

Data compilation and reviewing of national FCD - *Singapore* -

19 July 2011

ASEANFOODS Workshop and Meeting
Mahidol University, Thailand

Data compilation

- Sources:
 - ✓ Borrowed from countries which are major sources of import
 - ✓ Lab analysis (commonly eaten composite foods or products)
 - ✓ Calculated from recipes
- Food selection:
 - info from national nutrition surveys
 - current trends

Evaluation: borrowed data

- Ascertain how nutrients were derived
 - Make necessary adjustments
- Dealing with missing information
 - Input from another data source directly
 - Proportionate values

Evaluation: borrowed data

- Examples:
 - ✓ Fibre value from Malaysia FCD (crude fibre) is replaced where possible with dietary fibre data
 - ✓ CHO from USDA: value entered into system is after subtraction of dietary fibre data
 - ✓ Missing data for MUFA and PUFA:
 - Proportionate using similar food item (with known MUFA and PUFA values) using total fat as basis

Food Composition Module (FCM) : 6-inch Oven Roasted Chicken Breast Sandwich, Subway

[* denotes mandatory field]

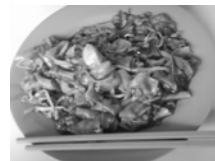
Add Nutrient Remove Nutrient Reset							
<input type="checkbox"/>	Nutrient Name	*Amount per 100g	*Unit	Trace	*Data Type	*Imputation	*Source of Information
<input type="checkbox"/>	Water	47.31	g	<input type="checkbox"/>	Borrowed from published data	None	US NDB No. 21102
<input type="checkbox"/>	Energy	133	kcal	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Protein	10	g	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Total fat	2.30	g	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Saturated fat	0.70	g	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Monounsaturated fat	0.81	g	<input type="checkbox"/>	Imputed	None	US NDB No. 21102
<input type="checkbox"/>	Polyunsaturated fat	0.65	g	<input type="checkbox"/>	Imputed	None	US NDB No. 21102
<input type="checkbox"/>	Cholesterol	10	mg	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Carbohydrate	17.80	g	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Sugar	2.60	g	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Dietary fibre	2.20	g	<input type="checkbox"/>	Manufacturer's claim	None	FI SG
<input type="checkbox"/>	Vitamin A	55	IU	<input type="checkbox"/>	Borrowed from published data	None	US NDB No. 21102
<input type="checkbox"/>	Thiamin	0.18	mg	<input type="checkbox"/>	Borrowed from published data	None	US NDB No. 21102

Fast foods, chicken fillet sandwich, plain

Evaluation: analysed data

- Derivation of values, e.g.
- ✓ Vitamin A = retinol + beta-carotene
- Knowledge of food content, e.g.
- ✓ Plant-based foods not expected to contain cholesterol
- ✓ Dish containing preserved ingredients is expected to have high sodium levels
- Comparison with existing data, e.g.
- ✓ Dietary fibre content of fruit without skin should not be higher than same fruit with skin

Way forward: recipe disaggregation?



Fried noodles

Noodle
Fish cake
Salt
Spring onion
Beansprouts
Soy sauce
Vegetable oil
Lard

Nutrient profile of dish is derived from recipe ingredients

Evaluation: calculated data

- Comparison with existing analysed data as a guide, e.g.
- ✓ Calorie content for a soup noodle recipe should be comparable to similar noodle dishes
- Areas for consideration:
- ✓ Yield and nutrient retention factors
- ✓ Oil absorption (deep-frying)
- ✓ Effect of yield on ingredient's moisture content
- ✓ Reliability of ingredient data

Food Composition Module (FCM) : Chicken, breast, raw, lean only

[* denotes mandatory field]

Food Item Profile Nutrition

Food Code
Food Group/SubGroup
Food Name

Scientific Name
Edible Portion
Country of Origin
Laboratory Analysis?
Proprietary?

Household Measure

Retention Factor (Food Category)
Cooking method

Chicken, simmered, wo/drippings

Nutrient	Retention Factor
Vitamin A	0.75
B-Carotene	0.75
Retinol	0.75
Thiamin	0.55
Riboflavin	0.95
Vitamin C	0.80
Sodium	0.70
Potassium	0.60
Calcium	0.80
Phosphorus	0.70
Iron	0.90

Close Window

Example: oil absorption

View Details for Nutrient - Windows Internet Explorer

http://intranet-focos.hpb.gov.sg/RAM/HighlightForms/RAM_View_

View Details for Nutrient

Recipe Name: Chicken Wings,Deep-Fried (Blended) BK5712Q-1
Number of Serving: 1

Oil % 5

Name	Subrecipe	Cooking Method	AP	EP%	EP Wt	Yield%	Yielded weight	Water	Energy	Protein	Total fat	Saturated fat	Monounsaturated fat	Polyunsaturated fat	Chol
05010030															
+Chicken, wing, raw, 1 lean and skin		DEEP FRY	50055	27589	244.75	150.15	615.85747.025	47.57515.125	21.175	11.275	211.0				
10010001	1	DEEP FRY	0	100	100	0	0	124.2	0	13.8	5.658	6.3066	1.8216	0	
12010037															
+Five spice powder	1	DEEP FRY	1	100	100	1	0.124	3.48	0.01	0.08	0.0236	0.0061	0.0218	0	
Total							245.75	150.274743.53747.035	61.45520.8066	27.4877	13.1184	211.0			
Per Serving							245.75	150.274743.53747.035	61.45520.8066	27.4877	13.1184	211.0			

Example: effect on moisture content

Ingredient	Cooking method	Edible portion weight (g)	Yielded wt (g)	Moisture (g)
Beehoon, raw (moisture content = 12g/100g)	Boil	330	495 330 x 1.5 (yield factor for raw beehoon, boil = 150%)	204.6 = 39.6 + 165 [330 x 12/100] + [495-330] (moisture content of raw beehoon) + (moisture absorbed by beehoon)
Water (moisture content = 100g/100g)	Boil	500	210 (500 x 0.75) - 165 [yield factor for water, boil = 75% (due to evaporation losses)] - [moisture absorbed by beehoon]	210 =[(500 x 0.75) x 100/100] - 165 (Use weight after evaporation to calculate moisture content) - (moisture absorbed by beehoon)
		Total	705	414.6

THANK YOU

QUESTIONS?