ABSTRACT

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Title : The Development of Nutritious and Shelf Stable Meat-based Protein Bar

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Owing to the busy lifestyles of consumers, the trend of consuming healthy, innovative and convenient food has driven the market of protein bars to a gradual growth. However, most of the existing protein bars that are available in the market still contain a high amount of processed protein isolates (soy protein isolates and hydrolyzed vegetable protein) which are known to show intolerance symptoms of digestive problem, alter metabolic process and spiked up the insulin level (Moss, 2014). Therefore, the aim of the present study was to develop a meat-based protein bar providing optimal nutrition made of 100% natural whole food ingredients with unprocessed proteins. The bars were prepared with three different formulations as follows: **Control**, **Meat Savory** and **Meat Sweet** which differ according to the flavor and composition of protein-rich seeds. The developed bars were assessed for their proximate composition, free amino acid and free fatty acid profiling, physicochemical properties (TPA, water activity, and color) and shelf-stability assessment (mold growth and TVB-N). The result in this present study indicated that incorporation of lean red meats in protein bar increased the total protein and ash content while providing an excellent free amino acid and fatty acid profiles. The bars were also at a shelf-stable state having a water activity value below 0.8. Although the meat-based bars had meaningfully lower acceptability scores compared to the controls across all sensory attributes, the participants gave a positive response on this novel idea and interested to buy the product.

Keyword: *product development, meat-based protein bar, lean red meats, shelf life, proximate composition*