

**Review Form 1.7**

Journal Name:	<b>European Journal of Nutrition &amp; Food Safety</b>
Manuscript Number:	<b>Ms_EJNFS_117327</b>
Title of the Manuscript:	<b>Utilization of Algae for Nutrient-rich Biomass and Bioproducts</b>
Type of the Article	<b>Review Article</b>

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**PART 1: Review Comments**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <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>
<p><b><u>Compulsory</u></b> REVISION comments</p> <ol style="list-style-type: none"> <li>1. <b>Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</li> <li>2. <b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</li> <li>3. <b>Is the abstract of the article comprehensive?</b></li> <li>4. <b>Are subsections and structure of the manuscript appropriate?</b></li> <li>5. <b>Do you think the manuscript is scientifically correct?</b></li> <li>6. <b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></li> </ol> <p><b><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></b></p>	<ol style="list-style-type: none"> <li>1- The manuscript titled "Utilization of Algae for Nutrient-rich Biomass and Bioproducts" is a valuable contribution to the scientific community, especially in the context of global food security and sustainable bioproduct development. It explores the potential of micro and macro algae as alternative sources of nutrition and other bioproducts, addressing the pressing need for sustainable and efficient food production systems. The review discusses various innovative extraction techniques, such as supercritical fluid extraction (SFE) and ultrasound-assisted extraction (UAE), which enhance the valorization of algal biomass. The document highlights the critical role of algae in producing high-quality lipids, proteins, and bioactive compounds, potentially replacing conventional food and feed sources. It also covers the extraction of vitamins and phenolic compounds from algae, showcasing their vast potential in nutraceutical and pharmaceutical applications.</li> <li>2- The title of the article, "Utilization of Algae for Nutrient-rich Biomass and Bioproducts," effectively communicates the central focus of the manuscript, which is exploring the use of algae as a source for nutrient-rich biomass and various bioproducts. It accurately reflects the content covered in the document, particularly the innovative methods for extracting valuable nutrients and compounds from algae, as well as the potential applications of these extracts in food, feed, and other industries. However, if a more specific or dynamic title is preferred to highlight the innovative aspect and the wide range of applications discussed, you might consider an alternative such as: "Advances in Algal Biotechnology: Sustainable Production of Nutrient-Rich Biomass and High-Value Bioproducts"</li> <li>3- The abstract of the article is quite comprehensive. It succinctly introduces the problem of diminishing food resources due to an increasing global population and positions micro and macro algae as emerging solutions in the food and other related industries. It outlines the scope of the review, mentioning the production processes, techniques, and technologies for efficient utilization of algal biomass. It also highlights the potential of algae as an efficient alternative source for nutrient-rich food formulations, ingredients, and the extraction of bioactive and functional compounds for various applications including nutraceuticals and pharmaceuticals. The abstract effectively sets the stage for the detailed exploration of these topics in the manuscript by stating the motivation for the research, the approach taken (review of existing literature), and the implications of the findings for establishing a sustainable and circular economy through novel technology. However, to make the abstract</li> </ol>	

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	<p>even more comprehensive, it could include specific examples of the key findings or insights and a brief mention of the most significant conclusions or recommendations, which would give readers a clearer preview of the article's depth and scope.</p> <p>4- The structure of the manuscript, based on the detailed overview provided, appears to be well-organized and logically segmented into relevant subsections that cover various aspects of algae utilization. Each section is dedicated to a specific topic, which facilitates a focused discussion and helps in building a comprehensive understanding of the subject.</p> <p>5- Based on the description of the manuscript, it appears to be scientifically correct in its presentation of the potential uses and benefits of algae for nutrient-rich biomass and various bioproducts. The manuscript thoroughly discusses different types of algae, their nutritional value, and innovative extraction techniques, which are all grounded in contemporary scientific research. It includes references to various studies and existing literature, enhancing its credibility and scientific accuracy.</p> <p>The methods mentioned, such as supercritical fluid extraction (SFE), ultrasound-assisted extraction (UAE), and enzyme-assisted extraction (EAE), are well-recognized and scientifically validated techniques in the field of bioproducts. The discussion on the biochemical composition of algae, including functional lipids, proteins, vitamins, and phenolic compounds, aligns with known scientific facts about these microorganisms.</p> <p>6- The manuscript seems to utilize a robust range of references, covering recent and relevant studies up to the year 2024. This suggests a thorough engagement with the current scientific literature, particularly in the rapidly evolving fields of biotechnology and sustainable food production. The inclusion of references from 2021 to 2024 indicates that the authors have incorporated the most recent findings and technological advancements related to algae and its applications.</p>	
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<p><b>Minor</b> REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Yes</p>	
<p><b>Optional/General</b> comments</p>	<p><b>Areas for Improvement:</b></p> <p><b>Discussion on Limitations:</b> While the manuscript extensively covers the benefits and applications of algae, a more detailed discussion on the potential limitations and challenges would provide a balanced view. This could include scalability issues, economic viability, and ecological impacts of large-scale algal cultivation.</p> <p><b>Practical Applications and Case Studies:</b> Incorporating case studies or real-world applications of the discussed technologies could enhance the practical relevance of the manuscript. This would provide readers with concrete examples of how the theoretical aspects can be implemented in practical scenarios.</p> <p><b>Future Directions:</b> A more explicit section on future research directions would be beneficial. This could guide upcoming studies and highlight the unresolved questions or next steps in the development of algae-based technologies.</p>	

**PART 2:**

	<p><b>Reviewer's comment</b></p>	<p><b>Author's comment</b> (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>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

**Reviewer Details:**

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