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FOOD COMPOSITION ACTIVITIES OF ASEANFOODS: 2000-2011

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THAILAND



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ASEAN Network of Food Data System

ASEANFOODS: established in 1986

Regional Centre: Institute of Nutrition, Mahidol University

Coordinator: Prof. Dr. Aree Valyasevi (1986-1991),
INMU Director (Prof. Dr. Kraissid Tontisirin) (1992-1999),
Assoc. Prof. Dr. Prapasri Puwastien (1999-present)

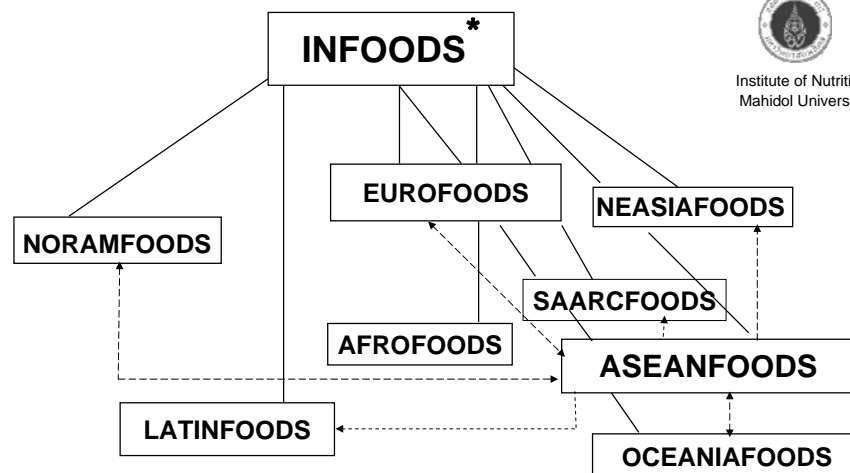
Member countries: 10 x



Indonesia, Malaysia,
Philippines, Singapore
Thailand, Vietnam, Myanmar,
Brunei Darussalam; Cambodia
Laos.



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*International Network of Food Data System
http://www.fao.org/infoods/data_en.stm



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ASEANFOODS

Association of Southeast Asian Network of food
data system*

Objectives

to promote and support the development of national and
regional food composition databases (FCDs) which are of
high quality and accessible to users in ASEAN and other
regions, so as to contribute towards improving food and
nutrition security, and achieving sustainable diets

*Regional Centre and *INFOODS* database Centre: Institute of Nutrition, Mahidol
University (INMU), Thailand <<http://www.inmu.mahidol.ac.th/aseanfoods>>

Mission of the ASEANFOODS

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- ASEANFOODS member countries develop good quality national food composition database with the generation and compilation system harmonised with the INFOODS Guidelines;
- ASEANFOODS member countries jointly develop the regional food composition database and update it at an appropriate interval;
- Institutes (Food Analysis laboratories) within the ASEANFOODS network establish internal and external quality control systems and provide training at national and regional levels;
- ASEANFOODS supports activities of member countries and INFOODS.

Food composition activities in ASEANFOODS: 2000-2011



1. Food composition database

- 1.1 Documentation of the first ASEAN FCTs 2000 (JICA)
- 1.2 Organisation of the First FoodComp-Asia 2002 (FAO/ILSI)
- 1.3 Organisation of 8th International Food Data Conference (8-IFDC), 2009 (FAO/EuroFIR and sponsors in Thailand)
- 1.4 Organisation of ASEANFOODS Workshop 18-21 July, 2011 (ILSI)

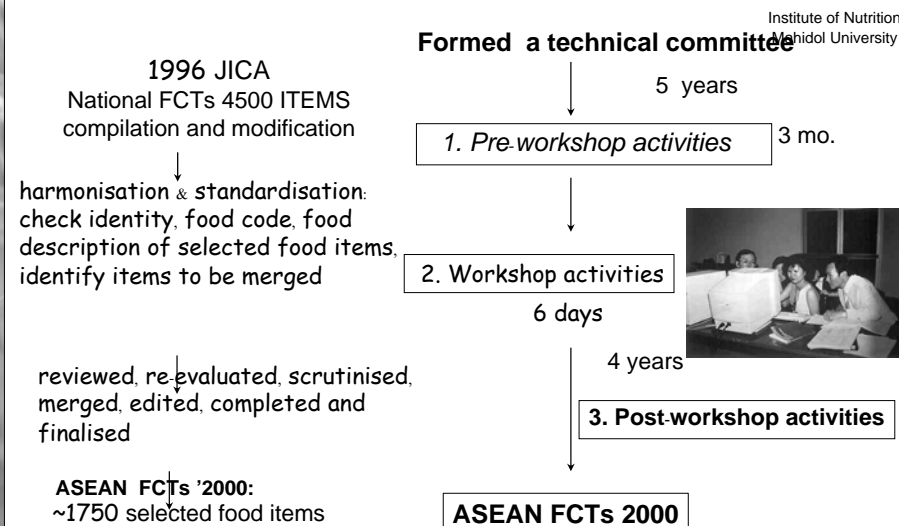
Food composition activities in ASEANFOODS: (continued)



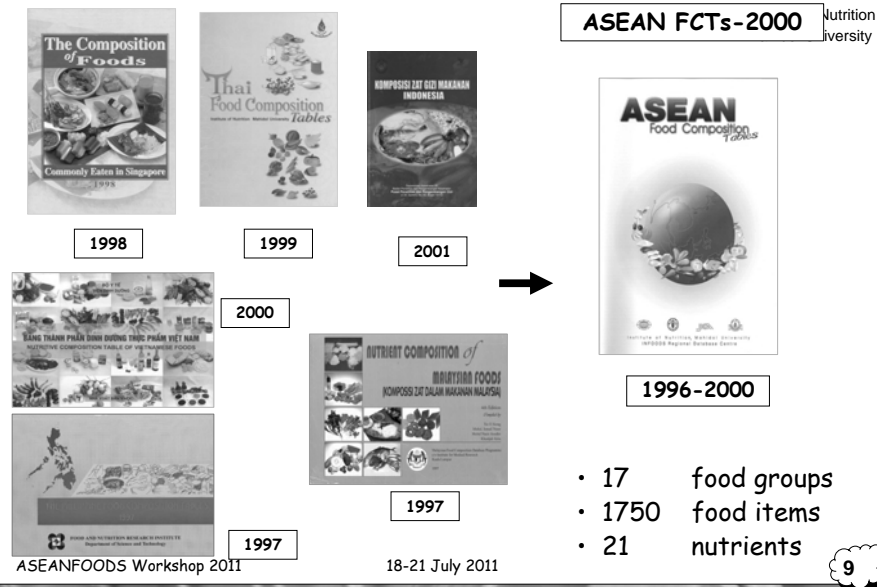
2. Strengthening the quality of laboratories

- 2.1 Development of reference materials with reference values of components
- 2.2 Organisation of laboratory performance studies
- 2.3 Organisation of ASEANFOODS Workshop 2002 (UNU) :to document the ASEAN Manual of Food Analysis,
- 2.4 Survey the needs on the above aspects among ASEANFOODS members

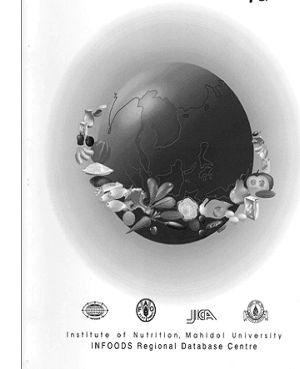
1.1 Documentation of the first regional food composition database: ASEAN FCTs (1996-2000)



National FCTs



ASEAN Food Composition Tables



2000

~1750 selected food items
21 nutrients

Reference: Public Health Nutrition 5: 991-99, 2002

1.2 Organisation of the first international FoodComp-Asia 2002 course 6-24 (May 2002), INMU, THAILAND

Objective of FoodComp Asia 2002

To show how FCD generators, compilers and users can collaborate and contribute to the development of quality food composition data which is, in result, valuable for effective use in nutrition and other related areas

Participants: 11 countries

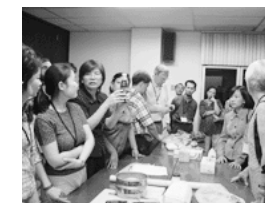
- 4 from SAARCFOODS
- 2 from NEASIAFOODS
- 10 from ASEANFOODS

Supported by: FAO and ILSI



FoodComp Asia 2002 : Three main areas - FCD generation, Compilation and Uses

Course elements



FoodComp Asia 2002 : some activities during the course



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Welcome party



Excursions outside BKK



Excursions outside BKK



Diploma presentation



Excursions-around BKK

ASEANFOODS Workshop 2011

18-21 July 2011

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1.3 The 8th IFDC: organised by INMU Oct 2009, BKK, Thailand,



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- Sources of funding: FAO and EuroFIR
Private companies, participants
- Participants: 139 from 44 countries
- Presentation: 40 Oral; 110 Posters

Website: www.inmu.mahidol.ac.th/8ifdc

- conference programme
- Abstracts: oral and posters
- ppt of oral presentations
- Bangkok Declaration
- All photos throughout the conference

ASEANFOODS Workshop 2011

18-21 July 2011

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Bangkok Declaration By participant of conference 3rd October 2009

At the 8th International Food Data Conference, Bangkok,
Thailand



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The delegates to the 8th International Food Data Conference, in recognising the importance of food composition data to nearly all activities in nutrition and food quality and safety, and the continuing need for quality food composition data for public health, agriculture, the environment and food trade, agree to promote the science of food composition in many diverse forums, including national, regional and international conferences, to undertake advocacy in the context of policy and programme development, to insure the integration of food composition principles in relevant activities, and support in various ways the continuing development, maintenance and updating of food composition databases within sustainable infrastructures.

ASEANFOODS Workshop 2011

18-21 July 2011

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1.4 Organisation of ASEANFOODS Workshop 18-21 July, 2011

Financial support: ILSI

Place: Institute of Nutrition, Mahidol University,
Thailand

Participants: 6 countries - Malaysia, Myanmar,
Philippines, Singapore, Thailand,
Vietnam

Participants, resource persons: 18



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ASEANFOODS Workshop 2011

18-21 July 2011

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2. Strengthening the quality of laboratories

2.1 Development of reference materials with reference values of components

2.2 Organisation of laboratory performance studies

2.3 Organisation of ASEANFOODS Workshop 2002 (UNU)
: Document the ASEAN Manual of Food Analysis,

2.4 Survey the needs on the above aspects among ASEANFOODS members

2. Strengthening the performance of laboratories



2.1 Development of food reference materials with consensus values of nutrients

| | | | |
|-------------|---|---|--|
| 1989* | AS-FRM ₁ Rice flour AS-FRM ₂ Soybean flour | } | Main nutrients and 8 minerals |
| 1993* | AS-FRM ₃ Cereal-soy AS-FRM ₄ Fish flour | | |
| 1998* | AS-FRM ₅ Weaning food AS-FRM ₆ Fish powder | } | Main nutrients, 3 minerals cholesterol, sat. FA, sugars |
| 2003** | AS-FRM ₇ Milk powder | | |
| 2005-2007** | Rice powder | | Main nutrients, minerals |

*by expert lab. ** by good performance participants

2.2 Laboratory performance: 10 rounds by INMU



| Round | Year | Nutrients covered | Level |
|-------|-----------|--------------------------------|---------------|
| I | 1989 | Main nutrients, minerals | Regional |
| II | 1993-4 | Main nutrients, minerals | Regional |
| III | 1998-9 | Mandatory nutrients for NL | Regional |
| IV | 1999-2000 | Mandatory nutrients for NL | National |
| V | 2001 | Proximate composition | National |
| VI | 2001-2 | Total folate | International |
| VII | 2002-3 | Mandatory nutrients for NL | Regional |
| VIII | 2005-6 | Main nutrients, Fe, Zn, vit B1 | International |
| IX | 2009-10 | Mandatory nutrients for NL | National |
| X | 2010-11 | Mandatory nutrients for NL | National |

2.3 Documentation of ASEAN Manual of Food Analysis



1) Pre-Workshop activities:

- Invited experts from each country (2 each).
- Identified the area of experts, categorised the nutrients, and placed the right persons to the right group.
- Requested the analytical methods used in each country (~6 weeks).
- Classified the obtained methods according to the nutrients.
- Requested each expert to review one or 2 analytical methods. (compiled from each country) according to his expertise (about 6 weeks) and prepared the recommended method(s) to be discussed at the workshop.

2.3 Documentation of ASEAN Manual of Food analysis (continued)

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2) Workshop activities: 3 days

- Groups of experts from different countries for each nutrient were formed. Format of the method was agreed.
- Experts discussed among their group and worked together for recommended analytical methods for each nutrient.
- At the end of the day, each group submitted the recommended analytical method for responsible nutrient.
- Moved to other responsible nutrient on the second day and followed the same strategies
- Representatives presented the flow chart of methods for analysis of each nutrient on the third day.

↓
Open for discussion



Opening



Presentation

Discussion



Group working



Workshop dinner

2.3 Documentation of ASEAN Manual for nutrient analysis (continued)

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3) Post-workshop activities:

- Review the format
- Set lay-out, edit the format, review the content
- Check the references
- Correct the content
- Communicated with the group of specific nutrients
- Language proof
- Disseminate to participants for final proof
- Prepare camera-ready ASEAN-Manual
- Printing

The ASEAN Manual for nutrient analysis should be available in 2004

Recommendation: from the ASEANFOODS Workshop: "Documentation of the ASEAN manual for nutrient analysis"

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1. From each country, 5 experts with different areas of expertise should be invited.
2. Activities should be divided into pre-workshop, workshop and post-workshop.
3. Provide 3 months for pre-workshop, 7 days for workshop, and at least 6 months for post-workshop, and one month for publishing.
4. At the workshop, details of each harmonised methods must be presented for comments and final approval.
5. Sufficient support must be available for conducting the above activities

2.4 Questionnaire survey (January 2003)



Objective: to survey the existing status on analytical quality QC system problems involved and requirement.

Number of laboratories 17 from 6 countries
Malaysia (1 lab), Philippines (3 Lab), Singapore (1 lab), Thailand (10 lab), Vietnam (1 lab), and Macao (1 lab, from NEASIAFOODS)

| Purpose for food analysis in 17 laboratories | % |
|--|----|
| Services | 59 |
| Development of FCTS | 19 |
| Research | 15 |
| Product QC | 3 |
| Others | 6 |

same information is posted in <http://www.inmu.mahidol.ac.th/aseanfoods>

Results & Discussion

2003 survey

1) Analytical quality control system used among 17 laboratories



| Analysis | % Distribution (n=17) | | | | | | |
|-----------------------|-----------------------|----|----|----|----|------|----|
| | CRM | RM | QC | PT | %R | Repl | Re |
| Proximate composition | 4 | 1 | 22 | 23 | 9 | 31 | 10 |
| Vitamins | 2 | 1 | 8 | 20 | 28 | 32 | 9 |
| Minerals | 5 | 3 | 14 | 16 | 22 | 29 | 11 |
| Overall QC system | 4 | 2 | 15 | 19 | 20 | 31 | 9 |

CRM: certified RM; RM: RM with consensus-value; QC: in-house QC sample;
PT: proficiency study; %R: % recovery; Repl: replicate analysis; Re: repeated analysis

Present status: PT providers (2003)



| PT-providers | # respondent | Cost-US\$ |
|-----------------|--------------|----------------------------|
| FAPAS | 7 | 200-1100 too expensive |
| NATA | 2 | |
| APLAC | 12 | |
| ASEANFOODS | 14 | Free to <100 affordable |
| IAEA | 1 | |
| LGC, AACC, AOAC | 1 | |

Users' requirement: test materials, nutrient included, and frequency/year



| Test materials | Nutrients included |
|--|---|
| Milk powder, dairy products, rice flour, soybean, fish meal, fortified foods, cereal products, dried meat, vegetable leaves | proximate composition, minerals, vitamins, nutrients for NL |
| • Meat, fish meal, medical food, vegetable oil | fatty acids, cholesterol |
| • Fresh vegetables, fruit juice vegetable leaves | vitamins, minerals |

Frequency/year: 1-2 rounds

Laboratory performance study: national PT providers in ASEAN (2003)

| Country | Institute |
|----------------|---|
| Indonesia 1x | Research Center for Chemistry, Indonesian Institute of Science, Bandung |
| Philippines 2x | Food and Nutrition Research Institute, Dept of Science and Technology (FNRI) Bureau of product STD |
| Singapore (1x) | PSB Corporation |
| Thailand (2x) | Institute of Nutrition, Mahidol University Dept of Science Services, Ministry of Science Tech. and Environ. |
| Vietnam (1x) | Vietnam Laboratory Accreditation System (VILAS) |

Recommendation : from questionnaire survey

- Stepwise quality control system should be set up.
- RMs with consensus values of nutrients should be prepared at national or regional level.
- Laboratory performance study (PT study) should be organised at national level, following the standard protocol (ISO/IEC Guide 43 (this survey was conducted in 2003. Current reference: ISO 17043)
- Harmonised protocols for developing the RMs and organising the PT study and short training on the protocols are strongly recommended.
- To exchange experience, regular communication among the project coordinators through e-mail, meeting, and related conference are encouraged

Future activities of ASEANFOODS

1. Food composition database

- Develop e-FCD with food illustration
- Update the ASEAN FCTs in 2007
- Organise the 2nd FoodComp Course, probably in 2005

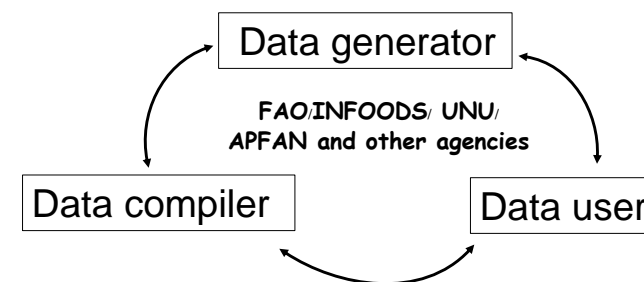
2. RMs and laboratory performance study: continue working

3. ASEAN Methods for nutrient analysis Hope to be available in 2004

4. Homepage: continue working

[Http://www.inmu.mahidol.ac.th/aseanfoods](http://www.inmu.mahidol.ac.th/aseanfoods)

Food composition data activities



Collaboration, coordination and dedicated effort can strengthen the FCD activities within and among regions





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Acknowledgement

- **Data generators, users and compilers at national and regional level**
- **National and International organisations: FAO, INFOODS/ UNU, JICA, ILSI, AusAID**
- **Other regional networks: OCEANIAFOODS and APFAN**



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Question is welcome?

