



SDI Review Form 1.6

PART 1:

Journal Name:	<u>American Journal of Experimental Agriculture</u>
Manuscript Number:	2013 AJEA 4380
Title of the Manuscript:	COMPARATIVE EFFECTS OF SOIL AMENDMENTS ON PHOSPHORUS USE AND AGRONOMIC EFFICIENCIES OF TWO MAIZE HYBRIDS IN ACIDIC SOILS OF MOLO COUNTY, KENYA
Type of the Article	Research paper

General guideline for Peer Review process is available in this link:

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

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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)
	The paper contain important findings that can be useful in addressing the global problem of low P in acid soils hence merits publication, However below are some issues to be addressed:	
Compulsory REVISION comments	1. The abstract and the introduction have lots of grammatical mistakes and long ambiguous sentences which the Authors need to correct and summarize. In essence, the English of the paper needs to be improved. For instance, • A full stop missing in text row no. 17 after county. • Row no. 28 beginning with.....the split plots... to row no. 29 ending with MPR...The sentence is incomplete. How the split were plots an absolute control? Repeated in row no. 116-117. • Row no. 51 to 54, the sentence is too long. • Row no. 63 to 64 up to Okalebo et al., 2006 is incomplete. • Row no. 83, what is a dearth of literature? etc.	



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	2. Row 216, 310, 356. In all your Tables of means in the result section, you have not given the SE, Sed, for the treatments and CV for the experiments. These should be shown. Row 401, 405. Also in your bar graphs, you should show the standard error bars. You must find a way of showing variability so that the readers can judge whether there is significant difference between treatments. This is the standard way to present the results. 3. What was the % calcium carbonate in the lime that you used? You need to give this 4. Row 109. How did you decide on lime application rate used? You should apply lime to increase soil pH and neutralize Al, so you must base your application on some method. Al saturation is one of them; Why did you choose on 3t/ha lime rate, yet higher lime rates is better as it's known to have longer residual effects than lower rates. Did you calculate the lime requirement for these soils? How? You need to show this. 5. Row 120. You should describe with details all the practices. For instance, how did you apply lime? What equipment where used to incorporate, CAN was applied as top dress but after how long?	
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	6. Row 106. The experimental design for experiment 1 was a 2*4 factorial arrangement in RCBD and not a 2*3. The factors were: L, MPR, FYM and Hybrids each at 2 levels. The 8 treatments were: L, MPR, FYM, C, L+MPR, L+FYM, MPR+FYM+ L+MPR+FYM. 7. You need to state the statistical model that was fitted for the analysis that you did for the factorial, split plot and correlation. How was correlation measured? Give more details here. (Row 194-196). 8. Row 218,313,360. You need to be clear on you table of means because you separated means using both t-test and Tukeys test so you need to state which test the letters were based on. ✚ It is not accurate to use paired t-test in your case because its only used when measurements are taken from the same experimental unit hence you cannot compare grain yield and available P means using paired t-test because their measurements were from different experimental units. The correct one is unpaired t-test (two independent experimental units) but you need to choose on Tukeys test or t-test.	
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	9. You need to define P use efficiency and Relative agronomic efficiency in the introduction or in the methodology since these can be very controversial terms. 10. State the plot sizes in these 2 experiments? 11. Row 176-186. State whose procedures you used to calculate PUE, RAE 12. Row 40. Climate change is not the focus of this paper hence should be removed from key words in the abstract. 13. The statement in the abstract (Row no. 27-28), that the two hybrids were the main plots in the 2 experiments is not accurate because in a factorial arrangement, we don't normally have the main plots. It's only in split plot where we randomize first in the main and then in the subplots. 14. Row 90: you should be more specific on geographic coordinates, including seconds	
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Minor REVISION comments	1. Row 68 to 69, state the site where Gudu and Kisinyo limed just like you have stated KARI in Molo county 2. Row 192: Probability should be small 'p' since you have used capital P to denote phosphorus	
Optional/General comments	1. In acid soils Al toxicity often coexist with low P and the two are globally accepted as the major constraints to plant growth in these soils hence you need to introduce Al toxicity alongside low available P since your work was done in acid soils . Moisture stress is a problem too but it's not related to soil acidity and is an independent crop production constraint. Based on the title of the paper you need to remove the last paragraph in the introduction about climate change. It's irrelevant and doesn't add value to this paper. 2. H513 was generally bred for medium altitude areas (≤ 1700 masl). Why would you encourage farmers to grow it in the high altitude areas like Molo (Alt 2500 masl)? 3. Row 120: Was 2 weeks adequate for lime	



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	to react with the soil as required? Normally 4 weeks is adequate unless the moisture content in the soil is high enough to speed up the reaction. You need to explain this. 4. Row 94,95. It would be better if you stated the average rainfall of the site used; for instance the last ten years and not just for the two years of the experiments.	
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Reviewer Details:

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