

Review Form 1.7

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_110095
Title of the Manuscript:	Effect of Various Water Retention Techniques and NAA Application on Flowering and Nut Parameters of Cashew Cv. BPP- 8 under Odisha Condition
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:

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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"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</p>	<ol style="list-style-type: none"> 1. The experimental design could be better, but the results show that NAA improves yield and nut quality and mulch has less of an effect. 2. I suggested a change to Flowering, yield and nut characteristics of Cashew are influenced by mulching materials and NAA Applications 3. I think a more appropriate statistical analysis will allow a better interpretation of results. 4. Statistical analyses are not appropriate for the treatment structure. 5. Probably 6. They are OK 	
<p>Minor REVISION comments</p> <ol style="list-style-type: none"> 1. Is language/English quality of the article suitable for scholarly communications? 	<p>The English is fair, and many sentences can be improved.</p>	
<p>Optional/General comments</p>	<p>I have read the manuscript that describes an experiment to evaluate soil covering to conserve water, with and without foliar applications of NAA. Although a multi-year study would be preferable to evaluate the long-term effects of these treatments, especially potential biennial bearing, I think the study adds enough new information to the literature to warrant publication following revision. The paper is a bit wordy, and I made a few revisions with track changes to demonstrate how some sentences can be shortened without loss of information.</p> <p>The title is confusing; I suggest changing it to something like "Flowering, yield and nut characteristics of Cashew are influenced by mulching materials and NAA Applications".</p> <p>My biggest concern is with the data analysis. There are 9 treatments, but there is also some factorial structure to the treatments. There is no mention of the statistical software package that was used. Since a block design was used, block is a random factor, and some software packages offer only General Linear Models intended for only Fixed Effects models. For block designs, a Mixed Model approach is needed. It will not change the P-values or the estimates for the means, but the estimated standard errors and therefore the multiple comparison based on the standard errors may change. The bottom row of the tables has the CD, I assume that this is the critical value (probably the LSD), but an explanation should be included in a footnote. I would also rather see a P-value rather than the SE.</p> <p>A LSD is probably not conservative enough when there are 9 treatments. With 9 treatments, there are 36 pair-wise comparisons and although the comparison-wise error rate is 0.05, the experiment-wise error rate is 0.84. Tukey's HSD would hold the experiment-wise error rate at about 0.05.</p> <p>Actually, multiple comparisons are not appropriate when there is factorial structure. In this case</p>	

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	<p>there are 3 types of mulch, with and without NAA and this can be considered a 2 x 3 factorial. Rather than comparing all 9 treatments, I strongly suggest that the author employ single-degree-of-freedom contrasts. Most experimental design books explain how to do this. Since there are 8 degrees of freedom for treatment, a maximum of 8 contrasts would be appropriate. The authors might want to evaluate other contrasts, but I would suggest the following contrasts.</p> <p>Contrast 1. irrigated vs. nonirrigated (1 vs. 9)</p> <p>Contrast 2. NAA vs. No NAA (2+4+5 vs. 6+7+8)</p> <p>Contrast 3. Control vs. NAA (1 vs. 3)</p> <p>Contrast 4. Polyethene vs. stone (2+6 vs. 4+7)</p> <p>Contrast 5. Polyethene vs. mean of stone + residue (2+6 vs. 5+7+5+8)</p> <p>There are 6 potential interactions involving treatments 2, 4, 5, 6, 7, and 8, but I would limit the number of interaction contrasts to no more than 3 to avoid inflating the experiment-wise error.</p> <p>An important interaction that can not be tested is the interaction of irrigation and NAA because there is no noirrigated treatment with NAA. A contrast for the 2-way interaction of (Irrigation + Polyethene) x NAA is especially important to learn if the combination of (irrigation + polyethene) + NAA is due to the additive or synergistic effects of the 2 factors.</p> <p>Currently, the author tested one hypothesis (all 9 treatments are equal). Using contrasts may not change the interpretation of the results, but it will allow the author to test more hypotheses.</p>	
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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>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Richard Marini
Department, University & Country	Pennsylvania State University, USA