

Sampling and Analysis Project

Canadian Nutrient File

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Canadian Nutrient File (CNF), 2007b

www.healthcanada.gc.ca/cnfonline

- **Canada's national reference food composition database**
- **143 food components described for over 5500 foods**
- **Bilingual foodnames, metric measures**
- **2007b version is the 11th edition since inception in 1981**
- **Searchable online application for easy access**



USDA Nutrient Database vs. CNF

■ Foods

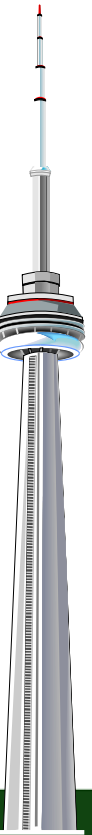
- Exclusion of those foods not sold in Canada
- Addition of foods unique to the Canadian food supply
- Cuts and grades of beef

■ Food and Drug Act and Regulations

- Fortification
- Specific nutrients which should not be added or must be added at certain levels

■ Metric system

■ Bilingual



Limitations - Overview

- **Dependence on USDA/ No opportunity to set our own priorities**
 - for foods
 - for nutrients
- **We know little about how representative the samples from the USDA are**
- **Some Incomplete data sets**
 - nutrition labelling core list only with no additional nutrient data
- **Some less than ideal data quality**
 - no variation provided



Unique requirements

- **Whole wheat flour definition**
- **Trans fatty acids, reformulation**
- **Regulations for Sodium Addition**
- **Discretionary fortification**



Food Directorate Strategy to Support the CNF

- **Ongoing program**

Establish priority foods and or nutrients

- **Nationally representative sample**

design, collection(s), transport, processing, storage

- **Analysis**

AOAC or HC approved methods



Food Composition Laboratory Network

Sample design, coordination, pickup, processing and transport are performed under the direction of the central federal Nutrition Research Division

-some external contracts

Sample analyses for nutrient content are performed in 4 separate Regional Health Canada laboratories experienced in analyzing for components in foods

-using existing staff



Comprehensive nutrient profiles

Proximates	Moisture, Ash, Total Lipids, Protein
Minerals	10
Vitamins	Depends on the food
Fatty Acids	
Cholesterol	
Fibre	
Amino Acids	Capacity to do in certain foods
Sugars	Capacity to do in certain foods



Proposal

Current Short Term (1-3 years) Priority Foods

Staples/Frequently consumed foods

- **White flour, whole wheat flour, whole grain flour**
- Cheddar Cheese
- Yogurts

Ingredients

- Milk solids and whey powder
- Hydrolyzed plant protein
- Potato starch

Collaborations

- Canadian **Turkey** Marketing Association
- Canadian Pulse Association

Market change

- **Granola bars**
- Breakfast cereals



Nationally Representative Sample Sets

- Divide country into four major population areas/strongest growth
- Large primary sampling units from Census Metropolitan Areas
- Largest retail chains
- Unique marketing



Options for Sample pick up

A Private companies
-AC Nielsen, labs

Professional, convenient,
available, can transport, \$

B Internal staff

Can work well for foods that
have one point of
manufacture. Very time
intensive. Work priorities.

C Dedicated FTE

Salary and travel costs



Options for Sample Processing

- A. Regional Labs** **Not set up for all aspects
i.e., cooking, dissection, freezer
space
Very time consuming**

- B. Private Labs/
Universities** **Very experienced
\$\$\$, Overhead costs**

- C. Dedicated FTE** **Investigating cost comparisons
Lab space**



2008/9 – Getting Established

➤ Learning Year

- Establishing methodologies, SOPs, training analysts, reporting templates

➤ 5 types of retail flour

- All-purpose bleached and unbleached, bread, whole wheat, cake/pastry

➤ 12 Categories of granola bars

- i.e., Chewy fruit and nut granola bars



Budget 2008/9

	O&M	FTEs
- Procurement/Collection of Samples		
- AC Nielsen for Flour (350 bags)	\$9000	
- Toronto and NCR for granola bars (2600 bars)	\$3000	
- Processing and Shipping		
- Kemptville College	\$36,000	
- Ontario Lab	\$ 7,800	
- Analyses		
- Quebec Lab	\$37,500	3
- Ontario Lab	\$ 8,000	3
- Winnipeg Lab	\$26,250	2
- Burnaby Lab	\$20,000	1
- NRC (Private contract lab)	\$38,000	
- Total O&M	\$185,550	9
- Total Capital (one time cost)	\$200,000	



Lessons/Obstacles

- Continued funding
 - Competing priorities
 - Changing management

- Different lot numbers
 - Slow turnover, frequent store visits

- Sample processing
 - No in-house capacity for freezing, dissection, cooking
 - Most expensive step for certain foods

- Handling of values below LOD/LOQ in the database



Next Steps

- **Collaboration with Canadian Turkey Marketing Agency**
 - 5 cuts (whole)
 - Broilers, Hens, and Toms
 - Raw and Cooked
 - 3 major regions
 - 8 Federal plants
- **Top selling yogourts/ breakfast cereals / processed meats**
- **Collaboration with Millers Association**

PRAY!



Valid capital ???



Quote:

- “At the Forester's unveiling, Subaru showed that you could stash 4,590 granola bars back there without putting the seats down. “

