

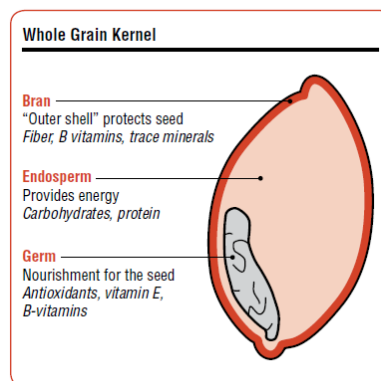
Crediting Whole Grains in the National School Lunch Program and School Breakfast Program

This guidance applies to the meal patterns for preschoolers (ages 1-4) and grades K-12 in the U.S. Department of Agriculture's (USDA) National School Lunch Program (NSLP), School Breakfast Program (SBP), Seamless Summer Option (SSO) of the NSLP, and Afterschool Snack Program (ASP) of the NSLP. For a comparison of the USDA's requirements for the grains component in the meal patterns for grades K-12 and preschoolers in the NSLP, SBP, SSO, and ASP, see the Connecticut State Department of Education's (CSDE) handout, [Comparison of Meal Pattern Requirements for the Grains Component in the School Nutrition Programs](#).



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.

Whole grains contain a wide variety of nutrients that help reduce the risk of chronic diseases. The CSDE encourages school food authorities (SFAs) to serve 100 percent whole-grain products most often. This provides the best nutrition for children.



Identifying Whole Grains in Commercial Products

Table 1 lists examples of whole-grain products and ingredients. The ingredients statement on commercial product labels lists ingredients by weight, from most to least. The closer an ingredient is to the beginning of the ingredients statement, the more of it the food contains. A commercial product is 100 percent whole grain if the ingredients statement lists a whole grain as the first ingredient (or lists water as the first ingredient and a whole grain as the second ingredient) and all other grain ingredients are whole grains. The ingredients statements below show examples of 100 percent whole-grain products.

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

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If the ingredients statement lists a grain name without the word “whole” (such as “wheat flour” instead of “whole wheat flour”), the product is usually not whole grain. However, some products that do not use the word “whole” in their description are whole grains. Examples include berries (e.g., wheat berries), groats (e.g., oat groats), rolled oats and oatmeal (including old-fashioned, quick-cooking, and instant oatmeal), brown rice, brown rice flour, wild rice, quinoa, millet, triticale, teff, amaranth, buckwheat, and sorghum. In addition, some grains have a FDA standard of identity that indicates they are whole grain. These include cracked wheat, crushed wheat, whole-wheat flour, graham flour, entire-wheat flour, bromated whole-wheat flour, and whole durum wheat flour.

If the ingredients statement does not provide sufficient information to determine if a grain is whole grain, the SFA must obtain a product formulation statement (PFS) from the manufacturer to document the amount of whole grains in the product. For information on PFS forms, see the CSDE’s handouts, [Product Formulation Statements](#) and [Accepting Processed Product Documentation](#), and the USDA’s handouts, [Product Formulation Statement for Grains](#), [Sample Completed Product Formulation Statement for Grains](#) and [Tips for Evaluating a Manufacturer’s Product Formulation Statement](#).

To determine if foods made on site contain whole grains, the SFA must review the grain ingredients in the food’s standardized recipe. For more information, see the CSDE’s handout, [Calculation Methods for Crediting Grains for Grades K-12 in the NSLP and SBP](#). For information on standardized recipes, see section 2 of the CSDE’s [Menu Planning Guide for School Meals for Grades K-12](#), section 2 of the CSDE’s [Menu Planning Guide for Preschoolers in the NSLP, SBP, and ASP](#), chapter 4 of the USDA’s [Menu Planner for School Meals: School Year 2018-2019](#), the CSDE’s [Standardized Recipe Form for School Nutrition Programs](#), and visit the “Crediting Foods Prepared On Site” section of the CSDE’s [Crediting Foods in School Nutrition Programs](#) webpage.

Crediting Corn Masa, Masa Harina, Corn Flour, and Cornmeal

Corn products such as tortilla chips, taco shells, and tamales are whole grain if the product is labeled as “whole grain” or the corn ingredient is treated with lime (nixtamalized). Nixtamalization is a process in which dried corn is soaked and cooked in an alkaline (slaked lime) solution. This process increases the bioavailability of certain nutrients (such as calcium and niacin) 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. Masa is used for making tortilla chips, taco shells, tamales, pupusas, and other popular corn products.

Ingredients labeled as hominy, corn masa, or masa harina credit as whole grains. However, some products made with cornmeal or corn flour may require additional information on the PFS to determine if the grain ingredients are nixtamalized; and therefore credit as whole grains.

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SFAs may use two methods to identify products made with nixtamalized corn.

1. If a product made with corn includes one of two FDA-approved whole grain health claims on its packaging, the corn in the product is nixtamalized and the product provides at least 50 percent whole grain.
 - **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 certain 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.”

Note: To meet the WGR criteria for grades K-12, any remaining grains in the product must be enriched, and any noncreditable grains cannot exceed the required limits. For more information, see the CSDE’s handout, *Whole Grain-rich Criteria for Grades K-12 in the NSLP and SBP*. A product meets the WGR criteria for the preschool meal patterns if the packaging includes one of the FDA’s whole grain health claims. For more information, see the CSDE’s handout, *Whole Grain-rich Criteria for Preschoolers in the NSLP, SBP, and ASP*.

2. If the ingredients statement indicates that the corn is treated with lime, the corn ingredient is nixtamalized. Examples include “ground corn with trace of lime” and “ground corn treated with lime.” Nixtamalized corn ingredients credit as whole grains.

Table 1. Whole-grain products and ingredients ¹		
Barley	Corn	Oats
Dehulled barley	Corn masa (whole corn	Instant oats
Dehulled-barley flour	treated with lime) ²	Oat groats ³
Whole barley	Cornmeal, nixtamalized ²	Oatmeal
Whole-barley flakes	Hominy made from	Old-fashioned oats
Whole-barley flour	nixtamalized corn ²	Quick-cooking oats
Whole-grain barley	Masa harina (corn flour) ²	Rolled oats
Whole-grain barley flour	Whole corn	Whole oats
	Whole-corn flour	Whole-oat flour
	Whole cornmeal	Whole-grain oat flakes
Brown rice	Whole-grain corn	Whole-grain oat flour
Brown rice	Whole-grain corn flour	
Brown rice flour	Whole-grain grits	
Sprouted brown rice	Whole-ground corn	

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Table 1. Whole-grain products and ingredients ¹, *continued*

Rye	Wheat (red) ⁴ <i>continued</i>	Other grains, <i>continued</i>
Whole rye	Whole durum flour	Buckwheat flour
Rye berries ³	Whole durum wheat flour	Buckwheat groats ³
Rye groats ³	Whole-grain bulgur	Einkorn
Sprouted whole rye	Whole-grain wheat	Einkorn berries
Whole-rye flour	Whole-grain wheat flakes	Einkorn flour
Whole-rye flakes	Whole wheat	Emmer (farro)
	Whole-wheat flour	Kamut®
	Whole-wheat pastry flour	Millet
	Whole-wheat flakes	Millet flour
Wheat (red) ⁴		Quinoa
Bulgur (cracked wheat)		Sorghum (milo)
Bromated whole-wheat flour		Spelt
Cracked wheat	Wheat (white) ⁶	Spelt berries
Crushed wheat	Whole white wheat	Sprouted buckwheat
Entire-wheat flour	Whole white wheat flour	Sprouted einkorn
Graham flour		Sprouted spelt
Sprouted whole wheat	Wild rice	Teff
Sprouted wheat berries ³	Wild rice	Teff flour
Stone ground whole-wheat flour ⁵	Wild rice flour	Triticale
Toasted crushed whole wheat	Other grains	Triticale flour
Wheat berries ³	Amaranth	Whole-grain spelt flour
Wheat groats ³	Amaranth flour	
Whole bulgur	Buckwheat	

¹ This list is not all-inclusive.

² Hominy, masa harina (corn flour), corn masa (dough from masa harina), and cornmeal credit as whole grains if they are nixtamalized. Nixtamalization is a process in which dried corn is soaked and cooked in an alkaline solution. SFAs may need to obtain a PFS to determine if a corn ingredient is nixtamalized. For more information, see “[Crediting Corn Masa, Masa Harina, Corn Flour, and Cornmeal](#)” on page 2.

³ Groats and berries are the hulled kernels of cereal grains such as oat, wheat, rye, and barley.

⁴ Red wheat is the most common kind of wheat in the United States.

⁵ “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 for “whole” in combination with “stone ground.”

⁶ White whole-wheat products are lighter in color and lack the slightly bitter taste associated with the bran in red wheat. Read labels carefully to be sure products are “white whole wheat” and not “white wheat,” which is not a whole grain.

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Criteria that do not Indicate Whole Grain Content

Menu planners cannot determine if a commercial grain product contains whole grains by using any of the following: certain statements about grain content on the product’s package; the Whole Grains Council’s Whole Grain Stamp; or the product’s color and fiber content.

Label statements about grain content

Careful label reading is important because the packaging for grain products can be misleading. Manufacturers often use terms in their product names or labels that make a product appear to contain a significant amount of whole grain when it does not. Table 2 includes some common misleading terms found on product packages. Products with these terms are usually not 100 percent whole grain. They often contain refined flour, or other ingredients that are not whole grain, as the first or second ingredient.

“Made with whole grains”	These products must have some whole grains but may contain mostly refined flour. The amount of whole grains can vary greatly among different products.
“Made with whole wheat”	These products must have some whole wheat but may contain mostly refined flour. The amount of whole wheat can vary greatly among different products.
“Contains whole grain”	These products may contain a small amount of whole grain but usually are mostly refined grains. The amount of whole grains can vary greatly among different products.
“100% wheat”	All breads made from any part of the wheat kernel are 100 percent wheat, which is not the same as 100 percent whole wheat. “100% wheat” products may contain some whole-wheat flour or may contain only refined flour. Look for the terms “100% whole wheat” or “100% whole grain” to indicate that the product is made from only whole grains.
“Multigrain” or specifies number of grains, e.g., “seven-grain bread”	These products must contain more than one type of grain, which can include refined grains, whole grains, or both. Some multigrain breads may have enriched flour as the primary ingredient with multiple grains in smaller amounts, while others contain mostly whole grains.

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Table 2. Common misleading terms for grains, *continued*

“Cracked wheat bread”	While cracked wheat is a whole grain, cracked wheat bread may contain refined flour as the primary ingredient with small amounts of cracked wheat.
“Stone ground” flour or meal	“Stone ground” describes the process used for making the flour or meal. It does not necessarily mean that the product is whole grain. Check the ingredients statement for the term “whole” in combination with “stone ground.”

Whole grain stamp

The [Whole Grains Council](#) provides three stamps that manufacturers may use on product packaging to identify foods that contain whole grains. However, the USDA does not allow SFAs to use these stamps to determine if grain products meet the WGR criteria for the grains component. The whole grain stamps indicate that a product is made with or contains 100 percent whole grains, but they do not indicate if all other grains in the product are enriched or if any noncreditable grains comply with the USDA’s limit for noncreditable grains. To determine compliance with the WGR criteria for the grains component, SFAs must review the product’s ingredients statement and packaging and, if necessary, obtain a PFS from the manufacturer.

Color

A product’s color does not indicate whether it contains whole grains. While whole-grain products are usually browner than products made with refined white flour, sometimes the brown color comes from coloring (e.g., caramel coloring) or molasses, not from whole-grain ingredients. Read the ingredients statement or the standardized recipe to determine if the food contains any whole grains.



Fiber content

Whole grains and fiber both provide health benefits, but they are not the same. The fiber content on the Nutrition Facts label is not a good indicator of whether a commercial product contains whole grains. Grain-based foods that are good sources of fiber, such as bran cereal, may contain added fibers, but few or no whole grains. The Nutrition Facts label lists total fiber, which includes naturally occurring fiber and sources added by the manufacturer, such as cellulose, inulin, and chicory root.

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WGR Requirement for School Meals

The meal patterns for grades K-12 and preschoolers have different requirements for the grains component. For a summary of these requirements, see the CSDE's handout, *Comparison of Meal Pattern Requirements for the Grains Component in the School Nutrition Programs*.

Grades K-12

Effective July 1, 2019, the USDA's final rule, *Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements*, requires that at least half of the weekly grains offered at lunch and breakfast must be WGR. Previously, the NSLP and SBP meal patterns for grades K-12 required that all grains were WGR. The CSDE strongly encourages SFAs to continue to serve only WGR grains, and offer 100 percent whole grains most often. This provides the best nutrition for children. For information on the WGR criteria, see the CSDE's handout, *Whole Grain-rich Criteria for Grades K-12 in the NSLP and SBP* and the CSDE's guide, *Menu Planning Guide for School Meals for Grades K-12*.

SFAs that choose to offer enriched grains must document that at least half of the weekly grains offered at lunch and breakfast are WGR. SFAs must maintain this documentation on file for the Administrative Review of school nutrition programs. SFAs may calculate the menu's percentage of WGR grains using the CSDE's Excel worksheet, *Calculating Weekly Percentage of Whole Grain-rich Menu Items in the NSLP and SBP*. For more information, see CSDE Operational Memorandum No. 11-19: *Weekly Whole Grain-rich (WGR) Requirement for the NSLP and SBP Meal Patterns for Grades K-12*.

Preschoolers

The NSLP, SBP, SSO, and ASP preschool meal patterns require at least one serving of WGR grains per day, between all meals and ASP snacks served to preschoolers. The USDA's *CACFP Best Practices* recommends at least two servings of WGR grains per day. Grains that are not WGR must be enriched. For information on the WGR criteria, see the CSDE's handout, *Whole Grain-rich Criteria for Preschoolers in the NSLP, SBP, and ASP*.

Note: The USDA's WGR definition for the meal patterns for grades K-12 is different from the WGR definition for the meal patterns for preschoolers. Foods that meet the WGR criteria for grades K-12 meet the WGR criteria for preschool meals and ASP snacks. However, foods that meet the WGR criteria for preschool meals and ASP snacks may or may not meet the WGR criteria for grades K-12. If SFAs serve the same grain foods to grades K-12 and preschoolers, these foods must comply with the WGR criteria for grades K-12.

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Resources

Adding Whole Grains to Your CACFP Menu (USDA):

https://www.fns.usda.gov/sites/default/files/tn/FNS_USDA_CACFP_11_AddingWholeGrains_04-508c.pdf

Calculating Weekly Percentage of Whole Grain-rich Menu Items in the NSLP and SBP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/PercentageWGRCalculation.xlsx>

Calculation Methods for Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/GrainCalc.pdf>

Calculation Methods for Grain Servings for Preschoolers in the NSLP, SBP, and ASP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/GrainCalcPreschool.pdf>

Comparison of Meal Pattern Requirements for the Grains Component in the School Nutrition Programs (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/ComparisonGrainCrediting.pdf>

Crediting Breakfast Cereals for Preschoolers in the NSLP, SBP, and ASP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/CreditCerealsPreschool.pdf>

Crediting Enriched Grains in the NSLP and SBP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/CreditEnrichedGrains.pdf>

Crediting Foods in School Nutrition Programs (CSDE webpage):

<https://portal.ct.gov/SDE/Nutrition/Meal-Patterns-School-Nutrition-Programs>

CSDE Operational Memorandum No. 11-19: Weekly Whole Grain-rich (WGR) Requirement for the NSLP and SBP Meal Patterns for Grades K-12

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Memos/OM2019/OM11-19.pdf>

Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Grainsozeq.pdf>

Grain Ounce Equivalents for Preschoolers in the NSLP, SBP, and ASP (Effective October 1, 2021) (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Preschool/Preschoolozeq.pdf>

Grain Servings for Preschoolers in the NSLP, SBP, and ASP (through September 30, 2021) (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Preschool/PreschoolGrains.pdf>

Grain-Based Desserts in the CACFP (USDA):

<https://fns-prod.azureedge.net/sites/default/files/tn/CACFPGrainBasedDesserts.pdf>

How to Identify Creditable Grains for Preschoolers in the NSLP, SBP, and ASP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/IdentifyCreditableGrainsPreschool.pdf>

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Meal Patterns for Preschoolers in School Nutrition Programs (CSDE webpage):

<https://portal.ct.gov/SDE/Nutrition/Meal-Patterns-Preschoolers-in-School-Nutrition-Programs>

Meal Patterns for School Nutrition Programs (Grades K-12) (CSDE webpage):

<http://portal.ct.gov/SDE/Nutrition/Meal-Pattern-Training-Materials>

Menu Planning Guide for Preschoolers in the NSLP, SBP, and ASP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Preschool/MPGpreschool.pdf>

Menu Planning Guide for School Meals for Grades K-12 (CSDE):

<https://portal.ct.gov/SDE/Nutrition/Menu-Planning-Guide-for-School-Meals>

Product Formulation Statement for Grains: Ounce Equivalents (USDA):

https://fns-prod.azureedge.net/sites/default/files/resource-files/PFS_Documenting_Grains_oz_eq.pdf

Product Formulation Statements (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/PFS.pdf>

Sample Completed Product Formulation Statement for Grains: Ounce Equivalents (USDA):

https://fns-prod.azureedge.net/sites/default/files/resource-files/PFS_Sample_oz_eq.pdf

USDA Final Rule (83 FR 63775): Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements

<https://www.govinfo.gov/content/pkg/FR-2018-12-12/pdf/2018-26762.pdf>

USDA Memo CACFP 09-2018: Grain Requirements in the Child and Adult Care Food Program; Questions and Answers:

<https://www.fns.usda.gov/cacfp/grain-requirements-child-and-adult-care-food-program-questions-and-answers-0>

USDA Memo CACFP 16-2017: Grain-Based Desserts in the Child and Adult Care Food Program:

<https://www.fns.usda.gov/cacfp/grain-based-desserts-child-and-adult-care-food-program>

USDA Memo SP 30-2012: Grain Requirements for the National School Lunch Program and School Breakfast Program:

<https://www.fns.usda.gov/school-meals/grain-requirements-national-school-lunch-program-and-school-breakfast-program>

USDA Memo SP 34-2019, CACFP 15-2019 and SFSP 15-2019: Crediting Coconut, Hominy, Corn Masa, and Masa Harina in the Child Nutrition Programs:

<https://www.fns.usda.gov/cn/crediting-coconut-hominy-corn-masa-and-masa-harina-child-nutrition-programs>

Whole Grain-rich Criteria for Grades K-12 in the NSLP and SBP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/WGRCriteria.pdf>

Whole Grain-rich Criteria for Preschoolers in the NSLP, SBP, and ASP (CSDE):

<https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/WGRCriteriaPreschool.pdf>

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For more information, review the CSDE's guides, *Menu Planning Guide for School Meals for Grades K-12*, *Menu Planning Guide for Preschoolers in the NSLP, SBP, and ASP*, and *Afterschool Snack Program Handbook*, or contact the [school nutrition programs staff](#) in the CSDE's Bureau of Health/Nutrition, Family Services and Adult Education, 450 Columbus Boulevard, Suite 504, Hartford, CT 06103-1841.

This document is available at <https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/CreditWholeGrains.pdf>.

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