

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



E

JOINT OFFICE: Viale delle Terme di Caracalla 00153 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

Agenda Item 8

CX/CF 08/2/8 Add.2
March 2008

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON CONTAMINANTS IN FOODS

Second Session

The Hague, The Netherlands, 31 March - 4 April 2008

PROPOSED DRAFT CODE OF PRACTICE FOR THE REDUCTION OF ACRYLAMIDE IN FOOD (N06-2006)

Comments at Step 3 submitted by Cuba and EC

CUBA

Cuba considers the document to be very useful and has no further comments.

EC

The European Community and its Member States (ECMS) fully support the elaboration of this Code of Practice for the reduction of acrylamide in food. The draft Code of Practice is being developed as a means of disseminating strategies that will facilitate the reduction of acrylamide in internationally traded foodstuffs.

New information became available in 2007 which has already been included in the Code of Practice. To take into account very recent developments, the following changes are proposed:

§ 13: Include a new sentence after the second sentence in §13 (sentence ending with "...and renal cancer or breast cancer respectively" ^{30,31}): "One study reported an increased risk of endometrial and ovarian cancer, but not breast cancer, with increasing dietary intake of acrylamide¹, and one study found a positive correlation between haemoglobin adducts of acrylamide and estrogen receptor positive breast cancer." ¹¹

§ 14: Modify the text as proposed here (modifications underlined): "Other groups are also continuing work on acrylamide toxicology, including recent work on adducts and urinary metabolites.^{35,36} One 2007 study found that acrylamide intake estimates from food frequency questionnaires did not correlate with acrylamide or glycidamide hemoglobin (Hb) adducts,³⁷ while a separate 2007 study found correlations between dietary intake and Hb adducts for smokers and nonsmoking men, but not nonsmoking women.³⁸ The authors concluded that exposure estimates based on biomarker measurements, e.g. Hb adducts, are needed to obtain conclusive results. Another recent study reported that urinary metabolites did not correlate with total dietary intake calculated from food frequency questionnaires, although metabolites increased after potato chip ingestion." ³⁹

Insert a new second sub paragraph in § 14 as follows: " Exposure assessment of dietary acrylamide intake using food frequency questionnaires has been shown to be inaccurate as a measure of the exposure, probably due to a large variation in the acrylamide content within and between foods. This inaccuracy is corroborated by the lack of correlation between AA-hemoglobin adduct levels and estimated dietary intake^{37, 38, III, IV, V}. AA-hemoglobin adduct levels have however been shown to be strongly correlated to the total exposure of acrylamide." ^{24,35, VI, VII}

§ 16: Reference is made to the JECFA evaluation at its 68th meeting in June 2007 of the enzyme asparaginase from *Aspergillus oryzae* for use as a food additive. For the sake of completeness, it would be appropriate to refer also to the envisaged evaluation by JECFA at its 69th meeting in June 2008 of the enzyme asparaginase from *Aspergillus niger*.

Although some additional information is still expected in the course of 2008, the EC-MS support the advancement of this Code of Practice in the Codex Elaboration Procedure.

^I J.G.Hogervorst, L.J.Schouten, E.J.Konings, R.A.Goldbohm, and P.A.van den Brandt, (2007). A prospective study of dietary acrylamide intake and the risk of endometrial, ovarian, and breast cancer. *Cancer Epidemiol. Biomarkers Prev.*, 16(11), 2304-2313.

^{II} P.T.Olesen, A.Olsen, H.Frandsen, K.Frederiksen, K.Overvad, and A.Tjonneland, (2008). Acrylamide exposure and incidence of breast cancer among postmenopausal women in the Danish diet, cancer and health study. *Int.J.Cancer*, available on-line (DOI 10.1002/ijc.23359).

^{III} Hagmar L, Wirfält E, Paulsson B, Törnqvist M. Differences in hemoglobin adduct levels of acrylamide in the general population with respect to dietary intake, smoking habits and gender. *Mutat Res* 2005;580:157-65.

^{IV} Kütting B, Schettgen T, Beckmann MW, Angerer J, Drexler H. Influence of Diet on Exposure to Acrylamide - Reflections on the Validity of a Questionnaire. *Ann Nutr Metab* 2005;49:173-7.

^V Kütting B, Uter W, Hans Drexler. The association between self-reported acrylamide intake and hemoglobin adducts as biomarkers of exposure. *Cancer Causes & Control*. In press 2007.

^{VI} Urban M, Kavvadias D, Riedel K, Scherer G, Tricker AR. Urinary mercapturic acids and a hemoglobin adduct for the dosimetry of acrylamide exposure in smokers and nonsmokers. *Inhal Toxicol* 2006;18:831-9.

^{VII} Bergmark E. Hemoglobin adducts of acrylamide and acrylonitrile in laboratory workers, smokers and nonsmokers. *Chem Res Toxicol* 1997;10:78-84.