

**Review Form 3**

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| Journal Name:            | <a href="#">Asian Journal of Research in Agriculture and Forestry</a>  |
| Manuscript Number:       | Ms_AJRAF_124450  |
| Title of the Manuscript: | Identification of Climate-Smart Bread Wheat ( <i>Triticum aestivum</i> L.) Germplasm for Optimum Moisture Areas of Ethiopia. |
| Type of the Article      |  |

### Review Form 3

#### **PART 1: Review Comments**

| <b>Compulsory</b> REVISION comments   | Reviewer's comment   | <b>Author's Feedback</b> <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
|---|--|--|
| <b>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</b> | I like this manuscript because it addresses a critical issue in agriculture—developing climate-smart wheat varieties that are resilient to environmental stresses, which is essential for global food security. The use of advanced statistical models, such as BLUP and factor analysis, provides a rigorous and data-driven approach to evaluating genotype performance across multiple environments. The manuscript's focus on both yield stability and disease resistance makes it highly relevant for breeding programs aimed at improving wheat production in diverse and challenging climates. However, a more in-depth discussion of the broader global implications and future applications of these findings could enhance its impact. |  |
| <b>Is the title of the article suitable? (If not please suggest an alternative title)</b>   | The current title, "Identification of Climate-Smart Bread Wheat ( <i>Triticum aestivum</i> L.) Germplasm for Optimum Moisture Areas of Ethiopia," is clear and relevant but could be more concise and focused. It could also better reflect the multi-environmental trials and the emphasis on both yield performance and resilience.<br><br>A suggested alternative title could be:<br>"Evaluating Climate-Smart Bread Wheat Genotypes for Yield Stability and Disease Resistance in Ethiopia's Diverse Agroecologies"  |  |

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| <p><b>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></p> | <p>The abstract of the article is generally comprehensive, covering key aspects like the study's objective, methodology, results, and implications. However, a few improvements can make it clearer and more impactful:</p> <p>Suggestions for Improvement:</p> <ol style="list-style-type: none"> <li>1. Clarify the Purpose: The objective of the study can be stated more clearly at the beginning. For example, explicitly mention that the goal is to identify high-yielding, climate-resilient wheat genotypes.</li> <li>2. Statistical Methods: The mention of BLUP analysis is good, but a brief explanation of why it was used (i.e., for analyzing genotype-environment interactions and yield stability) would make the abstract more accessible to readers unfamiliar with the technique.</li> <li>3. Key Results: Include more details about the significance of the high heritability found in certain traits, as this is a major finding.</li> <li>4. Conclusion: The abstract could benefit from a more direct conclusion that emphasizes the practical implications of the findings, such as the potential for releasing new wheat varieties to enhance food security.</li> </ol> <p>Suggested Edits:</p> <ul style="list-style-type: none"> <li>- Add a clearer statement of the study's aim, like: "The aim of this study was to identify and evaluate bread wheat genotypes with high yield stability and disease resistance in diverse Ethiopian agroecologies."</li> <li>- Briefly explain the relevance of BLUP analysis and why it was employed.</li> <li>- Strengthen the conclusion with a statement on how these findings will impact wheat breeding and production in Ethiopia and beyond.</li> </ul>  |  |
| <p><b>Are subsections and structure of the manuscript appropriate?</b></p>  | <p>The manuscript's structure and subsections appear generally appropriate for a scientific study of this nature. It follows a logical flow, starting with an <b>Abstract</b>, followed by <b>Introduction</b>, <b>Materials and Methods</b>, <b>Results and Discussion</b>, and finally, a <b>Conclusion and Recommendation</b> section. However, a few adjustments can improve clarity and readability:</p> <p>Strengths of Structure:</p> <ol style="list-style-type: none"> <li>1. <b>Introduction</b>: The introduction provides sufficient background on the global and local importance of wheat, the challenges posed by climate change, and the rationale for the study.</li> <li>2. <b>Materials and Methods</b>: This section clearly explains the experimental setup, including the genotypes, locations, and statistical methods used, which is crucial for reproducibility.</li> <li>3. <b>Results and Discussion</b>: The results are well-organized, with relevant data presented and linked to discussions on genotype performance and environmental interactions.</li> <li>4. <b>Conclusion and Recommendation</b>: The conclusion provides a concise summary of the findings and their implications, making it a practical end to the manuscript.</li> </ol> <p>Suggested Improvements:</p> <ol style="list-style-type: none"> <li>1. <b>Results and Discussion Separation</b>: The "Results and Discussion" section could be more clearly divided. While combining these sections is common, separating them would make it easier to distinguish between the presentation of raw data and its interpretation.</li> <li>2. <b>Subheadings within Results</b>: More detailed subheadings within the "Results" section could enhance readability. For example: <ul style="list-style-type: none"> <li>- Genotype Performance</li> <li>- Heritability and Variance Components</li> <li>- Disease Resistance</li> <li>- Quality Traits</li> </ul> </li> </ol> |  |

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|  | 3. Conclusion: While the "Conclusion" is well-done, the "Recommendations" could be a separate subsection to provide actionable insights, especially regarding further research or agricultural practices.  |  |
| <b>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</b> | This manuscript is scientifically robust and technically sound due to its rigorous methodology and comprehensive data analysis. The use of advanced statistical techniques, such as BLUP and factor analysis, ensures that the findings on genotype-environment interactions are reliable and well-supported. The multi-environment trial design allows for a thorough evaluation of the wheat genotypes under varying conditions, which is crucial for assessing their resilience and yield potential. Additionally, the detailed examination of both agronomic traits and disease resistance highlights the manuscript's commitment to addressing key challenges in wheat breeding, further enhancing its scientific validity. |  |
| <b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b>   | <b>Reference No. 6 has not been fully written.</b>   |  |
| <u>Minor</u> REVISION comments<br><br><b>Is the language/English quality of the article suitable for scholarly communications?</b>   | I have edited some language issues in the manuscript using track changes.  |  |
| <u>Optional/General</u> comments   |  |  |

**PART 2:**

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|   | <b>Reviewer's comment</b>  | <b>Author's comment</b> (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) |
| <b>Are there ethical issues in this manuscript?</b> | <i>(If yes, Kindly please write down the ethical issues here in details)</i> |  |

**Reviewer Details:**

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|----------------------------------|--|
| Name:                            | <b>Berhanu Bilate Daemo</b>              |
| Department, University & Country | <b>Wolaita Sodo University, Ethiopia</b> |