

Review Form 3

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_126508
Title of the Manuscript:	“Marker Assisted Selection: A Novel Approach for Crop Improvement”
Type of the Article	Review Article

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>
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.	The manuscript presents a detailed and comprehensive discussion on marker-assisted selection (MAS) as a promising tool for crop improvement. This topic is significant for the scientific community due to its potential to expedite crop breeding programs, improve resistance to biotic and abiotic stresses, and enhance crop quality. The extensive review of the types of markers and methodologies makes it an essential resource for researchers and plant breeders. However, a more critical evaluation of recent advancements and challenges in MAS would enhance its relevance and completeness.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title is generally suitable as it concisely conveys the topic. However, for more specificity, it could be revised to: “Marker Assisted Selection for Crop Improvement: Techniques, Challenges, and Applications.”	
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.	The abstract effectively introduces MAS, its significance, and the markers involved. However, it would benefit from a brief mention of the primary challenges or limitations of MAS to provide a balanced overview. Including a sentence on recent applications or successful case studies could also enhance its impact.	
Are subsections and structure of the manuscript appropriate?	The manuscript's subsections are well-structured, covering definitions, types of markers, methodologies, applications, and benefits comprehensively. Yet, the section on limitations is less detailed compared to others. Adding subsections on specific challenges and strategies for overcoming them could improve the manuscript's balance.	
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.	The manuscript is scientifically robust, detailing both historical context and recent advances in MAS. The explanations of molecular markers and their use in plant breeding are accurate. The review also effectively explains MAS processes, including QTL mapping and gene pyramiding, supported by relevant references. However, the manuscript would be strengthened by discussing current technological innovations such as CRISPR integration with MAS.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references cited are sufficient and include key studies. Nonetheless, adding more recent publications (from the past 3–5 years) on breakthroughs in MAS technologies, such as CRISPR-aided selection and advances in bioinformatics tools for MAS, would improve the manuscript's relevance.	

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Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The manuscript's language is appropriate for scholarly communication. However, some sections could benefit from concise editing for clarity and readability, particularly those with complex sentence structures.	
Optional/General comments	<input type="checkbox"/> The manuscript would be more compelling with the inclusion of graphical representations, such as flowcharts or diagrams illustrating the MAS process or comparative tables summarizing the advantages and disadvantages of different molecular markers. <input type="checkbox"/> Consider integrating a brief discussion on the potential future of MAS, including AI-driven selection methods and integration with precision agriculture. Recommended: <ul style="list-style-type: none">• Major Revision is recommended due to the need for more in-depth discussion of recent advancements, limitations, and comprehensive evaluations of MAS, as well as a more critical assessment of emerging techniques like CRISPR-based methodologies and bioinformatics integration.• The manuscript is well-researched and structured, but it requires additional depth and clarity in certain sections and a balance in discussing both benefits and drawbacks.	

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:

Name:	Immanual Gilwax Prabhu
Department, University & Country	CSB-Central Tasar Research and Training Institute, India