

2006 International Nutrient Databank Directory



Compiled by

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Chenard, Barbara Selley and Phyllis Stumbo**

**Produced for the
30th National Nutrient Databank Conference
Honolulu, HI USA**

Available at www.medicine.uiowa.edu/gcrc/nndc/survey.html

International Nutrient Databank Directory – 2006

INTRODUCTION

How the information was collected.

This directory is sponsored by the Steering Committee of the National Nutrient Databank Conference (NNDC) and has been compiled by the volunteer members of the Databank Directory Committee. It summarizes responses collected from March to June, 2006 to an online questionnaire directed to nutrient database developers.

To our survey respondents – Thank you!

We would like to thank all survey respondents for both your timely responses, and your thoughtful comments and suggestions. We believe we have presented your responses appropriately. If you have questions regarding your information included here, please contact Elizabeth Braithwaite (eliz@esha.com).

To users of this directory.

When the NNDC first met in 1976 (before the internet—hard to remember!) there were only a few nutrient calculation programs available and they were hard to locate unless you “knew someone.” Now with a few keystrokes we can discover on the worldwide web hundreds of programs using a wide variety of databases. The key issues for the end user, however, remain the same.

1. What is in the database? Does it contain sufficient values from appropriate sources for the nutrients you want to assess?

2. Does the software perform accurate calculations with these values? Can it perform all the calculations you need?
3. Is the software user-friendly? Is it easy to enter food amounts accurately, taking into account preparation and cooking losses? Does it provide reports (electronic and/or printed) that meet your needs?

For the end user the software and database are usually combined into a “seamless” electronic package. But the starting point in selecting this package should always be the right database(s). Meaningful results begin with using appropriate data,

Whether you are a student, researcher, food scientist, product developer, dietitian or just interested in the many ways we can use computers, this directory introduces you to different types of food composition databases and key factors to consider when choosing one.

There are many more nutrient databases (some very broad, others very specialized) and calculation programs than are profiled in this directory. Remember always that they are under constant revision. Before any purchase be sure to get updated information from the provider.

We hope you find this directory useful and would appreciate your feedback to Elizabeth Braithwaite (eliz@esha.com) or Barbara Selley (selleyb@sympatico.ca).

NOTES ON TABLES

Table 1. Survey Participants.

Here you will find the names and contact information of those who responded to the survey. Each participant is numbered and all entries in the other tables are cross-referenced to these numbers.

Table 2 Database Type, Language(s), History, Format, and Intended Uses.

The nutrient databases in this directory can be divided into two broad categories: **reference** and **user**.

Reference databases are usually national, regional or specialty databases. They typically include primarily analytical data plus documentation of sampling, data sources and laboratory methods. From the original reference databases data files software developers compile **user databases** in formats that can be accessed by search or calculation programs.

Some user databases draw information from a single reference database, e.g. the United States National Nutrient Database for Standard Reference.

Others have a core dataset drawn from one or more reference databases (complete or subset) and are supplemented with items and/or nutrients from various sources.

The issue date and frequency of update are both important. The dates of individual database entries and the components included are also significant. (Not all items are changed with each update, nor should they be.)

Food supplies change. *For example*, older versions of US and Canadian databases will not contain grain products fortified with folate.

If you are concerned with “emerging nutrients” updated values are critical. *For example*, results from older

methods for folate are not comparable with those obtained by current methods.

Varying numbers of phytochemicals are now appearing in some databases. (Fifteen years ago some questioned whether they should be included in nutrient databases because they weren’t “true nutrients” in the traditional sense.)

Table 3. Database (DB) Food Counts and Groups; Nutrient Fields; Maximum Name Length; and Data Sources.

Regardless of the number of foods in a database potential users need to verify that it contains the actual foods and nutrients they require.

In user databases there may be spare nutrient fields which can be used for additional nutrients.

In general longer food names provide more information without using abbreviations. Consistent naming conventions (and abbreviations if used) make it easier to choose items efficiently especially in larger databases.

Table 4. Database Food Components and Proportion of Items for Which Values Reported.

These completeness statistics are a starting point for assessing the suitability of a database for your purposes but they don’t tell the whole story especially for nutrients that are totally absent in certain foods.

For example, one database might report that it has total dietary fiber values for 60% of items and another 100%.

In fact they might actually be comparable because compilers do not all handle “assumed zeros” (e.g. no dietary fiber in meat) in the same way. In the first instance, the field may be blank, in the second zeros have been imputed and are counted as values.

Total Carbohydrate

Total carbohydrate is not determined in the same way for all databases.

The **available carbohydrate** method totals free sugars and polysaccharides; it does not include dietary fiber. Some database developers go another step and converts the total to **monosaccharide equivalents**.

Carbohydrate by difference is the difference between the total weight of a food and the sum of the weights of protein, fat, ash and water. It includes dietary fiber.

The Dietary Reference Intakes for the United States and Canada (issued from 1997-2004) have influenced the fields required in nutrient databases.

Previously **vitamin A** was reported in **retinol equivalents (RE)**, that is total vitamin A activity calculated as

$$\text{mcg retinol} + 1/6 \text{ mcg beta carotene} + 1/12 \text{ mcg other provitamin A carotenoids}.$$

The DRI committee concluded that these conversion factors overestimate the contribution from carotenoids. Recommendations are now stated in **retinol activity equivalents (RAE)**:

$$\text{mcg retinol} + 1/12 \text{ mcg beta carotene} + 1/24 \text{ mcg other provitamin A carotenoids}$$

Fields have also been created to accommodate the additional modes of expression for folic acid and folates, and dietary folate equivalents (DFE). For discussion of these adjustments and others see Consequences of changes in the Dietary Reference Intakes for Nutrient Databases (S. Gebhardt and Joanne Holden) in the Journal of Food Composition and Analysis 19 (2006), S91-S95).

Table 5. Software Used to Access and Apply Databases

The table contains only some of the nutrient calculation programs available. They vary widely in intended use, capabilities and cost. It is wise to verify the scope of user databases. A program might use only

selected foods and nutrients from a reference database and not the entire database. (With the advent of powerful desktop computers this is less common than in the past.)

AUTHORS

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What is the NNDC?

The first meeting of the National Nutrient Databank Conference took place in 1976. It has continued annually since then to foster communication among food composition researchers, nutrient database compilers, software developers, and end users of nutrient data. It is open to all working in these fields.

The next meeting
Turning Concepts into Reality
 will take place April 27, 2007 in Washington, DC.

To learn more please visit
<http://www.nal.usda.gov/fnic/foodcomp/conf>

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Table 1
Survey Participants

Organization Contact	Address	Website - Email Telephone
1. Axxya Systems Shazia Nathoo	4800 Sugar Grove Blvd Suite 602 Stafford, TX 77477 USA	www.axxya.com snathoo@axxya.com 800-709-2799
2. Block Dietary Data Systems Torin Block	15 Shattuck Square, suite 288 Berkeley, CA 94704 USA	http://www.nutritionquest.com tblock@nutritionquest.com 510-704-8514
3. Cancer Research Center of Hawaii Donna Au	1236 Lauhala Street Honolulu, HI 96816 USA	- dtakemor@crch.hawaii.edu 808-564-5950
4. China CDC, Institute of Nutrition and Food Safety Yang Yuexin	Beijing, Xuan Wu 100050 China	www.neasiafoods.org yxyang@263.net 0086-10-83132912
5. CMR progiciels inc. David Allain	1150 Lévis Lachenaie, QC J6W 5S6 Canada	www.cmrprogiciels.com dallain@cmrprogiciels.com 450-471-2828
6. CyberSoft, Inc. Ed Prestwood	3851 E. Thunderhill Place Phoenix, AZ 85044-6679 USA	www.nutribase.com ed@nutribase.com 480-759-4849
7. DietPower, Inc. Terry Dunkle	7 Kilian Drive Danbury, CT 6811 USA	www.dietpower.com tdunkle@dietpower.com 203-743-0061
8. Digital Altitudes, LLC Mike Biewenga	315 N Belmont Ave Arlington Heights, IL 60004 USA	www.diabetespilot.com contact@diabetespilot.com 847-670-8871

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Table 1
Survey Participants

Organization Contact	Address	Website - Email Telephone
9. DINE Systems, Inc. Kathryn F Dennison	163 Brunswick Electric Road Whiteville, NC 28472 USA	www.dinesystems.com kdennison@dinesystems.com 910-795-4092
10. ESHA Research Elizabeth Braithwaite	P.O. Box 13028 Salem, OR 97309 USA	www.esha.com eliz@esha.com 503-585-6242 ext 329
11. Godin London Incorporated Gaetan Godin	203 Portsmouth Crescent East London, ON N5V 4C8 Canada	www.candat.ca gaetgodi@godin.on.ca 519- 679-8290 1-888-691-9171 (CDN-US)
12. Harvard School Public Health Laura Sampson	665 Huntington Ave Boston, MA 1923 USA	https://regepi.bwh.harvard.edu/health nhlas@channing.harvard.edu 617-432-4563
13. Health Canada Josephine Deeks	251 Sir Frederick Banting Driveway PL 2203C Ottawa, ON K1A 0L2, Canada	www.healthcanada.ca/cnf josephine_deeks@hc-sc.gc.ca 613-957-0926
14. Institute of Nutrition, Mahidol University Prapasri Puwastien	Putthamonthon 4, Salaya Nakorn, Pathom 73170 Thailand	www.inmu.mahidol.ac.th/aseanfoods nuppw@mahidol.ac.th +66-2-441 0217
15. Instituto de Nutrición Armando Rodriguez	Infanta 1158, Centro Habana La Habana 10300 Cuba	- ceres@infomed.sld.cu 537-8783064
16. Jim Jozwiak Jim Jozwiak	USA	www.lafn.org/~av832/ jozwiak@gmail.com

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Table 1
Survey Participants

Organization Contact	Address	Website - Email Telephone
17. Lifestyles Technologies, Inc. John Schirra	23227 Cuestport Dr. W Valencia, CA 91354 USA	www.lifestylestech.com support@lifestylestech.com 661-296-0460
18. LINZ Research Unit, University of Otago Charlie Blakey	P O Box 56 Dunedin 9054 New Zealand	www.otago.ac.nz/linz charlie.blakey@stonebow.otago.ac.nz +64 3 4798937
19. MulberrySoft M G Dangerfield	Mulberry, Forest Lane, Punnetts Town, E Sussex TN21 9JB England	www.dietorganizer.com mgd@mulberrysoft.com -
20. National Public Health Institute Heli Reinivuo	Mannerheimintie 166 Helsinki 300 Finland	www.finel.fi/ heli.reinivuo@ktl.fi 358947448733
21. National Research Center Laila Hussein	Dokki-El-Bouhous St Giza 12311 Egypt	- lhusein@hotmail.com (00202) 3371433/499/399/615
23. NutriGenie Robert Johnson	PO Box 18226 Stanford University, CA 94306 USA	nutrigenie.com rj@nutrigenie.biz 800-540-8077
24. Nutritional Computing Concepts Lawrence A. Wheeler	5014 Turkey Foot Road Zionsville, IN 46077 USA	ncconcepts.com lawheeler@ncconcepts.com 317-873-6897
25. SERVE Nutrition Systems Mike Williams	33 Green Valley Avenue St Ives, NSW 2075 Australia	www.serve.com.au mike@serve.com.au 61-2-9449 2593

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Table 1
Survey Participants

Organization Contact	Address	Website - Email Telephone
26. SweetWARE David Dunetz	2821 A Chapman Street Oakland, CA 94601 USA	www.sweetware.com david@sweetware.com 510-436-8600
27. The Better Byte Software Company Ltd Paul Lagasse	Box 345, 4819C - 48th ave. Red Deer, AB T4N 3T2 Canada	www.betbyte.com plagasse@rttinc.com 403-346-7953
28. Tinuviel Software Mr A. Johns	Tinuviel House Llanfechell, Gwynedd LL68 0RG UK	www.tinuvielsoftware.com tsis@tinuvielsoftware.com +44-1407-710183
29. University of Minnesota Nutrition Coordinating Center Nancy Van Heel	1300 South Second Street Minneapolis, MN 55454-1015 USA	www.ncc.umn.edu ncc@epi.umn.edu 612-626-9450
30. University of Arizona Diet Assessment Center Ellen Graver	2601 N. Campbell, Suite 109 Tucson, AZ 85719 USA	www.azdiet-behavior.azcc.arizona.edu egraver@azcc.arizona.edu 520-626-8316
31. USDA Agricultural Research Service BHNRC Nutrient Data Laboratory David Haytowitz	10300 Baltimore Ave., B-005, Rm. 107 Beltsville, MD 20705 USA	www.ars.usda.gov/nutrientdata haytowid@ba.ars.usda.gov 301-504-0714
32. Viocare Technologies, Inc. Rick Weiss	145 Witherspoon St. Princeton, NJ 8542 USA	www.viocare.com weiss@viocare.com 609-497-4600
33. University of Texas, Houston School of Public Health Deirdre Douglass	1200 Herman Pressler, W904K Houston, Texas 77030 USA	www.sph.uth.tmc.edu/fias fias@uth.tmc.edu 713-500-9775

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Table 2

Database (DB) Type, Language(s), History, Format, and Intended Uses.

Database			Languages	Issued		Formats Availability					Purposes / Applications	
Org #	Type	Name		First	Current						Update Frequency	
					Printed	Diskette, CD or DVD	Internet download	With software only	In-house use; contract service			
<p><i>R</i> Reference database <i>U</i> User database</p>												
14.	R	ASEAN Food Composition Tables	English	2000	2000	x						regional database; next revision 2010, + Thai, Malaysian, Filipino, Vietnamese fd names
2.	U	Block Food Frequency Questionnaire DB ¹	English, Spanish Chinese	1987	2005				x	x		nutritional assessment; revised in conjunction with new FFQs
13.	R	Canadian Nutrient File, 2005	English, French	1981	2005		x	x				national database; revised every 3 years
3.	U	Cancer Research Center Food Table	English		2006					x		nutritional assessment; updated yearly
15.	R	Ceres+	English, Spanish	1998	2005		x					nutritional assessment; updated at user request
4.	R	China Food Composition 2004	English, Chinese	1978	2005	x						national database
21.	R	Concise Egyptian Food Comp Tables	English, Arabic	2004	2004	x	x					national database
8.	U	Diabetes Pilot	English	2001	2006		x	x	x			nutritional assessment; updated with software updates
7.	U	DietPower 4.0 Weight & Nutrition Coach	English	1992	2004		x	x	x			nutritional assessment; updated with software updates
9.	U	DINE Healthy	English	1982	2005				x			nutritional assessment; updated yearly
10.	U	ESHA DB	English	1984	2006		x			x		nutritional assessment, labeling, book tables; updated twice per year
27.	U	Foods DB	English	2005	2005				x			nutritional assessment; updated when USDA Standard Reference and Canadian Nutrient File revised
20.	R	Finnish Food Composition DB	Finnish, Swedish	1984	2006	x	x					national database; updated yearly

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Org #	Type	Name		First	Current						
					Printed	Diskette, CD or DVD	Internet download	With software only	In-house use; contract service		
<p><i>R</i> Reference database <i>U</i> User database</p>											
12.	<i>U</i>	Harvard Food Frequency DB ¹	English	1984	2007		x	x	x		for semi-quantitative FFQ; updated every 4 yrs
18.	<i>U</i>	LINZ24	English	1997	2002			x	x		analyze 24-hr diet recalls; updated for major surveys
30.	<i>U</i>	Metabolize	English	1997	2006				x		nutritional assessment; updated yearly
29.	<i>U</i>	NCC Food and Nutrient Database	English	1974	2006			x	x		nutritional assessment; updated twice per year
6.	<i>U</i>	NutriBase Nutrient Database, v 6.21	English	1992	ver 6.21	x	x	x	x	x	nutr labelling; printed book tables; updated 2/year
23.	<i>U</i>	NutriGenie	Eng., French	2005	2006			x			nutritional assessment; updated yearly other lang. German, Italian Croatian, Greek
24.	<i>U</i>	Nutritional Computing Concepts DB	English	1982	2006		x				nutr assessment; nutr labeling; updated 2/year
1.	<i>U</i>	Nutritionist Pro Knowledge Base	English	1982	2006			x	x		nutritional assessment; labeling; twice per year
25.	<i>U</i>	SERVE	English	1988	2004		x	x			nutritional assessment; updated yearly
14.	<i>R</i>	Thai Food Composition Tables	English	1999	1999	x					national database; next revision 2009, +Thai names
31.	<i>R</i>	USDA Nat'l Nutrient DB for SR 18	English	1980	2005		x	x			national database; updated yearly
28.	<i>U</i>	WISP	English	1985	2006				x		nutr assessment; updated with UK DB updates

¹ Food frequency questionnaires (FFQs) are used to assess usual intake wherein respondents indicate how often specific quantities of representative foods are consumed.

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Table 3

Database (DB) Food Counts and Groups; Nutrient Fields; Maximum Name Length; and Data Sources.

Organization # / Database (DB)	Counts				Source Databases			Other Data Sources					
	Foods	Food Groups	Characters in Food Name (max #)	Number of Food Components	USDA SR version:	FNDDS 1.0 / USDA Survey NDB ¹	Canadian Nutrient File version	Label ²	Manufacturer Pre-label values ²	Literature	Calculated from Recipes	Imputed ³	
Reference Databases (DB)													
14. ASEAN Food Comp Tables	1,750	18	150	21									Data from Thai Food Comp Table
13. Canadian Nutrient File, 2005	5,423	23	60	131	18			x	x			x	Canadian government labs
15. Ceres+	640	28	50	40	12							x	laboratory analysis
4. China Food Composition 2004	1,506	28	100	32			x						laboratory analysis
21. Concise Egyptian Food Comp Tabl.	430	13	ns	23						x			laboratory analysis
20. Finnish Food Composition DB	3,300	75	75	50	ns		x	x	x	x	x		analytical data from other food
14. Thai Food Composition Tables	1,055	16	150	21									Thai analyzed data (published and unpub.)
31. USDA Nat'l Nutrient DB for SR	7,284	24	200	140			x	x	x	x	x		contracted analytical data, data from earlier SR versions
User Databases (DB)													
27. Better Byte Foods Database	12,000	13	63	138	17		2001						Rick Mendosa's Glycemic Index data (website)
2. Block Food Frequency DB	200	5	20	75	18	1.0		x		x		x	used with Block FFQ and screening tools.
3. Cancer Research Center Food Composition Table	2,500	76	120	120	18			x		x	x		Foods in Hawaii & Pacific Basin; Standard Tables of Food Composition (Japan); China Food Composition
8. Diabetes Pilot	7,000	ns	60	32	18	1		x		x	x		
7. DietPower 4.0 Wt. & Nutr. Coach	11,000	72	90	33	12	ns					x		web and large restaurant chains

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Table 3

Database (DB) Food Counts and Groups; Nutrient Fields; Maximum Name Length; and Data Sources.

Organization # / Database (DB)	Counts				Source Databases			Other Data Sources				
	Foods	Food Groups	Characters in Food Name (max #)	Number of Food Components	USDA SR version:	FNDDS 1.0 / USDA Survey NDB ¹	Canadian Nutrient File version	Label ²	Manufacturer Pre-label values ²	Literature	Calculated from Recipes	Imputed ³

User Databases (DB), continued

9. DINE Healthy	10,000	23	155	121	18		1996	x		x	x	x	
10. ESHA DB	31,009	136	60	133	18		2001	x	x	x	x	x	optional: recipe databases, Canadian Nutrient File
12. Harvard Food Frequency DB	1,067	22	17	468	18	Survey		x		x	x	x	contracted data
18. LINZ24	3,400	34	ns	41				x			x	x	New Zealand Food Composition Database
30. Metabolize	6,975	24	66	ns	17	1.0							
29. NCC Food and Nutrient DB	18,000	166	254	144	17,18	1.0		x	x	x	x	x	
6. NutriBase Nutrient DB, v.6.21	37,263	237	50	162	18		2005	x				x	food manufacturers' data updated late 2005
23. NutriGenie	8,000	6	256	30	ns	ns	ns			x			
24. Nutritional Computing Concepts DB	23,000	58	180	132	18	1.0		x					includes 660 recipes and 600 meals
1. Nutritionist Pro Knowledge Base	27,331	369	255	120	latest available			x	x	x	x	x	international databases, including MEXFOODS
25. SERVE	4600	18	180	32									AUSNUT & NUTTAB - ANZFA (Australia);
SERVE-NZ	3400		55										Foodfiles - Crop & Food Research, New Zealand
28. WISP	5,300	50	69	222	18			x			x		HMSO Composition of Foods, 6th edition ⁴

¹ Food and Nutrient DB for Dietary Studies (FNDDS) supplanted USDA Survey Nutrient Database in 2004.

² unrounded analyzed value(s) before rounding for nutrition label

³ Calculated value from data for similar food.

⁴ (UK "McCance & Widdowson"),
www.food.gov.uk/science/101717/dietsurvey#h_3

ns=version not specified

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Table 4

Database (DB) Food Components and Proportion of Items For Which Values Reported.

Organization # / Database	Energy as Kcal	Energy as kJ	Water	Alcohol	Ash	Protein	Method for Total Carb*	Total carbohydrate	Total sugars	Total dietary fiber	Insoluble fiber	Soluble fiber	Total fat	Cholesterol	Phytosterol	Total saturated	Total monounsaturated	Total polyunsaturated	Total trans	Total Omega-3 (n-3)	Total Omega-6 (n-6)	
Organization # / Database	Energy	Proximates	Carbohydrate					Fat and Related Compounds														

Percentage of food items for which a value is reported

SECTION 1

Reference Databases

14. ASEAN Food Composition Tables	100	0	100	0	99	98	ns	94	0	57	0	0	67	0	0	0	0	0	0	0	0	0
13. Canadian Nutrient File, 2005	100	100	98	98	98	100	bd	100	77	92	0	0	100	98	0	92	90	90	7	0	0	0
4. China Food Composition 2004	100	100	100	100	0	0	bd	100	0	50	0	100	100	100	100	100	100	0	0	0	0	
21. Concise Egyptian Food Composition Tables	100	100	100	0	100	98	ns	97	0	80	0	80	98	0	0	98	98	98	100	98	98	98
20. Finnish Food Composition DB	0	100	100	100	99	100	ac	100	100	100	76	83	100	99	94	96	96	96	95	89	89	89
14. Thai Food Composition Tables	93	0	99	0	93	91	ns	92	13	49	0	0	94	23	0	17	0	0	0	0	0	0
31. USDA Natl Nutrient DB for SR	100	100	100	58	100	100	bd	100	65	90	0	0	100	97	8	96	92	92	11	62	10	10

User Databases

2. Block Food Frequency DB	100	0	0	0	0	100	bd	100	100	100	0	0	100	100	0	100	100	100	100	100	100	100
3. Cancer Research Center Food Table	100	100	100	100	100	100	bd	100	100	100	98	98	100	100	98	100	100	100	25	100	100	100
15. Ceres+	100	0	100	0	0	100	bd	100	100	0	0	0	100	100	0	100	100	100	0	0	0	0
8. Diabetes Pilot	99	0	0	0	0	99	bd	99	99	99	0	0	99	99	0	99	0	0	0	0	0	0
7. DietPower 4.0 Weight & Nutrition Coach	100	0	89	100	0	100	bd	100	0	25	0	0	100	99	0	98	70	70	0	0	0	0
9. DINE Healthy	100	0	44	100	44	100	bd	100	22	100	0	0	100	100	50	100	100	100	1	0	0	0
10. ESHA DB	100	100	72	99	72	100	bd	100	83	95	42	42	100	95	0	95	63	63	45	53	53	53

SECTION 1: User Databases continue . . .

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Database (DB) Food Components and Proportion of Items For Which Values Reported.

Organization # / Database	Energy as Kcal	Energy as kJ	Water	Alcohol	Ash	Protein	Method for Total Carb*	Total carbohydrate	Total sugars	Total dietary fiber	Insoluble fiber	Soluble fiber	Total fat	Cholesterol	Phytosterol	Total saturated	Total monounsaturated	Total polyunsaturated	Total trans	Total Omega-3 (n-3)	Total Omega-6 (n-6)
	Energy	Proximates	Carbohydrate				Fat and Related Compounds														
<i>Percentage of food items for which a value is reported</i>																					
SECTION 1: User Databases (continued)																					
27. Foods DB	100	100	100	5	70	100	bd	100	100	100	100	100	100	44	1	90	90	90	90	90	90
12. Harvard Food Frequency DB	100	100	88	100	0	100	bd	100	100	99	0	0	100	100	0	100	100	100	100	100	100
30. Metabolize	100	100	100	100	99	100	bd	100	100	100	0	0	100	100	8	100	100	100	3	100	100
29. NCC Food and Nutrient DB	100	100	100	100	100	100	bd,ac	100	98	100	97	97	100	100	0	100	100	100	100	100	0
6. NutriBase Nutrient DB, v 6.21	100	100	75	100	72	100	bd	100	78	100	0	0	100	100	3	95	76	76	27	11	59
23. NutriGenie	100	0	100	100	0	100	ns	100	100	100	0	0	100	100	0	100	100	100	0	0	0
24. Nutritional Computing Concepts DB	100	100	80	5	80	100	bd	100	80	80	80	80	100	100	5	100	100	100	5	80	80
1. Nutritionist Pro Knowledge Base	100	0	57	82	57	100	bd+	100	83	96	42	41	100	96	0	94	66	66	23	47	51
25. SERVE	100	100	100	100	0	100	ns	100	100	100	0	0	100	0	0	100	100	100	0	0	0
28. WISP	100	100	100	100	0	100	me	100	100	100	50	50	100	100	0	100	100	100	70	10	10

*Carbohydrate methods: ac = avail carb, bd = by difference, mdp = mono+di+polysaccharides
 ns = not specified, me = monosaccharide equivalents

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Table 4

Database (DB) Food Components and Proportion of Items For Which Values Reported.

Organization # / Database	Vitamin A, Retinol & Carotenoids	Tocopherols, Vitamins D & C	Folate & Folic Acid
	<i>Vitamin A IU</i> <i>Vitamin A RE¹</i> <i>Vitamin A RAE¹</i> <i>Retinol mcg</i> <i>Alpha-carotene</i> <i>Beta-carotene</i> <i>Beta-cryptoxanthin</i> <i>Lutein/Zeaxanthin</i> <i>Lycopene</i> <i>Other carotenoids</i>	<i>Vitamin E IU</i> <i>Alpha tocopherol equivalents (ATE)</i> <i>Alpha tocopherol</i> <i>Beta tocopherol</i> <i>Gamma tocopherol</i> <i>Delta tocopherol</i> <i>Vitamin D3</i> <i>Vitamin C</i>	<i>Folate, total</i> <i>Food folate</i> <i>Folic acid (added)</i> <i>Dietary Folate Equivalents (DFE)</i>

Percentage of food items for which a value is reported

SECTION 2

Reference Databases

14. ASEAN Food Composition Tables	0	71	0	79	0	68	0	0	0	0	0	0	0	0	0	0	71	0	0	0	0	
13. Canadian Nutrient File, 2005	0	0	94	93	44	93	43	42	42	0	0	0	46	0	0	0	89	97	90	87	95	87
4. China Food Composition 2004	0	100	0	0	0	100	0	0	0	0	0	0	100	100	100	100	0	100	0	0	0	0
21. Concise Egyptian Food Composition Tables	0	50	0	85	0	80	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
20. Finnish Food Composition DB	0	100	100	100	57	99	27	87	18	100	0	99	99	89	89	89	99	98	98	0	0	0
14. Thai Food Composition Tables	0	23	0	65	0	23	0	0	0	0	0	0	0	0	0	0	37	0	0	0	0	
31. USDA Nat'l Nutrient DB for SR	96	85	86	85	55	56	55	53	54	0	0	0	57	14	14	14	7	96	91	88	86	86

User Databases

2. Block Food Frequency DB	100	100	100	100	100	100	100	100	100	0	100	100	100	0	0	0	100	100	100	100	100	100
3. Cancer Research Center Food Table	100	100	94	94	100	100	100	98	98	0	0	100	100	98	98	98	98	100	100	100	100	100
15. Ceres+	0	100	0	100	0	100	0	0	0	0	100	0	100	0	0	0	0	100	100	0	0	0
8. Diabetes Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. DietPower 4.0 Weight & Nutrition Coach	0	91	0	0	0	0	0	0	0	0	56	0	0	0	0	0	0	92	71	0	0	0
9. DINE Healthy	83	0	100	32	19	20	19	19	19	0	98	0	0	4	4	4	3	100	45	32	32	32
10. ESHA DB	92	92	69	69	60	61	60	57	58	60	42	41	41	0	0	0	14	95	46	40	40	40

SECTION 2: User Databases continue . . .

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Table 4

Database (DB) Food Components and Proportion of Items For Which Values Reported.

Organization # / Database	Vitamin A, Retinol & Carotenoids	Tocopherols, Vitamins D & C										Folate & Folic Acid										
	Vitamin A IU	Vitamin A RE ¹	Vitamin A RAE ¹	Retinol mcg	Alpha-carotene	Beta-carotene	Beta-cryptoxanthin	Lutein/Zeaxanthin	Lycopene	Other carotenoids	Vitamin E IU	Alpha tocopherol equivalents (ATE)	Alpha tocopherol	Beta tocopherol	Gamma tocopherol	Delta tocopherol	Vitamin D3	Vitamin C	Folate, total	Food folate	Folic acid (added)	Dietary Folate Equivalents (DFE)

SECTION 2: User Databases (continued)

Percentage of food items for which a value is reported

27. Foods DB	100	80	80	100	46	55	45	46	44	0	55	0	55	55	55	55	100	100	100	100	100	
12. Harvard Food Frequency DB	100	100	100	100	100	100	100	100	100	0	100	100	100	94	94	94	100	100	100	100	100	
30. Metabolize	100	0	100	100	100	100	100	100	100	0	0	100	100	100	100	6	100	100	100	100	100	
29. NCC Food and Nutrient DB	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
6. NutriBase Nutrient DB, v 6.21	56	0	65	65	37	55	37	36	36	0	2	0	39	4	4	4	36	93	68	64	66	63
23. NutriGenie	100	100	100	100	0	100	0	0	0	0	100	0	0	0	0	0	100	100	100	100	0	0
24. Nutritional Computing Concepts DB	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	90	90	90	90	90	90
1. Nutritionist Pro Knowledge Base	97	82	56	0	57	61	57	57	57	48	21	23	22	0	0	0	24	96	51	0	0	30
25. SERVE	0	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	100	100	0	0	0
28. WISP	0	100	0	0	10	100	10	10	10	10	100	5	5	5	5	5	100	100	100	0	0	0

¹ RE=Retinol Equivalent, RAE=Retinol Activity Equivalent (see introduction)

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Table 4

Database (DB) Food Components and Proportion of Items For Which Values Reported.

Organization # / Database	Other B-Vitamins							Minerals and Trace Elements													
	Thiamin	Riboflavin	Pantothenic Acid	Vitamin B-6	Vitamin B-12	Niacin, preformed	Niacin Equivalents	Calcium	Phosphorus	Magnesium	Iron	Zinc	Sodium	Potassium	Selenium	Copper	Chromium	Molybdenum	Manganese	Fluoride	Iodine

SECTION 3

Percentage of food items for which a value is reported

Reference Databases

14. ASEAN Food Composition Tables	75	78	0	0	0	0	0	97	82	0	95	12	54	39	0	12	0	0	0	0	0	
13. Canadian Nutrient File, 2005	94	93	82	89	93	94	94	97	95	90	97	89	96	96	79	87	0	0	80	0	0	
4. China Food Composition 2004	100	100	0	0	0	100	0	100	100	100	100	100	100	100	100	0	0	100	0	100		
21. Concise Egyptian Food Composition Tables	100	80	0	80	50	80	0	85	0	85	85	85	85	70	0	0	0	0	0	0	30	
20. Finnish Food Composition DB	98	98	93	97	99	0	97	98	97	98	98	96	98	98	96	95	88	90	95	90	92	
14. Thai Food Composition Tables	62	65	0	0	0	0	0	79	68	0	75	24	53	38	0	24	0	0	0	0	0	
31. USDA Nat'l Nutrient DB for SR	94	94	83	91	90	94	0	98	95	93	99	93	99	95	83	92	0	0	81	7	0	

User Databases

2. Block Food Frequency DB	100	100	100	100	100	100	0	100	100	100	100	100	100	100	100	0	0	0	0	0	0	x
3. Cancer Research Center Food Table	100	100	100	100	100	100	0	100	100	100	100	100	100	100	100	0	0	100	0	98	0	x
15. Ceres+	100	100	0	100	100	100	0	100	100	100	100	100	100	0	100	0	0	0	0	0	0	
8. Diabetes Pilot	0	0	0	0	0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0	0	
7. DietPower 4.0 Weight & Nutrition Coach	79	79	59	71	71	79	0	94	79	71	94	71	99	79	52	70	0	0	57	0	0	
9. DINE Healthy	76	76	43	47	46	75	0	100	100	48	100	47	100	100	32	45	0	0	39	0	0	x
10. ESHA DB	53	53	37	46	51	52	52	94	51	47	94	48	98	60	35	45	5	8	36	1	6	
27. Foods DB	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	100	15	15	0	
12. Harvard Food Frequency DB	100	100	100	100	100	100	0	100	100	100	100	100	100	100	0	100	0	0	100	0	0	
30. Metabolize	100	100	100	100	100	0	100	100	100	100	100	100	100	100	100	0	0	100	0	0	0	x
29. NCC Food and Nutrient DB	100	100	99	100	100	100	100	100	100	100	100	100	100	100	100	0	0	100	100	0	0	
6. NutriBase Nutrient DB, v 6.21	71	71	61	68	69	0	71	95	71	69	95	67	99	75	60	66	1	1	59	0	2	x

User Databases continues ...

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Table 4

Database (DB) Food Components and Proportion of Items For Which Values Reported.

	<i>Thiamin</i>	<i>Riboflavin</i>	<i>Pantothenic Acid</i>	<i>Vitamin B-6</i>	<i>Vitamin B-12</i>	<i>Niacin, preformed</i>	<i>Niacin Equivalents</i>	<i>Calcium</i>	<i>Phosphorus</i>	<i>Magnesium</i>	<i>Iron</i>	<i>Zinc</i>	<i>Sodium</i>	<i>Potassium</i>	<i>Selenium</i>	<i>Copper</i>	<i>Chromium</i>	<i>Molybdenum</i>	<i>Manganese</i>	<i>Fluoride</i>	<i>Iodine</i>	<i>Other: see below.</i>
Organization # / Database	Other B-Vitamins							Minerals and Trace Elements														

SECTION 3: User Databases (continued)

Percentage of food items for which a value is reported

23. NutriGenie	100	100	0	100	100	0	100	100	100	100	100	100	100	100	0	100	0	0	0	0	0	0
24. Nutritional Computing Concepts DB	90	90	90	90	90	90	90	95	95	95	95	70	100	100	80	80	80	80	80	80	80	80
1. Nutritionist Pro Knowledge Base	62	63	42	51	59	62	10	97	60	52	96	51	98	69	40	49	5	6	37	4	3	
25. SERVE	100	100	0	0	0	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0
28. WISP	100	100	100	100	100	100	100	100	100	100	100	100	100	100	70	100	0	0	100	0	70	

Appendix to Table 4: Additional DB Components

Database (DB)	Components
2. Block Food Frequency Questionnaire 1	total isoflavonoid 100%; quercetin 100%; glycemic index/glycemic load 100%
3. Cancer Research Center Food Table	individual values: lignans (secoisolaricresinol, matairesinol) 93%; isoflavonoids (genistein, daidzein, caffeine 75%; sugar alcohol 27%
1. NutPro	
6. NutriBase Nutrient DB, v 6.21	estimated net carb (total carbohydrate by difference less dietary fiber & sugar alcohols) 100%
9. DINE Healthy	100%: added sugar; fat (animal, plant, fish); protein (animal, plant); aspartame; monosodium glutamate
10. ESHA	vitamin k 23%; tryptophan 39%; glycemic index 13%
31. USDA	choline 7%; betaine 7%; vitamin k/phylliquone 52%; theobromine 54%
12. Harvard Food Frequency DB	glycemic index 90%
13. Canadian Nutrient File, 2005	amino acids
15. Ceres+	essential amino acids
27. Better Byte Foods DB	glycemic index/glycemic load 50%; whole grain, bran, germ 100%; choline, betaine & derivatives 100%
28. WISP	non-milk extrinsic sugars 100%; glycemic index 50%
29. NCC Food and Nutrient DB	12 amino acids 98%; 26 fatty acids 100%; 6 isoflavonones 100%; fluoride in NDS-R database
30. Metabolize	total isoflavones 2%; glycemic index 100%; for some items: daidzein, genistein, glycitein and pre-formed

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Table 5

Software Used to Access and Apply Databases

Organization # / Database Programs	Program Formats / Access			Price ¹	Applications / Capabilities												
	Diskette, CD or DVD	Internet: Download to own machine (DL) Use on the web	Contract service by developer		Current Initial US\$ unless otherwise noted. Maintenance/support fees not included.	Industry food labeling	Hospital food service	Recipe and menu analysis	Menu planning	Dietary assessment	Research	Food Consumption Surveys	Food Frequency Questionnaires	General Public / Education	Exercise recording	Calculations: Diabetic Exchanges	Food Guide Pyramid Sygs
14. ASEAN Food Composition Tables																	
13. Canadian Nutrient File, 2005 ² 13. Search online for values. Third-party software		web		no charge													Gen
5. ProMenu	x	DL		not reported		x	x	x	x								Gen
11. CANDAT ³	x	DL	x	varies	x	x	x	x	x								Gen
11. FORMDAT	x	DL	x	varies	x												
15. Ceres+ 15. Ceres+	x			not reported				x	x	x							
4. China Food Composition 2004 4. Nutrition Calcular v1.6	x			¥800													
21. The Concise Egyptian Food Composition Tables	no software info available																
20. Finnish Food Composition Database	no software info available																
14. Thai Food Composition Tables	software under revision																
31. USDA Nat'l Nutr. DB for Standard Reference		web		no charge													
31. Search online for values.		web		no charge													
31. PC Search; PDA Search ⁴	x	DL		no charge													Gen
17. DietMaster Pro	x	DL/web		\$499				x	x								Gen
19. DietOrganizer Palm		DL		\$25													Gen
USDA . . . Standard Reference continues on 5-2																	

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Table 5

Software Used to Access and Apply Databases

Organization # / Database Programs	Program Formats / Access		Price ¹	Applications / Capabilities														
				Diskette, CD or DVD	Internet: Download to own machine (DL) Use on the web	Contract service by developer	Current Initial US\$ unless otherwise noted. Maintenance/support fees not included.	Industry food labeling	Hospital food service	Recipe and menu analysis	Menu planning	Dietary assessment	Research	Food Consumption Surveys	Food Frequency Questionnaires	General Public / Education	Exercise recording	Calculations: Diabetic Exchanges
Reference Databases (DB), continued																		
31. USDA . . . Standard Reference, continued																		
19. DietOrganizer PC		DL															Gen	x
16. nut		DL															Gen	
26. nutraCoster	x	DL	x		\$39.95													
32. ProNutra	x	DL			no charge													
					\$399	x												
					\$2,995													
User Databases (DB)																		
2. Block Food Frequency Questionnaire																		
2. Block FFQ Data-on-Demand System	x	DL/web	x		negotiable												Gen	x
3. Cancer Research Center Food Composition Table																		
3. <i>Cancer Research Food Composition</i>					not reported													Pyr
8. Diabetes Pilot																		
<i>Third-party software</i>																		
8. Diabetes Pilot Desktop	x	DL			\$39												Gen	x
8. Diabetes Pilot for Palm Handhelds	x	DL			\$24												Gen	x
7. DietPower 4.0 Weight and Nutrition Coach																		
7. DietPower 4.0 Consultant Edition	x	DL			\$250													x
7. DietPower 4.0	x	DL			DL \$49.99												Gen	x
9. DINE Healthy																		
9. DINE Healthy	x	DL			\$129												Gen	x

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Table 5

Software Used to Access and Apply Databases

Organization # / Database Programs	Program Formats / Access	Price ¹	Applications / Capabilities														
			Diskette, CD or DVD	Internet: Download to own machine (DL) Use on the web	Contract service by developer	Current Initial US\$ unless otherwise noted. Maintenance/support fees not included.	Industry food labeling	Hospital food service	Recipe and menu analysis	Menu planning	Dietary assessment	Research	Food Consumption Surveys	Food Frequency Questionnaires	General Public / Education	Exercise recording	Calculations: Diabetic Exchanges
10. ESHA Database																	
10. Genesis SQL	x	\$3,999		x													Diab . Pyr
10. Food Processor SQL	x	\$699				x	x	x	x				x				Diab . Pyr
27. Foods Database																	
27. Kathleen's Diet Planner		Can\$79	DL					x	x			Gen	x				
12. Harvard Semi-quantitative Food Frequency DB																	
12. PC analysis programs: 80, 88 or 97 fields		\$1,500		x					x		x						
18. LINZ24																	
18. Abbey Research Software with LINZ24 Diet	x	not reported	DL	x						x		Gen					
30. Metabolize																	
30. Metabolize		not reported		x						x		Gen					
29. NCC Food and Nutrient Database																	
29. Nutrition Data System for Research (NDSR)	x	\$8,500		x		x	x	x	x								Pyr
29. NDSR with Fluoride	x	\$3,000/additional copy		x													Pyr
		As above															
		Less for existing NDSR user															

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Table 5

Software Used to Access and Apply Databases

Organization # / Database Programs	Program Formats / Access		Price ¹	Applications / Capabilities													
	Diskette, CD or DVD	Internet: Download to own machine (DL) Use on the web		Contract service by developer	Current Initial US\$ unless otherwise noted. Maintenance/support fees not included.	Industry food labeling	Hospital food service	Recipe and menu analysis	Menu planning	Dietary assessment	Research	Food Consumption Surveys	Food Frequency Questionnaires	General Public / Education	Exercise recording	Calculations: Diabetic Exchanges	Food Guide Pyramid Sygs
6. NutriBase Nutrient DB, v.6.21																	
6. Fitness Manager	x	DL	\$695	x	x	x	x					Gen	x	Diab . Pyr			
6. NutriBase Network Editions	x		min \$1095	x	x	x	x						x	Pyr			
23. NutriGenie																	
23. Nutrition 2006	x	DL	\$49	x	x	x	x					Gen	x	Diab . Pyr			
23. Diabetes Menu Planner	x	DL	\$59	x	x	x	x					Gen	x	Diab . Pyr			
24. Nutritional Computing Concepts Database																	
24. Individual Computer Planned Menus	x		\$199.95				x							x	Diab . Pyr		
24. Institutional Menu Planning	x		\$199.95				x	x							Pyr		
1. Nutritionist Pro Knowledge Base																	
1. Nutritionist Pro Diet Analysis	x	DL	\$595				x	x	x			Gen	x	Diab . Pyr			
1. Nutritionist Pro Food Labeling	x	DL	\$595	x	x	x	x					Gen		Diab . Pyr			
SERVE							x		x	x							
Third-party software																	
25. SERVE ⁵	x	DL	\$495 - 695											x			
25. Self-SERVE	x	DL	\$99 - \$189									Gen		x			

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Table 5

Software Used to Access and Apply Databases

Organization # / Database Programs	Program Formats / Access	Price ¹	Applications / Capabilities															
			Diskette, CD or DVD	Internet: Download to own machine (DL) Use on the web	Contract service by developer	Current Initial US\$ unless otherwise noted. Maintenance/support fees not included.	Industry food labeling	Hospital food service	Recipe and menu analysis	Menu planning	Dietary assessment	Research	Food Consumption Surveys	Food Frequency Questionnaires	General Public / Education	Exercise recording	Calculations: Diabetic Exchanges	Food Guide Pyramid Sygs

User Databases (DB), continued

FNDDS (Food and Nutrient DB for Dietary Studies) 2.0																		
What's In The Foods You Eat Search Tool, 2.0 ⁶	DL/web	no charge																
<i>Third-party software</i>																		
33. Food Intake Analysis System, (FIAS)	x	\$6,000				x	x											
28. WISP	x	hard copy also																
<i>Third-party software</i>																		
28. WISP	x	UK£725	x	x	x	x	x	x							x			
28. CARAT	x	UK£725	x															

¹ US\$ unless otherwise specified

² www.hc-sc.gc.ca/fn-an/nutrition/fiche-nutri-data/index_e.html

³ Expandable database; can link to other databases

⁴ www.nal.usda.gov/fnic/foodcomp/search/

⁵ Additional fields: energy including fiber for 100% of items; glycemic load 11%

⁶ www.ars.usda.gov/Services/docs.htm?docid=12096