



USDA'S NATIONAL FOOD AND NUTRIENT ANALYSIS PROGRAM: STATUS REPORT



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Introduction

The Nutrient Data Laboratory (NDL) is located at the Beltsville Human Nutrition Research Center, Agricultural Research Service and maintains USDA's National Nutrient Databank. The National Food and Nutrient Analysis Program (NFNAP) was initiated in 1997 to improve and expand the National Nutrient Database. NFNAP provides for a comprehensive revision of the food composition data of highly consumed foods and crucial nutrients. Research activities are comprised of five specific aims:

1 Identify foods and nutrients for analysis using the Key Foods (fig.1) approach

Food composition and consumption data are used to identify and prioritize up to 1000 foods and nutrients for analysis. Specialized lists are developed to include at-risk and diverse populations, including:

- Hispanic Americans
- African Americans
- Native Americans
- Children, 0-9
- Elderly, 60+

Of approximately 670 foods, 14 were figured to contribute 25% of nutrients consumed, 42 foods contributed 26-50%; 126 foods contributed 51-75%; with the balance contributing 76-100%. Adding mixed dishes, ingredients, ethnic foods and foods new to the market takes the list to a total of approximately 1000 foods to be analyzed.

2 Evaluate quality of existing data

To evaluate the data these questions are asked:

- Where are data lacking?
- Have food formulations changed?
- Are there new analytical methods available to update current data?

Foods analyzed include: mixed dishes, fast foods, ground beef, fresh fruits and vegetables

Emerging food components

- When appropriate these food components are analyzed for inclusion in the database:
- Omega 3 fatty acids
- Trans fatty acids
- Individual Carotenoids
- Isoflavones
- Flavonoids
- Choline/Sphingolipids
- Fluoride

3 Develop a national based sampling frame

Basic sampling frame calls for collection of foods identified by Key Foods process in

- 4 Regions
- 3 strata per region
- 12-24 pick up locations

Specialized sampling plans developed for

- Fresh produce
- Fast Food
- Native American
- Fluoride

Depending on the sampling plan pick up locations include supermarkets, fast food outlets, Indian reservations and private homes

4 Analyze sampled foods under the USDA supervised laboratory contracts and agreements

Samples are prepared for analysis at the Food Analysis Laboratory Control Center at VPI&SU in Blacksburg, VA and sent to commercial labs, and cooperators at universities and other government labs for analysis. Lab are selected by NDL based on a review of proposals and expertise.

5 New data is analyzed and released

Data received from contract labs and cooperators are run through a rigorous quality control process. Any analyses found unacceptable are repeated. Final results are then reviewed and compiled by NDL Staff before release in USDA databases and special interest data sets on NDL's website:

www.nal.usda.gov/fnic/foodcomp

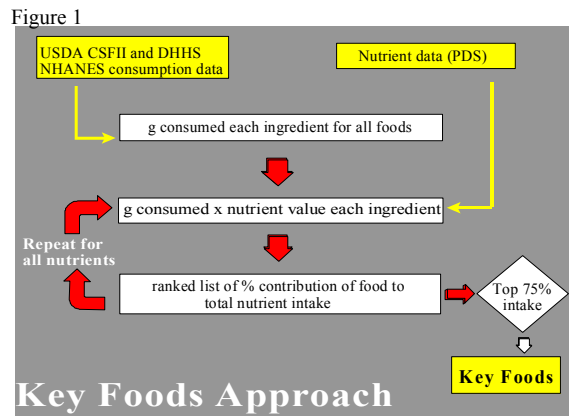
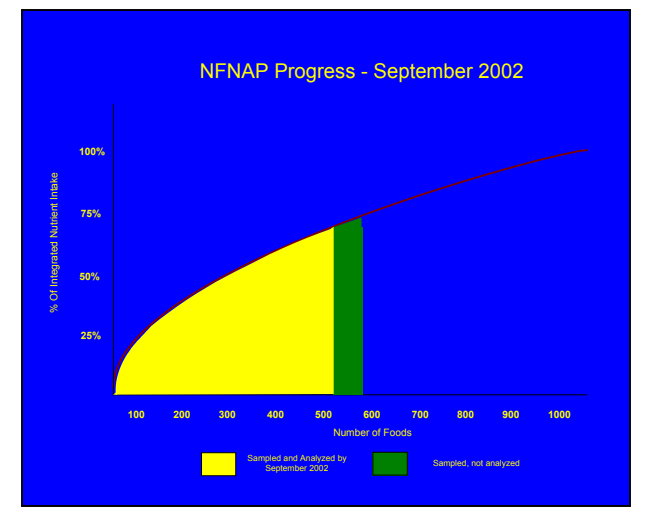


Figure 2



Summary

To date the NFNAP program has facilitated the collection and analysis of over 600 foods as of September 2002 (fig. 2). A breakdown of the 19 different food groups covered is given in Table 1. Some of these data are included in the current release of the USDA National Nutrient Database for Standard Reference and more will be added to future releases.

Table 1. NFNAP: Sampling and analysis completed by September 2002

Foods	Number analyzed
Fast Foods	82
Vegetables and products	59
Cereal grains and pasta	67
Fats and oils	46
Fruits and products	46
Mixed dishes	40
Baked products	57
Legumes and products	42
Beverages	31
Ethnic foods	23
Dairy and eggs	21
Spices and herbs	15
Breakfast cereals	12
Meats	28
Nuts and seeds	11
Poultry and products	10
Soups/sauces/gravies	10
Sausages	7
Fish	7
TOTAL	605

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ABSTRACT:

The National Food and Nutrient Analysis Program is designed to develop accurate estimates of the mean nutrient content of important foods in the food supply and significantly update and expand the quality of food composition data in the USDA National Nutrient Databank (NNDB). Objectives of this study are to: (1) identify foods and nutrients for analysis using the Key Foods approach; (2) evaluate quality of existing data; (3) develop a nationally based sampling plan, (4) analyze sampled foods under the USDA supervised laboratory contracts; and (5) incorporate new data into USDA databases on NDL's website: www.nal.usda.gov/fnic/foodcomp. The sampling plan was based on a detailed stratified random sampling design. Food pickups were completed at 12 to 24 retail outlets. Food brands and varieties picked up were based on market shares (amount consumed). Procurement and analysis of the sample units were completed using valid analytical methods and sophisticated quality control monitoring. To date, approximately 400 foods have been analyzed for over 80 nutrients. In addition to updating the USDA Nutrient Database for Standard Reference, the results of this study are being used to construct special interest databases including phytonutrients, flavonoids, vitamin K, choline, and fluoride. The NFNAP program is also facilitating the formation of ancillary databases that include ethnic foods, such as Native American foods.