

Directive 90/496/EEC on Nutrition Labelling for Foodstuffs: Discussion Paper on Revision of Technical Issues

Reference values for vitamins and minerals

→ General comment

PIE members consider that the Recommended Daily Allowances for vitamins and minerals as well as the list of the nutritional substances in the annex of the Directive indeed need to be revised in the light of the latest scientific data. This list has to be aligned with the list of vitamins and minerals that will be allowed to be used in foods in the context of the future Regulation on addition of vitamins and minerals and of certain other substances to foods, as well as the list set in the Food Supplements Directive 2002/46/EC.

Nutrient Definitions

Q: Are the current Codex discussions a suitable basis for setting down a definition of fibre in the nutrition Labelling Directive?

→ In principle, PIE members support the inclusion of a definition of dietary fibre in line with the definition provided by the CCNFSDU at step 6 of the procedure¹, **including the properties**, i.e.:

“Dietary fibre means carbohydrate polymers with a degree of polymerisation (DP) not lower than 3, which are neither digested nor absorbed in the small intestine. A degree of polymerisation not lower than 3 is intended to exclude mono- and disaccharides. It is not intended to reflect the average DP of a mixture. Dietary fibre consist of one or more of:

- *edible carbohydrate polymers naturally occurring in the food as consumed,*
- *carbohydrate polymers, which have been obtained from food raw material by physical, enzymatic or chemical means,*
- *synthetic carbohydrate polymers.*

Properties:

Dietary fibre generally has properties such as:

- *decrease the intestinal transit time and increase stools bulk,*
- *fermentable by colonic microflora,*
- *reduce blood total and/or LDL cholesterol levels,*
- *reduce post-prandial blood glucose and/or insulin levels”.*

PIE members do not consider necessary to include in this definition the last paragraph of the extract from report of the 27th session of the CCNFSDU, as provided in Annex 2 of the discussion paper (i.e. “*With the exception of [...] left to national authorities*”).

¹ Alinorm 06/29/26, Appendix III, page 62

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Q: Are there any concerns about this definition and how it might be incorporated into the Directive. For example, how should the issue of the footnote be dealt with?

→ The footnote highlights the fact that there are methodological issues in the analysis of fibre present in complex plant matrices; hence, it is not relevant *sensu stricto* to the definition of fibres, but nevertheless it contributes to clarification: some reference to the acceptable methods of analysis should be made or provided for.

Energy conversion factors

Q: Is there any need to amend the current energy conversion factors in the Nutrition Labelling Directive?

- PIE members support the update of energy conversion factors when a food ingredient:
- has a energy conversion factor that is significantly different from the one set up for the category to which it belongs, and **provided this difference is scientifically based, i.e. subject to a wide scientific consensus, by the relevant food safety agencies.**
- or,
- is not part of the existing categories *stricto sensu*, and where its use levels in a given foodstuff are significantly impacting the total energy value of that foodstuff.

Q: Is there any need to add to the current energy conversion factors in the Nutrition Labelling Directive? For example, is a conversion factor for fibre required or for erythritol (following the SCF opinion of 2003)?

→ We propose the addition to the list laid down in Article 5 of the Directive of:

Ingredient	Category	Energy conversion factor
Erythritol	Polyols	0
/	Dietary Fibre	8.0 kJ/g (2.0 kcal/g)* * in the absence of a specific factor associated to the analytical method for the determination of dietary fibre
Polydextrose	Dietary Fibre	4.0 kJ/g (1.0 kcal/g)
Inulin/oligofructose	Dietary Fibre	6.0 kJ/g (1.5 kcal/g)
Acacia gum (acacia fibre)	Dietary Fibre	6.0 kJ/g (1.5 kcal/g)

Justification of the proposed energy conversion factors

(More detailed information and scientific publications are available upon request)

- *Erythritol*

See the SCF Opinion expressed on 5 March 2003:
http://europa.eu.int/comm/food/fs/sc/scf/out175_en.pdf

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It concludes that “on the basis of available information concerning the various components in the factorial equation for erythritol, the caloric value for erythritol is confirmed to be less than 0.9 kJ/g; or less than 0.2 kcal/g, in human given oral doses lower than 25 g/day or 0.34 g/kg bw”.

- *Dietary fibre*

Should the Commission confirm that fibres should be assigned a energy conversion factor other than zero, our proposal would be the energy conversion factor 8.0 kJ/g (2.0 kcal/g), which is based on the recommendation made by the FAO in 2002². In arriving at this factor, fibre is assumed to be 70 % fermentable. It should also be recognised that some of the energy generated by fermentation is lost as gas and some is incorporated into colonic bacteria and lost in the faeces. Although this value is associated with the AOAC (2000) analysis– Prosky (985.29) for dietary fibre in conventional foods, or similar total dietary fibre method, **the FAO recommends to use this value in the absence of a specific factor associated with the analytical method**: actually, when dealing with fibres or oligosaccharides that are specifically added to a food, an analytical method (Prosky or other) and an energy conversion factor specific for the fibre or the oligosaccharide in questions should be used.

Hence, the possibility should be kept, to have a different energy conversion factor for certain ingredients covered by the “Dietary Fibre” category. This is the case for polydextrose, inulin/oligofructose and acacia fibre, for which a different energy conversion factor applies.

→ *Polydextrose*

1. Achour L, Flourie B, Briet F, Pellier P, Marteau P and Rambaud J. 1994. Gastrointestinal effects and energy value of polydextrose in healthy non obese men. *Am. J. Clin. Nutr.* 59:1362
2. Cooley S, Livesey G. 1987. The metabolizable energy value of polydextrose in a mixed diet fed to rats. *Br J Nutr* 57:235.
3. Czuba L. 1990. Methodology in the measurement of caloric availability. In: Norimasa Hosoya, ed. *Caloric Evaluation of Carbohydrates*. Tokyo: Japan Association of Dietetic and Enriched Foods, 173.
4. Figdor SK, Bianchine JR. 1983. Caloric utilization and disposition of [¹⁴C]polydextrose in man. *J Agric Food Chem* 31:389.
5. Figdor SK, Rennhard HH. 1981. Caloric utilization and disposition of [¹⁴C]polydextrose in the rat. *J Agric Food Chem* 29:1181.
6. Hobbs DC. 1988. Methodology in the measurement of caloric availability. In: Birch GG, Lindley MG eds. *Low-calorie products*. New York : Elsevier Applied Science, 245.
7. Juhr NC and Franke J. 1992. A method for estimating the available energy of incompletely digested carbohydrates in rats, *J. Nutrition.* 122:1425
8. McGaw BA. 1991. The development of a method to measure the caloric availability of bulking agents, Rowett Research Institute, Aberdeen, Scotland, December 1991 (unpublished)
9. Ranhotra GS, Gelroth JA, and Glaser BK. 1993. Usable energy value of selected bulking agents, *J. Food Sci.*, 58(5):1176-78
10. White JS, et al. 1988. An in vitro digestibility assay for prediction of the metabolizable energy of low-calorie dextrose polymeric bulking agents. *J Food Sci* 53:120

² Food energy – methods of analysis and conversion factors – Report of a technical workshop, Rome, 3-6 December 2002 – FAO Food and Nutrition Paper 77.

→ *Inulin/oligofructose*

1. Robertfroid M.B. 1999. Caloric value of inulin and oligofructose. J. Nutr. 129:1436S-1437S.
2. Cantox Inc. 1999. The determination of a caloric value for inulin and oligofructose.

→ *Acacia gum (acacia fibre)*

1. Phillips GO. 1998. Acacia Gum (gum Arabic): a nutritional fibre; metabolism and calorific value. Food Addit.Contam 15:251-64.
2. Cherbut C, Michel C, Raison V, Kravtchenko T, Méance S. 2003. Acacia Gum is a bifidogenic dietary fiber with high digestive tolerance in healthy humans. Microbial Ecology in Health and Disease 15:43-50.

Additional comment

We consider it important to take the impact of the food ingredient on the total energy value of the foodstuff in which it is incorporated into consideration, when assessing the relevance to assign a specific energy conversion factor to this ingredient.

In the same vein, should the nutrition labelling become mandatory for all foods, it would not make sense to calculate the total energy of a foodstuff, in taking into account obligatorily the energy value of ingredients that are usually added in minor quantities, like most of the food additives, cultures or carriers used for nutrients preparations. This would lead to costly analyses, which are furthermore very difficult to carry out from a practical point of view for some of those ingredients.

Tolerances for nutrient declaration

→ **General comment**

PIE members support in principle the establishment of tolerance values on nutrients. If definite tolerance values for nutrients were set, this would improve the quality of information provided in the labelling of pre-packed foodstuffs. The tolerance values should reflect food safety issues, natural variation of food, analytical precision and of course relevance of the information to the consumers.

June 2006