



SDI Review Form 1.6

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2014_AJEA_12375
Title of the Manuscript:	RESPONSE OF MAIZE VARIETIES (<i>Zea mays</i>) TO BIOCHAR AMENDED SOIL IN LAFIA, 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 <i>(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)</i>
<u>Compulsory</u> REVISION comments	In general, the research goal is good as it seeks to address the problem of soil infertility and low crop production affected by some farmers in Nigeria. However, there are a number of issues that require author(s) attention. Introduction (page 2) • Page 2, line 42, actual temperature or range should be given or defined • Line 59, it is not true that depletion of OM in itself leads to low crop production. This statement should be further elaborated i.e. loss of nutrients through leaching for depleted OM • Line 61, the statement should also be qualified otherwise then it is not true the way it is. The author can add to say when there is imbalance or inadequate OM input into the soil Data collection (page 4) • The author(s) need to should one way of presenting data. For instance line 105, seed weight (kg/ha) and seed weight (t/ha) need to choose one because they are the same thing • It is better to express seed weight (kg/ha) as grain weight (kg/ha). Seed is used for seed production or growing while grain is used for grains that will be consumed. Especially in their research, they are trying to improve maize grain for consumption per unit area Results and discussion (page • The author(s) need to include soil analytical data collected at harvest or soon after harvest for the following reasons: a) to validate their claims statistically in lines 192-195 page 8 otherwise it is like they are just speculating without concrete evidence	



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	b) the research goal is trying to address the problem of soil infertility which is the main root cause of low crop production according to their justification. If really Biochar has improved soil infertility, then data after end of seasons need to be included to validate the claims • In table 1, C/N ratio looks to be too high in soil and biochar, research has shown that with high C/N ratio there is reduced or little or no mineralization taking place due to nutrient immobilization by microbes as result of very low available N. This may need to be verified by the author(s) otherwise then it contradicts their claims in page 2, line 61. This may also have a negative impact on soil microbes. • Table 1, page 4, the CEC of 8 mol kg⁻¹ is too much and overestimated for a loam sandy rich in kaolinite, Iron and Al hydro/oxides. Also the amounts of Ca and Mg are too high and author(s) should consider to revise their values otherwise the statistics do not make sense • In the same table 1, the sum of the total exchangeable cations is exceeding CEC and author(s) need to verify or crosscheck their data possibly they were analytical errors during analysis or calculations. I am not sure. • In materials and methods, author(s) have mentioned that they did their experiments in pots and field trials, in the results or tables it is not specified which results are for pot experiments and which results are for field trials. They need to specify. • In tables 2-4, data presentation is not very clear and somehow difficult to understand especially for maize varieties. According to materials and methods, possibly the data is referring to collected data from plots applied with NPK fertilizer. I think they need to specify in the column otherwise its miss leading. The other way is to include in the biochar treatments as another control representing chemical fertilizer. • In tables 2-4, author(s) need also to include data means or averages for 2010 and 2011 to compare the results across the seasons • The author(s) need to express their data as grain weight (kg ha⁻¹) that's a good way to do it and easy to figure out by the reader. Conclusion • Since experiment was a fertilizer trial, it is important to include recommended rates of biochar that significantly improve soil fertility and give optimum maize yield production • They need to consider mentioning a concluding sentence about soil fertility improvement due to biochar application	
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	References - The references in text are given by number representation. However, the references in reference section are not numbered to reflect numbers in text. Author(s) need to revise this. Grammar and spellings - The author(s) need to revise their grammar and spellings in the manuscript. For instance line 42 it is written bellow instead of below and line - They should also consider revising the agreement between the subject noun and verb.	
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		

Reviewer Details:

Name:	Anonymous
Department, University & Country	Ehime University, Japan