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Development of a non-meat vegetable based sausage using locally available raw materials

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Frequent consumption of processed meat products due to busy life styles of human has been a trigger factor for cancer, obesity, and cardio vascular diseases. In addition to the traditional meat based sausages, gluten and vegetable based non-meat sausages are available in different markets in the world. The main objective of this research was towards the development of vegetable based sausage using locally available, seasonal and low-priced vegetables in Sri Lanka.

Cucurbita maxima and *Ipomoea batatas* (Sri Lankan varieties) were used as the main substitute for meat. Optimal ratio of vegetable to emulsion was revealed through a six-stage recipe optimization process. Finally, the three samples, which were labeled as 278, 672 and 358, were developed with the different recipes and the best sample was identified through a sensory analysis.

Sensory evaluation was carried out using a seven-point hedonic scale and the results were evaluated using Mood Median test.

There was no significant difference between the three samples according to the sensory evaluation results for odour, taste, texture, mouth feel, colour, appearance and overall acceptability with the probability values of 0.009, 0,023, 0.000, 0.000, 0.000, 0.000 and 0.000 respectively. According to the pairwise comparison 358, 672 and 278 samples had the highest, average and lowest rank values respectively. Sample 358 which was ranked highest consists of 20% *Cucurbita maxima* and 10% of *Ipomoea batatas*. Although the sample was compatible with the microbiological and chemical requirements of Sri Lankan standards, the stability of the sausage was also considered for a period of one month according to the rapid method.

The production of an alternative vegetable based sausage to the traditional sausage is possible with *Cucurbita maxima* and *Ipomoea batatas*, instead of meat.

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