



SDI Review Form 1.6

Journal Name:	<a href="#">Journal of Experimental Agriculture International</a>
Manuscript Number:	Ms_JEAI_49631
Title of the Manuscript:	Effects of rice husk biochar and calcium amendment on remediation of saline soil from rice-shrimp system in Vietnamese Mekong Delta: Results from laboratory experiment
Type of the Article	Original Research Article

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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:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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**PART 1: Review Comments**

	<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>Compulsory</b> REVISION comments	<p><b>Introduction:</b> The author needs to organize better introduction. Also, was write little about biochar and nothing about calcium and its potential to reduce the salinity in the soil. For example, what is the mechanism?</p> <p>The hypotheses were not present in the introduction.</p> <p>The methodology needs to organize better, according to the comments below.</p> <p>The <b>Results</b> and discussion, I suggest, put together.</p>	
<b>Minor</b> REVISION comments	<p><b>English</b> - The English must need a reviewer. I like the English service company, responsible: ivangtz20@gmail.com</p> <p>Title: Results from laboratory experiment- delete</p> <p><b>Abstract:</b> t ha<sup>-1</sup> - delete and put Mg ha-1</p> <p><b>Introduction:</b></p> <p>Confuse: "This process is repeated several times to reduce salinity from the soil and requires a huge amount of fresh water, in spite that many of these areas do not have enough fresh water during that period. Thus, some techniques to <b>improve this salinity (or reduce)?</b> washing process are necessary to save time and water in <b>salinity washing.</b>" <b>You already said this.</b></p> <p>Recently, application of biochar (a solid material produced from biomass pyrolysis under low/no oxygen environment) to agriculture has received attention. Biochar amendment to soil has been described as a promising tool to improve soil quality, sequester carbon and mitigate greenhouse gas emissions [4-10]. However, most studies have evaluated benefits of biochar incorporation in non-saline soils while the application of biochar to salt affected soils has received less attention [11-13]. In addition, biochar may improve chemical and physical properties of saline soils since it can be a source of elements such as Ca<sup>2+</sup> and Mg<sup>2+</sup> [13-15], which aid in Na<sup>+</sup> exchange and improve soil structure more suitable for sodium leaching. Therefore, application of biochar to salt affected soils needs more attention and further investigation. The objective of this study was to investigate the effects of biochar and calcium amendments on alleviating constraints in saline soil under laboratory conditions.</p> <p><b>Improve both paragraphs</b></p> <p>The actor needs to write the hypothesis and the effect of the Calcium on the salinity and</p>	



the combination between calcium and biochar on the saline soil.

#### Materials

Soil with a high electrical conductivity (EC) value was collected from a rice-shrimp field in the Mekong Delta and used for salinity leaching experiments.

Improve your phrase. Subject+verb+ predicate.

Please improve the first table. For example, there are many repetitions like this ( $\text{cmol}_c \text{kg}^{-1}$ ). Put one line above with this information.

*It is not necessary to put this information ND: Not determined-*

#### Chemical mensuraments

Soil pH and EC: deionized water was mixed with soil at the ratio 1:5 (soil:water) and the mixture was shaken for 2 hours at 120 rpm. Measurement was done using pH and EC meters (pH meter Metrohm 744 and EC meter Horiba B-173, respectively). (citation?)

Soluble Na, K and Ca: deionized water was mixed with soil at a ratio of 1:10 and the mixture was shaken for 1 hour at 120 rpm. Then, the mixture was passed through filter paper (Advantec 5C) and ions in the filtrate were determined with flame photometry (Flame Photometers, BWB). (citation?)

Exchangeable Na, K and Ca: Exchangeable cations were obtained by subtracting soluble cations from extractable cations. Extractable cations were analyzed by extracting soil sample (2.5 g) three times with 0.1 M  $\text{BaCl}_2$  solution (each time 30 ml) and with 1 hour shaking and determined with flame photometry. (citation?)

Speed of drainage- how did you measure that?

#### 2.4. Data analysis

This information is in the wrong place. "The ESP (Exchangeable Sodium Percentage) is an important indicator for saline soil. If this value is higher than 6, that soil is considered sodic and if it is higher than 15, that soil is strongly sodic [18].

Where  $\text{Na}^+$  is the content of exchangeable sodium ( $\text{cmol}_c \text{kg}^{-1}$ ) and CEC is the cation exchange capacity ( $\text{cmol}_c \text{kg}^{-1}$ ).

In the data analysis section the actor need to write only about it.

Data analysis? (repetition) The statistical analysis was done by using Minitab software. Are you made ANOVA and test of significance?

#### 3. RESULTS

FIG. 2. Formation problem in the description of the figure  
FIG. 2. What means EC?

Fig. 2. Formation problem in the description of the figure  
Fig. 2. What means EC?



**3.3 Ion concentrations in soil and leachate**

Applying biochar (both A and B) significantly ( $P = .05$ ) decreased soluble Na in soil after the leaching experiment (Table 2). Exchangeable Na in soil was the lowest when applying 50 g kg<sup>-1</sup> biochar B with a low rate of CaO (0 and 0.5 g kg<sup>-1</sup>). Exchangeable Na (repetition) in soil tended to be lower in B and B+0.5Ca than in A and A+0.5Ca.

English problem

Redaction problem

The Na<sup>+</sup> sorption capacity of biochar A was double than that of biochar B (Fig. 7). The Na sorption capacity of both biochar increased with concentrations of Na<sup>+</sup> in solution and reached the peak at 4000 mg Na L<sup>-1</sup>.

Figure 6. Y please put the correct description.

Comments about table 2 and table 2

Discussion

**4.3 Effectiveness of biochars in removing sodium and other soil chemical properties**

Chaganti and Crohn (2015), formation problems

Please indicate the figure in your discussion or table. Two biochars used in this study were produced with the pyrolysis temperature around 600°C, but in different methods. Biochar A was a commercial product, and biochar B was produced manually by slow pyrolysis of opened rice husk mound. Therefore, results suggested that the same material but different pyrolysis processes might lead to difference in sorption capacity of biochar.

(methodology and not discussion) or you rewrite this sentence.

What is the practical application of this study?

5. conclusion

What is the biochar you can indicate for the farmers for example?



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<b>Optional/General</b> comments	After these changes indicated above this article may be better for publication	
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**PART 2:**

	Reviewer's comment	Author's comment <i>(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)</i>
<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:**

Name:	<b>Sara De Jesus Duarte</b>
Department, University & Country	<b>Universidade de São Paulo, Brasil</b>