungal applications.

The deficiencies seen before in the discussion section have not been corrected. Although it was stated that the criticisms were taken into consideration, mostly no changes were made. The changes made are simple reference rules and grammar corrections.

Lines 242-243: The sentence should be rewritten with a different conjunction.

It was stated that the criticism was taken into consideration, but it was not. Only one word "and" was deleted.

Lines 248-249: The referenced publication does not provide any results regarding the mentioned features, except for microbial activity and N. It is necessary to make references to other publications for the mentioned features in the sentence.

It was stated that the criticism was taken into consideration, but it was not.

Lines 249-252: The cited studies do not involve any fungi, including Morchella. Therefore, there is no relevance between the mentioned features in the sentence and the referenced publications. The citations need to be changed, and new references should include/reflect the information mentioned in the sentence. Also, there are the same errors as in line 38.

It was stated that the criticism was taken into consideration, but it was not.

Line 256: There is no need to use a word multiple times in a sentence. It would be beneficial to remove of the word "treatments" after its initial usage.

Criticism taken into account.

Line 262: The referenced study does not involve the use of a plant named "rambutan." The citation needs to be changed to include/reflect the information mentioned in the sentence.

It was stated that the criticism was taken into consideration, but it was not.

Line 264: The study referenced as "de Carvalho et al. (2016)" does not support the sentence and is not relevant to the information used. It needs to be either changed or removed. Also, there are the same errors as in line 38 (second citation).

It was stated that the criticism was taken into consideration, but it was not.

Line 267: The second referenced publication is a review article and does not provide/produce any information related to the topics mentioned in the sentence. The sentence discusses the changes in soil structure, soil microbial structure, and nutrient element characteristics under water stress. It is necessary to make references to original studies that address these specific topics. Also, there are the same errors as in line 38.

It was stated that the criticism was taken into consideration, but it was not.

Lines 268-282: It appears that the referenced study does not involve the use of any fungi and is not listed in the references. Additionally, the discussion “on the impact of the applied fungus on soil microorganisms”, which forms the foundation of your study, should not be kept so brief without a proper literature discussion. The absence of a specific study related to the fungus you used (*Morchella*) does not negate the need for such a discussion but rather adds value to your work. However, there are many fungi, such as arbuscular mycorrhizal fungi (AMF), which are extensively studied in the literature and have been applied to plants either alone or in combination with bacteria, examining their effects not only on soil microbial structure but also on various soil properties. It is crucial to read such publications and provide a more thorough discussion. This part seems to be the weakest aspect of your study, it should be reconsidered with a good point of view. The whole discussion should be rewritten by eliminating the above and below mentioned deficiencies.

It was stated that the criticism was taken into consideration, but it was not. The paragraph looks as it is.

Line 285: There are the same errors as in line 38.

Criticism taken into account.

Lines 291-293: There are the same errors as in line 38.

Criticism taken into account.

Line 291: The first citation in the line is not related to *Pseudomonas* which mentioned in the sentences.

Criticism taken into account.

Line 295: The cited article can be used in the paragraph between lines 268-282 to study the effect of fungi on the distribution of microorganisms in the rhizosphere soil.

Criticism taken into account.

Lines 304-306: The sentence indicates that intercropping practices enhance both soil microbial diversity and abundance, so suitable references have been cited to support this assertion. However, since one of the species used in your study is a fungus, the publications to be used in the discussion should also be in line (same kind) with this. Also, there are the same error as in line 38.

It was stated that the criticism was taken into consideration, but it was not. A new reference that has nothing to do with the sentence has been added at the end of it.

Line 308: There are the same errors as in line 38.

Criticism taken into account.

Line 311: The cited articles in the sentence are not relevant to the information stated. While the first cited article is entirely unrelated to the sentence, the second article only pertains to the *Bacillus* genus. Neither the *Pseudomonas* genus nor the AKYG587 strain is mentioned in either of the articles. References should be made to publications that specifically address the content mentioned in the sentence, or the sentence should be removed.

It was stated that the criticism was taken into consideration, but it was not. The criticized reference was deleted without making any changes to the sentence. Since the information in the sentence is not produced by the authors, how do we know its accuracy?

Lines 314-315: The enzyme studied in the cited article is "catalase," not "peroxidase," as mentioned in the sentence.

Criticism taken into account.

Lines 315-317: The sentence mentions the increase in certain soil properties and microbial activity with fungi application. But, the first cited article is not related to agriculture, and the second article does not involve the use of fungi.

It was stated that the criticism was taken into consideration, but it was not.

Line 322: The cited article did not investigate the N and P content of the soil.

It was stated that the criticism was taken into consideration, but it was not. The citation has been changed, but the sentence has not changed. The sentence and the reference are irrelevant.

Line 324, 326: The similar surnames and publication years in both lines should be cited following the journal's guidelines. For example, Liu et al., 2017a; Liu et al., 2017b.

It was stated that the criticism was taken into consideration, but it was not. The reference writing style does not comply with the journal rules.

Line 325: As seen in the example above, the cited article does not mention a plant or species called "rambutan." It is unclear what is meant by "rambutan" in this context. The reason why it is not mentioned in the cited publications is unknown. If it is a local usage, should explanation be in the manuscript.

It was stated that the criticism was taken into consideration, but it was not.

References

Due to time constraints, the “References” could not be controlled. The citation formatting in the text and literature section should comply with the journal's guidelines. If the article was written using a program such as "EndNote," the citations should be made using the journal's "style" file, if there is. Otherwise, the journal style should be created to ensure proper citations. If the article was not written using such programs, in-text citations and the literature should be written following the rules provided by the journal for authors.

There is still the use of references that do not comply with the journal rules. References must be edited according to the journal rules.