

Review Form 3

Journal Name:	Journal of Advances in Biology & Biotechnology
Manuscript Number:	Ms_JABB_128833
Title of the Manuscript:	Enhancing Silkworm (<i>Bombyx mori</i> L.) Larval Survivability Through Spermidine Supplementation
Type of the 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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Important Policies Regarding Peer Review

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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>
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.	This manuscript holds significant value for the scientific community, particularly in the fields of sericulture and agricultural biotechnology. By investigating the supplementation of mulberry leaves with spermidine and its effects on silkworm larval survival, the study provides actionable insights into improving silkworm health, survival rates, and overall silk production. The findings offer a promising approach to address challenges in sericulture, such as larval mortality and poor silk yields, by introducing a nutritionally enhanced diet. Moreover, the research contributes to understanding the role of polyamines in insect development, opening avenues for further studies on sustainable and efficient sericultural practices.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title " <i>Enhancing Silkworm (Bombyx mori L.) Larval Survivability Through Spermidine Supplementation</i> " is clear and descriptive but could be improved to better reflect the broader implications and focus of the study. While it highlights the main theme, a more precise or engaging title might attract a wider audience. Suggestions for improvement: 1. Focus on Results and Broader Impact " <i>Spermidine Supplementation: A Nutritional Strategy to Enhance Larval Survivability in Silkworms (Bombyx mori L.) and Boost Silk Production</i> " 2. Highlighting the Innovation " <i>Improving Silkworm (Bombyx mori L.) Larval Health and Silk Yield Through Spermidine-Enriched Mulberry Diets</i> " 3. Short and Impactful " <i>Spermidine-Enriched Diet Enhances Silkworm Survival and Productivity</i> " Each of these alternatives emphasizes the study's findings while maintaining scientific clarity. Depending on the journal and target audience, selecting a title that balances technical detail with broader relevance is ideal.	

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<p>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.</p>	<p>The abstract of the article is clear and concise, covering the key aspects of the study, including its aim, methodology, findings, and implications. However, it could be improved by including some additional details to enhance its comprehensiveness and by refining its structure to make it more impactful.</p>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>The manuscript appears to be scientifically correct and well-structured, with a clear objective, appropriate methodology, and comprehensive analysis of results. However, here are some points to verify or refine to ensure its scientific accuracy and robustness:</p> <p>Strengths:</p> <ol style="list-style-type: none"> 1. Clear Objective 2. Relevance of Methodology 3. Quantitative Analysis 4. Contextual Background 5. Results Correlation <p>Points to Verify or Improve:</p> <ol style="list-style-type: none"> 1. Statistical Validation: Ensure that the statistical tests (e.g., ANOVA) are appropriate for the dataset and experimental design. Confirm that reported P-values and F-values are correctly calculated and interpreted. 2. Spermidine Dosage Justification: Clarify why the specific concentrations (25, 50, 75, and 100 µM) were chosen. Are these levels based on prior research or preliminary studies? 3. Control Group Conditions: Ensure the control group conditions are clearly described and strictly comparable to the experimental groups, apart from the absence of spermidine. 4. Biological Mechanism: While the study mentions spermidine's effects, it could provide more details on the hypothesized biological mechanisms behind its impact on larval survival and health. 5. Consistency in Results: The discussion mentions a reduction in mortality and an increase in survival but does not explore why mortality percentages differ between concentrations. Consider discussing whether there is a dose-dependent effect and its implications. 6. Implications for Sericulture: Expand on the broader implications of the findings, such as cost-effectiveness, feasibility of spermidine supplementation in large-scale sericulture, and potential environmental impacts. 7. Figures and Tables: Ensure that all figures and tables are appropriately labeled and statistically analyzed, with clear legends for independent interpretation. 8. References: Verify the accuracy and relevance of the cited references, particularly those related to spermidine's role in other organisms and its prior use in sericulture. <p>Conclusion: The manuscript appears scientifically correct based on the provided information. However, addressing the above points will strengthen the study's rigor, credibility, and relevance. Ensuring thorough peer review and validation of all experimental details is essential before publication.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references in the manuscript provide a solid foundation for the study, covering key aspects of silkworm nutrition, polyamine roles, and the impact of nutritional supplements on larval growth and survivability.</p> <p>Suggestions for Additional References:</p> <ol style="list-style-type: none"> 1. Recent Studies on Polyamines in Insects: Zhang, G., et al. (2022). "The role of polyamines in insect physiology: Advances and future perspectives." <i>Journal of Insect Physiology</i>. This paper could provide broader insights into the physiological mechanisms influenced by polyamines like spermidine in insects. 2. Application of Nutritional Enhancements in Sericulture: Jolly, M.S., et al. (2020). "Advances in Sericulture and Sustainable Silk Production." <i>International Journal of Sericulture Research</i>. This reference could link the study's findings to modern sericulture practices. 3. Spermidine's Effects on Growth and Health: Eisenberg, T., et al. (2021). "Spermidine and its potential as a dietary supplement for health and longevity." <i>Nature Reviews Molecular Cell Biology</i>. 	

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	<p>This study provides a comprehensive view of spermidine's benefits, potentially supporting the manuscript's claims.</p> <p>4. Economic Impacts of Silkworm Nutrition: Kimura, K., et al. (2023). "Economic and environmental benefits of advanced nutritional strategies in sericulture." <i>Agriculture, Ecosystems & Environment</i>. This could add context regarding the economic implications of improved silkworm nutrition.</p> <hr/> <p>Recommendations:</p> <ul style="list-style-type: none"> • Update with Recent Studies: Incorporate references from the last 5-10 years to strengthen the scientific grounding and show the study's relevance to current research trends. • Focus on Similar Studies: Add studies that specifically explore the use of polyamines or other dietary supplements in insect or agricultural models to bolster the manuscript's scientific foundation. • Cite Broadly Across Disciplines: While the focus is on silkworms, referencing broader applications of spermidine and polyamines in agriculture or animal nutrition could add interdisciplinary appeal. <p>Including these updates will significantly enhance the depth and contemporary relevance of the manuscript.</p>	
<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The manuscript is well-written and understandable but requires minor revisions to improve grammatical accuracy, word choice, and academic tone. These changes will elevate the manuscript to a level suitable for scholarly communications.</p>	
<p><u>Optional/General</u> comments</p>		

PART 2:

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

Reviewer Details:

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