

**DEVELOPMENT OF SEAWEED (*Gracilaria edulis*) AND OYSTER MUSHROOM (*Pleurotus ostreatus*) INCORPORATED VEGETARIAN SAUSAGE SUBSTITUTE**

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Vegetarianism is the practice of abstaining from meat-based foods. However, sausage which is a minced meat food item is preferred by all types of consumers due to its unique sensory properties. Thereby, this study was planned to develop a vegetarian sausage from locally available seaweed (*Gracilaria edulis*) and oyster mushroom (*Pleurotus ostreatus*). The experiment was laid out in Completely Randomized Design in triplicates which consisted with six treatments incorporating different ratios of mushroom (MR) and seaweed (SW) (w/w); 60% MR + 20% SW, 50% MR + 30% SW, 40% MR + 40% SW, 30% MR + 50% SW, 0% MR + 80% SW and 80% MR + 0% SW. Samples were vacuum packaged and stored at -24 °C. Proximate composition, energy value and iodine content were evaluated. Microbiological quality and pH were analysed in 2-weeks intervals for 75 days. Sensory evaluation was conducted with 15 trained panellists adopting Friedman test. Parametric data were analysed using Analysis of Variance. The sensory results revealed that 50% MR + 30% SW treatment had the highest scores for all sensory attributes. It consisted of 3.93 ± 0.16% crude fat, 8.59 ± 0.87% crude fibre, 6.61 ± 0.03% crude protein, 8.21 ± 1.17% carbohydrate, 88.68 ± 2.02 kcal/100 g<sup>-1</sup> energy and 1.53 ± 0.12 mgL<sup>-1</sup> iodine content. The yeast and mould were not detected and total plate count was 777 CFUg<sup>-1</sup> initially and further decreased in accordance with the Sri Lanka standards (<1×10<sup>4</sup> CFUg<sup>-1</sup>) for a period of 75 days at -24 °C storage. pH was significantly reduced ( $p < 0.05$ ) in the storage period however, it was within the acceptable limit. In conclusion, vegetarian sausage incorporated 50% MR with 30% SW (w/w) has better organoleptic and nutritional properties and can be stored at -24 °C in vacuum packed conditions for 75 days without any quality deterioration.

**Keywords:** Mushroom, Sausage substitute, Seaweed, Vegetarian