Journal Name: [**Journal of Global Ecology and Environment**](https://www.ikprress.org/index.php/JOGEE)

Manuscript Number: **Ms\_JOGEE\_13468**

Title of the Manuscript:

**Effect of Moisture deficit stress on morphology, physiology and yield responses of mulberry (Morus alba. L)**

Type of the Article **Original Research Article**

**PART 1: Comments**

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|  | **Reviewer’s comment** | | | | **Author’s Feedback** (It is mandatory that  authors should write his/her feedback here) |
|  | **Artificial Intelligence (AI) generated or assisted review comments** | |  |
| **are strictly prohibited during peer review.** |  | |
| **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 holds significant importance for both the scientific  community and sericulture practitioners. It provides crucial data on the identification of mulberry genotypes and varieties with enhanced  tolerance to moisture deficit stress, a major environmental constraint. The detailed assessment of morphological, physiological, and yield responses offers valuable insights into the mechanisms of drought tolerance in this vital crop. Ultimately, the identification of MI-0425  and V1 as promising drought-tolerant candidates lays a concrete  foundation for future breeding programs aimed at developing more resilient mulberry varieties for sustainable sericulture in drought- prone regions. | | | |  |
| **Is the title of the article**  **suitable?**  **(If not please suggest an alternative title)** | The title is clear and concise. It accurately reflects the study's content. | | | |  |

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| **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.** | The abstract is generally well-structured and contains the key  information (objective, methods, main results, conclusion). However, a few points could be slightly refined for improved clarity:   **The units for leaf area measurements in the abstract should be consistent. On line 177, "117.24m2/plant" appears to be an extremely high value for a single plant. It is highly probable that this should be cm²/plant, not m²/plant. Please verify this unit and correct it if necessary, ensuring consistency with the Materials and Methods section.**   It would be beneficial to specify in the abstract that MI-0425 and V1 are "genotypes/varieties" (as used later in the  manuscript) or to clarify if one is a genotype and the other a  variety. | It is a typographical error. Unit for Leaf area is cm²/plant. The same has been changed throughout the manuscript.  Modified accordingly. |
| **Is the manuscript scientifically,**  **correct? Please write here.** | The manuscript is scientifically sound. The methodology is robust,  and the statistical analyses are appropriate for the data presented. The results are clearly laid out, and the discussion is generally well- supported by the cited literature.  However, some clarifications are needed within the "Materials and  Methods" section:   **Source 205 (FCRD):** The text mentions "Factorial Completely Randomized block design (FCRD)". Typically, this design is referred to as a "Factorial Randomized Complete Block Design (FRCBD)" when blocks are utilized, or a "Factorial Completely Randomized Design (FCRD)" if blocks are not used. Since a "block design" is indicated, it is more likely FRCBD. Please verify the exact terminology for the experimental design.   **Source 202 (Pot size and soil):** The description "pots of size  37×35cm filled with red loamy soil with the pH of 7.5" could be more precise. It would be helpful to specify whether 37x35cm  refers to the diameter and height, or if these are length and width  dimensions.   **Source 204 (Rain Out Shelter and Control):** The phrase "while a similar area of control was maintained adjacent to the ROS facility" requires clarification. A "Rain Out Shelter" (ROS) | 1. Design of Experiment used for this study is FCRD-Factorial Completely Randomized Design. 2. Size of the pot given as length and width dimensions. 3. The control plants (100% PC) were kept inside the ROS itself but received full irrigation. 4. Pot water Holding Capacity was calculated by using the formula   Mw =Mt - Ms; where Mw is Mass of water to be added, Mt- total mass of the container with fully saturated soil and Ms-Total mass of the container with dry soil. The measured soil water content equivalent to 100% PC is on dry basis.   1. Unit for leaf area corrected accordingly. 2. It is typographical error and corrected accordingly. 3. Smaller plants in MI-0425 is due to moderate initial size compared to other genotypes. So through out the study the plant height is on lower side for genotype MI-0425. Percent reduction was calculated between control and stressed plants. |

inherently excludes rain. It is crucial to specify whether the control plants (100% PC) were also kept under an ROS but received full irrigation, or if they were in an unprotected area but with controlled irrigation to maintain 100% PC. This distinction is vital for confirming the validity of the control treatment in terms of abiotic stresses other than rainfall.

 **Source 210 (Pot Water Holding Capacity):** "The measured soil water content equivalent to 100% PC was 62.5% (weight basis)". It would be beneficial to specify if this 62.5% is on a dry basis (mass of water / mass of dry soil).

 **Source 220 (Leaf area unit):** The unit for Leaf Area is stated as

"m2 plant-1". As noted for the abstract, the reported values (e.g.,

156.49 m2 , 148.02 m2 ) appear excessively large for a single mulberry plant. Please verify if the unit should not be cm2 plant-

1. This is a significant inconsistency that needs correction throughout the manuscript, including Table 3.

 **Source 233 (Correlation):** Pearson correlation analysis is mentioned for "leaf yield with leaf area and TDMA with relative leaf water content and chlorophyll index". However, "chlorophyll index" is not listed among the "Physiological traits" measured in Section 2.3. If the chlorophyll index was measured, it must be added to the "Materials and Methods" section. If not, it should be removed from this sentence.

 **Section 3.1.1 (Plant Height):** There seems to be a contradiction in the statements regarding plant height. It is stated that "MI-

0613 had higher plants at 25% PC followed by V1 and MR2. Whereas, smaller plants were observed in G4 (58.2 cm) followed

by MI-0425 (62.0 cm) at 25% PC". Later, it is noted that "Since MI-0613 had taller plants the percent reduction in plant height was high (13.90%) followed by MI-0425 (13.86%)". This

implies MI-0425 had a significant reduction despite being

categorized as "smaller plants" in the previous statement. Please clarify whether MI-0425 is inherently small or if its height reduction was substantial despite a moderate initial size. The

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|  | statement "MI-0425 had smaller plants at 25% PC" in the  abstract also warrants re-evaluation for consistency.   **Section 3.2.1 (Leaf Area) :** The unit for Leaf Area is consistently presented as "m2/ plant" in this section and Table 3. Given the magnitude of the values (e.g., 156.49 m2 , 148.02 m2  ), this unit is highly unlikely for a single plant. Please reconfirm the correct unit (likely cm2/plant) and ensure its consistent application throughout the text, tables, and figures. |  |
| **Are the references sufficient**  **and recent? If you have suggestions of additional references, please mention them in the review form.** | The references are generally sufficient and cover the relevant  literature on drought stress in mulberry well. The inclusion of recent references (e.g., Seleiman et al., 2021 ) is a positive aspect. |  |
| **Is the language/English quality**  **of the article suitable for scholarly communications?** | The English quality is acceptable for scientific communication.  However, the manuscript would significantly benefit from a thorough proofreading by a native English speaker or a professional language editing service. There are some awkward phrasings, minor grammatical errors, punctuation issues, and inconsistencies in unit usage (particularly for leaf area) that could be improved for maximum impact and clarity. For instance, sentences like "Contradictory to the plant height no.of branches were not altered by drought stress treatments" could be rephrased for better flow and formality. | Modified accordingly. |
| **Optional/General** comments | The discussion of the results could be slightly more integrated and  comparative across genotypes/varieties, further emphasizing the potential reasons for their differing responses (e.g., physiological mechanisms behind MI-0425 and V1's tolerance) |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s Feedback** (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)* | There are no ethical issues with this manuscript. |