

Review Form 1.6

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_91954
Title of the Manuscript:	Parental polymorphism Survey for evaluation and selection of contrasting parents for Drought tolerance in Rice (<i>Oryza sativa</i> L.) by using SSR Markers
Type of the Article	Original Research Article

General guideline for Peer Review process:

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 guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalijecc.com/index.php/IJECC/editorial-policy>)

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	<p>The aim of this study is to produce a parental polymorphism survey for drought tolerance in rice using microsatellite (SSR) markers. There are some aspects that, in my opinion, need to be clarified. The following suggestions may help the author to fill some gaps.</p> <p>CRc1) Phosphorus is the element required for normal plant development. Thus, one might think that rather than identifying polymorphic markers of SSR for drought tolerance, rice growth and metabolism improve by improving phosphorus uptake techniques by plants. What is the author's opinion in this respect?</p> <p>CRc2) The ultimate aim of this work is to create a new rice variety that is more drought tolerant. For clarity, please explain why if we want to estimate variability genetic markers need to be polymorphic.</p> <p>CRc3) We may object that the marker assisted selection proposed by the author has the following disadvantages:</p> <p>i) they are relatively expensive and time consuming;</p> <p>ii) molecular markers can require the use of specific laboratory equipment, such as a polymerase chain reaction thermalcycler and electrophoresis and visualization equipment;</p> <p>iii) In addition to the equipment required for work on molecular markers, we also need specialists having the requested technical skills to perform the necessary marker data analysis.</p> <p>The author is requested to dispel the above objections.</p> <p>CRc4) Recent studies have found that SSR markers RM 263 and RM 3825 are suitable for selection of drought tolerant rice lines in marker assisted backcross breeding (MAB) programs. Besides, the SSR marker RM 212 and the SSR marker RM 22 would also be useful for improvement of drought tolerance in rice through MAS. What is the author's opinion about it?</p> <p>CRc5) The International Rice Research Institute (IRRI) (and other different Indian institutions) has developed drought-tolerant varieties which have been released in several countries and are now being planted by farmers. These include Sahbhagi Dhan in India, the Sahod Ulan in the Philippines, and the Sookha Dhan varieties in Nepal. Across these varieties, the average yield advantage of drought-tolerant varieties over drought-susceptible ones is 0.8-1.2 tons per hectare under drought. According to the author, why should this strategy be less effective than the determination of polymorphic markers of SSR for drought tolerance between the recipient parent and the donor parent of rice?</p>	
Minor REVISION comments	<p>The work is interesting, however in my opinion it is weak in three respects:</p> <p>a) It is not sufficiently pedagogical;</p> <p>b) It is not well framed in the context of works in the field that have recently appeared in the literature;</p> <p>c) the list of references is not exhaustive as some relevant works in the fields are not mentioned, in particular the surveys.</p>	
Optional/General comments	<p>The work is good and, in my opinion, deserves to be published. However, as said, the author should explain more carefully some crucial aspects of the proposed method and, above all, the reasons why this method is more advantageous than alternative solutions recently appeared in the literature. The suggestions expressed above should help to attract the reader's interest more.</p>	

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?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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