



SDI Review Form 1.6

PART 1:

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2013_AJEA_4412
Title of the Manuscript:	COMPARATIVE EVALUATION OF NEEM LEAF (<i>Azardirachta indica</i> L), WOOD ASH AND MODIFIED NEEM LEAF EXTRACTS ON THE SOIL CHEMICAL COMPOSITION, GROWTH AND YIELD OF PLANTAIN (<i>Musa sapientun</i> L)
Type of the Article	Research paper

General guideline for Peer Review process is available in this link:

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

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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)
<u>Compulsory</u> REVISION comments	Abstract L 28-29: Was the fertilizer analysis on N:P:K or N:P₂O₅:K₂O? Most accepted way is N:P₂O₅:K₂O. Please recheck and if correct rewrite it as "N:P₂O₅:K₂O fertilizer 15:15:15" instead of "NPK 15- 15 fertilizer". Write as N:P₂O₅:K₂O throughout the manuscript. L 45: Correct "NPK 15- 15 fertilizer" Introduction L 67: led to decline in soil fertility Agboola (1982). Rewrite as ".....led to decline in soil fertility (Agboola, 1982)". L 72-73:..... continuous use. (Moyin-Jesu 2007). Rewrite as "...continuous use (Moyin-Jesu, 2007)." L 77: materials affected their adoption by farmers. (Moyin-Jesu and Atoyosoye 2002) Rewrite as ".....materials affected their adoption by farmers (Moyin-Jesu and	ANSWERS TO REVIEWER 2 COMMENTS <u>Abstract</u> - Lines 28-29: The most acceptable way of writing this is "NPK 15-15-15 fertilizer. This is because during calculation, the P₂O₅ and K₂O had been converted to %P and %K. P₂O₅x0.44 = %P while K₂O x 0.83 = %K. - I preferred writing it as "NPK 15-15-15" - Line 45: Correction had been corrected. <u>Introduction</u> Line 67: This had been effected in the manuscript. Lines 72-73: The correction had been effected. Line 77: This had been corrected in the manuscript. - Information on production, productivity and consumption trend of plantain had been in the revised manuscript.



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	Atoyosoye 2002). Please provide information on production, productivity and consumption trends of plantain in your country/region in the Introduction part. I am missed out on the information-what is the need for the use of extracts? Why can't one simply go about using wood ash and neem leaf or their combinations in spite of their extract??? Materials and Methods L: 93-94: The two field experiments were simultaenously carried out at Akure in the rainforest zone of Nigeria between 2006 and 2009 to validate the results. Correct the spelling of "simultaenously" to "simultaneously" Which were the two field experiments? I see only one experiment carried out in two years. If the authors conducted same experiments on two different years then how that can be simultaneous?? Please rewrite the sentence for clarity.	- The essence of using the extracts is to reduce bulkiness of the materials and for quick assimilation of nutrients by plants in solution form unlike the solid forms which must first decompose before being taken up by plants. <u>Materials and Methods</u> Line 93-94: This had been properly re-written in the revised manuscript.
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	L 95-96: oxic paleustalf (Alfisol). Soil Survey staff (1999). Rewrite as “....oxic paleustalf (Alfisol) (Soil Survey staff, 1999).” Please use punctuations properly. Period should come after you cite the authors and not before the author names or opening of parenthesis. Change this throughout the manuscript. L 123-124: Nigeria Institute for Agricultural Research Ibadan. Rewrite as “ Nigeria Institute for Agricultural Research, Ibadan.” L 129-130: The solution was stored every three days to allow proper leaching of the nutrients in the leaves into the water until the..... This statement is confusing and not clear. Please rewrite. L 143: Authors wrote that-Modified neem leaf extract was prepared by taking 50% of concentrated neem leaf extract and 50% of concentrated solution of wood ash extract, mixed together thoroughly, diluted at a ratio of 1:1 with water and applied at 3 L/ plot. However, the Table 2 on chemical composition speaks different story. When neam leaf extract	Line 95-96: Correction had been effected. Line 123-124: Correction had been effected. Line 129-130: The solution was “stirred” and not stored as written in the revised manuscript. Line 143: The percentage of the solution used is 50% of the volume of each extract and not the concentration of the extract. Neem leaf + wood ash extract is prepared at a ratio 1:1. The quantity taken from the entire extract of the neem leaf and wood ash had been used to determine the amount of N,P,K, Ca and Mg as stated in Tables 1 and 2 nutrient/kg in Table 2. - The amount of these nutrients in the
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	and wood ash were mixed the nutrient content of the product increased than that of the individual materials used in their formulation. How this is possible? Neem leaf extract N content is 3.56%. Wood ash N content is 0.15%. When we mix two of them, N content should have been between 0.15 and 3.56% and not additive as 3.69%. Why and how this can happen? Do authors have any explanation?? L 182: Analyzed for soil pH, O.M, N, P, K, Ca and Mg as described earlier..... What is this O.M??Write in full when using abbreviations at first instance. Use always “O” instead of “0”. Please change this throughout the manuscript. L 186: If the authors have conducted trials on two years why to go for simple one way ANOVA? In that case ‘Year’ is also a factor and yearly variability has to be accounted. Results L 192: The title of the table reads like this-Table 1: Soil properties before planting cabbage. I am wondering from where the cabbage sneaks in as authors are experimenting with plantain..... L 193-194: According to the established critical	two mixed extracts were the products of their amount and not as suggested by the reviewer. - N content can not be between 0.15 and 3.50% because it is the combination of the nutrient (N) in the extract. Hence, the 3.69 is justified. - Line 182: “O.M” is “Organic Matter” and had been corrected. - Line 186: This had been corrected as suggested by the first reviewer. - Line 192: The title is now “soil properties before planting plantain” and not cabbage. It was a serious mix up. pH is 5.80 and not pH 5.70.. -
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	levels for soils in South West Nigeria, the soil is acidic pH 5.70..... However in table 1 the pH of the soil is shown as 5.80.... L 205-206: Table 2 presents the data on chemical composition of the treatments used for the.....Rewrite as "Table 2 presents the data on chemical composition of the extracts used for the.... L 234: length of fruit fingers nd population by 29.7%,..... Rewrite this part. What is leaf population?? Is it leaf number??	Line 205-206: This correction had been effected. - Line 234: This had been corrected. Leaf population is the same thing as "leaf number". <u>Calculation for Table 2</u> Table 2: To get kg/nutrient supplied by neem leaf extract for neem leaf extract N: 3.56% i. The conc is N = 3.56% ii. To convert % to mg/L = 10000 $3.56 \times 10,000 = 35,600\text{L}$ iii. Amount of concentration per hectare. 833.3L/ha $= 35,600\text{mg/L} \times 833.3$ <u>Extraction factor</u> iv. 10kg of the neem leaf was extracted with 50 litres of water, the extraction factor (E.F) $= 50 \text{ litres}$ $= \frac{10\text{kg}}{5.0}$ <u>Dilution factor</u>
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		v. 50 litres of neem leaf (V_1) was diluted with 50 litres with water (V_2) $= \frac{V_2}{V_1} = \frac{50}{50} = 1$ vi. Concentration of neem leaf = $35,600 \times 833.3 \times 5.0 \times 1$ $= 148327400 \text{mg/ha}$ vii. To convert the mg/ha to kg/ha= $\frac{148327400}{1,000,000} = 148.327 \text{kg/ha}$ - The same trend of the calculation is done for P, K, Ca, Mg for all the extracts. <u>Concentration</u> 300kg of NPK 15-15-15 was applied per hectare 1. $N = \frac{15\%}{100} \times 300 \text{ kg/ha}$ $= 45 \text{kg/ha N}$ 2. $P = \frac{15\%}{100} \times 300 \text{ kg/ha}$ $= 45 \text{kg/ha P}$ 3. $K = \frac{15\%}{100} \times 300 \text{ kg/ha}$ $= 45 \text{kg/ha K}$ iv. The Ca and Mg contents are in traces (small quantities). The fillers used to prepare the fertilizer (NPK 15-15-15) by the manufacturer
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		NAFCON fertilizer factory Onne Port Harcourt River State. v. The Ca and Mg contents are 0.2 and 0.1Kg (source NAFCON fertilizer factor Onne, River State, Nigeria)
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments	There are not many papers on plantain published. Work is innovative but results are poorly presented. It would be better for the authors to rewrite the paper carefully considering deficiencies of the current version.	