# Food Grouping

The ability to group foods in various ways to conduct food-based dietary analysis and to examine dietary patterns is important to many NDSR users. Hence, a variety of data are provided in NDSR files to facilitate food group analysis.

This appendix discusses:
- The NCC Food Group Serving Count System
- The USDA Food Patterns Equivalents Grain Variables
- The NCC Database Food Group File
- The Modified USDA Food Group File
- The Additional Files Folder

## The NCC Food Group Serving Count System

The NCC Food Group Serving Count System is available to facilitate estimating intake of food groups (e.g., daily servings of sugar sweetened beverages). With this system foods in the database are assigned to 174 subgroups that fit within 9 major food categories (see listing and description of the subgroups in the coming pages). It is specifically designed to offer a high level of flexibility to address multiple research investigations related to food group and dietary pattern analysis. NDSR automatically generates Food Group Serving Count System Output Files (Files 07-11) to include Food Group Serving Count calculations per food reported (File 07), per meal or eating occasion (File 08), and per day for intake records (File 09), per menu for menu records (File 10), or per recipe serving for User Recipe records (File 11). See "*Chapter 8, Managing NDSR Output*" for Output File specifications.

Serving sizes have been assigned to each NDSR food based on the recommendations made by the *2000 Dietary Guidelines for Americans* when available. For foods not included in recommendations (e.g., cookies, fruit drinks), Food and Drug Administration (FDA) serving sizes from 1993 have been used.

### Considerations for use of the NCC Food Group Serving Count System

The NCC Food Group Serving Count System has been designed to count foods at the whole food level when appropriate (e.g., bread, apple pie, French fries) and to count other foods at the component/ingredient level (e.g., lasagna, soup, fruit salad, sandwiches) in order to capture the intake of ingredients from food groups that are often targeted for dietary studies.

The NCC Food Group Serving Count System Output Files may easily be linked to Nutrient Output Files at the whole food level (Output Files 02 and 07).
- Aggregation of subgroups may be accomplished by selecting and summing (e.g., vegetable subgroups to a total vegetable group). Use of subgroup names and codes (available in the Serving Count 2022 File and the spreadsheet column headers for Output Files 07-11) may provide ease in selection, aggregation, and reference to the numerous subgroups while facilitating data analysis.

The NCC Food ID or the NCC Database Food Group ID may be used to identify specific foods to address a more narrowly defined research question which would permit measuring of specific target vegetables within the vegetable subgroup.

NCC Food Group Serving Count System subgroups have been assigned to all NDSR foods and ingredients. For a listing of foods and assignments, see the `Foods2022.txt` found in the Additional Files Folder (discussed in Appendix 18). For Windows 10 installations, the Foods 2022 File is located at: `C:\Users\Public\Public Documents\NCC\NDSR 2022\Additional Files\Database Documentation\Foods2022.txt`.

## NCC Food Group Serving Count System Subgroups
**Fruits**
- Fruit and fruit juices are separated into seven subgroups (e.g., citrus and non-citrus classifications) to allow 100% juice to be measured independent of fruit.
- Fruit servings are defined per the *2000 Dietary Guidelines for Americans* as one medium apple, banana, orange or pear; ½ cup of chopped fresh, frozen, cooked, or canned fruit; or ¼ cup of dried fruit.
- Fruit servings include fruit and juice consumed separately (plain) and in fruit salad. Fruit in baked goods is generally excluded from the fruit servings count.

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| FRU0100 | Citrus Juice | 1. 100% citrus juice (sweetened or unsweetened orange, grapefruit, tangerine)<br><br>2. Frozen concentrate | 1. Drinks with < 100% juice<br><br>2. Fruit juice bars are not 100% juice | 4 fluid ounces |
| FRU0200 | Fruit Juice excluding Citrus Juice | 1. 100% juice (sweetened or unsweetened)<br><br>2. Frozen concentrate | 1. Drinks with < 100% juice<br><br>2. Cranberry drinks are not 100% juice<br><br>3. Fruit juice bars are not 100% juice<br><br>4. Fruit nectars are not 100% juice | 4 fluid ounces |
| FRU0300 | Citrus Fruit | 1. Fresh, frozen, cooked and canned citrus fruits (e.g., oranges, grapefruit, tangerines, lemons)<br><br>2. Citrus fruit in recipes (e.g., salads, Jell-O) | 1. Fruits other than citrus fruits<br><br>2. Jam, jelly, marmalade | 1. Fresh, frozen, canned, or cooked = ½ cup chopped or default form<br><br>2. 1 medium piece when appropriate (e.g., 1 medium orange)<br><br>3. ½ fresh grapefruit<br><br>4. Dried = ¼ cup |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| FRU0400 | Fruit excluding Citrus Fruit | 1. Fresh, frozen, cooked, canned, and dried<br><br>2. Fruit in recipes (e.g., salads, Jell-O, caramel apple)<br><br>3. Fruit relish or salsa<br><br>4. Fruit in cereal if actual fruit pieces (e.g., raisins) | 1. Citrus fruits (e.g., oranges, grapefruit, tangerines, lemons)<br><br>2. Fruit in: Baked goods, desserts, pies; Trail mix; Candy (e.g., chocolate covered raisins); Granola bars; Ice cream<br><br>3. Maraschino cherries<br><br>4. Fruit leather or fruit roll-ups<br><br>5. Jam, jelly, marmalade<br><br>6. Fruit relishes if "pickled" | 1. Fresh, frozen, canned, or cooked = ½ cup chopped or default form<br><br>2. 1 medium piece when appropriate (e.g., 1 medium banana)<br><br>3. Dried = ¼ cup |
| FRU0500 | Avocado and Similar | | | ½ cup chopped or default form |
| FRU0600 | Fried Fruits | 1. Fried bananas<br><br>2. Fried apples | | ½ cup chopped or default form |
| FRU0700 | Fruit-based Savory Snack | 1. Apple chips<br><br>2. Banana chips | | 1 ounce |

## Vegetables

- Ten vegetable subgroups are provided to permit analysis based on nutrient contribution (e.g., dark-green, deep-yellow, white potatoes, other starchy vegetables) and to provide the ability to separately quantify consumption of vegetables that do not meet Key Recommendations of the Guidelines (e.g., fried potatoes).
- Vegetable servings are defined per the *2000 Dietary Guidelines for Americans* as 1 cup of raw leafy vegetables or ½ cup of other cooked or raw vegetables. When multiple forms of a food are available for a given food, the most common form is selected to represent the serving weight for the food (e.g., chopped, sliced, and grated).
- Vegetable servings include vegetables and vegetable juice consumed separately (plain) and in recipes containing vegetables (e.g., stew, soup, lasagna, pizza, salad, casseroles, commercial entrees).

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| VEG0100 | Dark-green Vegetables | 1. Raw, cooked, and canned<br><br>2. Dark-green vegetables (e.g., broccoli, spinach, romaine, collards)<br><br>3. Vegetable in recipes (e.g., stew, soup) | Fried and/or breaded vegetables (e.g., breaded broccoli) | 1. Raw, cooked, or canned = ½ cup chopped or default form<br><br>2. Raw leafy vegetables = 1 cup |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| VEG0200 | Deep-yellow Vegetables | 1. Raw, cooked, and canned<br><br>2. Deep-yellow vegetables (e.g., carrots, pumpkin, sweet potatoes, winter squash)<br><br>3. Vegetable in recipes (e.g., stew, soup) | Fried and/or breaded vegetables (e.g., breaded squash) | Raw, cooked, or canned = ½ cup chopped or default form |
| VEG0300 | Tomato | 1. Raw, cooked and canned tomato<br><br>2. Salsa<br><br>3. Tomato sauce<br><br>4. Spaghetti sauce<br><br>5. Tomato-based sauce<br><br>6. Tomato puree<br><br>7. Tomato paste<br><br>8. Tomato in recipes (e.g., stew, soup) | 1. Catsup<br><br>2. Steak sauce<br><br>3. Cocktail sauce | 1. ½ cup chopped or default form<br><br>2. Tomato sauce = ½ cup<br><br>3. Tomato puree = ¼ cup<br><br>4. Tomato paste = ¼ cup |
| VEG0400 | White Potatoes | 1. Baked, boiled, and canned white potatoes<br><br>2. Potatoes in recipes (e.g., salad, stew, or soup) | | 1. ½ cup chopped or default form<br><br>2. 1 medium baked potato |
| VEG0800 | Fried Potatoes | 1. French fries<br><br>2. Hash browns<br><br>3. Pan fried potatoes<br><br>4. Potato tots | Potato chips | 1. ½ cup chopped or default form<br><br>2. French fries = 70g |
| VEG0450 | Other Starchy Vegetables | 1. Raw, cooked, and canned<br><br>2. Starchy vegetables (e.g., cassava, corn, green peas, jicama)<br><br>3. Vegetable in recipes (e.g., stew, soup)<br><br>4. Vegetables with a starch value $\geq$ peas | 1. Fried and/or breaded vegetables<br><br>2. Mixed vegetables with a starchy vegetable | 1. Raw, cooked, or canned = ½ cup chopped or default form<br><br>2. Raw leafy vegetables = 1 cup |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| VEG0700 | Legumes (cooked dried beans) | 1. Dried beans<br><br>2. Mature lima beans<br><br>3. Refried beans<br><br>4. Beans in sauce (e.g., pork and beans)<br><br>5. Beans in recipes (e.g., stew, soup) | 1. Soy-based desserts (e.g., Tofutti)<br><br>2. TVP, products with TVP (e.g., veggie burgers, meat with TVP)<br><br>3. Soy nuts<br><br>4. Tofu<br><br>5. Tempeh | 1. Cooked dry beans = ½ cup<br><br>2. Refried beans = ½ cup<br><br>3. Beans in sauce = ½ cup |
| VEG0600 | Other Vegetables | 1. Raw, cooked and canned<br><br>2. Vegetable in recipes (e.g., stew, soup)<br><br>3. Vegetable relishes if like salsa<br><br>4. Mixed vegetables from other categories (e.g., peas and carrots; corn, peas, lima beans) | 1. Olives<br><br>2. Pickles and pickled vegetables (e.g., sauerkraut) | 1. Raw, cooked, or canned = ½ cup chopped or default form<br><br>2. Raw leafy vegetables = 1 cup |
| VEG0900 | Fried Vegetables | 1. Fried and/or breaded vegetables (e.g., breaded broccoli, mushrooms, eggplant)<br><br>2. Onion rings | | ½ cup chopped or default form |
| VEG0500 | Vegetable Juice | 1. 100% juice<br><br>2. Frozen concentrates | 1. Drinks with < 100% juice<br><br>2. Clamato juice is not 100% juice | 4 fluid ounces |

## Grains (Bread, Cereal, Pasta, Rice)
- Thirty-five subgroups have been assigned to grain and grain-based products. Subgroups identify whole grain foods, products that contain some whole grain, and products made from refined grain. If a whole grain ingredient is the first ingredient on the food label, the grain product is identified as whole grain. If a whole grain (e.g., whole wheat flour, oatmeal, brown rice, whole rye meal) appears anywhere else on the label, the food is categorized as some whole grain. Products that contain no whole grain ingredients are identified as refined grain.
- Grain servings are defined per the *2000 Dietary Guidelines for Americans* as 1 slice of bread (16 grams of flour), 1 ounce of ready-to-eat cereal, ½ cup of cooked cereal, rice or pasta. FDA serving sizes from 1993 are used for other food items in this classification when the Dietary Guidelines do not apply.
- Grain servings include grains consumed separately (plain) and in recipes containing grains (e.g., soup, lasagna, casseroles, commercial entrees).

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples/Comments | Serving Size |
|---|---|---|---|---|
| GRW0100 | Grains, Flour and Dry Mixes - Whole Grain | | Count grains at the ingredient level – captures cooked cereal grains, rice. | 1. Cooked grain/cereal = ½ cup<br><br>2. Flour or cornmeal = 16g<br><br>3. Bran or wheat germ = 16g<br><br>4. Rice = ½ cup |
| GRS0100 | Grains, Flour and Dry Mixes - Some Whole Grain | | Count grains at the ingredient level – captures cooked cereal grains, rice. | 1. Cooked grain/cereal = ½ cup<br><br>2. Flour or cornmeal = 16 g<br><br>3. Bran or wheat germ = 16g<br><br>4. Rice = ½ cup |
| GRR0100 | Grains, Flour and Dry Mixes - Refined Grain | | Count grains at the ingredient level – captures cooked cereal grains, rice. | 1. Cooked grain/cereal = ½ cup<br><br>2. Flour or cornmeal = 16g<br><br>3. Bran or wheat germ = 16g<br><br>4. Rice = ½ cup |
| GRW0200 | Loaf-type Bread and Plain Rolls - Whole Grain | Whole wheat bread | Based on recipe or formulation | 1. Bread = 1 slice (approx. 28g)<br><br>2. Hamburger bun = ½ medium<br><br>3. Bagel = ½ small<br><br>4. English muffin = ½ medium<br><br>5. Roll = 1 small<br><br>6. Bread sticks = 1 medium |
| GRS0200 | Loaf-type Bread and Plain Rolls - Some Whole Grain | Oatmeal bread | Based on recipe or formulation | 1. Bread = 1 slice (approx. 28g)<br><br>2. Hamburger bun = ½ medium<br><br>3. Bagel = ½ small<br><br>4. English muffin = ½ medium<br><br>5. Roll = 1 small<br><br>6. Bread sticks = 1 medium |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples/Comments | Serving Size |
|---|---|---|---|---|
| GRR0200 | Loaf-type Bread and Plain Rolls - Refined Grain | White bread | Based on recipe or formulation | 1. Bread = 1 slice (approx. 28g)<br><br>2. Hamburger bun = ½ medium<br><br>3. Bagel = ½ small<br><br>4. English muffin = ½ medium<br><br>5. Roll = 1 small<br><br>6. Bread sticks = 1 medium |
| GRW0300 | Other Breads (quick breads, corn muffins, tortillas) - Whole Grain | Corn tortillas | Based on recipe or formulation | 1. Muffins and quick breads = 45g<br><br>2. French toast, pancake, waffle, biscuit = 38g<br><br>3. Cornbread, popovers, Yorkshire pudding = 45g<br><br>4. Croissant = 1 ounce<br><br>5. Tortilla = 1 ounce |
| GRS0300 | Other Breads (quick breads, corn muffins, tortillas) - Some Whole Grain | Oatmeal muffins | Based on recipe or formulation | 1. Muffins and quick breads = 45g<br><br>2. French toast, pancake, waffle, biscuit = 38g<br><br>3. Cornbread, popovers, Yorkshire pudding = 45g<br><br>4. Croissant = 1 ounce<br><br>5. Tortilla = 1 ounce |
| GRR0300 | Other Breads (quick breads, corn muffins, tortillas) - Refined Grain | Flour tortilla | Based on recipe or formulation | 1. Muffins and quick breads = 45g<br><br>2. French toast, pancake, waffle, biscuit = 38g<br><br>3. Cornbread, popovers, Yorkshire pudding = 45g<br><br>4. Croissant = 1 ounce<br><br>5. Tortilla = 1 ounce |
| GRW0400 | Crackers - Whole Grain | | | 1 ounce |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples/Comments | Serving Size |
|---|---|---|---|---|
| GRS0400 | Crackers - Some Whole Grain | | | 1 ounce |
| GRR0400 | Crackers - Refined Grain | | | 1 ounce |
| GRW0500 | Pasta - Whole Grain | | | ½ cup |
| GRS0500 | Pasta - Some Whole Grain | | | ½ cup |
| GRR0500 | Pasta - Refined Grain | Pasta without grains (e.g., chickpea) | | ½ cup |
| GRW0600 | Ready-to-eat Cereal (not presweetened) - Whole Grain | | | 1 ounce |
| GRS0600 | Ready-to-eat Cereal (not presweetened) - Some Whole Grain | | | 1 ounce |
| GRR0600 | Ready-to-eat Cereal (not presweetened) - Refined Grain | | | 1 ounce |
| GRW0700 | Ready-to-eat Cereal (presweetened[1]) - Whole Grain | | | 1 ounce |
| GRS0700 | Ready-to-eat Cereal (presweetened) - Some Whole Grain | | | 1 ounce |
| GRR0700 | Ready-to-eat Cereal (presweetened) - Refined Grain | | | 1 ounce |
| GRW0800 | Cakes, Cookies, Pies, Pastries, Danish, Doughnuts, Cobblers - Whole Grain | | | 1. Brownie = 40g<br>2. Cake = 125g (heavy weight)<br>3. Cake = 55g (light weight)<br>4. Cake = 80g (medium weight)<br>5. Coffee cake = 55g<br>6. Cookie = 30g<br>7. Doughnut = 55g<br>8. Sweet rolls = 55g<br>9. Pies = 125g |

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[1] Presweetened cereals are 21.2% total sugars per WIC guidelines.

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples/Comments | Serving Size |
|---|---|---|---|---|
| | | | | 10. Pastries = 125g |
| GRS0800 | Cakes, Cookies, Pies, Pastries, Danish, Doughnuts, Cobblers - Some Whole Grain | Oatmeal cookies | | 1. Brownie = 40g |
| | | | | 2. Cake = 125g (heavy weight) |
| | | | | 3. Cake = 55g (light weight) |
| | | | | 4. Cake = 80g (medium weight) |
| | | | | 5. Coffee cake = 55g |
| | | | | 6. Cookie = 30g |
| | | | | 7. Doughnut = 55g |
| | | | | 8. Sweet rolls = 55g |
| | | | | 9. Pies = 125g |
| | | | | 10. Pastries = 125g |
| GRR0800 | Cakes, Cookies, Pies, Pastries, Danish, Doughnuts, Cobblers - Refined Grain | | | 1. Brownie = 40g |
| | | | | 2. Cake = 125g (heavy weight) |
| | | | | 3. Cake = 55g (light weight) |
| | | | | 4. Cake = 80g (medium weight) |
| | | | | 5. Coffee cake = 55g |
| | | | | 6. Cookie = 30g |
| | | | | 7. Doughnut = 55g |
| | | | | 8. Sweet rolls = 55g |
| | | | | 9. Pies = 125g |
| | | | | 10. Pastries = 125g |
| GRW1000 | Snack Bars - Whole Grain | 1. Granola bar 2. Energy bar 3. Meal replacement bar 4. Nutritional bar | | 40g |
| GRS1000 | Snack Bars - Some Whole Grain | 1. Granola bar 2. Energy bar 3. Meal replacement bar 4. Nutritional bar | | 40g |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples/Comments | Serving Size |
|---|---|---|---|---|
| GRR1000 | Snack Bars - Refined Grain | 1. Granola bar 2. Energy bar 3. Meal replacement bar 4. Nutritional bar 5. Bars without grains (e.g., fruit & nut) | | 40g |
| GRW0900 | Snack Chips - Whole Grain | | | 1 ounce |
| GRS0900 | Snack Chips - Some Whole Grain | | | 1 ounce |
| GRR0900 | Snack Chips - Refined Grain | Chips without grains (e.g., protein powder) | | 1 ounce |
| GRW1100 | Popcorn | | | 1 ounce |
| GRW1200 | Flavored Popcorn | | | 1 ounce |
| GRW1300 | Baby Food Grain Mixtures - Whole Grain | Pasta, rice, or ready-to-eat cereal mixture without meat. Can have other ingredients such as cheese, milk, fruit, or vegetable but would typically consider the product a grain recipe. | Any mixture with meat | ½ cup |
| GRS1300 | Baby Food Grain Mixtures – Some Whole Grain | Pasta, rice, or ready-to-eat cereal mixture without meat. Can have other ingredients such as cheese, milk, fruit, or vegetable but would typically consider the product a grain recipe. | Any mixture with meat | ½ cup |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples/Comments | Serving Size |
|---|---|---|---|---|
| GRR1300 | Baby Food Grain Mixtures – Refined Grain | Pasta, rice, or ready-to-eat cereal mixture without meat. Can have other ingredients such as cheese, milk, fruit, or vegetable but would typically consider the product a grain recipe. | Any mixture with meat | ½ cup |

## Grains – Additional Information

- The following chart lists the whole grain and refined grain ingredients in NDSR.
- If a whole grain ingredient (Category A) is the first ingredient on the food label, the food is categorized as a "whole grain".
- If a whole grain ingredient (Category A) appears anywhere else on the label, the food is categorized as a "some whole grain".
- Other flour/bread/cereal ingredients that may appear on the label but are not considered grains include amaranth (technically a vegetable), pea flour, potato flour, soy flour, soy bran, and soy fiber.

| GRAIN | Category A<br><br>Whole grain ingredients | Category B<br><br>Refined grain ingredients | Comment/Issues |
|---|---|---|---|
| Amaranth | Amaranth | | |
| Barley | Barley malt<br><br>Dehulled barley<br><br>Flaked barley<br><br>Hulled barley<br><br>Malt barley<br><br>Malted barley flour<br><br>Sprouted barley flour<br><br>Whole barley<br><br>Whole grain barley flour | Barley<br><br>Barley bits<br><br>Barley flakes<br><br>Barley flour<br><br>Barley germ<br><br>Barley grits<br><br>Milled barley<br><br>Pearled barley | |
| Buckwheat | Buckwheat groats<br><br>Buckwheat flour (whole groats) | Buckwheat flour (refined) | Not a true cereal |

| GRAIN | Category A<br><br>Whole grain ingredients | Category B<br><br>Refined grain ingredients | Comment/Issues |
|---|---|---|---|
| Corn | Corn<br>Masa harina<br>Whole corn<br>Whole corn flour<br>Whole grain corn meal | Corn bran<br>Corn flour<br>Corn grits<br>Corn masa<br>Corn meal<br>Degermed cornmeal | |
| Millet | Millet | | |
| Oats | Cracked oats<br>Oat flour<br>Oatmeal<br>Oats<br>Rolled oats<br>Steel cut oats<br>Whole oat flour | Oat bran<br>Oat fiber | |
| Popcorn | Popcorn | | |
| Rice | Brown rice<br>Brown rice flour<br>Brown rice meal | Rice bran<br>Rice flour<br>White rice | |
| Rye | Dark rye flour<br>Rolled rye<br>Rye berries<br>Rye flakes<br>Rye kernels<br>Whole grain rye flour<br>Whole rolled rye meal<br>Whole rye flour<br>Whole rye meal | Cracked rye<br>Dark rye meal<br>Ground rye<br>Rye<br>Rye flour<br>Rye meal<br>White rye flour | |
| Sorghum | Whole sorghum | | |
| Spelt | Spelt | | |
| Teff | Teff | | |
| Triticale | Whole grain triticale | Triticale flour | Hybrid of wheat and rye |
| Quinoa | Quinoa | | |

| GRAIN | Category A<br><br>**Whole grain ingredients** | Category B<br><br>**Refined grain ingredients** | Comment/Issues |
|---|---|---|---|
| Wheat | Bulgur<br><br>Cracked wheat<br><br>Crushed wheat<br><br>Flaked wheat<br><br>Graham flour<br><br>Rolled wheat<br><br>Rolled whole wheat<br><br>Stone ground whole wheat flour<br><br>Wheat berries<br><br>Wheat kernels<br><br>Whole wheat flour | Wheat bran<br><br>Wheat fiber<br><br>Wheat flour – all types (bread, cake, all – purpose, enriched, unenriched, unbleached, high gluten)<br><br>Wheat germ<br><br>Wheat gluten<br><br>Wheat nuggets<br><br>Whole wheat bran | |
| Wild rice | Wild rice<br><br>Wild rice flour | | |

## Dairy and Non-dairy Alternatives

- Thirty-three subgroups are used to classify dairy and non-dairy alternatives. These subgroups identify sources of dairy/calcium in the diet and provide the ability to identify fat-free and/or low-fat dairy, sugar sweetened vs. artificially sweetened, and dairy vs. dairy alternatives.
- Dairy servings are generally based on the *2000 Dietary Guidelines for Americans*, which defines a serving as approximately equivalent to the amount of calcium in 1 cup of milk or yogurt, 1 ½ ounces of natural cheese, and 2 ounces of processed cheese. FDA serving sizes from 1993 are used for other food items in this classification when the Dietary Guidelines do not apply.
- Servings include dairy consumed separately (plain) and in recipes containing dairy (e.g., soup, lasagna, casseroles, commercial entrees).

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| DMF0100 | Milk - Whole | Whole (3.5%) | | 1. Fluid = 1 cup<br><br>2. Evaporated = ½ cup<br><br>3. Dry = 1 cup prepared |
| DMR0100 | Milk - Reduced Fat | 2% | | 1. Fluid = 1 cup<br><br>2. Evaporated = ½ cup<br><br>3. Dry = 1 cup prepared |
| DML0100 | Milk - Low Fat and Fat Free | 1. 1%<br><br>2. Skim<br><br>3. Nonfat dry milk | | 1. Fluid = 1 cup<br><br>2. Evaporated = ½ cup<br><br>3. Dry = 1 cup prepared |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| DMN0100 | Milk – Non-dairy | Soy, rice, grain based | | 1 cup |
| DMF0200 | Ready-to-drink Flavored Milk - Whole | 1. Chocolate, strawberry, egg nog<br><br>2. Whole (3.5%) | | 1 cup |
| DMR0200 | Ready-to-drink Flavored Milk - Reduced Fat | 2% | | 1 cup |
| DML0200 | Ready-to-drink Flavored Milk - Low Fat and Fat Free | 1. 1%<br><br>2. Skim<br><br>3. Nonfat dry milk | | 1 cup |
| DML0300 | Sweetened Flavored Milk Beverage Powder with Non-fat Dry Milk | 1. Cocoa packets<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | Count at the component/ ingredient level. Milk tracks to milk, cocoa powder gives indication of the number of cups of cocoa. | 1 cup prepared |
| DML0400 | Artificially Sweetened Flavored Milk Beverage Powder with Non-fat Dry Milk | 1. Sugar free<br><br>2. With only sugar alcohols (no sugar)<br><br>3. With non-nutritive sweeteners (e.g., Stevia) | Count at the component /ingredient level. Milk tracks to milk, cocoa powder gives indication of the number of cups of cocoa. | 1 cup prepared |
| DML0500 | Unsweetened Flavored Milk Beverage Powder with Non-fat Dry Milk | Unsweetened | Count at the component /ingredient level. Milk tracks to milk, cocoa powder gives indication of the number of cups of cocoa. | 1 cup prepared |
| DCF0100 | Cheese - Full Fat | 1. Natural and processed (24-33%)<br><br>2. Regular cottage cheese (4%)<br><br>3. Cheese powder for macaroni and cheese | | 1. 1 ½ ounces natural<br><br>2. 2 ounces process<br><br>3. 2 cups cottage<br><br>4. 3 cups dry curd<br><br>5. ½ cup ricotta<br><br>6. 2 ounces cheese spread or food |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| DCR0100 | Cheese - Reduced Fat | 1. Natural and processed (8-16%)<br><br>2. Part skim mozzarella<br><br>3. 2% cottage cheese | | 1. 1 ½ ounces natural<br><br>2. 2 ounces process<br><br>3. 2 cups cottage<br><br>4. 3 cups dry curd<br><br>5. ½ cup ricotta<br><br>6. 2 ounces cheese spread or food |
| DCL0100 | Cheese - Low Fat and Fat Free | Skim - 1% | | 1. 1 ½ ounces natural<br><br>2. 2 ounces process<br><br>3. 2 cups cottage<br><br>4. 3 cups dry curd<br><br>5. ½ cup ricotta<br><br>6. 2 ounces cheese spread or food |
| DCN0100 | Cheese – Non-dairy | Soy, rice, grain based | | 1. 1 ½ ounces natural<br><br>2. 2 ounces process<br><br>3. 2 cups cottage<br><br>4. 3 cups dry curd<br><br>5. ½ cup ricotta<br><br>6. 2 ounces cheese spread or food |
| DYF0100 | Yogurt – Sweetened Whole Milk | 1. 3-4% fat<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 1 cup |
| DYR0100 | Yogurt - Sweetened Low Fat | 1. 1-2% fat<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 1 cup |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| DYL0100 | Yogurt - Sweetened Fat Free | 1. <1% fat<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 1 cup |
| DYF0200 | Yogurt - Artificially Sweetened Whole Milk | 1. 3-4% fat<br><br>2. No sugar added<br><br>3. Sugar free<br><br>4. With only sugar alcohols (no sugar)<br><br>5. With non-nutritive sweeteners (e.g., Stevia) | | 1 cup |
| DYR0200 | Yogurt - Artificially Sweetened Low Fat | 1. 1-2% fat<br><br>2. No sugar added<br><br>3. Sugar free<br><br>4. With only sugar alcohols (no sugar)<br><br>5. With non-nutritive sweeteners (e.g., Stevia) | | 1 cup |
| DYL0200 | Yogurt - Artificially Sweetened Fat Free | 1. < 1% fat<br><br>2. No sugar added<br><br>3. Sugar free<br><br>4. With only sugar alcohols (no sugar)<br><br>5. With non-nutritive sweeteners (e.g., Stevia) | | 1 cup |
| DYF0300 | Yogurt - Unsweetened Whole Milk | 1. 3-4% fat<br><br>2. Plain<br><br>3. Unsweetened | | 1 cup |
| DYR0300 | Yogurt - Unsweetened Low Fat | 1. 1-2% fat<br><br>2. Plain<br><br>3. Unsweetened | | 1 cup |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| DYL0300 | Yogurt - Unsweetened Fat Free | 1. <1% fat<br><br>2. Plain<br><br>3. Unsweetened | | 1 cup |
| DYN0100 | Yogurt – Non-dairy | Soy, rice, grain based | | 1 cup |
| DOT0100 | Frozen Dairy Dessert | 1. Ice cream, frozen yogurt, ice cream treats, any products with dairy ingredients (regardless of amount of calcium)<br><br>2. Sugar sweetened and artificially sweetened | | 1. ½ cup "ice cream"<br><br>2. 85g treats<br><br>3. 1 cup shakes |
| DOT0200 | Frozen Non-dairy Dessert | 1. Fruit juice bars<br><br>2. Tofutti<br><br>3. Popsicle | | 1. ½ cup "ice cream"<br><br>2. 85g treats<br><br>3. 1 cup shakes |
| DOT0300 | Pudding and Other Dairy Dessert | Sweetened condensed milk | | 1. Pudding = 1 cup<br><br>2. Sweetened condensed milk = ⅓ cup |
| DOT0400 | Artificially Sweetened Pudding and Other Dairy Dessert | 1. Sugar free<br><br>2. With only sugar alcohols (no sugar)<br><br>3. With non-nutritive sweeteners (e.g., Stevia) | | 1. Pudding = 1 cup<br><br>2. Sweetened condensed milk = ⅓ cup |
| DOT0500 | Dairy-based Sweetened Meal Replacement/ Supplement | 1. Sweet meal replacement drinks<br><br>2. Sweet nutritional drinks<br><br>3. Sweet supplement drinks<br><br>4. Combination of sugar and artificial sweeteners<br><br>5. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | Count at the component/ ingredient level. Milk tracks to milk, powder gives dairy equivalent. | 1 cup prepared |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| DOT0600 | Dairy-based Artificially Sweetened Meal Replacement/Supplement | 1. Artificially sweetened meal replacement drinks<br><br>2. Artificially sweetened nutritional drinks<br><br>3. Artificially sweetened supplement drinks<br><br>4. Sugar free<br><br>5. With only sugar alcohols (no sugar)<br><br>6. With non-nutritive sweeteners (e.g., Stevia) | Count at the component/ ingredient level. Milk tracks to milk, powder gives dairy equivalent. | 1 cup prepared |
| DOT0900 | Dairy-based Unsweetened Meal Replacement/Supplement | 1. Unsweetened meal replacement drinks<br><br>2. Unsweetened nutritional drinks<br><br>3. Unsweetened supplement drinks | Count at the component/ ingredient level. Milk tracks to milk, powder gives dairy equivalent. | 1 cup prepared |
| DOT0700 | Infant Formula | | | 5 fluid ounces |
| DOT0800 | Infant Formula – Non-dairy | Soy, rice, grain based | | 5 fluid ounces |

## Meat, Fish, Poultry, Eggs, Nuts, Seeds

- Twenty-eight subgroups are used to identify sources of meat and meat alternatives in the diet. Subgroups exist for each specific type of meat and to identify lean meat, cured meat, cold cuts and sausages, and fresh and smoked fish. Subgroups also exist for identification of commercially fried chicken, fish, and shellfish.
- Servings are generally based on the *2000 Dietary Guidelines for Americans* and are defined in terms of 1 ounce equivalents. One ounce is used for cooked meat, fish, or poultry. Other 1 ounce-equivalents include 1 egg, 1 tablespoon peanut butter, and ½ ounce nuts or seeds. FDA serving sizes from 1993 are used for other food items in this classification when the Dietary Guidelines do not apply.
- Meat servings include meat consumed separately (plain) and in recipes containing meat (e.g., soup, lasagna, casseroles, commercial entrees).

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| MRF0100 | Beef | | | 1 ounce |
| MRL0100 | Lean Beef | ≤ 10% fat | | 1 ounce |
| MRF0200 | Veal | | | 1 ounce |
| MRL0200 | Lean Veal | ≤ 10% fat | | 1 ounce |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| MRF0300 | Lamb | | | 1 ounce |
| MRL0300 | Lean Lamb | ≤ 10% fat | | 1 ounce |
| MRF0400 | Fresh Pork | | | 1 ounce |
| MRL0400 | Lean Fresh Pork | ≤ 10% fat | | 1 ounce |
| MCF0200 | Cured Pork | | | 1 ounce |
| MCL0200 | Lean Cured Pork | ≤ 10% fat | | 1 ounce |
| MRF0500 | Game | | | 1 ounce |
| MPF0100 | Poultry | Domestic and wild fowl | | 1 ounce |
| MPL0100 | Lean Poultry | ≤ 10% fat | | 1 ounce |
| MPF0200 | Fried Chicken - Commercial Entrée and Fast Food Type | All commercial chicken including grilled (e.g., KFC) | | 1 ounce |
| MFF0100 | Fish - Fresh and Smoked | | | 1 ounce |
| MFL0100 | Lean Fish - Fresh and Smoked | ≤ 10% fat | | 1 ounce |
| MFF0200 | Fried Fish - Commercial Entrée and Fast Food | | | 1 ounce |
| MSL0100 | Shellfish | | | 1 ounce |
| MSF0100 | Fried Shellfish - Commercial Entrée and Fast Food | | | 1 ounce |
| MCF0100 | Cold Cuts and Sausage | Fresh and cured | | 1 ounce |
| MCL0100 | Lean Cold Cuts and Sausage | Fresh and cured, ≤ 10% fat | | 1 ounce |
| MOF0100 | Organ Meats | All types | | 1 ounce |
| MOF0200 | Baby Food Meat Mixtures | Any mixture with meat | | ½ cup |
| MOF0300 | Eggs | | | 1. 1 large egg <br> 2. 2 large egg whites <br> 3. 2 large egg yolks |
| MOF0400 | Egg Substitute | | | 1 large egg equivalent |
| MOF0500 | Nuts and Seeds | | | ½ ounce |
| MOF0600 | Nut and Seed Butters | | | 1 TB |

| Subgroup ID Code | Subgroup Name | Includes/ Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| MOF0700 | Meat Alternatives | 1. Veggie Burgers<br><br>2. Tofu<br><br>3. Tempeh<br><br>4. TVP<br><br>5. Soynuts | | 1. Soy nuts = ½ ounce<br><br>2. Other = 1 ounce |

## Fats (Butter, Margarine, Oil, Salad Dressing, etc.)

- Fourteen subgroups identify foods that are generally considered sources of dietary fat but also include reduced fat and nonfat products when available (e.g., diet margarine).
- One fat serving is assigned per 1 teaspoon for margarine, oil, shortening, butter, and other animal fats. Poured salad dressing is 30 grams per serving, and mayonnaise or mayonnaise type dressing is 15 grams per serving.
- Fats used in preparation are included in fat serving counts (e.g., butter used to season or sauté vegetables and to pan fry meat or eggs).

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| FMF0100 | Margarine - Regular | 80% fat, stick, tub, whipped | | 1 TS |
| FMR0100 | Margarine - Reduced Fat | 72% fat or less, stick, tub, whipped | | 1 TS |
| FOF0100 | Oil | Sprays | | 1 TS |
| FSF0100 | Shortening | | | 1 TS |
| FAF0100 | Butter and Other Animal Fats - Regular | 1. Butter/margarine blends<br><br>2. Lard, whale blubber<br><br>3. Honey butter | | 1 TS |
| FAR0100 | Butter and Other Animal Fats - Reduced Fat | 1. Butter/margarine blends<br><br>2. Honey butter | | 1 TS |
| FDF0100 | Salad Dressing - Regular | Poured dressing, mayonnaise and mayonnaise type dressing | | 1. Salad dressing = 30g<br><br>2. Mayonnaise = 15g |
| FDR0100 | Salad Dressing - Reduced Fat/Reduced Calorie/Fat Free | Typically dressings < 25% fat | | 1. Salad dressing = 30g<br><br>2. Mayonnaise = 15g |
| FMC0100 | Vegetable-based Savory Snack | 1. Potato chips<br><br>2. Onion rings (canned) | | 1 ounce |
| FMC0200 | Meat-based Savory Snack | Pork rinds | | 1 ounce |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| FCF0100 | Cream | 1. Light or coffee (20%) <br><br> 2. Regular whipping (31%) <br><br> 3. Heavy whipping (37%) <br><br> 4. Regular sour cream | | 1. Cream liquid = 1 TB <br><br> 2. Cream powder = 2g <br><br> 3. ½ & ½ = 2 TB <br><br> 4. Sour cream = 30g |
| FCR0100 | Cream - Reduced Fat | 1. Half and half (10-12%) <br><br> 2. Sour half and half <br><br> 3. Reduced fat sour cream | | 1. Cream liquid = 1 TB <br><br> 2. Cream powder = 2g <br><br> 3. ½ & ½ = 2 TB <br><br> 4. Sour cream = 30g |
| FCL0100 | Cream - Low Fat and Fat Free | 1. Sour lean <br><br> 2. Fat free sour cream | | 1. Cream liquid = 1 TB <br><br> 2. Cream powder = 2g <br><br> 3. ½ & ½ = 2 TB <br><br> 4. Sour cream = 30g |
| FCN0100 | Cream – Non-dairy | Soy, rice, grain based | | 1. Cream liquid = 1 TB <br><br> 2. Cream powder = 2g <br><br> 3. ½ & ½ = 2 TB <br><br> 4. Sour cream = 30g |

## Sweets (Candy, Honey, Sugar, Sweet Sauces, etc.)

- The sweets group contains eight subgroups to distinguish differences in regular and artificial sweeteners and fat-containing and reduced fat/fat free foods within this group.
- Serving sizes for sweets are based on FDA serving sizes from 1993.

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| SWT0400 | Sugar | 1. Brown <br><br> 2. Powdered | | 1. Sugar = 4g <br><br> 2. Powdered sugar = 30g |
| SWT0500 | Syrup, Honey, Jam, Jelly, Preserves | | | 1. Syrup as ingredient = 2 TB <br><br> 2. Syrup all others = ¼ cup <br><br> 3. Honey, jam, molasses = 1 TB |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| SWT0700 | Sauces, Sweet - Regular | 1. Fudge, caramel, butterscotch, hard sauce and similar<br><br>2. "Regular" meaning sauce contains fat | | 2 TB |
| SWT0800 | Sauces, Sweet - Reduced Fat/Reduced Calorie/Fat Free | 1. Chocolate syrup<br><br>2. Sauces that are naturally "fat free" or contain little fat | | 2 TB |
| SWT0100 | Chocolate Candy | | | 1. Hard candies, breath mints = 2 g<br><br>2. Hard candies, roll-type, mini-size in dispenser packages = 5 g<br><br>3. Hard candies, others = 15 g<br><br>4. All other candies 40 g |
| SWT0200 | Non-chocolate Candy | Gum drops | | 1. Hard candies, breath mints = 2 g<br><br>2. Hard candies, roll-type, mini-size in dispenser packages = 5 g<br><br>3. Hard candies, others = 15 g<br><br>4. All other candies 40 g |
| SWT0300 | Frosting or Glaze | | | 35 g |
| SWT0600 | Sweetened Flavored Milk Beverage Powder without Non-fat Dry Milk | 1. Nestle Nesquik<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | Count at the component /ingredient level. Milk tracks to milk, cocoa powder gives indication of the number of cups of cocoa. | 1 cup prepared |

**Beverages (Coffee, Tea, Alcoholic Beverages, Soft Drinks, Fruit Drinks, Water, etc.)**

- Twenty-six subgroups permit quantification of major sources of added sugars and alcohol from non-dairy beverages. Further subgroups exist to distinguish the type of sweetening (e.g., beverages sweetened with added sugars vs. artificially sweetened).
- Beverage servings are based on FDA serving sizes from 1993, which define a serving of soft drink, fruit drink, coffee, tea, or meal replacement as 8 fluid ounces, beer as 12 fluid ounces, wine as 5 fluid ounces, and distilled liquor as 1 ½ fluid ounces.
- Servings include beverages consumed separately or in cocktails.

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| BVS0400 | Sweetened Soft Drinks | 1. Sweetened carbonated drink<br><br>2. Sweetened carbonated non-alcoholic wine<br><br>3. Combination of sugar and artificial sweeteners<br><br>4. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVA0400 | Artificially Sweetened Soft Drinks | 1. Artificially sweetened carbonated drink<br><br>2. Artificially sweetened carbonated non-alcoholic wine<br><br>3. With only sugar alcohols (no sugar)<br><br>4. With non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVU0300 | Unsweetened Soft Drinks | 1. Unsweetened carbonated drink<br><br>2. Unsweetened carbonated non-alcoholic wine | | 8 fluid ounces |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| BVS0300 | Sweetened Fruit Drinks | 1. Sweetened non-carbonated drink<br><br>2. < 100% juice<br><br>3. Dry powder (e.g., Kool Aid)<br><br>4. Sweetened non-carbonated non-alcoholic wine<br><br>5. Combination of sugar and artificial sweeteners<br><br>6. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVA0300 | Artificially Sweetened Fruit Drinks | 1. Artificially sweetened non-carbonated drink<br><br>2. < 100% juice<br><br>3. Dry powder (e.g., Kool Aid)<br><br>4. Artificially sweetened non-carbonated non-alcoholic wine<br><br>5. With only sugar alcohols (no sugar)<br><br>6. With non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVS0500 | Sweetened Tea | 1. Dry powder<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVA0500 | Artificially Sweetened Tea | 1. Dry powder<br><br>2. With only sugar alcohols (no sugar)<br><br>3. With non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVU0400 | Unsweetened Tea | Dry powder | | 8 fluid ounces |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| BVS0100 | Sweetened Coffee | 1. Dry powder<br><br>2. Coffee flavored mixes<br><br>3. Combination of sugar and artificial sweeteners<br><br>4. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | Coffee drinks | 8 fluid ounces |
| BVA0100 | Artificially Sweetened Coffee | 1. Dry powder<br><br>2. Coffee flavored mixes<br><br>3. With only sugar alcohols (no sugar)<br><br>4. With non-nutritive sweeteners (e.g., Stevia) | Coffee drinks | 8 fluid ounces |
| BVU0100 | Unsweetened Coffee | 1. Dry powder<br><br>2. Coffee flavored mixes | Coffee drinks | 8 fluid ounces |
| BVS0200 | Sweetened Coffee Substitutes | 1. Dry powder<br><br>2. Combination of sugar and artificial sweeteners<br><br>3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVA0200 | Artificially Sweetened Coffee Substitutes | 1. Dry powder<br><br>2. With only sugar alcohols (no sugar)<br><br>3. With non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVU0200 | Unsweetened Coffee Substitutes | Dry powder | | 8 fluid ounces |
| BVS0600 | Sweetened Water | 1. Combination of sugar and artificial sweeteners<br><br>2. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| BVA0600 | Artificially Sweetened Water | 1. With only sugar alcohols (no sugar)<br><br>2. With non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVU0500 | Unsweetened Water | Tap water | 1. Commercial water<br><br>2. Water lost in evaporation | 8 fluid ounces |
| BVS0700 | Non-dairy Based Sweetened Meal Replacement/Supplement | 1. Sweet meal replacement drinks<br><br>2. Sweet nutritional drinks<br><br>3. Sweet supplement drinks<br><br>4. Sweet sports drinks<br><br>5. Sweet energy drinks<br><br>6. Dry powder<br><br>7. Combination of sugar and artificial sweeteners<br><br>8. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |
| BVA0700 | Non-dairy Based Artificially Sweetened Meal Replacement/Supplement | 1. Artificially sweetened meal replacement drinks<br><br>2. Artificially sweetened nutritional drinks<br><br>3. Artificially sweetened supplement drinks<br><br>4. Artificially sweetened sports drinks<br><br>5. Artificially sweetened energy drinks<br><br>6. Dry powder<br><br>7. With only sugar alcohols (no sugar)<br><br>8. With non-nutritive sweeteners (e.g., Stevia) | | 8 fluid ounces |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| BVU0600 | Non-dairy Based Unsweetened Meal Replacement/Supplement | 1. Unsweetened meal replacement drinks<br><br>2. Unsweetened nutritional drinks<br><br>3. Unsweetened supplement drinks<br><br>4. Unsweetened sports drinks<br><br>5. Unsweetened energy water<br><br>6. Dry powder | | 8 fluid ounces |
| BVO0100 | Non-alcoholic Beer | | | 12 fluid ounces |
| BVO0200 | Non-alcoholic Light Beer | | | 12 fluid ounces |
| BVE0100 | Beer and Ales | | | 12 fluid ounces |
| BVE0400 | Cordial and Liqueur | | Cocktails | 1 ½ fluid ounces |
| BVE0300 | Distilled Liquor | | Cocktails | 1 ½ fluid ounces |
| BVE0200 | Wine | Wine cooler | Non-alcoholic wine | 1. Table wine = 5 fluid ounces<br><br>2. Dessert wine = 3 fluid ounces<br><br>3. Saki = 3 fluid ounces<br><br>4. Wine cooler = 12 fluid ounces |

## Miscellaneous Foods (Pickled Foods, Gravy, Sauces, Condiments, etc.)
- Thirteen subgroups have been identified to classify all other food and beverages.
- Servings are based on FDA serving sizes from 1993.

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|---|
| MSC0100 | Gravy - Regular | "Regular" meaning gravy contains fat | | ¼ cup |
| MSC0200 | Gravy - Reduced Fat/Fat Free | Gravies that are naturally "fat free" or contain little fat | | ¼ cup |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| MSC0300 | Sauces and Condiments - Regular | Sauces that contain fat (e.g., almondine, béarnaise, cheese, white, hollandaise, white clam, custard, enchilada, tartar sauce) | 1. Salsa<br>2. Spaghetti<br>3. Tahini<br>4. Tomato | 1. BBQ, hollandaise, tartar sauce, etc. = 2 TB<br>2. Sauce used as toppings (white sauce, cheese sauce) = ¼ cup<br>3. Major condiments (catsup, steak sauce) = 1 TB<br>4. Minor condiments (hot sauce, mustard) = 1 TS |
| MSC0400 | Sauces and Condiments - Reduced Fat | Sauces that are naturally "fat free" or contain little fat (e.g., catsup, mustard, soy sauce) | | 1. BBQ, hollandaise, tartar sauce, etc. = 2 TB<br>2. Sauces used as toppings (white sauce, cheese sauce) = ¼ cup<br>3. Major condiments (catsup, steak sauce) = 1 TB<br>4. Minor condiments (hot sauce, mustard) = 1 TS |
| MSC0500 | Pickled Foods | 1. Olives<br>2. Pickles<br>3. Pickle relish | | 1. Olives = 15 g<br>2. Pickles = 30 g<br>3. Relish = 15 g |
| MSC0600 | Miscellaneous Dessert | Jell-O | | |
| MSC0700 | Non-grain Flour and Similar | 1. Soy flour<br>2. Pea flour | | Flour = 16 g |
| MSC0800 | Soup Broth | | | 245 g |
| MSC0900 | Baby Food Dessert | 1. Fruit and dairy mixtures<br>2. Puddings | | ½ cup |

| Subgroup ID Code | Subgroup Name | Includes/Examples | Excludes/Examples | Serving Size |
|---|---|---|---|---|
| MSC1000 | Miscellaneous Baby Food Mixtures | 1. Fruit and grain mixtures<br><br>2. Fruit and other ingredients<br><br>3. Fruit, vegetable, and grain mixtures<br><br>4. Fruit, vegetable, and other ingredients<br><br>5. Multiple fruit & multiple vegetable mixtures (i.e. would need to assign more than two food groups)<br><br>6. Vegetable and dairy mixtures<br><br>7. Vegetable and grain mixtures<br><br>8. Vegetable and other ingredients | Any mixture with meat | ½ cup |
| MSC1100 | Artificially Sweetened Flavored Milk Beverage Powder without Non-fat Dry Milk | 1. Sugar free<br><br>2. With only sugar alcohols (no sugar)<br><br>3. With non-nutritive sweeteners (e.g., Stevia) | Count at the component /ingredient level. Milk tracks to milk, cocoa powder gives indication of the number of cups of cocoa. | 1 cup prepared |
| MSC1300 | Unsweetened Flavored Milk Beverage Powder without Non-fat Dry Milk | Unsweetened | Count at the component /ingredient level. Milk tracks to milk, cocoa powder gives indication of the number of cups of cocoa. | 1 cup prepared |
| MSC1200 | Sugar Substitute | 1. Aspartame<br><br>2. Saccharin | | Amount that is equivalent to one reference amount for sugar in sweetness |

## Spices, Dried Herbs, Salt and Vitamin/Mineral Supplements

| Subgroup Name | Includes/Examples | Excludes/ Examples | Serving Size |
|---|---|---|---|
| Recipe Ingredients | 1. Vanilla extract<br>2. Spices | | Do Not Count |
| Commercial Ingredients | 1. Starch<br>2. Whey protein concentrate | | Do Not Count |
| Supplement | | | Do Not Count |
| Drug | | | Do Not Count |

## Reassigning NCC Food Group Serving Count System Subgroups

NDSR automatically assigns food subgroups at the component/ingredient level to any User Recipe or Assembled Food or Recipe entered by the user. If you choose to count the item as a whole food, you may reassign the subgroup on the **Food Detail** window. The appropriate counting method and selection of the food subgroup for the User Recipe or Assembled Food or Recipe may be based on:

- The inclusion/exclusion information for existing subgroups
- The type of food (e.g., mixed dishes are counted at the component/ingredient level, whereas muffins are counted at the whole food level (assigned to a single subgroup), by the NCC Food Group Serving Count System)
- Comparison to assignments for similar NDSR foods (see the Foods 2022 File)
- Study protocol

The following steps describe how to assign the NCC Food Group Serving Count System subgroup to a User Recipe or Assembled Food or Recipe.

1. After you have entered all of the ingredients for a User Recipe or Assembled Food or Recipe you will receive a **Food Detail** window. NDSR inserts the cursor in the `Servings made:` field on the **Item Detail** pane.
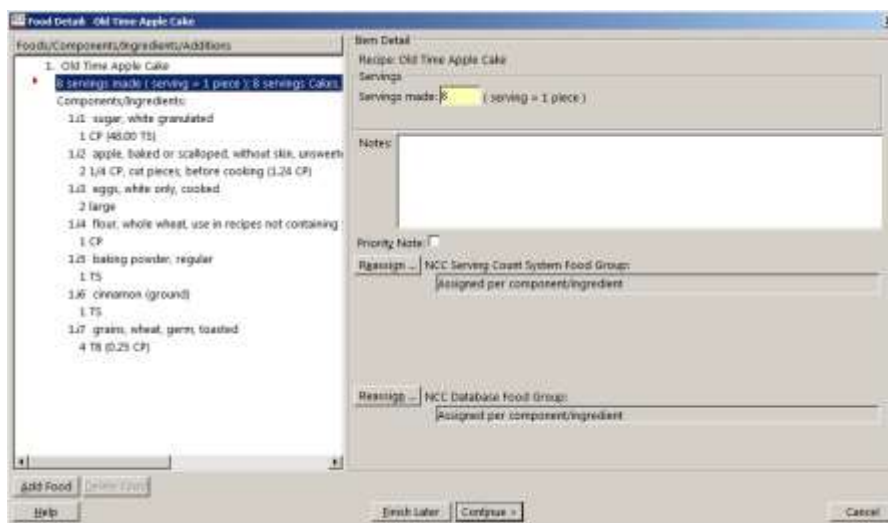


2. Type the total number of servings the recipe makes. Type any notes about the recipe in the `Notes:` field. Up to 600 characters entered into the **Food Detail** `Notes:` field will appear in the **Foods Report**, the Food Output File and the Component/Ingredient Output File. To designate that a note needs to be reviewed, select the **PRIORITY NOTE** checkbox.

3. To reassign the counting method, select the **REASSIGN** button on the **Item Detail** pane to view the main food groups. Select a food group.
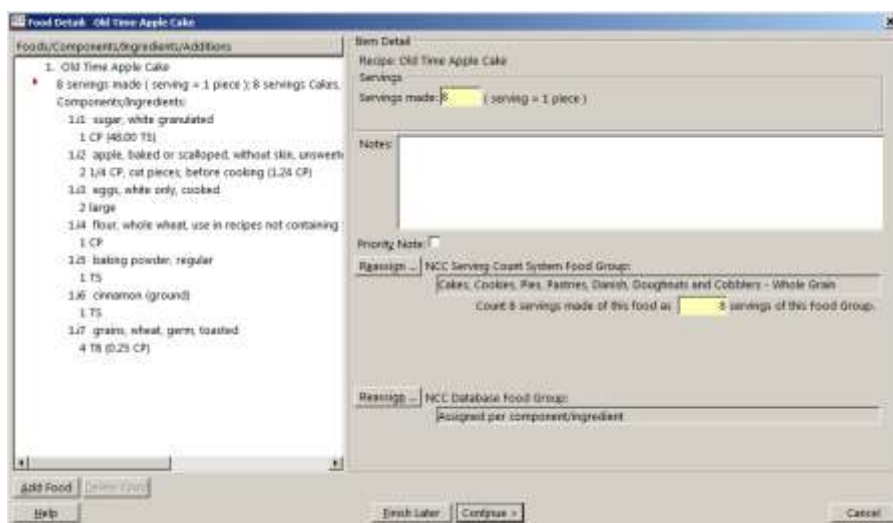


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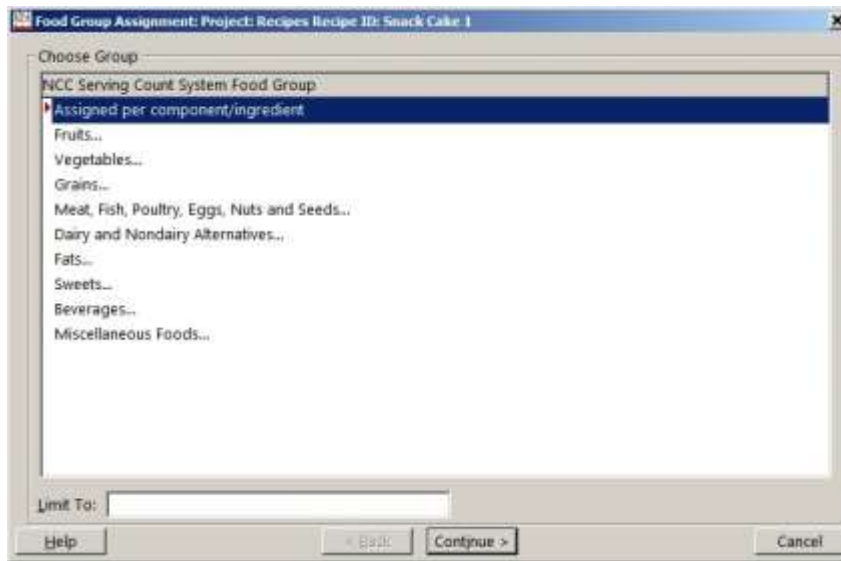
**NOTE:** NDSR has assigned all User Recipes and Assembled Foods or Recipes to **NCC Serving Count System Food Group** per component/ingredient.

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4. Select the subgroup.
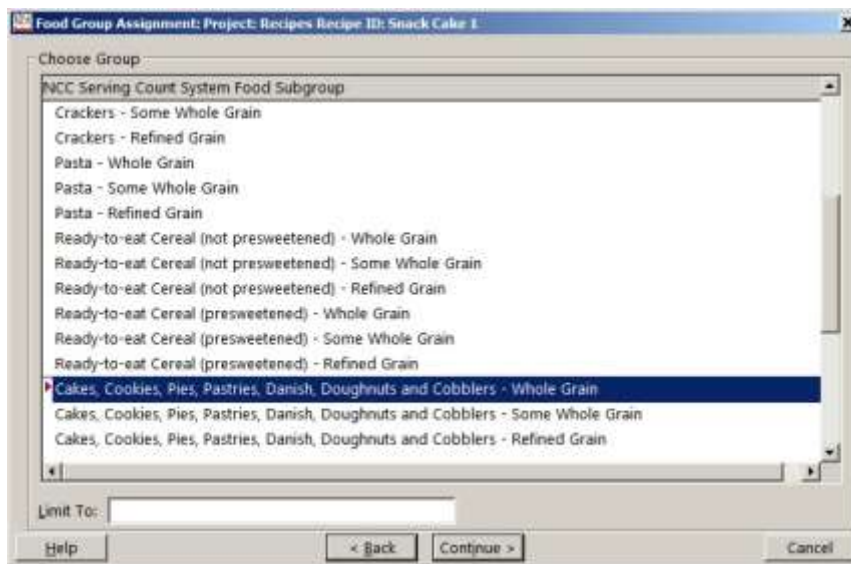


5. Enter the number of servings to be counted based on serving size information for foods within the subgroup.

6.  Select the **CONTINUE**> button.

# The Serving Count 2022 File

The Serving Count 2022 File includes the names and subgroup codes for the 174 food subgroups in the NCC Food Group Serving Count System. Aggregation of subgroups may be accomplished by selecting and summing subgroups (e.g., selected vegetable subgroups summed as a total vegetable group). Use of subgroup names and codes (available in the Serving Count 2022 File and appearing in the spreadsheet column headers for Output Files 07-11) may provide ease in selection and aggregation of the numerous subgroups while facilitating data analysis. Careful review of all subgroups and associated codes is recommended before aggregation.

# NCC Food Group Serving Count System Subgroup Codes

There are 174 subgroup codes. The subgroup code identifies the main group and subgroup per the following:

FRU = fruit

VEG = vegetables

GR = grains; GRW = whole grains; GRS = some whole grain; GRR = refined grains

M = meat; MR = red meat; MC = cured meat; MP = poultry; MF = fish; MS = shellfish; MC = cold cuts; MO = other meats. The last alpha character in the code designates when the meat is full fat (F) or lean (L).

D = dairy; DM= milk; DC = cheese; DY = yogurt; DOT = other dairy. The last alpha character in the code designates if the dairy product is full fat (F), reduced fat (R), or low fat or fat free (L).

F = fats; FC = cream; FM = margarine; FA = animal fat; FD = salad dressing; FMC = miscellaneous (potato chips, fried pork rinds)

SWT = sweets

BV = beverages; BVU = unsweetened; BVS = sweetened; BVA = artificially sweetened; BVE = alcohol

MSC = miscellaneous foods

The default location for Windows 10 installations for the Serving Count 2022 File is located: `C:\Users\Public\Public Documents\NCC\NDSR 2022\Additional Files\Database Documentation\Servingcount2022.txt`. For more information refer to "*Appendix 18, Additional Files*".

# The USDA Food Patterns Equivalents Grain Variables

Total, whole, and refined grains in ounce equivalents are available in Output Files 01-06. It is important to note, however, that USDA Food Pattern Equivalent grain variables (total, whole, and, refined grains) will not be calculated for data collected from versions prior to NDSR 2013. If older data is rerun, the new grain per ounce equivalent categories will be in the output files, but data will be missing or blank for these variables. These variables may be useful to those interested in comprehensively and precisely quantifying grain intake by type (whole and refined) and overall (total). The approach used to classify grains and calculate ounce equivalents was modeled after the USDA Food Patterns Equivalents Database (FPED). By using this approach the amounts of both whole and refined grains in a food product are taken into account so that products containing a combination of these ingredients contribute to ounce equivalents of each type of grain. For example, a slice of multigrain bread containing equal parts of whole and refined grain ingredients would be counted as providing both whole grain and refined grain equivalents. A more detailed description of each grain variables follows:

**Total grains in ounce equivalents**
Total grains are defined as the total amount of grains (both whole and refined grains) in ounce equivalents.

**Whole grains in ounce equivalents**
Grains defined as whole grains are those that contain the entire grain kernel- the bran, germ, and endosperm (see listing in chart that follows).

**Refined grains in ounce equivalents**
Grains that do not contain all of the components of the entire grain kernel are defined as refined grains (see listing in chart that follows).

| GRAIN | Whole grain ingredients | Refined grain ingredients |
|---|---|---|
| Amaranth | Amaranth | |
| Barley | Barley malt | Barley |
| | Dehulled barley | Barley bits |
| | Flaked barley | Barley flakes |
| | Hulled barley | Barley flour |
| | Malt barley | Barley germ |
| | Malted barley flour | Barley grits |
| | Sprouted barley flour | Milled barley |
| | Whole barley | Pearled barley |
| | Whole grain barley flour | |

| GRAIN | Whole grain ingredients | Refined grain ingredients |
|---|---|---|
| Buckwheat | Buckwheat groats<br><br>Buckwheat flour (whole groats) | Buckwheat flour (refined) |
| Corn | Corn<br><br>Masa harina<br><br>Whole corn<br><br>Whole corn flour<br><br>Whole grain corn meal | Corn bran<br><br>Corn flour<br><br>Corn grits<br><br>Corn masa<br><br>Corn meal<br><br>Degermed cornmeal |
| Millet | Millet | |
| Oats | Cracked oats<br><br>Oat flour<br><br>Oatmeal<br><br>Oats<br><br>Rolled oats<br><br>Steel cut oats<br><br>Whole oat flour | Oat bran<br><br>Oat fiber |
| Popcorn | Popcorn | |
| Rice | Brown rice<br><br>Brown rice flour<br><br>Brown rice meal | Rice bran<br><br>Rice flour<br><br>White rice |
| Rye | Dark rye flour<br><br>Rolled rye<br><br>Rye berries<br><br>Rye flakes<br><br>Rye kernels<br><br>Whole grain rye flour<br><br>Whole rolled rye meal<br><br>Whole rye meal<br><br>Whole rye flour | Cracked rye<br><br>Dark rye meal<br><br>Ground rye<br><br>Rye<br><br>Rye flour<br><br>Rye meal<br><br>White rye flour |
| Sorghum | Whole sorghum | |
| Spelt | Spelt | |
| Teff | Teff | |
| Triticale | Whole grain triticale | Triticale flour |
| Quinoa | Quinoa | |

| GRAIN | Whole grain ingredients | Refined grain ingredients |
|---|---|---|
| Wheat | Bulgur<br><br>Cracked wheat<br><br>Crushed wheat<br><br>Flaked wheat<br><br>Graham flour<br><br>Rolled wheat<br><br>Rolled whole wheat<br><br>Stone ground whole wheat flour<br><br>Wheat berries<br><br>Wheat kernels<br><br>Whole wheat flour | Wheat bran<br><br>Wheat fiber<br><br>Wheat flour – all types (bread, cake, all – purpose, enriched, unenriched, unbleached, high gluten)<br><br>Wheat germ<br><br>Wheat gluten<br><br>Wheat nuggets<br><br>Whole wheat bran |
| Wild rice | Wild rice<br><br>Wild rice flour | |

Two approaches were used to calculate ounce grain equivalents:

1. For most foods containing grain flours (e.g., breads, bagels, cakes, ready-to-eat cereals, cookies, crackers), 16 grams of flour was used as the basis for defining one ounce grain equivalent. The rationale for this approach is that one standard slice of bread, which has been defined as equal to one ounce grain equivalent, contains 16 grams of flour.
2. For foods such as oatmeal, pasta, and rice, the amount required to make ½ cup cooked was used as the basis for defining one ounce grain equivalent.

# The NCC Database Food Group File 2022

Historically, existing NCC Database Food Group categories and member foods within those categories served as a starting point for researcher-initiated food group analysis. NCC Database Food Group IDs are assigned to all NDSR foods and appear in Output Files 01-02. They have been used in conjunction with the FDA serving size or other serving size as was determined by the individual researcher.

With the availability of the automated NCC Food Group Serving Count System, the NCC Database Food Groups can remain useful in identifying hypothesis-based subgroups that are beyond the scope of the NCC Food Group Serving Count System. For example, the NCC Food Group Serving System aggregates grain-based desserts. If a further interest in the types of grain-based desserts is indicated, NCC Database Food Group Identifiers allow for sub-classification based on the type of desserts (e.g., cake, pie, cookies, doughnuts).

The NCC Database Food Group File 2022 (`nccdbfg2022.txt`) is based on general categories of foods and includes the following information:

- **NCC Database Food Group ID**
  This number is also listed in the output file. It is a unique identifier that will not change in the future. Use this number to link the food group file to output files.
- **Category**
  In NDSR there are 16 general food group categories all of which have member categories. For example, **Meat, fish, and poultry** is category 1. **Shellfish** is member category 21 and belongs to category 1.
- **Name**
  This text identifies the name of the NCC food group category.
- **NCC Food Group Code**
  This six-digit number correlates with the food group code of the DOS- based NDS version 2.x series. It may change in the future if a category is expanded.
- **Food Group Level**
  There are two levels of categories for food groups.

A list of all NCC foods and their associated NCC Database Food Group IDs is available in the default location for Windows 10 installations, the Foods 2022 file is located at:
`C:\Users\Public\Public Documents\NCC\NDSR 2022\Additional Files\Database Documentation\foods2022.txt`.

## Considerations for use of the NCC Database Food Groups
- Whole foods are listed in the Food File (Output File 02). In NDSR a whole food is any food that has a Food ID. Ingredients in User Recipes, ingredients in Assembled Foods or Recipes, and additions to a food are considered whole foods. The Component/Ingredient File (Output File 01) provides the ingredients for most whole foods. Some foods do not display ingredients due to their status as a database core food (e.g., white bread, for proprietary reasons or for lack of ingredient-specific data).
- The gram weights in the Component/Ingredient File should not be used to obtain the gram weight for a whole food if the food is a recipe or formula that will experience weight change due to cooking or processing. Rather, use the gram weight provided in the Food File. Note that the gram weight in the Food File does not include the weight of the preparation ingredients such as fat, salt, marinade, and breading for meat. Also, for foods entered with the NDSR default "with frosting or glaze", the gram weight in the Food File does not include the weight of the frosting.

- The FDA serving size listed in the Component/Ingredient File represents the FDA serving size for the ingredient food rather than for the proportion of the whole food to which it belongs. In the Food File, the FDA serving size represents the serving size for the whole food (e.g., lasagna).
- NCC Database Food Groups have been assigned to all NDSR foods and ingredients. For a listing see `Foods2022.txt` for Windows 10 installations, the Foods 2022 file is located at: `C:\Users\Public\Public Documents\NCC\NDSR 2022\Additional Files\Database Documentation\foods2022.txt`.

## Reassigning NCC Database Food Group IDs

NDSR automatically assigns NCC Database Food Group IDs at the component/ingredient level to any User Recipe or Assembled Food or Recipe entered by the user. If you choose to count the item as a whole food, you may reassign the group on the **Food Detail** window. The appropriate selection of the food group for the User Recipe or Assembled Food or Recipe may be based on:

- The type of food level
- Comparison to assignments for similar NDSR foods (see the Foods 2022 File)
- Study protocol

The following steps describe how to assign the NCC Database Food Group to a User Recipe or Assembled Food or Recipe.

1. After you have entered all of the ingredients for a User Recipe or Assembled Food or Recipe you will receive a **Food Detail** window. NDSR inserts the cursor in the `Servings made:` field on the **Item Detail** pane.
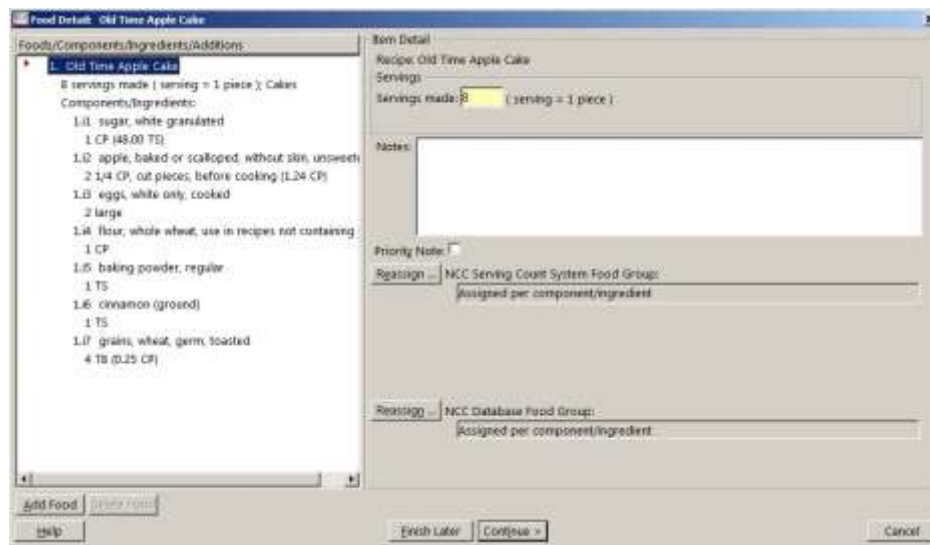


2. Type the total number of servings the recipe makes. Type any notes about the recipe in the `Notes:` field. Up to 600 characters entered into the **Food Detail** `Notes:` field will appear in the **Foods Report,** the Component/Ingredient Output File, and the Food Output File.

3.  To reassign the counting method, select the **REASSIGN** button on the **Item Detail** pane to view the main food groups. Select a food group.



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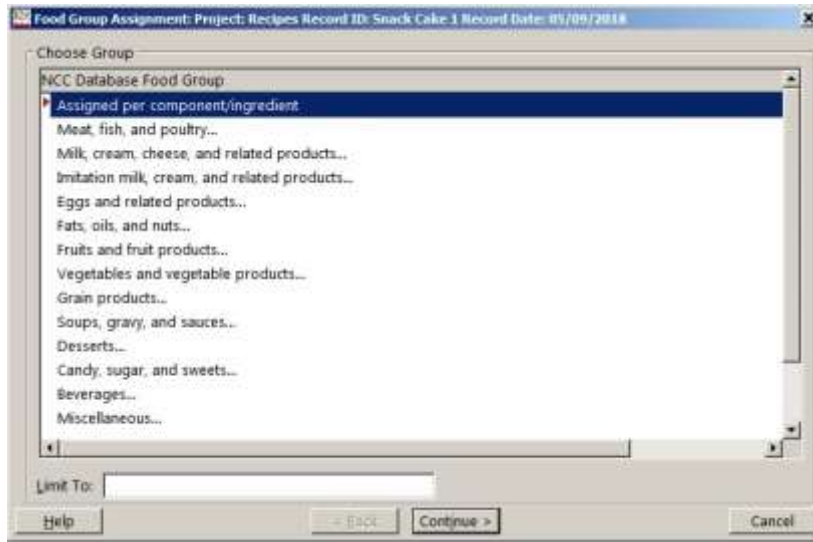
**NOTE:**   NDSR has assigned all User Recipes and Assembled Foods or Recipes to **NCC Database Food Group** per component/ingredient.

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4.  Select the subgroup.
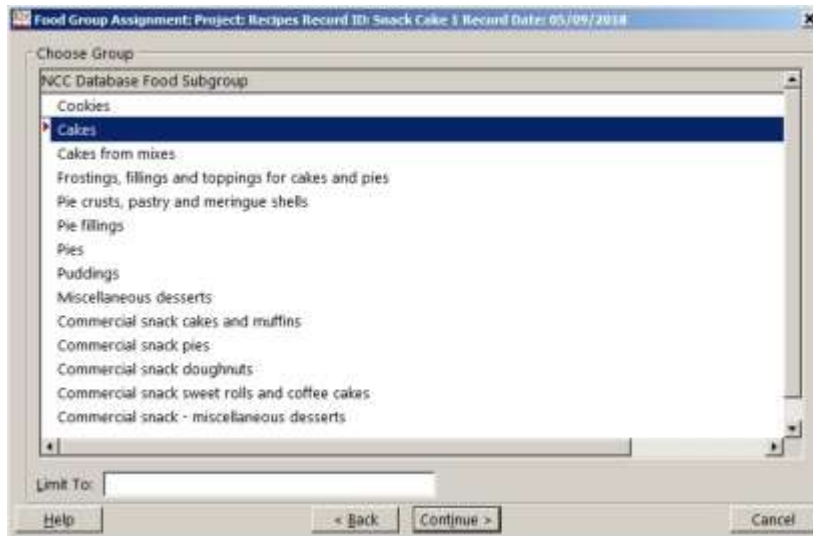


5.  Select the **CONTINUE**> button.

# The Modified USDA Food Coding File 2022

The Modified USDA Food Coding File 2022 is based on the USDA Food Coding Scheme.  This file differs from the NCC Database Food Group File in that it has a more extensive list of member categories and sub-categories that may further facilitate food grouping.

The following information is available in the Modified USDA Food Coding File for Windows 10 installations, the Modified USDA Food Coding File 2022 is located at:
`C:\Users\Public\Public Documents\NCC\NDSR 2022\Additional Files\Database Documentation\USDAfg2022.txt`.

- **USDA Food Group Code**
  This number is not listed in the output file.  Use the `Foods2022.txt` File to link Modified USDA Food Group Codes to NCC Food IDs in the output files.
- **Category**
  In the Modified USDA file there are 10 general food group categories including one category of NCC Additions.
- **Name**
  The text identifies the name of the Food Group.
- **Food Group Level**
  There are three levels of categories for food groups.

# The Additional Files Folder

The following files further facilitate various approaches to food grouping.

`Dsam2022.txt`
- A complete listing of the DSAM Supplement IDs with associated product name.  Includes columns to indicate serving size, serving unit, addition serving information, and product type.

`Foods2022.txt`
- A complete listing of NCC Food IDs with associated food descriptions (sorted by description).  Includes columns to indicate deactivated and unknown default foods, FDA serving sizes in grams, and information linking NCC Food IDs to three different food grouping methods.  This file provides Food Group IDs and descriptions for the NCC Database Food Group File, Food Group Codes, and descriptions for the Modified USDA Food Group File and Subgroup Codes, descriptions, counting methods, and serving size assignments for the NCC Food Group Serving Count System.

`Nccdbfg2022.txt`
- Includes NCC Database Food Group IDs that appear in Output Files 01 and 02, categories, names, and food group levels of member (M) and category (C).

`Preps2022.txt`
- A list of the preparation IDs that may appear in the Foods Output File (File 02) and descriptions sorted by description.  Includes a column indicating deactivated preparation codes.

`Servingcount2022.txt`
- A list of the 174 subgroups of the NCC Food Group Serving Count System found in Output Files 07-11.   Includes codes, subgroup descriptions, and levels of member (M) and category (C).

`USDAfg2022.txt`
- Includes name and USDA Food Group IDs at member (M), subcategory (S), and category (C) levels and a column indicating food group level.