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Journal Name:	**Asian Journal of Biology**
Manuscript Number:	**Ms_AJOB_33015**
Title of the Manuscript:	**Effect of Palm Oil Mill Effluent on Soil Microflora and Fertility in Calabar – Nigeria**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline)

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**The author has tried but I have reservations on recommending the article.** **The introduction neither highlighted the aim of the research work nor the justification as well as the statement of the problem. I could not make out the importance of the work. I do not know whether the work is all about studying oil mill polluted soil for the purpose of bio-remedying of the soil for increased fertility or just to know the concentration of the pollutant that will have high number or low number of microorganisms. The author did not relate the number of microorganisms isolated to the hydrolysis of fats and lipids which are the main components of oil mill effluents.** **-Line 75 read experimental Design when there was no experimental design such as Complete Randomized Design or RCBD that was mapped out for the research work.** **-The various methodologies employed in the research work were not adequate as some of them are listed below.** **-Line 80: The author sampled soil up to 30cm when top soil is got from 0-15cm depth. In other words, he did not follow standard methods because he did not indicate any standard method used.** **- Line 83: The author did not mention the initial weight of the soils collected from each location before weighing out 5 kg to each polythene bag after mixing.** **-Line 93: This is a mere soil enrichment & not pollution. This is because the pollution has not**	Corrections effected: aim of the study and justification added. The aim of the study is clear enough for everyone to actually understand the purpose for this research. Enzyme assay was not part of the objectives of this study. Corrections effected Adequate methodologies were employed. Corrections effected. It was an error and it has been corrected. Corrections effected This research was carried out according to established best practices. Corrections effected.

	reached the threshold that can affect microbial growth and proliferation. Mixture of each 4 kg dried soil with 250ml, 500ml, 1000ml & 2000ml of effluent cannot give properly polluted soils. This method is faulty for a laboratory scale experiment. The standard method the author cited used 2kg of soils; I wonder how he decided to use 4 kg in his work. **- All the experiments carried out for the enumeration of microorganisms did not follow standard methods.** **- The determination of the soils pH did not follow standard methodology. On Line 157: the author mentioned 1:2 and On Line 160, he mentioned 1:2.5.** **- None of the methodologies used in work was carried out in replicates. Also some of the physicochemical analyses of the soil did not follow standard methods and were not done in replicates.** **- The author did not indicate the type of statistical analysis employed during the study but suddenly performed LSD and attached superscripts on values in the Tables.** **-A major loophole was that the effluent was not analysed to ascertain its composition so as to enable the author report authoritatively the type of nutrient the effluent added to the soil.** **-The author could have carried out enzyme assay on the isolated organisms to ascertain whether the microorganisms have the ability to produce lipase for the hydrolysis of the fats that are the main component of the effluent.** **-More worrisome is the report on the results from rubber mill effluent which was mentioned twice in lines 248 and 271.** **However, below are some of the minor corrections observed.**	Standard methods were employed. Most of the methodologies have been added again. Correction effected. The results presented only reflect the mean of the replicate analyses. All analyses followed standard methods as cited in the paper. Corrections effected. No single research is adequate. The gaps created in this study can only open up for new studies. As stated above, enzyme assay was not part of the objectives of this research work. Corrections effected.

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Minor REVISION comments	Line 2: The Effect on the Title of the work should read Effects. Lines 6 and 7: The ending part should read-effluent, with the aim of assessing their effects on soil microflora and fertility. The 0ml concentration served as control. Line 8: pH, Line 12: Should read and total heterotrophic actinomycetes decreased significantly (P≤.05) with increase in the concentration of the pollutant. Line 14: replace length with of duration. Note: This is used as (P≤.05) or (P≥.05). Check through the whole manuscript and correct effectively. Lines 16-18: separate the organisms according to their type such as bacterial and fungal species. Why is there no organism under actinomycetes? Line 20: should read base saturation of the polluted soil and that of the control. Line 21: should read electrical conductivity of the polluted soil did not show significant difference with that of the control. There was rather a steady increase which was not statistically different from the control with increase in concentration of the pollutant. Line 23: should read The results of this study revealed that soil polluted with little quantities of palm oil mill effluent could enhance------. Line 31: should read Pollution causing changes in environmental quality is ----- Line 36: should read Lang [16] reported that-----. Line 101: No reference was cited for the microbial analysis of the soil. Line 105 should read significant alteration in the microbial population. Also a weight of 10g of each of the populated soil samples was taken to the Microbiology laboratory of University of Calabar and microbial analysis was carried out on them. Line 112, 119 and 125: No reference was cited for the	All corrections effected. All corrections effected.

	enumeration of bacteria, fungi and actinomycetes. Line 114: What do you mean by desired dilution? Kindly indicate the dilutions. Line 140: What are the various methods; mention them. Line 148 should read Physicochemical analysis of the pristine soil was carried out before and after pollution with varying concentrations of each oil mill effluent. In the results presentation section, the Table 3 showing Effects of duration of pollution on microbial population did not have the different concentration of the effluent.	
Optional/General comments	**I suggest that the author should have a second look at the research paper and address the issues raised under the major revision.**	All issues raised are adequately addressed.