



February 17, 2023

WIC Administration, Benefits, and Certification Branch
Policy Division, Food and Nutrition Service
1320 Braddock Place, 3rd Floor
Alexandria, Virginia 22314

Re: Special Supplemental Nutrition Program for Women, Infants, and Children: Revisions in the Women, Infants, and Children Food Packages (Docket FNS-2022-0007)

Dear Sir or Madam:

We appreciate the opportunity to provide comments on the proposed revisions to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) food packages. The following comments are provided on behalf of the Almond Alliance (the Alliance), in cooperation with the Almond Board of California (ABC).

These comments are provided on behalf of the Almond Alliance, in cooperation with the Almond Board of California. The Almond Alliance is an association which serves as the almond industry's advocacy voice, promoting the interests of its members. The Almond Board of California administers the almond industry's grower-enacted federal marketing order. The Almond Alliance and the Almond Board represent 7,600 growers and 100+ processors of almonds in California. 100% of U.S. commercial almond production is in California; this production also represents over 80% of the global supply. Almonds are grown on some 1.6 million acres within the Central Valley, with 2021 production reaching 2.9 billion lbs.

The Alliance supports USDA's effort to revise the WIC food packages to align more closely with U.S. dietary guidance and better promote nutrition security. Providing a fuller basket of foods through the recommendations below will help achieve both of these important goals.

Key Considerations & Recommendations

- 1. The inclusion of almonds/almond products in the WIC food packages is important for bringing WIC participants' diets more in line with the Dietary Guidelines for Americans (DGA) and key nutrient recommendations.**

Nuts are an important component of a healthy diet according to the 2020-2025 DGA, which recommends 5 ounces of nuts/seeds per week for a 2,000 calorie dietary pattern.¹ Yet, the majority of WIC participants do not meet DGA recommendations for nuts and seeds, and are falling short on the nutrients provided by these important foods.

¹ U.S. Department of Agriculture and U.S. Department of Health and Human Services. (2020). Dietary Guidelines for Americans, 2020-2025. 9th Edition. [DietaryGuidelines.gov](https://www.dietaryguidelines.gov)



The 2017 National Academies of Sciences, Engineering, and Medicine (NASEM) report “Reviewing the WIC Food Package: Improving Balance and Choice” found the following food and nutrient gaps among WIC participants:²

WIC-Participating Women (19-50 Years)

- >82% of do not meet the DGA recommendations for nuts and seeds.
- Average intakes of potassium, fiber and choline are below the adequate intake (AI).
- >50% of pregnant women fall below the estimated average requirement (EAR) for iron.

WIC-Participating Children (2-5 Years)

- >77% do not meet DGA recommendations for nuts and seeds.
- Average intake of potassium and choline are below the AI.
- Average intake of fiber is approximately half the AI.

All of these vital nutrients are present in almonds, making them a good solution for improving WIC participants’ nutrient intakes. For example, a one-ounce serving of almonds has:³

- 1.1 mg iron (4% DV for pregnant women)
- 15 mg choline (3% DV for pregnant/lactating women; 8% DV for 1-3 year-olds)
- 4 g fiber (14% DV for pregnant/lactating women; 14-29% DV for 2-5 year-olds)
- 208 mg potassium (7% DV for pregnant/lactating women; 9-10% DV for 2-5 year-olds).

In addition to these nutrients, almonds are a good option for plant-based protein – with 6 g of protein per ounce – as well as 13 g of healthy unsaturated fats, which are associated with reduced risk of heart disease.⁴ All of these nutritional qualities make whole almonds and almond products (e.g., almond butter) a prime choice for inclusion in the WIC food packages.

2. The inclusion of almonds/almond products supports the special dietary and health needs of WIC participants which can encourage more families to participate in this program.

Food allergies – and particularly, peanut allergies – are common among women and young children, indicating a strong need for a peanut butter substitute in the WIC food packages. Peanut is the third most common food allergen for women, and the second most common allergen among children 1-5

² National Academies of Sciences, Engineering, and Medicine. (2017). Review of WIC food packages: improving balance and choice.

³ U.S. Department of Agriculture, Agricultural Research Service. (2022). FoodData Central. <https://fdc.nal.usda.gov/>

⁴ American College of Cardiology. (2015). Unsaturated Fats, High-Quality Carbs Lower Risk of Heart Disease.

<https://www.acc.org/about-acc/press-releases/2015/09/28/13/58/unsaturated-fats-high-quality-carbs-lower-risk-of-heart-disease>



years.^{5,6} This food allergy is a serious medical issue, as even minor peanut exposure can lead to a potentially life-threatening allergic reaction. Given the severity and high prevalence of peanut allergies among children, many childcare centers and schools do not allow children to bring in peanut products.⁷ It is important that the WIC food package make adaptations to meet the needs of participants with peanut allergies. A key solution is the allowance of nut butters (e.g., almond butter) as a peanut butter substitute within the food packages.

Lactose intolerance is also particularly common in the U.S. population – and it disproportionately affects racial and ethnic groups that participate in WIC. WIC participants come from diverse backgrounds, including Hispanic/Latino (41%) and Black/African American (30%) populations.⁸ Lactose intolerance heavily affects these groups, with 80% of African Americans and 53% of Hispanic Americans estimated to have lactose intolerance.⁹

Almond flour is a popular alternative to wheat flour in cooking and baking, offering a variety of dietary and nutritional benefits. One of the main advantages of almond flour is that it is gluten-free, making it an ideal choice for individuals with celiac disease or gluten intolerance. Additionally, almond flour is a great source of protein, fiber, healthy fats, and various essential vitamins and minerals, including vitamin E, magnesium, and potassium. Almond flour also has a lower glycemic index compared to wheat flour, meaning it can help regulate blood sugar levels and provide a steady supply of energy throughout the day, particularly for those with diabetes.

⁵ Gupta, R. S., Warren, C. M., Smith, B. M., Jiang, J., Blumenstock, J. A., Davis, M. M., ... & Nadeau, K. C. (2019). Prevalence and severity of food allergies among US adults. *JAMA network open*, 2(1), e185630-e185630.

⁶ Gupta, R. S., Warren, C. M., Smith, B. M., Blumenstock, J. A., Jiang, J., Davis, M. M., & Nadeau, K. C. (2018). The public health impact of parent-reported childhood food allergies in the United States. *Pediatrics*, 142(6).

⁷ American College of Allergy, Asthma & Immunology. (2022). Food Allergy – Peanut. <https://acaai.org/allergies/allergic-conditions/food/peanut/>

⁸ U.S. Department of Agriculture, Food and Nutrition Service. (2022). WIC Coverage Rates by Race and Hispanic/Latino Ethnicity, 2019. www.fns.usda.gov/apps/WIC2022/graphic7-v2022-v7.html

⁹ Robles L, Priefer R. (2020). Lactose Intolerance: What Your Breath Can Tell You. *Diagnostics (Basel)*; 10(6):412. doi: 10.3390/diagnostics10060412. PMID: 32560312; PMCID: PMC7344825.

Table 1. Nutrient Comparison of Almond Flour to Wheat Flour (per 100g)¹⁰¹¹

	Almond Flour	Whole Wheat Flour
Protein	26.2 g	15.1 g
Calcium	232 mg	38 mg
Fiber	9.3 g	10.6 g
Magnesium	251 mg	136 mg
Potassium	667 mg	376 mg

This high prevalence of these health conditions and considerations indicates a need to provide a wide array of dairy alternatives in the WIC food package to meet the diverse health needs of participants. Allowing almond-based dairy alternatives (e.g., fortified almond milks) within the WIC program is a key solution to this issue.

3. The inclusion of almond/almond products aligns well with Americans’ dietary preferences and may enable higher redemption rates.

Only approximately 51% of the peanut butter offered via WIC food packages IV-VII is redeemed, which reduces the overall nutritional impact of the program.¹² Almonds are not only one of the most popular tree nuts in the U.S.,¹³ they are also a part of varied cultural diets, including Mediterranean, Middle Eastern, Asian and Latin American eating patterns.¹⁴ WIC participants of various cultures may appreciate having various nut options, including almonds, within the WIC food packages to meet their personal and cultural food preferences.

¹⁰ <https://fdc.nal.usda.gov/fdc-app.html#/food-details/2261420/nutrients>

¹¹ <https://fdc.nal.usda.gov/fdc-app.html#/food-details/789890/nutrients>

¹² National Academies of Sciences, Engineering, and Medicine. (2017). Review of WIC food packages: improving balance and choice.

¹³ U.S. Department of Agriculture, Economic Research Service. (2019). Almonds lead increase in tree nut consumption. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=93152>

¹⁴ In-Home Supportive Services Training Academy. Cultural Considerations in Nutrition and Food Preparation. https://www.cdss.ca.gov/agedblinddisabled/res/VPTC2/9%20Food%20Nutrition%20and%20Preparation/Cultural_Consider_in_Nutrition_and_Food_Prep.pdf

Additionally, Americans are choosing plant-forward options more than ever – for health, diet and taste preferences.^{15,16} Expanding the plant-forward options available within the WIC food packages – through the allowance of whole almonds, almond butters, and almond-based dairy alternatives (e.g., fortified almond milk) – will align with this growing dietary interest to encourage program participation.

4. Providing almond/almond products ensures participants have access to an affordable source of nutrition.

At just \$0.56/ounce,¹⁷ almonds are a more affordable option compared to other tree nuts such as pecans, hazelnuts, and walnuts. And, when compared ounce for ounce, almonds are the tree nut with the highest level of protein, fiber, calcium – and often have a higher level of potassium and vitamin E (see Table 1).

Table 2. Nutrition and Price Comparison of Tree Nuts (per Ounce)^{18,19}

	Almond	Cashew	Hazelnut	Pecan	Walnut
Calories	160	160	180	200	190
Protein	6	4	4	3	4
Dietary Fiber	4	1	3	3	2
Iron	1.1	1.7	1.3	0.7	0.8
Vitamin E	7.3	0.3	4.3	0.4	0.2
Calcium	76	13	32	20	28
Potassium	208	160	193	116	125
Zinc	0.9	1.6	0.7	1.3	0.9
Price	\$0.56	\$0.56	\$1.49	\$0.80	\$0.62

Green coloring indicates best source of nutrient or best price per ounce.

Further, almond butter is nutritionally equivalent to peanut butter in terms of priority nutrients (e.g., protein, iron). And, while the price of almond products is higher than peanut butter products,

¹⁵ Demeritt, L. (2020). Demand for plant-based is hot, but what's behind the term? <https://www.smartbrief.com/original/2020/02/demand-plant-based-hot-what%E2%80%99s-behind-term>

¹⁶ Food Ingredients 1st. (2021). Spotlight on snacks: Plant-based preferences are rising, focus on health and better-for-you options.

<https://www.foodingredientsfirst.com/news/spotlight-on-snacks-plant-based-preferences-are-rising-focus-on-health-and-better-for-you-options.html>

¹⁷ Prices based on cost of Good & Gather nuts on Target.com as of July 28, 2022.

¹⁸ U.S. Department of Agriculture, Agricultural Research Service. (2022). FoodData Central. <https://fdc.nal.usda.gov/>

¹⁹ Prices based on cost of Good & Gather nuts on Target.com as of July 28, 2022.



almond butter contains higher levels of monounsaturated fatty acids and other important nutrients compared to peanut butter (see Table 2). These nutritional qualities make almonds a good, nutrient-dense substitute for peanut butter.

Table 3. Nutrient Comparison of Almond Butter vs. Peanut Butter (per 100g)^{20,21}

	Almond Butter	Peanut Butter
Protein	21 g	24.1 g
Monounsaturated fatty acids	32.4 g	23.1 g
Fiber	10.3 g	8 g
Iron	3.49 mg	1.9 mg
Potassium	748 mg	745 mg
Calcium	347 mg	50 mg

Green coloring indicates best source of nutrient per 100g.

5. Flexibilities are needed to enable more fortified plant-based dairy alternatives, like almond milks, to qualify for the WIC food packages.

As stated above, the inclusion of plant-based dairy alternatives is important for meeting the health needs of WIC participants. However, it is important to ensure a variety of products qualify for inclusion, to provide adequate choice to participants. Currently, the proposed nutrient requirements place substantial limits on the products that can qualify for the food packages.

Fortified almond-based milk products routinely meet the proposed nutrient criteria for total sugars, calcium, vitamin A, vitamin D and magnesium; it is unrealistic to match the specifications for all nutrients, including protein, potassium and phosphorus (see Table 3). For instance, Almond Alliance does not believe there is justification for nutritional criteria for protein. The 2020-25 Dietary Guidelines only identify calcium, vitamin D, and potassium as nutrients of public health concern. Almond Alliance notes that while dairy and soy milk products can be a good source of protein, the 2020-25 Dietary Guidelines acknowledge that Americans’ overall intakes of protein are close to the recommended amounts and therefore the Dietary Guidelines do not identify protein as a nutrient of public health concern. Additionally, the inclusion of almond milk would allow WIC participant’s purchases to more closely mirror typical buying patterns of plant based dairy alternatives. According to Information Resources Inc., 35% of American households consume almond milk; while only 4% consume soy milk. Also, according to Nielson POS data 72.3% of the plant based dairy alternatives

²⁰ U.S. Department of Agriculture, Agricultural Research Service. (2022). FoodData Central. Nuts, almond butter, plain, without salt added. <https://fdc.nal.usda.gov/fdc-app.html#/food-details/168588/nutrients>

²¹ U.S. Department of Agriculture, Agricultural Research Service. (2022). FoodData Central. Peanut butter, chunk style, without salt. <https://fdc.nal.usda.gov/fdc-app.html#/food-details/172469/nutrients>

purchased are almond milk products compared to soy milk products at just 7.3% of purchases. Moreover, because only about 10% of the US population meet dairy recommendations, it is unlikely that most Americans use dairy as a significant source of protein. Given that protein intake is, on average, sufficient, it should not be necessary to consume significant levels of protein in plant-based milk alternatives.

Table 4. Comparison of Almond Milk Products Against Proposed WIC-Eligible Nutrient Specifications

Nutrient Specification <i>Soy-Based Beverages (per 8oz)</i>	Almond Breeze[®] Unsweet Original Almondmilk²²	Silk[®] Unsweet Almondmilk²³	Great Value Unsweet Almondmilk²⁴
Total Sugar: ≤12 g	0 g	0 g	0 g
Calcium: 276 mg	450 mg	450 mg	450 mg
Protein: 8 g	1 g	1 g	1 g
Vitamin A: 500 IU	150 mcg (6000 IU)	150 mcg (6000 IU)	150 mcg (6000 IU)
Vitamin D: 100 IU	200 IU (5 mcg)	100 IU	100 IU (2.5 mcg)
Magnesium: 4 mg	15 mg	15 mg	N/A
Potassium: 349 mg	160 mg	180 mg	160 mg
Riboflavin: 0.44 mg	N/A	N/A	N/A
Vitamin B12: 1.1 mcg	N/A	N/A	N/A

Green coloring indicates the product meets the proposed WIC-eligible nutrient specifications.

It is recommended that the existing criteria for soy beverages are adjusted to allow more fortified plant-based milk alternatives to qualify for WIC inclusion. This could mean focusing only on DGA-identified nutrients of public health concern (i.e., calcium, vitamin D) and ensuring all products provide a good source of at least one or two of these nutrients (i.e., ≥10% DV per serving).

6. Almonds and almond products should be included within the WIC food packages in quantities that match marketplace offerings.

Overall, we support USDA’s efforts to establish package and container size flexibility across food categories. USDA’s proposed rule goes beyond the 2017 NASEM report recommendations to offer far greater flexibility to state WIC agencies in authorizing package sizes smaller than the maximum

²² Blue Diamond. (2022). Unsweetened almond milk.
<https://www.bluediamond.com/brand/almond-breeze/almondmilk/unsweetened-original>

²³ Silk. (2022). Unsweetened almond milk.
<https://silk.com/plant-based-products/almondmilk/unsweet-almondmilk/>

²⁴ Great Value. (2022). Unsweetened almond milk.
<https://www.walmart.com/ip/Great-Value-Original-Unsweetened-Almond-Milk-Half-Gallon-64-fl-oz/464917>

monthly allowances. This step will not only expand options and introduce more convenient package sizes, but it also empowers WIC shoppers to assume greater responsibility in maximizing their redemptions. Combined with tailored and individualized nutrition education, and the emerging support of digital tools like shopping apps, package size flexibility can both reduce barriers in the shopping experience and further invigorate WIC’s nutrition education programming.

With this in mind, Table 4 below provides detailed recommendations for the monthly allowances of whole almonds, almond butters, and almond milk within the WIC food packages. These recommendations align with current offerings in the marketplace (see Appendix for more details). In summary:

- **Whole Almond Allowance:** Whole, unsalted almonds are typically available in 1 pound package sizes at a variety of U.S.-based food retailers, and should therefore be offered to WIC participants in these quantities. Given nuts can be a choking hazard for infants and toddlers, whole, unsalted almonds should be provided to women only (pregnant, fully breastfeeding, partially breastfeeding, and postpartum women; Packages V, VI, VII), with proper education.
- **Almond Butter Allowance:** Almond butter products are typically available in 12-24 ounce packages sizes in the U.S. marketplace, but most products are 12 ounces. It is therefore recommended that all WIC food packages are updated to include almond butter in 12-ounce amounts.²⁵
- **Almond Milk Allowance:** Fortified almond milk products are typically available in 1- and 2-quart cartons at a variety of U.S.-based food retailers. Allowing 1-2 quart cartons in all WIC food packages enables WIC participants to easily purchase varieties that meet the recommended monthly allowance for milk (16-24 quarts).

Table 5. Recommended Maximum Monthly Allowance of Almond Products

Foods	Children		Women	
	Food Package IV: 1 through 4 years	Food Package V: Pregnant and Partially (Mostly) Breastfeeding	Food Package VI: Postpartum	Food Package VII: Fully Breastfeeding
Almonds (whole, unsalted)	N/A	1 lb	1 lb	1 lb
Soy beverage*	16 qt	22 qt	16 qt	24 qt
Almond milk	16 qt	22 qt	16 qt	24 qt
Peanut butter*	18 oz	18 oz	18 oz	18 oz
Almond butter	12 oz	12 oz	12 oz	12 oz

*Soy beverage and peanut butter amounts based on current monthly allowances.²⁶

²⁵ Package sizes based on Google Shopping results as of January 10, 2023.

²⁶ U.S. Department of Agriculture, Food and Nutrition Service. (2022). SNAPSHOT of the WIC Food Package. <https://www.fns.usda.gov/wic/food-packages-maximum-monthly-allowances#2>



Conclusion

In summary, it is recommended that the WIC food packages are updated to include a variety of almond products – including whole, sliced, chopped, and slivered almonds, almond butters, almond flour, and fortified almond milk. Almonds are an affordable source of nutrition that can bring participants' diets more in line with the DGA. A nutritious diet during pregnancy and lactation lays the foundation for lifelong health of mother and baby. During this stage, nutritional needs increase substantially — yet, many women fall short on key nutrients that support healthy growth and development. The inclusion of these almond foods can help promote nutrition security by better meeting the dietary needs and preferences of WIC participants from all races and cultures.

It is recommended that the revised WIC food packages include almonds and almond products in amounts that match marketplace offerings, and that the nutrient requirements for plant-based dairy alternatives are reexamined to ensure a wide variety of options are available for participants.

We thank USDA for considering the information provided in this comment, and we would be happy to answer any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Aubrey Bettencourt".

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