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REVIEWER'S REPORT

Manuscript No.: IJAR-56220

Title: CRISPR Cas for bringing desired traits in crops.,

Recommendation:
Accept as it is .....
Accept after **minor revision**.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		Good		
Techn. Quality		Good		
Clarity		Good		
Significance		Good		

Reviewer Name: Dr Thirunahari Ugandhar

Detailed Reviewer's Report

Abstract

The abstract emphasises the relevance of genome editing in modern agriculture.

It provides an effective summary of CRISPR/Cas technology, mechanism, applications, and problems.

Minor grammar changes and phrase rearrangement are necessary to improve clarity and readability.

Introduction

Provides an excellent foundation for traditional breeding approaches (cross breeding, mutation breeding, and transgenic breeding).

A well-structured comparison of ZFNs, TALENs, and CRISPR.

Some sentences are long and require grammatical improvement.

Technical Content

The mechanism of CRISPR/Cas9 is thoroughly presented, with appropriate phase-by-phase descriptions (Adaptation, Expression, and Interference).

Excellent description of the PAM, HNH, RuvC domains, NHEJ, and HDR pathways.

The inclusion of Cas12, Cas13, and Cas14 supports the review.

Some typographical problems and formatting discrepancies exist (spacing, gene names, reference style).

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Applications Section

Crop trait enhancement, knockout/knockin, base editing, antiviral methods, and mutant libraries are all covered in detail.

The tables are comprehensive and instructive, including rice, wheat, maize, soybeans, barley, and other crops.

Table references should be reviewed for consistency and modified to reflect current formatting.

Challenges

Off-target mutations, delivery techniques, HDR efficiency, restricted PAM sequences, commercialisation concerns, and fitness costs have all been extensively studied.

Discussion on better Cas variants and bioinformatics tools is encouraged.

Clarity might be improved with a more organised subheading arrangement.

Conclusion

Summarises the benefits of CRISPR/Cas above earlier technologies effectively.

Future views are provided, although they might be somewhat enlarged with a focus on regulatory regulations and ethical issues.

Overall Assessment

The manuscript is thorough and scientifically relevant.

Requires extensive language correction for grammar, phrase structure, and formatting.

Figures should be appropriately labelled and structured.