

## **Development and Quality Assessment of Cereal based Complementary Food Enriched with Germinated Green Gram and Carrot Flour**

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Malnutrition is a common problem of children in developing countries including Sri Lanka. It affects the child at the most crucial period. Although, a number of convenient cereal formulas are available, they are often too expensive for the poor income people. As a solution to this problem, present study was designed to formulate low cost complementary foods that provide recommended levels of protein, vitamins and minerals for children. The Complementary Food Mixtures (CFM) were prepared from unpolished parboiled red rice (UPRR), germinated green gram (GG) & carrot flour (CF) in the ratios of 100:00:00, 80:10:10, 70:20:10, 60:30:10, 50:40:10 & 40:50:10 respectively. The CFM were subjected to nutritional, organoleptic and microbial analysis to evaluate the suitability for consumption and its' keeping quality. The nutritional analysis of the CFM revealed that the moisture, ash, protein & fiber content increased and fat & vitamin A decreased with the increasing of GG flour from 10 to 50%. There was no total plate counts observed in the formulated CFMs during the storage period. The sensory qualities such as colour, texture, taste, aroma & overall acceptability showed that there were significant differences ( $p < 0.05$ ) among the treatments. Based on the quality characteristics, most preferred CFM were selected and stored for 14 weeks at  $30 \pm 1^\circ\text{C}$  and 75-80% RH. The storage studies showed that there were declining trend in ash, protein, fiber, fat & vitamin A and an increasing trend in moisture of the CFM. The results indicated that the CFM made with 60% UPRR, 30% GG & 10% CF contained 14.2% protein, 1.6% fiber, 2.06% ash, 1.91% fat, 6.28% moisture &  $30.2 \text{ mg kg}^{-1}$  vitamin A following 14 weeks of storage. This mixture is found to be superior in the analyzed quality characteristics and could be suitable for consumption up to 14 weeks without any significant changes in the quality.

*Keywords:* Carrot flour, Complementary food, Germinated green gram, Parboiled red rice