Review Form 1.7

Journal Name:	**Journal of Advances in Biology & Biotechnology**
Manuscript Number:	**Original Manuscript_JABB_117652**
Title of the Manuscript:	**Effects of different Plant Growth Regulators on seed germination, seedling growth and establishment of papaya (Carica papaya) Cv. Pusa Nanha**
Type of the Article	**Original Research Article**

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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)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	1. The manuscript is significant for the scientific community as it provides valuable insights into the influence of different plant growth regulators on the germination, growth and establishment of papaya (*Carica papaya*) seedlings of the Pusa Nanha variety. This study can help agronomists, horticulturists and researchers optimize the use of growth regulators to improve papaya production, promoting more sustainable agricultural practices and increasing efficiency in seedling propagation. 2. "Effects of growth regulators on germination, growth and establishment of papaya (*Carica papaya*) Cv. Pusa Nanha seedlings". This title maintains the essence of the original, but is more direct and easier to understand. 3. Consider the observations made in the "Comments." 4. Consider the observations made in the "Comments." 5. No, you need to make some revisions/changes. 6. Including recent studies on the use of GA3, NAA and IAA can strengthen the discussion. Searching for and including specific recent works on the germination and vigor of papaya seeds can enrich the literature review. Use of growth regulators in other tropical crops. Recent studies on papaya seed germination. Recent reviews on propagation techniques and optimization of the use of PGRs.	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	Reevaluate after requested corrections	
Optional/General comments	1. Although the structure is correct, much of the information is in the wrong topic, for example: "The present study on "Effect of Different Plant Growth Regulators on Germination of Seeds, Seedling Growth and Establishment of Papaya cv. Pusa Nanha was held during 2023-2024 in the experimental orchard of the Department of Horticulture, Naini Agricultural Institute, Sam University Higginbottom of Agriculture, Technology and Science, Prayagraj", should be in Material and Methods. 2. The description of the Experimental Design needs to be clearer. The current mention of "randomized block design" (RBD) is vague. To clarify the application of the randomized block design (RBD) in your experiment, it is important to understand that the "block" is an experimental unit that groups treatments in a way that minimizes variation within each block. This helps to isolate the effect of treatments and reduce experimental variation due to external factors. In the context of your experiment, the "block" would be used to group experimental units that are similar to each other, allowing for more accurate comparison of treatment effects. Here is a model of how you can explain this in the manuscript: The experiment was arranged in a randomized block design (RBD) with three	

	replications and ten treatments. Each treatment consisted of different concentrations of three growth regulators (GA3, NAA, IAA) and a control (zero dose). The treatments were: T0: Control (zero dose) T1: NAA 100 ppm … IAA 200 ppm. In the randomized block design (RBD), each "block" represents a repetition of the experiment, and each block contains all treatments. This means that within each block, all ten treatment combinations are applied. Randomization is performed within each block to ensure that each treatment is applied impartially and to minimize the effects of external variations. In this experiment, the block is the unit that groups the treatments, with each block being replicated three times to ensure the statistical validity of the results. 3. Statistical Analysis: => Material and Methods was very vague when it said only following the standard procedures of Panse and Sukhatme. It is necessary to make it clear that despite using the methodology of Panse and Sukhatme (1978), analysis of variance (ANOVA) must be carried out to determine the significance of differences between treatments. When appropriate, mean comparison tests (e.g., Tukey test) should be used to identify significant differences between treatments. Regression analysis should be performed to evaluate the relationship between PGRs concentrations and seedling growth parameters. Regression Analysis: • It allows the identification of linear or non-linear trends between the concentration of growth regulators and the response variables (germination, plant height, number of leaves, etc.); • It quantifies the effect of each growth regulator on the variables of interest, offering coefficients that can be interpreted in practical terms; • Predict expected results for concentrations intermediate or outside the tested range, providing a useful tool for future practical applications. For greater statistical clarity, ANOVA results complemented by a regression analysis reinforce the statistical significance of the observed differences, presenting a more complete picture of the data. => Results and Discussion: The results section needs to clearly demonstrate statistical differences between treatments and include a regression analysis.	

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?	*(If yes, Kindly please write down the ethical issues here in details)*	

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