



November 14, 2023

Janet M. de Jesus, MS, RD  
HHS/OASH Office of Disease Prevention and Health Promotion  
1101 Wootton Parkway, Suite 420  
Rockville, MD 20852

RE: Docket ID HHS-OASH-2022-0021

Dear Ms. de Jesus:

Dairy Council of California appreciates the opportunity to submit comments for consideration by the US Department of Agriculture and the Department of Health and Human Services (HHS). We acknowledge the importance of the research protocols and commend the committee for the important work it is doing to ensure the Dietary Guidelines for Americans are based on the most up-to-date evidence. Our comments include current evidence to be considered in response to the Docket HHS-OASH-2022-0021 regarding the protocols under development to inform the scientific evidence review by the 2025–2030 Dietary Guidelines Advisory Committee (DGAC).

As a science-based nutrition organization, Dairy Council of California collaborates with partners to elevate the health of children and communities through the pursuit of lifelong healthy eating patterns. Funded by California’s dairy farm families and milk processors and under the guidance of California Department of Food and Agriculture, Dairy Council of California’s registered dietitian nutritionists and experts in nutrition science, education, agriculture literacy and community health engage with a variety of partners in school, health care and community settings, working together to achieve nutrition security. Each year these collective efforts improve access to nutritious foods and provide nutrition education and resources for millions of people in California, across the nation and beyond, demonstrating the dairy community’s contribution to sustainable nutrition and community health.

We appreciate the opportunity to submit these comments.

Sincerely,

A handwritten signature in blue ink that reads "Amy DeLisio".

Amy DeLisio, MPH, RDN  
Chief Executive Officer

A handwritten signature in blue ink that reads "Ashley Rosales".

Ashley Rosales, RDN  
Nutrition Science and Industry Affairs Officer



In this submission, Dairy Council of California provides factual scientific information for consideration in relation to the protocols authored by the 2025–2030 DGAC released to the public on October 16, 2023.

**Protocol Question #1:**

[What is the relationship between food sources of saturated fat consumed and risk of cardiovascular disease?](#)

**Summary Statement:**

Dairy Council of California commends the DGAC for developing a protocol framework to analyze different food sources of saturated fatty acids and their impacts on various health outcome measures across the life span. For many years, dietary recommendations have focused on limiting foods high in fat, in particular saturated fat, on the basis that fat intake leads to obesity, heart disease, diabetes and other chronic diseases. Emerging research suggests that dietary fats are not equal in terms of their effect on cardiovascular health and more research in this area should be explored. Different food sources of saturated fat may impact disease risk differently, depending on the food matrix, or combination of nutrients, bioactives and other non-nutritive compounds, within a food's unique structure. Cardiovascular disease disproportionately impacts people of color, making access to health-promoting foods more critical. Dairy foods are an accessible and widely available source of key nutrients, with affordable, convenient and culturally relevant options to meet the needs of all people. Regardless of fat level, dairy foods such as milk, yogurt and cheese have demonstrated positive effects on cardiovascular health for people at various life stages, including children, adults and older adults, helping close nutrient gaps and reduce health disparities.

**Supporting Evidence:**

- A pooled analysis of one non-randomized retrospective cohort study and two randomized controlled trials found that consumption of minimal and unprocessed foods (high in natural saturated fats) has favorable effects on HDL cholesterol in children.<sup>1</sup>
- Using data from the Prospective Urban Rural Epidemiology (PURE) study, researchers concluded that a diet with higher amounts of fruit, vegetables, legumes, nuts, fish and whole-fat dairy is associated with lower cardiovascular disease.<sup>2</sup>
- Dairy fat in the form of cheese appears to differently affect blood lipids compared with the same constituents eaten in different matrices. Researchers observed significantly lower total cholesterol when nutrients were consumed within a cheese matrix.<sup>3</sup>
- In a randomized controlled trial of 18 healthy adults, intake of 0.5 liters per day of whole milk did not adversely affect fasting blood lipids, glucose or insulin compared to skimmed milk. Intake of whole milk increased HDL cholesterol concentration compared to skimmed milk, suggesting that if the higher energy content is considered, whole milk might be considered a part of a healthy diet among the population with normal cholesterol levels.<sup>4</sup>
- An analysis of participants in the Framingham Offspring Study found that males with higher intakes of saturated fats from dairy foods had a less atherogenic profile than males with lower



intakes of these fats. The effects were weaker in females, and nondairy saturated fats were not associated with these cardiometabolic outcomes.<sup>5</sup>

#### References:

1. Hendriksen RB, van der Gaag EJ. Effect of a dietary intervention including minimal and unprocessed foods, high in natural saturated fats, on the lipid profile of children, pooled evidence from randomized controlled trials and a cohort study. *PLoS One*. 2022;17(1):e0261446. DOI:10.1371/journal.pone.0261446
2. Mente A, Dehghan M, Rangarajan S, et al. Diet, cardiovascular disease, and mortality in 80 countries. *Eur Heart J*. 2023;44(28):2560-2579. DOI:10.1093/eurheartj/ehad269
3. Feeney EL, Barron R, Dible V, et al. Dairy matrix effects: response to consumption of dairy fat differs when eaten within the cheese matrix—a randomized controlled trial. *Am J Clin Nutr*. 2018;108(4):667-674. DOI:10.1093/ajcn/nqy146
4. Engel S, Elhauge M, Tholstrup T. Effect of whole milk compared with skimmed milk on fasting blood lipids in healthy adults: a 3-week randomized crossover study. *Eur J Clin Nutr*. 2018;72(2):249-254. DOI:10.1038/s41430-017-0042-5
5. Yuan M, Singer MR, Pickering RT, Moore LL. Saturated fat from dairy sources is associated with lower cardiometabolic risk in the Framingham Offspring Study. *Am J Clin Nutr*. 2022;116(6):1682-1692. DOI: 10.1093/ajcn/nqac224

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#### Protocol Question #2:

[What is the relationship between dietary patterns consumed and bone health?](#)

#### Summary Statement:

Bone health is important from conception through older adulthood. As the older adult population grows, equitable nutrition strategies will be essential to support healthy aging. While the connection between key nutrients such as calcium, vitamin D, protein and phosphorus in dairy foods and bone health has been well-documented, there is an opportunity for research and dietary guidance to continue exploring how diet quality and nutrient-dense whole and minimally processed foods, including dairy foods, support bone health throughout life into older adulthood, which is a key life stage for preventing or slowing bone loss and reducing falls and fracture risk. Advances in nutrition science have demonstrated that whole and minimally processed foods represent complex matrices of nutrients, minerals, bioactives, food structures and other factors (e.g., phospholipids, prebiotics, probiotics) with often correspondingly positive effects on health and conditions like osteoporosis and frailty. At all life stages, dairy foods provide a variety of textures to meet multiple taste and health needs, including lactose-free options, while being affordable, accessible and nutrient dense.



### Supporting Evidence:

- A population-based prospective cohort study including 2,850 children showed that high intakes of dairy and cheese, whole grains and eggs is positively associated with bone development in childhood.<sup>6</sup>
- A two-year randomized control trial that used high-calcium and high-protein dairy foods to increase intakes in institutionalized older adults showed a 33% reduction in risk of fractures of any type, a 46% reduction in risk of hip fractures and an 11% reduction in risk of falls relative to controls.<sup>7</sup>
- In a prospective cohort study, consumption of two servings of total dairy/day or more compared to less than one serving was associated with lower fracture risk in women.<sup>8</sup>
- A prospective cohort study examined the association between energy, macronutrient and food intake and the development of physical frailty. Higher meat and dairy intake were negatively associated with frailty development. Meat and dairy products may provide sufficient protein and fat necessary for achieving higher energy intake, thereby effectively preventing physical frailty among older Japanese individuals.<sup>9</sup>

### References:

6. van den Hooven EH, Heppel DHM, Kiefte-de Jong JC, et al. Infant dietary patterns and bone mass in childhood: the Generation R Study. *Osteoporosis Int*. 2015;26:1595-1604. DOI:
7. Iuliano S, Poon S, Robbins J, et al. Effect of dietary sources of calcium and protein on hip fractures and falls in older adults in residential care: cluster randomized controlled trial. *BMJ*. 2021;375:n2364. DOI:10.1136/bmj.n2364
8. Yuan M, Hu FB, Li Y, Zhou X, et al. Types of dairy foods and risk of fragility fracture in the prospective Nurses' Health Study cohort. *Am J Clin Nutr*. 2023;S00002-9165(23)66162-3. DOI:10.1016/j.ajcnut.2023.09.015
9. Otsuka R, Tange C, Tomida M, et al. Dietary factors associated with the development of physical frailty in community-dwelling older adults. *J Nutr Health Aging*. 2019;23(1):89-95. DOI:10.1007/s12603-018-1124-3

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### Protocol Question #3:

What are the implications for nutrient intakes when modifying the Dairy and Fortified Soy group quantities within the Healthy U.S.-Style Dietary Pattern? What are the implications for nutrient intakes when dairy food and beverage sources are replaced with non-dairy alternatives?

### Summary Statement:

Dairy foods have a unique nutrient structure, with both macronutrients and micronutrients that support optimal health—especially in infancy, childhood and adolescence, when bone mass growth is in a critical phase. Cow's milk, in comparison to plant-based alternative beverages, offers the most balanced



distribution of energy from carbohydrates, protein and fat. Coupled with its unique nutrient package, dairy milk can be difficult to replace in a healthy dietary pattern. Young children who do not meet the daily recommended servings of dairy milk, yogurt or cheese may have inadequate intakes of important nutrients and protein necessary for bone health, lean muscle, cognitive development and more.

Studies examining the American diet show that Americans of all ages are underconsuming dairy foods, whole grains, fruits and vegetables. As a result, they are not getting enough calcium, vitamin D, potassium and fiber—the four nutrients of concern in the American diet that are important for supporting the optimal growth and development of young children and adolescents, as well as meeting the nutritional needs of adults of all ages. This is especially true in the millions of households that experience food insecurity throughout the United States. Dairy foods play a critical role in nourishment, providing the nutrients required for optimal growth and development while offering variety, affordability and cultural relevance. Research shows that when dairy foods such as milk, yogurt and cheese are consumed as part of a healthy eating pattern and combined with fruits, vegetables and whole grains, all four of the nutrients of concern are likely to be consumed in the right amounts, supporting optimal population health. Additionally, fermented dairy foods such as yogurt, kefir and certain cheeses provide an ideal atmosphere for delivering probiotics to the diet, live microorganisms that contribute to improved gut health.

#### **Supporting Evidence:**

- A study of 27 plant-based drinks of eight different species and two cow's milk samples were analyzed for their composition regarding protein, carbohydrate, fat, vitamin and mineral contents and residue load. The protein quality of milk was outstanding compared with all plant-based drinks, with higher calculated Digestible Indispensable Amino Acid Scores. Plant-based drinks are not real alternatives to milk in terms of nutrient composition, even if the actual fortification is considered, and replacing milk with plant-based drinks without adjusting the overall diet can lead to nutrient deficiencies in the long term.<sup>10</sup>
- An analysis of NHANES data that included 5,876 children aged 2 to 18 showed that based on what children eat, milk is the top food source of calcium, vitamin D and potassium, illustrating the important contribution milk and dairy foods make to the eating patterns of children.<sup>11</sup>
- Replacing the nutrients in dairy foods using nondairy foods increases cost and energy intake and requires large amounts of food. Identifying affordable, consumer-acceptable foods to replace dairy's positive contributions to shortfall nutrients is important, especially for people who avoid dairy.<sup>12</sup>
- Milk contains several under consumed nutrients and nutrients of public health concern, yet intake has been decreasing. A study used NHANES data to provide an update on milk and dairy intake across the lifespan, stratified by race and ethnicity. Total dairy intake in cup equivalents per day decreased across the life span. Milk intake also decreased across the life span, with only a slight increase in those 19–50 years old. Non-Hispanic Black and non-Hispanic Asian children and adults consumed the fewest dairy servings compared with other race/ethnic groups.<sup>13</sup>
- A study of older adults without salt-sensitive blood pressure found that incorporating dairy cheese into a high-sodium diet preserves endothelium-dependent dilation, which would



typically be impaired by a high-sodium diet, by decreasing the concentration of superoxide radicals. The consumption of sodium in cheese, rather than nondairy sources of sodium, may be an effective strategy to reduce cardiovascular disease in salt-insensitive older adults.<sup>14</sup>

#### References:

10. Walther B, Guggisberg D, Badertscher R, Egger L, Portmann R, Dubois S, et al. Comparison of nutritional composition between plant-based drink and cow's milk. *Front Nutr.* 2022;9:988707. DOI:10.3889/fnut.2022.988707

11. O'Neil CE, Nicklas TA, Fulgoni VL III. Food sources of energy and nutrients of public health concern and nutrients to limit with a focus on milk and other dairy foods in children 2 to 18 years of age: National Health and Nutrition Examination Survey, 2011-2014. *Nutrients.* 2018;10(8):1050. DOI:10.3390/nu10081050

12. Cifelli CJ, Auestad N, Fulgoni VL. Replacing the nutrients in dairy foods with non-dairy foods will increase cost, energy intake and require large amounts of food: National Health and Nutrition Examination Survey 2011-2014. *Public Health Nutr.* 2020;25(2):332-343. DOI:10.1017/S1368980020001937

13. Cifelli CJ, Fulgoni K, Fulgoni VL III, Hess JM. Disparity in dairy servings intake by ethnicity and age in NHANES 2015-2018. *Curr Dev Nutr.* 2023;7(2):100010. DOI:10.1016/j.cdnut.2022.100010

14. Alba BK, Stanhewicz AE, Dey P, Bruno RS, Kenney LW, Alexander LM. Controlled feeding on an 8-d, high-dairy cheese diet prevents sodium-induced endothelial dysfunction in the cutaneous microcirculation of healthy, older adults through reductions in superoxide. *J Nutr.* 2020;150(1):55-63. DOI:10.1093/jn/nxz205