XXXIX Reunião de Trabalho sobre Física Nuclear no Brasil
Natal, Rio Grande do Norte, Brasil de 03 a 07 de setembro, 2016

DETERMINATION OF IRON SUPPLEMENTATION IN FOOD FORTIFICATION USING X-RAY FLUORESCENCE TECHNIQUE (EDFRX)

Dalton Giovanni Nogueira da Silva[1], Sabrina Metairon[1], Cibele Bugno Zamboni[1]
Elaine Cristina da Rocha Oliveira[2], Tatiane Neves da Silva Damasceno[2]

[1]Instituto de Pesquisas Energéticas e Nucleares, IPEN – CNEN/SP
Av. Professor Lineu Prestes 2242, 05508-000 São Paulo, SP, Brasil

daltongiovanni@gmail.com
metairon @live.com
czamboni@ipen.br

[2]Universidade Anhanguera de São Paulo - Campus Osasco
Avenida dos Autonomistas, 1325, 6020015, Vila Yara, SP, Brasil

tatisanbrenda@hotmail.com
elaine.cris83@hotmail.com

Anemia in Brazil is a public health problem due to iron-deficiency. In the last decade, according to National Health Surveillance Agency (ANVISA) several strategies have been adopted for preventing iron deficiency in the Brazilian population, such as, the food fortification. However, this dysfunction is still a public health problem: the prevalence among children under 5 years' old and pregnant women is in a range of 20-40 %. Recent studies have shown that Fe supplementation still inappropriately used: many foods fortified with iron does not reach the minimum amount or exceed the recommended limit. Among the foods highly consumed by the Brazilian population, wheat flour is a target of nutritional interest (fortified food with Fe). The application of a fast and precise methodology to iron evaluation becomes necessary. In this research various brands commercially available were evaluated using X-ray fluorescence technique (EDFRX). The results obtained show that in some cases it is in disagreement with the established limits.

Keywords: Anemia, Iron, EDFRX, foods fortified

Financial support: FAPESP and CNPq