



SDI Review Form 1.5

PART A:

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	MS: 2012/AJEA/1611
Title of the Manuscript:	Evaluation of the Efficacy of Different Rates of Herbicides on Weed Growth and Yield of Two Rice Varieties in Two Rice Ecologies in Sierra Leone.

(Note: Title of different sections as proposed below may differ in case of review paper)



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PART B: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part and write here 'Corrected'/ if not agreed, give suitable justifications)
General comment:	The study is original and addresses an acute problem. Results of this research can readily be applied in practice; hence the potential impact of this study is large. There are few studies related to this subject (weed control in lowland rice in Africa) published, the study is thus a welcome addition. The set-up of the study is thorough and correct, however there is significant information lacking on the statistical analysis of the data. Furthermore, the data can be analyzed more thoroughly concerning the differences in weed competitiveness between the two cultivars. Main effects of cultivar, herbicides and application are not discussed, neither is it made clear how the two different sites and two different years are treated.	Corrected. The objectives of the study were to identify suitable herbicides for both sites, the efficacy of herbicides and cost benefits rather than on crop/weed competitiveness. The choice of cultivars was based on selecting a weed competitive and a non-competitive but yielding (RARC, 2011) that is mostly cultivated by farmers so as to actually ascertain the effect of the herbicides and suitability to these ecologies. It has been made clear as to how the two sites and years were treated in materials and methods. Main effects of cultivar, herbicide and application rate discussed. However, site effect and its interactions were not significant; hence data were not presented but discussed as advised.
Specific comments:	In the manuscript, no results of the analysis of variance are presented. No analyses of the main effects of are presented. Effects of the factor 'site' are not shown or discussed. It is not clear which data are used for the tables 2-6: are the data summarized over the other factors, i.d. site and cultivar for Table 2 and 3, and over site and application rate for 4 etc. This is a serious issue and should be treatment before the manuscript can be published.	Corrected. The experiment is a 2×4^2 factorial trial in a randomized complete block design. Data was analyzed and summarized in two-way tables and discussed for significant factors from the sources of variance as shown in table headings (e.g. herbicide and rate; herbicide and variety; etc). MSTAT-C was used to analyse data using combined analysis of variance for main effects over sites for each year separately. However, site effect and its interactions were not significant; hence data were not presented but discussed as advised.
Title and abstract	ok	
Introduction (Is the problem/objective of this study original, important and well defined?)	IS sufficient, but can be a bit more elaborated, using some of the references below.	Corrected. More pertinent references now included.
Are all the references cited relevant, adequate? Are	The authors should consider citing one of the following recent studies:	



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there any other suitable current references authors need to cite?	de Vries, Michiel E. et al. 2010 .Rice production with less irrigation water is possible in a Sahelian environment. 116: 154-164 Rodenburg, J., K. Saito, R. G. Kakaï, A. Touré, M. Mariko & P. Kiepe. 2009. Weed competitiveness of the lowland rice varieties of NERICA in the southern Guinea Savanna. Field Crops Research 114: 411-418. Yield, water productivity and nutrient balances under the System of Rice Intensification and Recommended Management Practices in the SahelKrupnik, T.J., Shennan, C., Rodenburg, J.2012Field Crops Research, 130 pp. 155-167. Challenges for weed management in African rice systems in a changing climate, Rodenburg, J; Meinke, H; Johnson, DE JOURNAL OF AGRICULTURAL SCIENCE 149: 427-435 Part 4 AUG 2011	
Materials & methods (Kindly comment on the suitability of the methods. Sufficient details of the methods should be provided to allow peers to evaluate and/or replicate the work)	As mentioned above, the statistical analysis should be elaborated more.	corrected
Results & discussion (Kindly comment on: 1. Are the data well controlled and robust? 2. Authors should provide relevant references during discussion. 3. Discussion and conclusions should be based on actual facts and figures. Biased claims should be pointed out. 4. Are statistical analyses must for this paper? If yes, have sufficient and appropriate statistical analyses been carried	The choice of the two cultivars is not very good: one has growth duration of ± 100 days and the other ± 175 days, a huge difference. It blurs the outcomes: longer duration mena in general more time to photosynthesize and produce carbohydrates thus yield more grain, on the other hand costs for irrigation can also be higher due to a higher total water demand. It can be disputed whether the comparison of the two cultivars is thus valid. At least these aspects should be discussed.	Yes, this is true. However, the trial was conducted under rain-fed condition. As stated earlier, the objectives of the study were not on varietal competitiveness but on herbicide efficacy, identification for sites and cost benefit. The choice of cultivars is very good, though not of the same duration. These are the cultivars recommended and are widely use by farmers in these ecologies. The main problem limiting their yields is weed infestation. ROK10 is high yielding but not competitive with weeds (RARC, 2011) and yields could be reduced by 55% due to uncontrolled weeds. NERICA L19 is high yielding and weed competitive. The need now is to identify suitable herbicides that are cost effective for those sites since varieties are now available for them to cultivate.



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out?)		
Are there any ethical or competing interest issues?	No	
Conclusion (Is the conclusion supported by the data, discussed inside the manuscript? Conclusions should not be biased and should be based on the data, presented inside the manuscript only)	In the conclusion, for the first time it is mentioned that yields were similar at the two sites. This should be shown and discussed in the results& discussion section	Corrected. Since site and its interactions were not significant ($P=.05$), data were not presented. It has been mentioned and discussed in the relevant sections.
References	References to Khan et al. are not very relevant: in another crop and another continent. Better ones can be found.	Corrected. It has been removed and replaced by pertinent literature.