

The Nutritional Benefits of Kernza® Perennial Grain

Kernza® is a nutritious, sustainable new ingredient available in whole grain, flour, flaked, puffed, and malted forms. Its nutty, complex flavor and dietary advantages provide powerful potential for makers looking to boost protein and fiber content in their products.

This guide offers nutritional information about whole grain Kernza®, but it is not intended to provide legal advice, or advice on compliance with any federal, state or local regulations that may govern food ingredients. Furthermore, the nutritional information provided below is based on publicly available data and information provided by the National Institutes of Health (NIH), U.S. Department of Agriculture (USDA) and U.S. Wheat Associates, and is not meant to provide any medical or nutritional advice to any specific individuals. Individuals should consult with a medical professional for medical or nutritional information that may be pertinent to or recommended for them. Please also note allergen information for Kernza® discussed at the end of this guide.



NUTRITIONAL HIGHLIGHTS

▶ Protein Content

Whole grain Kernza® typically contains between 17–20% protein,¹ though individual lots may vary, with some lots reporting protein levels up to 22%.²

► Fiber Content

Whole grain Kernza® typically contains 19-29% total dietary fiber, of which 5-6% is soluble fiber and 14-24% is insoluble fiber.¹ Based on the Daily Reference Values for adults consuming 2,000 calories per day, as reported by the NIH, a 50 g serving of Kernza® provides 41% of the recommended daily amount of fiber for most adults.³

▶ Vitamins and Minerals

Whole grain Kernza® also contains important vitamins and minerals.¹ Based on the Reference Daily Intakes for adults consuming 2,000 calories per day, as reported by the NIH, a 50 g serving of Kernza® contains the following percentages of the recommended daily amounts of the following nutrients for most adults:³

- 5% of the recommended calcium
- 6% of the recommended potassium
- 13% of the recommended vitamin B1 (Thiamin)
- 18% of the recommended magnesium
- 20% of the recommended phosphorus
- 21% of the recommended daily amount of zinc

KERNZA® COMPARISONS

Kernza® works well in whole grain flour applications. It can also be served as a standalone whole grain much like brown rice or quinoa in bowls or ready-to-heat/eat mixes.

Kernza® Vs. Wheat

Based on food composition data on whole wheat flour reported by the USDA, flour from whole grain Kernza® has more than 2.2X the dietary fiber, 3.6X the calcium, and 1.5X the potassium as whole wheat flour.⁴

Whole grain Kernza® contains more protein than wheat. Compared to data reported by the U.S. Wheat Associates for various wheat market classes,⁵ whole grain Kernza® protein content is about:

- 1.8X more than Soft Red Winter
- 1.8X more than Soft White
- 1.5X more than Hard Red Winter
- 1.2X more than Hard Red Spring
- 1.2X more than Northern Durum

NOTE: Though Kernza® has higher protein content from a nutritional standpoint, its gluten strength in doughs is not as strong as that of hard wheats. The functionality of



Kernza® in baked goods is similar to that of soft wheats. For tips and tricks on using Kernza® flour, see the Consumer Packaged Goods and Chefs & Bakers How-To Guides on Kernza.org.

Based on the food composition data reported by the USDA, Kernza® also provides higher values for certain nutrients than those found in brown rice and quinoa:

Kernza[®] Vs. Brown Rice⁶

- More than 2.4X the protein
- More than 5.4X the dietary fiber
- More than 17X the calcium
- More than 2.2X the potassium

Kernza[®] Vs. Quinoa⁷

- More than 1.5X the protein
- More than 3.7X the dietary fiber
- More than 3.6X the calcium

ALLERGENS

- ► Kernza® is related to wheat and contains gluten. Individuals who have allergies to wheat and/or gluten should not consume Kernza® without first consulting with a medical professional.
- ➤ As with wheat, Kernza® grain and flour should not be eaten raw. All ingredients should be cooked or heated to a food-safe temperature during processing.
- Nutrient claims will depend on the nutrient content of the final product that uses Kernza[®].
- Refer to the FDA food nutrition labeling regulations, found here.

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SOURCES

- ¹ Data reported as milligrams or grams per 100 g of sample, as-is basis. Samples of Kernza® perennial grain representing 24 individual fields harvested in 2024 were cleaned and dehulled and aggregated to form three distinct samples representative of the following Kernza® production categories: Midwest Organic (n=7), Midwest non-organic (n=8), and Great Plains non-organic (n=9). All analyses performed by Great Plains Analytical Laboratory according to official testing methods. Samples milled to flour when required by analysis method. Protein content = total nitrogen x 6.25.
- ² Flaked grain COA from Sustain-A-Grain showing 22% protein, Marcus and Fox 2022 showing 16.5% protein on raw grain, and Sustain-A-Grain spec sheet online showing 18.6% protein.
- ³ Daily Value Tables for Reference Daily Intake, National Institutes of Health, Office of Dietary Supplements, accessible at https://ods.od.nih.gov/HealthInformation/dailyvalues.aspx
- ⁴Flour, whole wheat, unenriched. Reported per 100 g of sample, as-is basis. Food Data Central Food Details, USDA. https://fdc.nal.usda.gov/food-details/790085/nutrients Comparisons calculated using an average of the Kernza® values reported in this guide.
- ⁵5-year average protein content values reported by the U.S. Wheat Associates. https://uswheat.org/wp-content/uploads/2025/03/HR-240927.pdf. Comparisons calculated using an average of the Kernza® values reported in this quide.
- ⁶Rice, brown, long grain, unenriched, raw. Reported per 100 g of sample, as-is basis. Food Data Central, USDA https://fdc.nal.usda.gov/food-details/2512380/nutrients. Comparisons calculated using an average of the Kernza® values reported in this guide.
- ⁷ Flour, quinoa. Reported per 100 g of sample, as-is basis. Food Data Central, USDA, https://fdc.nal.usda.gov/food-details/2512372/nutrients. Comparisons calculated using an average of the Kernza® values reported in this guide.