

### Review Form 3

Journal Name:	<a href="#">Journal of Advances in Biology &amp; Biotechnology</a>
Manuscript Number:	Ms_JABB_127939
Title of the Manuscript:	Integration of Genetic Resistance Mechanisms in Sustainable Crop Breeding Programs-A review
Type of the Article	Review Article

#### **PART 1: 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. A minimum of 3-4 sentences may be required for this part.	This manuscript is crucial for the scientific community as it provides a comprehensive overview of genetic resistance in crop breeding, highlighting the role of advanced technologies like CRISPR-Cas9 and multi-omics tools in developing resilient crops. It emphasizes the integration of genetic resistance with agroecological practices for sustainable food security. Additionally, it addresses the socioeconomic and regulatory challenges, offering valuable insights for policymakers and researchers aiming to promote the adoption of these innovative breeding technologies.	
Is the title of the article suitable? (If not please suggest an alternative title)	Yes	

**Review Form 3**

<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>The abstract of your article is comprehensive and well-structured, covering key aspects of genetic resistance in crop breeding, technological advancements, challenges, and potential solutions. However, there are a few suggestions to make it even more focused and impactful:  <b>Suggestions for Improvement:</b></p> <ol style="list-style-type: none"> <li><b>Clarification of Technological Details:</b> While the inclusion of CRISPR-Cas9 and multi-omics technologies is crucial, briefly mentioning specific examples of their application in crop resistance (e.g., a notable case study or crop species) could add depth to the discussion.</li> <li><b>Emphasize Potential Impact:</b> Consider adding a sentence that more explicitly highlights the potential impact of genetic resistance on global food security and climate resilience, aligning it with current global challenges.</li> <li><b>Address Breeding Methods:</b> While genetic resistance is discussed in depth, a brief mention of traditional breeding methods (e.g., marker-assisted selection) as complementary to modern technologies would provide a more holistic perspective.</li> <li><b>Consolidate Challenges:</b> Some challenges, such as pathogen virulence evolution and resistance breakdown, are mentioned multiple times. These could be combined or rephrased for conciseness to avoid redundancy.</li> <li><b>Socioeconomic Barriers:</b> The mention of public skepticism and regulatory challenges is important, but it might benefit from more specific examples or an indication of how these barriers could be addressed in the context of genetic resistance.</li> <li><b>Conclusion Enhancement:</b> The conclusion could be slightly more focused, perhaps by reiterating the primary solution (combining genetic and ecological approaches) and its global importance in ensuring long-term crop resilience.</li> </ol>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>Overall, the manuscript appears to be scientifically sound, and the concepts discussed are well-supported by current research in plant breeding and agricultural science. The integration of genetic, ecological, and socio-political perspectives is both timely and relevant. However, specific references to recent studies or examples could further strengthen the manuscript, but the scientific foundation is strong and accurate.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>Yes</p>	
<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Yes</p>	
<p><u>Optional/General</u> comments</p>		

**PART 2:**

	<p><b>Reviewer's comment</b></p>	<p><b>Author's comment</b> (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)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

**Reviewer Details:**

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