**Background and Objectives**

Dietary assessment requires reliable data on food consumption and food composition. The overall aim of the International Network of Food Data Systems (INFOODS) is to stimulate and coordinate efforts to improve the quality and availability of food composition data worldwide. In this regard, INFOODS has developed standards, guidelines and tools for collection, compilation and reporting of food composition data. Examples are on component identifiers (Tagnames), food nomenclature, data interchange and compilation (FAO/INFOODS Compilation Tool), as well a distance learning tool (Food Composition Study Guide) which also enhances global capacity development in food composition. INFOODS' tools and guidelines are intrinsically interdisciplinary and assist in improving the quality of dietary assessment. More recently guidelines and databases were produced also of interest for food consumption studies.

**Methods**

A call for experts interested in working on guidelines for food matching, checking food composition data and conversions was posted on the INFOODS listerv and working groups were formed. FAO prepared first drafts which were circulated to the experts for inputs and comments. This was repeated until the guidelines were regarded as finalized. The FAO/INFOODS Density Database was developed by FAO in collaboration with USDA.

**Results**

|---------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|

- **Food matching procedures** are critical for obtaining high quality estimations of nutrient intake and dietary exposure. These guidelines are intended to assist in selecting the most appropriate foods (e.g. from food composition databases) in order to match them to food consumption or food supply data.

  - Critical steps are pointed out
  - Quality scheme is proposed
  - A table listing characteristics influencing nutrient values is provided to aid in making high-quality matches
  - Examples with possible solutions are provided for a number of food matching scenarios

- **The density database** is the first global DB which will assist professionals to convert food intake data from volume to weight and vice versa.

  - Density data are presented for more than 200 foods organized in 16 food groups. Beverages (non-alcoholic); Tea, coffee and drinking powders; Beverages (alcoholic); Milk and dairy products; Oils and fats; Cereals and cereal products; Eggs and egg products; Nuts and seeds; Vegetables; Legumes; Fish and fish products; Soups; Snacks; Sweets; Mixed dishes and Miscellaneous (e.g. salt table, salad dressing)

  - The data were collected from the literature, various tables from national food composition tables and own measurements

  - An update is planned for 2012

- **These guidelines** are being developed to assist compilers of food composition databases/tables in evaluating their data in a standardized way prior to publication of a User Database. The document highlights general issues of food composition and contains checks for food description and nutrient values within a food composition database/table.

- The guidelines will contain information on:

  - General Food composition issues, including
    - Food identification
    - Nutrient definition and expression
    - Recipes
    - Documentation
    - Database Management
    - Printed User tables versus electronic User database

- Checks, including

  - Checks on food identification
  - Checks among nutrients within a food
  - Checks among nutrients within the same food group
  - Checks on recipes, imputed values and other

- **Conversion of data in relation to food** is done in the areas of nutrition (i.e. food composition and dietary assessment) and food safety (exposure assessment) and when reporting analytical data including their publication in scientific articles. A source of error in the use of compositional data is their conversions from one unit, denominator or expression to another. As there are no comprehensive guidelines available on this topic, FAO/INFOODS decided to develop such guidelines.

- The guidelines have the objectives to:

  - List all possible conversions and ways of proceeding in one document
  - Assist users in converting units, denominators and expressions for components used in food composition, dietary assessment and exposure assessment in a standardized way
  - Assist users to be aware of some conversions (e.g. the use of the Sheppard factors for converting fatty acid methyl-esters into fatty acids)

<table>
<thead>
<tr>
<th>Selected examples and possible solutions for food matching</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

- **Example 1:**

  - Tomato, raw
  - Tomato, boiled
  - Tomato, fried with olive oil

  - Critical steps are pointed out

  - Examples with possible solutions are provided for a number of food matching scenarios

  - Quality scheme is proposed

  - A table listing characteristics influencing nutrient values is provided to aid in making high-quality matches

  - Examples with possible solutions are provided for a number of food matching scenarios

- **Example 2:**

  - Milk cow, liquid, skimmed, 1.5% fat
  - Milk, dry, non-fat

  - Critical steps are pointed out

  - Examples with possible solutions are provided for a number of food matching scenarios

  - Quality scheme is proposed

  - A table listing characteristics influencing nutrient values is provided to aid in making high-quality matches

  - Examples with possible solutions are provided for a number of food matching scenarios

- **Example 3:**

  - Tomato, raw
  - Tomato, boiled
  - Tomato, fried with olive oil

  - Critical steps are pointed out

  - Examples with possible solutions are provided for a number of food matching scenarios

  - Quality scheme is proposed

  - A table listing characteristics influencing nutrient values is provided to aid in making high-quality matches

  - Examples with possible solutions are provided for a number of food matching scenarios

**Conclusion**

The guidelines, tools and databases aim to harmonize nutrient intake estimations and will assist researchers to do their work time-effectively. The guidelines, databases and other technical documents on food composition are available on the FAO/INFOODS webpage, free of charge (http://www.fao.org/infoods/projects_en.stm). The guidelines are updated regularly and more guidelines will be developed in the future.