

CODEx ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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Agenda Item 2

MAS44/CRD08

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ORIGINAL LANGUAGE ONLY

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

44th Session

Virtual

5 – 8 May and 14 May 2025

NITROGEN TO PROTEIN CONVERSION FACTORS FOR COMMODITIES APPROVED BY COMMODITY COMMITTEES

(Prepared by the Codex Secretariat with inputs from Brazil and Chile)

Background

1. CCMAS42 (2023) recalled its earlier decision that Commodity Committees are responsible for establishing the nitrogen to protein conversion factors (Nx) but recognized the need for a harmonized approach to their placement - either within the relevant commodity standard or the *Recommended methods of analysis and sampling* (CXS 234-1999). To address this, it was agreed that Brazil and Chile would prepare a discussion paper exploring the best approach for the placement of Nx.¹
2. To ensure clarity and practicability, it was recommended that an annex to CXS 234-1999 be developed to consolidate all relevant Nx values established by Codex subsidiary bodies. This annex would serve as a central reference for laboratories using CXS 234-1999, ensuring consistent and transparent analytical practices.
3. CCMAS43 (2024) agreed to forward the document titled “Nitrogen to protein conversion factors” for adoption as an Annex to CXS 234-1999 by CAC.²
4. CAC47 (2024) returned the Annex to CCMAS and requested CCMAS to:
 - i. update Part 3 of Appendix II of REP24/MAS and ensure consistency of the nitrogen to protein conversion factors (Nx) with those in commodity standards;
 - ii. consider the request from the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) on the inclusion of the Nx for follow-up formula; and
 - iii. resubmit the Annex to CAC for adoption in the future.
5. To address this request from CAC47, the Codex Secretariat with inputs from Brazil and Chile updated the list of Nx which is presented in Appendix I.

Recommendation

6. CCMAS44 is invited to consider the updated list of Nx in Appendix I of this document for adoption by CAC.³

¹ [REP23/MAS](#) Paragraph 53 and 57(vi)

² [REP24/MAS](#) paragraph 76(i), and Appendix II Part 3

³ [CX/MAS 25/44/2](#) paragraph 22(iii)

APPENDIX I

NITROGEN TO PROTEIN CONVERSION FACTORS FOR COMMODITIES APPROVED BY COMMODITY COMMITTEES

Note: Amendments are indicated in bold underline and ~~striketrough~~.

Animal Protein Source

Milk and milk products - 6.38

Meat **and meat products** - 6.25

~~Cook-cured ham~~ – 6.25

Infant formula - The calculation of the protein content of infant formulas prepared ready for consumption may be based on N x 6.25, unless a scientific justification is provided for the use of a different conversion factor for a particular product. The value of 6.38 is generally established as a specific factor appropriate for conversion of nitrogen to protein in other milk products, and the value of 5.71 as a specific factor for conversion of nitrogen to protein in other soy products.

Follow-up formula for older infants and product for young children: The calculation of the protein content of the final product ready for consumption should be based on N x 6.25, unless a scientific justification is provided for the use of a different conversion factor for a particular product. The protein levels set in this standard are based on a nitrogen conversion factor of 6.25. For information the value of 6.38 is used as a specific factor appropriate for conversion of nitrogen to protein in other Codex standards for milk products.

Fish and fishery products

Crackers from marine and freshwater fish, crustaceans and molluscan shellfish - 6.25

Plant Protein Source

Wheat, wheat protein products - 5.71

Soya and non-fermented**d** soybean products - 5.71

Maize - 6.25

Quinoa - 6.25

Sorghum - 6.25

Tempe - 5.71

Gochujang - 6.25

Natto- 5,71

Cheonggukjang – 5,71

Millet (grains and flour) – 5.71

Vegetable protein Products (VPP): Products produced by separation from wheat and soya grains and flours of certain non-protein constituents (starch, other carbohydrates) - 6.25

Soy protein products – 6.25

Vegetable protein products – 6.25

~~Products produced by separation from wheat and soya grains and flours of certain non-protein constituents (starch, other carbohydrates) – 6.25~~