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PART 1:

Journal Name:	International Journal of Biochemistry Research & Review
Manuscript Number:	**MS: 2013_IJBcRR_3129**
Title of the Manuscript:	**EFFECTS OF PHOSPHIDE-POWDER RESIDUE CONTAMINATED COWPEA ON SERUM MAGNESIUM AND TRACE ELEMENTS IN RATS.**

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 9 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)*
Compulsory REVISION comments	**The trace element composition of the cowpea material itself is not given. This should be included as the authors are measuring changes in serum trace elements in rats fed these cowpea materials.** **The authors need to be careful in talking about these trace elements as antioxidants, as they are not. Metals such as copper, iron, and manganese, if not properly liganded, can in fact be the opposite. They can catalyze deleterious redox reactions. It is true that these elements/metals are important cofactors for numerous antioxidant enzymes, but they are not antioxidants alone. Please review the manuscript closely and make all necessary changes. There are numerous places in the manuscript where this needs to be corrected.** **Line 89, how long were the treated grains "aired"? Please be more specific as to the length and the exact conditions used including, temperature, humidity, sunlight exposure etc.** **The authors are measuring changes in serum trace elements/metals as an indication of some adverse physiological changes that occurred due to exposure to phosphide. However, the authors do not provide any measures of toxicity or other biochemical changes that may occurred, or proof that they did not occur. Were any measurements of biochemical**	

	changes or tissue damages made? The addition of this type of data would greatly add to the understanding of the potential impact of the data presented. Something like a traditional medical chemistry panel would be helpful. **Line 93, were the tubes and other materials used to collect and process the rat blood trace element free? If not contaminating trace elements on the tubes used may be confounding all measurements.**	

Minor REVISION comments	The authors should be more specific in the abstract when referring to serum elements. It is not clear until reading further into the paper what elements are being referred to. Be specific in the first instance so that the readers will clearly understand the objective of the manuscript. Line 18, I am not sure what the authors mean in the abstract when they say "teeming millions", I would suggest removing the term teeming. Insert the phrase "the amount of" between the words with and food on line 34. Line 63, please provide more explanation as to what the impact of phosphide on essential trace elements means or what the impact is. Line 117, I recommend changing this sentence to read "Female Wistar rats fed cowpea contaminated with phosphide powder…" Line 156, the authors talk about changes to antioxidant enzymes, but it isn't clear as what was the cause. Please rewrite the sentence to clarify. Line 179-182, I do not follow the logic the authors present in this sentence. I recommend they rewrite this sentence to clarify their intended meaning. Tables 2 and 3, The authors present too many significant figures for their results of many of the elements. I recommend the authors follow traditional use of significant figures in their presentation of the data. If the standard error is plus or minus 6, there is no need to present the data to 6.72.	

	I recommend the authors combine tables 2 and 3 as they are showing the results for the same treatment, with the only difference being the elements presented.	
Optional/General comments	The last statement of the abstract is a place to indicate what the impact of the research is. I recommend including some type of impact statement. Similarly, the last paragraph of the discussion section is generally a place where a summary of the results together with the impact of those results can be highlighted. I recommend that the authors include a concluding paragraph with this information.	