

Review Form 3

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| Journal Name: | European Journal of Nutrition & Food Safety |
| Manuscript Number: | Ms_EJNFS_130368 |
| Title of the Manuscript: | Process Optimization for Development of Extruded Product from Brown Rice-Amaranth-Moringa Seed Powder Blend |
| Type of the Article | Research article |

General guidelines for the 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 guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Comments

| | Reviewer's comment | Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
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| Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part. | The manuscript contributes to the scientific community by exploring the development of an extruded snack using underutilized, nutritionally rich ingredients such as germinated amaranth and moringa seed powder. This is a relevant topic, considering the growing interest in functional foods and sustainable food sources. The use of these ingredients may offer potential health benefits, and the study's focus on optimizing physical properties provides a foundation for further product development. However, broader evaluations such as sensory testing, cost analysis, and scalability would enhance the manuscript's impact and practical relevance. | Noted |
| Is the title of the article suitable? (If not please suggest an alternative title) | The current title does not fully reflect the scope of the study. | Revised |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The abstract is moderately comprehensive but lacks crucial details on the broader implications and limitations of the study | Ok revised |
| Is the manuscript scientifically, correct? Please write here. | While the manuscript is largely scientifically correct, it has notable gaps in addressing critical aspects such as sensory evaluation, long-term stability, and ingredient interactions during extrusion. These omissions weaken the scientific robustness of the study. | Noted |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. | The references appear insufficient | Ok revised |

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| Is the language/English quality of the article suitable for scholarly communications? | no | |
| Optional/General comments | <p>While the manuscript addresses an interesting area of research on the development of extruded snacks using brown rice, germinated amaranth, and moringa seed powder, several limitations weaken its scientific rigor and practical relevance.</p> <ol style="list-style-type: none">Ingredient Selection: The study limits itself to a specific combination of ingredients without exploring alternative formulations. This narrow scope reduces the broader applicability of the findings.Insufficient Parameters: The optimization process considers only physical properties (bulk density, expansion ratio, and hardness), ignoring critical factors like nutritional composition, sensory attributes, and shelf life, which are equally important for product acceptability and market potential.Restricted Experimental Conditions: The barrel temperature range (100–140°C) is too narrow to fully understand the impact of processing conditions on product characteristics. Expanding this range could yield more comprehensive results.Lack of Sensory Evaluation: Without consumer acceptance testing or sensory analysis, the palatability and marketability of the product remain unclear.Economic Feasibility: The manuscript does not address the cost implications of using germinated amaranth and moringa seed powder, which could pose challenges for commercial-scale production.Scalability: There is no discussion on scaling up the optimized process, which is essential for translating laboratory findings into industrial applications.Comparative Analysis: The lack of comparison with existing commercial products limits the practical relevance and impact of the developed snack.Overreliance on Statistical Models: The use of Response Surface Methodology (RSM), while useful, appears to overfit the specific experimental conditions, potentially compromising its utility under different circumstances or ingredient variations.Ingredient Interactions: The study does not explore interactions among the ingredients during extrusion, which could provide insights into improving formulations or understanding the mechanisms driving product characteristics.Long-Term Stability: The manuscript omits shelf life or stability testing, a critical component for the commercial viability of food products. <p>Overall, the study lacks comprehensive evaluation in areas critical for scientific contribution and industrial relevance, including sensory analysis, cost-effectiveness, scalability, and long-term product stability. These shortcomings significantly limit its potential impact. I recommend the authors address these fundamental gaps and revise their approach for resubmission.</p> | |

PART 2:

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