## Review Form 3

| | |
|---|---|
| Journal Name: | **International Journal of Environment and Climate Change** |
| Manuscript Number: | **Ms_IJECC_127778** |
| Title of the Manuscript: | **Effect of Irrigation Scheduling and Foliar Spray of Silicon on Growth, yield and Water Use Efficiency of Wheat (Triticum aestivum L.)** |
| Type of the Article | **Original Research 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.** | The manuscript is well-structured and presents a timely and relevant study on optimizing irrigation scheduling and silicon application for wheat cultivation. The combination of clear objectives, rigorous experimental design, and appropriate statistical analysis provides credible results. However, there are areas where the clarity and quality of the manuscript can be improved for better readability and impact. | |
| **Is the title of the article suitable? (If not please suggest an alternative title)** | **Effect of Irrigation Scheduling and Foliar Spray of Silicon on Growth, yield and Water Use Efficiency of Wheat (*Triticum aestivum* L.)**<br>**Change to**<br>**Optimization of Irrigation Scheduling and Foliar Spray of Silicon on Growth, yield and Water Use Efficiency of Wheat (*Triticum aestivum* L.)** | |
| **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.** | While comprehensive, it can be more concise. Focus on the most critical findings (e.g., irrigation at 0.8 IW/CPE combined with 1.0% silicon). Avoid repeating less impactful details, such as consumptive water use.<br>**Example Revision:**<br>"Irrigation scheduling at 0.8 IW/CPE and foliar spray of silicon @ 1.0% significantly enhanced wheat growth, grain yield (3806 kg/ha), and water use efficiency (10.87 kg/ha-mm). Higher silicon levels mitigated drought stress, optimizing productivity under deficit irrigation. The maximum predicted yield (4123 kg/ha) occurred at 411.5 mm irrigation depth, beyond which yields declined." | |
| **Is the manuscript scientifically, correct? Please write here.** | | |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | | |

## Review Form 3

| | | |
|---|---|---|
| **Is the language/English quality of the article suitable for scholarly communications?** | Improve sentence flow by reducing passive voice (e.g., "The experiment was conducted" → "We conducted the experiment").<br>Fix minor grammatical issues, such as subject-verb agreement and articles (e.g., "yield seed shows decreased in trends" → "seed yield shows a decreasing trend").<br>Replace technical terms with simpler terms where possible. For example, "Y-axis intercept" may confuse non-statistical readers. | |
| **Optional/General** comments | **General Impression**<br><br>The manuscript is well-structured and presents a timely and relevant study on optimizing irrigation scheduling and silicon application for wheat cultivation. The combination of clear objectives, rigorous experimental design, and appropriate statistical analysis provides credible results. However, there are areas where the clarity and quality of the manuscript can be improved for better readability and impact.<br><br>**Recommendations for Improvement**<br><br>**Title:**<br><br>**~~Effect~~ of Irrigation Scheduling and Foliar Spray of Silicon on Growth, yield and Water Use Efficiency of Wheat (*Triticum aestivum* L.)**<br><br>**Change to**<br><br>**Optimization of Irrigation Scheduling and Foliar Spray of Silicon on Growth, yield and Water Use Efficiency of Wheat (*Triticum aestivum* L.)**<br><br>1. **Abstract**<br><br>While comprehensive, it can be more concise. Focus on the most critical findings (e.g., irrigation at 0.8 IW/CPE combined with 1.0% silicon). Avoid repeating less impactful details, such as consumptive water use.<br><br>**Example Revision:**<br><br>"Irrigation scheduling at 0.8 IW/CPE and foliar spray of silicon @ 1.0% significantly enhanced wheat growth, grain yield (3806 kg/ha), and water use efficiency (10.87 kg/ha-mm). Higher silicon levels mitigated drought stress, optimizing productivity under deficit irrigation. The maximum predicted yield (4123 kg/ha) occurred at 411.5 mm irrigation depth, beyond which yields declined."<br><br>2. **Introduction**<br><br>“Some sentences are lengthy and could be split for better readability. Avoid overgeneralized statements like "Agricultural production being an integrated effect...” and instead link them directly to the study.<br><br>Strengthen the justification for focusing on foliar silicon sprays, highlighting why this approach is less explored compared to soil application.<br><br>**Example:**<br>"Although soil-applied silicon has shown promise in enhancing drought resilience, its potential through foliar application, particularly under water-scarce conditions, remains underexplored. This study addresses this gap by evaluating the interaction between irrigation regimes and silicon sprays on wheat yield and water use efficiency."<br><br>3. **Materials and Methods**<br><br>**Location Details**: The description of the experimental site is detailed but can be streamlined. Focus on key aspects like soil type, climate, and crop variety.<br><br>**Clarity**: Include a brief explanation of acronyms like IW/CPE early on to ensure accessibility for all | |

| | | |
|---|---|---|
| | readers.<br><br>**Statistical Models**: Simplify the explanation of regression equations to avoid overwhelming the reader.<br><br>**4. Results and Discussion**<br><br>**Focus on Key Findings**: Avoid reiterating the same information (e.g., grain and straw yields) in multiple sections. Consolidate to avoid redundancy.<br><br>**Comparative Analysis**: When citing prior studies, briefly compare findings to highlight alignment or discrepancies (e.g., "Our findings align with Goswami et al. (2020) but differ in X due to...").<br><br>**Figures and Tables**: Ensure all tables and figures are directly referenced in the text. Simplify Table 3 by summarizing key insights in the discussion.<br><br>**5. Conclusion**<br><br>Add actionable recommendations based on the results, such as:<br><br>"Farmers in semi-arid regions can maximize wheat yields and water use efficiency by adopting irrigation at 0.8 IW/CPE with silicon foliar sprays at 1.0%."<br><br>Consider highlighting limitations and potential future research directions.<br><br>**6. Language and Style**<br><br>Improve sentence flow by reducing passive voice (e.g., "The experiment was conducted" → "We conducted the experiment").<br><br>Fix minor grammatical issues, such as subject-verb agreement and articles (e.g., "yield seed shows decreased in trends" → "seed yield shows a decreasing trend").<br><br>Replace technical terms with simpler terms where possible. For example, "Y-axis intercept" may confuse non-statistical readers.<br><br>**Minor Edits**<br><br>Ensure consistent use of abbreviations like DAS (days after sowing) throughout the manuscript.<br><br>Confirm the citation format aligns with the target journal's requirements.<br><br>In the disclaimer, state that AI tools were not used for manuscript preparation or analysis, which is crucial for transparency.<br><br>**Conclusion**<br><br>This manuscript has significant potential for publication. With minor revisions to improve clarity, conciseness, and readability, it will be a strong contribution to the literature on water-efficient agriculture. Let me know if you need help with specific revisions or rephrasing! | |

**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)* | |

## Review Form 3

**Reviewer Details:**

| | |
|---|---|
| Name: | **Chilakamari Lokesh** |
| Department, University & Country | **Professor Jayashankar Telangana Agricultural University, India** |