

Considerations in Selecting a Food and Nutrient Database

Choosing a food and nutrient database for your application can be time consuming and difficult. This page aims to make the selection process a little easier by describing some key factors to consider.

How many foods are in the database, and what types are included?

Supermarkets carry an average of over 35,000 different food products. Restaurants further expand the number and variety of foods available to the consumer. Consequently, when choosing a food and nutrient database it is important to consider the number and types of food items included. Specifically, consider the following:

- Are popular brand name foods included? Some databases include very few.
- Conversely, are basic foods such as apples, potatoes, ground beef, and flour included? Some databases include only brand name foods, no basic items or home-prepared foods.
- Are menu items, available at leading restaurant chains, included?
- Does the database include a variety of ethnic foods? With the growing diversity of the American population and palate, this is an increasingly important consideration.

Does the database include the nutrients you need?

Some databases include only the nutrients found in the nutrition facts panels (label nutrients) while others provide far more. Identify the nutrient(s) of interest for your application, and then evaluate accordingly.

How complete and accurate is the nutrient composition data?

The term 'garbage in garbage out' provides a concise explanation as to why it is important to consider the accuracy and completeness of the nutrient composition information for foods in a database.

With regard to completeness, look for databases that have a high level of completeness for the nutrients that your application needs to assess. You may be surprised to find that missing values abound for some nutrients in some databases. For example, you may find that only 20% of the foods in a database have vitamin D values assigned, which means that vitamin D values are missing for 80% of the foods in the database.

Determining the accuracy of nutrient composition values is more difficult to assess. Look for information about the sources of nutrient composition information. Are nutrient composition values based on chemical analysis of food primarily used? What are the other sources of information relied on? Are staff members with nutrition expertise involved in maintaining the database? What are the quality control procedures?

Is the database reflective of the food marketplace?

The food marketplace is dynamic, with thousands of new products introduced each year. In addition, food products are routinely reformulated, which can change nutrient composition. Choose a food and nutrient database that are updated regularly.

Does the database include information needed to quantify food amounts in various ways?

People tend to report the amount of food they consumed in a variety of ways. For example, a person may describe M&Ms™ by package size (e.g., fun size), piece (e.g., 10 each), volume (e.g., ¼ cup), or weight (e.g., 1 ounce). Choose a database that allows this variety in food amount reporting.

Resources for gathering key information about databases.

Needed information is sometimes available on the database developer's website. If it isn't, contact the database developer to inquire.