The effect of raw pearl millet flour inclusion on the quality and formulation cost of beef sausages

ABSTRACT

This study investigated the sensory, nutritional, and physicochemical characteristics as well as formulation cost of beef sausages formulated with raw pearl millet flour (RaPMF) as an extender. Four treatments were formulated with 0%, 5%, 10% and 15% RaPMF. Ash, carbohydrate, fat, and protein contents of the beef sausages were not influenced ($p < 0.05$) by the RaPMF. The calcium, magnesium, potassium, and pH contents were highest ($p < 0.05$) in the 15% RaPMF beef sausages. Cooking loss was at least ($p < 0.05$) for the 15% RaPMF beef sausages. Formulation of beef sausages with RaPMF did not affect ($p > 0.05$) the sensory properties (week 1), water holding capacity, peroxide value, lightness (week 1), and yellowness (week 1). The formulation cost was least for 15% RaPMF beef sausages and highest for 0% RaPMF beef sausages. As a general conclusion, RaPMF improved the mineral composition of the beef sausages and reduced production costs without compromising its physicochemical and sensory properties.