Review Form 1.7

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_108927**
Title of the Manuscript:	**Per Se Performance of Tomato (Solanum lycopersicum L.) Genotypes for Growth, Yield and Quality Traits Under North Eastern Dry Zone of Karnataka**
Type of the Article	**Original Article**

Review Form 1.7

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)	**1.** Studying tomato genotypes in the North Eastern Dry Zone of Karnataka is critical for optimizing agricultural practices, increasing productivity, improving crop quality, and contributing to the overall sustainability of agriculture in the region. It offers a pathway towards more efficient and resilient crop production, benefiting farmers and consumers**.** In this study, the author observed various variations for all the characters analyzed. He/she found highly significant differences in the performance of all characters. So, the main conclusion is that there is ample scope for selecting different traits for improvements of tomatoes. The details of tomato genotypes investigated in this study are reported in Table 1. The performances of tomato genotypes for growth and flowering and yield parameters are reported in Tables 2. and 3.	
2. Is the title of the article suitable? (If not please suggest an alternative title)	**2.** In my opinion, a good alternative title could be: "*Assessing Tomato Varieties for Optimal Growth, Yield, and Quality in Karnataka's North Eastern Dry Zone*".	
3. Is the abstract of the article comprehensive?	**3.** Yes.	
4. Are subsections and structure of the manuscript appropriate?	**4.** Yes. However, there is a missing section reporting and (describing) the main challenges and issues that might be encountered when investigating the performance of *Solanum lycopersicum L*. Indeed, addressing these challenges often requires interdisciplinary collaboration, sustained funding, meticulous experimental design, data analysis, and thorough interpretation of the results. It is very important to navigate these challenges to provide meaningful and practical insights for tomato cultivation in the North Eastern Dry Zone of Karnataka. The lack of this section is the vulnerable aspect of this work. See the suggestions in point 7. below.	
5. Do you think the manuscript is scientifically correct?	**5.** Yes, although I do not have details of how the measurements were carried out. The values of some statistical parameters are missing (see the suggestions in point 7. below).	
6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.	**6.** *The list of references is not exhaustive and needs to be completed. Below, the author can find some suggestions*. [1] Edward JC, Bowyer C, Tsouza A, Chopra M. Tomatoes: An Extensive Review of the Associated Health Impacts of Tomatoes and Factors That Can Affect Their Cultivation. Biology (Basel), **11**(2), 239 (2022). [2] Raju B, Shivanand Hongal, Puttaraju TB, Sudheesh NK. Performance of tomato (Lycopersicon esculentum Mill.) Hybrids with respect to Yield and Quality traits. International Journal of Science and Nature., **5**(2), 313 (2014). [3] Kumar S, Gowda PHR, Mallikarjuna NM. Evaluation of selected f6 tomato lines for extended shelf life. SABRAO J. Breed. Genet., **47**(4), 326 (2015). [4] Kumar A, Srivastava R, Bahadur V, Netrapal Prasad VM. Genetic divergence for horticultural traits and To LCV resistance in tomato (Solanum lycopersicum L.). Vegetable Science, **44**(1), 42 (2017). [5] Bhattarai U, Sharma A, Das R, Talukdar P. Genetic analysis of yield and yield attributing traits for high-temperature resistance in tomato. Int. J. Veg. Sci., **5260**, 1 (2016). [6] Brezeanu PM, Brezeanu C, Ambarus S, Voda A, Robu T, Cristea TO, Calin M. The influence of grafting on yield and quality of peppers, eggplants, tomatoes, and melons. Acta Hortic., **1270,** 347 (2020). [7] Khan AT, Abbas SR, Gerdezi SDA, Javed G, Mehmood A. Assessment of genetic diversity of tomato genotypes by using molecular markers. Pure Appl. Biol., **9**(2), 1532 (2020).	
7. Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments.	**7.** *Some points of this work need to be clarified. The following suggestions are intended to fill some (not all) gaps*. **7a.** In Tables 2. and 3. Please report the values of the standard deviations and specify that the values reported in these tables refer to the mean values. **7b.** The author stated that there were significant differences observed for all the traits analyzed. He/she found a p-value inferior to the standard threshold (i.e., $p<0.005$). However, in these cases two statistical parameters need to be specified: *R-squared* and the *p-value*. As known, the R^2 is a function of the explained error and the total error. The p-value for a coefficient is a function of the t statistic for that coefficient which includes the standard error in the denominator. So, the greater R-square the	

	better the model. Whereas the p-value tells you about the null statistic hypothesis. What are the values found for R^2? **7c.** As mentioned above, several challenges and issues are encountered when investigating the performance of *Solanum lycopersicum L.* genotypes in the North Eastern Dry Zone of Karnataka. The author is asked to mention (albeit briefly) what are the main challenges that we normally have to face in this kind of investigation and what are the limitations of this study. ***Suggestions*** The North Eastern Dry Zone likely presents a range of environmental factors such as erratic rainfall, high temperatures, and soil conditions that may vary across the region. Seasonal variations and the need for long-term observations can pose challenges. Investigating the performance of tomato genotypes may require multiple growing seasons to draw reliable conclusions, potentially delaying the research outcomes. The North Eastern Dry Zone might have specific pests and diseases that impact tomato cultivation. Evaluating genotypes for their resistance or tolerance to these issues requires time, controlled environments, and consistent monitoring. Additionally, collecting comprehensive and accurate data for growth, yield, and quality traits across multiple genotypes is a demanding task. Standardizing the methods for data collection, ensuring precision, and conducting statistical analyses can be labor-intensive and time-consuming. We have also to mention that different tomato genotypes might react differently to the same environmental conditions. It can be complex to manage and analyze multiple genotypes simultaneously, especially when considering diverse growth patterns, disease resistance, and yield characteristics.	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	**1.** English should be double-checked; several typos were found.	
Optional/General comments	The article is interesting and topical but it is clear that it was written hastily. The work contains many typos and the values of key statistical parameters are missing. Furthermore, the important section reporting the limitations of this study is missing. I recommend the author to take into account the suggestions expressed above.	

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:

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