

November 17, 2023

Janet M. de Jesus, MS, RD
Office of Disease Prevention and Health Promotion
Office of the Assistant Secretary for Health
Department of Health and Human Services
1101 Wootton Parkway, Suite 420
Rockville, Maryland 20852

Re: 2025 Dietary Guidelines Advisory Committee and Request for Comments (Docket No. HHS-OASH–2022–0021)

Dear Ms. de Jesus,

On behalf of The Grain Chain, a grains industry coalition from farm to fork, we respectfully submit the following comments to the U.S. Departments of Agriculture and Health and Human Services (the Departments) on the protocols discussed during the September 2023 Dietary Guidelines Advisory Committee (DGAC) meeting and posted to dietaryguidelines.gov as of October 16, 2023. [The Grain Chain](#), and its members, have a longstanding history of working to increase consumption of under consumed nutrients and foods, like grains, and have been intensely involved in the development and implementation of the Dietary Guidelines for Americans. We [submitted comments](#) to the Departments and the DGAC on the posted protocols as of June 1, 2023 and provided [oral comments](#) at the September 2023 meeting as commenter 62, representing The Grain Chain, and commenter 64, representing the Wheat Foods Council. The Grain Chain appreciates the opportunities to continue to work with the Departments and the DGAC on the development of the 2025-2030 DGA.

The comments provided herein primarily focus on the work of **Subcommittee 3: Food Pattern Modeling & Data Analysis and their work on staple carbohydrates**, particularly regarding these questions:

- What are the implications for nutrient intakes when modifying the quantities of the Grains group within the Healthy U.S.-Style Dietary Pattern?
- What are the implications for nutrient intakes when specific individual staple grains are emphasized; or when Grains are replaced with other staple carbohydrate foods (i.e., Starchy Vegetables; Beans, Peas, and Lentils; Starchy Red and Orange Vegetables)?

Grain Consumption & Nutrient Adequacy

Grains are an integral part of a recommended healthy dietary pattern, making up one-quarter of MyPlate. In the [2020-2025 DGA](#), the established USDA Dietary Patterns recommend about 6 servings of grains, or ounce equivalents, per day for those two and older at a 2,000-calorie level, and up to 3 servings of grains, or ounce equivalents, per day for those 12 to 23 months of age. The recommendations also state to “make half your grains whole grains” and that refined-grain choices should be enriched. Further, whole grains were deemed essential to the daily American plate. The grain food category provides approximately 23% of dietary fiber, 34% of dietary folate, 30% of iron, and 14% of magnesium daily in the total diet— showcasing how grains help in meeting shortfall nutrients.¹

¹ Papanikolaou Y, Fulgoni V. Grain Foods Are Contributors of Nutrient Density for American Adults and Help Close Nutrient Recommendation Gaps: Data from the National Health and Nutrition Examination Survey, 2009–2012. *Nutrients*. 2017,9(8), 873; <https://doi.org/10.3390/nu9080873>.

Although all grains are core elements of previous editions of the DGA and the 2020-2025 Dietary Guidelines for Americans, an overwhelming majority of the population do not meet the recommendations, particularly for whole grains. According to a USDA Economic Research Service study that examined consumer intake of whole grains from 1998 to 2018, Americans aged 2 years and older went from consuming 0.4 ounces per 1,000 calories to only 0.43 ounces per 1,000 calories, highlighting the need for further emphasis to increase whole grain consumption.²

During Subcommittee 3's September 2023 presentation, they noted several key points that support the consumption of grains. One was the prevalence of nutrition-related chronic health conditions including obesity, coronary heart disease, diabetes, and colorectal cancer – all conditions that grain consumption has been found to lower the risk of. They also noted that whole grain intake is very deficient, contributing to the low HEI-2020 score of 58. Furthermore, from a nutrient intake perspective, the subcommittee noted that fiber intake is low, with only 6% of those ages 1 year or older meeting the dietary fiber recommendation. In addition, fortified and enriched refined grains play an important role in health as well, including through a reduction in Neural Tube Defects (NTDs). A recent multinational cohort study published in *The Lancet*, found that foods like breads and cereals, which may be deemed “ultra-processed” by some classification systems, were not found to be associated with risk of cancer or cardiometabolic diseases and should be recommended for consumption due to their fiber content and other under consumed vitamins and minerals.³ Enriched, refined grains make up 95% of refined grains and contribute to a healthy, nutrient dense diet by providing B vitamins, folic acid, and iron.

The Grain Chain is concerned that replacing all or some of whole and/or refined, enriched grain intake with starchy vegetables and/or beans, peas, and lentils could further exacerbate nutrient shortfalls, including folic acid, fiber, iron, and other vitamins and minerals. Almost 40% of dietary fiber is consumed through enriched grains and they also provide critical folic acid. A 2009-2016 NHANES analysis shows that if 50% of enriched grains are removed from the diet, the percentage of children below the Estimated Average Requirement (EAR) for folate would almost triple from 3.6% to 9.2% and for adults the percentage would almost double from 12.2% to 23.2%.⁴ Moreover, ready-to-eat cereals and hot cereal specifically, in addition to other grain foods, provide critical iron. In the same NHANES analysis, removing 50% of enriched grains from the diet would increase the percentage of children below the EAR for iron by more than double from 2.5% to 5.8% and in adults, the percentage of those below the EAR would increase from 5.1% to 8.3%.⁴ Through subcommittee 3's review of the evidence and data thus far, it is clear that additional efforts should be made to encourage increased consumption of grains to meet nutrient intakes and lower the risk of certain nutrition-related chronic conditions, not decrease consumption.

Importance of Fortification & Grains

Given the robust discussion amongst Subcommittee 3 and the DGAC, The Grain Chain wishes to reiterate the role that grains play in nutrient density and nutrient adequacy. Grains contain many nutrients that Americans are lacking or under consuming, including dietary fiber, potassium, iron, and folate. We support the DGAC's focus on defining fortification and the importance of this process to

² Lin BH, Smith, Smith T, Guthrie J. April 2023. Trends in U.S. Whole Grain Intakes 1994–2018: The Roles of Age, Food Source, and School Food, ERR-311, U.S. Department of Agriculture, Economic Research Service.

³ Cordova R, Viallon V, Fontvieille E, Peruchet-Noray L, Jansana A, Wagner KH, et al. November 2023. Consumption of ultra-processed foods and risk of multimorbidity of cancer and cardiometabolic diseases: a multinational cohort study. *The Lancet*. doi: <https://doi.org/10.1016/j.lanep.2023.100771>.

⁴ Papanikolaou Y, Slavin JL, Clemens R, et al. Do Refined Grains Have a Place in a Healthy Dietary Pattern: Perspectives from an Expert Panel Consensus Meeting. *Curr Dev Nutr*. 2020;4(10):nzaa125. Published 2020 Jul 16. doi:10.1093/cdn/nzaa125

ensuring Americans obtain the necessary nutrients. The fortification of folic acid in certain grain foods has contributed to the significant reduction of neural tube defects.^{5 6} Enrichment and fortification of refined grains have made significant, long-lasting contributions to improve the health of Americans. With the addition of folic acid to the enrichment formula in grains in 1998, there has been a decrease in neural tube birth defects by one-third.⁷ Although this fortification has helped about 1,300 US babies to be born without NTDs, Hispanic mothers continue to be at the highest risk for having a baby with an NTD.⁸ Compared to 31% of non-Hispanic White women, only 13% of Hispanic women consumed folic acid.⁹ Additionally, research shows that those who follow a carbohydrate-restricted diet are 30% more likely to have an infant with anencephaly or spina bifida.¹⁰ As the DGAC continues to examine each scientific question with a health equity lens, it is important to consider how NTDs impact specific racial and ethnic groups and how dietary guidance, including the recommendations to consume enriched grains, can address nutrient shortfalls among certain populations.

In addition to folic acid, iron is a vital nutrient during pregnancy that supports fetal development.¹¹ Breads, cereals, pasta, and other foods made with enriched flour supply about one-half of the iron consumed in the US.¹² Iron deficiency anemia during pregnancy is associated with having a low-birth-weight baby and postpartum depression, and severe iron deficiency during pregnancy can increase the risk of premature birth (delivery before 37 weeks of pregnancy).¹³ Consuming iron-fortified grain foods has been found to significantly reduce iron deficiency and anemia among pregnant women.¹⁴ The DGAC must consider how the grains food group not only contributes to a nutritious dietary pattern and nutrient adequacy, but also how to encourage consumption of more grain foods, including those that have been fortified, not less, to improve health and nutrition. We also look forward to better understanding how the DGAC is going to incorporate fortified foods in their food pattern simulations and draft conclusion statements.

⁵ Reynolds A, Mann J, Cummings J, Winter N, Mete E, Te Morenga L. Carbohydrate quality and human health: a series of systematic reviews and meta-analyses. *The Lancet*. 2019;393 (10170):434-445. Doi:[https://doi.org/10.1016/S0140-6736\(18\)31809-9](https://doi.org/10.1016/S0140-6736(18)31809-9).

⁶ Centers for Disease Control and Prevention. Updated Estimates of Neural Tube Defects Prevented by Mandatory Folic Acid Fortification — United States, 1995–2011. *MMWR Morb Mort Wkly Rep*. 2015; 64(01); 1-5. [Key Findings: Folic acid fortification continues to prevent neural tube defect | CDC](#)

⁷ Honein MA, Paulozzi LJ, Mathews TJ, Erickson JD and Wong LYC (2001) Impact of folic acid fortification of the US food supply on the occurrence of neural tube defects. *Journal of the American Medical Association* 285:2981-2986

⁸ Centers for Disease Control and Prevention. Updated Estimates of Neural Tube Defects Prevented by Mandatory Folic Acid Fortification — United States, 1995–2011. *MMWR Morb Mort Wkly Rep*. 2015; 64(01); 1-5. [Key Findings: Folic acid fortification continues to prevent neural tube defect | CDC](#)

⁹ Yang QH, Carter HK, Mulinare J, Berry RJ, Friedman JM, Erickson DJ. Race-ethnic differences in folic acid intake in women of childbearing age in the United States after folic acid fortification: Findings from the National Health and Nutrition Examination Survey, 2001–2002. *Am J Clin Nutr*. 2007;85:1409–1416.

¹⁰ Desrosiers TA, Siega-Riz AM, Mosley BS, Meyer RE; National Birth Defects Prevention Study. Low carbohydrate diets may increase risk of neural tube defects. *Birth Defects Res*. 2018;110(11):901-909. doi:10.1002/bdr2.1198

¹¹ United States Department of Agriculture: Food and Nutrition Services. Eye on Nutrition: Iron and Vitamin C. <https://wicworks.fns.usda.gov/resources/eye-nutrition-iron-and-vitamin-c>

¹² Institute of Medicine (US) Panel on Micronutrients. Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc. Washington (DC): National Academies Press (US); 2001. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK222310/> doi: 10.17226/10026

¹³ Mayo Clinic. Iron deficiency anemia during pregnancy. February 2022. [Iron deficiency anemia during pregnancy: Prevention tips - Mayo Clinic](#)

¹⁴ Athe R, Dwivedi R, Pati S, Mazumder A, Banset U. Meta-analysis approach on iron fortification and its effect on pregnancy and its outcome through randomized, controlled trials. *J Family Med Prim Care*. 2020 Feb 28;9(2):513-519. doi: 10.4103/jfmpc.jfmpc_817_19. PMID: 32318374; PMCID: PMC7114015.

Low-Carbohydrate Diets

As outlined in the 2020-2025 DGA, daily nutritional goals for Americans ages 2 and older should include 45-65% of calories from carbohydrates, or a recommended daily allowance (RDA) of 130 grams. The Grain Chain remains aligned with the prior DGAC and Departments' approach that a diet lower than 45% of calories from carbohydrates is considered "low carbohydrate." Continuing to recommend these amounts encourages consumption of under-consumed, nutrient dense carbohydrate foods like grains, fruits, and vegetables. A recently published Clinical Report in the American Academy of Pediatrics in September 2023 examined low-carbohydrate diets in youth with, or at risk for, diabetes. The authors state that low-carbohydrate, or very low-carbohydrate diets are not recommended for children and adolescents with type 1 diabetes. They also encourage following a healthy dietary pattern strategy for those with prediabetes, type 1, or type 2 diabetes, like the Mediterranean diet or DGA eating patterns, which include the consumption of whole grains.¹⁵

Health Equity & Nutrition Security

In addition to negative implications on nutrient adequacy with the Staple Carbohydrate simulation to replace all or some whole and/or refined, enriched grains with starchy vegetables, and/or beans, peas, and lentils, the DGAC and the Departments must consider the affordability and availability of nutrient-rich grains to those who may be unable to achieve food or nutrition security. [Household Food Security data](#) in the US for 2022 was recently released from USDA's Economic Research Service (ERS), which found that 44.2 million people lived in households that struggled with hunger, an increase of 10.3 million compared to 2021. In addition, 13.4 million children lived in households that experienced food insecurity, which is up 44.6% from 2021. Rates of food insecurity were also higher for single-parent households headed by women as well as for Black and Latinx households. These statistics are a sobering reminder that all Americans should have access to affordable, nutritious food options, like grains. Grain foods are affordable, versatile, and accessible, making them an ideal, nutritious choice for all Americans.

Conclusion

In closing, The Grain Chain would like to summarize and reiterate the importance of grain foods in achieving nutrient adequacy and healthy dietary patterns as the DGAC continues to examine evidence and draft conclusion statements and as the Departments draft the DGA. We urge the DGAC and Departments to carefully consider the potential negative unintended consequences if grains are recommended to be reduced or eliminated, as outlined in the Staple Carbohydrate simulation with subcommittee 3.

- Grain foods, including whole and refined, enriched grain foods not only help Americans in meeting nutrient needs, including nutrients of public health concern, but they also play an important role in reducing the risk of certain nutrition-related chronic conditions.
- As evidenced by the 2022 household food security data, food and nutrition insecurity continues to be a concern in the US, particularly among low-income and vulnerable populations, like children. Staple grain foods, including whole and refined, enriched grains, are affordable and

¹⁵ Anna Neyman, Tamara S. Hannon, COMMITTEE ON NUTRITION; Low-Carbohydrate Diets in Children and Adolescents with or at Risk for Diabetes. *Pediatrics* October 2023; 152 (4): e2023063755. 10.1542/peds.2023-063755.

accessible while also providing essential key nutrients that are largely under consumed that populations need to meet dietary recommendations.

- Grains are staple foods and are prominent in diverse cultural foodways, providing deep-rooted connections to many cultures from around the world.

We appreciate this opportunity to provide comments to the 2025-2030 Dietary Guidelines Advisory Committee and the Departments. For questions or additional information, please contact Grain Chain Leader Rasma Zvaners, Vice President, Government Relations American Bakers Association, RZvaners@americanbakers.org.

Sincerely,

Undersigned Members of The Grain Chain

American Bakers Association
American Institute of Baking
Cereals and Grains Association
Independent Bakers Association
National Association of Wheat Growers
National Pasta Association
North American Millers Association
Retail Bakers of America
USA Rice Federation
Wheat Foods Council