



UNICEF Nutrition Supplier Meeting

Copenhagen, 5-6 October 2009

Developing Standards for Foods for Malnourished Children

Selma H. Doyran

Joint FAO/WHO Food Standards Programme

FAO – Nutrition and Consumer Protection Division

Codex Alimentarius

Joint FAO/WHO Food Standards Programme

Objectives

- To protect the health of consumers
- To ensure fair practices in international food trade
- To coordinate all food standardization work at the international level

Codex Alimentarius

- Joint FAO/WHO Food Standards Programme - Intergovernmental body
- established in 1962 by FAO and WHO
- 180 Member countries + EC (member organisation)
- Observers: international organizations: scientific, industry, trade, consumers

Codex Alimentarius: Results and applications

- **Standards** (end product), **Codes of practice** (production and processing), **Guidelines** (other recommendations related to food safety and quality, including nutritional quality)
- Codex texts = Recommendations: voluntary
- Reference for countries when they establish or update national standards or regulations
- **Technical assistance** of FAO/WHO
- Reference in international trade (standards in the TBT framework)

Committee on Nutrition and Foods for Dietary Uses

- (a) to study specific nutritional problems assigned to it by the Commission and advise the Commission on general nutrition issues;
- (b) to draft general provisions, as appropriate, concerning the nutritional aspects of all foods;
- (c) to develop standards, guidelines or related texts for foods for special dietary uses, in cooperation with other committees where necessary;**
- (d) to consider, amend if necessary, and endorse provisions on nutritional aspects proposed for inclusion in Codex standards, guidelines and related texts

Format of Codex Standards

- **The format includes:**
 - **Scope**
 - **Description**
 - **Essential composition and quality factors**
 - **Food additives**
 - **Contaminants**
 - **Hygiene**
 - **Weight and measures**
 - **Labelling**
 - **Methods of analysis and sampling**

Codex general texts applicable to foods for infants and children

- **General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985)**
- **General Standard for the Labelling of and Claims for Prepackaged Foods for Special Dietary Uses (CODEX STAN 146-1985)**
- **General Principles for the Addition of Essential Nutrients to Foods (CAC/GL 9-1987)**

Codex texts applicable to foods for malnourished children

- **Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981, Rev.1-2006)**
- **Guidelines on formulated supplementary foods for older infants and young children (CAC/GL 8-1979)**

Guidelines on formulated supplementary foods

Purpose : to provide guidance on nutritional and technical aspects of the production of formulated supplementary foods, including:

- Formulation of such foods, based on the nutritional requirements of older infants and young children
- Processing techniques
- Hygienic requirements
- Provisions for packaging
- Provisions for labelling and instructions for use

Guidelines on formulated supplementary foods

Description::

- *Formulated Supplementary Foods for Older Infants and Young Children* - means foods suitable for use during the infant's weaning period and for feeding young children as a supplement to breast milk or breast milk substitutes or other food available in the country where the product is sold.
- They are not suitable for use for infants before the beginning of the weaning period.
- These foods provide those nutrients which either are lacking or are present in insufficient quantities in the basic staple foods

Guidelines on formulated supplementary foods

Basic Ingredients :

- All milled cereals suitable for human consumption
- Pulses
- Oil seed flours and protein products: soya beans, groundnuts, sesame seed, cottonseed, sunflower seed ;
- Fish Meals and Fish Protein Concentrates;
- Fats and oils should be added to the preparation if possible for the purpose of increasing the energy density of the product;

Guidelines on formulated supplementary foods

Other Ingredients

- Milk and milk products
- Digestible carbohydrates including sugars
- **Flavours:** vanilla and/or traditional flavours provided they have been evaluated for their safety-in-use
- **Other ingredients of food quality:** provided they have been proven to be suitable for their intended purpose

Guidelines on formulated supplementary foods

5. TECHNOLOGIES AND EFFECTS OF PROCESSING

6. FORMULATION:

Nutritional aspects, energy, proteins, fat carbohydrates, vitamins and minerals.

Table listing vitamins and minerals for which deficiency is most frequently found in older infants and young children and should be considered in the formulation of a supplementary food

7. HYGIENE

8. PACKAGING

8. LABELLING - Codex General Standard for the Labelling of and Claims for Prepackaged Foods for Special Dietary Uses

Standard for Processed Cereal -Based Foods for Infants and Young Children

SCOPE :

- Processed cereal-based foods intended for feeding infants as a complementary food generally from the age of 6 months onwards, taking into account infants' individual nutritional requirements, and for feeding young children as part of a progressively diversified diet, in accordance with the Global Strategy for Infant and Young Child Feeding and World Health Assembly Resolution WHA54.2 (2001)

Standard For Processed Cereal -Based Foods for Infants and Young Children

- Prepared primarily from one or more milled cereals, which should constitute at least 25% of the final mixture on a dry weight basis
- **Four categories are distinguished in the standard:**
- 2.1.1 Products consisting of cereals which are or have to be prepared for consumption with milk or other appropriate nutritious liquids;
- 2.1.2 Cereals with an added high protein food which are or have to be prepared for consumption with water or other appropriate protein-free liquid;
- 2.1.3 Pasta which are to be used after cooking in boiling water or other appropriate liquids;
- 2.1.4 Rusks and biscuits which are to be used either directly or, after pulverization, with the addition of water, milk or other suitable liquids.

Standard For Processed Cereal -Based Foods for Infants and Young Children

3.1 Essential Composition

- The four categories are prepared primarily from one or more milled cereal products, such as wheat, rice, barley, oats, rye, maize, millet, sorghum and buckwheat. They may also contain legumes (pulses), starchy roots (such as arrow root, yam or cassava) or starchy stems or oil seeds in smaller proportions.
- The requirements concerning energy and nutrients refer to the product ready for use as marketed or prepared according to the instructions of the manufacturer, unless otherwise specified.

Standard For Processed Cereal -Based Foods for Infants and Young Children

Essential Composition: the standard provides requirements for:

- **energy:** the energy density : not be less than 3.3 kJ/g (0.8 kcal/g)
- **proteins:** the chemical index of the added protein shall be equal to at least 80% of that of the reference protein casein or the Protein Efficiency Ratio (PER) of the protein in the mixture shall be equal to at least 70% of that of the reference protein casein.
 - addition of amino acids is permitted solely for the purpose of improving the nutritional value of the protein mixture, and only in the proportions necessary for that purpose. Only natural forms of L-amino acids
- **Standard regulates only added carbohydrates:** If sucrose, fructose, glucose, glucose syrup or honey are added the amount of added carbohydrates from these sources shall not exceed 1.8 g/100 kJ (7.5 g/100 kcal)
 - the amount of added fructose shall not exceed 0.9 g/100 kJ (3.75 g/100 kcal).

Standard For Processed Cereal -Based Foods for Infants and Young Children

Lipids: for product categories 2.1.1 and 2.1.4 shall not exceed a maximum lipid content of 0.8 g /100 kJ (3.3 g/100 kcal). For products mentioned in point 2.1.2 the lipid content shall not exceed 1.1g/100 kJ (4.5 g/100 kcal). If the lipid content exceeds 0.8g/100kJ (3.3g/100kcal):

- the amount of **linoleic acid** (in the form of triglycerides=linoleates) shall not be less than 70 mg/100 kJ (300 mg/100 kcal) and shall not exceed 285 mg/100 kJ (1200 mg/100 kcal);
- the amount of **lauric acid** shall not exceed 15% of the total lipid content;
- the amount of **myristic acid** shall not exceed 15% of the total lipid content.

Standard For Processed Cereal -Based Foods for Infants and Young Children

Minerals

- The **sodium content** of the products described in Sections 2.1.1 to 2.1.4 of this Standard shall not exceed 24 mg/100 kJ (100 mg/100 kcal) of the ready-to-eat product.
- The **calcium content** shall not be less than 20 mg/100 kJ (80 mg/100 kcal) for products mentioned in points 2.1.2. The calcium content shall not be less than 12 mg/100 kJ (50 mg/100 kcal) for products mentioned in point 2.1.4 manufactured with the addition of milk and presented as such.

Standard For Processed Cereal -Based Foods for Infants and Young Children

Vitamins

The amount of vitamin B1 (thiamin) shall not be less than 12.5 μ g/100 kJ (50 μ g/100 kcal). For products mentioned in 2.1.2, the amount of vitamin A and vitamin D shall be within the following limits: Vitamin A (14-43 μ g/100kJ or 60 – 180 μ g/100kcal

Vitamin D: 0.25-0.75 μ g/100kJ or 1-3 μ g/100kcal

Standard For Processed Cereal -Based Foods for Infants and Young Children

- Standard also describes quality factors
- List of permitted **food additives**
- Requirements in relation to pesticide residues, contaminants, food hygiene
- packaging and labelling requirements.
- Specific prohibition
 - use of treatment of product and its components by ionizing radiation
 - use of partially hydrogenated fats

Food Hygiene

Several general and specific documents provide guidance on hygienic practice for foods for infant and children

- *General Principles of Food Hygiene (CAC/RCP 1-1985)*
- *Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997);*
- *Principles and Guidelines for the Conduct of Microbiological Risk Management (CAC/GL 63-2007)*
- *Code of Hygienic Practice for Powdered Formulae for Infants and Young Children (CAC/RCP 66-2008)*

Contacts

- Codex Alimentarius Commission
Joint FAO/WHO Food Standards Programme,
Nutrition and Consumer Protection Division,
FAO, Viale delle Terme di Caracalla
00153 Rome Italy
- Fax: +39 (06) 5705.4593
- Email: codex@fao.org
- <http://www.codexalimentarius.net>