## Review Form 3

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| Journal Name: | **International Journal of Plant & Soil Science** |
| Manuscript Number: | **Ms_IJPSS_126135** |
| Title of the Manuscript: | **Chitosan And Its Derivatives For Agriculture Applications: A Review** |
| Type of the Article | **Review Article** |

## Review Form 3

**PART 1: Review Comments**

| **Compulsory** REVISION comments | **Reviewer's comment** | **Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
|---|---|---|
| **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.** | | |
| **Is the title of the article suitable?**<br>**(If not please suggest an alternative title)** | | |
| **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.** | | |
| **Are subsections and structure of the manuscript appropriate?** | | |
| **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.** | | |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**<br>**-** | | |

## Review Form 3

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| Minor REVISION comments<br><br>**Is the language/English quality of the article suitable for scholarly communications?** | | |
| **Optional/General** comments | The manuscript reviews the properties, derivatives, and agricultural applications of chitosan, a biopolymer derived from chitin. It emphasizes chitosan's biocompatibility, biodegradability, and antimicrobial properties, making it a promising material for sustainable agriculture. Key applications include its use as a controlled-release fertilizer, plant biostimulant, soil amendment, antimicrobial agent, and in seed treatments. The manuscript also highlights the methods for chitosan preparation, its advantages over synthetic materials, and potential uses in reducing agricultural dependency on harmful chemicals.<br><br>**Comments:**<br><br>1. **Abstract:** The abstract could be more specific. Include examples of key applications like controlled-release fertilizers and antimicrobial properties.<br><br>2. **Introduction:** The introduction is broad. A stronger connection between sustainable agriculture and chitosan's role should be made to provide better context.<br><br>3. **Properties of Chitosan:** Condense the properties section for brevity. Repeated details (e.g., solubility in acids) could be minimized.<br><br>4. **Applications:**<br><br>o **Controlled-Release Fertilizers:** Include real-world data or examples of field trials to strengthen this section.<br><br>o **Antimicrobial Activity:** Compare chitosan's efficacy with conventional agricultural antimicrobials, offering practical insights.<br><br>o **Soil Amendments and Seed Treatments:** Include more practical examples or case studies demonstrating real-world benefits.<br><br>5. **Challenges and Limitations:** Expand on commercial challenges, including cost and scalability, especially in different agricultural applications.<br><br>6. **Conclusion:** Highlight future research directions and potential advancements to address current limitations of chitosan in agriculture.<br><br>7. **References:** Update with more recent studies (within the last five years) to reflect current research trends in chitosan applications. | |

## Review Form 3

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

**Reviewer Details:**

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|---|---|
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| Department, University & Country | **H. R. Patel Institute of Pharmaceutical Education and Research, India** |