



SDI Review Form 1.6

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	2013_IJPSS_6870
Title of the Manuscript:	Irrigation strategies for optimizing water table contribution to soil moisture storage and water use of pepper in a humid tropical zone of Nigeria
Type of the 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:

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



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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)
Compulsory REVISION comments	<ol style="list-style-type: none"> 1. The English needs major improvement 2. Add a map of the study area 3. The acronyms are not consistent across the paper. For surface runoff, for example, R, Rs, and Ro have been used. 4. The methods implemented for estimating different components of water balance are not clearly defined. 	<ol style="list-style-type: none"> 5. The English has been improved 6. Add a map of the study area. The authors do not feel this is necessary 7. The acronyms were corrected for consistency e.g. for surface runoff, for example, R, Rs, and Ro have been used. 8. 9. The methods implemented for estimating different components of water balance are were clearly defined.
Minor REVISION comments	<ol style="list-style-type: none"> 1. L 15: No need to mention Cg, it is defined in the next line 2. L 24: How do you argue that water use efficiency was enhanced under weekly irrigation if the saving in water under biweekly irrigations (24%) is much larger than the yield decrease (8%)? 3. L 29-30: moisture content levels are not clear 4. L 31: Be consistent in reporting the results (WUE values for each irrigation regime, not the average 5. L 34: define VPD (vapour pressure deficit) 6. L 95: Study periods are confusing 7. L 116: No need to mention SWD, it is defined in the next line 8. L 119: How many samples were taken at each depth? 9. L 122: modify the equation to: $1.0 - ET_a/ET_o$ 10. L 123: How did you estimate ET_a and ET_o? 	<ol style="list-style-type: none"> 24. L 15: Cg is deleted 25. L 24: this tense is corrected to read: water use efficiency was low under weekly irrigation as the saving in water was obtained under biweekly irrigations (24%) 26. L 29-30: moisture content levels were corrected 27. L 31: the WUE values for each irrigation regime were presented and not the average 28. L 34: define VPD (vapour pressure deficit) 29. L 95: Study periods are clarified 30. L 116: SWD was deleted 31. L 119: The number of samples were taken at each depth is inserted in text 32. L 122: The equation is modified as: $1.0 - ET_a/ET_o$ 33. L 123: The methods for estimate ET_a and ET_o were captured in the text 34. L 126: The number of observation wells and



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	<p>11. L 126: How many observation wells, at what distance to the research field?</p> <p>12. L 164: it is usual for WB equation to have inflows on one side of the equation and outflows on the other side</p> <p>13. L 186: R, Ro, or Rs? Cg or D? ET or ETa?</p> <p>14. L 195: Did you adjust the Kc for the local climate of the study area? If yes, how?</p> <p>15. L 200: What is the approximate distance between the weather station and the research site?</p> <p>16. L 223: You mentioned that ETa was estimated as $Kc \cdot ETo$. If that's the case, ETa/ETo represents the Kc that you obtained from the FAO56! Did you estimate ETa using a different method? Capillary rise, which is an unknown in this study, appears in all other equations, so you could have not used them.</p> <p>17. L 242: This is the first time you define WAT after using it multiple times.</p> <p>18. L 260: water satisfaction index?</p> <p>19. Table 1: Porosity of 81%? This is unbelievably high! If BD is 1.24 as reported in the table, porosity will be about 51%.</p> <p>20. Table 1: What do you mean by water holding capacity? How did you estimate it? It is usually the difference between FC and PWP.</p> <p>21. Table 2: How did you estimate water use efficiency? Based on my estimates, the values should be 0.19 for 14-day and 0.14 for 7-day irrigation regimes, so you see an increase in WUE with less frequent irrigation, as it is expected.</p> <p>22. Table 4: If ETa is zero, CWSI will be equal to one. If ETa is larger than ETo, CWSI will be a negative</p>	<p>the distance to the research field is captured in the text</p> <p>35. L 164: it is usual for WB equation to have inflows on one side of the equation and outflows on the other side. Thank you</p> <p>36. L 186: Consistency in the use of codes (R, Ro, or Rs? Cg or D? ET or ETa) is effected</p> <p>37. L 195: Did you adjust the Kc for the local climate of the study area? If yes using standard procedures (See Allen et al., 1998)</p> <p>38. L 200: the weather station is about 500m to the research site?</p> <p>39. <i>L 223: This tense is corrected You mentioned that ETa was estimated as $Kc \cdot ETo$. If that's the case, ETa/ETo represents the Kc that you obtained from the FAO56! Did you estimate ETa using a different method? Capillary rise, which is an unknown in this study, appears in all other equations, so you could have not used them.</i></p> <p>40. L 242: WAT was defined at first use.</p> <p>41. L 260: water satisfaction index? YES</p> <p>42. Table 1: The value of porosity is corrected as about 51%. Thank you</p> <p>43. <i>Table 1: What do you mean by water holding capacity? How did you estimate it? It is usually the difference between FC and PWP.</i></p> <p>44. Table 2: Thank you for the correction</p>
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	<p>number. But how did you come up with a CWSI of larger than unity (2.11, 3.10, etc.)?</p> <p>23. Figure 5: The parameters in Figure 5 have significantly different ranges of values. It is better to show them in separate graphs or on different ordinates.</p>	<p>45. WUE estimates is corrected as 0.19 for 14-day and 0.14 for 7-day irrigation regimes, There is an increase in WUE with less frequent irrigation, as it is expected.</p> <p>46. <i>Table 4: If ET_a is zero, CWSI will be equal to one. If ET_a is larger than ET_o, CWSI will be a negative number. But how did you come up with a CWSI of larger than unity (2.11, 3.10, etc.)?</i></p> <p>47. Figure 5: The parameters in Figure 5 have significantly different ranges of values. It shown on on different ordinates.</p>
<u>Optional/General</u> comments	<p>1. L 43: Perhaps you want to add pepper as a keyword</p> <p>2. Add a few photos of the research field</p> <p>3. L 114: this method of installation results in soil compaction and reduces the accuracy of collected data. The best approach is to drill a hole with an auger</p>	<p>4. L 43: Pepper is added pepper as a keyword</p> <p>5. L 114: this method of installation of measuring equipments was approached via use of drill a hole with an auger to reduce s in soil compaction and improve the accuracy of collected data. Thank you</p>