

This is a well-structured study on the use of glycine betaine and proline to enhance salinity tolerance in rice, a crop significantly affected by saline stress. The work addresses an important issue in agriculture and highlights practical applications of glycine betaine and proline. However, there are areas for improvement in terms of clarity, emphasis, and completeness. Here are some constructive comments:

#### Strengths:

**Clear Problem Statement:** The abstract starts by clearly stating the issue of salt stress affecting rice, a vital cereal crop, and introduces glycine betaine and proline as a potential solution, making the study's relevance immediately clear.

**Methodological Outline:** The experimental design is well-defined, describing the various levels of glycine betaine and proline under saline stress. Why there was need to split plot design? What are the main reasons behind the selection of main plot and sub plot treatments? Any scientific justification? While working for the yearly data why year is not selected as factor, these are the major concerns for solid understanding of the study's approach.

**Detailed Results:** The abstract reports specific changes caused by glycine betaine and proline under saline conditions. Try to add more detailed findings in percent increase and decrease form that helps to demonstrate the potential efficacy of glycine betaine and proline.

#### Areas for Improvement:

##### Title Refinement:

The title is clear but it could be more specific. Including the type of mentioning "foliar-applied" could make it more informative.

##### Clarity and Flow:

The sentence " Agronomic performance, yield, and biochemical traits such as 24 dry weight (DW), plant height (PH), tiller number (TN), number of spikes per meter (NSM), number of spikelets per 25 spike (NSS), spike length (SL), 1000-kernel weight (TKW), biological yield (BY), grain yield (GY), harvest index 26 (HI), amylose content (AC), and protein content (PC) were assessed" is also explained in methodology section. It could be rewritten for clarity.

The results section is densely packed with information “Notably, the combined application of 30 mM GB and 30 mM Pro 29 resulted in the highest GY (6.64 t/ha in 2022), BY (13.59 t/ha in 2022), and PC (12.33% in 2021), outperforming 30 other treatments”. Consider simplifying or breaking this information into more digestible parts.

#### Emphasize Key Findings:

While the results are presented in detail, the most significant findings could be highlighted more clearly. You might want to specify how much yield was reduced under salt stress before describing the improvements from glycine betaine and proline.

The abstract notes that particularly the 30P\_30GB combination, which exhibited the most pronounced improvements in rice performance under salt stress was optimal, but it would be helpful to compare its effectiveness against the lower doses of more explicitly to emphasize why these concentrations stands out as the best concentration.

#### Mechanistic Insights:

The study touches on biochemical traits, but the underlying mechanisms of how glycine betaine and proline mitigate drought stress are not well-explained. Briefly mentioning how glycine betaine and proline influences these biochemical traits would enhance the reader's understanding of its mode of action. There are no key findings of biochemical traits in the abstract section.

#### Broader Implications:

The abstract focuses on specific agronomic effects but doesn't address broader agricultural implications. Mentioning the potential for glycine betaine and proline to be applied in commercial rice cultivation, or its relevance to other crops, would strengthen the study's practical value and appeal to a wider audience.

#### Overall:

The study provides a solid foundation for the potential use of glycine betaine and proline in improving salt tolerance in rice. Clarifying certain sections, refining the flow of information, and highlighting key findings more explicitly would make the abstract more impactful and reader-friendly.

Corrections needed:

- Problem statement and hypothesis is missing
- Most of the references are outdated more than 5 years older
- Statistical analysis should be justified
- Abstract conclusion did not support the title of your study. Please rewrite
- Typo and grammatical mistakes
- Line 183-188 no need to mention it again
- In results section only mention the key findings
- Discussion section looks like literature review, relate the key findings with the previous studies
- Conclusion did not support your findings
- Rewrite you conclusion again with significant findings
- Add recommendations of you study in relation with SDGs