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Journal Name:	Asian Journal of Chemical Sciences
Manuscript Number:	Ms_AJOCS_34401
Title of the Manuscript:	Organochlorine pesticide residue levels and potential human health risks in kolanuts from selected markets in Osun state, Southwestern Nigeria
Type of the Article	Original Research Paper

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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.

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SDI Review Form 1.6

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)
<u>Compulsory</u> REVISION comments	The authors attempted to determine OCPs residual levels in kolanuts from selected markets in Osun State, Southern Nigeria, aimed at assessing potential health risk associated with the consumption of the nuts. Although the Results and Discussion section was well written, I have some reservation on a number of issues concerning the article especially on the quality control/assurance. How did authors ascertain the accuracy and precision of the analytical data without the use of procedural blank and triplicate determinations? Thus, relative standard deviations were not calculated as well as determination of limit of detection and limit of quantification. The interpretation of PCA data appears spurious and unacceptable. Percentage variance values for PCI and PCII were not provided. Specific comments are presented below. ABSTRACT 1 I have recast the first four lines to read Organochlorine pesticide (OCP) residue were qualitatively and quantitatively determined using gas chromatography- electron capture detector (GC-ECD) and their potential health risks assessed in kolanut (<i>Cola nitida</i>) samples----- 2. Line 9-10. --- were the dominant isomers----(Please insert a comma before respectively). 3. Line 10-11. What are the significance of PCA on this	This was done but was inadvertently left out in our final report. It has now been included as Subsection 2.5.1, 2.5.2 and 2.5.3. We felt that the Standard Error (SE) will be more appropriate than Standard Deviation (SD). Nonetheless, the SE values have now been replaced by SD values in Table 2. The interpretation of PCA has been discussed as appropriate and the percentage variance values now included in Table 4. We believe this will be clearer now. 1. Correction now effected in the text 2. Correction now effected in the text 3. We want to see which of the pesticide



SDI Review Form 1.6

	work and the % contributions of each principal component? 4. Pesticide residues (Insert levels after residue) detected---- (Please define MRL first)--- exceeded the MRL except for Y-HCH and α -Endosulfan which exceeded by 60% and 24% respectively (how? not clear, please recast). 5. Line 15. ----- HI values of (should be for) 6. Line 15- 16 -- suggesting a great (delete great) potential for chronic toxicity to the regular consumers of kolanu ts obtainable in (obtained from)--- 7. The result of estimated daily intake was not presented. INTRODUCTION 1. P1, Line 12. Remove italics on caffeine, ---- 2. P2, line 34- In Nigeria (insert a comma between Nigeria and several) 3. P2, line 36. Other food crops produce [26,27,28,29,30,31], on cocoa [32] and on kolanut [33] as well as seafood products (As an additional information you can also cite Oyo-lta et al., 2014- Organochlorine pesticides in sediment-dwelling animals in mangrove area of the Calabar River, S E. Nigeria. <i>Environment & Pollution</i> 3(4), 76-82. 4. P2, line 39- For instance, A (should be a lower case), --- residues level (should be levels) 5. P3, line 42. --- to monitor---(What duration did the authors carry out the monitoring exercise?) MATERIALS AND METHODS 1. P3, line 62. ---stored in a refrigerator at 4⁰C (4⁰C is not sufficient for preservation of samples) 2. 2.2 Extraction of----- (should just read Extraction) 3. P3, line 74. (5 hr. is not sufficient for effective extraction using Soxhlet method)	compounds that are of primary importance in the determination of OCP in kolanut samples. The % contributions of each principal component are indicated in Table 4. 4. Sentence now recast. 5. 'of' now changed to 'for' 6. 'great' now deleted. 7. The results of the HIs now included. 1. Correction effected. 2. Correction effected 3. Reference now included. 4. Corrections effected 5.--to monitor--now expunged 1. The storage was not for a protracted period of time; sometimes, it was done for a night and none was done for more than 72 hours. So, we did not expect significant changes moreso that
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	4. P3, line 76. ----using distillation kit---(This is not right-do you mean vacuum evaporator?) 5. P4, line 80. 2.3 Just Clean up will suffice 6. P4, line 92. ----- reconstituted extract (I prefer ---reconstituted fraction) 7. P4, line 91-120. 2.4 Qualitative identification and quantitative evaluation of the OCPs (Just Instrumental Analysis will suffice). (Oven temperature program was not mentioned, What quantification method did authors use in the determination of OCPs?, Was triplicate determinations carried out and what were the relative standard deviation range?, limit of detection (LOD) and limit of quantification (LOQ) were not given) 8. P6, line 139. Sometimes EADI, other times EDI.	OCPs are known to be relatively recalcitrant in environmental matrices. Of course, that is one reason they remain for a long time in kolanut stored at ambient temperatures of 25-28 °C by the retailers which is far above the 4 °C storage here for the purpose of short period preservation before extraction. 2. Correction effected. 3. The average period of 5 hours was arrived at as a result of initial optimization steps of three samples at intervals of 3¹/₂, 4¹/₂ and 5 hours. Actually the difference in the amount of OCPs extracted from the kolanut at 4¹/₂ and 5 hours was not significantly different from each other. Thus, all extractions were carried out for 5 or a little more on the average. 4. Thank you for this observation. Rotary evaporator was used to distill off the solvent at about 41 °C 5. Suggestion effected. 6. Suggestion effected. 7. Thank you. This has been updated under section 2.4 Quantification was based on external calibration curves prepared from the standard solutions of each of the OCPs The limit of detection (LOD) was computed and is included in Table 1, but limit of quantification was not determined. 8. EDI now changed to EADI
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SDI Review Form 1.6

	Please be consistent. RESULTS AND DISCUSSION 1. P6, line 159- The mean residual concentration (should be concentrations) 2. The HCH isomers (α, β, γ-HCH) detected have also been reported in animal products [45] (Again authors should cite here the reference indicated above ie, Oyo-Ita et al., 2014). 3. P8, line 177-180. ---high volatility---(should be ---relatively high volatility---). ---[46] thus----(there should be a comma between [46] and thus; Indicate the % composition of α-HCH isomer in technical grade HCH and lindane for the assertion to be justified. Is lindane 100% made up of γ-HCH?) 4. P9, line 189-191. ----products in Nigeria [30,31] (Again cite Oyo-Ita et al, 2014, Authors sometimes use average and other times mean, please be consistent, also correct punctuations in sentences below). 5. P9, line 213-214. The <i>p,p</i>-DDE and α -HCH was--- (correct was to were—and --- isomer to isomers) 6. P10, line 233-235, What is the implication of the high PCA value of 92 for <i>p,p</i>-DDE?. I do not appreciate the interpretation of PCA result in this study. As far as I know, only <i>p,p</i> DDE (0.92) and α-HCH (0.83) loaded heavily in PCI and PCII, respectively and these values do not represent % contribution. Other OCPs did not load at all. 7. P12, line 263. ----Hazard Indices (HI, should be ----HIs) 8. P13, line 273-274. ----dieldrin when compared with the PCA analysis supported the contribution of the insecticide to the overall OCPs in kolanut samples	1. Correction now effected. 2. Reference cited. 3. Correction now effected and statement on % composition of technical grade α-HCH isomer--expunged 4. Correction effected and literature cited. 5. Corrections now effected. 6. The statement has been modified and the explanation incorporated into the text. The eigen vectors in Table 4 now changed to two decimal places with the addition of value(%) cumulative proportion 7.' HI' now changed to 'HIs' 8. This has also been discussed properly in the text.
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SDI Review Form 1.6

	(dieltrin did not load heavily on either PCI or PCII as revealed by PCA data presented in Table 4. Significant loading usually exceed or equal to 0.7000).	
<u>Minor</u> REVISION comments	The article has a number of English language issues especially the aspect of punctuations. I recommend that authors should give an English language expert to proof-read the article before resubmission.	
<u>Optional/General</u> comments		