



International Conference on  
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**Title: Physicochemical and Sensory Quality of Biscuits from Composite Flour of Wheat, Moringa and Potato**

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### ABSTRACT

Biscuit is an important staple food in many developing countries and it is commonly prepared from wheat flour alone. However, a biscuit which is made only from wheat may not give a nutritionally balanced diet. Therefore, the aim of this research is to investigate the possibilities of improving the physical properties and sensory qualities of the biscuit with partial substitution of wheat by moringa and potato flour. The wheat flour (WF) was substituted by moringa flour (MF) and potato flour PF at levels of 0%, 5%, 10%, 15%, and 20%. Nine treatment combinations were generated by Minitab software version 16 mixture designs from the blend of wheat, moringa and potato flour. Moisture contents, ash and physical property (thickness, diameter, and spread ratio) and sensory quality of the biscuit were evaluated. Data were analyzed using Minitab software. The result showed that moisture and ash contents of the biscuit varied from 1.5% to 9% and, 1.7% to 2.9% respectively. Physical properties of the biscuits; diameter, thickness and spread ratio varied from 55.2mm to 58.25mm, 10.2mm to 10.55mm, and 5.3 to 5.7 respectively. The sensory preference of the biscuit varies from 2.4 to 4.2 in 5 hedonic scale evaluation. Increase in the levels of moringa and potato flour in the blend resulted

in increased ash content, flavor, taste, overall acceptability, thickness and spread ratio of the biscuit. However, increasing the proportion of moringa flour in the blend decreases color and texture of the biscuit. The finding revealed that the inclusion of potato and moringa flour improved physicochemical and sensory properties of the biscuit. Generally blending at optimum ratio; 68.06% wheat flour, 16.94% moringa and 15% potato flour can be used to produce biscuit with improved nutritional and sensory qualities. Further investigation is required to determine mineral and proximate compositions which are not addressed in this study.

### BIOGRAPHY

Kumsa Negasa has completed his BSc at the age of 25 years from Jimma University, Ethiopia. He was the **Gold Medalist** winner of the year from the university. He is the candidate of MSc in Food science and Technology. He has 3 publications that have been published within one year.



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