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| Journal Name: | [**Annual Research & Review in Biology**](https://journalarrb.com/index.php/ARRB) |
| Manuscript Number: | **Ms\_ARRB\_132926** |
| Title of the Manuscript:  | **Review on physiological responses of tomato (Solanum lycopersicum) to drought stress** |
| Type of the Article | **Review Article** |

**General guidelines for the Peer Review process:**

**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.**

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**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | 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 manuscript provides a comprehensive review of the physiological responses of tomato to drought stress, addressing a critical challenge in global agriculture by elucidating the complex mechanisms underlying drought tolerance such as reactive oxygen species (ROS) management, antioxidant enzyme activity and morphological adaptations. This manuscript offers valuable insights for researchers aiming to enhance crop resilience.  |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Alternative title: Impact of Drought Stress on Physiological Responses in Tomato (*Solanum lycopersicum*)  |  |
| 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 requires revision due to a lack of fluency. There is unnecessary repetition (e.g., reactive oxygen species and drought stress appear multiple times without a clear logical flow). |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript is well written and provides a general overview of drought stress and its impact on tomato. However, there are some issues that need to be addressed before the paper can be accepted for publication as follows:1. Add some points related to proline accumulation and the role of stress-related hormones like abscisic acid (ABA), ethylene and salicylic acid in mediating drought responses.Technical Faults: 2. Please verify the citation of Ekinci et al. (2015) in the introduction section. The cited content does not align with Ekinci et al. actual study, kindly replace it with a more appropriate reference that directly supports the statement.3. Ghosh et al. (2021). Kindly revise the sentence to accurately reflect the author findings or clarify the source if the content differs.4. The current explanation regarding the role of antioxidant enzymes under drought stress is brief and could benefit from further elaboration, particularly on the functions of catalase (CAT) and peroxidase (POD). How does CAT activity vary across different tomato cultivars under drought? Are there specific isoforms of POD that play a role in scavenging reactive oxygen species in tomato plants?5. Include a schematic figure related to drought stress on photosynthesis in tomato. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | 1. Citations of older Research: Several references are older and should be replaced with recent studies (post-2019) to reflect current scientific advancements.2. Please review the reference list carefully, as several citations do not appear to follow the journal required referencing format. |  |
| **Optional/General comments** |  |  |

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| **PART 2:**  |
|  | Reviewer’s comment | Author’s comment *(if agreed with the 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?**  | NO |  |
| **Are there competing interest issues in this manuscript?** | NO |  |
| **If plagiarism is suspected, please provide related proofs or web links.** |  |  |

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| **PART 3: Declaration of Competing Interest of the Reviewer:** |
| I declare that I have no competing interest as a reviewer |

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| **PART 4: Objective Evaluation:** |
| Guideline | MARKS of this manuscript |
| Give OVERALL MARKS you want to give to this manuscript ( Highest: 10 Lowest: 0 )**Guideline:** Accept As It Is: (>9-10)Minor Revision: (>8-9)Major Revision: (>7-8)Serious Major revision: (>5-7)Rejected (with repairable deficiencies and may be reconsidered): (>3-5)Strongly rejected (with irreparable deficiencies.): (>0-3) | 7.8 |

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| **Editorial Comments (This section is reserved for the comments from journal editorial office and editors):** |
|  | Author’s Feedback |
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**Reviewer Details:**

**This section is mandatory to prepare the Reviewer Certificate.**

**Please complete this section carefully. Reviewer Certificate will be generated by using this information only.**

**Your Certificate will be wrong, if you provide incorrect information.**

**Please note modification of certificate will not be possible after generation.**

**Certificate will not be issued if incomplete information is provided.**

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| Name of the Reviewer | M. VINOTH KUMAR |
| Department of Reviewer | Seed Science and Technology |
| University or Institution of Reviewer | Tamil Nadu Agricultural University |
| Country of Reviewer | India |
| Position: (Professor/lecturer, etc.) of Reviewer | Ph.D. Scholar and Visiting Lecture in Seed Science  |
| Email ID of Reviewer | mpvino3013@gmail.commpvino3013@gmail.com |
| WhatsApp Number of Reviewer (Optional) |  |
| Write 5-8 Keywords regarding expertise of Reviewer | Seed Science, Drought stress, Microbiology, Oil seeds and Pulses  |