

Review Form 3

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	Ms_IRJPAC_130873
Title of the Manuscript:	Determination of the Potassium (K) Uptake Potential of Water Leaf (Talinum Triangulare) Using Computer Simulated Models of Heterogeneous Condition.
Type of the Article	

PART 1: Comments

	Reviewer’s comment	Author’s Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
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 study provides valuable insights into plant-soil interactions, particularly how <i>Talinum triangulare</i> responds to heterogeneous potassium distribution. The findings are relevant to agricultural management, especially for potassium-demanding crops. The research highlights the need for site-specific fertilization strategies, which could help optimize potassium use efficiency in crops.	
Is the title of the article suitable? (If not please suggest an alternative title)	Your topic is clear and specific, but a few modifications could make it more concise and impactful.  Determination could be written as Assesing/Optimizing/Modeling, and clarify the Heterogeneous Conditions, for example it could be written as Modeling Potassium Uptake in Water Leaf ( <i>Talinum triangulare</i> ) Under Variable Environmental Conditions Using Computer Simulations or Optimizing Potassium Uptake in Water Leaf (Talinum triangulare) Using Computer-Simulated Heterogeneous Models	
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.	<b>Clarify Key Findings:</b> The significance of findings like the "0.088 times higher" or "0.017 times higher" might be clearer if expressed in percentages or rephrased. <b>Explain Significance:</b> Highlight why these findings matter in agricultural or ecological contexts.	
Is the manuscript scientifically, correct? Please write here.	The manuscript presents a study on the potassium (K) uptake potential of <i>Talinum triangulare</i> under heterogeneous soil conditions using computer-simulated models. The methodology, including pot trials and chemical analysis, appears to follow well established experimental protocols. The statistical analysis methods (ANOVA, Kolmogorov-Smirnov test, and regression analysis) are appropriate for evaluating the significance of differences in potassium uptake. However some clarification and modification is needed: 1. 1. The methodology for simulating soil heterogeneity, although well-detailed, should clarify whether it effectively mimics real field conditions. 2. The study concludes that heterogeneous potassium distribution did not significantly affect K uptake by <i>T. triangulare</i> . However, further discussion on potential confounding factors, such as root foraging strategies and limitations in experimental duration, would strengthen the interpretation. 3. Address potential reasons why heterogeneous potassium distribution did not significantly affect uptake. 4. Discuss potential agricultural implications, such as fertilization strategies or soil management techniques.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The manuscript includes some older references (1980s–1990s), such as those by Leigh & Wyn Jones (1984) and Thompson & Walsh (1983). While these are important foundational studies, relying on more recent advancements (2021-2024) in plant physiology and soil modeling would strengthen the literature review.	

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Is the language/English quality of the article suitable for scholarly communications?	The manuscript is scientifically structured and understandable, but it would benefit from proofreading and language refinement to improve clarity, readability, and grammatical accuracy.	
Optional/General comments		

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)	

Reviewer Details:

Name:	Shivbhajan
Department, University & Country	Central Agricultural University, India