

Review Form 3

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_129259
Title of the Manuscript:	Revolutionizing Citrus Health: AI-Based Detection of Greening Disease and Nutrient Deficiencies in Sweet Orange
Type of the Article	Applied research

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:

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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 addresses a critical challenge in agriculture by leveraging AI techniques to detect citrus greening disease (CGD) and foliar nutrient deficiencies (FND) in sweet orange, achieving 87% accuracy. While it makes a contribution to precision agriculture and sustainable farming practices, but the research could benefit from stronger scientific rigor and clarity. With the objective to focus on real-world applicability provides a foundation for advancing AI in plant health monitoring, reducing crop losses and supporting global food security, but there are still many spaces to improve on this article.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title is descriptive but somewhat lengthy. The author can give some concise title.	

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<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 is generally comprehensive, but some actionable suggestions for improvement:</p> <ol style="list-style-type: none"> a. Explicitly state that the VGG-16 architecture was used and why it was chosen. b. Mention that diverse environmental conditions were included in the dataset to improve robustness. c. Provide key accuracy details for critical categories (e.g., healthy leaves 99%, CGD 87%). d. Briefly note how the findings can aid farmers in reducing losses or improving yield. e. Remove broad, less relevant statements like challenges in agriculture to focus on the study's specifics. 	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>The manuscript appears to be scientifically sound overall, with objectives, methodologies, and results. However, there are areas where improvements can enhance clarity, depth, and rigor. Some suggestions:</p> <ol style="list-style-type: none"> 1. Methodological Clarity: <ul style="list-style-type: none"> ○ The manuscript mentions the use of CNNs (specifically VGG-16), but it lacks detailed explanation of hyperparameters, training process, and why VGG-16 was chosen over other architectures. Include this to provide more transparency. 2. Dataset Description: <ul style="list-style-type: none"> ○ While the dataset details are provided, the process of labeling and any potential biases in annotations are not discussed. Explain how data quality and diversity were ensured. ○ Mention if any preprocessing steps were applied, such as normalization or resizing of images. ○ How much data are divide for training, testing and validating. 3. Evaluation Metrics: <ul style="list-style-type: none"> ○ Performance metrics like accuracy, precision, recall, and F1-score are provided, but the discussion lacks a comparison with baseline models or existing literature. This would contextualize the results. ○ Address why certain classes, such as zinc deficiency, had lower sensitivity and how this could be mitigated in future work. 4. The confusion matrix analysis identifies issues with inter-class confusion, but the manuscript could elaborate on how additional data or model adjustments might resolve this. 5. Discuss the model's deployment feasibility in real-world scenarios, such as requirements for hardware, prediction time, and user interface. 6. Some referenced studies are mentioned briefly (e.g., Denis et al. 2020), but their relevance and comparison to the current study could be expanded to strengthen the discussion. 7. A few grammatical errors so a thorough proofreading is recommended. 	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>There are many recent research articles with AI and ML which are not cited.</p> <p>This article Lack of Recent References and other comparison references with respect to the result as claiming in this article.</p> <p>While foundational studies are important, more recent work on AI applications in agriculture related</p>	

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	should be included to highlight advancements in the field.	
Is the language/English quality of the article suitable for scholarly communications?	A thorough proofreading is needed, some noticed suggestions are: <ul style="list-style-type: none"> - like some sentences are overly long and contain redundant information. For eg, "A series of new methods for successfully recognizing plant diseases particularly citrus greening and its symptoms in real-world situations compare to nutrient deficiencies..." can be rephrased for clarity. - Avoid repeating points across sections, especially regarding the significance of the study or dataset description. - Maintain a consistent formal tone throughout. Avoid conversational elements like "it's computed this way" in favor of "it is calculated as follows." 	
<u>Optional/General</u> comments		

PART 2:

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

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