



SDI Review Form 1.6

PART 1:

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	2013_BJAST_4439
Title of the Manuscript:	Chemical, sensory and microbiological evaluation of novel product manufactured from water soluble constituents of germinated grains
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)
<u>Compulsory</u> REVISION comments	Dear editor 1) After I read the manuscript I found that there are many problems in the research process and the obtained data as well as no consistent was found among different sections of the manuscript. For example, the methods, especially germination methods (Tejinder, 2007) and all antioxidant assay methods, were typically quoted from literature by the author and placed in the manuscript although they describing other materials, procedures, and treatments not related with research done in the manuscript. Also most of sentences are typically quoted from literature, especially from Marton et al. (2010). In conclusion, it looks like that the data and discussion section was already written or prepared, and then methods were just quoted from literature to complete the manuscript. On the other hand, some methods, such as minerals determination and processes after cooking are not provided in the manuscript. 2) The most important, the title, objective, results, and conclusion of the manuscript claimed that a novel product with health claims was produced. Basically it is well known that when we made a novel and functional food product with health claims, it should be more nutritional or at least equal with the raw material. However, what the author has done it	Modifications were highlighted by purple colour in the manuscript. Abstract: Novel food product from germinated barley (barley like jam) comparing to the same product manufactured from wheat. The new in research objective is the focusing on antioxidants, phenolics and antioxidant activity, as most barley products in literature investigates the high fiber content of the product. (high content of bioactive compounds comparing to the original grains.) Introduction: Repetition was modified (the second sentence was removed) . During the germination



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	looks like just destroyed or removed most of nutrients and functional compounds in the final product. The author just collected grains from local market without any information about the harvesting date and storage conditions, germinated them, and then blended the germinated grains with high amount of water and filtrated the mixture through strainer to remove the fibber-rich residual. The aqueous extract (not water soluble constituents as claimed in the title) was cooked under uncontrolled conditions for 10 hours to reach brown colour and high viscosity. The big question, after 10 h of cooking under uncontrolled conditions what type of antioxidants or nutrients could be remain and stable, and is this a novel, nutritional, and healthy functional product, and what kind of people will accept it. The results of nutrient contents in the final product compared to the started materials already evidenced that it is not valuable. At the end, and although it is well known cooking for just several minutes reduces the antioxidant activity, but the author after 10 h of uncontrolled cooking claimed that the antioxidant activity was higher in the final product compared to the raw material. 3) After all these the author stored the product for 60 day and evaluated microbial changes and attributed the changes to variety of grain. However, no information was provided about processes performed after cooking, such as cooling, packaging and storage conditions, which they are main influences of microbial changes during storage. 4) In addition, Cost effectiveness of a novel product is very important and although the author is working at department of home economic, as it can be seen from the affiliation, but	Materials & methods: Materials authentication was mentioned. (Agriculture Research Center, Giza, Egypt) It is already mentioned that the used type of barley is covered barley. Wheat (<i>Triticum aestivum</i>(Giza - 160 / 1)) and covered barley (<i>Hordeum</i>) <i>Steeping and germination:</i> The comment was "typically quoted" I thought that is an honesty to mention the method as it is (accurately) as carried it out accurately. I tried to make modifications while maintaining the meaning as possible. Gibberellic acid was used to promote growth of the root and shoot. (GA was used for its ability to induce starch breakdown in the endosperm of the seed (Coombe et al, 1967)). <i>DPPH assay:</i> <i>FRAP assay:</i>
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	unfortunately the author didn't mention how much amount or volume of the final product obtained from a known amount of germinated grains. This because the author was soaked the grains for 52 h and then germination for 5 days, i.e. about 7 days total, and long germination time is well known to decrease the total dry matter in the grains and increase fiber content. However since the author removed the entire fiber-rich fraction, so how much dry matter could be in the extract, and thus in the final product. 5) Therefore, from the scientific, nutritional, safety, and economical point, the final product obtained is impossible to be acceptable for consumption or to be produced by this processing method, even on a household or traditional scale. 6) Therefore, I strongly suggest that this manuscript should be rejected with irreparable deficiencies without need for pointing out specific comments or further review processes. 7) Please find attached a copy of the manuscript with some highlights and notes, which may help you to point out some problems and may help with making a final decision.	The abbreviations were corrected. The WLG (Wheat like jam) and BLG Microbiological analysis: <i>Sensory evaluation:</i> The beverages word was corrected. Chemical composition: Numbers were removed "How with this content of water can be like jam??? And after 10 h of heating???" More than 4500 ml of water (after boiling point was reached) was kept on quite heat (the final volume ranged between 200 and 300 ml. Another any more suitable name for the product can be suggested from reviewers.
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		All Thanks to the reviewer for the thoughtful and helpful comments. I will bear your advice in mind and keep working on my weaknesses.