



# Development and quality evaluation of gluten free orange flesh sweet potato noodle

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**Abstract:** Instant food products play a major role in the market and there is a good demand due to their convenience in preparation. Orange flesh sweet potato (*Ipomea batatas*) is a nutritious tuber with less consumer acceptability but with more benefits towards diabetes. This study was conducted to formulate a nutrition rich instant noodle for people who are suffering from gluten intolerance and diabetes. Hence instead of wheat flour, orange flesh sweet potato flour was utilized in preparation of noodles. The main objective was to develop gluten free orange flesh sweet potato noodles and to evaluate their quality characteristics. Compositional parameters, sensory attributes, and cooking characteristics were analyzed on the developed product. One way ANOVA was used to analyze the results using SPSS version 17. The formula with 35% of orange flesh sweet potato flour, 52% of rice flour, 10% of corn flour, 2% of soy flour, 1% of mung flour, 5g whole egg, 2.5g salt, water 400ml, and oil 50ml was selected as the best formula through sensory evaluation. This sweet potato noodle contained protein ( $8.24 \pm 0.1472\%$ ), moisture ( $7.22 \pm 0.042\%$ ) and ash ( $1.77 \pm 0.0068\%$ ). The obtained values were complied with SLS Standards (SLS 1534:2016). It was rich in Beta carotene ( $1.790 \pm 0.005 \mu\text{g}/100\text{g}$ ). Cooking parameters such as cooking time ( $5.00 \pm 1.00$  min), cooking weight ( $10.99 \pm 0.147$  g), cooking water amount ( $121.00 \pm 2.082$  mL) and Gruel solid loss ( $10.00 \pm 0.210\%$ ) were under Sri Lankan standard (SLS:420 and SLS:1534). Dried noodles in HDLP polythene pack can kept in room temperature for one week without adding preservatives. Further studies is needed regarding safety. The Orange-sweet potato incorporated noodle is economically profitable product.

**Keywords:** Diabetes, Gluten-free, Instant, Noodles, Sweet potato