

The Third NEASIAFOODS Meeting
Suwon, Republic of Korea, 21-22 April 2004
Submitted by Regional Center

Under the joint sponsorship of FAO and INFOODS, the 3rd NEASIAFOODS meeting was held by the National Institute of Agricultural Science and Technology (NIAST), Rural Development Administration (RDA) in Suwon, Korea, from April 21 to 22, 2004. More than 100 participants attending the meeting, which included representatives from Korea, Mongolia, China, Hong Kong and Macao, and representatives from FAO-INFOODS, USDA, SAARCFOODS and ASEANFOODS.

The inauguration ceremony was chaired by Dr. Hye-Kyung Chun, NIAST. The opening address was given by the Coordinator of NEASIAFOODS (Prof. Yuexin Yang, INFS Chinese CDC). Welcoming addresses were given by Dr. Young-Wook Kim, Administrator of RDA, MAF, Korea and Dr. Sun-Oh Kim, Director of Ministry of Agriculture and Forestry, Korea. The first official launch of the FAO/INFOODS book by H. Greenfield and DAT Southgate, *Food Composition Data : Production, management and use*, was celebrated and the first copy of the book was presented to Dr. Young-Ok Kim, administrator of RDA.

The meeting included the following topics

- Food composition data: addressing the double burden of malnutrition
(Barbara Burlingame, FAO, Italy)
- US Food composition data : Macronutrients
(Joanne M. Holden, ARS-USDA, USA)
- Development and description of ASEAN FCDs on main nutrients and the existing status of analytical performance
(Prapasri Puwastien, Mahidol University, Thailand)
- Nutrition scenario and SAARCFOOD DATABASE: Scope and gaps
(Wahed MA, ICDDR, Bangladesh)
- Suggestions for the future nutrient database in Korea

(Hyun-Kyung Moon, Dan-Kook Univ., Korea)

- Harmonization issues for international interchange of food composition data
(Barbara Burlingame, FAO, Italy)
- Preliminary comparison on energy evaluation systems and practical energy values that applied in some NEASIAFOODS members
(Yuexin Yang, CDC, China)
- The description and expression of macronutrients on Chinese FCD
(Han Jun Hua , CDC, China)
- The analyzing and description of protein, carbohydrate and fat on FCDs in Korea
(Hye-Kyung Chun, RRD, NIAST, RDA, Korea)
- FCD in Hong Kong : Energy, Carbohydrate, Protein and Fat - Description and Analysis
(Leung Ka-sing, FEHD, Hong Kong)
- Work on FCD in Mongolia
(Enkhtaivan G, Mongolian University of Science and Technology, Mongolia)
- Macronutrients: analyzing and description in Macao
(Fong Ut-Wa, MHD, Macao)

Round table discussion was chaired jointly by Dr. Yuexin Yang (INFS, Chinese CDC), Dr. Barbara Burlingame (FAO) and Joanne M. Holden (ARS-USDA, USA).

First Issue : the quality of data on macronutrients in FCD

Dr. Yang presented the group work of NEASIAFOODS on Preliminary comparison study on energy values and the description of protein, fat and CHO in members' FCD. Representatives from the NEASIAFOODS member countries discussed the quality (definition, methods, factors) of the data on macronutrients. Method validation (using CRM, in-house quality control sample and control chart, recovery test, replicate analysis, etc), the uncertainty of the analytical methods, and description and conversion factors for macronutrients were discussed. Participation in laboratory performance study whenever possible was recommended. The round table discussion on the macro-nutrients among participants is summarized as follows:

1. Carbohydrate

Currently, all the member countries obtain the CHO values by difference. However, there are different methods of calculation. Some countries express CHO as "total by difference", and others as "available by difference". There are also differences

among countries using “available by difference” – some exclude total dietary fibre (TDF) while others exclude crude fibre (CF). The CF value is not recommended for future use. Harmonization of the method for calculation of CHO and its energy value is needed. Nutritional Labeling Guidelines of Codex for CHO (avail. CHO) is recommended where possible. A factor of 8 kJ/g (2 kcal/g) fibre may be used for fibre (whether TDF or CF) when calculating the energy content, in conjunction with 17 kJ/g (4 kcal/g) for the energy from available CHO.

2. Protein

Member countries analyzed total nitrogen content and calculated the protein content by multiplying with appropriate Jones' N conversion factors. However, it was agreed that the Codex guidelines -- “a general conversion factor of 6.25 unless a different factor is given in a Codex standard or in the Codex method of analysis for that food” – should be used. Codex standards need to be searched to find the different factors. Some foods contain substantial amounts of non-protein nitrogen (e.g. mushroom, chocolate, soybean, etc.); therefore, for these foods, the N value should be multiplied by the appropriate specific factors. The Jones' factors are listed in the Greenfield and Southgate book, *Food composition data: production, management and use*, and are also available for downloading from the USDA web site: www.nal.usda.gov/fnic/foodcomp. Amino Acid analysis, and expressing protein as the sum of amino acids, was recommended by FAO and INFOODS. However, this recommendation cannot be accommodated at this time. Nevertheless, it was agreed that for foods for special dietary uses and infant formula this recommendation should be adopted. The change of the method and/or conversion factors for some foods must be carefully done and take into consideration the effect on the protein value. Any changes may affect the analysis of longitudinal trends in protein availability or consumption reports or may have economic or socio-political impact.

- Calculation of Protein

The amount of protein should be calculated using the formula:

$$\text{Protein} = \text{Total Kjeldahl Nitrogen} \times 6.25$$

unless a different factor is given in a Codex standard or in the Codex method of analysis for that food.

3. Total fat

Member countries analyzed total fat by gravimetric methods, with and without acid digestion. Some representatives have experience running laboratory performance studies and pointed out that including acid hydrolysis for plant foods is necessary because it provides more complete extraction of lipid. Dr Puwastien added that acid hydrolysis needs especially when they contain high level of protein and carbohydrate. This method was recommended to the member countries. Meat and meat products can be extracted using various solvent systems without acid hydrolysis.

FAO/INFOODS consultation recommended that fat be expressed as the sum of fatty acids calculated as triacylglycerol. It was agreed that it would not be possible for the member countries to follow the recommendation at this time.

Prof. Yang from China raised a topic to be discussed on the amount of fatty acids in foods. Specific conversion factors to give fatty acids in fat (g/100g total fat) were used to calculate total fatty acids in the specific foods (g/100 g food). Some conversion factors are not available (e.g. soybean and corn). These factors must be studied in the future.

4. Energy

Member countries applied different factors (general and specific factors) for calculation of energy. The Codex Guidelines, recommending the factors 17, 37, 17 kJ/g (4, 9, 4 kcal/g) for protein, fat and available CHO, should be used. This situation should be monitored in the future.

- Calculation of Energy

The amount of energy to be listed should be calculated by using the following conversion factors:

Carbohydrates	17 kJ/g (4 kcal/g)
Protein	17 kJ/g (4 kcal/g)
Fat	37 kJ/g (9 kcal/g)
Alcohol	29 kJ/g (7 kcal/g)
Organic acid	13 kJ/g (3 kcal/g)

Second issue: the 4th NEASIAFOODS Meeting

Dr. Enkhtaivan, G. (Mongolian Univ. of Science and Technology) kindly offered to host the 4th NEASIAFOODS Meeting in Mongolia. The expected meeting time would be July, 2006. Detailed information of the 4th meeting will be posted later.

Third Issue: International Food Composition (FoodComp) Course for NEASIAFOODS

The FoodComp course for NEASIAFOODS will be organized in China in October, 2004. Dr. Y. Yang will be the Director of the course. It is the postgraduate course which will be running for 3 weeks. The number of students is limited to 20. The course will cover the food composition data generation, compilation and their use, etc. In addition, practical experience on these various aspects and field trips are included. Detailed information will be announced in FAO-INFOODS web.

Participants from the NEASIAFOODS members are given as priority.

Proposed numbers of participants from each member country during the meeting are as follows:

3 from Mongolia, 2 from Korea, 2 from Macao, tentatively one from Hong Kong and 3 from Myanmar (proposed by the ASEANFOODS coordinator). Fellowships will be sought for all NEASIAFOODS participants. Full fee-paying students from developed countries may also be admitted and their fees may subsidized some of the costs of participants from developing countries.

The Chair persons thanks all the participants and the host of 3rd NEASIAFOODS meeting, RDA Korea.

The Meeting was closed at 17:30 h.