Review Form 3

Journal Name:	**International Journal of Plant & Soil Science**
Manuscript Number:	**Ms_IJPSS_126488**
Title of the Manuscript:	**"Review on Modern Breeding and Biotechnological Techniques for Enhancing Breeding Potential of Legume Crops"**
Type of the Article	**Review**

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:

https://r1.reviewerhub.org/general-editorial-policy/

Important Policies Regarding Peer Review

Peer review Comments Approval Policy: https://r1.reviewerhub.org/peer-review-comments-approval-policy/
Benefits for Reviewers: https://r1.reviewerhub.org/benefits-for-reviewers

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.	The manuscript provides a comprehensive review of recent advancements in breeding and biotechnological techniques for legume crops, emphasizing the significance of legumes in global food security and sustainable agriculture. It is particularly valuable as it integrates genome-editing technologies, like CRISPR/Cas9, with traditional breeding methods, highlighting practical applications for enhancing crop resilience and productivity. This work contributes to the scientific community by detailing transformation challenges and recent successes in editing protocols, addressing crucial needs for food security.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	The title is suitable as it accurately reflects the manuscript's focus on both modern breeding and biotechnological techniques for legume crops. *However, to improve specificity, consider: "Review on Genome-Editing and Breeding Techniques to Enhance the Agricultural Potential of Legume Crops."*	
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 is well-organized and informative but could benefit from additional clarity regarding specific challenges and how each technology addresses them. For instance, it mentions challenges in legume transformation and regeneration but doesn't clearly state the relevance of each technology in overcoming these issues. A brief mention of the practical applications of these enhanced breeding potentials would enhance the abstract's relevance.*	
Are subsections and structure of the manuscript appropriate?	The manuscript is well-structured with appropriate subsections. Each section logically builds on the previous one, creating a coherent flow of information. *However, the section on "Editing Technologies" could be further divided into subsections focusing on specific technologies (e.g., CRISPR/Cas9, TALEN, ZFN) to improve readability*.	
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 sound and well-researched, utilizing recent advancements in legume genome editing and breeding practices. It thoroughly addresses both the advantages and limitations of various gene-editing techniques, demonstrating a balanced perspective. The technical discussions on tissue culture protocols and the specific challenges of legume transformation indicate a deep understanding of the subject. *However, adding quantitative data or specific case studies on the yield improvements achieved with these techniques would strengthen the manuscript's technical robustness.*	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	The references are generally recent and appropriate. *However, the authors could consider incorporating additional studies on recent advances in CRISPR and TALEN technology applications in legumes published within the last two years to ensure the review remains up-to-date.*	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	The language quality is generally good, though there are minor grammatical issues that need addressing, especially in the introduction and conclusion sections. *Additionally, technical terms such as "biolistic technologies" or "haploid embryo generation" should be briefly explained for clarity, considering a broader scientific audience.*	
Optional/General 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?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Debtosh Patra**
Department, University & Country	**MITS School of Biotechnology, Utkal University, India**