

Appendix 10

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 2023 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 **Foods2023.txt** found in the Additional Files Folder (discussed in Appendix 18). For Windows 10 installations, the Foods 2023 File is located at: C:\Users\Public\Public Documents\NCC\NDSR 2023\Additional Files\Database Documentation\Foods2023.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) 2. Frozen concentrate	1. Drinks with < 100% juice 2. Fruit juice bars are not 100% juice	4 fluid ounces
FRU0200	Fruit Juice excluding Citrus Juice	1. 100% juice (sweetened or unsweetened) 2. Frozen concentrate	1. Drinks with < 100% juice 2. Cranberry drinks are not 100% juice 3. Fruit juice bars are not 100% juice 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) 2. Citrus fruit in recipes (e.g., salads, Jell-O)	1. Fruits other than citrus fruits 2. Jam, jelly, marmalade	1. Fresh, frozen, canned, or cooked = ½ cup chopped or default form 2. 1 medium piece when appropriate (e.g., 1 medium orange) 3. ½ fresh grapefruit 4. Dried = ¼ cup

Subgroup ID Code	Subgroup Name	Includes/Examples	Excludes/Examples	Serving Size
FRU0400	Fruit excluding Citrus Fruit	<ol style="list-style-type: none"> 1. Fresh, frozen, cooked, canned, and dried 2. Fruit in recipes (e.g., salads, Jell-O, caramel apple) 3. Fruit relish or salsa 4. Fruit in cereal if actual fruit pieces (e.g., raisins) 	<ol style="list-style-type: none"> 1. Citrus fruits (e.g., oranges, grapefruit, tangerines, lemons) 2. Fruit in: Baked goods, desserts, pies; Trail mix; Candy (e.g., chocolate covered raisins); Granola bars; Ice cream 3. Maraschino cherries 4. Fruit leather or fruit roll-ups 5. Jam, jelly, marmalade 6. Fruit relishes if “pickled” 	<ol style="list-style-type: none"> 1. Fresh, frozen, canned, or cooked = ½ cup chopped or default form 2. 1 medium piece when appropriate (e.g., 1 medium banana) 3. Dried = ¼ cup
FRU0500	Avocado and Similar			½ cup chopped or default form
FRU0600	Fried Fruits	<ol style="list-style-type: none"> 1. Fried bananas 2. Fried apples 		½ cup chopped or default form
FRU0700	Fruit-based Savory Snack	<ol style="list-style-type: none"> 1. Apple chips 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	<ol style="list-style-type: none"> 1. Raw, cooked, and canned 2. Dark-green vegetables (e.g., broccoli, spinach, romaine, collards) 3. Vegetable in recipes (e.g., stew, soup) 	Fried and/or breaded vegetables (e.g., breaded broccoli)	<ol style="list-style-type: none"> 1. Raw, cooked, or canned = ½ cup chopped or default form 2. Raw leafy vegetables = 1 cup

Subgroup ID Code	Subgroup Name	Includes/Examples	Excludes/Examples	Serving Size
VEG0200	Deep-yellow Vegetables	<ol style="list-style-type: none"> 1. Raw, cooked, and canned 2. Deep-yellow vegetables (e.g., carrots, pumpkin, sweet potatoes, winter squash) 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	<ol style="list-style-type: none"> 1. Raw, cooked and canned tomato 2. Salsa 3. Tomato sauce 4. Spaghetti sauce 5. Tomato-based sauce 6. Tomato puree 7. Tomato paste 8. Tomato in recipes (e.g., stew, soup) 	<ol style="list-style-type: none"> 1. Catsup 2. Steak sauce 3. Cocktail sauce 	<ol style="list-style-type: none"> 1. ½ cup chopped or default form 2. Tomato sauce = ½ cup 3. Tomato puree = ¼ cup 4. Tomato paste = ¼ cup
VEG0400	White Potatoes	<ol style="list-style-type: none"> 1. Baked, boiled, and canned white potatoes 2. Potatoes in recipes (e.g., salad, stew, or soup) 		<ol style="list-style-type: none"> 1. ½ cup chopped or default form 2. 1 medium baked potato
VEG0800	Fried Potatoes	<ol style="list-style-type: none"> 1. French fries 2. Hash browns 3. Pan fried potatoes 4. Potato tots 	Potato chips	<ol style="list-style-type: none"> 1. ½ cup chopped or default form 2. French fries = 70g
VEG0450	Other Starchy Vegetables	<ol style="list-style-type: none"> 1. Raw, cooked, and canned 2. Starchy vegetables (e.g., cassava, corn, green peas, jicama) 3. Vegetable in recipes (e.g., stew, soup) 4. Vegetables with a starch value \geq peas 	<ol style="list-style-type: none"> 1. Fried and/or breaded vegetables 2. Mixed vegetables with a starchy vegetable 	<ol style="list-style-type: none"> 1. Raw, cooked, or canned = ½ cup chopped or default form 2. Raw leafy vegetables = 1 cup

Subgroup ID Code	Subgroup Name	Includes/Examples	Excludes/Examples	Serving Size
VEG0700	Legumes (cooked dried beans)	<ol style="list-style-type: none"> 1. Dried beans 2. Mature lima beans 3. Refried beans 4. Beans in sauce (e.g., pork and beans) 5. Beans in recipes (e.g., stew, soup) 	<ol style="list-style-type: none"> 1. Soy-based desserts (e.g., Tofutti) 2. TVP, products with TVP (e.g., veggie burgers, meat with TVP) 3. Soy nuts 4. Tofu 5. Tempeh 	<ol style="list-style-type: none"> 1. Cooked dry beans = ½ cup 2. Refried beans = ½ cup 3. Beans in sauce = ½ cup
VEG0600	Other Vegetables	<ol style="list-style-type: none"> 1. Raw, cooked and canned 2. Vegetable in recipes (e.g., stew, soup) 3. Vegetable relishes if like salsa 4. Mixed vegetables from other categories (e.g., peas and carrots; corn, peas, lima beans) 	<ol style="list-style-type: none"> 1. Olives 2. Pickles and pickled vegetables (e.g., sauerkraut) 	<ol style="list-style-type: none"> 1. Raw, cooked, or canned = ½ cup chopped or default form 2. Raw leafy vegetables = 1 cup
VEG0900	Fried Vegetables	<ol style="list-style-type: none"> 1. Fried and/or breaded vegetables (e.g., breaded broccoli, mushrooms, eggplant) 2. Onion rings 		½ cup chopped or default form
VEG0500	Vegetable Juice	<ol style="list-style-type: none"> 1. 100% juice 2. Frozen concentrates 	<ol style="list-style-type: none"> 1. Drinks with < 100% juice 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 2. Flour or cornmeal = 16g 3. Bran or wheat germ = 16g 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 2. Flour or cornmeal = 16 g 3. Bran or wheat germ = 16g 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 2. Flour or cornmeal = 16g 3. Bran or wheat germ = 16g 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) 2. Hamburger bun = ½ medium 3. Bagel = ½ small 4. English muffin = ½ medium 5. Roll = 1 small 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) 2. Hamburger bun = ½ medium 3. Bagel = ½ small 4. English muffin = ½ medium 5. Roll = 1 small 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) 2. Hamburger bun = ½ medium 3. Bagel = ½ small 4. English muffin = ½ medium 5. Roll = 1 small 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 2. French toast, pancake, waffle, biscuit = 38g 3. Cornbread, popovers, Yorkshire pudding = 45g 4. Croissant = 1 ounce 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 2. French toast, pancake, waffle, biscuit = 38g 3. Cornbread, popovers, Yorkshire pudding = 45g 4. Croissant = 1 ounce 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 2. French toast, pancake, waffle, biscuit = 38g 3. Cornbread, popovers, Yorkshire pudding = 45g 4. Croissant = 1 ounce 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 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

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

GRAIN	Category A Whole grain ingredients	Category B Refined grain ingredients	Comment/Issues
Corn	Corn Masa harina Whole corn Whole corn flour Whole grain corn meal	Corn bran Corn flour Corn grits Corn masa Corn meal Degermed cornmeal	
Millet	Millet		
Oats	Cracked oats Oat flour Oatmeal Oats Rolled oats Steel cut oats Whole oat flour	Oat bran Oat fiber	
Popcorn	Popcorn		
Rice	Brown rice Brown rice flour Brown rice meal	Rice bran Rice flour White rice	
Rye	Dark rye flour Rolled rye Rye berries Rye flakes Rye kernels Whole grain rye flour Whole rolled rye meal Whole rye flour Whole rye meal	Cracked rye Dark rye meal Ground rye Rye Rye flour Rye meal 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	Category B	Comment/Issues
	Whole grain ingredients	Refined grain ingredients	
Wheat	Bulgur Cracked wheat Crushed wheat Flaked wheat Graham flour Rolled wheat Rolled whole wheat Stone ground whole wheat flour Wheat berries Wheat kernels Whole wheat flour	Wheat bran Wheat fiber Wheat flour – all types (bread, cake, all – purpose, enriched, unenriched, unbleached, high gluten) Wheat germ Wheat gluten Wheat nuggets Whole wheat bran	
Wild rice	Wild rice 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 2. Evaporated = ½ cup 3. Dry = 1 cup prepared
DMR0100	Milk - Reduced Fat	2%		1. Fluid = 1 cup 2. Evaporated = ½ cup 3. Dry = 1 cup prepared
DML0100	Milk - Low Fat and Fat Free	1. 1% 2. Skim 3. Nonfat dry milk		1. Fluid = 1 cup 2. Evaporated = ½ cup 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 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% 2. Skim 3. Nonfat dry milk		1 cup
DML0300	Sweetened Flavored Milk Beverage Powder with Non-fat Dry Milk	1. Cocoa packets 2. Combination of sugar and artificial sweeteners 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 2. With only sugar alcohols (no sugar) 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%) 2. Regular cottage cheese (4%) 3. Cheese powder for macaroni and cheese		1. 1 ½ ounces natural 2. 2 ounces process 3. 2 cups cottage 4. 3 cups dry curd 5. ½ cup ricotta 6. 2 ounces cheese spread or food

Subgroup ID Code	Subgroup Name	Includes/ Examples	Excludes/ Examples	Serving Size
DCR0100	Cheese - Reduced Fat	<ol style="list-style-type: none"> 1. Natural and processed (8-16%) 2. Part skim mozzarella 3. 2% cottage cheese 		<ol style="list-style-type: none"> 1. 1 ½ ounces natural 2. 2 ounces process 3. 2 cups cottage 4. 3 cups dry curd 5. ½ cup ricotta 6. 2 ounces cheese spread or food
DCL0100	Cheese - Low Fat and Fat Free	<ol style="list-style-type: none"> Skim - 1% 		<ol style="list-style-type: none"> 1. 1 ½ ounces natural 2. 2 ounces process 3. 2 cups cottage 4. 3 cups dry curd 5. ½ cup ricotta 6. 2 ounces cheese spread or food
DCN0100	Cheese – Non-dairy	<ol style="list-style-type: none"> Soy, rice, grain based 		<ol style="list-style-type: none"> 1. 1 ½ ounces natural 2. 2 ounces process 3. 2 cups cottage 4. 3 cups dry curd 5. ½ cup ricotta 6. 2 ounces cheese spread or food
DYF0100	Yogurt – Sweetened Whole Milk	<ol style="list-style-type: none"> 1. 3-4% fat 2. Combination of sugar and artificial sweeteners 3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		1 cup
DYR0100	Yogurt - Sweetened Low Fat	<ol style="list-style-type: none"> 1. 1-2% fat 2. Combination of sugar and artificial sweeteners 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	<ol style="list-style-type: none"> 1. <1% fat 2. Combination of sugar and artificial sweeteners 3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		1 cup
DYF0200	Yogurt - Artificially Sweetened Whole Milk	<ol style="list-style-type: none"> 1. 3-4% fat 2. No sugar added 3. Sugar free 4. With only sugar alcohols (no sugar) 5. With non-nutritive sweeteners (e.g., Stevia) 		1 cup
DYR0200	Yogurt - Artificially Sweetened Low Fat	<ol style="list-style-type: none"> 1. 1-2% fat 2. No sugar added 3. Sugar free 4. With only sugar alcohols (no sugar) 5. With non-nutritive sweeteners (e.g., Stevia) 		1 cup
DYL0200	Yogurt - Artificially Sweetened Fat Free	<ol style="list-style-type: none"> 1. < 1% fat 2. No sugar added 3. Sugar free 4. With only sugar alcohols (no sugar) 5. With non-nutritive sweeteners (e.g., Stevia) 		1 cup
DYF0300	Yogurt - Unsweetened Whole Milk	<ol style="list-style-type: none"> 1. 3-4% fat 2. Plain 3. Unsweetened 		1 cup
DYR0300	Yogurt - Unsweetened Low Fat	<ol style="list-style-type: none"> 1. 1-2% fat 2. Plain 3. Unsweetened 		1 cup

Subgroup ID Code	Subgroup Name	Includes/ Examples	Excludes/ Examples	Serving Size
DYL0300	Yogurt - Unsweetened Fat Free	1. <1% fat 2. Plain 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) 2. Sugar sweetened and artificially sweetened		1. ½ cup “ice cream” 2. 85g treats 3. 1 cup shakes
DOT0200	Frozen Non-dairy Dessert	1. Fruit juice bars 2. Tofutti 3. Popsicle		1. ½ cup “ice cream” 2. 85g treats 3. 1 cup shakes
DOT0300	Pudding and Other Dairy Dessert	Sweetened condensed milk		1. Pudding = 1 cup 2. Sweetened condensed milk = ⅓ cup
DOT0400	Artificially Sweetened Pudding and Other Dairy Dessert	1. Sugar free 2. With only sugar alcohols (no sugar) 3. With non-nutritive sweeteners (e.g., Stevia)		1. Pudding = 1 cup 2. Sweetened condensed milk = ⅓ cup
DOT0500	Dairy-based Sweetened Meal Replacement/ Supplement	1. Sweet meal replacement drinks 2. Sweet nutritional drinks 3. Sweet supplement drinks 4. Combination of sugar and artificial sweeteners 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	<ol style="list-style-type: none"> 1. Artificially sweetened meal replacement drinks 2. Artificially sweetened nutritional drinks 3. Artificially sweetened supplement drinks 4. Sugar free 5. With only sugar alcohols (no sugar) 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	<ol style="list-style-type: none"> 1. Unsweetened meal replacement drinks 2. Unsweetened nutritional drinks 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 2. 2 large egg whites 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 2. Tofu 3. Tempeh 4. TVP 5. Soynuts		1. Soy nuts = ½ ounce 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 2. Lard, whale blubber 3. Honey butter		1 TS
FAR0100	Butter and Other Animal Fats - Reduced Fat	1. Butter/margarine blends 2. Honey butter		1 TS
FDF0100	Salad Dressing - Regular	Poured dressing, mayonnaise and mayonnaise type dressing		1. Salad dressing = 30g 2. Mayonnaise = 15g
FDR0100	Salad Dressing - Reduced Fat/Reduced Calorie/Fat Free	Typically dressings < 25% fat		1. Salad dressing = 30g 2. Mayonnaise = 15g
FMC0100	Vegetable-based Savory Snack	1. Potato chips 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%) 2. Regular whipping (31%) 3. Heavy whipping (37%) 4. Regular sour cream		1. Cream liquid = 1 TB 2. Cream powder = 2g 3. ½ & ½ = 2 TB 4. Sour cream = 30g
FCR0100	Cream - Reduced Fat	1. Half and half (10-12%) 2. Sour half and half 3. Reduced fat sour cream		1. Cream liquid = 1 TB 2. Cream powder = 2g 3. ½ & ½ = 2 TB 4. Sour cream = 30g
FCL0100	Cream - Low Fat and Fat Free	1. Sour lean 2. Fat free sour cream		1. Cream liquid = 1 TB 2. Cream powder = 2g 3. ½ & ½ = 2 TB 4. Sour cream = 30g
FCN0100	Cream – Non-dairy	Soy, rice, grain based		1. Cream liquid = 1 TB 2. Cream powder = 2g 3. ½ & ½ = 2 TB 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 2. Powdered		1. Sugar = 4g 2. Powdered sugar = 30g
SWT0500	Syrup, Honey, Jam, Jelly, Preserves			1. Syrup as ingredient = 2 TB 2. Syrup all others = ¼ cup 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 2. "Regular" meaning sauce contains fat		2 TB
SWT0800	Sauces, Sweet - Reduced Fat/Reduced Calorie/Fat Free	1. Chocolate syrup 2. Sauces that are naturally "fat free" or contain little fat		2 TB
SWT0100	Chocolate Candy			1. Hard candies, breath mints = 2 g 2. Hard candies, roll-type, mini-size in dispenser packages = 5 g 3. Hard candies, others = 15 g 4. All other candies 40 g
SWT0200	Non-chocolate Candy	Gum drops		1. Hard candies, breath mints = 2 g 2. Hard candies, roll-type, mini-size in dispenser packages = 5 g 3. Hard candies, others = 15 g 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 2. Combination of sugar and artificial sweeteners 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	<ol style="list-style-type: none"> 1. Sweetened carbonated drink 2. Sweetened carbonated non-alcoholic wine 3. Combination of sugar and artificial sweeteners 4. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVA0400	Artificially Sweetened Soft Drinks	<ol style="list-style-type: none"> 1. Artificially sweetened carbonated drink 2. Artificially sweetened carbonated non-alcoholic wine 3. With only sugar alcohols (no sugar) 4. With non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVU0300	Unsweetened Soft Drinks	<ol style="list-style-type: none"> 1. Unsweetened carbonated drink 2. Unsweetened carbonated non-alcoholic wine 		8 fluid ounces

Subgroup ID Code	Subgroup Name	Includes/Examples	Excludes/Examples	Serving Size
BVS0300	Sweetened Fruit Drinks	<ol style="list-style-type: none"> 1. Sweetened non-carbonated drink 2. < 100% juice 3. Dry powder (e.g., Kool Aid) 4. Sweetened non-carbonated non-alcoholic wine 5. Combination of sugar and artificial sweeteners 6. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVA0300	Artificially Sweetened Fruit Drinks	<ol style="list-style-type: none"> 1. Artificially sweetened non-carbonated drink 2. < 100% juice 3. Dry powder (e.g., Kool Aid) 4. Artificially sweetened non-carbonated non-alcoholic wine 5. With only sugar alcohols (no sugar) 6. With non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVS0500	Sweetened Tea	<ol style="list-style-type: none"> 1. Dry powder 2. Combination of sugar and artificial sweeteners 3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVA0500	Artificially Sweetened Tea	<ol style="list-style-type: none"> 1. Dry powder 2. With only sugar alcohols (no sugar) 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	<ol style="list-style-type: none"> 1. Dry powder 2. Coffee flavored mixes 3. Combination of sugar and artificial sweeteners 4. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 	Coffee drinks	8 fluid ounces
BVA0100	Artificially Sweetened Coffee	<ol style="list-style-type: none"> 1. Dry powder 2. Coffee flavored mixes 3. With only sugar alcohols (no sugar) 4. With non-nutritive sweeteners (e.g., Stevia) 	Coffee drinks	8 fluid ounces
BVU0100	Unsweetened Coffee	<ol style="list-style-type: none"> 1. Dry powder 2. Coffee flavored mixes 	Coffee drinks	8 fluid ounces
BVS0200	Sweetened Coffee Substitutes	<ol style="list-style-type: none"> 1. Dry powder 2. Combination of sugar and artificial sweeteners 3. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVA0200	Artificially Sweetened Coffee Substitutes	<ol style="list-style-type: none"> 1. Dry powder 2. With only sugar alcohols (no sugar) 3. With non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVU0200	Unsweetened Coffee Substitutes	Dry powder		8 fluid ounces
BVS0600	Sweetened Water	<ol style="list-style-type: none"> 1. Combination of sugar and artificial sweeteners 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	<ol style="list-style-type: none"> 1. With only sugar alcohols (no sugar) 2. With non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVU0500	Unsweetened Water	Tap water	<ol style="list-style-type: none"> 1. Commercial water 2. Water lost in evaporation 	8 fluid ounces
BVS0700	Non-dairy Based Sweetened Meal Replacement/Supplement	<ol style="list-style-type: none"> 1. Sweet meal replacement drinks 2. Sweet nutritional drinks 3. Sweet supplement drinks 4. Sweet sports drinks 5. Sweet energy drinks 6. Dry powder 7. Combination of sugar and artificial sweeteners 8. Combination of sugar and non-nutritive sweeteners (e.g., Stevia) 		8 fluid ounces
BVA0700	Non-dairy Based Artificially Sweetened Meal Replacement/Supplement	<ol style="list-style-type: none"> 1. Artificially sweetened meal replacement drinks 2. Artificially sweetened nutritional drinks 3. Artificially sweetened supplement drinks 4. Artificially sweetened sports drinks 5. Artificially sweetened energy drinks 6. Dry powder 7. With only sugar alcohols (no sugar) 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 2. Unsweetened nutritional drinks 3. Unsweetened supplement drinks 4. Unsweetened sports drinks 5. Unsweetened energy water 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 2. Dessert wine = 3 fluid ounces 3. Saki = 3 fluid ounces 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 2. Spaghetti 3. Tahini 4. Tomato	1. BBQ, hollandaise, tartar sauce, etc. = 2 TB 2. Sauce used as toppings (white sauce, cheese sauce) = ¼ cup 3. Major condiments (catsup, steak sauce) = 1 TB 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 2. Sauces used as toppings (white sauce, cheese sauce) = ¼ cup 3. Major condiments (catsup, steak sauce) = 1 TB 4. Minor condiments (hot sauce, mustard) = 1 TS
MSC0500	Pickled Foods	1. Olives 2. Pickles 3. Pickle relish		1. Olives = 15 g 2. Pickles = 30 g 3. Relish = 15 g
MSC0600	Miscellaneous Dessert	Jell-O		
MSC0700	Non-grain Flour and Similar	1. Soy flour 2. Pea flour		Flour = 16 g
MSC0800	Soup Broth			245 g
MSC0900	Baby Food Dessert	1. Fruit and dairy mixtures 2. Puddings		½ cup

Subgroup ID Code	Subgroup Name	Includes/Examples	Excludes/Examples	Serving Size
MSC1000	Miscellaneous Baby Food Mixtures	<ol style="list-style-type: none"> 1. Fruit and grain mixtures 2. Fruit and other ingredients 3. Fruit, vegetable, and grain mixtures 4. Fruit, vegetable, and other ingredients 5. Multiple fruit & multiple vegetable mixtures (i.e. would need to assign more than two food groups) 6. Vegetable and dairy mixtures 7. Vegetable and grain mixtures 8. Vegetable and other ingredients 	Any mixture with meat	½ cup
MSC1100	Artificially Sweetened Flavored Milk Beverage Powder without Non-fat Dry Milk	<ol style="list-style-type: none"> 1. Sugar free 2. With only sugar alcohols (no sugar) 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	<ol style="list-style-type: none"> 1. Aspartame 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 2. Spices		Do Not Count
Commercial Ingredients	1. Starch 2. Whey protein concentrate		Do Not Count
Supplement			Do Not Count
Drug			Do Not Count

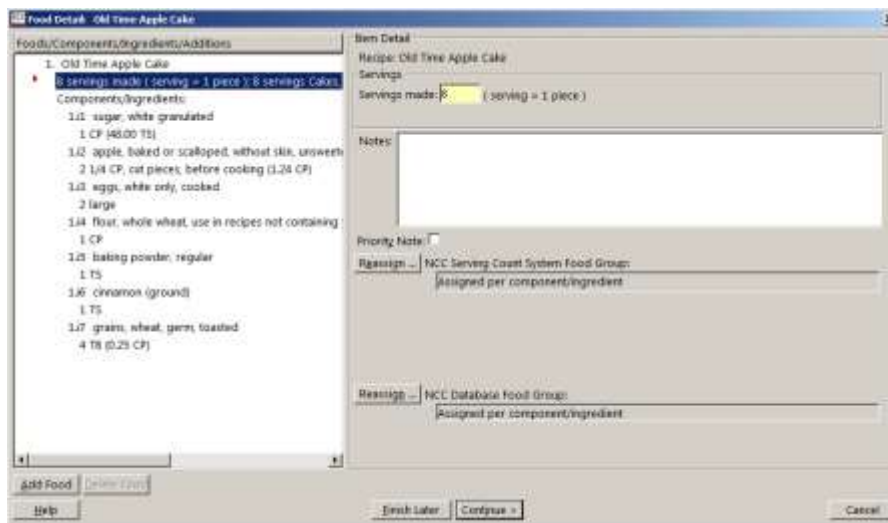
Reassigning NCC Food Group Serving Count System Subgroups

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 2023 File)
- Study protocol

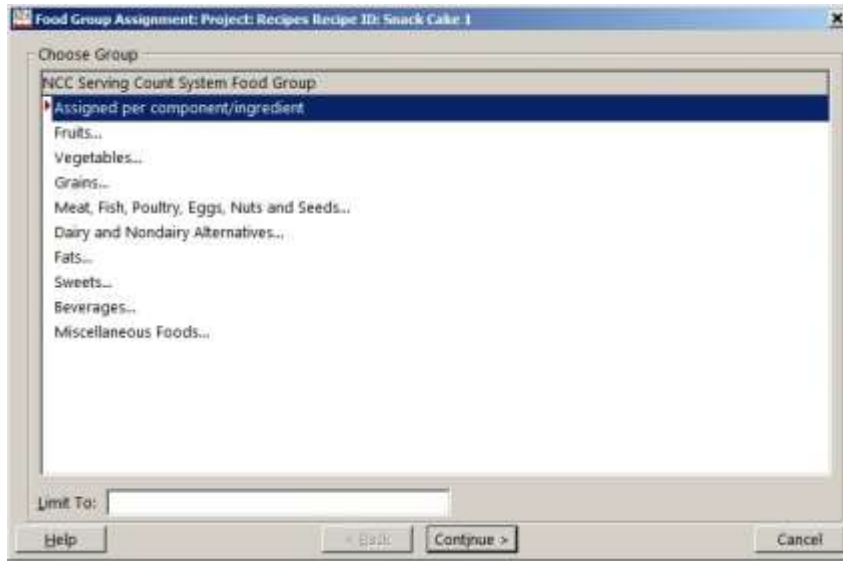
The following steps describe how to assign the NCC Food Group Serving Count System subgroup to a User Recipe or Assembled Food or Recipe.

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.



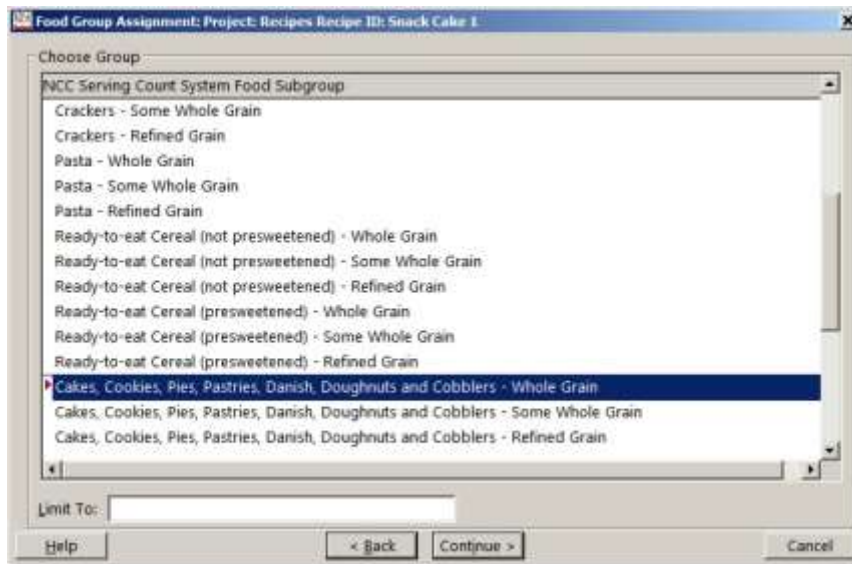
2. Type the total number of servings the recipe makes. Type any notes about the recipe in the **Notes:** field. Up to 600 characters entered into the **Food Detail Notes:** field will appear in the **Foods Report**, the Food Output File and the Component/Ingredient Output File. To designate that a note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

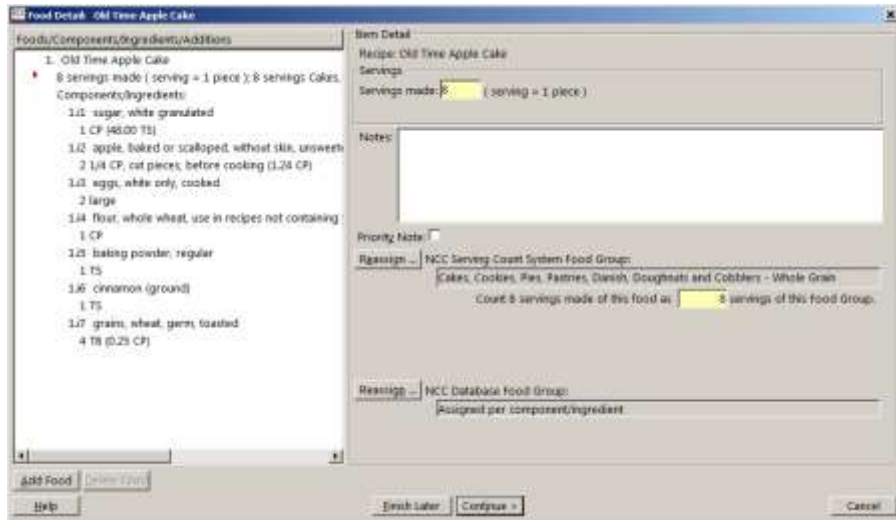


NOTE: NDSR has assigned all User Recipes and Assembled Foods or Recipes to **NCC Serving Count System Food Group** per component/ingredient.

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 2023 File

The Serving Count 2023 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 2023 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; ML = 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 2023 File is located: C:\Users\Public\Public Documents\NCC\NDSR 2023\Additional Files\Database Documentation\Servingcount2023.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 Dehulled barley Flaked barley Hulled barley Malt barley Malted barley flour Sprouted barley flour Whole barley Whole grain barley flour	Barley Barley bits Barley flakes Barley flour Barley germ Barley grits Milled barley Pearled barley

GRAIN	Whole grain ingredients	Refined grain ingredients
Buckwheat	Buckwheat groats Buckwheat flour (whole groats)	Buckwheat flour (refined)
Corn	Corn Masa harina Whole corn Whole corn flour Whole grain corn meal	Corn bran Corn flour Corn grits Corn masa Corn meal Degermed cornmeal
Millet	Millet	
Oats	Cracked oats Oat flour Oatmeal Oats Rolled oats Steel cut oats Whole oat flour	Oat bran Oat fiber
Popcorn	Popcorn	
Rice	Brown rice Brown rice flour Brown rice meal	Rice bran Rice flour White rice
Rye	Dark rye flour Rolled rye Rye berries Rye flakes Rye kernels Whole grain rye flour Whole rolled rye meal Whole rye meal Whole rye flour	Cracked rye Dark rye meal Ground rye Rye Rye flour Rye meal 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 Cracked wheat Crushed wheat Flaked wheat Graham flour Rolled wheat Rolled whole wheat Stone ground whole wheat flour Wheat berries Wheat kernels Whole wheat flour	Wheat bran Wheat fiber Wheat flour – all types (bread, cake, all – purpose, enriched, unenriched, unbleached, high gluten) Wheat germ Wheat gluten Wheat nuggets Whole wheat bran
Wild rice	Wild rice 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 2023

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 2023 (`nccdbfg2023.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 2023 file is located at:
C:\Users\Public\Public Documents\NCC\NDSR 2023\Additional Files\Database Documentation\foods2023.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 **Foods2023.txt** for Windows 10 installations, the Foods 2023 file is located at: C:\Users\Public\Public Documents\NCC\NDSR 2023\Additional Files\Database Documentation\foods2023.txt.

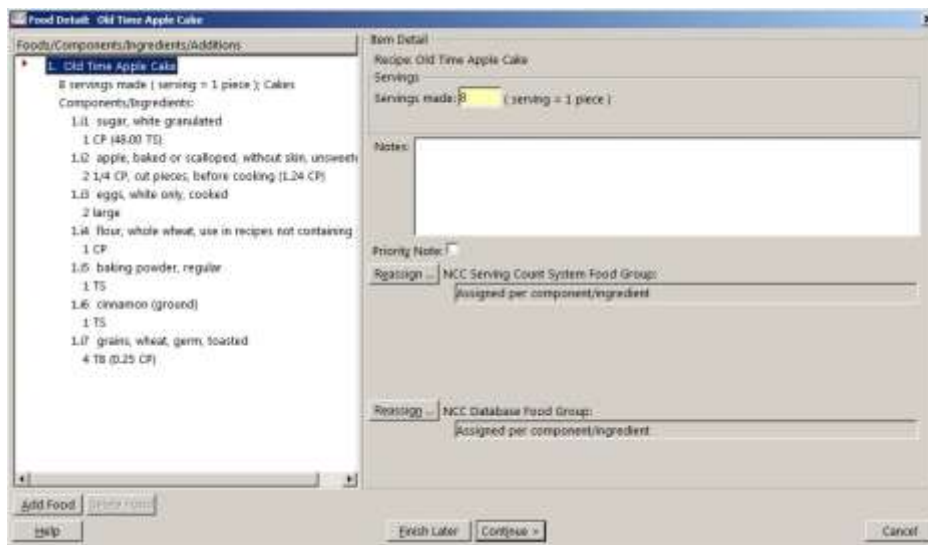
Reassigning NCC Database Food Group IDs

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 2023 File)
- Study protocol

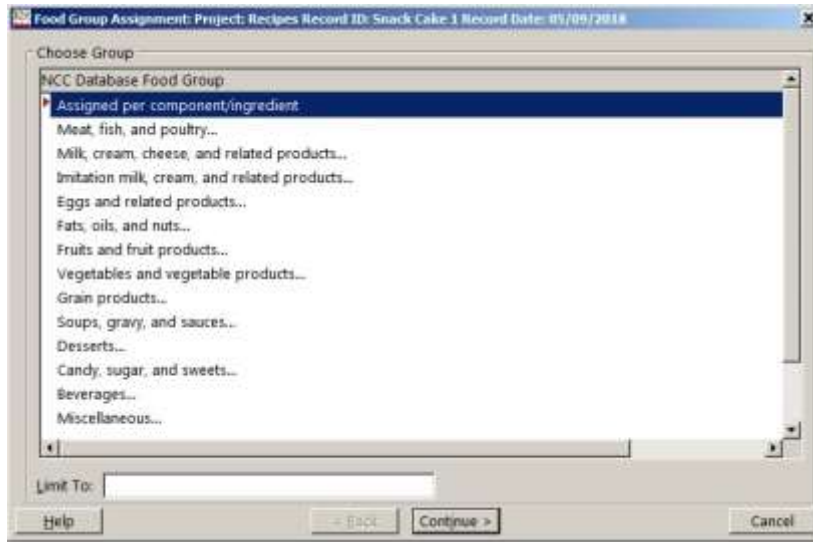
The following steps describe how to assign the NCC Database Food Group to a User Recipe or Assembled Food or Recipe.

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.



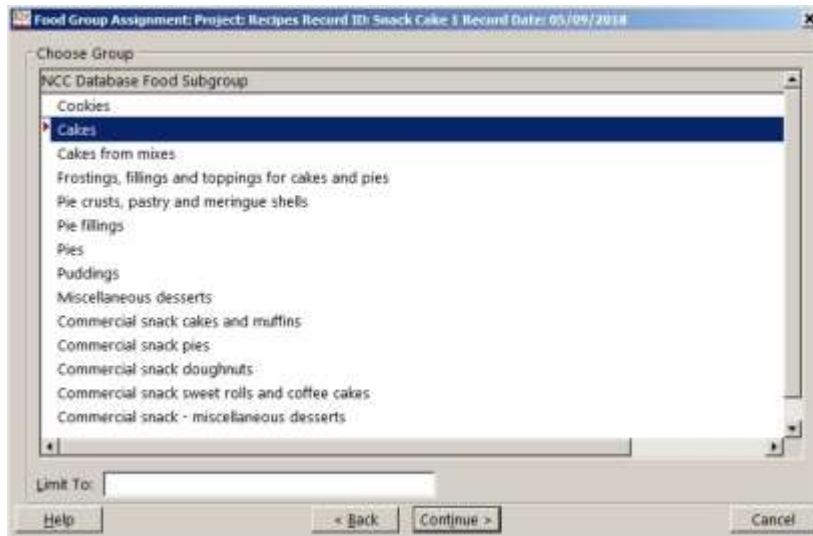
2. Type the total number of servings the recipe makes. Type any notes about the recipe in the **Notes :** field. Up to 600 characters entered into the **Food Detail Notes :** field will appear in the **Foods Report**, the Component/Ingredient Output File, and the Food Output File.

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.



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

4. Select the subgroup.



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

The Modified USDA Food Coding File 2023

The Modified USDA Food Coding File 2023 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 2023 is located at:
C:\Users\Public\Public Documents\NCC\NDSR 2023\Additional Files\Database Documentation\USDAfg2023.txt.

- **USDA Food Group Code**
This number is not listed in the output file. Use the `Foods2023.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.

DSAM2023.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.

foods2023.txt

- A complete listing of NCC Food IDs with associated food descriptions. 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.

nccdbfg2023.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).

preps2023.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.

servingCount2023.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 food group levels of member (M) and category (C).

usdaFg2023.txt

- A list of Food Group Codes and descriptions for the Modified USDA Food Group File. Includes a column indicating food group levels of member (M), subcategory (S), and category (C).