World Academy of Science, Engineering and Technology
International Journal of Nutrition and Food Engineering
Vol:8, No:07, 2014

Effect on Physicochemical and Sensory Attributes of Bread Substituted with Different Levels of Matured Soursop (Anona muricata) Flour

Authors : Mardiana Ahamad Zabidi, Akmalluddin Md. Yunus

Abstract : Soursop (Anona muricata) is one of the underutilized tropical fruits containing nutrients, particularly dietary fibre and antioxidant properties that are beneficial to human health. This objective of this study is to investigate the feasibility of matured soursop pulp flour (SPF) to be substituted with high-protein wheat flour in bread. Bread formulation was substituted with different levels of SPF (0%, 5%, 10% and 15%). The effect on physicochemical properties and sensory attributes were evaluated. Higher substitution level of SPF resulted in significantly higher ($p<0.05$) fibre, protein and ash content, while fat and carbohydrate content reduced significantly ($p<0.05$). FESEM showed that the bread crumb surface of control and 5% SPF appeared to distribute evenly and coalesced by thin gluten film. However, higher SPF substitution level in bread formulation exhibited a deleterious effect by formation of discontinuous gluten network. For texture profile analysis, 5% SPF bread resulted in the lowest value of hardness. The score of sensory evaluation showed that 5% SPF bread received good acceptability and is comparable with control bread.

Keywords : soursop pulp flour, bread, physicochemical properties, sensory attributes, scanning electron microscopy (SEM)
Conference Title : ICNFS 2014 : International Conference on Nutrition and Food Sciences
Conference Location : Zurich, Switzerland
Conference Dates : July 30-31, 2014