



Philippine (FNRI) FCT Evaluation Process



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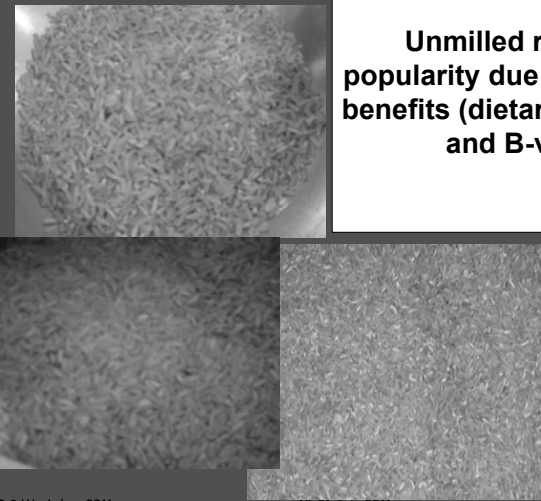
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Rice

Main staple food of ASEAN population


Brown Rice



Unmilled rice, gaining popularity due to its nutritional benefits (dietary fiber, minerals and B-vitamins)

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Sources of food composition data Included:

1. Primary publication – Articles in scientific literature containing compositional data of foods
2. Secondary publication – Reviews or published compilations giving compositional data
3. Unpublished reports - Reports ranging from analytical records to reports prepared for internal use, but not published

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References

1. FNRI unpublished data (2011) – analytical records for internal use. Unpublished report
2. Heinemann, R. et.al. Comparative study of nutrient composition of commercial brown, parboiled and milled rice from Brazil. 2005 *Journal of Food Composition and Analysis*. 2005. 18(287-296). Primary publication
3. Moonngarm et. al. Comparison of chemical composition and bioactive compounds of germinated rough rice and brown rice. *Food Chem* .2010;122: 782-788. Primary publication
4. Juliano, B. *Rice Chemistry and Quality*. 2003. Philippine Rice Research Institute (No description). Secondary publication
5. USFDA Nutrient Database for Standard Reference, Release 22 (2009) - Unpublished report

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Nutrient Composition of Brown Rice, Raw						
Analyte per 100g	Units	FNRI Unpublished (2011) Brown rice NSICRc160	Heinemann, JFCA 18 (2005) 287-296 Long grain brown rice <i>O. Sativa L. indica</i>	Moongngarm Food Chem. 122 (2010) 782-788 Germinated brown rice <i>O. Sativa L.</i> , cultivar RD-6	Juliano, 2003 "Gross Composition of Grain Parts and Milling Fractions" (based on USDA FCT 1998)	USDA FCT, 2009 Rice, brown, long grain, raw
Water	g	11.6	12.60±0.54	8.86 ± 0.95	14.0	10.37
Energy	kcal	363	-	-	-	370
Protein (N x 5.95)	g	8.1	6.85 ± 0.34	8.98 ± 0.27	7.3	7.94
Crude Fat	g	2.8	2.65 ± 0.20	1.23 ± 0.68	2.2	2.92
Carbohydrate, by difference	g	76.5	-	77.7 ± 2.49	71.1 (Available)	77.24
Sugar, total reducing	g	3.58	-	0.81 ± 0.19	-	0.85
Dietary Fiber, total	g	0.9	-	-	3.3	3.5
Ash	g	1.2	1.21 ± 0.06	2.06 ± 0.11	1.4	1.53
Sodium	mg	9	0.54 ± 0.20	-	7	7
Potassium	mg	231	181.7 ± 9.27	-	214	223
Calcium	mg	76	6.85 ± 0.43	-	32	23
Iron	mg	2.8	0.57 ± 0.35	-	3	1.47
Zinc	mg	2	1.98 ± 0.35	-	2	2.02
Selenium	mg	-	0.04 ± 0.00	-	-	23.4
β-Carotene	μg	2	-	-	-	0
Vitamin C	mg	4	-	-	0	0.0
Vitamin B ₁	mg	-	-	0.12 ± 0.02	0.40	0.401
Vitamin B ₂	mg	-	-	-	0.04	0.093
Niacin	mg	-	-	4.47 ± 0.18	1.2	5.091

Edible portion = 100% 18-21 July 2011 - No data

- ### Information included:
- Variety, source, "as received", standard verified method, IQC, duplicate analyses) – FNRI, DOST **Unpublished report**
 - Rice, *Oryza sativa L.. Indica* species, pool of 2 varieties, standard methods were used , NIST SRM used, triplicate analysis) **JFCA Primary publication**
 - Ungerminated, husk removed, no scientific name, triplicate analysis) **Food Chem Primary publication**
 - No description **Secondary publication**
 - Well described sample, long grain, unmilled kernel w outer husk removed, color) - **USDA FCT**
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Definition of Analytes

Carbohydrate – Total CHO computed by difference
100- % (Moisture + fat + protein + ash)

Energy – computed – 4 for protein, 9 for fat,
4 for CHO

Protein – N x protein factor
5.95 – Philippine unpublished
5.7 - Heinemann

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PHILIPPINE FCT COMPILATION STATUS

FCT Compilation	Folate Compilation
<ul style="list-style-type: none"> No FCT compilation was done since the publication of Philippine FCT 1997 Only data generation is being done by the FNRI FCT Group 	<ul style="list-style-type: none"> Folate Content of Foods Consumed by Filipinos, 2010 (Nutrition and Food R&D Div. FNRI, DOST) Intended for use in their project entitled "Folate status of pregnant women in the Philippines"

632 Food items

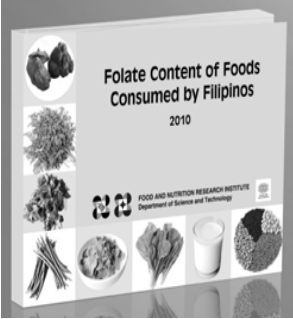
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Evaluation and Scrutiny of folate data sets 2010

Sources of data

A. Local and Foreign FCT

- ◆ Philippine FNRI FCT, 1990
- ◆ Denmark, 2005 (internet)
- ◆ Finland, 2009(internet)
- ◆ New Zealand, 2009 (internet)
- ◆ US DA, 2009 (internet)



B. Food industry results of laboratory analysis

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Evaluation and Scrutiny of folate data sets 2010

Folate and proximate data lifted directly from different FCTs/industry

Criteria considered in data scrutiny:

- Food items consumed by Filipinos
- Food description/ingredients used
- Scientific names for raw foods
- Edible portion
- Mode of expression
- Moisture values

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Evaluation and scrutiny of folate data sets 2010

Criteria not considered in data scrutiny

- Sampling
- Representativity of food
- Nature of material analyzed
- Analytical sample preparation
- Number of food samples analyzed
- Quality control
- Nutrient definition, e.g. protein by a constant N to protein factor, available CHO by difference
- Methods of analysis, e.g. folate

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Harmonization Issues

DATA GENERATION

Basis of sampling

- purposive, convenience, random/representative


Sampling and sample preparation

- sampling procedures (collection sites, sampling size, etc),
- composite (single?)/sample reduction (lab sample)

Acceptance criteria on methods

- Standard (e.g. ISO, Codex endorsed, AOAC) vs non-standard (e.g. publications, lab developed)
- Methods of analysis per analyte (e.g sugar) (validated/verified, quality control checks)

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Harmonization Issues

DATA COMPILATION


Selection criteria

- Sources of data (direct, indirect, borrowed, imputed) assignment of zero values, e.g for total dietary fiber in animal foods
- Definition of nutrient (e.g. available/total CHO)
- Methods of analysis per nutrient (e.g sugar)
- Units of expression for analyte, e.g. Energy (kcal, Joules, Vitamin A (Total) – RE, Niacin (RE)
- Completeness of data (missing values


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Harmonization Issues

DATA COMPILATION


Format and Design


- food grouping/ definition
- naming of foods, scientific names (use of tagnames)
- documentation/food description - use of photographs (raw, cooked, processed edible portion/refuse
- units of expression/ number of digits
- Electronic database (?)



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Thank you!

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