

Review Form 3

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_123782
Title of the Manuscript:	Effect of Aloe barbadensis miller (Aloe vera) gel on seed germination and early growth seedlings of Solanum lycopersicum (tomato) in the nursery.
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION 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>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>This research provides an insightful exploration of the application of Aloe vera gel as a natural biostimulant to enhance seed germination and early growth of tomato seedlings in nursery conditions. The study demonstrates how the use of Aloe vera gel can be an eco-friendly alternative to chemical inputs like mancozeb and fertilisers, providing a sustainable option for tomato cultivation, particularly in Côte d'Ivoire, where tomato yields are significantly below national demand.</p> <p>Key findings from the study highlight that seeds coated with Aloe vera gel had a much higher germination rate (90.53%) compared to seeds treated with mancozeb (80.52%) and control seeds (66.63%). The Aloe vera gel also accelerated seed germination, with seeds sprouting within 3 days compared to 4-5 days for the other treatments. The biostimulant properties of Aloe vera, which is rich in minerals and phytohormones, play a crucial role in this enhanced germination performance.</p> <p>In terms of seedling growth, both Aloe vera and NPK-fertilised substrates led to significantly better seedling height and leaf production compared to unfertilised substrates. This suggests that Aloe vera can substitute for traditional fertilisers without compromising plant health, and offers additional advantages by being less harmful to the environment.</p> <p>The study concludes that Aloe vera gel is not only a promising biostimulant for improving germination and seedling development but also holds the potential to reduce reliance on chemical inputs, which are often associated with environmental pollution and health risks.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The title is clear but could be more concise and engaging. Here are a few suggestions to improve the readability and clarity:</p> <ol style="list-style-type: none"> 1. Impact of Aloe Vera (Aloe barbadensis Miller) Gel on Seed Germination and Seedling Growth of Tomato (Solanum lycopersicum) in Nursery Conditions (OR) 2. Effects of Aloe Vera Gel on Tomato Seed Germination and Early Seedling Development in Nursery Conditions (OR) 3. Influence of Aloe Vera Gel on Germination and Early Growth of Tomato (Solanum lycopersicum) Seedlings in the Nursery <p>These alternatives highlight the key aspects of your study while improving the flow of the title.</p>	

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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>Your abstract provides a solid overview of the study, but there are a few areas where it can be improved for clarity and completeness. Here are some suggestions:</p> <p>Suggested Edits: Opening Sentence: The first sentence could be more concise, directly highlighting the problem or challenge. This sets the stage for the importance of your study.</p> <p>Suggestion: "Tomato (<i>Solanum lycopersicum</i> L.) nursery production often relies heavily on chemical inputs to ensure vigorous seedling growth, which may have environmental and economic drawbacks."</p> <p>Suggestion: "This study aimed to evaluate the efficacy of Aloe vera gel as a natural alternative to chemical treatments for improving germination and early seedling growth of Cobra 26 tomato seeds."</p> <p>Experimental Design: The design is clearly mentioned, but it can be more concise by summarizing the treatment groups and variables upfront before delving into the results.</p> <p>Suggestion: "The study used a factorial block design to compare the effects of seed treatments (Aloe vera gel coating, mancozeb, and untreated control) and substrate types (unfertilised topsoil, NPK-fertilised topsoil, and Aloe vera gel mixed with topsoil) on seed germination and seedling growth over three nursery cycles."</p> <p>Results Section: This section is well-detailed, but some of the details (like exact numbers) could be better summarized for an abstract. You can highlight the key trends instead of all values.</p> <p>Suggestion: "Seeds coated with Aloe vera gel demonstrated the highest germination rate (90.53%) and fastest germination time (3 days), outperforming both mancozeb-treated and control seeds in germination kinetics. Growth parameters such as seedling height and leaf number were significantly influenced by substrate type ($p < 0.03$), with no notable differences between NPK and Aloe vera-treated substrates."</p> <p>Conclusion: The conclusion could emphasize the broader impact or potential applications of using Aloe vera gel as a natural treatment, possibly replacing chemical inputs.</p> <p>Suggestion: "The study suggests that Aloe vera gel, both as a seed coating and soil additive, offers a promising, eco-friendly alternative to chemical treatments, enhancing seed germination and early seedling growth in tomatoes."</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>To assess whether the subsections and structure of your manuscript are appropriate</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>This manuscript is scientifically robust and technically sound as it follows a clear experimental design using a factorial block method, which allows for a thorough investigation of the effects of Aloe vera gel on seed germination and early seedling growth. The use of multiple treatments, including a natural treatment (Aloe vera gel), a chemical control (mancozeb), and a standard control, ensures a well-rounded comparison of results. The study also appropriately assesses key parameters such as germination rate, germination time, seedling height, and leaf number, which are critical indicators of plant health. Furthermore, the statistical analysis strengthens the validity of the findings by identifying significant differences and interactions among variables.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =</p>	<p>To determine if the references are sufficient and recent, it is essential to review the list in detail. Ideally, the references should include recent studies (within the last 5–10 years) on the use of Aloe vera gel in agriculture, seed germination, and nursery practices. If the references are outdated or there are gaps, particularly on the use of natural treatments for seed germination and comparisons with chemical treatments like mancozeb, newer sources should be added.</p>	

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	You could add references such as: 1. Recent research on Aloe vera gel's properties in agriculture and its effects on plant growth. 2. Studies comparing organic and chemical treatments in seed germination and seedling development. 3. Updated literature on sustainable nursery practices.	
<u>Minor</u> REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The language and structure of the provided article are clear and organized, making it suitable for scholarly communications.	
<u>Optional/General</u> comments		

PART 2:

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

Reviewer Details:

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