



**Food and Agriculture
Organization of
the United Nations**



**World Health
Organization**

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Agenda Item 6

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON NUTRITION AND FOODS FOR SPECIAL DIETARY USES

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1 – 5 November 2010

Proposed Draft Revision of the Guidelines on Formulated Supplementary Foods for Older Infants and Young Children (CAC/GL 08-1991) at Step 4

(Prepared by the Electronic working Group chaired by Ghana)

Governments and interested international organizations are invited to submit comments on the above document at Step 3 in writing preferably by email to the Secretariat, Codex Alimentarius Commission, Joint WHO/FAO Food Standards Programme, FAO, Viale delle Terme di Caracalla, 00153 Rome, Italy, Fax +39-06-5705-4593, e-mail codex@fao.org with copy to Mr Georg Müller, Federal Ministry of Food, Agriculture and Consumer Protection, Rochusstraße 1, 53123 Bonn, Germany, Fax: +49 (228) 99 529 49 65, e-mail: ccnfsdu@bmelv.bund.de by **15 October 2010**.

Charge to the Electronic Working Group by the 31st Session of the Codex Committee on Nutrition and Foods for Special Dietary Uses

At the 31st session of the CCNFSDU, the Committee agreed to establish an Electronic Working Group chaired by Ghana, working in English, to prepare a revised draft of the Guidelines on Formulated Supplementary Foods for Older Infants and Young Children (CAC/GL 08-1991) for circulation at step 3 and for consideration by the next session of the Committee.

Background

The Committee recalled that at its 30th Session, it was agreed that an Electronic Working Group led by Ghana be established to revise proposals on revision of the *Codex Guidelines on Formulated Supplementary Foods for Older Infants and Young Children* (CAC/GL 8-1991). The revision was to take in to consideration comments made at the 30th Session.

The delegation of Ghana introduced the revised project document and explained the revisions made by the Electronic Working Group

Rationale for the revision

The Delegation of Ghana explained that since the 1991 Guidelines were published, new international, evidence-based recommendations regarding energy requirements and nutrient needs from Complementary Foods including Formulated Complementary Foods, for older infants and young children have been revised. In addition, Formulated Complementary Foods have expanded in recent years from porridges to several types of food-based products. The title of the Guidelines currently uses the term “Supplementary”, however, WHO uses the term “Complementary” in preference to “Supplementary” for foods used in addition to breast milk or breast milk substitutes. WHO defines complementary foods as “solid to semi-solid foods given to older infants and young children (from 6 to 2 months of age) in addition to breastmilk or breast milk substitutes” (Alinorm 10/33/26 para 110).

Thus the main purpose of the proposed revision is to update the Guidelines with regard to nutritional aspects of Formulated Complementary foods for older infants and young children, based on relevant science-based recommendations. The aspects to be covered by the new work as stated in the project document (Appendix VI, Alinorm 10/33/26) are to:

- a) Amend the name and content of the guidelines to reflect current terminology.
- b) Revise energy and nutrient densities and recommended serving sizes and daily quantity of Formulated Complementary Foods for older infants and young children.
- c) Strengthen the Guidelines on the importance of key ingredients.
- d) Update the Guidelines on effective processing methods to reduce or eliminate anti-nutrients
- e) Amend labeling provisions regarding the use of complementary foods

The Committee agreed (Alinorm 10/33/26, para 120) that the main aspects to be considered should include the title, scope and content of the guidelines as stated in sections 2,3,4,5,6, and 9 and the Annex. The Committee also agreed that recently developed guidelines (2008) on complementary feeding in infants and young children 6-23 months of age from WHO and UNICEF, be considered during the revision of the Guideline.

Circulation of draft document to the EWG

The draft revised document was sent to the EWG in March 2010 and comments were received by June 2010. The following members of the EWG submitted comments on the first draft which was circulated: *Argentina, Australia, Bolivia, Brazil, China, EU, Germany, Ghana, Mexico, New Zealand, Switzerland, United States of America, ISDI and Sight and Life*. The revised draft document was sent again for a second round of comments in July 2010 and comments were received by August 2010. Responses were received from the following: *Argentina, Australia, Bolivia, European Union, Germany, Japan, Switzerland, United States of America, IACFO, ISDI and IDF*. Responses to the comments are sent as a separate attachment.

Ghana is very grateful to the Electronic Working Group for the very helpful comments and revisions provided. As much as possible these suggestions have been incorporated in the draft document.

The texts in bold fonts are new texts added after two rounds of circulation to the EWG. Texts in square brackets are alternative texts suggested by the EWG on which there is no agreement. Proposed deletions are in “strike through” texts.

Approval for the new work on the Guideline was given by the Codex Alimentarius Commission in July 2010.

Revised Timelines for Electronic Working Group

March 31, 2010 Circulation of first draft document to Electronic Working Group for review

June 20, 2010 Comments were received from Electronic Working Group by June 3, 2010

July 6, 2010 2nd Circulation of revised Guidelines to Electronic Working Group for comments.

August 5, 2010 Deadline for submission of comments from Electronic Working Group

August 31, 2010 Submission of revised Guidelines to Codex Secretariat in Rome.

REVISED VERSION OF THE GUIDELINES SUBMITTED TO THE 32ND SESSION OF THE CODEX COMMITTEE ON NUTRITION AND FOODS FOR SPECIAL DIETARY USES

GUIDELINES ON FORMULATED SUPPLEMENTARY FOODS FOR OLDER INFANTS AND YOUNG CHILDREN (CAC/GL 08-1991)¹

Title:

GUIDELINES ON [SPECIFICALLY] FORMULATED [FORTIFIED] COMPLEMENTARY SUPPLEMENTARY [COMPLEMENTARY SUPPLEMENTED] FOODS FOR OLDER INFANTS AND YOUNG CHILDREN (CAC/GL 08-1991)¹

1. PURPOSE

To provide guidance on nutritional and technical aspects of the production of **[specifically]** formulated **[fortified]** complementary ~~supplementary~~ **[complementary supplemented]** foods **[formulated]** for older infants and young children as defined in Section 3.1, including:

- i. Formulation of such foods, based on the nutritional requirements of older infants and young children;
- ii. Processing techniques;
- iii. Hygienic requirements;
- iv. Provisions for packaging;
- v. Provisions for labelling and instructions for use.

2. SCOPE

The provisions of these Guidelines apply to **[specifically]** Formulated **[fortified]** Complementary ~~Supplementary~~ **[complementary supplemented]** Foods for Older Infants and Young Children as defined in Section 3.1 below. **Micronutrient powders are not covered by this Guideline.**

3. DESCRIPTION

3.1 **[Specifically] Formulated [fortified] Complementary [Complementary Supplemented] Foods for Older Infants and Young Children** means foods **that are** suitable ~~[for use during the infant's complementary feeding weaning period and]~~ for feeding **older infants and** young children as a complement **[supplemented complement] supplement** to breastmilk or breastmilk substitutes **to provide those nutrients and energy which either are lacking or are present in insufficient quantities in local diets. These foods include foods such as porridges, ready-to-use products (pastes and compressed bars), and a food-based home fortificants to enrich [fortify] other foods available in the country where the product is sold or otherwise made available. They are not suitable for use for infants before six months of age, the beginning of the weaning period. These foods provide those nutrients which either are lacking or are present in insufficient quantities in the local diets basic staple foods. They are not suitable for use by infants under six months of age.**

3.2 ~~The term~~ **Older infants** means persons from the age of 6 months ~~6th month~~ and not more than 12 months of age.

3.3 ~~The term~~ **Young children** means persons from the age of 12 months up to the age of three years (36 months).

3.4 ~~The term~~ **Complementary feeding period** means the period when older infants and young children transition from **exclusive feeding of breast milk feeding and/or breast milk substitutes** to eating the normal family diet. ~~(i.e. children from 6 months of age to 36 months of age).~~

3.5 ~~The term~~ **Food-based home fortificant** means **a food that contains** ~~with~~ high quality protein ~~and fat, and that is enriched [fortified] with~~ **additional** micronutrients, **for the purpose of mixing with local foods, which is** ~~These products are used for "point of use" fortification of children's foods at the time of consumption to provide the appropriate specified amounts of nutrients increase nutrient~~

¹ The Guidelines on Formulated Supplementary Foods for Older Infants and Young Children were adopted by the Codex Alimentarius Commission at its 19th Session in 1991.

and energy the intake. ~~Non-food supplements such as micronutrient powders are not covered by this Guideline.~~

4. SUITABLE RAW MATERIALS AND INGREDIENTS

4.1 Basic Ingredients

The following raw materials, most of which are locally available, are suitable ingredients for the production of formulated ~~supplementary~~ complementary foods for older infants and young children under the specified conditions given below:

4.1.1 Cereals

4.1.1.1 All milled cereals suitable for human consumption may be used provided that they are processed in such a way as to reduce the fibre content, when necessary, and to decrease and, if possible, to eliminate **anti-nutrients such as** phytates, tannins or other phenolic materials, trypsin and chymotrypsin inhibitors which can lower the protein digestibility and mineral absorption.

4.1.1.2 Besides carbohydrates (mainly consisting of starch) cereals contain a significant quantity of protein (8-12%). Whereas rice has a satisfactory essential amino-acid composition, ~~However,~~ all other cereals are as a rule ~~limiting~~ **limiting** in lysine.

4.1.2 Pulses

4.1.2.1 Pulses, including chick peas, lentils, peas, cow peas, mungo beans, green gram and kidney beans ~~contain are a good sources of appropriate proteins (20-24 35%)~~ **protein.**

4.1.2.2 On the whole, pulses have a high content of lysine. They are, however, deficient in methionine. Depending on the nature of the other ingredients in the formulation, the addition of methionine might be desirable in order to improve the nutritional value of the product.

4.1.2.3 Pulses have to be appropriately processed to eliminate, as far as possible, the anti-nutritional factors normally present such as phytates, lectins (haemagglutinins) and trypsin and chymotrypsin inhibitors:

- Lectins can be destroyed by heat treatment;
- Trypsin inhibitor activity may be reduced to acceptable levels by heating to high temperatures or by prolonged boiling.
- **Phytates can be reduced enzymatically or by soaking or fermentation;**

4.1.2.4 Field beans (*Vicia faba L.*) while having a very good nutritional quality and being a high yield crop, should not be used in the formulation of complementary ~~supplementary~~ food for older infants and young children because of the danger of favism. Heat treatment does not completely inactivate the toxic components ~~principles~~ (vicin and co-vicine).

4.1.3 Oil Seed Flours and Oil Seed Protein Products

4.1.3.1 Flours, protein concentrates and protein isolates of the following oil seeds are acceptable if manufactured to appropriate specifications² **which assure sufficient reduction of anti-nutritional factors and undesirable toxic substances such as gossypol:**

Soya beans: dehulled flour, (full fat and defatted) concentrate, isolate

Groundnuts: ~~defatted~~ flour, ~~isolate~~ (full fat and defatted), isolate

Sesame seed: whole full fat ground and defatted flour

Cottonseed: defatted flour

Sunflower seed: full fat and defatted flour, full fat

² The following Guidelines were elaborated by the FAO/WHO/UNICEF Protein and Energy Advisory Group:
 PAG Guidelines No 2: Preparation of Food Quality Ground Flour
 PAG Guidelines No 4: Preparation of Edible Cotton Seed Protein Concentrates
 PAG Guideline No 5: Guideline for Heat Processed Soy Grits and Flours
 PAG Guideline No 14: Preparation for Defatted Edible Sesame Flour

~~Canola~~ Low erucic rapeseed: full fat flour

4.1.3.2 Defatted oil seed flours and protein isolates ~~products~~ are a rich source of protein (50-95%). They could provide the main source of proteins in Formulated Complementary ~~Supplementary~~ Foods for Older Infants and Young Children.

4.1.4 Fish Meals and Fish Protein Concentrates

4.1.4.1 Food quality meals from edible fish species and edible fish protein concentrates are acceptable if produced under appropriate conditions³. **Care must be taken to avoid oxidized fat which will adversely affect nutrition and flavour.**

4.1.4.2 Fish protein concentrates have a protein content of 70-80%. The protein is of high quality and high in lysine content.

4.1.5 Fats and Oils

4.1.5.1 Fats and oils should be added to the preparation if possible for the purpose of increasing the energy density of the product.

4.1.5.2 The minimum requirements for essential fatty acids should be met.

4.1.5.3 Partially hydrogenated **oils containing** (trans) fatty acids should not be used in formulated complementary [complementary supplemented] foods³ ~~for older infants and young children (Codex STAN 074 1981, Rev. 1 2006)~~

4.1.6 Milk and/or milk products

~~4.1.6.1 Dairy Milk and milk products are nutrient dense and good sources of high quality proteins and other micronutrients. They and are considered~~ beneficial to growth and can be added to complementary food. ~~Dairy products They can be added as dried skimmed milk, full fat milk and semi-skimmed milk solids~~ **They proteins concentrates are a readily available source of protein with a high bioavailability which can be used to increase and improve the protein level of formulated complementary foods**

~~4.2.1.2 Whey protein concentrates are a readily available source of protein with a high bioavailability which can be used to increase and improve the protein level of formulated complementary foods.~~

4.2 Other Ingredients

The following ingredients may be used to improve the nutritional quality and/or acceptability of the food provided that they are readily available:

~~4.2.1 Milk and/or milk products (moved up)~~

~~4.2.1.1 Dairy products are good sources of high quality proteins and are considered~~ beneficial to growth and can be added to complementary food. ~~Dairy products They can be added as dried skimmed milk, full fat milk and semi-skimmed milk~~

~~4.2.1.2 Whey protein concentrates are a readily available source of protein with a high bioavailability which can be used to increase and improve the protein level of formulated complementary foods.~~

4.2.1 [Animal Source Foods]

Animal source foods such as meat, fish, poultry and eggs are nutrient dense foods and should be promoted during the complementary feeding period.]

4.2.2 Digestible carbohydrates including sugars

Energy density should preferably be increased by the addition of fat and/or digestible carbohydrates. If nutritive sweeteners are used, they should ~~be used in moderation.~~ provide less than 10% of the total energy of the product⁴.

4.2.3 **Flavours: Ethylvanillin and vanillin (7 mg/100g RTU), natural fruit and vanilla extract, vanilla and/or traditional flavours** may be used provided they have been evaluated for their safety-in-use.

³ Codex STAN 074 1981, Rev 1 2006

⁴ WHO TRS 916. Diet Nutrition and the Prevention of chronic Diseases

4.2.4 Food additives allowed for use in Codex STAN 074-1981, Rev. 1-2006 are permitted for use in formulated Complementary foods.

4.2.5 Other ingredients of food quality: provided they have been proven to be suitable for their intended purpose.

5. TECHNOLOGIES FOR AND EFFECTS OF PROCESSING

5.1 Preliminary Treatment of Raw Materials

Cereals, pulses and oilseeds should first be treated to obtain wholesome and clean raw materials of good quality. Such treatments include:

5.1.1 Cleaning or washing: to eliminate dirt, damaged grains, foreign grains and noxious seeds, insects and insect excreta and any adhering material.

5.1.2 Dehulling: when necessary, pulses, oilseeds and certain cereals such as oats, barley, sorghum, millet and teff should be dehulled as completely as is feasible to reduce the crude fibre content to acceptable levels **and to decrease, and if possible, to eliminate phytates, tannins and other phenolic materials, trypsin and chymotrypsin inhibitors which can lower the protein digestibility and mineral absorption.**

5.1.3 Degermination

Where necessary and appropriate, degermination of wheat, corn, soy and other crops should be considered in order to reduce phytates.

5.2 Milling ~~ed Products~~

5.2.1 Milling or grinding of suitable raw materials should be carried out in such a way as to minimize the loss of nutritional value and to avoid undesirable changes in the technological properties of the ingredients.

5.2.2 Dry raw materials may be milled together, if technologically feasible, or mixed after milling or grinding.

5.2.3 Formulations containing milled cereals, pulses and/or oilseeds without further processing require prolonged boiling during the preparation of the feed to gelatinize the starch portions and/or eliminate anti-nutritional factors present in pulses. Boiling improves the digestibility and absorption of nutrients and sterilizes the feed.

5.2.4 The bulkiness of feeds from food formulations containing dry ingredients obtained by milling of the raw materials can be reduced by adding, during the formulation, adequate amounts of enzymes such as alpha-amylase which, during the slow heating to boiling, predigest partially the starch and reduce the amount of water needed for the preparation of the feed.

5.3 Toasting

5.3.1 Toasting (dry heating) enhances the flavour and the taste of the food through dextrinization of starch. It also improves digestibility and contributes to reducing the bulkiness of the formulated food. Moreover, it destroys micro-organisms and insects and reduces enzyme activity, thus improving keeping qualities.

5.3.2 Protein damage due to the Maillard reaction may occur in the presence of reducing carbohydrates. The toasting process should therefore be carefully controlled.

5.3.3 Pulses as well as oilseeds such as soya beans, groundnuts and sesame seeds can be toasted as whole grains directly or after soaking. ~~Soaking results in puffed grains with a light texture.~~

5.3.4 Toasted raw materials can be milled or ground for use as ingredients.

5.4 Sprouting ~~and~~ ,Malting and Fermentation

5.4.1 Cereals and pulses can be induced to germinate by soaking or humidifying. It is necessary, however, to ensure that growth of mycotoxin producing microorganisms does not occur. The action of natural amylases contained in the grains results in the predigestion of the starchy portion of the grain (dextrinization) thus reducing the bulk of the food when prepared for feeding and, ultimately, increasing the nutrient density of the food. **Sprouting, malting and fermentation can induce phytates hydrolysis and decrease their inhibitory effects on mineral absorption, and can improve B vitamin content.**

5.4.2 During the process, the seed coat of the grain splits and can be removed by washing. The malted raw material is milled or ground after drying.

5.5 Advanced Processing Technologies

5.5.1 Extrusion Cooking

5.5.1.1 The mix of milled or ground basic ingredients (cereals, pulses, oilseed flours) may be further processed by extrusion-cooking. Extrusion cooking may affect available lysine, sulphur-containing amino acids, arginine and tryptophan. The process should therefore be carefully controlled. The extruded product, after drying if necessary, is milled or ground to the desired particle size.

5.5.1.2 The effects of this technology are:

- gelatinization of the starchy portion of the mixture with minimal quantities of water;
- inactivation of lectins and simultaneous reduction of trypsin inhibitor activity;
- a reduction in the quantities of water needed for preparation of the ~~feed~~ **food**.

5.5.2 Enzymatic Predigestion

5.5.2.1 Under this process the milled or ground basic ingredients (cereals, pulses, oilseed flours) are **[processed in the presence of water and appropriate enzymes]** ~~slowly heated~~ under continuous stirring until the mixture acquires the desired fluidity. **In the case of use of amylase enzymes, S** starch molecules are split into dextrins and reducing sugars. After raising the temperature to inactivate the enzyme, the slurry is dried and comminuted to flour or to small flakes **to allow for greater nutrient density**.

5.5.2.2 The predigested product has improved organoleptic characteristics, higher digestibility, good solubility and requires less water for the preparation of the feed.

6. FORMULATION

6.1 Nutritional Aspects (General)

6.1.1 ~~In accordance with the purpose of these guidelines and the definition of "Formulated Supplementary Complementary [complementary supplemented] Foods for Older Infants and Young Children", the product is intended to supply additional energy and nutrients to the local diets staple foods used for the feeding of older infants and young children. The following sections might not be applicable under all conditions prevailing in different countries and appropriate modifications might have to be made for adapting them to specific conditions.~~

6.1.2 Ten to fifty ~~One hundred~~ grammes of the product, when prepared according to the instructions, is considered a reasonable quantity which an older infant or young child **fed breast milk** can ingest easily in two or more feedings **per day. This range provides an allowance for the various types of [fortified complementary] foods. The lower part of the range applies to products with higher energy density (e.g., lipid-based products) whereas the upper part of the range applies to products with lower energy density (e.g., cereal-based products)**

6.1.3 The selection of ingredients for the formulation of Formulated Complementary ~~Supplementary~~ **[complementary supplemented]** Foods for Older Infants and Young Children should be made having regard to the provisions in Sections 4 through 6.1.2 above and taking into account the following aspects:

- * nutrient content of the local diet ~~(including breast milk)~~ **staple food**;
- * amount and **nutrient content of breast milk/breast milk substitutes**
 - * dietary habits;
- * other socio-economic aspects as determined by the national authorities dealing with nutrition;
- * availability and costs of raw materials and other ingredients.

6.1.4 ~~In cases where older infants and young children are given specific vitamins and/or minerals through maternal and child health centres or other health agencies, the addition of these vitamins and/or minerals to complementary supplementary foods may be unnecessary, provided that distribution of the complementary~~

~~supplementary [complementary supplemented] foods is carefully limited to those receiving the vitamins and/or minerals.~~

6.1.5 Care must be taken to ensure that the combined total amounts of the complementary food micronutrient fortification, micronutrient intake from the formulated complementary [supplemented] food, found in the local diet (including breast milk and/or breast milk substitutes), and other sources micronutrients that may be provided separately do not regularly exceed the recommended dosage relevant upper levels of micronutrient result in excessive intake for older infants and young children.

6.2 Energy

6.2.1 The energy density of a mixture of milled cereals and pulses and defatted oilseed meals and flours **on dry weight basis** is relatively low

6.2.2 The energy density of the food can be increased by:

- (a) the addition of fats and oils, and/or digestible carbohydrates including, in moderation, sugars; and/or,
- (b) processing the basic ingredients as indicated in Section 5.

6.2.3 **The energy density** ~~One hundred grammes~~ of the food should ~~be provide~~ **at least 4 kcal per gram on dry weight basis.** ~~400 kcal.~~

6.3 Proteins

6.3.1 Cereals, legumes and/or oilseed flours, alone or preferably mixed, can constitute an appropriate source of proteins, provided they are prepared in such a way that in the finished product the proteins in the mixture satisfy the criteria below.

6.3.2 **The Protein Digestibility Corrected Amino Acid Score (PDCAAS)^{5,6,7}** ~~amino acid score⁴~~ (previously called the chemical score) corrected in accordance with the true digestibility of the crude proteins, should not be less than **0.70**. ~~70 per cent of that of casein. Higher values should be required if calculation of the score was based not, as is usually the case, on the most limiting amino acid, but on two or more key amino acids such as lysine, methionine, cystine, threonine and tryptophan.~~

6.3.3 If, for technical reasons, the **PDCAAS** ~~amino acid score and the digestibility~~ of a protein cannot be determined, the protein quality should be measured by biological assays. Alternatively, the protein quality may be computed from published data on essential amino acid patterns of dietary proteins and their digestibility.

6.3.4 The addition of methionine, lysine, tryptophan or other limiting amino acids, solely in the L-form (except for DL-methionine, which may be used in foods for children over 12 months of age) should be contemplated only when, for economic and technological reasons, no mixture of vegetable and/or animal proteins makes it possible to obtain an adequate protein quality (see 6.3.2).

6.3.5 Taking into account the preceding considerations, **the energy from protein⁸ content should not be less than 10% of the total energy from the product⁹.** ~~be in the order of 15 g per 100 g of the food on a dry matter basis⁶~~

6.4 Fat

6.4.1 Incorporation of adequate quantities of fats and/or oils, as technologically feasible, is recommended in order to increase the energy density, **increase the amount of essential fatty acids and reduce total volume** of the product. ~~A level of between 20% and 40% of energy derived from fat would be desirable. At~~

⁵ PDCAAS (%) = $\frac{\text{mg of limiting amino acid in 1 gram of test protein} \times \text{faecal true digestibility of test protein}}{\text{mg of limiting amino acid in 1 gram of reference protein}}$

⁶ The limiting amino acid is the essential amino acid present in the lowest proportion as compared with the quantity of this amino acid in the reference protein

⁷ WHO Protein and amino acid requirements in human nutrition. Geneva; WHO 2007

⁸ Conversion factor based on Codex Guidelines on Nutrition Labelling (CAC/GL 2-1985)

⁹ Complementary feeding of young children in developing countries: review of current scientific knowledge. Geneva, WHO 1998

⁸ Conversion factor based on Codex Guidelines on Nutrition Labelling (CAC/GL 2-1985)

least 30% of energy derived from fat⁸ would be desirable⁹. ~~This corresponds to between about 10 g and 25 g of fats and/or oils in 100 g of the food.~~

6.4.2 The level of linoleic acid (in the form of glycerides) should not be less than 300 mg per 100 kcal or 1.4 g per 100 g of **dry product and the ratio between linoleic acid and alpha-linolenic acid should be between 5:1 and 15:1.**

~~6.4.3 Where it is not feasible to include all of the desired fats and/or oils in the formulation of the food, the instructions for use on the label should recommend the addition of a specified quantity of fats and oils with an appropriate essential fatty acid ratio during the preparation of the feed food. (Moved to labeling)~~

6.5 Carbohydrates

6.5.1 Starch is likely to be a major constituent of many **complementary [complementary supplemented] supplementary** foods for older infants and young children. To ensure that its energy value is realized, this starch should be provided in a readily digestible form. Guidance on increasing the digestibility of starches is given in Section 5.

~~6.5.2 Dietary fibres and other non-absorbable carbohydrates are partially fermented by the intestinal flora to produce short-chain fatty acids, lactate and ethanol which may subsequently be absorbed and metabolized.~~

6.5.2 Increasing the intake of dietary fibres¹⁰ **increases enhances** stool bulk, **may cause flatulence and decrease appetite.** ~~They also may~~ **Fibre load also can** affect the efficiency of absorption of important ~~various nutrients of significance from in~~ diets with a marginal nutrient contents. ~~so~~ The dietary fibre content of the **[formulated] [fortified complementary]** food should therefore be reduced to a level not exceeding 5 g per 100 g **on a dry weight basis.**

6.6 Vitamins and Minerals

6.6.1 The addition of vitamins and minerals should take into account local nutrition and health conditions as well as the requirements stipulated by national legislation.

6.6.2 When establishing the specifications for the premix of vitamin compounds and mineral salts, the vitamin and mineral content of the other ingredients used in the formulation of the food should be taken into account.

6.6.3 Vitamins and/or minerals should be selected from the Advisory Lists of Mineral Salts and Vitamin Compounds for Use in Foods for Infants and Children (CAC/GL 10-1979- **Rev 2008**).

6.6.4 The Table in the Annex to these Guidelines contains the reference ~~daily~~ nutrient intakes (RNIs) ~~requirements~~ **[Estimated Average requirements]** for the vitamins and minerals ~~that are most frequently deficient in the diets of~~ **for** older infants and young children. It is important to keep in mind that the Table is simply a guideline to emphasize the nutrients to be considered in the development of a **formulated complementary [complementary supplemented]** food.

6.7 Quality

6.7.1 All processing should be carried out in a manner that keeps protein quality and minimizes loss of micronutrients and maintains overall nutritive value.

7. HYGIENE

It is recommended that Formulated **Complementary [complementary supplemented]** ~~Supplementary~~ Foods for Older Infants and Young Children comply with the following mandatory hygiene requirements:

7.1 To the extent possible in good manufacturing practice, food products shall be free from objectionable matter.

7.2 When tested by appropriate methods of sampling and examination, the product:

- (a) shall be free from pathogenic microorganisms;

⁹ Guiding principles for complementary feeding of the breastfeed child. PAHO/WHO, 2004

¹⁰ Codex Guidelines on Nutrition Labelling (CAC/GL 2-1985)

- (b) shall not contain any substances originating from microorganisms in amounts which may represent a hazard to health; and
- (c) shall not contain any other poisonous or deleterious substances in amounts which may represent a hazard to health.

7.3 The product shall be prepared, packed and held under sanitary conditions and should comply with relevant codex texts¹¹. ~~Recommended International Code of Hygienic Practice for Foods for Infants and Children (CAC/RCP 66-2008).~~

8. PACKAGING

8.1 It is recommended that Formulated Complementary **[complementary supplemented]** ~~Supplementary~~ Foods for Older Infants and Young Children be packed in containers which will safeguard the hygienic and other qualities of food.

8.2 The containers, including packaging material, shall be made only of materials which are safe and suitable for their intended uses.

9. LABELLING

9.1 It is recommended that the labeling of Formulated Complementary **[complementary supplemented]** ~~Supplementary~~ Foods for Older Infants and Young Children be in accordance with the Codex General Standard for the Labelling of and Claims for Prepackaged Foods for Special Dietary Uses (**CODEX STAN 146-1985**).

9.2 The following mandatory provisions should apply:

9.2.1 The Name of the Food

9.2.1.1 The name of the food to be declared on the label shall indicate that the food is a formulated **complementary [complementary supplemented]** ~~supplementary~~ food, ~~as appropriate~~, for older infants and young children. The appropriate description should be in accordance with national legislation.

9.2.1.2 The following information shall appear in close proximity to the name of the food:

- (a) the major sources of protein;
- (b) a statement that the food ~~may be administered as a food supplement during the weaning complementary feeding period~~ **should be given when nutritional requirements of older infants and young children are not met by locally available foods during the complementary feeding period but not before the 6 th months of age. and when nutritional requirements are not covered by locally available foods.**
- (c) **a statement that the food should not be fed to infants under 6 months of age.**

9.2.2 List of Ingredients

The list of ingredients shall be declared in accordance with Section 4.2 of the General Standard **for the Labeling of Prepackaged Foods (Codex Stan 1-1985)**.

9.2.3 Declaration of Nutritive Value

The declaration of energy and nutrients on the label or in labeling shall contain the following information expressed per 100 grammes of the food as sold **or otherwise made available in the final product** as well as per **feeding specified quantity** of the food **ready for consumption. as suggested for consumption per serving**:

- (a) the amount of energy, expressed in kilocalories and kilojoules;
- (b) the amounts of protein, carbohydrates and fat, **[and the amount of linoleic and alpha-linolenic acid]**, expressed in grammes **or [milligrammes]** where appropriate.

¹¹ Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997); The Recommended International Code of practice-General Principles of Food Hygiene for Foods for Infants and Children (CAC/RCP 1-11969); Code of Hygienic Practice for Milk and Milk Products (CAC/RCP 57-2004).

- (c) in addition to any other nutritional information required by national legislation, the total quantity **per feeding of in the food as sold or in the final product ready for consumption** of each vitamin and mineral added in accordance with Section 6.6 expressed in metric units.

9.2.4 ~~Information for Utilization~~ Instruction for use

9.2.4.1 Directions as to the preparation and use of the food shall be given; preferably accompanied by pictorial presentations.

9.2.4.2 The S suggested number of feedings per times the food may be fed in a day should be indicated on the label.

9.2.4.3 In the case that addition of water is needed, the directions for the preparation shall include a precise statement that:

- (a) where the food contains non-heat-processed basic ingredients, the food must be adequately boiled in a prescribed amount of water;
- (b) where the food contains heat-processed basic ingredients:
 - (i) the food requires boiling, or (ii) can be mixed with cold or warm boiled water, as appropriate.

9.2.4.4 Foods which have been formulated with the intent that fats, sugars or other digestible carbohydrates are added during preparation, shall bear an indication of the amounts which are required to achieve the desired nutrient density of the food **—[in such situation, fats and oils with an appropriate essential fatty acid ratio should be recommended].**

9.2.4.5 Directions for use shall include a statement that only the amount of food sufficient for one meal should be prepared at one time. **Leftovers after the child has consumed the food should be discarded.**

~~9.2.4.6 Where it is not feasible to include all of the desired fats and/or oils in the formulation of the food, the instructions for use on the label should recommend the addition of a specified quantity of fats and oils with an appropriate essential fatty acid ratio during the preparation of the feed food.~~

ANNEX

TABLE

The vitamins and minerals listed in the Table include those for which **nutrient levels have been established for deficiency is most frequently found in older infants and young children** and should be considered in the formulation of a complementary ~~supplementary~~ food. Local conditions including the nutrient contribution to the diet from ~~the local diets foods staple foods of the area~~ and the nutritional status of the target population as well as national legislation should be taken into account in determining the nutrients to be added. When a food is ~~enriched fortified supplemented~~ with one or more of these ~~nutrients~~ **vitamins and minerals**, the total ~~amount quantity of the each of these added~~ vitamin(s) and/or mineral(s) contained **in a per-daily ration** in 100 g of the food ~~on a dry-matter basis~~ should be at least 50% ~~2/3~~ of the reference nutrient intake. ~~daily requirements.~~

NUTRIENTS VITAMINS AND MINERALS	REFERENCE DAILY REQUIREMENTS— NUTRIENT INTAKE FOR YOUNG CHILDREN 1-3 YEARS OF AGE
Vitamin A μg retinol equivalent	400 μg retinol equivalent
Vitamin D ¹² μg	10 μg 5
Vitamin E mg (α -Tocopherol)	5 mg 5
Vitamin C mg	20 mg 30
Thiamine mg	0.5 mg
Riboflavin mg	0.8 mg 0.5
Niacin mg NE	9 mg 6
Vitamin B ₆ mg	0.9 mg 0.5
Folate μg DFE	50 μg 150
Vitamin B ₁₂ μg	1 μg 0.9
Calcium mg	800 mg 500
Iron ¹³ mg	12 mg 11.6, 5.8, 3.9
Zinc mg	10 mg 8.3, 4.1, 2.4
Iodine μg	90
Copper mg	0.56
Selenium μg	17
Vitamin K mg μg	15
Biotin μg	8

¹² Vitamin D should be added if there is inadequate exposure to sunlight.

¹³ Requirement based on 5%, 10% and 15% respectively, dietary iron bioavailability

Pantothenic acid mg	2
Magnesium mg	60
Manganese¹⁴ mg	1.2
Phosphorus¹⁵ mg	460

¹⁴ ~~No FAO/WHO reference values are available. Recommended intakes are about 50-70 µg per day.~~

Reference

Vitamin and Mineral requirements in Human Nutrition, 2nd Edition. FAO/WHO, 2004, (for all nutrients except manganese and Phosphorus requirement)

Dietary Reference Intakes. Institute of Medicine 2002/2005. USA (Source for Manganese and Phosphorus requirement)

~~FAO/WHO Handbook on Human Nutritional Requirements, FAO, Rome, 1974.~~

~~Requirements of Vitamin A, Iron, Folate and Vitamin B12, Report of Joint FAO/WHO Expert Consultation, Rome, 1988.~~

ALTERNATIVE SUGGESTION IS TO USE ESTIMATED AVERAGE REQUIREMENT BASED ON FAO/WHO RECOMMENDED NUTRIENT INTAKES

VITAMINS AND MINERALS	ESTIMATED AVERAGE REQUIREMENT(EAR; 100%)
Vitamin A µg retinol equivalent	286
Vitamin D¹⁶ µg	5
Vitamin E mg (α-Tocopherol)	4
Vitamin C mg	25
Thiamine mg	0.4
Riboflavin mg	0.4
Niacin mg NE	5
Vitamin B₆ mg	0.4
Folate µg DFE	120
Vitamin B₁₂ µg	0.7
Calcium mg	417
Iron mg¹⁷	11.6, 5.8, 3.9

¹⁴ Requirement based on low, medium and high respectively, dietary zinc bioavailability

¹⁵ Requirement based on low, medium and high respectively, dietary zinc bioavailability

¹⁶ Vitamin D should be added if there is inadequate exposure to sunlight

Zinc mg¹⁸	6.9, 3.4, 2.0
Iodine µg	64
Copper mg¹⁹	0.56
Selenium µg	14
Vitamin K mg µg	15
Biotin µg¹⁹	8
Pantothenic acid mg¹⁹	2
Magnesium mg¹⁹	60
Manganese mg²⁰	1.2
Phosphorus mg²⁰	460

References

Estimated Average Requirement (calculated values) based on FAO/WHO Recommended Nutrient Intakes. FAO/WHO Guidelines on food fortification with micronutrients (WHO and FAO, 2006)

Vitamin and Mineral requirements in Human Nutrition, 2nd Edition. FAO/WHO, 2004

Dietary Reference Intakes. Institute of Medicine 2002/2005.USA (Source for Manganese and Phosphorus requirement)

¹⁷ Because of skewed distribution of iron requirements for young children, the corresponding 100% RNI values are given for 5%, 10% and 15% respectively, dietary iron bioavailability

¹⁸ Zinc 100% EAR for low, medium and high; dietary zinc bioavailability

¹⁹ Values are 100% Recommended Nutrient Intakes

²⁰ Values are Dietary Reference Intakes. IOM, 2002/2005 for Manganese and Phosphorus).

APPENDIX

RESPONSES TO COMMENTS FROM THE ELECTRONIC WORKING GROUP, CHAIRED BY GHANA, FOR THE REVISION OF GUIDELINES ON FORMULATED SUPPLEMENTARY FOODS FOR OLDER INFANTS AND YOUNG CHILDREN (CAC/GL 08-1991)²¹**Responses to concerns raised by members of the Electronic Working Group on the 1st draft of the revised version of the Guidelines on formulated supplementary foods for older infants and young children (CAC/GL 08-1991)**

The Electronic Working Group reviewed the document. The following addresses specific comments raised from the first round of circulation. Tests in italics are comments raised by countries after the first round of circulation of the document. Responses follow.

Comments 1

We are aware of the reason for the proposed change of title and throughout the Codex Guideline from ‘Supplementary’ to ‘Complementary’ to update the language consistent with international usage. However we have the following concerns about this change as it applies to the international regulatory context:

- a) The term ‘complementary’ can be applied to all foods that are introduced to diversify the diet of older infants beyond the principal liquid portion of the diet i.e. breast milk and/or infant formula. Other foods for older infants and young children (i.e. canned baby foods and processed cereal-based foods) that are regulated by Codex Standards are also regarded as ‘complementary’. Indeed, the Scope of the Codex Standard for Processed Cereal-based Foods refers to such foods as “intended for feeding infants as a complementary food”.*
- b) Given the broad application of the term ‘complementary’ to a wide variety of weaning foods including those regulated by Codex, the replacement of ‘supplementary’ by ‘complementary’ introduces a problem. This is an important point because all users of Codex texts need to be able to identify which single commodity-based text is appropriate for the regulation of a particular food. There should be no overlap in the scope of such texts irrespective of whether the Codex text is a standard, guideline or other format.*
- c) Although, the other descriptor term in the title ‘formulated’ might be regarded as providing sufficient differentiation between ‘formulated complementary foods’ and ‘complementary foods’ such as processed cereal-based foods, we do not support this view. We consider that there is considerable overlap and ambiguity between a ‘formulated complementary’ food and a ‘processed complementary’ food.*

*However, we accept that some delegations wish to update the subject of the Guideline. We therefore propose that ‘complementary’ be retained and that ‘supplementary’ be amended to ‘supplemented’ and inserted after ‘complementary’. This amendment should be made wherever the current term ‘supplementary’ appears in the document including in section 9.2.1.1 – the name of the food i.e. **‘Formulated Complementary Supplemented food’**.*

Including both terms in the name of the food indicates that the single group of foods fulfils both roles and addresses our concern about the sole use of ‘complementary’ without further appropriate qualification.

We consider that the meaning of ‘supplementary’ should still be retained because

“i) this term is consistent with the description given in para 3.1, particularly “provide(s) those nutrients which are either lacking or are present in insufficient quantities in the local diets.”

ii) the foods covered by the Guideline are energy dense compared with other complementary foods regulated by Codex standards (at least 4 kcal/g compared with not less than 0.8 kcal/g for prepared, processed cereal-based foods). Such high energy densities differentiate them from formulated/processed complementary foods available in other countries where nutrients are not present in insufficient quantities in local diets. In this way, these foods are characteristic of

¹ The Guidelines on Formulated Supplementary Foods for Older Infants and Young Children were adopted by the Codex Alimentarius Commission at its 19th Session in 1991.

supplementary foods”.

The issue of target group for the products mentioned in the Guidelines was raised by two other groups.

Response to Comments 1:

We reproduce below the definitions of complementary food and supplementary food as given by the WHO delegation for the guidance of the EWG in making a decision ALINORM 10/33/26.

“Complementary foods are solid or semi-solid foods given to older infants and young children (from 6 months to 2 years of age) in addition to breast milk or breast milk substitutes”

“Supplementary foods are formulated foods used to rehabilitate moderately malnourished children or persons, to prevent a deterioration of nutritional status of those at risk by meeting their additional needs”

From the above, supplementary foods are for already malnourished children who must be given special foods to bring them out of their malnourished state. Complementary foods “top up” breast milk (BM) (or BM substitutes), especially after 6 mo when BM alone becomes inadequate in meeting the energy and nutrient needs of the growing older infant. In addition to breast milk and local complementary foods, formulated complementary foods help top up the energy and nutrient needs..

Adequate appropriate complementary foods are needed to meet an older infant’s nutrient needs and are a right for all children, irrespective of where they live. It is appropriate for Codex to have guidelines on formulated complementary foods that will **prevent** children, irrespective of where they live, from getting into a malnourished state.

It is also of note that, as of 1991 WHO used the two terms inter-changeably. It was in 1998 that the two were differentiated via their respective specific definitions .

We believe the proposed term “Formulated **Complementary Supplemented** food” introduces new terminology which could cause confusion.

Comments 2

ii) the foods covered by the Guideline are energy dense compared with other complementary foods regulated by Codex standards (at least 4 kcal/g compared with not less than 0.8 kcal/g for prepared, processed cereal-based foods). Such high energy densities differentiate them from formulated/processed complementary foods available in other countries where nutrients are not present in insufficient quantities in local diets. In this way, these foods are characteristic of supplementary foods.

Response to Comments 2

This statement mixes up the energy content of the **dry** FCF with that of prepared ready to eat CFs. In dealing with dry products the “at least 4kcal/g” applies. When dealing with prepared ready to eat CF e.g. porridges then “not less than 0.8 Kcal/g” is applicable due to the high moisture content of the latter.

Comments 3

Another member made the following comment “...we prefer that consideration be given to using Estimated average requirement instead of a percentage (50%) of the recommended Nutrient Intake (RNI) for children 1-3 years”

Response to Comment 3:

Considering that EAR are derived based on scientific data it is good for the EWG to consider this. The WHO/FAO 2006 document on Guidelines on food fortification with micronutrients provide EAR values which can be used. However, the WHO/FAO 2006 document does not provide EAR values for all micronutrients (EAR for copper, biotin, pantothenic acid, magnesium, manganese and phosphorus are not available) All of these nutrients are needed for growth. We have presented both Tables (RNI and EAR) in the revised annex, for the EWG to consider. For guidance of the EWG we have reproduced below the definitions of EAR and RNI:

“Estimated Average Requirement (EAR) is the average (median) daily nutrient intake level estimated to meet the needs of half the healthy individuals in a particular age and gender group. The EAR is used to derive the Recommended Daily Allowance”.

“Recommended Nutrient Intake (RNI) is the daily intake that meets the nutrient requirement of almost all apparently healthy individuals in an age and sex-specific population group. It is set at the Estimated Average Requirement plus 2 standard deviations”.

Comments 4

The Guidelines should make it clear that non-food supplements such as micronutrient powders (MNPs) are not covered by this Guideline.

Response Comments 4

A text has been added under 3.5 to capture this.

Comments 5

Section 5.5.1.2- What is the purpose for inclusion of this statement?

Response to Comments 5

This was in the original 1991 document. It explains what is to be achieved by applying these technologies.

Comments 6

Section 6.1.2 The revised statement identifies a range of 10 to 50 grams of the product, as a reasonable quantity for older infants or young children. What is the scientific basis for selection of this range?

Response to Comments 6

The revised range makes allowance for various FCFs to be used depending on the product and the age of the older infant or young child. For example, for a cereal-based FCF, 50g of the product (a reasonable quantity for a young child 12-23 mo of age) will provide about 200 kcal of energy (4kcal/g) without interfering with breastmilk intake and consumption of local foods (WHO, 1998). For food-based home fortificants such as lipid-based nutrient supplements, which are energy-dense food-products (5.9 Kcal/g) these are intended to be used in smaller quantities.

Comments 7

Section 6.3.2 What is the scientific basis for selection of protein digestibility corrected amino acid score as the indicator of protein quality? An explanation is needed for the selection of the method and the cut-off value of 70%, including references.

Response to Comments 7

The protein digestibility–corrected amino acid score (PDCAAS) has been adopted by FAO/WHO (2007) as the preferred method for the measurement of the protein value in human nutrition. The method is based on comparison of the concentration of the first limiting essential amino acid in the test protein with the concentration of that amino acid in a reference (scoring). The amino acid requirement of the preschool-age child is used as the reference. The chemical score obtained is corrected for true fecal digestibility of the test protein. References have been provided as footnotes in the Guideline.

Comments 8

Section 6.3.5 What is the scientific basis for setting the proportion of total energy from protein at not less than 10%? Is this recommendation based on the product as formulated or as prepared for consumption? An explanation, including reference, should be provided.

Response to Comments 8

WHO 1998 suggest the following energy and protein needs from complementary foods assuming average breast milk intake: 6-8 mo, energy= 200 kcal/d, Protein=5.2 g/d; 9-11 mo, energy=300 kcal/d; protein=6.7 g/d and 12-23 mo, energy=550kcal/d, protein=9.1g/d. A formulated product with protein not less than 10% will meet the above protein requirement during complementary feeding. Also, Dietary Reference Intakes (IOM, 2006) recommend an acceptable macronutrient distribution range for protein of 5-20% of total calories for children 1-3 years.

Comments 9

6.3.5 What is the scientific basis for setting the proportion of total energy from fat at not less than 30%? Is

this recommendation based on the product as formulated or as prepared for consumption? An explanation, including reference, should be provided.

Response to Comments 9

The range of proportions of energy from fat in the diets of infants and young children has been suggested at 30-45% (From: PAHO/WHO Guiding principles for complementary feeding of the breast fed child). This is based on product as prepared for consumption.

Comments 10

Section 6.5.2 What is the scientific basis for recommending that the level of fiber in these products not exceed 5 g/100g? What would be the daily intake of fiber with this recommendation? Is the recommendation based on the product as formulated or as prepared for consumption?

Response to Comments 10

Because fiber can interfere with the absorption of nutrients and can reduce energy content of CFCs, the level suggested in the original Guideline “not exceeding 5g/100g” of the dry food was left as such. Thus if a child is taking up to 50 g of dry food as formulated in a day the daily intake will be up to 2.5g.

Comments 11

The draft Annex in the Consultation Document states that “the total amount of the added vitamin(s) and/or mineral(s) contained per daily ration of the food on a dry matter basis should be at least 50% of the reference nutrient intake.” We are unclear about the scientific basis for setting 1) a single value as the standard all nutrient levels in these products, and 2) the particular value of 50% as the standard for the amounts of vitamins and minerals in the daily ration. How such a value is applied when the reasonable quantity for a daily ration is a range and not a fixed amount is unclear. As written, there is no upper level on the amount of nutrient that may be added. Is this the intent?

Response comments 11

A value of “at least 50%...” is suggested because breastmilk/breastmilk substitutes will also contribute to the nutrient intake as well as local foods. It is not the intent for there to be no upper levels on the amount of nutrient that may be added. Appropriate upper levels should be determined based on the recommendations from FAO/WHO on daily requirements of vitamin and minerals for older infants and young children so that there are no excessive intakes when consumed in combination with other foods in the local diet and any vitamin and mineral supplements that are provided separately. ***This should be discussed at the 32nd session of CCNFSDU.***

Comments 12

“... intake of trans fatty acid (TFA) is associated with the risk of developing heart disease. However, there is no clear evidence that the impact of trans fatty acid from hydrogenated fats is different to that of naturally occurring TFA in milk or meat fat. The scope and need for this proposed prohibition would need to be considered.

Response to Comments 12

The answer to this question is not easy as studies addressing this issue are few and have been inconclusive depending on the outcome assessed. Generally milk fat contains 3-7% TFA by weight compared to partially hydrogenated oils that have 10-60% TFA by weight. The major TFA found in partially hydrogenated vegetable oil is elaidic acid (18:1 trans-9) while the main TFA in ruminant-derived foods e.g. milk and dairy is vaccenic acid (18:1-trans-11) (Jesnen et al. 2002 J Dairy Sci). This makes it difficult to compare the respective effects. A recent study by Tardy et al 2009 (Am J Clin Nutr), compared the effect of dairy TFA with industrial sources of TFA on insulin sensitivity and did not see an effect. Epidemiologic studies indicate that chronic consumption of industrial TFA increases the risk of CVD. For the revision of the Guideline, we suggest the prohibition of partially hydrogenated oils containing TFA in children's FCFs.

Responses to concerns raised by members of the Electronic Working Group on the 2nd draft of the revised version of the Guidelines on formulated supplementary foods for older infants and young children (CAC/GL 08-1991)

Title and Scope:

The EWG was unable to reach a consensus on the title to describe the products covered by the Guideline. Several descriptions were suggested by the EWG as listed below:

- i) Formulated complementary foods
- ii) Formulated complementary supplemented foods
- iii) Specifically formulated complementary foods
- iv) Fortified complementary foods
- v) Formulated supplementary foods
- vi) Processed complementary foods
- vii) Supplemented complementary foods

This issue is being left for discussion at the 32nd Session of CCNFSDU.

WHO definition of Complementary foods: WHO 1998

“The period during which other foods or liquids are provided along with breast milk [breast milk substitutes] is considered the period of complementary feeding. Any nutrient-containing foods or liquids other than breast milk [BM substitute] given to young children during the period of complementary feeding are defined as “**Complementary foods**”.

WHO definition of Supplementary foods

“Supplementary foods are formulated foods used to supplement the diet in order to rehabilitate moderately malnourished persons or to prevent a deterioration of nutritional status of those most at-risk by meeting their additional needs, focusing particularly on young children, pregnant women and lactating mothers.”

Section 4.1.3.1

Erucic acid vs Etucic acid (proposal from a member of the EWG): We are not familiar with “Etucic” ***and welcome additional information and discussion at the 32nd Session of CCNFSDU.***

Section 4.1.5 Fats and oils

Concerns raised by some members of the EWG regarding hydrogenated fats versus naturally occurring fat is noted. ***We hope this can be taken up for discussion at the 32nd Session of CCNFSDU.***

Section 4.2.1: Animal source foods

The wording suggested by a member of the EWG on “complete proteins” was not incorporated, as besides proteins, ASFs provide bioavailable micronutrients, thus the term “nutrient-dense” is more appropriate. ***We welcome an appropriate wording through discussions at the 32nd Session of CCNFSDU.***

One member of the EWG questioned the addition of ASF to this section as it is a general recommendation and is not related to the composition of formulated complementary foods. ***This is referred for discussion at the 32nd Session of CCNFSDU.***

Section 6.1.2

This section was suggested for deletion by some EWG members. However following suggestions from other EWG members, the text has been modified.

Section 6.6 Vitamins and Minerals

6.6.4 The current Guideline gives a set of values for nutrients that can be added to the fortified complementary food. This does not make room for fortified complementary foods to be tailored to meet the situation of local diets and nutritional status of target populations. A member proposed the deletion of the Table in the annex, and rather to refer users of the Guidelines to current FAO/WHO requirements in vitamins

and minerals. *This is referred for discussion at the 32nd Session of CCNFSDU.*

Section 9.2.1.1

The text referring to “National legislation” is an original text in the guideline and was not modified.

Section 9.2.3b

Declaration of linoleic and alpha linolenic acid: These are important essential fatty acid in child growth and development. We believe this will provide important information to consumers. ***This has been inserted in square brackets for further discussions***

Section 9.2.4.6

This was initially inserted after the circulation of the first draft. It has now been marked for deletion since it is covered by section 9.2.4.4. However, a statement regarding the use of fats/oils with appropriate essential fatty acid ratio has been added.

Table in Annex:

A member offered a suggestion on how to deal with the EAR for vitamins and mineral, if we decide to insert the Table in the Guideline.

Another member also offered an alternative, which involves referring users of the Guideline to current FAO/WHO recommendation. This was supported by one other member of the EWG.

This is referred for discussion at the 32nd Session of CCNFSDU.