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REVIEWER'S REPORT

Manuscript No.: IJAR-52393 Date: 21-06-2025

Title: Screening and Application of Effective Agents for Controlling Sweet Potato Soft Rot Disease

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

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

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)
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Reviewer's Comment / Report

General Assessment

This manuscript addresses the pressing agricultural problem of sweet potato soft rot disease caused by *Rhizopus stolonifer*, with a focus on evaluating the efficacy of chemical fungicides, plant essential oils, and their combinations. The study is methodologically sound, data-rich, and contributes to the development of sustainable plant disease management practices, particularly within the context of green agriculture.

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Strengths

1. Timely and Relevant Research Topic

   The focus on *Rhizopus stolonifer*-induced soft rot is highly relevant due to its economic implications in sweet potato storage and post-harvest losses. The manuscript's emphasis on alternatives to conventional fungicides aligns with current global trends favoring sustainable and eco-friendly agricultural practices.
2. Comprehensive Experimental Design

   The investigation is clearly structured around three core components:
   - Screening of 16 chemical fungicides.
   - Evaluation of nine plant essential oils.
   - Testing combinations of chemical and plant-derived agents.

   This layered approach provides a robust framework for identifying and validating potential control strategies.

3. Quantitative Evaluation and Clarity in Results

   The use of EC50 values to determine fungicide efficacy and inhibition rates for essential oils ensures objective comparison. The inclusion of specific agents such as fludioxonil and calamus essential oil, and the documentation of their synergistic effect, adds practical value.
4. Promotion of Green Agriculture

   The manuscript supports the shift toward plant-derived biocontrol agents, advocating for reduced environmental impact and improved safety in food storage—both critical for sustainable development.
5. Scientific Contribution

   The study contributes novel insights by demonstrating the superior performance of specific essential oils and their integration with conventional fungicides. This dual approach opens new pathways for integrated pest and disease management (IPM).

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Conclusion

The manuscript effectively combines applied agricultural pathology with sustainability-driven innovations. It presents a well-structured and scientifically credible examination of how to mitigate sweet potato soft rot through conventional and plant-based agents. Its conclusions are well-supported by experimental data and are relevant for researchers, agricultural extension services, and policymakers focused on sustainable crop protection.

Overall Evaluation: The article is well-conceived and suitable for publication in a journal focusing on plant pathology, agricultural biotechnology, or sustainable crop management.