Guide to Meeting the Whole Grain-rich Requirement for the Meal Patterns for Grades K-12 in the School Nutrition Programs

National School Lunch Program • School Breakfast Program
Afterschool Snack Program

School Year 2025-26 (July 1, 2025, through June 30, 2026)

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Bureau of Child Nutrition Programs
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Meal Patterns for Grades K-12 in the School Nutrition Programs

https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/guide_wgr_requirement_snp_grades_k-12.pdf

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About this Guide

This guide contains comprehensive information on meeting the U.S. Department of Agriculture's (USDA) whole grain-rich (WGR) requirement and crediting criteria for the school nutrition programs for grades K-12, including the National School Lunch Program (NSLP), School Breakfast Program (SBP), and Afterschool Snack Program (ASP) of the NSLP. The Seamless Summer Option (SSO) of the NSLP follows the NSLP, SBP, and ASP meal patterns.

The requirements in this guide also apply to the WGR criteria of the Connecticut Nutrition Standards (CNS). Topics include:

- the crediting and serving size requirements for the grains component;
- the WGR criteria for commercial grain products and grain foods made from scratch;
- the required crediting documentation for WGR foods; and
- examples of how to evaluate commercial grain products and standardized recipes for WGR compliance.

The information in this guide reflects the USDA's regulations and policies for the WGR requirement of the NSLP, SBP, and ASP meal patterns for grades K-12. For information on the NSLP and SBP meal patterns for grades K-12, visit the CSDE's Meal Patterns for Grades K-12 in School Nutrition Programs webpage.. For information on the ASP meal pattern for grades K-12, visit the "ASP Meal Pattern for Grades K-12" section of the CSDE's ASP webpage.

The mention of trade names, commercial products, or organizations does not imply approval or endorsement by the CSDE or the USDA.

> The contents of this guide are subject to change. The CSDE will update this guide as the USDA issues additional policies and guidance regarding the school meal patterns. Please check "Whole Grain-rich Requirement" in the "Grains" section of the CSDE's Crediting Foods in School Nutrition Programs webpage for the most current version. For more information, contact the CSDE's school nutrition programs staff.

WGR Criteria for Connecticut Nutrition Standards

The WGR criteria for competitive foods under the Connecticut Nutrition Standards (CNS) are the same as the WGR criteria for reimbursable meals and afterschool snacks for grades K-12. The CNS applies to public schools that choose the healthy food option of Healthy Food Certification (HFC) under Section 10-215f of the Connecticut General Statutes.

HFC public schools must comply with the CNS for all foods sold separately from reimbursable meals and all foods served in ASP snacks. Grain foods must be WGR and comply with the CNS. Commercial products that meet the CNS are listed on the CSDE's List of Acceptable Foods and Beverages webpage. For more information, visit the CSDE's HFC and CNS webpages.

Contact Information for CSDE School Nutrition Programs Staff

For questions regarding the NSLP, SBP, and SSO, please contact the school nutrition programs staff in the CSDE's Bureau of Child Nutrition Programs.

County	School Nutrition Programs Staff
Middlesex County (includes Regions 4, 13, and 17) **Tolland County** (includes Regions 8 and 19)	Jennifer Bove 860-807-2044 jennifer.bove@ct.gov
Fairfield County (includes Region 9) **Litchfield County** (includes Regions 1, 7, 12, 14, and 20) School wellness policies	Fionnuala Brown 860-807-2129 fionnuala.brown@ct.gov
Hartford County (includes Region 10)	Teri Dandeneau 860-807-2079 teri.dandeneau@ct.gov
New Haven County (includes Regions 5, 15, and 16)	Greg King 860-713-6804 greg.king@ct.gov
New London County **Windham County** (includes Region 11) Claims processing	Susan Alston 860-807-2081 susan.alston@ct.gov

For a list of all CSDE Child Nutrition Programs staff, refer to the CSDE's *Child Nutrition Staff and Responsibilities*.

Abbreviations and Acronyms

ASP	Afterschool Snack Program of the NSLP
CFR	Code of Federal Regulations
C.G.S.	Connecticut General Statutes
CN	Child Nutrition
CNP	Child Nutrition Programs
CSDE	Connecticut State Department of Education
FBG	*Food Buying Guide for Child Nutrition Programs* (USDA)
FDA	Food and Drug Administration
FNS	Food and Nutrition Service, U.S. Department of Agriculture
ICN	Institute of Child Nutrition
NSLP	National School Lunch Program
oz eq	ounce equivalents
PFS	product formulation statement
RCCI	residential child care institution
RTE	ready to eat
SBP	School Breakfast Program
SFA	school food authority
SSO	Seamless Summer Option of the NSLP
USDA	U.S. Department of Agriculture
WGR	whole grain-rich

1 — Overview of Grains Component

The grains component of the NSLP, SBP, and ASP meal patterns for grades K-12 includes a wide variety of whole-grain rich (WGR) and enriched commercial grain products and grain foods made from scratch. Examples of creditable grain food include WGR and enriched:

- breads, biscuits, bagels, rolls, tortillas, and muffins;
- snack products, such as crackers (including animal crackers and graham crackers), hard pretzels, hard bread sticks, tortilla chips, and popcorn;
- certain grain-based desserts, such as cookies, granola bars, cereal bars, cake, and pastries [**Note:** Grain-based desserts do not credit in the ASP and are subject to crediting restrictions at breakfast and lunch (refer to the CSDE's *Crediting Grain-based Desserts for Grades K-12 in the School Nutrition Programs*).];
- cereal grains, such as buckwheat, brown rice, bulgur, and quinoa;
- ready-to-eat (RTE) breakfast cereals;
- cooked breakfast cereals (instant and regular), such as oatmeal;
- bread products used as an ingredient in another menu item, such as combination foods, e.g., breading on fish or poultry and pizza crust in pizza; and
- pasta products, such as macaroni, spaghetti, noodles, orzo, and couscous.

To credit as the grains component, foods must be WGR and enriched and cannot exceed the limit for noncreditable grains. Cooked and ready-to-eat (RTE) breakfast cereals must be WGR, enriched, or fortified, and cannot exceed the limit for noncreditable grains.

Creditable grains include whole grains, enriched grains, bran (such as oat bran, wheat bran, corn bran, rice bran, and rye bran), and germ (such as wheat germ). Bran and germ credit the same as enriched grains. For detailed guidance on the crediting requirements for the grains component, refer to the CSDE's *Crediting Guide for the School Nutrition Programs*

At least 80 percent of the weekly grains offered at breakfast, lunch, and afterschool snack must be WGR, based on the total oz eq of all offered grains in the menu. The weekly percentage of WGR menu items must be calculated separately for breakfast, lunch, and snack. For more information, refer to the CSDE's resource, *Calculating the Weekly Percentage of Whole Grain-rich Menu Items in the Meal Patterns for Grades K-12*.

The NSLP, SBP, and ASP crediting and WGR requirements apply to all grain foods served in school meals and afterschool snacks, including commercial grain products, grain foods made from scratch by the school food authority (SFA), and grain foods prepared by vendors. SFAs must maintain the appropriate documentation to demonstrate that commercial grain products and standardized recipes meet the applicable meal pattern crediting and WGR requirements.

The CSDE will review this information during the Administrative Review of the school nutrition programs.

Required Meal Pattern Servings of the Grains Component

The NSLP, SBP, and ASP meal patterns require minimum servings of the grains component. The required quantities for the grains component are in ounce equivalents (oz eq). The minimum amount that credits toward the grains component is ¼ oz eq.

Lunch for grades K-12

The NSLP meal patterns for grades K-12 require minimum daily and weekly servings of the grains component. SFAs cannot offer less than the minimum daily or weekly servings. The maximum weekly serving is not required but provides a guide for planning age-appropriate meals that meet the weekly dietary specifications. For information on the dietary specifications, refer to the CSDE's *Guide to the Dietary Specifications for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12*.

Breakfast for grades K-12

The SBP meal patterns for grades K-12 require minimum daily and weekly servings of the combined grains and meats/meat alternates (MMA) component. Menu planners may offer grains, MMA, or a combination of both. If grains are offered, at least 80 percent of the weekly grains must be WGR. Grains that are not WGR must be enriched. The maximum weekly serving is not required but provides a guide for planning age-appropriate meals that meet the weekly dietary specifications. For information on the dietary specifications, refer to the CSDE's *Guide to the Dietary Specifications for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12*.

Snack for grades K-12

The ASP meal pattern for grades K-12 requires any two of the five meal components. When menu planners may offer the grains component as one of the two required meal components at snack, the minimum required amount is 1 oz eq for all grades.

Determining Oz Eq

The amount of a creditable grain food that provides 1 oz eq varies because different types of foods contain different amounts of creditable grains. For example, to credit as 1 ounce equivalent of the grains component, a roll (group B) must weigh 28 grams or 1 ounce, a corn muffin (group C) must weigh 34 grams or 1.2 ounces, and a blueberry muffin (Group D) must weigh 55 grams or 2 ounces.

The USDA allows two methods for determining the oz eq of a creditable grain product or standardized recipe. SFAs may use either method but must document how the crediting information was obtained. These methods are summarized below.

For detailed guidance on both methods, refer to the CSDE's resource, *Calculation Methods for Grain Ounce Equivalents in the School Nutrition Programs*. For more information on oz eq, refer to "Serving Requirements" in the Grains" section of the CSDE's Crediting Foods in School Nutrition Programs webpage.

Method 1: USDA's Exhibit A chart

Method 1 uses the USDA's chart, *Exhibit A: Grain Requirements for Child Nutrition Programs*, to determine the required weight (groups A-G) or volume (groups H-I) for the grain group where the product or recipe belongs. The CSDE's resource, *Grain Ounce Equivalents Chart for the School Nutrition Programs*, indicates the applicable Exhibit A quantities and requirements for the NSLP, SBP, and ASP meal patterns for grades K-12 and preschool.

This method is used for commercial grain products and may also be used for standardized recipes if the menu planner knows the weight (grams or ounces) of the prepared (cooked) serving. For more information, refer to the CSDE's resource, *How to Use the Grain Ounce Equivalents Chart for the School Nutrition Programs.*

Method 2: creditable grains

Method 2 determines oz eq from the weight (grams) of creditable grains per serving. This method is used for standardized recipes and may also be used for commercial grain products with a PFS stating the weight of creditable grains per serving.

> There are some situations when SFAs must use method 2 and a PFS is required (refer to "When a PFS Is Required for Commercial WGR Products" in section 4).

To credit as 1 oz eq of a WGR food:

- foods in groups A-G of the USDA's Exhibit A chart must contain 16 grams of creditable grains (including at least 8 grams of whole grains); and
- foods in groups H-I must contain 28 grams of creditable grains (including at least 14 grams of whole grains).

The grams of whole grains must be listed in the commercial product's PFS or calculated from the grain quantities in the SFA's standardized recipe.

Grain crediting tools

The resources below help menu planners determine the oz eq contribution of creditable grain products and standardized recipes.

- **USDA's Exhibit A Grains Tool for commercial grain products:** This online tool of the USDA's *Food Buying Guide for Child Nutrition Programs* (FBG) determines the oz eq of commercial grain products. For more information, watch the USDA's webinar, *How to Maximize the Exhibit A Grains Tool.*

- **USDA's Recipe Analysis Workbook:** Use the FBG's online Recipe Analysis Workbook to search for ingredients, develop a standardized recipe, and determine the recipe's meal pattern contribution per serving. To access this tool, users must create a free account on the USDA's FBG website.

- **How to Use the Grain Oz eq Chart for the School Nutrition Programs:** The CSDE's resource, *How to Use the Grain Ounce Equivalents Chart for the School Nutrition Programs*, reviews the steps for using the Exhibit A quantities to determine the meal pattern contribution of three types of commercial products and standardized recipes. These include grain menu items in groups A-G that contain multiple small pieces per serving (e.g., crackers, hard pretzels, and animal crackers), multiple large pieces per serving (e.g., pancakes, slices of bread, and waffles), and one piece per serving (e.g., muffins, bagels, and rolls).

For additional guidance, visit the "Grains" section of the CSDE's Crediting Foods in School Nutrition Programs webpage.

Whole Grain-rich (WGR) Requirement

At least 80 percent of the weekly grains offered at breakfast, lunch, and afterschool snack must be WGR, based on the total oz eq of all offered grains in the menu. SFAs must calculate the weekly percentage of WGR menu items separately for the weekly lunch, breakfast, and snack menus. Grains that are not WGR must be enriched and cannot exceed 20 percent of the offered grains.

Methods to evaluate foods for WGR compliance

SFAs may use any of the methods below to determine if a commercial food meets the WGR criteria. Refer to section 3 for detailed guidance on each method.

1. **Minimum whole grains per oz eq:** Grain items in groups A-G of Exhibit A are WGR if they contain at least 8 grams of whole grain per oz eq and noncreditable grains do not exceed the required limit. Grain items in groups H and I are WGR if whole grains are at least half of the volume or weight listed in the Exhibit A chart and noncreditable grains do not exceed the required limit (refer to "WGR Criterion 2: Noncreditable Grains Meet Limit" in section 3). The grams of whole grain per oz eq may be determined from the product packaging (if provided) or from the manufacturer's PFS.

2. **Whole grains are the primary grain ingredient by weight:** The method to determine if whole grains are the primary grain ingredient by weight is different for commercial grain products (such as bread, rice, pasta, and breakfast cereals), commercial combination foods that contain a grain portion (such as pizza crust in pizza, noodles in lasagna, tortilla shells in burritos, and breading on chicken nuggets), and standardized recipes for foods made from scratch. These methods are summarized below.

    - **Grain products** such as breads and cereals are WGR if a whole grain is the first ingredient listed in the ingredient statement (except water) or multiple whole grains are the primary ingredient by weight; and noncreditable grains do not exceed the required limit.

    - **Commercial combination foods** that contain a grain portion (such as pizza, lasagna, and breaded chicken) are WGR if a whole grain is the first ingredient listed in the ingredient statement (except water) for the grain portion or multiple whole grains are the primary ingredient by weight in the grain portion; and noncreditable grains do not exceed the required limit.

    - **Foods made from scratch** are WGR weight if the total weight of the whole-grain ingredients in the standardized recipe is equal to more than the total weight of the other creditable grain ingredients (enriched grains, bran, and germ) and noncreditable grains do not exceed the required limit. For combination foods

made from scratch that contain a grain portion (such as pizza crust in pizza and breading on chicken), these criteria apply only to the grain portion of the standardized recipe.

3. **Food and Drug Administration (FDA) approved whole-grain health claims:** The product includes one of the FDA-approved whole-grain health claims below on its packaging and noncreditable grains do not exceed the required limit.

    - "Diets rich in whole grain foods and other plant foods, and low in total fat, saturated fat, and cholesterol, may reduce the risk of heart disease and certain cancers."

    - "Diets rich in whole grain foods and other plant foods, and low in saturated fat and cholesterol, may help reduce the risk of heart disease."

4. **Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)-approved whole-grain food list:** Grain products like bread, tortillas, pasta, and rice meet the WGR criteria if they are listed on any state's WIC-approved whole grain food list and noncreditable grains do not exceed the required limit. WIC-listed breakfast cereals are whole grain if they are specifically marked as whole grain and noncreditable grains do not exceed the required limit. Not all WIC-listed breakfast cereals are whole grain. The Connecticut WIC food guides are available on the Connecticut State Department of Public Health's Approved Food Guide webpage.

Whole Grain versus WGR

A food is 100 percent whole grain if all grain ingredients are whole grains. WGR foods include foods that are 100 percent whole grain, and foods that contain a blend of whole (at least 50 percent) and enriched grains. All foods that are 100 percent grain are WGR, but not all WGR foods are 100 percent whole grain. To credit in reimbursable meals and afterschool snacks, WGR foods cannot exceed the limit for noncreditable grains (refer to "WGR Criterion 2: Noncreditable Grains Meet Limit" in section 3).




Reviewing the Ingredients Statement

The ingredients for commercial products are listed in descending order of predominance by weight. The ingredient that weighs the most is listed first and the ingredient that weighs the least is listed last. When reviewing the first ingredient on the product's label, water is ignored.

When a whole grain is not listed first in the ingredients statement, whole grains might still be the primary ingredient by weight if the product contains multiple whole-grain ingredients and their combined weight is more than the weight of the other ingredients. These products could meet the WGR criteria with proper manufacturer documentation (refer to "Documentation for Commercial WGR Products" in section 4).

Documentation for Weekly WGR Requirement

SFAs must document that at least 80 percent of the weekly grains offered each week in the NSLP, SBP, and ASP are WGR, based on the total oz eq of all offered grains. The weekly percentage of WGR menu items must be calculated separately for breakfast, lunch, and snack menus.

This documentation must be maintained on file for the Administrative Review of the school nutrition programs. For more information, refer to the CSDE's resource, *Calculating the Weekly Percentage of Whole Grain-rich Menu Items in the Meal Patterns for Grades K-12*.

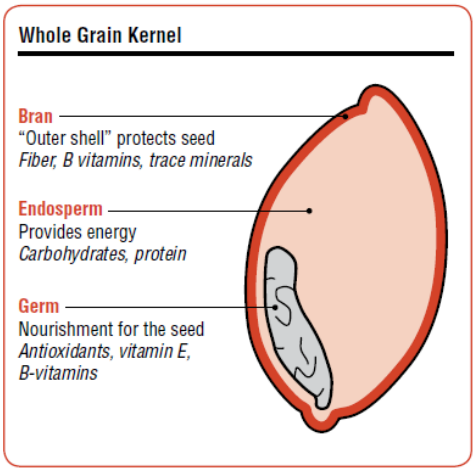
SFAs may calculate the weekly menu's percentage of WGR grains using the CSDE's Excel worksheet, *Worksheet to Calculate the Weekly Percentage of Whole Grain-rich Menu Items in the School Nutrition Programs for Grades K-12.* For guidance on completing this worksheet, refer to the CSDE's *Instructions for the Worksheet to Calculate the Weekly Percentage of Whole Grain-rich Menu Items in the School Nutrition Programs for Grades K-12*. SFAs that do not use this worksheet must maintain alternate documentation.

2 — Creditable Grains

Creditable grains are the ingredients in a grain product or recipe that contribute toward the grains component. They include whole grains, enriched grains, bran, and germ. This section contains guidance on how to identify each creditable grain.

Whole Grains

Whole grains consist of the entire cereal grain seed or kernel, after removing the inedible outer husk or hull. The kernel includes the starchy endosperm, the fiber-rich bran, and the nutrient-rich germ.



Usually the grain kernel is cracked, crushed, flaked, or ground during the milling process. A finished grain product is considered whole grain if it contains the same relative amounts of bran, germ, and endosperm as the original grain.

A grain is 100 percent whole grain if any of the following apply:

- the word "whole" is listed before the type of grain ingredient;
- the grain ingredient is another name for whole grains;
- the grain product has a Food and Drug Administration (FDA) standard of identity;
- the grain product is listed on any state's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)-approved whole grain foods list;
- the grain ingredient is nixtamalized corn; or
- the grain ingredient is a reconstituted whole grain.

To meet the WGR criteria, a food that meets one of these criteria must also meet the limit for noncreditable grains (refer to "WGR Criterion 2 – Noncreditable Grains Meet Limit" in section 3). A summary of each type of whole grain is below.

Grain name states "whole"

A grain is whole grain if the word "whole" is listed before the grain ingredient. For example, "whole wheat flour" and "whole-grain corn" are whole grains, but "wheat flour" and "yellow corn" are not. Table 2-1 shows examples of common whole-grain products and ingredients.

Other names for whole grains

Some whole grains do not contain the word "whole" in the grain name. Examples include berries (the whole kernels of grain) such as wheat berries and rye berries, groats (the hulled whole kernels of grain) such as oat groats, rolled oats and oatmeal (including old-fashioned, quick-cooking, and instant oatmeal), brown rice and wild rice, graham flour (a coarsely ground whole-wheat flour), and many other grains such as quinoa, millet, triticale, teff, amaranth, buckwheat, and sorghum.

> For additional guidance on identifying and crediting whole grains, refer to the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs*.

Food and Drug Administration (FDA) standard of identity

Some whole-wheat products have an FDA standard of identity that indicates they are whole grain. These products are listed below. A standard of identity is a set of rules for what a certain product, such as whole-wheat bread, must contain or may contain to be legally labeled with that product name.

Breads, rolls, buns
Whole-wheat bread, rolls, buns
Entire wheat bread, rolls, buns
Graham bread, rolls, buns

Pasta
Whole-wheat spaghetti
Whole-wheat vermicelli
Whole-wheat macaroni
Whole-wheat macaroni products

The FDA provides standards of identity only for certain whole-wheat products, including whole-wheat bread, rolls, and buns (21 CFR 136.180) and whole-wheat macaroni products (21 CFR 139.138). Other grain products that are labeled as "whole wheat" but do not have an FDA standard of identity (such as crackers, tortillas, bagels, and biscuits) may or may not be 100 percent whole grain.

WIC-approved whole grain foods list

Grain products like bread, tortillas, pasta, and rice are whole grain if they are listed on any state's WIC-approved whole grain food list. WIC-listed breakfast cereals must be specifically marked as whole grain because not all breakfast cereals on a WIC-list are whole grain. The Connecticut WIC food guides are available on the Connecticut State Department of Public Health's Approved Food Guide webpage.

Nixtamalized corn ingredients

Commercial corn products such as tortilla chips, taco shells, and tamales credit as whole grains if the product is labeled "whole grain," or the corn ingredient is nixtamalized (treated with lime). Nixtamalization is the process of soaking and cooked dried corn in an alkaline (slaked lime) solution. This process results in a product with similar nutrition to whole-grain corn.

Nixtamalized corn is used to make hominy, masa harina (corn flour), corn masa (dough from masa harina), and certain types of cornmeal. Masa is used for making tortilla chips, taco shells, tamales, pupusas, and other popular corn products. Hominy, corn masa, and masa harina credit as whole grains.

Menu planners may use either method below to determine if commercial grain products are made with nixtamalized corn.

> To meet the WGR criteria, a food that meets one of the criteria below must also meet the limit for noncreditable grains (refer to "WGR Criterion 2 – Noncreditable Grains Meet Limit" in section 3).

1. **The corn is treated with lime:** A corn ingredient is nixtamalized if the ingredients statement indicates that the corn is treated with lime, e.g., "ground corn with trace of lime" and "ground corn treated with lime." The ingredients statements below show some examples of commercial nixtamalized corn products that credit as 100 percent whole grains.

    - Ingredients: *Corn masa flour*, water, contains 2% or less of: cellulose gum, guar gum, amylase, propionic acid, benzoic acid, and phosphoric acid (to maintain freshness).
    - Ingredients: *Whole-white corn*, vegetable oil (contains soybean, corn, cottonseed, and/or sunflower oil), salt, *lime/calcium hydroxide* (processing aid).
    - Ingredients: *Limed whole-grain white corn*, palm oil, salt, TBHQ (preservative).
    - Ingredients: *Whole-grain yellow corn*, canola oil, water, *corn flour*, salt, *hydrated lime*.

    If the ingredients statement does not provide sufficient information to determine if the corn ingredient is a creditable grain (such as "cornmeal" and "yellow corn flour"), a PFS is required. The PFS must indicate that the corn ingredient is whole grain, enriched, or nixtamalized. For information on PFS forms, refer to "Documentation for Commercial WGR Products" in section 4.

2. **The product includes the FDA-approved whole grain health claim:** A commercial product made with corn is at least 50 percent whole grain if it includes one of the two FDA-approved whole grain health claims on its packaging. These claims are not commonly found on most grain products.

    - **Low-fat claim:** "Diets rich in whole grain foods and other plant foods and low in total fat, saturated fat, and cholesterol, may reduce the risk of heart disease and some cancers."

    - **Moderate-fat claim:** "Diets rich in whole grain foods and other plant foods, and low in saturated fat and cholesterol, may help reduce the risk of heart disease."

Crediting information for corn masa, masa harina, corn flour, and cornmeal is summarized in 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.*

Reconstituted grains

Reconstituted grains (such as "reconstituted whole-wheat flour") are made by blending the crushed and separated products of milling (bran, germ, and endosperm) from the same type of grain in the same proportions originally present in the intact grain kernel. A reconstituted grain is considered whole grain when the reconstitution is done by the original milling facility to ensure the same batch of whole grain is returned to its natural proportions. To credit a reconstituted grain as the grains component, SFAs must request documentation stating that the milling company recombined the grain components to the natural proportions of bran, germ, and endosperm.

Table 2-1. Common whole-grain products and ingredients [1]

Barley
Dehulled barley
Dehulled-barley flour
Whole barley
Whole-barley flakes
Whole-barley flour
Whole-grain barley
Whole-grain barley flour

Brown rice
Brown rice
Brown rice flour
Sprouted brown rice

Corn
Nixtamalized corn, e.g., hominy, corn masa (dough from masa harina), and masa harina (corn flour) [2]
Popcorn
Whole corn
Whole cornmeal
Whole-corn flour
Whole-grain corn
Whole-grain corn flour
Whole-grain cornmeal
Whole-grain grits

Oats
Instant oatmeal
Oat groats [3]
Oatmeal
Old-fashioned oats
Quick-cooking oats
Rolled oats
Steel cut oats
Whole oats
Whole-grain oat flour
Whole-oat flour

Rye
Flaked rye
Rye berries [3]
Rye groats [3]
Sprouted whole rye
Whole rye
Whole-rye flakes
Whole-rye flour

Wheat
Bromated whole-wheat flour
Bulgur (cracked wheat)
Cracked wheat or crushed wheat
Entire wheat flour
Flaked wheat
Graham flour
Sprouted wheat
Sprouted wheat berries [3]
Sprouted whole wheat
Stone-ground whole-wheat flour [4]
Toasted crushed whole wheat
Wheat berries [3]
Wheat groats [3]
White whole-wheat flour [5]
Whole bulgur
Whole-durum flour
Whole-durum wheat flour
Whole-grain bulgur
Whole-grain wheat
Whole-grain wheat flakes
Whole-grain wheat flour
Whole-wheat flakes
Whole-wheat flour
Whole-wheat pastry flour
Whole-white wheat [5]

Wild rice
Wild rice
Wild rice flour

Other grains

Amaranth
Amaranth flour
Buckwheat
Buckwheat flour
Buckwheat groats
Millet
Millet flour
Quinoa
Sorghum (milo)
Sorghum flour
Spelt berries [3]
Sprouted buckwheat
Sprouted einkorn
Sprouted spelt
Teff
Teff flour
Triticale
Triticale flour
Whole einkorn
Whole einkorn berries [3]
Whole emmer (farro)
Whole kamut (khorasan wheat)
Whole spelt
Whole-grain einkorn flour
Whole-grain spelt flour

[1] This list is not all-inclusive.
[2] Refer to "Nixtamalized corn ingredients" in this document.
[3] Groats and berries are the hulled kernels of cereal grains such as oat, wheat, rye, and barley.
[4] "Stone-ground" describes the process used for making the flour or meal and does not necessarily mean that the product is whole grain. Check the ingredients statement to be sure it includes the term "whole" in combination with "stone-ground."
[5] Read labels carefully to be sure products are "white whole wheat" and not "white wheat," which is not a whole grain.

Enriched Grains

Enriched grains are refined grains (such as wheat, rice, and corn) and grain products (such as cereal, pasta, and bread) that have certain vitamins and minerals added to replace some of the nutrients lost during processing. The five enrichment nutrients are defined by the Food and Drug Administration (FDA) and include:

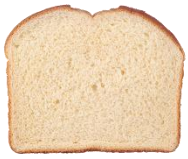
- thiamin (vitamin B_1, thiamin mononitrate, or thiamin hydrochloride):
- riboflavin (vitamin B_2):
- niacin (vitamin B_3 or niacinamide):
- folic acid (folate):
- and iron (reduced iron, ferrous sulfate, or ferric orthophosphate).

If a commercial grain product includes enriched ingredients or the product itself is enriched, the ingredients or product must meet the applicable FDA standard of identity for enrichment. Examples of enriched ingredients include enriched flour (21 CFR 137.165) and enriched cornmeal (21 CFR 137.260). Examples of enriched products include enriched bread, rolls, and buns (21 CFR 136.115); enriched macaroni products (21 CFR 139.115); enriched noodle products (21 CFR 139.155); enriched rice (21 CFR 137.350); and enriched farina (21 CFR 137.305). Table 2-2 shows examples of grain ingredients that are enriched or not enriched.

Bran and Germ

Bran (such as oat bran, wheat bran, corn bran, rice bran, and rye bran) is the seed husk or outer coating of cereal grains such as wheat, rye, and oats. Germ (such as wheat germ) is the vitamin-rich embryo of the grain kernel. Bran and germ credit the same as enriched grains. Grain products that contain bran or germ as the primary grain ingredient count toward the weekly limit for enriched grains. For more information, refer to "Whole Grain-rich Requirement" in this section.

> For guidance on identifying and crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs*.

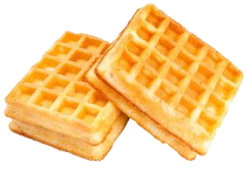


Table 2-2. Examples of grain ingredients that are enriched or not enriched [1]

Enriched	Not enriched [2]
Bleached enriched flour	Bleached flour
Enriched bromated flour	Bromated flour
Enriched corn flour	Corn flour [3]
Enriched corn grits	Corn grits [3]
Enriched cornmeal	Cornmeal [3]
Enriched degerminated cornmeal	Degerminated cornmeal
Enriched durum flour	Durum flour
Enriched durum wheat flour	Durum wheat flour
Enriched farina	Farina
Enriched flour	Flour
Enriched rice	Rice
Enriched rice flour	Rice flour
Enriched rye flour	Rye flour
Enriched self-rising flour	Self-rising flour
Enriched semolina flour	Semolina flour
Enriched wheat flour	Wheat flour
Enriched white flour	White flour
Enriched white cornmeal	White cornmeal [3]
Enriched yellow cornmeal	Yellow cornmeal [3]
Milled corn enriched with....*(lists the five enrichment nutrients)*	Milled corn [3]
Puffed wheat enriched with....*(lists the five enrichment nutrients)*	Puffed wheat
Puffed rice enriched with....*(lists the five enrichment nutrients)*	Puffed rice
Unbleached enriched wheat flour	Unbleached wheat flour
Unbleached enriched white flour	Unbleached white flour

[1] This list is not all-inclusive.

[2] These ingredients are not enriched unless the label states "enriched," or the ingredients statement lists the five enrichment nutrients.

[3] Some cornmeal products may require a PFS to determine if they are enriched or nixtamalized. Nixtamalized corn ingredients credit as whole grains (refer to "Nixtamalized corn ingredients" in this section).

3 — WGR Criteria for Commercial Products

Commercial grain products have different WGR criteria depending on the grain group (A-I) where the product belongs in the USDA's Exhibit A chart (refer to "Ounce Equivalents" in section 1). There are different WGR criteria for grain foods in groups A-H (such as bread, rice, pasta, and breakfast cereals), RTE breakfast cereals in group I, and commercial combination foods that contain a grain portion from groups A-I (such as pizza crust in pizza, noodles in lasagna, tortilla shells in burritos, and breading on chicken nuggets). Groups A-I refer to the grain groups in the USDA's Exhibit A chart (refer to "Ounce Equivalents" in section 1).

- **Commercial grain products (groups A-H):** Grain products in groups A-G (such as breads, muffins, pancakes, and crackers) and group H (such as rice, pasta, and quinoa) must meet two WGR criteria: 1) the product is 100 percent whole grain or contains a blend of whole and enriched grains that is at least 50 percent whole grain; and 2) noncreditable grains cannot exceed 3.99 grams per portion for groups A-G or 6.99 grams per portion for group H.

- **RTE breakfast cereals (group I):** RTE breakfast cereals must meet three WGR criteria: 1) the first ingredient is a whole grain and the cereal is fortified or the cereal is 100 percent whole grain; 2) noncreditable grains cannot exceed 6.99 grams per portion; and 3) added sugars cannot exceed 6 grams per dry ounce. Fortification is not required for RTE breakfast cereals that are 100 percent whole grain. For more information, refer to the CSDE's resource, *Crediting Breakfast Cereals in the School Nutrition Programs.*

- **Cooked breakfast cereals (group H):** Cooked breakfast cereals must meet three WGR criteria: 1) the product is 100 percent whole grain or contains a blend of whole and enriched grains that is at least 50 percent whole grain; 2) noncreditable grains cannot exceed 6.99 grams per portion; and 3) added sugars cannot exceed 6 grams per dry ounce. For more information, refer to the CSDE's resource, *Crediting Breakfast Cereals in the School Nutrition Programs.*

- **Commercial combination foods containing a grain portion from groups A-I:** The grain portion (such as pizza crust in pizza, noodles in lasagna, and breading on chicken nuggets) must meet two WGR criteria: 1) the grain portion is 100 percent whole grain or contains a blend of whole and enriched grains that is at least 50 percent whole grain; and 2) noncreditable grains in the grain portion cannot exceed 3.99 grams per portion for groups A-G or 6.99 grams per portion for groups H-I.

Menu planners must determine if commercial foods meet the applicable WGR criteria by reviewing the product's ingredients statement and packaging. For some products, it may be necessary to obtain a PFS to determine WGR compliance. For more information on the required WGR documentation, refer to section 4.

If a product meets the WGR criteria, the menu planner must determine the oz eq contribution based on the appropriate grain group in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Ounce Equivalents" in section 1).

WGR Criterion 1: At Least 50 Percent Whole Grains

The USDA allows four methods to determine if a commercial grain product contains at least 50 percent whole grains by weight and meets WGR criterion 1. SFAs may use any of these methods.

- **Method 1 – Minimum whole grains per oz eq:** The product contains the minimum grain content for 1 oz eq, as required for the appropriate grain group (A-I) in the USDA's Exhibit A chart.
- **Method 2 – Primary grain ingredient by weight:** A whole grain is the first ingredient (or water is the first ingredient and a whole grain is the next ingredient) or the product's PFS indicates that the combined weight of all whole grains is the greatest ingredient by weight.
- **Method 3 – FDA whole-grain health claim:** The product's packaging contains one of the FDA's whole grain health claims.
- **Method 4 – WIC whole-grain food list:** The product is listed on any state's WIC-approved whole grain food list.

This section provides detailed guidance on each method.

> If a product meets WGR criterion 1, the SFA must also determine if it meets WGR criterion 2. For more information, refer to "WGR Criterion 2 – Noncreditable Grains Meet Limit" in this section.

Method 1: minimum whole grains per oz eq

A commercial grain product contains at least 50 percent whole grains if the product's packaging or manufacturer's documentation indicates that the product contains the minimum grain content for 1 oz eq of the appropriate grain group (A-I) in the USDA's Exhibit A chart (refer to "Ounce Equivalents" in section 1). The required amounts per oz eq are summarized below.

- **Groups A-G (baked goods)** must contain at least 8 grams of whole grains per oz eq.
- **Group H (cereal grains)** must contain at least ¼ cup cooked or 14 grams dry of whole grains per oz eq (½ cup).
- **Group I (RTE breakfast cereals)** must contain the required weight (1 ounce) or volume (1 cup of flaked or round cereal, 1¼ cups of puffed cereal, and ¼ cup of granola) for 1 oz eq and must list a whole grain as the first ingredient and be fortified. Fortification is not required for 100 whole grain cereals.

This information is not commonly listed on product packaging. SFAs may need to obtain a PFS to document that a commercial product contains at least 50 percent whole grains. For more information on the required WGR documentation, refer to section 4.

Method 2: primary grain ingredient by weight

A commercial grain product contains at least 50 percent whole grains if a whole grain is the first ingredient (or water is the first ingredient and a whole grain is the next ingredient). For guidance on identifying whole grains, refer to "Whole Grains" in section 2.

> Products that list a whole grain first in a flour blend of whole and enriched flour, such as "*flour blend (whole-wheat flour, enriched flour),"* require a PFS to determine crediting information. For more information, refer to "Commercial products with flour blends" in this section.

The method for determining if a whole grain is the first ingredient is different for commercial grain products (such as breads, rice, and pasta) and commercial combination foods that contain a grain portion. These methods are summarized below.

- **Commercial grain products in groups A-H:** A commercial grain product in A-G (such as breads, muffins, pancakes, and crackers) and group H (such as rice, pasta, quinoa, and cooked breakfast cereals, e.g., oatmeal) contains at least 50 percent whole grains if a whole grain is the first ingredient (or water is the first ingredient and a whole grain is the next ingredient). The ingredients statements below show some examples of products that meet this criterion.

  Example 1: Whole-wheat bread
  Ingredients: *Whole-wheat flour*, sugar, wheat gluten. Contains 2% or less of each of the following: honey, salt, yellow corn flour, yeast, molasses, diacetyl tartaric acid esters of mono-diglycerides (datem), ascorbic acid, mono-and diglycerides , l-cysteine, enzymes.

  This product contains a whole grain (whole-wheat flour) as the first and only grain ingredient.

  Example 2: Whole-wheat roll
  Ingredients: Water, *whole-wheat flour*, enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid), yeast, wheat gluten, contains less than 2% of each of the following: soybean oil, sugar, salt, calcium propionate (preservative), fumaric acid, baking soda, monocalcium phosphate, calcium sulfate, ammonium sulfate.

  This product contains water as the first ingredient and a whole grain (whole-wheat flour) is the next ingredient.

- **Commercial combination foods containing a grain portion from groups A-H:** The WGR criteria apply only to the *grain portion* of combination foods, such as pizza crust in pizza, noodles in lasagna, and breading on chicken nuggets. The WGR criteria depend on whether the ingredients statement lists the grain ingredients as a separate grain portion or together with all other non-grain ingredients.

Grain ingredients listed with non-grain ingredients

If the ingredients statement lists the grain ingredients together with all other ingredients, the combination food contains at least 50 percent whole grains if a whole grain is the first *grain* ingredient.

Example 1: Commercial breaded chicken nuggets (brand A)
Ingredients: Boneless, skinless chicken breast with rib meat, water, *whole-wheat flour*, contains 2% or less of the following: dried garlic, dried onion, salt, sea salt, soybean oil, spice, sugar, torula yeast, turmeric, yeast extract. Breading set in vegetable oil.

This product contains whole-wheat flour as the first and only grain ingredient.

Grain portion listed separately

If the ingredients statement lists the grain ingredients as a separate grain portion, the combination food contains at least 50 percent whole grains if a whole grain is the first ingredient in the *grain portion*.

Example 2: Commercial breaded chicken nuggets (brand B)
Ingredients: Chicken, water, salt, and natural flavor. **Breaded with:** *white whole-wheat flour*, water, enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid), salt, contains 2% or less of the following: yellow corn flour, cornstarch, dried onion, dried garlic, dried yeast, brown sugar, extractives of paprika, and spices. Breading set in vegetable oil.

This product contains white whole-wheat flour as the first ingredient in the grain portion (breading).

Commercial products with flour blends

When the first ingredient is a blend of whole-grain and enriched flour, such as "flour blend (whole-wheat flour, enriched flour)," additional documentation is required to determine if the whole grain is the primary grain ingredient by weight. SFAs must obtain a PFS that documents one of the following:

- the whole grain content is at least 8 grams per portion (groups A-G); or
- the weight of the whole grain in the flour blend is more than the first ingredient (excluding water) listed *after* the flour blend.

Flour blends do not indicate if the whole grain is the greatest grain ingredient by weight. For example, if the flour blend is 40 percent of the product's weight (25 percent whole-wheat flour and 15 percent enriched flour) and the first ingredient after the flour blend is sugar (30 percent of the product's weight), the sugar weighs more than the whole-wheat flour.

Example: Commercial grain product with flour blend

Ingredients: Water, **flour blend** [*whole-wheat flour*, *enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, enzyme, folic acid)*], water, **brown sugar**, corn oil, dough conditioner (soybean oil, vegetable glycerides, soy flakes), yeast, salt, wheat gluten, enzyme.

The PFS for this product must indicate that the whole-wheat flour in the flour blend weighs more than the brown sugar, which is the first ingredient after flour blend.

A PFS is not required for flour blends that contain only whole grains, such as "flour blend (whole-wheat flour, whole-grain oats)." Commercial grain products that are 100 percent whole grain are WGR, if noncreditable grains meet the limit.

Method 3: FDA whole-grain health claim:

A commercial grain product contains at least 50 percent whole grains if the product packaging includes one of the FDA's two approved whole grain health claims.

- **Low-fat claim:** "Diets rich in whole grain foods and other plant foods and low in total fat, saturated fat, and cholesterol, may reduce the risk of heart disease and some cancers."
- **Moderate-fat claim:** "Diets rich in whole grain foods and other plant foods, and low in saturated fat and cholesterol, may help reduce the risk of heart disease."

The health claim on the package label must be identical to one of these statements. For consistency with the *Dietary Guidelines for Americans*, the USDA recommends choosing grain products with the FDA's low-fat health claim. These claims are not commonly found on most grain products.

Method 4: WIC whole-grain food list

Grain products like bread, tortillas, pasta, and rice contain at least 50 percent whole grains if they are listed on any state's WIC-approved whole grain food list. WIC-listed breakfast cereals contain at least 50 percent whole grains if they are specifically marked as whole grain. Not all WIC-listed breakfast cereals are whole grain. The Connecticut WIC food guides are available on the Connecticut State Department of Public Health's Approved Food Guide webpage.

WGR Criterion 2: Noncreditable Grains Meet Limit

A commercial grain product meets WGR criterion 2 if the combined weight of all noncreditable grains is less than 2 percent (¼ oz eq) of the product formula. A commercial combination food meets WGR criterion 2 if the *grain portion* of the product complies with this limit. The combined weight of all noncreditable grains in a grain product cannot exceed:

- 3.99 grams per portion for grain foods in groups A-G of the USDA's Exhibit A chart; or
- 6.99 grams per portion for grain foods in groups H-I of the USDA's Exhibit A chart.

> If the combined weight of noncreditable grains exceeds the limit for the applicable Exhibit A grain group, the product cannot credit as the grains component, even if it meets WGR criterion 1.

Depending on where the noncreditable grains are listed in the ingredients statement, the SFA may need to obtain a PFS to document that the grain product does not exceed the noncreditable grains limit for the applicable grain group. For more information, refer to "When to ignore noncreditable grains" in this section.

Table 3-1 lists examples of noncreditable grain ingredients commonly found in commercial products. The ingredients in column 1 must be included when determining the total weight of a product's noncreditable grain ingredients. The ingredients in column 2 do not count toward the limit for noncreditable grains and can be ignored.

Table 3-1. Examples of noncreditable grain ingredients [1]

Column 1: Count toward limit [2]	Column 2: Do not count toward limit [3]
Corn (not whole grain, enriched, or nixtamalized [4]), e.g., cornmeal, corn flour, degermed corn, stone-ground corn, and yellow corn flour	Cellulose fiber
Fiber, e.g., corn fiber, soluble corn fiber, oat fiber, oat hull fiber, and soy fiber	Chicory extract
Flour (not whole grain or enriched), e.g., durum flour, malted barley flour, fermented wheat flour, rice flour, semolina flour, stone-ground corn flour, white flour, and wheat flour	Chicory root
Grits (not whole grain, enriched, or nixtamalized [4]), e.g., corn grits, durum grits, and barley grits	Citrus fiber
Modified food starch, e.g., modified cornstarch, modified rice starch, modified tapioca starch, and modified wheat starch	Corn dextrin
Rice, white (not enriched)	Fibersol
Soy products, e.g., soy flakes, soy fiber, and soy grits	Inulin
Starch, e.g., cornstarch, cultured wheat starch, hydrolyzed starch, potato starch, rice starch, and tapioca starch	Malt
Vegetable and legume flours, e.g., chickpea flour, fava bean flour, pea flour, and potato flour	Malt powder
	Maltodextrin
	Pea fiber
	Powdered cellulose
	Short chain fructan (fiber)
	Soy flours, soy concentrates, and soy isolates
	Vital wheat gluten
	Wheat gluten

[1] This list is not all-inclusive.

[2] These ingredients must be included in the total weight of noncreditable grain ingredients. Noncreditable grains in WGR or enriched grain products and standardized recipes cannot exceed 3.99 grams per portion for groups A-G or 6.99 grams per portion for groups H-I.

[3] These ingredients do not count toward the limit for noncreditable grains.

[4] Corn flour, corn grits, and cornmeal are noncreditable grains unless they are whole grain, enriched, or nixtamalized. Nixtamalized corn ingredients credit as whole grains. Nixtamalization is the process of soaking and cooked dried corn in an alkaline (slaked lime) solution A PFS may be

required to determine if a corn ingredient is nixtamalized (refer to "Nixtamalized corn ingredients" in section 2).

When to ignore noncreditable grains

Whether a noncreditable grain counts toward the limit depends on where it is listed in the ingredients statement. The limit for noncreditable grains does not apply to noncreditable grains listed in any of the ways below.

- after the statement, "contains 2% or less;"
- as part of a non-grain ingredient, such as a bagel that contains molasses powder made with wheat starch or a fruit pastry that contains jam filling made with modified food starch; and
- as part of the non-grain portion of a commercial combination food, such as modified food starch in the chicken portion of breaded chicken or wheat flour in the cheese filling of ravioli.

The requirements for when noncreditable grains do not count toward the limit are summarized below.

1. **The noncreditable grains are listed after the statement, "contains 2% or less."** The location of noncreditable grains in relation to the statement "contains 2% or less" determines whether they count toward the limit and if a PFS is required. Any noncreditable grains listed after the statement, "contains 2% or less," do not count toward the limit for noncreditable grains.

   A PFS is required if any noncreditable grains are listed before or without the statement, "contains 2% or less." The PFS must indicate the weight (grams) of noncreditable grains per serving.

   The examples below show when a PFS is required for an ingredients statement that indicates "contains 2% or less." For more information on PFS forms, refer to section 4.

   Example 1: One noncreditable grain listed before "contains 2% or less"

   Ingredients: Water, *whole-wheat flour, enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, enzyme, folic acid)*, brown sugar, corn oil, nonfat dry milk, yeast, cinnamon, *soy flakes*, salt, wheat gluten and **2% or less of each of the following:** sodium benzoate (to protect flavor), corn syrup solids, potassium sorbate, icing stabilizer (calcium carbonate, sugar, agar, salt, mono and diglycerides, sorbitan monostearate), vanilla flavor [propylene glycol, water, sodium benzoate (as a preservative)].

   - Is a PFS required? ☑ Yes ☐ No

The noncreditable grain, soy flakes, is listed *before* the statement, "contains 2% or less." The manufacturer's PFS must indicate that the soy flakes do not exceed the required limit.

Example 2: One noncreditable grain listed after "contains 2% or less"

Ingredients: *Whole-wheat flour*, sugar, wheat gluten. **Contains 2% or less of each of the following:** honey, salt, *yellow corn flour*, yeast, molasses, diacetyl tartaric acid esters of mono-diglycerides (datem), ascorbic acid, mono-and diglycerides, l-cysteine, enzymes.

- Is a PFS required? ☑ Yes ☐ No

The noncreditable grain (yellow corn flour) does not count toward the limit for noncreditable grains because it is listed *after* the statement, "contains 2% or less."

Example 3: One noncreditable grain listed before "contains 2% or less" and two noncreditable grains listed after

Ingredients: *White whole-wheat flour*, water, *wheat starch*, *enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid)*, salt, **contains 2% or less of the following:** *yellow corn flour*, *cornstarch*, dried onion, dried garlic, dried yeast, brown sugar, extractives of paprika, and spices.

- Is a PFS required? ☑ Yes ☐ No

The noncreditable grain (wheat starch) is listed *before* the statement, "contains 2% or less." The manufacturer's PFS must indicate that the wheat starch does not exceed the required limit. The two noncreditable grains (yellow corn flour and cornstarch) listed *after* this statement do not count toward the limit for noncreditable grains.

Example 4: Three noncreditable grains listed after "contains 2% or less"

Ingredients: *Whole-wheat flour*, sugar, eggs, water, blueberries, *enriched flour (flour, malted barley flour, niacin, reduced iron, thiamin mononitrate, riboflavin, folic acid)*, invert sugar, soybean oil, **contains 2% or less of:** palm oil, canola oil, propylene glycol mono- and diesters of fats and fatty acids, *oat fiber*, leavening (baking soda, sodium aluminum phosphate, monocalcium phosphate), mono- and diglycerides, *modified food starch*, potassium sorbate (preservative), sodium alginate, salt, soy lecithin, natural and artificial flavor, sodium stearoyl lactylate, *wheat starch*, blueberry juice concentrate, malic acid, enzymes.

- Is a PFS required? ☐ Yes ☑ No

The three noncreditable grains (oat fiber, modified food starch, and wheat starch) do not count toward the limit for noncreditable grains because they are listed *after* the statement, "contains 2% or less."

Example 5: Three noncreditable grains listed without statement "contains 2% or less"

Ingredients: **Whole-wheat bread** (*whole-wheat flour*, water, e*nriched wheat flour [flour, malted barley flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid]*, sugar, wheat gluten, yeast, salt, soybean oil, mono and diglycerides, calcium propionate (preservative), datem, calcium sulfate, citric acid, soy lecithin, grain vinegar, potassium iodate), water, **whole-wheat batter** (*whole-wheat flour*, sugar, *enriched bleached wheat flour [enriched with niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid]*, dextrose, eggs, *yellow corn flour*, corn syrup solids, natural flavor, *modified cornstarch*, salt, leavening (sodium aluminum phosphate, sodium bicarbonate), nonfat milk, spice, artificial flavor, modified cellulose gum, spice extractive), **coating** (*bleached enriched wheat flour [wheat flour, niacin, iron, thiamine mononitrate, riboflavin, folic acid]*, *yellow corn flour*, sugar, soy flour, salt, dextrose, leavening [sodium bicarbonate, monocalcium phosphate], yeast), soybean oil, cinnamon sugar (sugar, spices, natural flavor, silicon dioxide [added to prevent caking]).

- Is a PFS required? ☑ Yes ☐ No

  This ingredients list does not include the statement, "contains 2% or less." The manufacturer's PFS must indicate that the combined weight of the three noncreditable grains (yellow corn flour and modified cornstarch in the whole-wheat batter and yellow corn flour in the coating) do not exceed the required limit.

2. **The noncreditable grain is listed as part of a non-grain ingredient.**
   The limit for noncreditable grains does not apply to non-grain ingredients in commercial grain products. Some examples include:

   - pastries that contain jam filling made with modified food starch;
   - bagels that contain molasses powder made with wheat starch; and
   - bread that contains a dough conditioner made with soy flakes.

   The menu planner can determine if noncreditable grains are part of a non-grain ingredient by reviewing the product's ingredients statement. When a product contains an ingredient that contains two or more ingredients itself (such as apple filling in a breakfast bun), these sub ingredients are listed after the name of the ingredient, or in parentheses or brackets after the name of the ingredient.

The examples below show some sub ingredients (in *italics*) that contain noncreditable grains. These noncreditable grains do not count toward the limit because they are part of non-grain ingredients.

- **Filling** (apples, sugar, water, *modified corn starch*, cinnamon, salt, nutmeg).
- **Marshmallows** (sugar, dextrose, *modified cornstarch*, corn syrup, cocoa, gelatin, natural and artificial flavor).
- **Molasses powder** (molasses, *wheat starch*).
- **Dough conditioner** (soybean oil, vegetable glycerides, *soy flakes*).
- **Seasoning** [sugar, salt, sea salt, dextrose, spices, yeast extract, natural flavor, maltodextrin, canola oil (as a processing aid), *modified cornstarch*].

The ingredients statement for a fruit-filled pastry below shows an example.

> Ingredients: *whole-grain white wheat flour*, **apple filling** (corn syrup, *modified food starch*, evaporated apples, cinnamon, lemon juice), water, margarine (palm oil, soybean oil, whey [milk], soybean lecithin [soy], vitamin A palmitate added), sugar, **dough conditioner** (*rye flour*, *malted barley flour*, ascorbic acid, enzymes, guar gum, *wheat flour*), nonfat dry milk (nonfat dry milk, whey [milk]), salt, eggs, egg replacer (whole soy flour, wheat gluten, corn syrup solids, algin), yeast (leavening).
>
> The noncreditable grain in the apple filling (modified cornstarch) and the three noncreditable grains in the dough conditioner (rye flour, malted barley flour, and wheat flour) do not count toward the noncreditable grains limit because they are listed as part of non-grain ingredients.

3. **The noncreditable grain is listed as part of the non-grain portion of a commercial combination food.**
   The limit for noncreditable grains does not apply to the non-grain portion of a combination food, such as the portion of meat/meat alternates, vegetables, or fruits. Some examples include modified food starch in the chicken portion of breaded chicken, wheat flour in the cheese filling of ravioli, and cornstarch in the vegetable filling of an egg roll. The ingredients statement for cheese ravioli below shows an example.

   > Ingredients: **Filling:** Fat-free ricotta cheese (whey, skim milk [made from nonfat dry milk powder], vinegar, xanthan gum, carrageenan), egg, low moisture part skim mozzarella cheese (cultured part skim milk, salt, enzymes), whey protein isolate, sodium caseinate, Romano cheese made from cow's milk (cultured milk, salt, enzymes), *bleached wheat flour*, garlic salt (salt, dehydrated garlic), salt, *modified cornstarch*, sugar, dehydrated garlic. **Pasta:** *Whole-wheat flour, enriched durum wheat flour (wheat flour, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folic acid)*, water, egg

   The two noncreditable grains (bleached wheat flour and modified cornstarch) in the non-grain portion (cheese filling) do not count toward the noncreditable grains limit. The grain portion (pasta) does not contain any noncreditable grains.

4 — WGR Documentation

SFAs must be able to document the meal pattern contribution of all grains served in reimbursable meals, including commercial products and foods made from scratch. Menu planners should use the USDA's *Food Buying Guide for Child Nutrition Programs* (FBG) to determine food yields and crediting information for grain menu items.

Documentation for Commercial WGR Products

SFAs must be able to verify that commercial grain products meet the meal pattern crediting requirements. The acceptable types of documentation for grain foods include any of the documents below.

- **Child Nutrition (CN) label:** A CN label is a USDA-approved statement that clearly identifies the contribution of a commercial product toward the meal pattern requirements. Grain items are not eligible for a CN label unless they are part of main dish entrees that contain at least ½ oz eq of the MMA component. Allowable CN label documentation includes 1) the original CN label from the product carton; 2) a photocopy or photograph of the CN label shown attached to the original product carton; or 3) a CN label copied with a watermark displaying the product name and CN number provided by the vendor and the bill of lading (invoice). For more information, refer to the CSDE's resource, *Using Child Nutrition (CN) Labels in the School Nutrition Programs*.

- **Product formulation statement (PFS):** A PFS is a document developed by manufacturers that provides specific information about how a product credits toward the USDA meal patterns for the Child Nutrition Programs. The PFS must be signed by an official of the manufacturer and state the amount of each meal pattern component contained in one serving of the product. For more information on PFS forms, refer to the CSDE's resources, *Using Product Formulation Statements in the School Nutrition Programs.* For guidance on when a PFS is required and the information it must include, refer to the CSDE's resource, *When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs*.

A PFS is required if the grain product's ingredients statement and packaging do not provide sufficient information to determine if the product meets the crediting criteria for school meals and afterschool snacks (refer to "When a PFS Is Required for Commercial WGR Products" in this section).

For more information on crediting documentation, refer to the CSDE's resources, *Accepting Processed Product Documentation in the School Nutrition Programs*, USDA Memo SP 05-2025, CACFP 04-2025, SFSP 02-2025: *Guidance for Accepting Processed Product Documentation for Meal Pattern Requirements,* and the USDA's resource, *Tips for Evaluating a Manufacturer's Product Formulation Statement*.

Additional guidance is available on the CSDE's Crediting Documentation for the Child Nutrition Programs webpage.Training on the requirements for CN labels and PFS forms is available in Module 8: Meal Pattern Documentation for Crediting Commercial Processed Products, of the CSDE's training program, *What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs*.

Storing crediting documentation

SFAs must maintain all crediting documentation on file in accordance with the records retention requirements for the school nutrition programs (refer to the CSDE's *Records Retention Requirements for the School Nutrition Programs*). This documentation must be current and will be reviewed by the CSDE during the Administrative Review of the school nutrition programs.

When a PFS is Required for Commercial WGR Products

SFAs must obtain a PFS from the manufacturer if the ingredients statement and packaging do not provide sufficient information to determine if the product meets the WGR criteria. A PFS is required for each type of commercial grain product below. **Note:** For combination foods, these requirements apply only to the *grain portion*.

- The first ingredient is not a whole grain, but the product contains more than one whole grain. The PFS must indicate that the combined weight of all whole grains is the greatest ingredient by weight.

- The first ingredient is a whole grain, and the product contains two or more enriched grains. The PFS must indicate that the weight of the whole grain is equal to more than the combined weight of the enriched grains.

- The first ingredient is a flour blend of whole and enriched flour. The PFS must indicate either of the following: 1) the whole grain content is at least 8 grams per oz eq (groups A-G); or 2) the weight of the whole grain in the flour blend is more than the first ingredient (excluding water) listed *after* the flour blend.

- The product contains noncreditable grains that are **not** listed in any of the following ways: after the statement, “contains 2% or less;” in a non-grain ingredient; or in the non-grain portion of a combination food. The PFS must indicate that the total weight of noncreditable grains does not exceed 3.99 grams per portion for groups A-G or 6.99 grams per portion for groups H-I.

- A combination food that contains a grain portion is not CN labeled. The PFS must indicate the following: 1) creditable grains are the greatest ingredient by weight in the grain portion; and 2) if applicable, the total weight of any noncreditable grains in the grain portion.

- The manufacturer claims that the product’s serving size is less than the required weight or volume in the USDA’s Exhibit A chart. The PFS must indicate the following: 1) the weight (grams) of each creditable grain per serving; 2) how the product provides that amount according to the FBG or USDA’s regulations, guidance, or policies; and 3) if applicable, the total weight of noncreditable grains.

- The product is not listed in the USDA’s Exhibit A chart. The PFS must indicate the following: 1) the weight (grams) of each creditable grain per serving; 2) how the product provides that amount according to the FBG or USDA’s regulations, guidance, or policies; and 3) if applicable, the total weight of noncreditable grains.

For specific guidance, examples, and the steps to evaluate a grain PFS, refer to the CSDE's resource, *When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs.*

> The USDA requires that SFAs must verify the PFS for accuracy prior to purchasing, serving, and claiming the grain product in reimbursable meals and afterschool snacks. If the manufacturer will not supply a PFS or the PFS does not provide the appropriate documentation, the product cannot credit in reimbursable meals and afterschool snacks.

For more information on crediting documentation, refer to the CSDE's resource, *Accepting Processed Product Documentation in the School Nutrition Programs,* and USDA Memo SP 05-2025, CACFP 04-2025, SFSP 02-2025: *Guidance for Accepting Processed Product Documentation for Meal Pattern Requirements*.

Documentation for Grain Foods Made from Scratch

SFAs must have standardized recipes on file that document the crediting information for all grain foods made from scratch, including foods made on site by the SFA and foods prepared by vendors. Menu planners should use the USDA's *Food Buying Guide for Child Nutrition Programs* (FBG) to determine food yields and crediting information for school recipes.

The standardized recipe must document the weight of all creditable grains per serving. A standardized recipe is WGR if the combined amount of all whole grains is equal to or more than the combined amount of all other creditable grains (enriched grains, bran, and germ), and noncreditable grains do not exceed the required limit (refer to "WGR Criterion 2: Noncreditable Grains Meet Limit" in section 3).

The USDA defines a standardized recipe as one that has been tried, adapted, and retried at least three times and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients. Standardized quantity recipes produce 25 or more servings.

> SFAs must ensure that the crediting information for standardized recipes is accurate. The CSDE will review this information during the Administrative Review of the school nutrition programs. For more information, refer to "How to Evaluate Recipes for WGR Compliance" in section 6.

For more information on standardized recipes, refer to the CSDE's *Guide to Menu Documentation for the School Nutrition Programs* and visit the "Standardized Recipes" section of the CSDE's Crediting Documentation for the Child Nutrition Programs webpage. Training on standardized recipes is available in Module 7: Meal Pattern Documentation for School Menus, of the CSDE's training program, *What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs*.

5 — How to Evaluate Commercial Products

The WGR compliance of commercial products differs between manufacturers, product brands, and varieties. Menu planners must review each commercial grain product used in school menus to determine if meets the WGR criteria of the NSLP, SBP, and ASP meal patterns for grades K-12.

This section provides 13 examples of how to evaluate commercial grain products for WGR compliance. If a product meets the WGR criteria, the SFA must determine the oz eq contribution of the serving (refer to "Ounce Equivalents" in section 1).

Color-coding of Ingredients for Crediting Examples

The information below summarizes the color-coding used to identify the creditable and noncreditable grains in the ingredients statement for each example.

- **Creditable grains:** Creditable grains (whole and enriched) are indicated in **bold green**. Whole grains are indicated in **bold green UPPERCASE**. For examples of whole and enriched grains, refer to the CSDE's resources, *Crediting Whole Grains in the School Nutrition Programs* and *Crediting Enriched Grains in the School Nutrition Programs.*

- **Noncreditable grains:** Noncreditable grains (such as wheat flour, yellow corn flour, and modified food starch) are indicated in *red italics*. For examples of noncreditable grains, refer to column 1 in table 3-1. For more information, to "WGR Criterion 2 – Noncreditable Grains Meet Limit" in this section and When to ignore noncreditable grains" in section 3.

- **Grain derivatives:** Grain derivatives (by-products of grains such as wheat gluten and maltodextrin) are indicated in *pink highlighted italics*. These ingredients do not count toward the limit for noncreditable grains. For examples of grain derivatives, refer to column 2 in table 3-1.

- **Non-grain ingredients:** Non-grain ingredients that contain noncreditable grains are indicated in yellow highlighting. Examples include fruit filling made with modified food starch, molasses powder made with wheat starch, and dough conditioner made with soy flakes. For more information, refer to "When to ignore noncreditable grains" in section 3.

The next page provides definitions for some common ingredients found in commercial grain products. For additional definitions, refer to the glossary.

Definitions for Common Ingredients in Commercial Grain Products

azodicarbonamide (ADA): A chemical substance approved by the FDA for use as a whitening agent in cereal flour and a dough conditioner in bread baking.

bleached flour: Flour treated with chemical agents to speed up the natural aging process and produce a whiter flour with a finer grain and softer texture. Bleached flour is a creditable grain if it is enriched. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs*.

bromated flour: A type of flour with added potassium bromate, which promotes gluten development to improve dough's baking qualities (such as the rise and elasticity of dough). This flour is more commonly available with ascorbic acid added to provide the elasticity instead of potassium bromate. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs*.

DATEM or datem: An abbreviation for "diacetyl tartaric acid ester of mono- and diglycerides," which is an emulsifier used in baking. DATEM strengthens the gluten network in dough to improve the bread's texture and shape.

l-cysteine: An amino acid used in baking to help soften the dough and reduce processing time.

maltodextrin: A carbohydrate derived from starch (typically from corn, potatoes, rice, or wheat) that is used as a food additive to enhance texture and flavor. Maltodextrin is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12.

modified food starch: A chemically altered ingredient made from starch that is used as a thickening agent, stabilizer, or emulsifier. The most common types of modified food starch are made from corn, wheat, potato, and tapioca. Modified food starch is a noncreditable grain that counts toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12.

vital wheat gluten: A powdered form of wheat gluten that is used in baking to add elasticity to flours that are low in gluten, such as whole wheat or rye. Vital wheat gluten is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12.

wheat gluten: The protein component of the wheat grain that helps baked goods hold their shape. Wheat gluten is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12.

whey: A milk protein used to emulsify, thicken, and brown baked goods.

Product 1: Whole-Grain Bagel (Group B)

Ingredients: **WHOLE-WHEAT FLOUR, enriched bromated wheat flour (niacin [a-B vitamin], thiamine mono nitrate [vitamin B-1], ferrous sulfate [iron], potassium bromate, riboflavin [vitamin B-2], and folic acid)**, water, brown sugar granulated sugar. **Contains 2% or less of the following ingredients:** salt, *vital wheat gluten*, mono & diglycerides, honey, *cornmeal*, calcium propionate, *malted barley flour*, **molasses powder** (molasses, *wheat starch*), ammonium chloride, ascorbic acid (vitamin C), l-cysteine hydrochloride, azodicarbonamide (ADA), calcium sulfate, enzymes.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The first ingredient is whole-wheat flour. Enriched bromated wheat flour is the only other creditable grain.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The noncreditable grains (cornmeal and malted barley flour) do not count toward the limit because they are listed after the statement, "contains 2% or less." The wheat starch (noncreditable grain) in the molasses powder does not count toward the limit because molasses power is a non-grain ingredient (refer to "When to ignore noncreditable grains" in section 3).

    This product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group B in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 2: Whole-Wheat Bagel (Group B)

Ingredients: **WHOLE-WHEAT FLOUR**, sugar, *wheat gluten*. **Contains 2% or less of each of the following:** honey, salt, *yellow corn flour*, yeast, molasses, diacetyl tartaric acid esters of mono-diglycerides (datem), ascorbic acid, mono-and diglycerides, l-cysteine, enzymes.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

   - **Criterion 1: Contains ≥ 50 percent whole grains**
     ☑ Yes ☐ No ☐ Requires PFS

     The first ingredient and only creditable grain is whole-wheat flour. This product is 100 percent whole grain.

   - **Criterion 2: Meets limit for noncreditable grains**
     ☑ Yes ☐ No ☐ Requires PFS

     The noncreditable grain (yellow corn flour) does not count toward the limit because it is listed after "contains 2% or less" (refer to "When to ignore noncreditable grains" in section 3).

   This product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group B in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 3: Oat Bread (Group B)

Ingredients: **Unbleached enriched wheat flour [flour, malted barley flour, reduced iron, niacin, thiamin mononitrate (vitamin B1), riboflavin (vitamin B2), folic acid]**, water, **WHOLE-WHEAT FLOUR, WHOLE OATS**, sugar, *wheat gluten*, yeast, soybean oil, salt, calcium propionate (preservative), monoglycerides, datem and/or sodium stearoyl lactylate, calcium sulfate, citric acid, calcium carbonate, soy lecithin, whey, nonfat milk.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☐ Yes ☐ No ☑ Requires PFS

      The first ingredient is unbleached enriched wheat flour, which is not a whole grain. However, the product also contains two whole grains (whole-wheat flour and whole oats). To meet criterion 1, the product's PFS must indicate that the combined weight of the two whole grains is equal to or more than the weight of the enriched flour.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☑ Yes ☐ No ☐ Requires PFS

      This product does not contain any noncreditable grains (refer to column 2 in table 3-1).

    A PFS with appropriate documentation is required to determine if this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group B in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 4: Iced Cinnamon Roll (Group E)

Ingredients: Water, **flour blend** [**WHOLE-WHEAT FLOUR, enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, enzyme, folic acid)**], brown sugar, corn oil, nonfat dry milk, yeast, cinnamon, **dough conditioner** (soybean oil, vegetable glycerides, *soy flakes*), salt, *wheat gluten* and 2% or less of each of the following: corn syrup solids, icing stabilizer (calcium carbonate, sugar, agar, salt, mono and diglycerides), vanilla, water.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☐ Yes ☐ No ☑ Requires PFS

      The first ingredient after water is a flour blend of whole wheat flour and enriched flour. To meet criterion 1, the product's PFS must indicate that the whole-wheat flour is at least 8 grams per portion (groups A-G) or weighs more than the first ingredient after the flour blend, which is brown sugar. For more information, refer to "Commercial products with flour blends" in section 3.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The soy flakes (noncreditable grain) in the dough conditioner do not count toward the limit for noncreditable grains because the dough conditioner is a non-grain ingredient (refer to "When to ignore noncreditable grains" in section 3).

    A PFS with appropriate documentation is required to determine if this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group E in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1). Grain-based desserts cannot exceed 2 oz eq per week at lunch.

Product 5: Apple Breakfast Bun (Group E)

Ingredients: **WHOLE-GRAIN WHITE WHEAT FLOUR**, **apple filling** (corn syrup, *modified food starch*, evaporated apples, cinnamon, lemon juice), water, margarine (palm oil, soybean oil, whey [milk], soybean lecithin [soy], vitamin A palmitate added), sugar, contains 2% or less of: **dough conditioner** (*rye flour*, *malted barley flour*, ascorbic acid, enzymes, guar gum, *wheat flour*), nonfat dry milk (nonfat dry milk, whey [milk]), salt, eggs, **egg replacer** (*whole soy flour*, wheat gluten, corn syrup solids, algin), yeast (leavening).

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The first and only grain ingredient is whole-grain white wheat flour. This product is 100 percent whole grain.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The noncreditable grains do not count toward the limit for noncreditable grains because they are listed in non-grain ingredients. The modified cornstarch is part of the apple filling. The rye flour, malted barley flour, and wheat flour are part of the dough conditioner. Whole soy flour does not count toward the limit for noncreditable grains (refer column B of table 3-1). For more information, refer to "When to ignore noncreditable grains" in section 3.

    This product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group E in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1). Grain-based desserts cannot exceed 2 oz eq per week at lunch.

Product 6: Corn Muffin (Group C)

Ingredients: Water, sugar, **WHOLE GRAIN CORN FLOUR, WHOLE-WHEAT FLOUR, enriched flour (wheat flour, niacin, iron, thiamin mononitrate, riboflavin, folic acid)**, eggs, soybean/canola oil, *modified cornstarch*, milk whey, leavening (sodium acid pyrophosphate, baking soda), vital wheat gluten, sugar, nonfat milk, xanthan gum, guar gum.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☐ Yes ☐ No ☑ Requires PFS

      The first ingredient after water is sugar. However, this product also contains two whole grains (whole-grain corn flour and whole-wheat flour). To meet criterion 1, the product's PFS must indicate that the combined weight of the two whole grains is more than the weight of the sugar (refer to "When a PFS is Required for Commercial WGR Products" in section 4).

    - **Criterion 2: Meets limit for noncreditable grains**
      ☐ Yes ☐ No ☑ Requires PFS

      This product contains one noncreditable grain (modified cornstarch). To meet criterion 2, the product's PFS must indicate that the weight of the modified cornstarch does not exceed 3.99 grams (the limit for groups A-G).

    A PFS with appropriate documentation is required to determine if this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group C in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 7: Blueberry Muffin (Group D)

Ingredients: **WHOLE-WHEAT FLOUR**, sugar, eggs, water, blueberries, **enriched flour (flour, malted barley flour, niacin, reduced iron, thiamin mononitrate, riboflavin, folic acid)**, invert sugar, soybean oil, **contains 2% or less of:** palm oil, canola oil, propylene glycol mono- and diesters of fats and fatty acids, *oat fiber*, leavening (baking soda, sodium aluminum phosphate, monocalcium phosphate), mono- and diglycerides, *modified food starch*, potassium sorbate (preservative), sodium alginate, salt, soy lecithin, natural and artificial flavor, sodium stearoyl lactylate, *wheat starch*, blueberry juice concentrate, malic acid, enzymes.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The first ingredient is whole-wheat flour. Enriched flour is the only other creditable grain ingredient.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The three noncreditable grains (oat fiber, modified food starch, and wheat starch) do not count toward the limit for noncreditable grains because they are listed after the statement, "contains 2% or less." (refer to "When to ignore noncreditable grains" in section 3).

    This product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group D in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 8: Cereal Bar (Group E)

Ingredients: **WHOLE-GRAIN OATS**, Cereal (**WHOLE-GRAIN WHEAT**, sugar, *cornmeal*, brown sugar syrup, canola oil, baking soda, salt, calcium carbonate, trisodium phosphate, zinc and iron [mineral nutrients], vitamin C, niacinamide, vitamin B2 [riboflavin], vitamin B1 [thiamin mononitrate], vitamin A [palmitate], folic acid, vitamin B12, vitamin D), sugar, canola oil, **BROWN RICE FLOUR**), **marshmallows** (sugar, dextrose, *modified cornstarch*, corn syrup, gelatin, artificial flavor), maltodextrin, *wheat starch*, *modified wheat starch*, salt, gelatin, natural flavor.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☑ Yes ☐ No ☐ Requires PFS

      The first ingredient is whole-grain oats. The next ingredient is a fortified breakfast cereal (highlighted in blue). The grain ingredients in the cereal (whole grain-wheat and brown rice flour) are also whole grain. This product is 100 percent whole grain.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☐ Yes ☐ No ☑ Requires PFS

      This product contains three noncreditable grains: one noncreditable grain (cornmeal) in the fortified whole-grain breakfast cereal; and two noncreditable grains (wheat starch and modified wheat starch) listed outside of the fortified breakfast cereal ingredients. The PFS must indicate that the combined weight of the three noncreditable grains in the grain ingredients do not exceed 3.99 grams (the limit for groups A-G). The modified cornstarch in the marshmallows does not count toward the limit because marshmallows are a non-grain ingredient (refer to "When to ignore noncreditable grains" in section 3).

    A PFS with appropriate documentation is required to determine if this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group D in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1). Grain-based desserts cannot exceed 2 oz eq per week at lunch.

Product 9: French Toast (Group E)

Ingredients: **Whole-wheat bread (WHOLE-WHEAT FLOUR, water, enriched wheat flour [flour, malted barley flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid]**, sugar, *wheat gluten*, yeast, salt, soybean oil, water, **whole-wheat batter** (**WHOLE-WHEAT FLOUR**, sugar, **enriched bleached wheat flour [enriched with niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid**], dextrose, eggs, *yellow corn flour*, *modified cornstarch*, salt, leavening (sodium bicarbonate), nonfat milk, **coating** (**bleached enriched wheat flour [wheat flour, niacin, iron, thiamine mononitrate, riboflavin, folic acid**], *yellow corn flour*, sugar, *soy flour*, salt, dextrose, yeast), soybean oil, cinnamon sugar (sugar, spices, natural flavor)

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☐ Yes ☐ No ☑ Requires PFS

      While the first ingredient in the bread and batter is whole-wheat flour, the product contains three sources of enriched grains (enriched wheat flour in the bread, batter, and coating). To meet criterion 1, the product's PFS must indicate that the combined weight of the two whole grains is equal to or more than the combined weight of the three enriched grains (refer to "When a PFS is Required for Commercial WGR Products" in section 4).

    - **Criterion 2: Meets limit for noncreditable grains**
      ☐ Yes ☐ No ☑ Requires PFS

      This product contains two noncreditable grains (yellow corn flour and modified cornstarch) in the batter and one noncreditable grain (yellow corn flour) in the coating. The PFS must indicate that the combined weight of the three noncreditable grains in the grain ingredients do not exceed 3.99 grams (the limit for groups A-G).

    A PFS with appropriate documentation is required to determine if this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group E in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 10: Tortilla Chips (Group B)

Ingredients: **Yellow corn (enriched with thiamine, riboflavin, niacin, iron, folic acid)**, vegetable oil (contains one or more of the following: canola oil, corn oil, sunflower oil), salt.

1. **Determine if the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☐ Yes ☑ No ☐ Requires PFS

      The first and only grain ingredient is enriched yellow corn, which is not a whole grain.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☑ Yes ☐ No ☐ Requires PFS

      This product does not contain any noncreditable grains (refer to table 3-1).

    This product is not WGR but can credit as an enriched grain toward the 20 percent weekly limit (refer to "Whole Grain-rich (WGR) Requirement" in section 1).

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group B in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 11: Cheese Ravioli (Combination Food: Pasta from Group H)

Ingredients: **Filling:** Fat-free ricotta cheese (whey, skim milk [made from nonfat dry milk powder], vinegar, xanthan gum, carrageenan), egg, low moisture part skim mozzarella cheese (cultured part skim milk, salt, enzymes), whey protein isolate, sodium caseinate, Romano cheese made from cow's milk (cultured milk, salt, enzymes), *bleached wheat flour*, garlic salt (salt, dehydrated garlic), salt, *modified cornstarch*, sugar, dehydrated garlic. **Pasta: WHOLE-WHEAT FLOUR, enriched durum wheat flour (wheat flour, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folic acid)**, water, egg.

1. **Determine if the grain portion of the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

   - **Criterion 1: Contains ≥ 50 percent whole grains**
     ☑ Yes ☐ No ☐ Requires PFS

     Whole-wheat flour is the first ingredient in the grain portion (pasta), which is highlighted in yellow. Enriched durum wheat flour is the only other creditable grain ingredient in the grain portion.

   - **Criterion 2: Meets limit for noncreditable grains**
     ☑ Yes ☐ No ☐ Requires PFS

     The grain portion does not contain any noncreditable grains (refer to table 3-1). The two noncreditable grains (bleached wheat flour and modified cornstarch) in the filling (non-grain portion) do not count toward the limit" (refer to "When to ignore noncreditable grains" in section 3).

   The grain portion of this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required cooked volume for group H in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 12: Breaded Chicken Nuggets (Combination Food: Breading from Group A)

Ingredients: Chicken, water, salt, and natural flavor. **Breaded with: WHITE WHOLE-WHEAT FLOUR**, water, *wheat starch*, **enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid)**, salt, **contains 2% or less of the following:** *yellow corn flour, cornstarch*, dried onion, dried garlic, dried yeast, brown sugar, extractives of paprika, and spices. Breading set in vegetable oil.

1. **Determine if the grain portion of the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☑ Yes ☐ No ☐ Requires PFS

      White whole-wheat flour is the first ingredient in the grain portion (breading), which is highlighted in yellow. Enriched flour is the only other creditable grain in the grain portion.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☐ Yes ☐ No ☑ Requires PFS

      The grain portion contains one noncreditable grain (wheat starch) before the statement, "contains 2% or less." The PFS must indicate that the wheat starch does not exceed 3.99 grams (the limit for groups A-G). The yellow corn flour and cornstarch do not count toward the limit for noncreditable grains because they are listed after the statement, "contains 2% or less" (refer to "When to ignore noncreditable grains" in section 3).

    A PFS with appropriate documentation is required to determine if the grain portion of this product is WGR.

2. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group A in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

Product 13: Chicken Vegetable Egg Roll (Combination Food: Egg Roll from Group B)

Ingredients: **Filling:** Chicken, cabbage, carrots, celery, water, onion, contains 2% or less of: dried whole egg, sugar, soy sauce, *modified food starch*, salt, garlic, spice; **Wrapper: WHITE WHOLE-WHEAT FLOUR**, water, **enriched flour (wheat flour [niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid]**, *malted barley flour*), **enriched durum flour (wheat flour, niacin, ferrous sulfate, thiamine mononitrate, riboflavin, folic acid)**, **contains 2% or less of:** canola oil, *cornstarch*; water.

3. **Determine if the grain portion of the product meets the WGR criteria.** The answer must be Yes" for both criteria below. Obtain a PFS from the manufacturer if additional information is required to determine if the product meets both criteria.

    - **Criterion 1: Contains ≥ 50 percent whole grains**
      ☐ Yes ☐ No ☑ Requires PFS

      White whole-wheat flour is the first ingredient in the grain portion (wrapper), which is highlighted in yellow. The grain portion also includes two enriched grains (enriched flour and enriched durum flour). To meet criterion 1, the product's PFS must indicate that the weight of the whole grain is equal to or more than the combined weight of the two enriched grains.

    - **Criterion 2: Meets limit for noncreditable grains**
      ☐ Yes ☐ No ☑ Requires PFS

      The malted barley flour (noncreditable grain) in the grain portion is before the statement, "contains 2% or less," and counts toward the limit. The PFS must indicate that the modified food starch does not exceed 3.99 grams (the limit for groups A-G). The noncreditable grain (cornstarch) listed after "contains 2% or less" and the modified food starch (noncreditable grains) in the filling (non-grain portion) do not count toward the limit (refer to "When to ignore noncreditable grains" in section 3).

    A PFS with appropriate documentation is required to determine if this product is WGR.

4. **Determine the serving's oz eq contribution:** Oz eq are determined from the required weight for group B in the USDA's Exhibit A chart or the creditable grains per serving (refer to "Determining the Oz Eq Contribution" in section 1).

6 — WGR Criteria for Foods Made from Scratch

SFAs must have standardized recipes on file to document the crediting information for all grain foods made from scratch. This includes foods made on site by the SFA and foods prepared by vendors.

Standardized recipes must document the weight (grams) of creditable grains per serving. Standardized recipes for grain foods are WGR if they meet the two criteria below. For combination foods made from scratch that contain a grain portion (such as pizza crust in pizza and breading on chicken), these WGR criteria apply only to the *grain portion* of the standardized recipe.

1. The standardized recipe contains at least 50 percent whole grains. A standardized recipe meets this criterion if 1) the combined weight of all whole grains is equal to or more than the combined weight of all other creditable grains (enriched grains, bran, and germ); or 2) all creditable grains in the recipe are whole grains.

2. The standardized recipe does not contain any noncreditable grains or the combined weight of any noncreditable grains does not exceed 3.99 grams per portion for groups A-G or 6.99 grams per portion for group H (refer to "WGR Criterion 2 – Noncreditable Grains Meet Limit" in section 3). For examples of noncreditable grains, refer to table 3-1. For guidance on how to calculate the grams of noncreditable grains per portion, refer to the CSDE's resource, *Calculation Methods for Grain Ounce Equivalents for the Meal Patterns for School Nutrition Programs.*

For example, a standardized recipe for pizza dough contains 6 pounds of whole-wheat flour, 5 pounds of enriched flour, and no noncreditable grains. This recipe is WGR because the whole-wheat flour weighs more than the enriched flour.

> SFAs must determine the oz eq of WGR standardized recipes. The serving of a WGR recipe must provide the required weight (groups A-G) or volume (groups H-I) for the applicable grain group in the USDA's Exhibit A chart or contain the minimum creditable grains. For more information, refer to "Ounce Equivalents" in section 1. For information on how to determine the WGR oz eq contribution of a standardized recipe, refer to the CSDE's resource, *Calculation Methods for Grain Ounce Equivalents for the Meal Patterns for School Nutrition Programs.*

How to Evaluate Recipes for WGR Compliance

Standardized recipes list the measurements for grain ingredients by weight (pounds and ounces) and volume (e.g., cups and quarts). Use the weight measurements to determine if the standardized recipe is WGR and calculate the oz eq contribution per serving.

For assistance with recipe calculations, such as converting fractions to decimals, refer to 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*. Table 7-2 shows an example of how to determine if a standardized recipe is WGR.

Recipes with equal amounts of whole and enriched grains

A recipe is WGR if the combined amount of all whole grains is equal to or more than the combined amount of all other creditable grains (enriched grains, bran, and germ). A standardized recipe that lists equal amounts of whole grain and enriched flours meets the WGR criteria if it does not contain any noncreditable grains. For example, a standardized recipe is WGR if it contains 2 cups of whole-wheat flour, 2 cups of enriched flour, and no noncreditable grains. The menu planner would not need to calculate the weight of each grain ingredient for this standardized recipe because the volume of whole and enriched grains is the same.

If a recipe contains different volumes of grain ingredients, the menu planner would need to calculate the weight of each grain ingredient to determine if the total weight of all whole grain ingredients is equal to or more than the other creditable grain ingredients.

Examples of evaluating a standardized recipe

The examples below show how to evaluate recipes to determine if they are WGR. The first two examples are standardized recipes that list the weight and volume of the grain ingredients. The third example is a recipe that is not standardized and list the grain ingredients in cups.

Example 1: Standardized recipe that is WGR

	25 servings	
Ingredients	**Weight**	**Measure**
Whole-wheat flour	**8 oz**	1½ cups
Enriched cornmeal	**8 oz**	1¼ cups
Sugar, granulated	3 oz	⅓ cup 2 Tbsp
Baking powder		¾ tsp
Frozen whole eggs, thawed	3 oz	⅓ cup
Nonfat milk		1¾ cups
Canola oil		¼ cup

1. **Determine if the recipe meets the WGR criteria.** The answer must be "Yes" for both criteria below.

   - **Criterion 1: Contains ≥ 50 percent whole grains** ☑ Yes ☐ No

     This recipe contains equal amounts of whole-wheat flour (8 ounces) and enriched cornmeal (8 ounces).

   - **Criterion 2: Meets limit for noncreditable grains** ☑ Yes ☐ No

     This recipe does not contain any noncreditable grains.

   This recipe is WGR because it contains equals amounts of whole and enriched grains and does not contain any noncreditable grains.

2. **Determine the oz eq per serving:** Oz eq are determined from the creditable grains per serving (refer to "Method 2: creditable grains" in section 1). If the recipe indicates the serving weight, oz eq can be determined using the required weight for the applicable group in the USDA's Exhibit A chart (refer to" Method 1: USDA's Exhibit A chart" in section 1).

Example 2: Standardized recipe that is not WGR

50 servings	
Ingredients	**Weight**
Sugar, granulated	1 lb 9 oz
Shortening	13 oz
Eggs	7 (12 oz)
Vanilla	1 Tbsp
Bananas, mashed	2 lb 11 oz
Flour, whole wheat	**10 oz**
Flour, all-purpose	**1 lb 8 oz**
Baking soda	3½ tsp
Salt	1½ tsp

1. **Determine if the recipe meets the WGR criteria.** The answer must be "Yes" for both criteria below.

   - **Criterion 1: Contains ≥ 50 percent whole grains** ☐ Yes ☑ No

     The weight of the enriched flour (1 pound 8 ounces) is more than the weight of the whole-wheat flour (10 ounces).

   - **Criterion 2: Meets limit for noncreditable grains** ☑ Yes ☐ No

     This recipe does not contain any noncreditable grains.

   This recipe is not WGR because the all-purpose flour weighs more than the whole-wheat flour but it can credit as an enriched grain toward the 20 percent weekly limit (refer to "Whole Grain-rich (WGR) Requirement" in section 1).

2. **Determine the oz eq per serving:** Oz eq are determined from the creditable grains per serving (refer to "Method 2: creditable grains" in section 1). If the recipe indicates the serving weight, oz eq can be determined using the required weight for the applicable group in the USDA's Exhibit A chart (refer to" Method 1: USDA's Exhibit A chart" in section 1).

Recipes that are not standardized

Standardized recipes list ingredients by volume (e.g., cups and quarts) and weight (e.g., pounds and ounces). Weight is the most accurate measure. Recipes that are not standardized (such as recipes used at home) typically list ingredients only by volume. SFAs may use any of the methods below to convert the volume of a recipe's grain ingredients to weight (grams).

- **Nutrition Facts label:** Use the manufacturer's serving size information on the Nutrition Facts label for the grain ingredient, e.g., whole-wheat flour, enriched flour, or whole-grain cornmeal. Multiply the grams per cup (indicated on the Nutrition Facts label) by the number of cups used in the recipe. The example below shows how to use the Nutrition Facts label to determine the weight of the grain ingredients in a recipe that contains 2 cups of whole-wheat flour and 2 cups of enriched flour.

  - **Whole wheat flour:** The Nutrition Facts label for the whole-wheat flour states that ¼ cup weighs 32 grams, which equals 128 grams per cup. Multiply the grams per cup (128 grams) by the number of cups used in the recipe (2 cups) to determine the total weight of the grain ingredient in the recipe (256 grams).

  - **Enriched flour:** The Nutrition Facts label for the enriched flour states that ¼ cup weighs 30 grams, which equals 120 grams per cup. Multiply the weight per cup (120 grams) by the amount of enriched flour used in the recipe (2 cups) to determine the weight of the enriched flour used in the recipe (240 grams).

- **Nutrient database:** Search the USDA's FoodData Central nutrient database for grain ingredients, such as whole-wheat flour or yellow cornmeal. Enter "1" in the data field for the cup measurement, and the database will provide the weight of 1 cup of that ingredient.

- **Volume equivalent chart:** Use volume equivalent charts that list the weight of 1 cup of grain ingredients. Table 1 shows the weight per cup for some commonly used grain ingredients.

- **Yield study:** Determine the average weight of 1 cup of the grain ingredient by measuring and weighing several samples. For more information, refer to the CSDE's *Yield Study Data Form for the Child Nutrition Programs*.

Examples 1 and 2 show how to determine the oz eq for a recipe that is not standardized. The menu planner must determine the weight of each grain ingredient by converting cups (volume) to grams (weight).

Example 1: Determining oz eq for a recipe that is not standardized

Multi-grain bread recipe
Yield: servings
Serving size: 1 piece

Whole-wheat flour, 2 cups
Rolled oats, ¾ cup
All-purpose enriched flour, 2 cups
Enriched cornmeal, ¼ cup

1. **Determine the total weight (grams) of all creditable grains in the recipe:** Use any of the any of the following methods: Nutrition Facts label; nutrient database; volume equivalent chart (refer to table 1 in the CSDEs *Calculation Methods for Grain Ounce Equivalents in the School Nutrition Programs*); or yield study (refer to "Method 2 calculation for recipes listing the volume of grain ingredients" in this document). Convert fractions to decimals if needed, e.g., 1¾ pounds = 1.75 pounds.

   The chart below uses a volume equivalent chart to determine the grams per cup. The recipe contains 581.25 grams of creditable grains.

Grain ingredient	Measure	Grams per cup	Weight (grams)
Whole-wheat flour	2 cups	X 120 =	240.00
Rolled oats	¾ cup	X 81 =	60.75
Enriched flour	2 cups	X 125 =	250.00
Enriched cornmeal	¼ cup	X 122 =	30.5
		Total weight (grams):	**581.25**

2. **List the number of servings in the recipe (yield):**
   - 25 servings

3. **Determine the grams of creditable grains per serving:** Divide the total grams of creditable grains (step 1) by the number of servings (step 2).
   - 581.25 grams divided by 25 servings = 23.25 grams per recipe serving (1 piece)

4. **Determine the oz eq per serving:** For creditable grains in recipes, 16 grams = 1 oz eq. Divide the grams of creditable grains per serving (step 3) by 16.
   - 23.25 grams divided by 16 = 1.45 oz eq per recipe serving (1 piece)

5. **Meal pattern contribution (oz eq):** Round down the oz eq in step 4 to the nearest ¼ oz eq. For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.
   - 1.45 oz eq rounds down to 1.25 oz eq per recipe serving (1 piece)

Example 2: Determining if a recipe that is not standardized is WGR

Multi-grain bread recipe
Yield: 100 servings
Serving size: 1 piece

Grain ingredients and measures
Whole-wheat flour, 1½ cups
All-purpose enriched flour, 1¼ cups

1. **Convert cups to grams:** Use any of the any of the following methods: Nutrition Facts label; nutrient database; volume equivalent chart (refer to table 1 in the CSDEs *Calculation Methods for Grain Ounce Equivalents in the School Nutrition Programs*); or yield study (refer to "Method 2 calculation for recipes listing the volume of grain ingredients" in this document).

   The chart below uses a volume equivalent chart to determine the grams per cup.

Grain ingredient	Measure	Grams per cup	Weight (grams)
Whole-wheat flour	1½ cups	X 128 =	160 grams
Enriched flour	1¼ cups	X 120 =	150 grams

2. **Determine if the recipe meets the WGR criteria:** The answer must be Yes" for both criteria below.

   - **Criterion 1: Contains ≥ 50 percent whole grains** ☑ Yes ☐ No

     The whole-wheat flour (160 grams) weighs more than the enriched flour (150 grams).

   - **Criterion 2: Meets limit for noncreditable grains** ☑ Yes ☐ No

     This recipe does not contain any noncreditable grains.

   This recipe is WGR because the whole-wheat flour weighs more than the enriched flour and the recipe does not contain any noncreditable grains.

3. **Determine the oz eq per serving:** Oz eq are determined from the creditable grains per serving (refer to "Method 2: creditable grains" in section 1). If the recipe indicates the serving weight, oz eq can be determined using the required weight for the applicable group in the USDA's Exhibit A chart (refer to" Method 1: USDA's Exhibit A chart" in section 1).

7 — Resources

This section includes links to resources and websites that assist SFAs with meeting the requirements for the grains component of the NSLP, SBP, and ASP meal patterns for grades K-12. Topics include crediting requirements and documentation, WGR criteria, oz eq, and meal pattern resources.

More links to information on the federal and state requirements and guidance for school meals are available on the CSDE's Program Guidance for School Nutrition Programs webpages. For a list of resources on the NSLP, SBP, and ASP meal patterns and crediting requirements for grades K-12, refer to the CSDE's *Meal Pattern and Crediting Resources for the School Nutrition Programs*.

Crediting Documentation for Grains

Accepting Processed Product Documentation in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/accepting_processed_product_documentation_snp.pdf

Child Nutrition (CN) Labeling Food Manufacturers/Industry (USDA webpage):
https://www.fns.usda.gov/cnlabeling/food-manufacturersindustry

Child Nutrition (CN) Labeling Program (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/cn_labeling_program.pdf

Commercial Processed Products (CSDE's Crediting Foods in School Nutrition Programs webpage):
https://portal.ct.gov/sde/nutrition/crediting-documentation-for-the-child-nutrition-programs#Commercial

Crediting Documentation for the Child Nutrition Programs (CSDE webpage):
https://portal.ct.gov/sde/nutrition/crediting-documentation-for-the-child-nutrition-programs

Foods Made from Scratch (CSDE's Crediting Foods in School Nutrition Programs webpage):
https://portal.ct.gov/sde/nutrition/crediting-documentation-for-the-child-nutrition-programs#Scratch

Food Buying Guide Section 4: Overview of Crediting Requirements for the Grains Component (USDA):
https://foodbuyingguide.fns.usda.gov/Content/TablesFBG/USDA_FBG_Section4_Grains.pdf

Food Buying Guide Section 4: Yield Table for Grains (USDA):
https://foodbuyingguide.fns.usda.gov/files/Reports/USDA_FBG_Section4_GrainsYieldTable.pdf

FoodData Central Nutrient Database (USDA):
https://fdc.nal.usda.gov/

Product Formulation Statement for Documenting Grains in Child Nutrition Programs (USDA):
https://www.fns.usda.gov/sites/default/files/resource-files/PFS_Grains_Oz_Eq_Fillable_508.pdf

Product Formulation Statement for Documenting Grains in Child Nutrition Programs – Completed Sample (USDA):
https://www.fns.usda.gov/sites/default/files/resource-files/PFS_Example_Grains_Oz_Eq.pdf

Product Formulation Statements (CSDE's Crediting Documentation for the Child Nutrition Programs webpage):
https://portal.ct.gov/sde/nutrition/crediting-documentation-for-the-child-nutrition-programs/product-formulation-statements

Records Retention Requirements for the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/records_retention_snp.pdf

Standardized Recipe Form for School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/standardized_recipe_form_schools.docx

Standardized Recipes (CSDE's Crediting Documentation for the Child Nutrition Program webpage):
https://portal.ct.gov/sde/nutrition/crediting-documentation-for-the-child-nutrition-programs/standardized-recipes

Tips for Evaluating a Manufacturer's Product Formulation Statement (USDA):
https://www.fns.usda.gov/sites/default/files/resource-files/manufacturerPFStipsheet.pdf

USDA Memo SP 05-2025, CACFP 04-2025, and SFSP 02-2025: Guidance for Accepting Processed Product Documentation for Meal Pattern Requirements:
https://www.fns.usda.gov/cn/labeling/guidance-accepting-processed-product-documentation

Using Product Formulation Statements in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/pfs.pdf

What's in a Meal Module 7: Meal Pattern Documentation for School Menus (CSDE's Training Program, What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

What's in a Meal Module 8: Meal Pattern Documentation for Crediting Commercial Processed Products (CSDE's Training Program, What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/when_commercial_grain_products_require_pfs_snp.pdf

Yield Study Data Form for the Child Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/yield_study_form.pdf

Crediting Requirements for Grains

Comparison of Meal Pattern Requirements for the Grains Component in School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/comparison_grain_crediting_snp.pdf

Crediting Breakfast Cereals in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/credit_cereals_snp.pdf

Crediting Enriched Grains in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/credit_enriched_grains_snp.pdf

Crediting Grain-based Desserts in the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12 (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/credit_grain_based_desserts_grades_k-12_nslp_sbp.pdf

Crediting Guide for the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/mpg/guide_crediting_snp.pdf

Crediting Whole Grains in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/credit_whole_grains_snp.pdf

Food Buying Guide for Child Nutrition Programs (USDA):
https://www.fns.usda.gov/tn/food-buying-guide-for-child-nutrition-programs

Grains Component (CSDE's Crediting Foods in School Nutrition Programs webpage):
https://portal.ct.gov/sde/nutrition/crediting-foods-in-school-nutrition-programs/grains

USDA Memo SP 05-2022: Meal Requirements Under the National School Lunch Program and School Breakfast Program: Questions and Answers for Program Operators Updated to Support the Transitional Standards for Milk, Whole Grains, and Sodium Effective July 1, 2022:
https://www.fns.usda.gov/cn/sp052022-questions-answers-program-operators

USDA Memo SP 23-2019, CACFP 10-2019, and SFSP 09-2019: Crediting Popcorn in the Child Nutrition Programs:
https://www.fns.usda.gov/cn/crediting-popcorn-child-nutrition-programs

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

What's in a Meal Module 13: Grains Component (CSDE's Training Program, What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

What's in a Meal Module 14: Whole Grain-rich (WGR) Requirement (CSDE's Training Program, What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

Ounce Equivalents

Calculation Methods for Grain Ounce Equivalents for the Meal Patterns for School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/grain_calculation_snp.pdf

Exhibit A: Grain Requirements for Child Nutrition Programs (USDA):
https://foodbuyingguide.fns.usda.gov/Content/TablesFBG/ExhibitA.pdf

Food Buying Guide Exhibit A Grains Tool (USDA):
https://www.fns.usda.gov/tn/food-buying-guide-interactive-web-based-tool

Grain Ounce Equivalents Chart for the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/grain_oz_eq_snp.pdf

How to Use the Grain Ounce Equivalents Chart for the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/how_to_use_ounce_equivalents_chart_snp.pdf

Serving Requirements ("Grains" section of the CSDE's Crediting Foods in School Nutrition Programs webpage):
https://portal.ct.gov/sde/nutrition/crediting-foods-in-school-nutrition-programs/grains#ServingRequirements

USDA Memo SP 05-2022: Meal Requirements Under the National School Lunch Program and School Breakfast Program: Questions and Answers for Program Operators Updated to Support the Transitional Standards for Milk, Whole Grains, and Sodium Effective July 1, 2022:
https://www.fns.usda.gov/cn/sp052022-questions-answers-program-operators

What's in a Meal Module 15: Grains Ounce Equivalents (CSDE's Training Program, What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

Meal Patterns

Basics at a Glance Portion Control Poster (Institute of Child Nutrition):
https://theicn.org/icn-resources-a-z/basics-at-a-glance/

Guide to the Dietary Specifications for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12 (CSDE):
ttps://portal.ct.gov/-/media/sde/nutrition/mpg/guide_dietary_specifications_nslp_sbp_k12.pdf

Guide to the Meal Patterns for Grades K-12 in the National School Lunch Program and School Breakfast Program (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/mpg/guide_meal_patterns_nslp_sbp_k12.pdf

Meal Patterns for Grades K-12 in School Nutrition Programs (CSDE webpage):
https://portal.ct.gov/sde/nutrition/meal-patterns-school-nutrition-programs

Menu Planning for Child Nutrition Programs (CSDE webpage):
https://portal.ct.gov/sde/nutrition/menu-planning

Updates to the School Nutrition Standards (USDA webpage):
https://www.fns.usda.gov/cn/school-nutrition-standards-updates

USDA Final Rule: Child Nutrition Programs: Meal Patterns Consistent with the 2020-2025 Dietary Guidelines for Americans (89 FR 31962):
https://www.federalregister.gov/documents/2024/04/25/2024-08098/child-nutrition-programs-meal-patterns-consistent-with-the-2020-2025-dietary-guidelines-for

What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs (CSDE training program):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

Weekly WGR Percentage

Calculating the Weekly Percentage of Whole Grain-rich Menu Items in the Meal Patterns for Grades K-12 (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/calculate_wgr_percentage_snp.pdf

Instructions for the Worksheet to Calculate the Weekly Percentage of Whole Grain-rich Menu Items in the Meal Patterns for Grades K-12 (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/worksheet_calculate_wgr_percentage_snp_grades_k-12_instructions.pdf

Worksheet to Calculate the Weekly Percentage of Whole Grain-rich Menu Items in the Meal Patterns for Grades K-12 (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/worksheet_calculate_wgr_percentage_snp_grades_k-12.xlxs

WGR Requirement

Calculating the Weekly Percentage of Whole Grain-rich Menu Items in the Meal Patterns for Grades K-12 (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/calculate_wgr_percentage_snp.pdf.

USDA Memo SP 05-2022: Meal Requirements Under the National School Lunch Program and School Breakfast Program: Questions and Answers for Program Operators Updated to Support the Transitional Standards for Milk, Whole Grains, and Sodium Effective July 1, 2022:
https://www.fns.usda.gov/cn/sp052022-questions-answers-program-operators

What's in a Meal Module 14: Whole Grain-rich Requirement (CSDE's Training Program, What's in a Meal: Meal Patterns for Grades K-12 in the School Nutrition Programs):
https://portal.ct.gov/sde/nutrition/meal-pattern-training-materials

Whole Grain Resource for the National School Lunch and Breakfast Programs (USDA):
https://www.fns.usda.gov/tn/whole-grain-resource-national-school-lunch-and-breakfast-programs

Whole Grain-rich Requirement ("Grains" section of the CSDE's Crediting Foods in School Nutrition Programs webpage):
https://portal.ct.gov/sde/nutrition/crediting-foods-in-school-nutrition-programs/grains#WGR

Glossary

Administrative Review (AR): The state agency's comprehensive offsite and onsite evaluation of all SFAs participating in the NSLP, SBP, and ASP. The review cycle is every three years for each SFA and includes a review of critical and general areas. For more information, visit the CSDE's Administrative Review for School Nutrition Programs webpage.

Afterschool Snack Program (ASP): The USDA's federally assisted snack program implemented through the NSLP. The ASP provides cash reimbursement to help schools serve snacks to children in afterschool activities aimed at promoting the health and well-being of children and youth. Schools must provide children with regularly scheduled activities in an organized, structured, and supervised environment that includes educational or enrichment activities, e.g., mentoring/tutoring programs. Programs must meet state or local licensing requirements and health and safety standards. For more information, visit the CSDE's Afterschool Snack Program webpage.

afterschool snacks: Reimbursable snacks offered in the Afterschool Snack Program (ASP). For more information, refer to "Afterschool Snack Program" in this section.

amaranth: A small type of gluten-free pseudo-grain. Amaranth is a whole grain. For more information, refer to "pseudo-grains" in this section.

azodicarbonamide (ADA): A chemical substance approved by the FDA for use as a whitening agent in cereal flour and a dough conditioner in bread baking.

barley: A whole grain that has a very tough hull. Whole barley and hulled barley are whole grains, but pearled barley is not. For more information, refer to "pearled grains" in this section.

berries (such as wheat berries and rye berries): The whole kernel of grain.

bleached flour: Flour treated with chemical agents to speed up the natural aging process and produce a whiter flour with a finer grain and softer texture. Bleached flour is a creditable grain if it is enriched. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs*.

bran: The seed husk or outer coating of cereal grains such as wheat, rye, and oats. Examples include oat bran, wheat bran, corn bran, rice bran, and rye bran. Bran credits the same as enriched grains in the meal patterns for school nutrition programs.

bleached flour: Flour treated with chemical agents to speed up the natural aging process and produce a whiter flour with a finer grain and softer texture. Bleached flour is a creditable grain if it is enriched. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs*.

breakfast cereals: Ready-to-eat (RTE) cereals (such as puffed cereals, round or flaked cereals, and granola) and instant and regular hot cereals (such as oatmeal, cream of wheat, and farina). RTE breakfast cereals can be eaten as sold and are typically fortified with vitamins and minerals.

bromated flour: A type of flour with added potassium bromate, which promotes gluten development to improve dough's baking qualities (such as the rise and elasticity of dough). This flour is more commonly available with ascorbic acid added to provide the elasticity instead of potassium bromate. Bromated flour is a creditable grain if it is enriched. For more information, refer to "unbromated flour" in this section. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs*.

buckwheat: A type of gluten-free pseudo-grain, typically used in foods like pancakes and soba noodles, that is botanically a relative of rhubarb. Buckwheat is a whole grain. For more information, refer to "pseudo-grains" in this section.

bulgur: Precooked parboiled (cracked or steamed) whole-wheat grains.

cereal grains: The seeds that come from grasses. Cereal grains can be whole grain (such as amaranth, barley, buckwheat, corn, millet, oats, quinoa, rice, rolled wheat, rye, sorghum, triticale, wheat, and wheat berries) or enriched (such as enriched cornmeal, corn grits, and farina).

Child Nutrition (CN) label: A statement that clearly identifies the contribution of a food product toward the meal pattern requirements, based on the USDA's evaluation of the product's formulation. Products eligible for CN labels include main dish entrees that provide at least ½ oz eq of the MMA component, e.g., beef patties, cheese or meat pizzas, meat or cheese and bean burritos, egg rolls, and breaded fish portions. CN labels usually indicate the contribution of other meal components (such as vegetables, grains, and fruits) that are part of these products. For more information, refer to the CSDE's resource, *Using Child Nutrition (CN) Labels in the School Nutrition Programs*, and visit the "Child Nutrition (CN) Labels" section of the CSDE's Crediting Documentation for the Child Nutrition Programs webpage.

Child Nutrition Programs: The USDA's federally funded programs that provide nutritious meals and snacks to children, including the National School Lunch Program (NSLP), School Breakfast Program (SBP), Afterschool Snack Program (ASP), Special Milk Program (SMP), Summer Food Service Program (SFSP), Seamless Summer Option (SSO) of the NSLP, Fresh Fruit and Vegetable Program (FFVP), and Child and Adult Care Food Program (CACFP). The CACFP also provides nutritious meals and snacks to the frail elderly in adult day care centers. For more information, visit the CSDE's Child Nutrition Programs webpage.

combination foods: Foods that contain more than one meal component, such as pizza, burritos, and smoothies made with milk and fruit. For example, macaroni and cheese contains pasta (grains) and cheese (meat/meat alternate). Combination foods generally cannot be separated (such as pizza and burritos) or are not intended to be separated (such as a hamburger on a bun or turkey sandwich).

Connecticut Nutrition Standards: State nutrition standards developed by the Connecticut State Department of Education per Section 10-215e of the Connecticut General Statutes. These standards address the nutritional content of all foods sold to students separately from reimbursable meals. They focus on limiting fat, saturated fats, trans fats, sodium, and added sugars, moderating portion sizes, and increasing consumption of nutrient-rich foods such as fruits, vegetables, whole grains, low-fat dairy, lean meats, and legumes. All schools in any district that chooses to comply with the healthy food option of Healthy Food Certification under Section 10-215f of the Connecticut General Statutes must follow the Connecticut Nutrition Standards for all sources of food sales to students, including school cafeterias, vending machines, school stores, fundraisers, and any other sources. The Connecticut Nutrition Standards also apply to all snacks served in the Afterschool Snack Program. For more information, visit the CSDE's Connecticut Nutrition Standards webpage.

corn masa: Dough made from masa harina that is used for making corn products such as tortillas, tortilla chips, and tamales. Corn masa is nixtamalized and credits as a whole grain. For more information, refer to "Whole grains" in section 2 and the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs*.

cornmeal: Meal made from ground, dried corn.

couscous: A type of grain product similar to pasta that is made from crushed semolina.

cracked wheat: Whole-wheat grains cut or crushed into smaller pieces.

creditable food: A food or beverage that counts toward meeting the meal pattern requirements for reimbursable meals and afterschool snacks in the USDA's Child Nutrition Programs. For more information, refer to the CSDE's *Crediting Guide for the School Nutrition Programs* and visit the CSDE's Crediting Foods in School Nutrition Programs webpage.

creditable grains: The ingredients in a commercial grain product or standardized recipe that credit toward the grains component. Creditable grains include whole grains, enriched grains, bran, and germ. For more information, refer the CSDE's resources, *Crediting Whole Grains in the School Nutrition Programs* and *Crediting Enriched Grains in the School Nutrition Programs*.

DATEM or datem: An abbreviation for "diacetyl tartaric acid ester of mono- and diglycerides," which is an emulsifier used in baking. DATEM strengthens the gluten network in dough to improve the bread's texture and shape.

degerminated cornmeal: Cornmeal that has the germ removed to increase shelf life. Degerminated cornmeal is not a whole grain.

Dietary Guidelines for Americans: A federal document that provides science-based advice for Americans ages 2 and older to promote health and reduce risk for chronic diseases through diet and physical activity. The U.S. Department of Health and Human Services and the USDA jointly publish the *Dietary Guidelines for Americans* every five years. This document forms the basis of federal food, nutrition education, and information programs. For more information, visit the Dietary Guidelines for Americans webpage.

dietary specifications: The USDA's nutrition standards for the NSLP and SBP meal patterns for grades K-12, that include weekly calorie ranges and weekly limits for saturated fat and sodium. For guidance on meeting the dietary specifications, refer to the CSDE's *Guide to the Dietary Specifications for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12*, and visit the "Dietary Specifications" section of the CSDE's Meal Patterns for Grades K-12 in School Nutrition Programs webpage.

> Effective with school year 2026-27 (beginning July 1, 2027), the USDA final rule, *Child Nutrition Programs: Meal Patterns Consistent with the 2020-2025 Dietary Guidelines for Americans*, requires a new weekly dietary specification for added sugars (less than 10 percent of calories). For more information, visit the "Upcoming Meal Pattern Changes" section of the CSDE's Meal Patterns for Grades K-12 in School Nutrition Programs webpage.

endosperm: The soft, white inside portion of the whole-grain kernel. The endosperm contains starch, protein, and small amounts of B vitamins.

enriched grains: Refined grains (such as wheat, rice, and corn) and grain products (such as cereal, pasta, and bread) that have some vitamins and minerals added to replace the nutrients lost during processing. The five enrichment nutrients are added within limits specified by the FDA, and include thiamin (B_1), riboflavin (B_2), niacin (B_3), folic acid, and iron. For more information, refer to "Enriched grains" in section 2 and the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs.*

enrichment: Adding back nutrients (usually vitamins or minerals) originally present in a food that were lost during processing. Enrichment nutrients are added back in approximately the same levels as were originally present in the food. For more information, refer to "enriched grains" in this section.

Exhibit A chart: The USDA's *Exhibit A: Grain Requirements for Child Nutrition Programs* chart that indicates the required weight (groups A-G) or volume (groups H-I) for different types of grain foods to provide 1 oz eq of the grains component. For guidance on applicable Exhibit A quantities and requirements for each school nutrition program, refer to the CSDE's resource, *Grain Ounce Equivalents Chart for the School Nutrition Programs.*

flour: Finely ground and sifted wheat or other grains such as rye, corn, rice, or buckwheat.

fortification: Adding nutrients (usually vitamins or minerals) that were not originally present in a food or beverage, or adding nutrients at levels that are higher than originally present. Fortification is used for naturally nutrient-rich products based on scientifically documented health needs (such as fortifying milk with vitamin D to increase the body's absorption of calcium), or to enhance the perceived nutritional value of products with little or no natural nutritional value, e.g., fortifying "energy" bars made from processed flour with multiple vitamins and minerals. Fortification nutrients are added to products in varying amounts, from small percentages up to amounts greater than recommended intakes.

germ: The vitamin-rich sprouting section of the whole-grain kernel. Germ credits the same as enriched grains in the meal patterns for school nutrition programs.

gluten: The general name for proteins naturally found in certain cereal grains, such as barley, rye, wheat, and triticale (a wheat-rye hybrid). Gluten has elastic properties that help dough to stretch, rise, and maintain moisture when heated. It is frequently used as an additive to improve texture and promote moisture retention in processed foods. Gluten is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12. For more information, refer to "grain derivative" in this section and column 2 in table 3-1.

graham flour: A type of coarsely ground whole wheat flour.

grain berries: The unprocessed whole kernel of grain, such as wheat berries and rye berries.

grain derivative: A by-product of grains, such as malt made from barley, wheat gluten made from wheat, and maltodextrin made from corn. Grain derivatives do not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12. For examples of grain derivatives, refer to column 2 in table 3-1.

grains: Plants in the grass family, which produce a dry, edible fruit commonly called a kernel, grain, or berry.

grains component: The meal component of the USDA meal patterns that includes cereal grains and products made from their flours. Creditable grain foods include products and standardized recipes that are WGR or enriched. Creditable cooked and ready-to-eat (RTE) breakfast cereals include products that are WGR, enriched, or fortified. For more information, visit the "Grains" section of the CSDE's Crediting Foods in School Nutrition Programs webpage.

grits: A coarsely ground grain made with hominy or stone-ground corn.

groats: The hulled kernels of various cereal grains, such as oat, wheat, rye, buckwheat, and barley. Groats are whole grains.

Healthy Food Certification: A state statute (Section 10-215f of the Connecticut General Statutes) that requires each board of education or governing authority for all public schools participating in the NSLP to certify annually to the CSDE whether they will follow the Connecticut Nutrition Standards (CNS) for all foods sold to students separately from reimbursable meals. Districts that choose to implement the CNS receive additional funding per lunch, based on the total number of reimbursable lunches (paid, free, and reduced) served in the district in the prior school year. For more information, refer to "Connecticut Nutrition Standards" in this section and visit the CSDE's Healthy Food Certification webpage.

hominy grits: A type of grits made from hominy.

hominy: A traditional food in Mexican and Native American cultures that is commonly served as a vegetable or milled grain product, e.g., hominy grits. Hominy is made from whole kernels of maize (dried field corn) that have been soaked in an alkaline solution (nixtamalized). This process removes the hull and germ, causes the corn to puff up to about double its normal size, and increases the bioavailability of certain nutrients, such as calcium and niacin. For more information, refer to "Whole grains" in section 1, and the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs*.

instant oatmeal: Oatmeal made from whole-grain oats that are thinner and more finely chopped than rolled oats. Instant oatmeal has a soft texture and cooks quickly.

l-cysteine: An amino acid used in baking to help soften the dough and reduce processing time.

maltodextrin: A carbohydrate derived from starch (typically from corn, potatoes, rice, or wheat) that is used as a food additive to enhance texture and flavor. Maltodextrin is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12. For more information, refer to "grain derivative" in this section and column 2 in table 3-1.

masa harina: Corn flour used for making corn products such as tortillas, tortilla chips, and tamales. Masa harina is nixtamalized and credits as a whole grain. For more information, refer to "Whole grains" in section 2 and the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs*.

meal pattern: The required meal components and minimum servings that schools and institutions participating in the USDA's Child Nutrition Programs must provide to receive federal reimbursement for meals and afterschool snacks served to children. For more information, refer to the CSDE's *Guide to the Meal Patterns for Grades K-12 in the National School Lunch Program and School Breakfast Program* and visit the CSDE's Meal Patterns for Grades K-12 in School Nutrition Programs webpage.

meal: A grain made by coarsely grinding corn, oats, wheat, or other grains. Whole grain, enriched, or fortified meal credits toward the grains component of the USDA's meal patterns.

meals: Refer to "reimbursable meals" in this section.

millet: A group of several small, related grains. Millet is a gluten-free whole grain

modified food starch: A chemically altered ingredient made from starch that is used as a thickening agent, stabilizer, or emulsifier. The most common types of modified food starch are made from corn, wheat, potato, and tapioca. Modified food starch is a noncreditable grain that counts toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12. For more information, refer to "WGR Criterion 3 –Noncreditable Grains Meet Limit" in section 3.

National School Lunch Program (NSLP): The USDA's federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. The NSLP provides nutritionally balanced, low-cost, or free lunches to children each school day. The NSLP was established under the National School Lunch Act, signed by President Harry Truman in 1946. For more information, visit the CSDE's National School Lunch Program webpage.

nixtamalization: A process in which dried corn is soaked and cooked in an alkaline (slaked lime) solution. This process increases the bioavailability of certain nutrients and provides a nutritional profile similar to whole-grain corn. Nixtamalized corn is used to make hominy, masa harina (corn flour), corn masa (dough from masa harina), and certain types of cornmeal. Nixtamalized corn credits as a whole grain. For more information, refer to "Whole grains" in section 2 and the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs*.

noncreditable grains: Grain ingredients that do not contribute to the grains component. Some examples include oat fiber, corn fiber, wheat starch, corn starch, and modified food starch (including potato, legume, and other vegetable flours). For more information and additional examples, refer to "WGR Criterion 2: Noncreditable Grains Meet Limit" in section 3.

old-fashioned oats (rolled oats): Whole-grain oats that have been steamed and flattened. They have a firm texture and cook faster than steel-cut oats.

ounce equivalent (oz eq) of grains: A unit of measure that indicates the contribution of a given serving size toward the grains component in the meal patterns for the school nutrition programs One oz eq provides 16 grams of credible grains. The amount of a grain food that provides 1 oz eq varies because different types of foods contain different amounts of creditable grains. For example, 1 oz eq of the grains component can be less than a measured ounce (e.g., pretzels, bread sticks, and crackers), equal to a measured ounce (e.g., bagels, biscuits, bread, rolls, cereal grains, and RTE breakfast cereals), or more than a measured ounce (e.g., muffins, pancakes, and grain-based desserts such as cookies, cake, and granola bars). For more information, refer to the CSDE's resource, *Grain Ounce Equivalents Chart for the School Nutrition Programs*.

pearled grains: Removing the bran from the whole grain, such as pearled barley. Pearled grains are not whole grains.

primary grain ingredient: The greatest grain ingredient by weight. For commercial grain foods, this is the first ingredient (excluding water) listed in the product's ingredients statement. For commercial combination foods that contain a grain portion, this is the first grain ingredient (excluding water) listed in the product's ingredients statement. For commercial combination foods that contain a grain portion listed separately, this is the first ingredient (excluding water) listed in the grain portion of the product's ingredients statement.

product fact sheet: Refer to "product specification sheet" in this section.

product formulation statement (PFS): An information statement developed by manufacturers that provides specific information about how a product credits toward the USDA's meal patterns, and documents how this information is obtained citing Child Nutrition Program resources or regulations. All creditable ingredients in this statement must match a description in the USDA's *Food Buying Guide for Child Nutrition Programs.* The PFS must be prepared on company letterhead with the signature of a company official and the date of issue. A PFS does not provide any warranty against audit claims. The USDA requires that SFAs must verify the PFS for accuracy prior to purchasing, serving, and claiming the product in reimbursable meals and afterschool snacks. For more information, refer to the CSDE's resources, *Using Product Formulation Statements in the School Nutrition Programs* and *Accepting Processed Product Documentation in the School Nutrition Programs,* and visit the "Product Formulation Statements" section of the CSDE's Crediting Documentation for the Child Nutrition Programs webpage.

product specification sheet: Manufacturer sales literature that provides various information about the company's products. These materials do not provide the specific crediting information that is required on a product formulation statement and cannot be used to determine a product's contribution toward the USDA's meal pattern components.

pseudo-grains: Plants that are not in the same botanical family as cereal grains but have nutritional profiles and uses similar to "true" cereal grains. Examples include amaranth, quinoa, and buckwheat.

quinoa: A small, round type of pseudo-grain that is botanically a relative of Swiss chard and beets. Quinoa is a whole grain. For more information, refer to "pseudo-grains" in this section.

refined grains: Grains that have been processed to remove the bran and germ, making the product less nutritious than whole grains. Refined grains may or may not be enriched. For more information, refer to "enriched grains" in this section.

reimbursable meals: Meals that offer the required meal components and minimum servings for each grade group of the NSLP and SBP meal patterns.

reimbursable snacks: Snacks that offer the required meal components and minimum servings for each grade group of the ASP meal pattern.

residential child care institution (RCCI): RCCIs include, but are not limited to homes for the mentally, emotionally or physically impaired, and unmarried mothers and their infants; group homes; halfway houses; orphanages; temporary shelters for abused children and for runaway children; long-term care facilities for chronically ill children; and juvenile detention centers. A long-term care facility is a hospital, skilled nursing facility, intermediate care facility, or distinct part thereof, which is intended for the care of children confined for 30 days or more.

School Breakfast Program (SBP): The USDA's federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. The SBP provides nutritionally balanced, low-cost, or free breakfasts to children each school day. The SBP was established under the Child Nutrition Act of 1966 to ensure that all children have access to a healthy breakfast at school to promote learning readiness and healthy eating behaviors. For more information, visit the CSDE's School Breakfast Program webpage.

school food authority (SFA): The governing body that is responsible for the administration of one or more schools and has the legal authority to operate the USDA's school nutrition programs.

school nutrition programs: The USDA's school nutrition programs include the National School Lunch Program (NSLP), School Breakfast Program (SBP), Afterschool Snack Program (ASP) of the NSLP, Seamless Summer Option (SSO) of the NSLP, Special Milk Program (SMP), Fresh Fruit and Vegetable Program (FFVP), and Child and Adult Care Food Program (CACFP) At-risk Supper Program implemented in schools. For more information, visit the CSDE's School Nutrition Programs webpage.

Seamless Summer Option (SSO) of the NSLP: The USDA's federally assisted summer feeding program that combines features of the NSLP, SBP, and SFSP, and serves meals free of charge to children ages 18 and younger from low-income areas. School districts participating in the NSLP or SBP are eligible to apply to the CSDE to participate in the SSO. SSO meals follow the NSLP, SBP, and ASP meal patterns. For more information, visit the Seamless Summer Option (SSO) of the NSLP webpage.

semolina: A type of meal made from coarsely ground hard wheat (e.g., durum) used in puddings and pasta. Semolina is not a whole grain.

serving size or portion: The weight, measure, number of pieces, or slices of a food or beverage. SFAs must provide the minimum serving sizes specified in the USDA meal patterns for meals and afterschool snacks to be reimbursable.

soy lecithin: A substance made from soy oil that is used as an emulsifier or stabilizer in food.

standard of identity: The mandatory government requirements that determine what a food product (like whole-wheat bread) must contain or may contain to be marketed under a certain name in interstate commerce. These standards protect consumers by ensuring that a label accurately reflects what is inside. For example, mayonnaise is not an imitation spread, and ice cream is not a similar, but different, frozen dessert. The USDA develops standards for meat and poultry products. The FDA develops standards for other food products. For more information, visit the FDA's Standards of Identity for Food webpage.

standardized recipe: A recipe that been tried, adapted, and retried at least three times and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients. Standardized recipes include specific information such as ingredients, weights and measures, preparation directions, serving directions, yield, and portion size. For more information, refer to section 4 of this guide and the Culinary Institute of Child Nutrition's *USDA Recipe Standardization Guide for School Nutrition Programs,* and visit the "Standardized Recipes" section of the CSDE's Crediting Documentation for the Child Nutrition Programs webpage.

steel-cut oats: Whole-grain oats that are chopped into small pieces. Steel-cut oats have a chewier texture than rolled oats and instant oats and take the longest to cook.

triticale: A hybrid of durum wheat and rye. Triticale is a whole grain.

unbleached flour: Flour that has aged naturally after being milled. Unbleached flour has an off-white color and a denser grain than bleached flour. It provides more structure in baked goods due to its denser texture. Unbleached flour is a creditable grain if it is enriched. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs.*

unbromated flour: A baking flour that is higher in protein and does not contain potassium bromate. Unbromated flour develops more gluten, which results in a more stable baked product. It is commonly used for baking at high altitudes. Unbromated flour is a creditable grain if it is enriched. For information on crediting enriched grains, refer to the CSDE's resource, *Crediting Enriched Grains in the School Nutrition Programs.*

vital wheat gluten: A powdered form of wheat gluten that is used in baking to add elasticity to flours that are low in gluten, such as whole wheat or rye. Vital wheat gluten is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12. For more information, refer to "grain derivative" in this section and column 2 in table 3-1.

wheat bread: Bread that often has wheat flour or enriched wheat flour (not whole-wheat flour) as an ingredient. Wheat bread is not whole grain unless it is labeled "whole-wheat bread." Wheat bread is low in fiber unless the manufacturer has added fiber.

wheat gluten: The protein component of the wheat grain that helps baked goods hold their shape. Wheat gluten is a grain derivative that does not count toward the noncreditable grains limit for WGR foods in the NSLP, SBP, and ASP meal patterns for grades K-12. For more information, refer to "gluten" and "grain derivative" in this section and column 2 in table 3-1.

whey: A milk protein used to emulsify, thicken, and brown baked goods.

whole grain-rich: A grain food meets the WGR criteria of the NSLP, SBP, and ASP meal patterns for grades K-12 if: 1) it is 100 percent whole grain or contains a blend of whole and enriched grains that is at least 50 percent whole grain; and 2) any noncreditable grains are less than 2 percent of the product formula (less than ¼ oz eq per portion), i.e., no more than 3.99 grams per portion for groups A-G (baked goods) or 6.99 grams per portion for groups H (cereal grains). Ready-to-eat (RTE) breakfast cereals meet the WGR criteria if: 1) the first ingredient is a whole grain and the cereal is fortified, or the cereal is 100 percent whole grain; and 2) noncreditable grains do not exceed 6.99 grams per portion. Fortification is not required for 100 whole grain cereals.

whole grains: Grains that consist of the entire kernel, including the starchy endosperm, the fiber-rich bran, and the nutrient-rich germ. All grains start out as whole grains, but many are processed to remove the bran and germ, which also removes many of the nutrients. Whole grains are nutrient rich, containing vitamins, minerals, fiber, antioxidants, and health-enhancing phytonutrients such as lignans and flavonoids. Examples of whole grains include whole wheat, whole oats, oatmeal, whole-grain cornmeal, brown rice, whole rye, whole barley, wild rice, buckwheat, and bulgur (cracked wheat). For more information, refer to "Whole grains" in section 2 and the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs.*

whole-grain flour: Flour made by grinding the entire whole-grain kernel, including the fiber-rich bran, nutrient-rich germ, and starchy endosperm. Flour or meal that does not contain all parts of the grain is not whole grain, e.g., degermed corn, milled rice, and wheat flour. For more information, refer to "Whole grains" in section 2 and the CSDE's resource, *Crediting Whole Grains in the School Nutrition Programs.*

whole-wheat bread: Bread that contains the whole grain, including the starchy endosperm, the fiber-rich bran, and the nutrient-rich germ. Whole-wheat flour will be listed as the first grain ingredient.

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