Calculation Methods for Grain Servings in the Child and Adult Care Food Program

This guidance applies through September 30, 2021, to meals and snacks served in child care centers, family day care homes, emergency shelters, at-risk afterschool care centers, and adult day care centers that participate in the U.S. Department of Agriculture's (USDA) CACFP. Effective October 1, 2021, the required amounts for the grains component change to ounce equivalents. For more information, see the Connecticut State Department of Education's (CSDE) handout, *Grain Ounce Equivalents for the CACFP*.



Through September 30, 2021, the required quantities for the grains component of the CACFP meal patterns are in servings. CACFP facilities have two options for calculating the servings for creditable commercial grain products and foods made on site. Method 1 uses the weight (groups A-G) or volume (groups H-I) for the appropriate grain group in the USDA's grain servings chart. Method 2 calculates the total weight (grams) of creditable grains per serving.



CACFP facilities may use either method, but must document how the crediting information was obtained. For more information, see "Choosing a Calculation Method" on page 10. In some situations, method 2 is required. For more information, see "When Method 2 is Required for Commercial Products" on page 3.

Note: CACFP facilities are not required to use either method if a product has a Child Nutrition (CN) label. CN-labeled products credit based on the stated crediting information. CN labels are available only for main dish entrees that contribute to the meat/meat alternates component. However, CN-labeled products usually include the crediting information for grains, vegetables, and fruits that are part of the product. For more information, see the CSDE's handout, *Using Child Nutrition (CN) Labels in the CACFP*. The USDA's Authorized Labels and Manufacturers webpage lists approved CN-labeled products and manufacturers.

Method 1: Grain Servings Chart (Weights or Volumes)

Method 1 determines the CACFP servings for creditable grain products using the weight (groups A-E) or volume (groups H-I) for the appropriate grain group in the USDA's grain servings chart. This chart is summarized in the CSDE's handout, *Grain Servings for the CACFP*, and groups foods based on the average grain content of similar products. For example, to provide one serving of the grains component, a whole-wheat roll (group B) must weigh 25 grams (0.9 ounce) and a blueberry muffin (group D) must weigh 50 grams (1.8 ounce). The minimum creditable amount for all groups is ½ serving. **Note:** Groups F and G do not have minimum amounts because grain-based desserts do not credit in the CACFP meal patterns.

- Groups A-E (baked goods): Baked goods (such as crackers, animal and graham crackers, breads, rolls, taco shells, muffins, waffles, and pancakes) require 14.75 grams of creditable grains to credit as one serving of the grains component. The amount that provides one serving varies from 20 grams (0.7 ounces) for foods in group A to 63 grams (2.2 ounces) for foods in group E.
- Group H (cereal grains): Pasta, cooked breakfast cereals, and cereal grains (such as amaranth, barley, buckwheat, cornmeal, corn grits, farina, kasha, millet, oats, quinoa, wheat berries, and rolled wheat) require ½ cup cooked or 25 grams (0.9 ounce) dry to credit as one serving of the grains component. Cereal grains typically credit based on the cooked serving, but CACFP facilities may choose to use the dry uncooked weight. Note: Dry cereal grains used as an ingredient in a recipe (such as rolled oats and cornmeal in bread) credit the same as groups A-E; they require 14.75 grams of creditable grains to credit as one serving. For guidance on the crediting and serving size requirements for cooked breakfast cereals, see the CSDE's handout, Crediting Breakfast Cereals in the CACFP.
- Group I (RTE breakfast cereals): RTE breakfast cereals require ½ cup or ⅓ ounce (10 grams) for ages 1-2; ⅓ cup or ½ ounce (14 grams) for ages 3-5; and ¾ cup or 1 ounce (28 grams) for ¾ cup or 1 ounce (28 grams) ages 6-12 and 13-18 (at-risk afterschool care centers and emergency shelters only). If the appropriate volume of cereal weighs less than the required amount, it still credits as ½ serving. For example, ⅓ cup of flaked cereal that weighs 13 grams credits as ½ serving for ages 3-4. For guidance on crediting RTE breakfast cereals, see the CSDE's handout, *Crediting Breakfast Cereals in the CACFP*.

The USDA's grain servings chart applies to all creditable commercial grain products. CACFP facilities may also use this chart for creditable grain foods made on site, if the recipe indicates the weight of the prepared (cooked) serving. If the recipe does not provide this information, the CACFP facility must calculate the average weight per serving by weighing at least four samples of the cooked product. For more information, see the CSDE's handout, *Yield Study Data Form*.

Method 2: Creditable Grains

Method 2 determines the CACFP serving for grain products and recipes by calculating the total weight (grams) of creditable grains per manufacturer's serving or recipe serving. Through September 30, 2021, a food in groups A-E of the USDA's grain servings chart must contain 14.75 grams of creditable grains to credit as one serving of the grains component. A food in group H of the USDA's grain servings chart must contain 25 grams of creditable grains to credit as one serving.

• **Commercial products:** CACFP facilities must obtain a manufacturer's product formulation statement (PFS) that indicates the weight of all creditable grains per serving. This information cannot be determined from the product's Nutrition Facts label or packaging. For more information, see the CSDE's handouts, *Using Product Formulation Statements in the*

CACFP and Accepting Processed Product Documentation in the CACFP, and the USDA's handouts, Product Formulation Statement for Grains: Servings (through September 30, 2021), Sample Completed Product Formulation Statement for Grains: Servings (through September 30, 2021), Product Formulation Statement for Grains: Ounce Equivalents (effective October 1, 2021), Sample Completed Product Formulation Statement for Grains: Ounce Equivalents (effective October 1, 2021), and Tips for Evaluating a Manufacturer's Product Formulation Statement.

• Foods made on site: CACFP facilities must determine the amount of creditable grains per serving from the weights listed for each grain ingredient in the recipe. If the recipe lists grain ingredients by volume (e.g., cups and quarts), the CACFP facility must calculate the equivalent weight (grams) for each grain ingredient. For more information, see "Method 2 calculation for recipes listing the volume of grain ingredients" on page 13.

When Method 2 is Required for Commercial Products

There are five situations when CACFP facilities must use method 2 (instead of the USDA's grain servings chart) to determine the grain servings of commercial grain products.

1. **Multiple creditable grains:** A creditable grain is not the first ingredient (excluding water), but the product contains more than one creditable grain. CACFP facilities must obtain a PFS from the manufacturer to document that the **combined weight** of all creditable grains is more than the weight of the first ingredient, excluding water. For example, the yellow corn flour in the product below is not a creditable grain because it is not whole grain, enriched, or nixtamalized. To credit in the CACFP meal patterns, the product's PFS must document that the combined weight of the two whole grains (whole-wheat flour and rolled oats) is more than the weight of the yellow corn flour (noncreditable grain).

Ingredients: Yellow corn flour, whole-wheat flour, sugar, rolled oats, wheat gluten. Contains 2% or less of each of the following: honey, salt, oat bran, yeast, molasses.

Note: Nixtamalization is a process in which dried corn is soaked and cooked in an alkaline (slaked lime) solution. If the product's PFS indicates that cornmeal or corn flour are nixtamalized, these ingredients are whole grain. For more information, see the CSDE's handout, *Crediting Whole Grains in the CACFP*.

2. **Combination foods:** A commercial combination food contains a grain portion from groups A-E or H-I of the USDA's grain servings chart. Examples include pizza crust in pizza, noodles in lasagna, and baked chicken coated with bread crumbs or crushed cereal flakes. CACFP facilities must obtain a PFS from the manufacturer that documents the amount of creditable grains in the **grain portion** of the product.

- 3. **Manufacturer's crediting claim:** The manufacturer claims that a commercial product can provide the minimum creditable grains using a serving that is **less** than the minimum weight or volume specified for that product's group in the USDA's grain servings chart.
- 4. **Product not listed:** A commercial product does not belong to one of the nine groups listed in the USDA's grain servings chart.
- 5. **CACFP facility credits a product differently:** The CACFP facility wants to credit a commercial product differently from the servings listed in the USDA's grain servings chart.

For each situation described above, CACFP facilities must obtain a manufacturer's PFS that states the amount of creditable grains per serving. The PFS must also demonstrate how the product provides this amount according to the USDA's regulations, guidance, or policy. CACFP facilities must verify the accuracy of the product's PFS prior to including the product in reimbursable meals, and must maintain all crediting documentation on file. The CSDE will review this information during the Administrative Review of school nutrition programs. **Note:** If the manufacturer will not supply a PFS, or the PFS does not provide the appropriate documentation, CACFP facilities cannot use the product to credit as the grains component.

Sample Calculations for Commercial Products in Groups A-E

Table 1 shows a sample calculation using method 1 to determine the servings of the grains component for a commercial whole-wheat pancake product in group C. Table 2 shows a sample calculation for this same product using method 2. Each method results in a different crediting contribution for this product. One pancake credits as $\frac{3}{4}$ serving of the grains component using method 1 and one serving using method 2.

- **Ages 1-2 and 3-5:** The minimum amount of the grains component is ½ serving. Using method 1, one pancake (¾ serving) serves one child. Using method 2, one pancake (1 serving) serves two children.
- Ages 6-12, 13-18 (at-risk afterschool programs and emergency shelters only), and adult participants: The minimum amount of the grains component is 1 serving. Using method 1, the CACFP facility must provide more than one pancake (3/4 serving). Using method 2, one pancake (1 serving) provides the minimum amount.

For some products, each method results in the same crediting contribution. CACFP facilities may use **either** method, but must document how the crediting information was obtained. For more information, see "Choosing a Calculation Method" on page 10.



With method 1, CACFP facilities must use the weight (ounces or grams) of one serving from the commercial product's Nutrition Facts label or the manufacturer's PFS. If the product lists ounces and grams, CACFP facilities may choose to use either one. To convert ounces to grams, multiply ounces by 28.35.

Table 1. Using method 1 (USDA's grain servings chart) to calculate grain servings for commercial products in groups A-E

Whole-Wheat Pancakes 1 Manufacturer's serving size: Group C (USDA's grain servings chart): 1 pancake: 1 ounce (28 grams) 1 serving = 31 grams or 1.1 ounces $\frac{1}{2}$ serving = 16 grams or 0.6 ounce Ingredients: Water, whole-wheat flour, enriched flour (wheat flour, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folic acid), sugar, canola oil. Contains 2% or less of: leavening (baking soda, sodium aluminum phosphate, monocalcium phosphate), eggs, salt, buttermilk. 1. List the weight of the manufacturer's serving size from the product's Nutrition Facts label or PFS A 28 grams (1 ounce = 28.35 grams).2. List the required weight for 1 serving for the product's group (A-E) in the USDA's grain В 31 grams servings chart. 2 3. Determine the grain servings in one serving of grain servings per 0.90 C manufacturer's serving the product: Divide A by B. 4. Round down the number in C to the nearest grain servings per 1/4 serving. For example, 1.49 and 1.27 round D 0.75 manufacturer's down to 1.25; and 1.24 rounds down to 1. serving (rounded)

One pancake credits as ³/₄ serving of the grains component using method 1. This is more than the minimum amount (¹/₂ serving) for ages 1-2 and 3-5, but less than the minimum amount (1 serving) for ages 6-12, 13-18 (at-risk afterschool programs and emergency shelters only), and adult participants.

- ¹ This product is WGR because whole-wheat flour is the first ingredient (excluding water) and the next and only other grain ingredient is enriched. For more information, see the CSDE's handout, *Whole Grain-rich Criteria for the CACFP*.
- ² Calculations use the weight for the appropriate group in the USDA's grain servings chart, *Grain Servings for the CACFP*. Pancakes are in group C.

Table 2. Using method 2 (creditable grains) to calculate grain servings for commercial products in groups A-E

Whole-Wheat Pancakes 1

Manufacturer's serving size:

1 pancake: 1 ounce (28 grams)

Group C (USDA's grain servings chart):

1 serving = 31 grams or 1.1 ounces ½ serving = 16 grams or 0.6 ounce

Creditable grains per serving (from product's PFS):

Whole-wheat flour: 9 grams Enriched flour: 8 grams Noncreditable grains: 0 grams

Ingredients: Water, whole-wheat flour, enriched flour (wheat flour, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folic acid), sugar, canola oil. Contains 2% or less of: leavening (baking soda, sodium aluminum phosphate, monocalcium phosphate), eggs, salt, buttermilk.

1. List the combined weight (grams) of whole and enriched grains in one serving from the product's PFS (1 ounce = 28.35 grams). ²

A 17 grams

- 9 grams of whole-wheat flour +
- 8 grams of enriched flour =
- 17 grams of creditable grains
- 2. Determine the grain servings in one serving of the product: Divide A by 14.75 (1 serving = 14.75 grams of creditable grains).

B 1.15 grain servings per manufacturer's serving

3. Round down the number in B to the nearest ½ serving. For example, 1.49 and 1.27 round down to 1.25; and 1.24 rounds down to 1.

grain servings per
C 1.0 manufacturer's
serving (rounded)

One pancake credits as 1 serving of the grains component using method 1. This is more than the minimum amount (½ serving) for ages 1-2 and 3-5, and the same as the minimum amount (1 serving) for ages 6-12, 13-18 (at-risk afterschool programs and emergency shelters only), and adult participants.

- ¹ This product is WGR because whole-wheat flour is the first ingredient (excluding water) and the next and only other grain ingredient is enriched. For more information, see the CSDE's handout, Whole Grain-rich Criteria for the CACFP.
- Method 2 requires a manufacturer's PFS for commercial products and a recipe for foods made on site by the CACFP facility. For more information, see the CSDE's handouts, *Using Product Formulation* Statements in the CACFP and Standardized Recipe Form for the CACFP

Sample Calculations for Commercial Products in Group H

Table 3 shows a sample calculation using method 1 to determine the servings for a commercial whole-grain pasta product in group H. Table 4 shows a sample calculation for this same product using method 2.

Each method results in the same crediting contribution for this product. The pasta credits as one serving of the grains component using either method. For some products, each method results in a different crediting contribution. CACFP facilities may use either method 1 or 2, but must document how the crediting information was obtained. For more information, see "Choosing a Calculation Method" on page 10.

Note: Cereal grains in group H typically credit based on the **cooked** serving (i.e., ½ cup credits as one serving), but CACFP facilities may choose to calculate the product's servings based on the dry uncooked weight (25 grams dry credits as one serving). With method 1, CACFP facilities must use the weight (ounces or grams) of one serving from the commercial product's Nutrition Facts label or the manufacturer's PFS. If the product lists ounces and grams, CACFP facilities may choose to use either one.



Table 3. Using method 1 (USDA's grain servings chart) to calculate grain servings for commercial products in group H

Whole-grain Pasta 1

Manufacturer's serving size:

Group H (USDA's grain servings chart):

30 grams dry (1/2 cup cooked)

1 serving = $\frac{1}{2}$ cup cooked or 25 grams dry $\frac{1}{2}$ serving = $\frac{1}{4}$ cup cooked or 13 grams dry

Ingredients: Whole-grain durum wheat flour, enriched wheat flour.

1. List the weight of the manufacturer's serving size from the product's Nutrition Facts label or PFS (1 ounce = 28.35 grams).

A 30 grams

 List the required uncooked (dry) weight (25 grams) for one serving for group H in the USDA's grain servings chart.

B 25 grams

3. Determine the grain servings in one serving of the product: Divide A by B.

C 1.2 grain servings per manufacturer's serving

4. Round down the number in C to the nearest ½ serving. For example, 1.49 and 1.27 round down to 1.25; and 1.24 rounds down to 1.

D 1 manufacturer's serving (rounded)

- ¹ This product is WGR because whole-wheat flour is the first ingredient and the next and only other grain ingredient is enriched. For guidance on identifying WGR foods, see the CSDE's handout, *Whole Grain-rich Criteria for the CACFP*.
- ² Calculations use the weight for group H, which requires ½ cup cooked or 25 grams dry to provide 1 serving, and ¼ cup cooked or 13 grams dry to provide ½ serving. For more information, see the CSDE's handout, *Grain Servings for the CACFP*.

Table 4. Using method 2 (creditable grains) to calculate grain servings for commercial products in group H

Whole-grain Pasta 1

Manufacturer's serving size:

30 grams dry (½ cup cooked)

Group H (USDA's grain servings chart):

1 serving = $\frac{1}{2}$ cup cooked or 25 grams dry $\frac{1}{2}$ serving = $\frac{1}{4}$ cup cooked or 13 grams dry

Creditable grains per serving (from product's PFS):

Whole-wheat flour: 15 grams Enriched flour: 14 grams Noncreditable grains: 0 grams

Ingredients: Whole-grain durum wheat flour, enriched wheat flour.

1. List the combined weight (grams) of whole and enriched grains in one serving from the product's PFS (1 ounce = 28.35 grams). ²

15 grams of whole-wheat flour +

14 grams of enriched flour =

29 grams of creditable grains

A 29 grams

- 2. Determine the grain servings in one serving of the product: Divide A by 25 (1 serving for group H = 25 grams of creditable grains).
- B 1.16 grain servings per manufacturer's serving
- 3. Round down the number in B to the nearest ½ serving. For example, 1.49 and 1.27 round down to 1.25; and 1.24 rounds down to 1.

C 1.0 grain servings per manufacturer's serving (rounded)

- This product is WGR because whole-wheat flour is the first ingredient and the next and only other grain ingredient is enriched. For guidance on identifying WGR foods, see the CSDE's handout, Whole Grain-rich Criteria for the CACFP.
- Method 2 requires a manufacturer's PFS for commercial products and a recipe for foods made on site by the CACFP facility. For more information, see the CSDE's handouts, *Using Product Formulation Statements* in the CACFP and Standardized Recipe Form for the CACFP

Choosing a Calculation Method

Calculation methods 1 and 2 may result in a different crediting contribution for the same product, or may result in the same crediting contribution for the product. For example, a ½-ounce mini bagel might credit as ½ serving using method 1 (USDA's grain servings chart), but might credit as ¾ serving using method 2 (creditable grains indicated in the manufacturer's PFS). CACFP facilities may choose to use **either** method for all foods in the USDA's grain servings chart, but must document which method is used for each product.

When using method 2 for commercial products, CACFP facilities must obtain a PFS from the manufacturer that documents the weight of all creditable grains per serving. When using method 2 for foods made on site (groups A-E), CACFP facilities must have a recipe on file that lists the weight of all creditable grains. If the recipe is not standardized and lists only the volume of grain ingredients, the CACFP facility must calculate the weight equivalent (grams) of each grain ingredient. For more information, see "Method 2 calculation for recipes listing the volume of grain ingredients" on page 13.

When CACFP facilities choose a calculation method for a specific product, the USDA requires that same calculation method must be used each time that same product is on the menu for that same age group. For example, if the CACFP facility uses method 2 to determine the crediting of a whole-grain bagel, that same bagel on any CACFP menu must always be credited using method 2. The CSDE strongly recommends choosing one calculation method for consistent crediting. This simplifies menu planning and assists CACFP facilities with documenting compliance with the CACFP meal pattern requirements for the grains component.

Sample Calculations for Foods Made on Site

CACFP facilities must have recipes on file to document the meal pattern contribution of foods prepared on site, such as breads, rolls, muffins, pizza dough, and pancakes. CACFP facilities must determine the servings in one serving of the recipe by using either:

- the appropriate weight (groups A-E) or volume (groups H-I) in the USDA's grain servings chart (method 1); or
- the weight of creditable grains per serving (method 2).

The CSDE encourages CACFP facilities to use method 2 for recipes in groups A-E because it provides more accurate crediting information. Group H (cereal grains) typically credits based on the cooked serving, i.e., ½ cup credits as one serving.

For information on standardized recipes, see section 2 of the CSDE's guides, *Meal Pattern* Requirements for CACFP Child Care Programs and Meal Pattern Requirements for CACFP Adult Day Care Centers, and the CSDE's handout, *Standardized Recipe Form for the CACFP*.

Note: CACFP facilities do not need to calculate the grain servings for foods prepared from the USDA's recipes for Child Nutrition Programs. These standardized recipes specify the meal pattern crediting information per serving. For links to the USDA's recipes, visit the ICN's Child Nutrition Recipe Box and the CSDE's Menu Planning for Child Nutrition Programs webpage.

Using method 1 (grain servings chart) for foods made on site

To use the USDA's grain servings chart for school-made foods in groups A-E, CACFP facilities must know the **weight** of the prepared serving of the recipe after cooking or baking. If the recipe does not provide this information, the CACFP facility must calculate the average weight per serving by weighing at least four samples of the cooked product. For more information, see the CSDE's handout, *Yield Study Data Form.* **Note:** Groups F and G do not apply to the CACFP meal patterns because grain-based desserts do not credit.

Using method 2 (creditable grains) for foods made on site

Standardized recipes list measurements for grain ingredients in weight (pounds and ounces) and volume (e.g., cups and quarts). CACFP facilities must use the recipe's **weight** measurements to determine the creditable grains per serving. For assistance with recipe calculations, such as converting fractions to decimals, review the ICN's *Basics at a Glance Portion Control Poster* and the decimal equivalents of fractions in the "Introduction" section of the USDA's *Food Buying Guide for Child Nutrition Programs*.

Method 2 calculation for recipes listing the weight of grain ingredients

Table 5 shows how to use method 2 to calculate the servings for a standardized recipe that lists the weight (pounds and ounces) of grain ingredients. A standardized recipe for a food in groups A-E must contain 14.75 grams of creditable grains to credit as one serving. Dry cereal grains used as an ingredient in a recipe (such as rolled oats and cornmeal) credit the same as groups A-E.



Table 5. Using method 2 (creditable grains) to calculate grain servings for recipes listing the weight of grain ingredients

WGR standardized recipe for multi-grain bread ¹

Yield: 100 servings Grain ingredients:

Serving size: one piece Whole-wheat flour: 8 ounces (0.5 pound)

Rolled oats: 1 pound 2 ounces (1.125 pounds)²

Enriched flour: 1 pound

Enriched cornmeal: 8 ounces (0.5 pound)²

Determine the total weight (pounds) of all creditable grains in the recipe (16 ounces = 1 pound). Convert fractions to decimals, e.g., 1³/₄ pounds equals 1.75 pounds.

A 3.125 pounds of creditable grains

- 1.625 pounds of whole grains (whole-wheat flour and rolled oats) +
- 1.5 pounds of enriched grains (enriched flour and enriched cornmeal) =
- 3.125 pounds of creditable grains
- Determine the total grams of creditable grains in the recipe: Multiply A by 453.6
 (1 pound = 453.6 grams).
- 3. List the number of servings in the recipe.
- 4. Determine the grams of creditable grains per recipe serving: Divide B by C.
- 5. Determine the grain servings per recipe serving: Divide D by 14.75 (1 serving = 14.75 grams of creditable grains). ²
- 6. Round down the number in E to the nearest ¹/₄ serving For example, 1.49 and 1.27 round down to 1.25; and 1.24 rounds down to 1.

В	1417.5	grams of creditable grains	
С	100	servings per recipe	
D	14.175	grams of creditable grains per recipe serving	
Е	0.96	0.96 grain servings per recipe serving	
F	0.75	grain servings per recipe serving (rounded)	

One piece credits as ³/₄ serving of the grains component using method 1. This is more than the minimum amount (¹/₂ serving) for ages 1-2 and 3-5, but less than the minimum amount (1 serving) for ages 6-12, 13-18 (at-risk afterschool programs and emergency shelters only), and adult participants.

- ¹ This recipe is WGR because the combined weight (1.625 pounds) of all whole grains (whole-wheat flour and rolled oats) is more than the combined weight (1.5 pounds) of all enriched grains (enriched flour and enriched cornmeal). For more information, see the CSDE's handout, *Whole Grain-rich Criteria for the CACFP*.
- ² Dry cereal grains used as an ingredient in a recipe (such as rolled oats and cornmeal) credit the same as groups A-E (14.75 grams of creditable grains credits as one serving of the grains component).

Method 2 calculation for recipes listing the volume of grain ingredients

To determine the grain servings of the recipe, CACFP facilities must first convert the volume (e.g., cups and quarts) of all grain ingredients to weight (grams). CACFP facilities may use any of the methods below for this calculation.

- Use the manufacturer's serving size information on the Nutrition Facts label for the grain ingredient. For example, a recipe contains 2 cups of enriched flour. The product's Nutrition Facts label states that ½ cup of enriched flour weighs 30 grams. Multiply the weight of the manufacturer's serving (30 grams) by the amount of the ingredient used in the recipe (2 cups) to determine the weight of the ingredient used in the recipe (240 grams).
- Search the USDA's FoodData Central nutrient database for grain ingredients, such as whole-wheat flour or yellow corn meal. Enter "1" in the data field for the cup measurement, and the database will provide the weight of 1 cup of that ingredient.
- Use volume equivalent charts that list the weight of 1 cup of grain ingredients. Table 6 shows the weight per cup of some commonly used grain ingredients.
- Determine the average weight of 1 cup of the grain ingredient by measuring and weighing several samples. For more information, see the CSDE's *Yield Study Form*.

Table 7 shows how to use method 2 to calculate the servings per serving for a non-standardized recipe that lists the grain ingredients in volume (cups).



Table 6. Weights of 1 cup of commonly used grain in	
Food item	Weight (grams) per cup
Barley, flour or meal ²	148
Barley, hulled ²	184
Barley, pearled, uncooked ²	200
Barley, pearled, cooked ²	157
Bread crumbs, dry, grated, plain ²	108
Bread crumbs, plain, dry, grated, seasoned ²	120
Bread crumbs, plain soft, white ²	45
Bulgur, uncooked ²	140
Bulgur, cooked ²	182
Cereal, General Mills Cheerios ³	28
Cereal, General Mills Corn Chex ³	31
Cereal, General Mills Rice Chex ³	27
Cereal, General Mills Wheat Chex ³	47
Cereal, General Mills Wheaties ³	36
Cereal, Kellogg's All-Bran Bran Buds ⁴	90
Cereal, Kellogg's All-Bran Original ⁴	62
Cereal, Kellogg's Corn Flakes crumbs ⁴	88
Cereal, Kellogg's Corn Flakes, whole ⁴	28
Cereal, Kellogg's Rice Krispies ⁵	26
Cereal, Quaker Puffed Rice ⁵	14
Cereal, Quaker Puffed Wheat ⁵	28
Cornmeal, enriched, uncooked, yellow, degerminated ²	157
Cornmeal, enriched, uncooked, yellow, whole grain ²	122
Cracker crumbs, graham, crushed ²	84
Cracker crumbs, snack, standard snack-type, regular, crushed ²	52

Table 6. Weights of 1 cup of commonly used grain ingredients ¹ , continued		
Food item	Weight (grams) per cup	
Flour, buckwheat, whole groat ²	120	
Flour, corn, whole grain, yellow ²	117	
Flour, rice, brown ²	158	
Flour, rice, white ²	158	
Flour, rye, dark ²	128	
Flour, rye, light ²	102	
Flour, wheat, white, all-purpose enriched, bleached ²	125	
Flour, wheat, white, all-purpose enriched, unbleached ²	125	
Flour, wheat, white, bread, enriched ²	137	
Flour, wheat, white, cake, enriched, unsifted, dipped ²	137	
Flour, wheat, white, self-rising, enriched ²	125	
Flour, wheat, whole grain ²	120	
Wheat germ, uncooked, plain ²	88	
Wheat germ, toasted, plain ²	115	
Oat bran, raw ²	94	
Oat bran, cooked ²	219	
Oats, rolled, quick, uncooked ²	81	
Oats, rolled, regular, uncooked ²	81	

The use of brand-name products is solely for clarification regarding serving sizes and does not constitute approval or endorsement by the USDA or CSDE. The actual weight of 1 cup may be more or less than the weights in this chart, depending on the measuring method used, e.g., stirred or unstirred, sifted or unsifted, spooned or dipped, and coarsely or finely crushed. For the most accurate conversion of volume to weight, calculate the average weight of 1 cup of the ingredient by measuring and weighing several samples. For more information, see the CSDE's *Yield Study Form*.

- ² USDA's FoodData Central database (Standard Reference (SR) Legacy Data): https://fdc.nal.usda.gov/
- ³ General Mills Cereals: https://www.generalmills.com/en/Brands/Cereals
- ⁴ Kellogg's Cereals: https://www.kelloggs.com/en_US/home.html
- ⁵ Quaker Cereals: https://www.quakeroats.com/products

Table 7. Using method 2 (creditable grains) to calculate grain servings for recipes listing the volume of grain ingredients

Multi-grain bread 1

25 servings (one p	viece)	Convert cups to grams		
Grain ingredient	Measure	Grams per cup ²	Weight (grams)	
Whole-wheat flour	2 cups	X 120 =	240.00 grams	
Rolled oats ³	³ / ₄ cup	X 181 =	60.75 grams	
All-purpose enriched flour	2 cups	X 125 =	250.00 grams	
Enriched cornmeal ³	¹∕₄ cup	X 138 =	34.50 grams	
	585.25 grams			

1. Determine the combined weight (grams) of all creditable grains in the recipe.

A 585.25	grams
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300.75 grams of whole grains (whole-wheat flour and rolled oats) + 284.5 grams of enriched grains (all-purpose enriched flour and enriched cornmeal) = 585.25 grams of creditable grains

- 2. List the number of servings in the recipe.
- 3. Determine the grams of creditable grains per serving: Divide A by B.
- 4. Determine the grain servings per recipe serving: Divide D by 14.75 (1 serving = 14.75 grams of creditable grains). ³
- 5. Round down the number in D to the nearest \(^{1}\sqrt{4}\) serving. For example, 1.49 and 1.27 round down to 1.25, and 1.24 rounds down to 1.

В	25	servings
С	23.41	grams of creditable grains per recipe serving
D	1.59	grain servings per recipe serving
Е	1.5	grain servings per recipe serving (rounded)

- ¹ This recipe is WGR because the combined weight (1.625 pounds) of all whole grains (whole-wheat flour and rolled oats) is more than the combined weight (1.5 pounds) of all enriched grains (enriched flour and enriched cornmeal). For more information, see the CSDE's handout, *Whole Grain-rich Criteria for the CACFP*.
- ² The grams per cup are from the USDA's FoodData Central database (Standard Reference (SR) Legacy Data).
- ³ Dry cereal grains used as an ingredient in a recipe (such as rolled oats and cornmeal) credit the same as groups A-E (14.75 grams of creditable grains credits as 1 serving of the grains component).

Crediting Worksheets for Grains

The CSDE's CACFP crediting worksheets evaluate grain-based foods for compliance with the CACFP crediting, WGR, and serving requirements. These worksheets include:

- Adult Centers Worksheet 1: Crediting Commercial Grains in the CACFP;
- Adult Centers Worksheet 2: Crediting Ready-to-eat Breakfast Cereals in the CACFP;
- Adult Centers Worksheet 3: Crediting Cooked Breakfast Cereals in the CACFP;
- Adult Centers Worksheet 4: Crediting Family-size Recipes for Grains in the CACFP;
- Adult Centers Worksheet 5: Crediting Quantity Recipes for Grains in the CACFP.
- Child Care Worksheet 1: Crediting Commercial Grains in the CACFP;
- Child Care Worksheet 2: Crediting Ready-to-eat Breakfast Cereals in the CACFP;
- Child Care Worksheet 3: Crediting Cooked Breakfast Cereals in the CACFP;
- Child Care Worksheet 4: Crediting Family-size Recipes for Grains in the CACFP; and
- Child Care Worksheet 5: Crediting Quantity Recipes for Grains in the CACFP.

The adult day care center crediting worksheets are available in the "Documents/Forms" section of the CSDE's Crediting Foods in CACFP Adult Day Care Centers webpage. The child care crediting worksheets are available in the "Documents/Forms" section of the CSDE's Crediting Foods in CACFP Child Care Programs webpage.

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Resources
Accepting Processed Product Documentation in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/AcceptDocCACFP.pdf
Adult Center Worksheet 1: Crediting Commercial Grain in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/AdultCredit1.xlsx
Adult Center Worksheet 2: Crediting Ready-to-eat Breakfast Cereals in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/AdultCredit2.xlsx
Adult Center Worksheet 3: Crediting Cooked Breakfast Cereals in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/AdultCredit3.xlsx
Adult Center Worksheet 4: Crediting Family-size Recipes for Grains in the CACFP (CSDE):
   http://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/AdultCredit4.xlsx
Adult Center Worksheet 5: Crediting Quantity Recipes for Grains in the CACFP
   http://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/AdultCredit5.xls
Basics at a Glance Portion Control Poster (Institute of Child Nutrition):
   https://theicn.org/icn-resources-a-z/basics-at-a-glance/
CACFP Best Practices (USDA):
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https://www.fns.usda.gov/cacfp-training-tools

CACFP Training Tools (USDA):

Child Care Worksheet 1: Crediting Commercial Grain in the CACFP (CSDE): https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CACFPCredit1.xlsx

https://fns-prod.azureedge.net/sites/default/files/cacfp/CACFP_bestpractices.pdf

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Child Care Worksheet 2: Crediting Ready-to-eat Breakfast Cereals in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CACFPCredit2.xlsx
Child Care Worksheet 3: Crediting Cooked Breakfast Cereals in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CACFPCredit3.xlsx
Child Care Worksheet 4: Crediting Family-size Recipes for Grains in the CACFP (CSDE):
   http://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CACFPCredit4.xlsx
Child Care Worksheet 5: Crediting Quantity Recipes for Grains in the CACFP
   http://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CACFPCredit5.xls
Crediting Breakfast Cereals in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CreditCerealsCACFP.pdf
Crediting Enriched Grains in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CreditEnrichedCACFP.pdf
Crediting Foods in CACFP Adult Day Care Centers (CSDE webpage):
   https://portal.ct.gov/SDE/Nutrition/Crediting-Foods-in-CACFP-Adult-Day-Care-Centers
Crediting Foods in CACFP Child Care Programs (CSDE webpage):
   https://portal.ct.gov/SDE/Nutrition/Crediting-Foods-in-CACFP-Child-Care-Programs
Crediting Whole Grains in the CACFP (CSDE):https://portal.ct.gov/-
   /media/SDE/Nutrition/CACFP/Crediting/CreditWholeGrainsCACFP.pdf
Food Buying Guide for Child Nutrition Programs (USDA):
   https://www.fns.usda.gov/tn/food-buying-guide-for-child-nutrition-programs
FoodData Central (USDA):
   https://fdc.nal.usda.gov/
Grain Ounce Equivalents for the CACFP (effective October 1, 2021) (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/OzEqCACFP.pdf
Grain Servings for Preschoolers in the NSLP, SBP, and ASP
   (through September 30, 2021) (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Preschool/Preschoolozeq.pdf
Grain-Based Desserts in the CACFP (USDA):
   https://fns-prod.azureedge.net/sites/default/files/tn/CACFPGrainBasedDesserts.pdf
Grains Servings for the CACFP (through September 30, 2021) (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/GrainsCACFP.pdf
How to Identify Creditable Grains in the CACFP (CSDE): https://portal.ct.gov/-
   /media/SDE/Nutrition/CACFP/Crediting/IdentifyCreditableGrainsCACFP.pdf
Meal Patterns for CACFP Adult Day Care Centers (CSDE webpage):
   https://portal.ct.gov/SDE/Nutrition/Meal-Patterns-CACFP-Adult-Centers
Meal Patterns for CACFP Child Care Programs (CSDE webpage):
   https://portal.ct.gov/SDE/Nutrition/Meal-Patterns-CACFP-Child-Care-Programs
Product Formulation Statement for Grains: Ounce Equivalents (effective October 1, 2021) (USDA):
   https://fns-prod.azureedge.net/sites/default/files/resource-
   files/PFS_Documenting_Grains_oz_eq.pdf
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Product Formulation Statement for Grains: Servings (through September 30, 2021) (USDA):
   https://fns-prod.azureedge.net/sites/default/files/resource-
   files/PFS_Documenting_Grains_Breads_Servings.pdf
Sample Completed Product Formulation Statement for Grains: Ounce Equivalents (effective
   October 1, 2021) (USDA):
   https://fns-prod.azureedge.net/sites/default/files/resource-files/PFS_Sample_oz_eq.pdf
Sample Completed Product Formulation Statement for Grains: Servings (through September 30,
   2021) (USDA):
   http://https//fns-prod.azureedge.net/sites/default/files/resource-
   files/PFS_Samples_Grains_Breads_Servings.pdf
Standardized Recipe Form for the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/StdRecipeCACFP.doc
USDA Final Rule (81 FR 24347): CACFP Meal Pattern Revisions Related to the Healthy, Hunger-
   Free Kids Act of 2010
   https://www.fns.usda.gov/cacfp/fr-042516
USDA Final Rule Corrections (81 FR 75671): Child and Adult Care Food Program: Meal Pattern
   Revisions Related to the Healthy, Hunger-Free Kids Act of 2010:
   https://www.federalregister.gov/documents/2016/11/01/2016-26339/child-and-adult-care-
   food-program-meal-pattern-revisions-related-to-the-healthy-hunger-free-kids-act
USDA Final Rule (84 FR 50287): Delayed Implementation of Grains Ounce Equivalents in the
   Child and Adult Care Food Program:
   https://www.federalregister.gov/documents/2019/09/25/2019-20808/delayed-
   implementation-of-grains-ounce-equivalents-in-the-child-and-adult-care-food-program
USDA Memo CACFP 09-2018: Grain Requirements in the Child and Adult Care Food Program;
   Questions and Answers:
   https://www.fns.usda.gov/cacfp/grain-requirements-cacfp-questions-and-answers
USDA Memo CACFP 16-2017: Grain-Based Desserts in the Child and Adult Care Food Program:
   https://www.fns.usda.gov/cacfp/grain-based-desserts-child-and-adult-care-food-program
USDA Memo SP 34-2019, CACFP 15-2019 and SFSP 15-2019: Crediting Coconut, Hominy,
   Corn Masa, and Masa Harina in the Child Nutrition Programs:
   https://www.fns.usda.gov/cn/crediting-coconut-hominy-corn-masa-and-masa-harina-child-
   nutrition-programs
Using Child Nutrition (CN) Labels in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/CNlabelCACFP.pdf
Using Product Formulation Statements in the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/PFScacfp.pdf
Whole Grain-rich Criteria for the CACFP (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/WGRCriteriaCACFP.pdf
Yield Study Form (CSDE):
   https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/YieldStudy.pdf.
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For more information, visit the CSDE's Crediting Foods in CACFP Child Care Programs and Crediting Foods in CACFP Adult Day Care Centers webpages, or contact the CACFP staff in the CSDE's Bureau of Health/Nutrition, Family Services and Adult Education, 450 Columbus Boulevard, Suite 504, Hartford, CT 06103-1841.

This handout is available at https://portal.ct.gov/-/media/SDE/Nutrition/CACFP/Crediting/GrainCalcCACFP.pdf.

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- (3) email: program.intake@usda.gov.

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