Dear Editors and Reviewers,

Thank you for your further comments and suggestions on our manuscript entitled "Inducing Banana Fusarium Wilt Disease Suppression through Soil Microbiome Reshaping by Pineapple-Banana Rotation Combined with Biofertilizer Application" (Manuscript No: soil-2021-52). We have carefully dealt with the comments point by point. The responses to your comments are listed as follows. The manuscript has certainly benefited from these insightful revision suggestions. We hope that these revisions successfully address your concerns and requirements.

Thank you and best regards,

Sincerely yours,

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Reply on RC1:

In this work, the authors show that combining pineapple-banana rotation and bio-organic fertilizer application significantly reduces Fusarium wilt disease incidence in comparison with an alternative treatment. Bacterial and fungal communities are further investigated using the Miseq Illumine sequencing platform. They find that fungal community composition and Burkholderia-related network functions contribute to the plant resistance in the borne-disease suppression soil. Hence, the authors provide a promising strategy to manage banana Fusarium wilt disease. However, some key points are concerned in the manuscript. The detailed comments are shown as follows:

Major concerns:

1 Please check the English expression in the whole of manuscript. Especially, the expression tense should be noticed. For example, the description in introduction should be used in a simple present tense.

Answer: Thank you very much for your professional comments and suggestions. The language, of the manuscript was carefully revised again, also, the description in introduction have been changed into a present tense.

2 In line 50, race 4 do not need write in italics.

Answer: Thank you very much for your comments. We have corrected it as "*Fusarium oxysporum* f. sp. *cubense* (FOC) race 4".

3 In line 243, Acidobacteria is repeated. In line 256, a space is added in "treatments.BOF".

Answer: Thank you very much for your comments. We have corrected it. It is "Acidobacteria and Actinobacteria" in line 243.

4 In line 265, "analyses show that" should be replaced with "analyses showed that". Similarly, too mistake in manuscript should be noticed.

Answer: Thank you very much for your comments. We have corrected it.

5 In line 286, "treatment was separate from" should be replaced with "treatment was separated from".

Answer: Thank you very much for your comments. We have corrected it.

6 Fusarium need not write in italics.

Answer: Thank you very much for your comments. We have corrected it in "Fusarium wilt disease" over all the manuscript.

7 In method, the cultivars of banana and pineapple should be described in manuscript.

Answer: Thank you for your attention. We have added the cultivars of banana and pineapple as "Banana cultivar *Musa acuminate AAA Cavendish cv*. Brazil and pineapple cultivar Golden pineapple were used in the Field experiment."

8 In discussion, the authors need to discuss the results in comparison with the previous studies.

Answer: Thank you very much for your comments. We have improved the discussion part, and have added some content about comparisons with previous studies as following:

"So, in the current study, we explored the the combined use effect of pineapple-banana rotation and bio-organic fertilizer application to provide a promising strategy to manage banana Fusarium wilt disease. And the results were consistent with the previous reports."

"Many previous studies have shown that the decrease of soil pH is an important factor leading to soil-borne diseases. And microbial diversity has been seen to increase with higher soil pH values. (Liu et al., 2014; Shen et al., 2013). We observed that soil pH increased in rotation and bio-organic fertilizer treatment (**Table S2**), therefore, the high bacterial and fungal diversity observed in our rotation and bio-organic fertilizer system may be due to high soil pH. "

"It is worth noting that fungal communities were more dissimilar between the Pineapple-banana rotation and Maize-banana rotation treatments than bacteria in our previous studies (Wang et al., 2015). Thus, the higher FOC-relevance found in fungal community both in the pineapple and banana season further reinforced the importance of fungal community changes in our case."

9 The figure resolution should be improved according to the requirement of journal.

Answer: Thank you very much for your comments. We have improved the figure resolution according to the requirement of journal.

Reply on RC2:

The results in this work show that pineapple-banana rotation significantly reduces Fusarium wilt disease incidence, and that the application of bio-organic fertilizer causes additional suppression. This paper provides a potential sustainable management to inhibit banana Fusarium wilt disease. It has an important meaning in practice. However, the authors need a clearer analysis and precise description of the paper. Some written errors must be noticed. The writing of technical terms must be corrected. Minor revisions are recommended for the manuscript.

I have the following substantive comments:

Line 1, "Fusarium Wilt Disease". "Fusarium" need not write in italics, unless it delegates the genus or species. Please check all the italics in the text.

Answer: Thank you very much for your comments. We have corrected it and check all the italics in the text.

Line 50-51, "Fusarium oxysporum f. sp. cubense race 4 (FOC)". "race 4" need not write in italics and it should behind "(FOC)".

Answer: Thank you very much for your comments. We have corrected it as "*Fusarium oxysporum* f. sp. *cubense* (FOC) race 4".

Line 218, "3.1 Disease incidence and relative abundance of Fusarium". Please adding the statistical table of the disease incidence.

Answer: Thank you very much for your comments. We added the statistical table of the disease incidence in Supplementary Material as following:

Table S1 The statistical table of the disease incidence

		Repeat 1	Repeat 2	Repeat 3	Repeat 4	Repeat 5	Repeat 6	Repeat 7	Repeat 8	Repeat 9
BOF	Total plant	75	75	75	75	75	75	75	75	75
	Disease plant	47	53	50	53	49	46	53	50	50
	Disease incidence (%)	62.67	70.67	66.67	70.67	65.33	61.33	70.67	66.67	66.67
PBIO	Total plant	75	75	75	75	75	75	75	75	75
	Disease number	8	12	7	9	11	8	10	9	9
	Disease incidence (%)	10.67	16.00	9.33	12.00	14.67	10.67	13.33	12.00	12.00
POF	Total plant	75	75	75	75	75	75	75	75	75
	Disease number	25	22	27	22	28	25	24	28	24
	Disease incidence (%)	33.33	29.33	36.00	29.33	37.33	33.33	32.00	37.33	32.00

Line 220, "Fig. 1A". It should be "Fig. 1B".

Answer: Thank you very much for your comments. We have corrected it.

Line 228-238, "Figure 1. Fusarium wilt disease incidence, Fusarium relative abundance and Pearson correlations between them. (A and B)". The figure caption should match with the figure, and it needs improvement.

Answer: Thank you very much for your comments. We have improved it as following:

"Figure 1. *Fusarium* relative abundance (A), Fusarium wilt disease incidence (B) and Pearson correlations between Fusarium wilt disease incidence and *Fusarium* relative abundance (C). BOF=Banana continuously cropped for two years with common organic fertilizer applied; POF= Banana planted after Pineapple rotation with common organic fertilizer applied in banana season; PBIO=Banana planted after Pineapple rotation treatment with Bio-organic fertilizer applied; Bars above the histogram represent standard errors and different letters indicate signifcant differences ($p < 0.05$) according to multivariate variance analysis and multiple comparison results.**"**

Line 243-250, The phyla need not write in italics. Please check it in the whole text include the figs.

Answer: Thank you very much for your comments. We have corrected it in the whole text.

Line 251, "p < 0.05". "p" should write in italics. Please check it in the whole text.

Answer: Thank you very much for your comments. We have corrected it in the whole text.

Line 252-260, "BOF=Banana continuously cropped for two years with common organic fertilizer applied, POF= Banana …". Where "applied," should be "applied;". The description of treatments in all the figures and tables should be identical. Please check Figure 1.

Answer: Thank you very much for your comments. We have corrected it. And also, we rearrange the description of Figure 1. Please see the answer to **Line 228-238**.

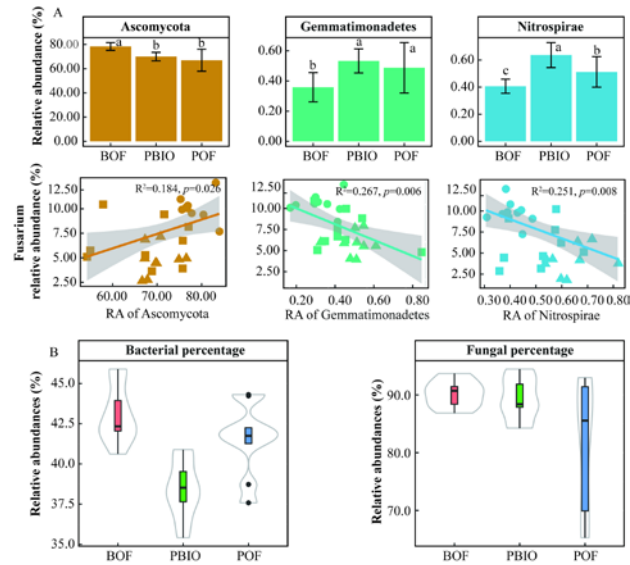
Line 269, Whether the "OF" should be "BOF"?

Answer: Thank you very much for your comments. It was our carelessness, yes, it is BOF here, and we have corrected it.

Line 278, "071b" in Table 1 should be "71b"?

Answer: Thank you very much for your comments. It was our carelessness, yes, it is "71b" here, and we have corrected it.

Line 309-315, Where is the A or B in Fig. 4?

Answer: Thank you very much for your comments. It was our carelessness, and we have added A and B in Fig. 4 this time as following:

Line 400-402, "Our previous results indicate that two pineapple-banana rotation treatments significantly reduce Fusarium wilt disease incidence and the relative abundance of Fusarium, compared with banana monoculture". The difference between BOF and POF is not significant (Fig. 1).

Answer: Thank you very much for your comments. The difference of disease incidence between BOF and POF is significant, while difference of the relative abundance of Fusarium is not significant in Fig. 1. So we rewrote it as "Our previous results indicate that the pineapple-banana rotation treatments significantly reduce Fusarium wilt disease incidence when compared with banana monoculture."

Line 456, "compared with bacteria, more fungi significantly correlate with FOC abundance". The abundance is the relative and evaluated only in bacteria or fungi. If consider bacteria and fungi as a whole, the result of the abundance maybe different. I think authors should express it in other different way instead. Please try to rewrite this part.

Answer: Thank you very much for your comments. We rewrote it as "In the present research, compared with bacteria, a higher percentage of FOC-correlation genus in fungi was observed in all treatments."