

Review Form 1.7

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_109850
Title of the Manuscript:	Efficacy of botanicals on seed quality enhancement in cowpea [<i>Vigna unguiculata</i> (L.) Walp.] on yield and yield attributes.
Type of the Article	

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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)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> Is the manuscript important for scientific community? (Please write few sentences on this manuscript) Is the title of the article suitable? (If not please suggest an alternative title) Is the abstract of the article comprehensive? Are subsections and structure of the manuscript appropriate? Do you think the manuscript is scientifically correct? Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>General Comments</p> <p>From my point of view, it is a very interesting topic and simultaneously it seems that to the best of my knowledge is an important study which field experiment was conducted at the Regional Agricultural Research Station, Pattambi of Kerala Agricultural University with the objective to understand the effect of seed treatment using different organic leaf extracts on the growth and yield of cowpea. The experimental design was used for the layout of the design in Randomized Block Design, with three replications and nine treatments. The experiment was conducted with 9 treatments viz., the 5% leaf extracts of Calotropis (T1), Pappaya (T2), Pongamia (T3), Castor (T4), Moringa (T5), Vitex (T6), Neem (T7), Tulsi (T8), Control with distilled water (T9). Different field observations revealed that the seed hardening significantly influenced the seed yield and yield contributing characters of cowpea. The maximum yield was recorded due to seed hardening treatment with pongamia 5% leaf extract (T3) for 4 hrs followed by Calotropis 5% leaf extract (T1) for 4 hrs. All the seed hardening treatments had significant effects on yield contributing characters like plant height at maturity, no of secondary branches per plant, no.of clusters per plant, no. of seeds per pod, pod length, pod girth, pod weight, 100 seed weight, seed yield per plot(kg/ha) and dry matter production at harvest. The nodule count at flowering and total chlorophyll content at maturity were also found to be significantly different among the treatments. The seeds hardened with Pongamia leaf extract (5%) (T3) for 4 hrs recorded higher field emergence with maximum grain yield (716 Kg/ha), plant height at maturity (145.07 cm), number of primary branches per plant (3.60) and Secondary branches per plant (6.67), seed yield per plant (g) (13.69 g), seed yield (716 kg/ha) followed by Calotropis leaf extract (5%) (T1) for 4 hrs with a seed yield of 694 kg/ha. The paper consists of the sections: Introduction, Material and Methods, Results and Discussions and Conclusion.</p> <p>However, I find some recommendations:</p> <ol style="list-style-type: none"> The abstract must contains the main purpose of the paper, the research method used in the research and the main contributions. It would be very useful to add in the "Introduction" section the purpose, objectives and hypothesis of the research. <p>I consider an econometric model will increase the quality of the paper.</p> <ol style="list-style-type: none"> The research is well based on science and the results are in agreement with the theoretical part. From my point of view, the paper is original and the topic addressed brings added value to the specialized literature regarding regional sector. The paper is well written and easy to read. The research is well based on science and the results are in agreement with the theoretical part. The model applied to the analyzed data is correctly used in the analysis undertaken, it is a strength point of this paper. It is very important for the authors to analyze the correlation between the variables and to explain the number of items taken into account both in the descriptive analysis (with Kurtosis test, Jarque Berra test and interpretation, Skewness and Kurtosis interpretation) and in the correlation analysis. 	

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	<p>6. I think that descriptive perspective is crucial to understand the context of the problem to be analyzed.</p> <p>7. I consider that the correlation analysis and the VIF test are very important in this research.</p> <p>8. In the same time, in the Methodology section the authors have to apply an econometric method like regression or panel with fixed effect estimation or the random effect estimation (see for instance, Baltagi (2008), Hsiao (2014) and Andre B et al. (2015)). Besides, the corresponding tests to determine which is the best method of estimation is needed (see the Hausman test, the Breusch and Pagan (1980)'s Lagrange multiplier, the F test for fixed effects to test whether all unobservable individual effects are zero).</p> <p>9. The authors talk about the relationship between these variables, however they do not support the empirical evidence providing panel cointegration tests that are crucial (see for instance Kao (1999) panel data cointegration test, the Pedroni (1999, 2004) panel data cointegration test or the Westerlund (2005) panel data cointegration test, among others).</p> <p>We recommend the authors to number the paragraphs: 1. Introduction; 2. Literature Review; 3. Methods and Results, Discussions and Conclusions. In conclusion, the article should be thoroughly rebuilt (changes in structure recommended above). It should also be enhanced with a review of the literature adequate to the subject and a broader interpretation and commentary of the research results.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Yes</p>	
<p>Optional/General comments</p>	<p>The Manuscript needs careful English proofreading because there are some shortcomings. For instance, the article "the" is sometimes missing in front of nouns, the message in some paragraphs is not clear enough.</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)
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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