

Review Form 1.6

Journal Name:	Asian Food Science Journal
Manuscript Number:	Ms_AFSJ_84981
Title of the Manuscript:	Effects of temperature and variety on rehydration parameters and solute loss during soaking of maize
Type of the Article	Original Research 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:

(<https://www.journalafsj.com/index.php/AFSJ/editorial-policy>)

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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	<p>General: The standard of English Language is not good. There are several typographical and spelling mistakes. The grammar in some areas is not good.</p> <p>Title: The title must be written again; including the names of the two varieties of maize studied</p> <p>Abstract: The abstract mentions of two mechanisms involved in the uptake of water. But these are neither described both in the abstract and the main paper. This must be addressed.</p> <p>The moisture content of the sundried maize was not provided. This is very important for one to understand the dry matter content and how it influenced the rehydration process.</p> <p>Materials & Methods: The source of analytical reagents used was quoted as being from the Department of Chemistry of the Kwame Nkrumah University of Science and Technology, Kumasi. I am not aware that this university manufactures and sells analytical reagents.</p> <p>The manufacturer of the analytical balance used in the study must be provided. Re: Vitamin C determination. What was the strength of ethanol used? And the concentration of 2,6-dichlorophenol solution used.</p> <p>Results & Discussion: The statements italicised: “.</p> <p><i>i. The increment could possibly be attributed to increased fermentation and hydrolysis of the anti-nutrients due to increased temperature.</i> This is highly speculative and cannot be accepted as such. Which anti-nutrients are being referred to here.</p> <p><i>ii. The anti-nutrients leached out thereby decreasing their concentrations in the kernels, consequently releasing more P from their initially bound complexes due to their reduced chelating power.</i> This is highly speculative and cannot be accepted as such. What was the basis of this statement??</p> <p><i>iii. The temperature serves as a catalyst that helped in the breaking down of the cell wall of the kernels thereby creating large surface area which caused loss of the mineral during soaking.</i> Temperature does not catalyse any reaction of this sort in the cell wall</p> <p>Conclusion: The following italicised statement is not acceptable as part of the conclusion. This is because no work was carried out to study the cell wall of the maize structure. So such a conclusion cannot be accepted. <i>The pores in the maize structure were responsible for the initial rapid water uptake by the kernels and the hydration of dry matter constituents such as protein, starch and</i></p>	<p>I disagree with the comment that the standard of the English language is not good. Those areas could have been highlighted for easy identification.</p> <p>The names of the varieties were omitted from the title in order to decrease the number of words in the title. However, if the number of words does not matter, then I have written the title to include the names of the two varieties studied</p> <p>The portion of the abstract that contains the “principal mechanisms” has been written again to read “Temperature and variety were the two principal factors found to influence water uptake by the kernels”.</p> <p>Table showing moisture contents in g water/1000 g dry weight have been provided at the Appendix</p> <p>Chemistry Department of Kwame Nkrumah University of Science and Technology, Kumasi do not manufacture analytical reagents but they do procure reagents for use by students</p> <p>The study used electronic Compact Scale, SF-400C which was manufactured by Yongkang Beichen Weighing Apparatus Co, Ltd</p> <p>95% grade of ethanol was used for the extraction of the vitamin C and 0.01 M solution of 2,6-dichloroindophenol solution was used in the titration</p> <p>i. Soaking and fermentation effectively degrades phytate in grains through hydrolysis and heat increases the rate of Hydrolysis. Phytate is sensitive to heat. Also, many anti-nutrients like phytates and lectins can be removed or deactivated by soaking or boiling</p> <p>ii. The statement has been reframed to read “The increment could possibly be attributed to increased fermentation and hydrolysis of the anti-nutrients (phytate) by phytase due to increased temperature. The Hydrolysis by phytase can convert phytate into inorganic phosphorus thereby increase the availability of P. However, at higher temperature, the anti-nutrients (phytate) could leach out thereby decreasing their concentrations in the kernels, consequently reducing the amount of phytate available for hydrolysis”.</p> <p>iii The statement has been reframed to read “The high temperature led to a decrease in the mannose content of the cell wall and caused the breakdown of the cell wall of the kernels thereby creating large surface area and an increased cell wall porosity which provided an avenue for these materials to get out of the kernel during the soaking”.</p> <p>The italicised statement has been deleted from the conclusion.</p>

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	<i>carbohydrates molecules were responsible for the variation in the rehydration ratio and coefficient of rehydration values of the two varieties</i>	
Minor REVISION comments		
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	No ethical issues in this manuscript