Food Code Selector: User Guide

The USDA Food Code Selector tool simplifies the process of extracting consumption information from What We Eat In America (WWEIA), the dietary component of the National Health and Nutrition Examination Surveys (NHANES). Foods in NHANES are identified by unique 8 digit food codes. The Food Code Selector outputs an estimate of annual U.S. servings and average serving size for user selected foods. Users can optionally generate a list of food codes to import into R or SAS to do further analysis. This Microsoft Excel-based tool decreases dependence on 3rd party software and contracts while allowing for transparency and accessibility given the tool's traceable decision logic.
Food Code Selector tool files are available for individual NHANES cycles or for all cycles (1999-2000 through 2013-14) individually or combined.

Using the tool

1. Getting started - Clicking on the "USDA Food Code Selector" button on the Launch Module worksheet starts the user-friendly interface. The Instructions screen provides an overview of the module. Users can select codes from lists based on the Food and Nutrient Database for Dietary Studies (FNDDS) or What We Eat in America (WWEIA) food code categories. Users can also search using keywords. The bottom right side of the module is a running summary of the selected foods. Above the summary are selection buttons which allow the user to edit the list of selected foods.

2. Selecting food codes - When a user selects a category, the white box on the right side of the screen lists all of the foods within the specified category. Users can select one or more (press "Ctrl" or "Shift" keys while selecting) foods to add to their selection list. Users can edit their list of selected foods by using the buttons:

- *Select All*: selects all codes in the box
- *Unselect All*: unselects all codes in the box
- *Reverse Selection:* switches the selected and unselected foods
- *Add Selected:* adds selected foods to the list for analysis
- Deletes Selected: removes selected foods from the list
- *Clear All Codes:* clears all codes for the current list

Text Search
The text search allows user to search for an exact specific term or an approximated term when not sure of the food'sspelling. Users can then select foods to add to their final list.

3. Finalizing code selection - The Review tab allows the user to finalize their list of selected foods and generate their output file(s). Optionally, users can limit the serving size information by selecting Food Commodity Intake Database (FCID) codes of interest. Users can view their final list in the white box on the right side of the screen then click "Generate USDA Food Codes Report". After generating the report, users have the option of generating a separate text report or CSV file with the listed codes and food names that can be used as input in SAS or R for consumption calculations. To generate a separate text or CSV file, click the appropriate "Write" button. Once done, close the module and view the pulled data in the purple tabbed sheets of the Excel file (see "Workbook Sheets" section below).

Worksheets

In addition to the module, the Excel files contain colored worksheets:
The **PURPLE** tabbed worksheets provides information on food codes selected in the module:

- SelectionHistory - Documents the selection process including the coding schemes, subheadings, and codes used.
- CodeReport - A summary of the selected codes. Estimated annual number of servings in the United States, average serving sizes, and number of observations for each code.
- CodeText and FCID Text - Worksheets that can be exported as a CSV file for use in R or SAS.

The **BLUE** tabbed worksheets lists the FNDDS, WWEIA, and food categories with observation and serving information for each category. The Codes worksheet lists all the information for all 8000+ codes in the NHANES database. Users can use the Text sheet to quickly get a summary of servings for codes with the queried text term in the description.
The **ORANGE** tabbed sheets are abridged versions of the NHANES dietary data sets divided by survey day.

Tool Notes

Opening the tool for the first time can take up to 15 minutes depending on computing resources. This time is drastically reduced for subsequent uses.
The USDA Food Code Selector uses Visual Basic for Applications (VBA), the Excel Macro Language. Before using the tool, users may need to enable macros:

- *Content and Editing:* File > Info > Enable content
- *Macros* - Microsoft Office Button > Excel Options > Trust Center >Trust Center Settings > Macro Settings

and add the tool as a trusted file. The VBA code for this tool is not password protected.
NHANES information: https://wwwn.cdc.gov/nchs/nhanes/continuousnhanes/Overview.aspx?BeginYear=2013
Documentation for coding schemes:
USDA Food and Nutrient Database for Dietary Studies (FNDDS – http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/fndds/fndds3_doc.pdf
What We Eat In America (WWEIA)- http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/0910/Food_categories_2009-2010.pdf

Understanding the food code

The unique 8 digit food code is assigned according to a scheme that associates the first three or four digits of the code number with defined food groups and subgroups defined by the FNDDS coding scheme. The first digit in the food code identifies one of nine major food groups. The second, third, and (sometimes) fourth digits of a food code identify increasingly more specific subgroups within the nine major food groups. The remaining digits are used for identification of particular foods within a numerical sequence. A listing of food code group (first digit) and subgroup (combination of first and

FNDDS coding scheme

1--- MILK AND MILK PRODUCTS
- 11– Milk and milk drinks
- 12-- Creams and cream substitutes
- 13-- Milk desserts, sauces, gravies
- 14-- Cheeses

2--- MEAT, POULTRY, FISH, AND MIXTURES
- 20– Meat, type not specified
- 21-- Beef
- 22– Pork
- 23-- Lamb, veal, game, other carcass meat
- 24-- Poultry
- 25-- Organ meats, sausages and lunchmeats, and meat spreads
- 26– Fish and Shellfish
- 27– Meat, poultry, fish with nonmeat items
- 28-- Frozen and shelf-stable plate meals, soups, and gravies with meat, poultry, fish

base; gelatin and gelatin-based drinks

3--- EGGS
- 31-- Eggs
- 32– Egg mixtures
- 33– Egg substitutes
- 35-- Frozen plate meals with egg as major ingredient

4--- DRY BEANS, PEAS, OTHER LEGUMES, NUTS, AND SEEDS
- 41– Legumes
- 42-- Nuts, nut butters, and nut mixtures
- 43-- Seeds and seed mixtures
- 44– Carob products

5--- GRAINS
- 50– Flour and dry mixes
- 51– Yeast bread, rolls
- 52– Quick breads
- 53– Cakes, cookies, pies, pastries
- 54– Crackers and salty snacks from grain products
- 55– Pancakes, waffles, french toast, other grain products
- 56– Pasta, cooked cereals, rice
- 57-- Cereals, not cooked or NS as to cooked
- 58-- Grain mixtures, frozen plate meals, soups
- 59-- Meat substitutes, mainly cereal protein

7--- VEGETABLE
- 71-- White potatoes and Puerto Rican starchy vegetables
- 72– Dark green vegetables
- 73-- Deep-yellow vegetables
- 74—Tomatoes and tomato mixtures
- 75—Other vegetables
- 76—Vegetables and mixtures mostly vegetables baby food
- 77– Vegetables with meat, poultry, fish
- 78-- Mixtures mostly vegetables without meat, poultry, fish

8--- FATS, OILS, AND SALAD DRESSINGS
- 80--Fats
- 84-- Oils
- 88—Salad dressings

9--- SUGARS, SWEETS, AND BEVERAGES
- 91– Sugars and sweets
- 92– Nonalcoholic beverages
- 93– Alcoholic beverages
- 94– Water, noncarbonated

*The WWEIA coding scheme is not the same as the FNDDS coding scheme. For users, who prefer to use the WWEIA coding scheme (and the WWEIA tab of the module), categories are included below:

1 - MILK AND DAIRY	4 - GRAINS	7 - BEVERAGES
2 - PROTEIN FOODS	5 - SNACKS AND SWEETS	8 - FATS, OILS, CONDIMENTS, SAUCES, AND SUGARS
3 - MIXED DISHES	6 - FRUIT AND VEGETABLES	9 - INFANT FORMULA , BABY FOOD, AND MISC