

Current status and needs of food composition data system

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1.1 Status and nature of the national food composition database: update version

Year

- Updated in 1994 and 2002 by data reviewing
- Entered the new data with the results of laboratory analysis annually



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Nutrients included

Nutrients include in raw food

- Calories
- Moisture
- Protein
- Fat
- Carbohydrate
- Retinol Equivalents
- Vitamin B1
- Vitamin B2
- Niacin
- Vitamin C
- Iron
- Calcium
- Phosphorus

Nutrients include in snacks and dishes

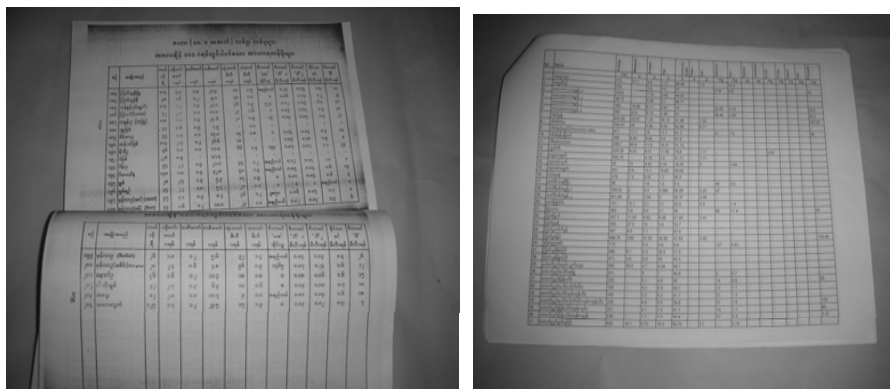
- Calories
- Moisture
- Protein
- Fat
- Carbohydrate
- Vitamins and minerals (Analysed data, infrequently)

Food groups

- Cereals and cereal products
- Legumes, nuts and seeds
- Vegetables
- Fruits
- Meats
- Fish and other aquatic animals
- Tubers and starchy roots
- Eggs
- Milk and milk products
- Sugars, jiggery, syrup
- Oils
- Snacks including traditional and fast food (processed and packed)
- Mixed dishes

Code system

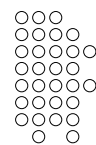
- Alphabetically (Myanmar)
- Mixed language (Myanmar and English)



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Source of data

Reviewed

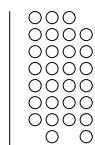
- Existing Food Composition Tables
- Thesis
- ASEAN Food Composition Tables
- FAO

- Analysed data
- Calculated data

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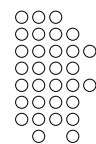
1.2 Analytical methods used

- Moisture (Air-oven method)
- Ash (Dry ashing and wet digesting)
- Protein (Kjeldahl method using the Kjeltec instrument)
- Fat (Soxhlet and Soxtec methods)
- Carbohydrate (Differences)
- Vitamins (A, B1, C) (Spectrophotometer, HPLC)
- Minerals (Fe, Ca, Phosphorus) (Spectrophotometer, AAS)
- $\text{Calories} = 9 \times \text{fat (g)} + 4[\text{Protein (g)} + \text{Carbohydrate (g)}]$
- $1 \mu\text{g RE} = 1 \mu\text{g retinol or } 6.0 \mu\text{g } \beta\text{-carotene}$

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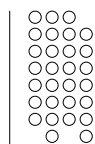
1.3 Internal and external quality control system

- Duplication
- Spiking
- Calculation of CV
- No in-house quality control food samples
- Frequently used commercially available milk powder

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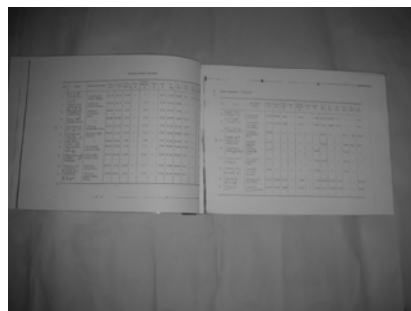


1.4 Documents related to food composition database development

- Food Composition Tables (FAO)
- Myanmar Food and Nutrition (1994)
- Myanmar Food Composition Tables (2002)
- Currently analysed data (snacks and mixed dishes) (Updated annually)



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Electronic database

No	English Name	Myanmar Name	Energy cal	Moisture g	Protein g	Fat g	Carbo- hydrate g	Ash g	Ca mg	Fe mg
1	Pork curry without chilli	0ufom;[if;	457.7	87.4	13.9	43.1	3.2	3.5	21	2.4
2	Hilsa shad fish curry	ig;om;avmuf qDNyef	218.4	90.7	13.3	16.8	4.3	2.9	116	2.4
3	Pea and vegetable curry	oD;pHkyJ[if;	33	90.8	1.2	0.5	5.8	1.6	-	-
4	Fried roselle leaves	csOfaygifa Mumf	75.1	92.2	6.2	0.8	9.4	3.8	81	2.2
5	Fried water convolvulus leaves	uefZGef;&G ufaMumf	195.6	93.0	2.0	19.8	4.4	3.2	52	1.9
6	Drum stick leaves soup	'ef h'vGef;&Guf [if;csdK	6.46	99.1	1	0.1	0.6	0.5	12	0.2
7	Snack of rice flour batter with hemispherical shape and served in pairs	rkef hvifr,m;	146	66.6	3.2	3.5	25.4	1.3	-	-
8	Rice noodle with fish gravy	rkef h[if;cg;	204.4	50.3	1.5	1.8	45.0	1.0	6	1.7

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1.5 Computer program to facilitate uses of food composition database (FCD)

- Electronic Data Based (Excel Format)
- Separated Files

Problems/needs/recommendations on food composition data development

Problems & Needs

- Regular update and upgrade the existing national FCT by data reviewing and compilation
- A system for increasing the quality, quantity and accessibility of food composition data within the country & region
- Widely dissemination of food composition data at national level

Recommendations

- To establish national network of food data system Technical committee
- To organize national FCT Workshop regularly by a Technical Committee

Problems/needs/recommendations on food composition data development (continued)

Problems & Needs

- Constraints in laboratory facilities
- Human resource development
- Development of hard copy and user guide for FCT
- Lack of analytical software for food compositions

Recommendations

- To develop proposals for technical and financial support
- To attend International Food Composition Tables Development Courses
- To give on job training, regional and international, for food analysis to data generators
- To train the persons the development of new software or handling of existing software

Problems/needs/recommendations on food composition data development (continued)

Problems & Needs

- Links with regional and international data system
- Interchange of information and knowledge between regions

Recommendations

- To harmonise data system appropriately if it is unfit for others
- To attend the regional and international workshop on FCT

Photographs of food



Nutrition Research Division
Department of Medical Research
(Lower Myanmar)

Rice noodle with fish gravy (*Mhone hin khar*)



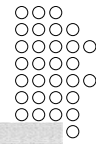
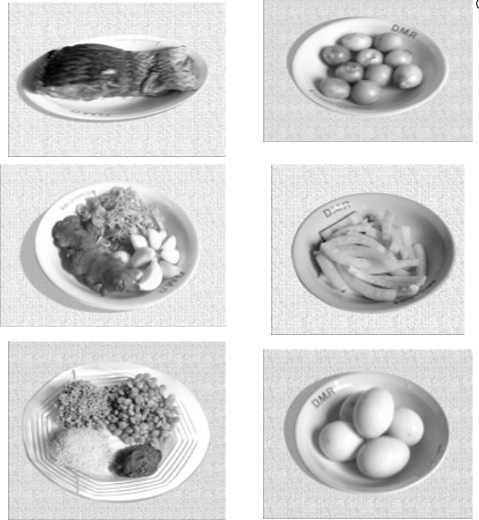
Nutrients content (100 g)

Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
204.4	1.5	1.8	45.03

Rice noodle with fish gravy (*Mhont hin khar*)

Ingredients

1. Carp fish or catfish
2. Lemon grass stalk
3. Onion (chopped)
4. Garlic
5. Fresh ginger
6. Turmeric
7. Dried chillies powder
8. Peanut oil
9. Peanut powder
10. Boiled chick pea
11. Roasted rice flour
12. Young banana stem
13. Fish sauce
14. Black pepper powder
15. Egg



Rice noodle with fish gravy (*Mhont hin khar*)

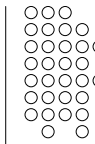
Method

1. Preparation of fish paste

- Put the fish, water, fish sauce, lemon grass & turmeric in a large pan.
- Boil and simmer for 6-10 minutes until the fish is just cooked.
- Remove the fish from the pan, peel the skin and flake the flesh, & discard bones.
- Drain the fish stock through a sieve and reserve for the soup.

2. Preparation of onion paste

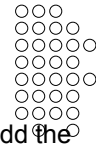
- Pound the onion, garlic, ginger, dried chillies and lemon grass into a paste in a pestle and mortar, otherwise just chop everything as finely as you can.



Rice noodle with fish gravy (*Mhont hin khar*)

3. Preparation of fish gravy or soup

- Heat the oil in a saucepan and add the onion paste. Cook over moderate heat for 15-20 minutes until the paste is soft and caramelised.
- Add blended boiled chick pea, then mix in the turmeric
- Cook for a further minute until the spices are fragrant. Add the flaked fish.
- Cover the lid and cook for 10-15 minutes, allowing all the flavours from the onion paste to infuse into the fish.
- Add water, young banana stem, roasted rice flour, blended & boiled chick pea, fish sauce & ground black pepper
- Bring to a boil while stirring continuously



Rice Noodle with fish gravy (*Mhont hin khar*)

Serve as

1. Fine rice noodles
2. Chick pea fritter
(If desired)
3. Add limes juice
4. Add boiled eggs, peeled & sliced
5. Slight fresh coriander,
6. Crispy onion fritters
7. Extra fish sauce & chilli flakes



Agar with young coconut meat and juice



Ingredients

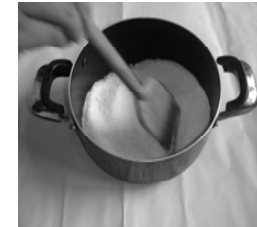
- Agar powder 20g
- Sugar 350g
- Salt ½ tea spoon
- Young coconut juice 1.5L
- Young coconut meat 200g

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Preparation



- Add sugar, agar powder and salt into the pan and mixed them.
- Add the coconut juice to the pan and bring to the boil.



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Method

- Simmer over moderately high heat stirring frequently
- Cook for 15-20 minutes until all ingredients have completely dissolved.
- Turn the heat off, add the coconut meat
- Pour into a desired container, let it set at room temperature
- Cut into slices and serve.

- Nutrient contents per 100g
- Energy 82.7 (Calories)
- Protein 0.17 (g)
- Fat 0.32 (g)
- Carbohydrate 21.9 (g)

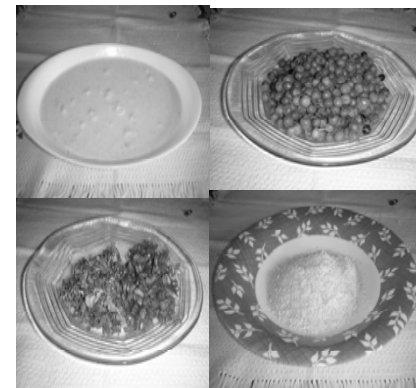


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Snack of fried rice flour batter



Ingredients

- Rice flour batter made with rice flour, semolina, banana, & salt.
- Boiled garden pea
- Onion tops
- Coriander leaves
- Peanut oil 200g
- Roasted sesame seed powder

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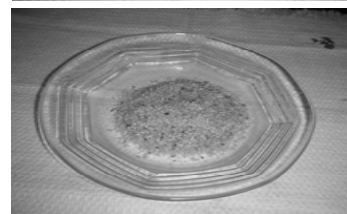
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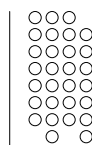
Method

- Put rice flour, semolina, banana and salt in a mixing bowl,
- Add water and stir with a spoon until everything comes together to form batter.
- Mix with shredded coriander leaves and onion tops.
- Add small amount of peanut oil into dimpled pan and add batter with spoon.
- Add boiled garden pea.
- Fried 5-10 minutes



Served as

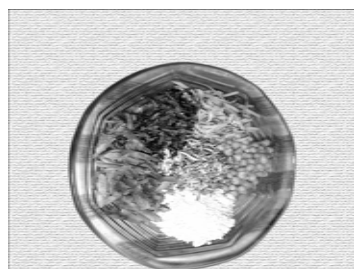
- Pairs of fried hemispherical shape batter and eat with roasted sesame seed powder and salt .



Nutrient contents per 100g

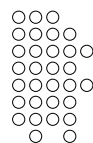
Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
146	3.2 3.5	25.4	

Pickled ginger salad (*Gin Thoke*)



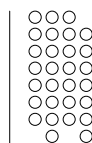
Ingredients

- Fermented ginger
- Fried sweet potato
- Fried coconut meat
- Roasted chick pea flour
- Roasted chick pea
- Roasted peanut
- Roasted lablab bean
- Roasted sesame
- Peanut oil
- Salt
- Lime juice



Preparation

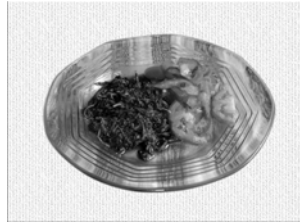
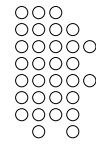
- Mix all ingredients and serve with dried prawn, tomato and green chili.



Nutrient contents per 100g

Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
362.2	12.2	29.1	24.9

Pickled tea leaves salad (*Laphet Thoke*)



Ingredients

- Fermented tea leaves
- Roasted chick pea
- Roasted peanut
- Roasted lablab bean
- Roasted sesame
- Peanut oil
- Fried garlic
- Lime juice
- Fermented fish sauce
- Hopped tomato
- Peanut Oil



Preparation

- . Mix all ingredients and serve with dried prawn and green chili

Nutrient contents per 100g

Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
311.4	12.2	23.2	14.03

Wheat Noodle with in coconut chicken soup (*Ohn-no-kauk-swey*)



Nutrient contents per 100g

Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
225	8.0	17.0	10.0

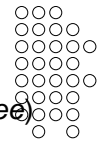
Rice noodle salad with chicken gravy (*Shan Kaut Swey*)



Nutrient contents per 100g

Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
263	8.0	19.0	15.0

Rice noodle with shrimp paste in fish soup (*Rakhine Mhont-tee*)



Nutrient contents per 100g			
Energy (Calories)	Protein (g)	Fat (g)	Carbohydrate (g)
109.3	4.3	0.5	21.9

Thank you

