

B-63 Sensory evaluation trials on products using iron-fortified wheat flours

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Sri Lanka, decides to fortify wheat flour with iron at National Level as a measure to combat iron deficiency anaemia prevalent among the population. The objective of the present study is to determine a suitable iron source/level for fortification.

Wheat flour was fortified with iron (food grade), namely, Elemental Iron (E1), Reduced Iron (RI), Sodium Iron EDTA (EDI), Ferrous Fumarate (FF) and Ferrous Sulphate (FS) at levels of 44, 66 and 88 ppm and stored for 3 months. Commonly consumed foods (roti, string hoppers, bread and rusks) were formulated from fortified flours, and investigated for their sensory properties, at monthly intervals for multiple sample differences in quality attributes, using 12 trained panelists. The data was analysed using SPSS PC+ Version 4.0 for ANOVA.

The ANOVA of the sensory evaluation data reveals that (a) All foods prepared with 88 ppm iron-fortified flour were not acceptable. (b) All flours including control deteriorated after one month of storage (c) EI and RI flours showed less sensory changes than others, evidently related to time rather than level of fortification. (d) Foods from EDI, FF and FS flours were affected by both storage time and level of fortification.

The study concludes that EI and RI are the most suitable iron sources to be used in fortifying wheat flour, at levels of 44 and 66 ppm, in Sri Lanka.