

THE EFFICIENCY OF THE IRON FORTIFICATION AND THE QUALITY CONTROL OF THE FINAL ENRICHED BAKERY PRODUCTS

Corina Ciobanu, Olga Deseatnicov, J. Ciumac

Technical University of Moldova, Chisinau

The study of the food consumption and nutrition contribution of the Moldavian people, realized by the support of UNICEF in spring-autumn 1998, shows that the products used in the nutrition of women aged 18 – 45 years old contained only 28-53% of the iron daily amount. A consequence of this deficiency is the prevalence of ferriptive anemia at 47% of children aged 6-12 months and 28% from children aged 1-5 years old, shown by the same study.

Three intervention strategies are available to prevent iron deficiency and, therefore, iron deficiency anemia. These are supplementation, dietary diversification, and both targeted and untargeted food fortification. Food fortification programs are cost effective means for reducing the prevalence of iron deficiency. The effectiveness of a food fortification program depends on the consistent and uniform addition of iron compounds to appropriate food vehicles, such as flour, which are widely consumed by the target population.

Quality control of fortification iron and fortified foods require a simple and reliable method to determine potential bioavailability of iron. As a biological concept, bioavailability should be determined by measurements *in vivo*, but human *in vivo* studies, however, are time-consuming and very expensive. Comparatively, *in vitro* methods are simple, rapid and inexpensive.

The objective of this study was to estimate the quality of the final enriched bakery product under three aspects: the organoleptic properties, the physico-chemical properties, the potential bioavailability investigation and the influence of different nutrients on the fortification efficiency.