Review Form 1.7

Journal Name:	**Journal of Scientific Research and Reports**
Manuscript Number:	**Ms_JSRR_98549**
Title of the Manuscript:	**Optimizing Crop Yields through Machine Learning-Based Prediction**
Type of the Article	

General guideline for 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 guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	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)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	**Yes.** **Yes.** **No.** **Yes.** **Can be improved.** **Can be improved**	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	Must be improved.	
Optional/General comments	This paper adopts a comprehensive approach by considering various parameters, including temperature, humidity, rainfall, and soil nutrient levels, to determine the most suitable crop for specific conditions. The study employs numerous classification algorithms and feature selection methods to achieve high accuracy rates and improved forecasting outcomes.In agribusiness, predicting crop growth is challenging. This study utilized various estimation and classification methods to determine plant growth output size. The results show that Random Forest, Support Vector Machine, and Decision Tree provide equally good accuracies. The paper combines these three algorithms under a voting classifier algorithm to obtain optimal results. The ensemble approach, along with Synthetic Minority Oversampling Technique, outperforms the current methodology in terms of forecast accuracy. By using advanced prediction methods, farmers and nations can better coordinate their cultivation efforts and focus on growing potatoes, grains, and other energy sources, potentially yielding significant financial benefits. This project highlights the potential of machine learning to tackle issues in agriculture and shape the sector's future. I list some suggestions that could be of help to further improve this paper's quality. The current study focuses on specific crops and parameters. It is suggested to expand the scope to include a wider variety of crops and additional factors, such as pest and disease risks, market demand, and regional constraint? It is suggested to incorporate data from remote sensing technologies, such as satellite imagery, drones, and IoT devices, to improve the accuracy of predictions and provide real-time updates on crop conditions? It is suggested to investigate advanced feature selection methods and dimensionality reduction	

	techniques to further enhance model performance and reduce computational complexity. Can you explore the potential of deep learning techniques, such as convolutional neural networks (CNNs) and recurrent neural networks (RNNs), for improved prediction accuracy and better understanding of complex patterns in agricultural data? It is suggested to examine the impact of climate change on crop yield forecasts, and develop models that account for potential shifts in weather patterns and other environmental factors. It is suggested to develop a decision support system that provides personalized recommendations to farmers based on their specific needs, resources, and local conditions. It is better to perform extensive cross-validation and robustness analyses to ensure the generalizability of the developed models across different geographical regions and agricultural systems. It is suggested to conduct cost-benefit analyses to evaluate the economic viability of implementing machine learning-based prediction systems in the agricultural sector, considering factors such as implementation costs, potential yield improvements, and reduced crop losses. Please improve the interpretability of machine learning models, allowing farmers and decision-makers to better understand the factors driving predictions and recommendations.	

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)*	

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