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Journal Name:	European Journal of Nutrition & Food Safety
Manuscript Number:	Ms_EJNFS_116403
Title of the Manuscript:	Quality and Risk Assessment for Public Health of Polycyclic Aromatic Hydrocarbons in Crude Palm Oil Locally Produced from South-South zone, 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:

(<https://www.journalejns.com/index.php/EJNFS/editorial-policy>)

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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)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> Is the manuscript important for scientific community? (Please write few sentences on this manuscript) Is the title of the article suitable? (If not please suggest an alternative title) Is the abstract of the article comprehensive? Are subsections and structure of the manuscript appropriate? Do you think the manuscript is scientifically correct? Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<ol style="list-style-type: none"> Yes, the manuscript could be important for the scientific community for a few reasons: <ul style="list-style-type: none"> Public health concern: It investigates the presence of polycyclic aromatic hydrocarbons (PAHs) in crude palm oil, a common food source, and assesses the potential health risks for consumers. Focus on under-researched area: The focus on CPO from a specific region (South-South zone, Nigeria) with traditional processing methods adds to the understanding of PAH contamination in CPO, which might be different from other regions. <p>Comparison to standards: It compares the quality of CPO to national and international standards, highlighting potential areas for improvement.</p> The title of the article, "Quality and Risk Assessment for Public Health of Polycyclic Aromatic Hydrocarbons in Crude Palm Oil Locally Produced from South-South zone, Nigeria", is a bit long but informative. Here's how it can be improved: Suitable aspects: <ul style="list-style-type: none"> Clearly states the topic: CPO quality and PAH risk assessment. Mentions the geographic area: South-South zone, Nigeria. Identifies the health concern: Public health. Areas for improvement: <ul style="list-style-type: none"> Long and can be more concise. Here are some suggestions for shorter and clearer titles: <ul style="list-style-type: none"> PAH Contamination and Quality of Locally Produced Crude Palm Oil in South-South Nigeria Public Health Risks of PAHs in Nigerian Crude Palm Oil Assessing PAH Risk in South-South Nigerian Palm Oil The abstract is mostly comprehensive, but it could be improved in a few ways to provide a clearer picture of the research: Strengths: <ul style="list-style-type: none"> Covers the background, objectives, methods, and key findings. Mentions the specific quality parameters measured and their deviations from standards. Briefly touches upon PAH origin and risk assessment approaches. Areas for improvement: <ul style="list-style-type: none"> Focus on Significance: While it mentions potential health concerns, it could be strengthened by highlighting the novelty or importance of the findings regarding PAH contamination or risk assessment in CPO. Clarity on PAH Levels: It mentions PAH levels were found but doesn't specify if the concentrations were high or concerning compared to standards. Conciseness: The abstract could be slightly shorter by removing redundancy (e.g., mentioning "fatty acid composition" twice in the background). The structure of your manuscript is largely appropriate for a research article focused on assessing the quality and risk of crude palm oil (CPO) contaminated with polycyclic aromatic hydrocarbons (PAHs) in Nigeria. However, there are a few adjustments and additional elements you might consider enhancing clarity and flow: <ol style="list-style-type: none"> Title: The title is specific and clearly indicates the focus of the research. It might be beneficial to clarify whether the risk assessment pertains to human health directly in the title. 	

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	<p>b. Abstract: Comprehensive but could benefit from a brief mention of the key findings and implications to immediately draw in the reader's interest regarding the impact of your research.</p> <p>c. Introduction:</p> <ul style="list-style-type: none">▪ This section adequately sets up the background and the significance of the research.▪ You might consider a more explicit statement of the research gap your study addresses, particularly focusing on the specific need for this study in the South-South zone of Nigeria. <p>d. Materials and Methods:</p> <ul style="list-style-type: none">▪ The detail here is thorough, which is excellent for reproducibility. However, ensure this section is not overly dense that it becomes difficult to follow. Consider using subheadings such as "Sample Collection", "Chemical Analysis", "Data Analysis" to organize the content.▪ Include any ethical considerations or approvals if applicable, especially if your study involves direct human subjects or samples from human-related sources. <p>e. Results and Discussion:</p> <ul style="list-style-type: none">▪ Consider breaking this into two separate sections. First, present your findings under "Results" using subheadings for clarity, such as "Physicochemical Properties", "PAH Concentration", and "Source Identification".▪ Then, critically analyze these results in the "Discussion" section, comparing with previous literature, discussing the implications of your findings, and any unexpected aspects or limitations of your study. <p>f. Risk Assessment: This appears to be a key component of your study but is embedded within the Results and Discussion. It may deserve its own section to highlight its importance and detail the implications of your findings regarding public health.</p> <p>g. Conclusion: This section should succinctly summarize the key findings, their implications, and suggest practical recommendations or future research directions based on your study.</p> <p>h. References: Ensure that all citations are correct and complete, and consider the formatting style typical for your field (e.g., APA, Chicago, etc.).</p> <p>i. Figures and Tables: Make sure all figures and tables are referred to in the text and properly labeled and captioned. Ensure that they are readable and effectively contribute to understanding the research findings.</p> <p>j. Appendices or Supplementary Material (if applicable): If your paper has supplementary data or detailed methodological descriptions that are too lengthy for the main text, consider adding an appendix or supplementary material section.</p> <p>Overall, the structure is well-organized, but emphasizing the separation of results and discussion and potentially adding a specific section for risk assessment could further strengthen the manuscript.</p> <p>5. The manuscript appears to be well-researched and contains detailed analyses, methodologies, and results concerning the quality assessment and health risk evaluation of crude palm oil (CPO) from the South-South zone of Nigeria, particularly in terms of contamination with polycyclic aromatic hydrocarbons (PAHs). The structure of the manuscript adheres to typical academic standards for original research articles, providing a comprehensive look at the study objectives, methods, results, and conclusions.</p> <p>However, to fully evaluate the scientific accuracy and validity, several points would need closer scrutiny:</p> <ul style="list-style-type: none">a. Methodology: The procedures for sampling, PAH extraction, and analysis using GC-MS and other methodologies are clearly detailed, which is excellent for reproducibility. It's crucial to ensure that all these methodologies are standard or have been validated in other studies.b. Data Interpretation: The manuscript seems to provide a thorough analysis of the data. The	
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	<p>interpretation of PAH sources, risk characterization, and exposure assessment should be grounded in solid data and aligned with the latest research in the field. The use of molecular diagnostic ratios (MDRs) for source apportionment and lifetime cancer risk (LCR) assessments are standard practices and appear to be applied correctly.</p> <p>c. Statistical Analysis: The paper mentions using appropriate statistical tests, such as Kruskal-Wallis ANOVA and the Beauvais-Pearson test, to analyze the data, which is suitable for the types of data presented. It is essential that these tests are appropriately applied and interpreted.</p> <p>d. Comparative Standards: The study compares the results against international standards such as those from Codex Alimentarius and NAFDAC/SON, which is crucial for assessing compliance and risk. Ensure that these comparisons are up-to-date and accurately reflect current guidelines.</p> <p>e. References and Literature Review: The manuscript should reference current and relevant studies and ensure that it adequately discusses how this study fits within the broader research landscape. This includes comparing findings with other similar studies and discussing any discrepancies.</p> <p>f. Limitations and Bias: A thorough scientific manuscript should clearly state any limitations or potential biases in the study. This could include sampling biases, limitations of the analytical methods, or assumptions made during risk assessments.</p> <p>g. Ethical Considerations: If applicable, ethical considerations, especially concerning environmental impact and public health implications, should be clearly addressed and approved by an appropriate body.</p> <p>Overall, assuming that the methodologies are applied correctly and the data interpretation is accurate, the manuscript appears to be scientifically solid.</p> <p>6. In analyzing the distribution of references by publication year for the provided document, the references fall into three main periods: 2020-2024, 2015-2019, and before 2014. Out of a total of 65 references, 13 (20%) are from 2020 to 2024, 20 (30.77%) are from 2015 to 2019, and 32 (49.23%) are from before 2014. To ensure the research is aligned with the most current findings, it is recommended to prioritize sources from 2020 to 2024. These more recent references are likely to provide the most up-to-date insights, particularly relevant in the fields of palm oil research and the analysis of polycyclic aromatic hydrocarbons (PAHs). Focusing on the most recent references enhances the relevance and robustness of the research, supporting arguments with the latest data and developments in the field.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>The language and presentation style of the article are mostly appropriate for scholarly communication, with a structured format that includes clear sections for the introduction, methods, results, and discussion. The use of technical terms and specific data is consistent with academic writing in the field of environmental science and toxicology.</p>	
<p>Optional/General comments</p>		

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PART 2:

	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>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Sukarman
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