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October 23, 2019

Kristin Koegel  
USDA Food, Nutrition and Consumer Services  
Center for Nutrition Policy and Promotion  
3101 Park Center Drive, Room 1034  
Alexandria, VA 22302

**RE: Docket FNS-2019-0001-6698**

Dear Ms. Koegel:

The International Dairy Foods Association (IDFA) appreciates the ability to provide comments to the Dietary Guidelines Advisory Committee (DGAC) regarding their recommendations on the 2020-2025 Dietary Guidelines for Americans (DGAs).

IDFA represents the nation's dairy manufacturing and marketing industry. IDFA members range from multinational organizations to single-plant companies. Together they represent approximately 90 percent of the milk, cultured products, cheese, ice cream and frozen desserts produced and marketed in the United States and sold throughout the world. The diverse membership includes numerous food retailers, suppliers and companies that offer infant formula and a wide variety of milk-derived ingredients. The companies are responsible for supporting and creating more than 3 million jobs that generate \$159 billion in wages and deliver an overall impact of \$620 billion to the U.S. economy.

Good nutrition is the foundation of health and wellness for adults and children alike, and dairy is a crucial part of a healthy diet beginning at a very young age. In fact, no other type of foods or beverages provide the unique combination of nutrients that dairy contributes to the American diet. As we will detail here, multiple publications since the 2015-2020 DGAs support reconsideration of the role of dairy at all fat levels in a healthy diet.

As the Committee considers the science and develops recommendations about the dietary patterns Americans should choose, we would urge the Committee to:

- Keep dairy as a separate food group
- Recommend that eating patterns should include 3 servings of dairy each day
- Consider recent science on variety of fat levels in dairy
- Recommend dairy as complementary foods for infants/toddlers
- Recommend strategies for dealing with lactose intolerance

**Dietary Patterns Subcommittee**

Dairy Should Continue as a Separate Food Group in the 2020-2025 Dietary Guidelines for Americans

Dairy must stay as an individual group in the 2020 DGAs due to the unique nutrient package provided by milk and other dairy products. No other type of foods or beverages provide the same nutrient content that dairy contributes to the American diet.

While there are certain nutrients that dairy provides that are also found in other foods and beverages, such as protein that is also found in meat, nuts and soy, dairy also provides nutrients that are often not found in other foods and beverages, including calcium, vitamin D and potassium. The nutrient contribution of dairy to the American diet is unique. It cannot be combined with other types of foods in a general protein group because the distinct macro- and micro-nutrients of dairy cannot be replicated by just any protein-containing food.

The dietary contribution of dairy is more than just the sum of its nutrients. Nutrition science and dietary evidence has shifted over the past several decades to reflect the importance that foods and dietary patterns play in health. The nutrition community now acknowledges that the health impact of a food cannot be related to its nutrition composition alone. The balance of the nutrients to encourage, nutrients to limit and food groups within a food is important to consider. The unique composition of dairy can lead to particular health impacts. As demonstrated by a recent study, milk is highly hydrating due to its combination of macronutrients and electrolytes<sup>i</sup>. Fermented dairy products, such as yogurt and cheese, may be uniquely protective against chronic disease.<sup>ii,iii</sup> This overall combination, or food matrix, that makes up dairy products is an essential part of a healthy diet pattern.

The presence of dairy as a separate food group encourages intake of nutrients that support a dietary pattern. While dairy products can help Americans meet their nutrient needs, particularly for key nutrient of public health concern, observational research suggest that some dairy products may have unique associations with positive health outcomes such as reduced risk of hypertension, cardiovascular disease, and type 2 diabetes<sup>iv,v, vi, vii,viii,ix</sup>

### Dairy Products Are Nutrient Dense

Many dairy products are nutrient dense, providing a wide range of nutrients with at least 10% Daily Values per serving, such as calcium, protein, vitamin A, and in many cases vitamin D. The 2015-2020 Dietary Guidelines for Americans encourage low-fat and fat-free dairy consumption as part of a healthy dietary pattern and noted that they were nutrient-dense foods.

Milk provides eleven essential nutrients, including three of the four nutrients identified as nutrients of public health concern in the 2015 DGAs—calcium, vitamin D and potassium.<sup>x</sup> Milk is the number one source of these three nutrients of concern for Americans, while yogurt and cheese provide protein, calcium, magnesium, phosphorous, vitamin A and vitamin D.

Yogurt is a nutrient-dense food that is a good source of protein. In addition to protein, yogurt is also a good source of calcium, riboflavin, vitamin B12, and phosphorous. Some yogurts have vitamin D added. Yogurt is a fermented dairy product. Fermentation and the presence of probiotic bacteria can affect the impact of dairy nutrients, including altering gut microbiota in ways that have a positive effect on calcium for bone and mineral balance,<sup>xi</sup> and improving lactose digestion to enable intake of nutrient dense dairy for those with digestive concerns.

Cheese, like fluid milk and yogurt, is a nutrient-dense food, providing a good source of protein, calcium and phosphorous. One important benefit of cheese that cannot be overlooked is how it helps to

increase consumption of other nutrient dense foods. A study of children's consumption of foods in a school cafeteria setting demonstrated that visible cheese served with a key food group to encourage, such as vegetables, increases the consumption of the food to encourage. While foods to encourage were increased during the study, the overall caloric intake in the meal was not increased.<sup>xii</sup>

Despite the nutritional benefits, fluid milk product consumption has been declining steadily over the past three decades with per capita consumption dropping by 74 pounds from the level of 223 pounds in 1987 to its lowest level of 149 pounds in 2017. Additionally, milk intake has also decreased significantly, based on self-report through the Food Patterns Equivalent Database (NHANES), from a mean of 1.04 cup equivalents in 2007-2008 to 0.75 cup equivalents in 2015-2016.<sup>xiii</sup> Americans should be encouraged to consume more milk and dairy products, including flavored milk, to meet nutrient needs. Any steps that could further reduce dairy consumption should be carefully considered.

Flavored and sweetened dairy products, such as flavored milk or yogurt, are an important part of encouraging adequate intake of dairy products, which are underconsumed by most Americans. Flavored milk and yogurt are nutrient dense and provide significant nutritional benefits. The moderate levels of added sugars in these products increase palatability, thereby encouraging Americans to eat these nutrient-dense foods. Flavored dairy products contain the same nutrients as their unsweetened counterparts, but with some added sweetener ingredients that can provide a flavor that some consumers prefer, or that provide other functional purposes. Flavored milks, like all cow's milk, are a source of 11 essential nutrients, including calcium, vitamin D and potassium.

The 2015-2020 DGAs recognize the role that sweetened and flavored dairy foods and beverages can play in increasing consumption of nutrient dense options and improving nutrient intakes, particularly of underconsumed food groups and nutrients. Dairy products are specifically mentioned by the DGAs: "Healthy eating patterns can accommodate other nutrient-dense foods with small amounts of added sugars, such as... fat-free yogurt, as long as calories from added sugars do not exceed 10 percent per day, total carbohydrate intake remains within the Acceptable Macronutrient Distribution Range, and total calories intake remains within limits." The 2015-2020 DGAs also states, "Some sweetened milk and yogurt products may be included in a healthy eating pattern as long as the total amount of added sugars consumed does not exceed the limit for added sugars, and the eating pattern does not exceed calories limits."<sup>xiv</sup>

#### Dairy Is the Leading Source of Calcium In the American Diet

Although dairy provides a number of essential nutrients, dairy products are the leading sources of calcium in the American diet. Calcium, as well as protein, magnesium and Vitamin D, which can also be found in dairy foods are critical contributors to bone health, one of the DGAC's areas of scientific evidence review.

Bioavailability of calcium depends on a variety of factors, including the particular food matrix, the other nutrients and foods that are consumed with the calcium, and the total food pattern that a person may consume. In addition to dietary factors, calcium bioavailability may vary from person to person, depending on their age, sex and any medication they may be taking. For example, women may absorb calcium from fortified beverages differently than adult men.

#### **Food Modeling Subcommittee**

### Three Servings of Dairy Should Be Included in Recommended Dietary Patterns

The Healthy US-style Eating Pattern in the 2015-2020 DGAs recommends three servings of dairy per day for Americans aged 9 and older<sup>xv</sup>, as do the American College of Cardiology, American Heart Association<sup>xvi</sup>, National Osteoporosis Foundation<sup>xvii</sup> and the American Academy of Pediatrics<sup>xviii</sup>. These three servings of dairy per day help ensure that Americans have sufficient intake of dairy to meet the recommended levels of nutrients that dairy supplies.

Despite these recommendations, the 2015-2020 DGA noted all age groups, except for children 1 to 3 years of age, consumed well below the recommended number of dairy servings per day. The 2015-2020 DGA also noted that there was an age-related decline in dairy intake that began in childhood and intakes persisted at low levels for adults of all ages. They recommended that individuals would benefit from increasing dairy intake in low-fat and fat-free forms. Looking at results from the most recent US dietary intake data (NHANES 2015-2016), the same pattern of low intake of dairy can be seen across all age groups.<sup>xix</sup>

	2-5 years		6 to 11 years		12 to 19 years		20-29 years		30-39 years		40-49 years		50-59 years		60-69 years		70 years and over	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Mean total dairy intake cup eq./d	2.0	1.9	2.1	1.9	2.2	1.6	1.9	1.3	1.9	1.3	1.7	1.4	1.7	1.3	1.3	1.2	1.5	1.2

Food modeling of diets has demonstrated the difference that three servings of dairy can make to achieving nutrient recommendations. When adequate dairy intake was added to the intakes of foods reported in 2007-2010 What We Eat in America NHANES, almost all Americans would meet the Estimated Average Requirement (EAR) for calcium, most groups would meet the EAR for vitamin A and more adolescent girls and adults would meet the EAR for magnesium.<sup>xx</sup> While vitamin D intake would still fall below the EAR, increased dairy does contribute toward recommend levels of intake.

A recent study modeled the addition of a serving of dairy as part of the Healthy Mediterranean-Style Eating Pattern. This eating pattern, as recommended by the 2015-2020 DGAs, contained only two daily servings and falls short of recommended intakes of calcium and vitamin D. By including three servings of dairy in the Mediterranean-style Eating Pattern, calcium and vitamin D intakes were both increased, along with potassium, vitamin A, phosphorus, riboflavin, vitamin B12, zinc and magnesium.<sup>xxi</sup>

We urge the DGAC Modeling Subcommittee to consider the inclusion of three servings of dairy to ensure that Americans are best able to meet their recommended intakes of a wide range of essential nutrients.

### **Beverages and Added Sugars Subcommittee**

#### Milk Should Be Included in the Dairy Group, Not Part of a Beverage Group

While it is useful to consider the contributions of beverages to American diets as identified by the DGAC's questions, milk should continue to be included in the dairy group. The nutrient profile provided by milk best align with other dairy products. All dairy should be grouped together to best assist

Americans in getting those essential nutrients, whether they come from milk, yogurt or cheese. Milk's contribution to a healthy diet is not easily substitutable with other beverages

## **Dietary Fats and Seafood Subcommittee**

### Dairy Foods at All Fat Levels Should Be Included in Recommended Food Patterns

A growing body of emerging research has shown the role of milkfat in the diet and health is different from saturated fats from other sources. The number of studies on dairy at a variety of fat levels has expanded since the scientific review during the 2015-2020 DGA process, making this topic a priority for the 2020-2025 DGA. In fact, the Australian Heart Foundation recently changed their dietary recommendations to include dairy at all fat levels for the general population, while recommending reduced fat varieties for those with high cholesterol.<sup>xxii</sup>

Whole milk contains the same nutrients as all other fluid milk, including calcium, phosphorus, protein, vitamins A, D and B12, pantothenic acid, riboflavin and niacin. This is true of other dairy products at all fat levels. While they do have higher levels of saturated fat than low fat versions, a growing body of evidence indicates that consumption of full fat dairy foods (milk, cheese and yogurt) is not associated with higher risk of negative health outcomes, including obesity, diabetes and heart disease.<sup>xxiii, xxiv</sup>

A summary of multiple studies on full fat dairy foods found that the evidence showed no association with high blood pressure, cardiovascular disease, and type 2 diabetes. Some of the studies reviewed actually showed full fat dairy was associated with lower risk of obesity.<sup>xxv</sup>

Whole milk has more calories than lower-fat varieties, and yet a scientific review concluded that there is no association between high-fat dairy foods and obesity.<sup>xxvi</sup> In another study, high-fat dairy products were associated with less weight gain.<sup>xxvii</sup>

Consumption of full fat dairy has been found to be associated with neutral or lower risk of heart disease.<sup>xxviii</sup> A meta-analysis of 29 studies indicated that there is no negative effect on heart health of dairy, milk and yogurt, no matter whether those dairy products were full fat or low fat.<sup>xxix</sup> When considering blood markers associated with consumption of full fat dairy, one study<sup>xxx</sup> and one meta-analysis<sup>xxxi</sup> including data from 13 studies both found that full fat dairy consumption had a neutral impact on risk of heart disease.

A review of the recent science stated: "No long-term studies support harms, and emerging evidence suggests some potential benefits, of dairy fat or high-fat dairy foods ...."<sup>xxxii</sup> Another stated, "The present evidence suggests that whole-fat dairy foods do not cause weight gain, that overall dairy consumption increases lean body mass and reduces body fat, that yogurt consumption and probiotics reduce weight gain, that fermented dairy consumption including cheese is linked to lower CVD risk, and that yogurt, cheese, and even dairy fat may protect against type 2 diabetes. Based on the current science, dairy consumption is part of a healthy diet, without strong evidence to favor reduced-fat products; while intakes of probiotic-containing unsweetened and fermented dairy products such as yogurt and cheese appear especially beneficial."<sup>xxxiii</sup>

An additional consideration that is important in the DGAs is how to assist consumers in making changes to their food choices and dietary patterns to move toward a healthier diet. In reviewing data on sales of natural cheeses, consumers do not appear to be willing to make a change toward "better for you"

cheeses, included low fat and fat free cheese. When comparing sales of full fat natural cheese and better for you natural cheese, full fat cheese makes up more than 95% of sales. The trend of sales is moving away from better for you options, from 5.8% of natural cheese sales in 2016 to 4.7% of sales in 2018.<sup>xxxiv</sup> When considered in conjunction with research on full fat dairy products, recommending reduced fat versions of cheese may not be the optimal way to help consumers move to a healthier dietary pattern.

We urge the Dietary Fats and Seafood Subcommittee to consider the recent research that has been published, including these studies and the studies included in these reviews, when addressing the questions of the relationship of types of dietary fat and risk of disease and mortality. The multiple publications since the 2015-2020 DGAs support reconsideration of the role of dairy at all fat levels in a healthy diet.

### **Birth to 24 Months Subcommittee**

#### Dairy Should be Included as a Complementary Food

With the inclusion of recommendations for all Americans including those up to 24 months in the 2020-2025 DGAs, a greater emphasis is placed on feeding recommendations for the youngest children. We support the widespread recommendations that children up to 6 months be exclusively fed with breastmilk or appropriate infant formula. However, as infants begin to eat complementary foods in addition to formula and breastmilk, we believe that the science supports dairy foods, such as yogurt and cheeses as some of the first foods to be introduced to infants and toddlers. After one year of age, whole milk would be the preferred drink for young children.

Consumption of yogurt by infants six months and older is supported by the National Association of Pediatric Nurse Practitioners<sup>xxxv</sup> while the American Academy of Pediatrics recommends the introduction of yogurt between the ages of nine and twelve months.<sup>xxxvi</sup> The Infant Feeding Guide for WIC includes yogurt in a list of protein-rich foods that are appropriate to introduce to children between the ages of 6 and 8 months of age.<sup>xxxvii</sup> These attest to the place yogurt has as a first food for infants over the age of 6 months.

In information for parents, the Centers for Disease Control and Prevention (CDC) recommends pasteurized cheeses and yogurt as foods to encourage for 6 to 24-month old children. Additionally, fortified cow's milk is recommended for children after their first birthday.<sup>xxxviii</sup>

In a recent position paper, a number of public health organizations, including the American Academy of Pediatrics, the Academy of Nutrition and Dietetics, the American Heart Association, and the American Academy of Pediatric Dentists, most strongly recommended cow's milk and water be the sole beverages to encourage in the diets of children.<sup>xxxix</sup> Milk was cited as such an important part of young children's healthy diets due to its nutrient content and its contributions to healthy diets for young children.

In addition, the Systematic Reviews conducted as part of B24 DGAC information assessment found that in maternal dietary patterns, dairy and yogurt are indicated in many of the diet patterns that are associated with positive health outcomes/reduced risk of negative health outcomes (reduced risk of pre-term birth). However, neither dairy or yogurt are mentioned in the results or concluding statements of the systematic review. For example, of the 7 studies that had dietary patterns associated with reduced risk of pre-term birth, 4 of the studies include either dairy or low-fat dairy as part of the positive dietary

pattern summary associated with lower risk of pre-term birth. One study includes dessert dairy as part of a negative dietary pattern and two studies do not include dairy in the dietary pattern summary.

Milk is often included as reduced-fat or skimmed milk in the dietary patterns that include dairy. Systematic reviews of maternity outcomes also showed that low-fat dairy was included in 2 of the dietary patterns associated with reduced risk of hypertensive disorders of pregnancy, however, dairy foods are not mentioned in the results or concluding statements of the systematic review as part of a positive dietary pattern. It is not clear why dairy was omitted however we believe the Systematic Reviews demonstrate the positive inclusion of dairy in B24 guidance.

When considering all of the information presented in the Systematic Reviews on complementary foods, as well as the research that has formed the basis for recommendations from other governmental entities and public health organizations, we believe that the Subcommittee will find that dairy foods should be recommended as early foods for infants and toddlers.

### **Response to Public Meeting Comments**

#### Approaches to Managing Lactose Intolerance Should be Addressed in the DGAC Report

Our previous comments point to the important nutritional role of dairy foods, such as milk, yogurt and cheese. However, the predominance of lactose maldigestion is a real concern for many Americans, especially among certain sub-groups of the population. Yet, some Americans with lactose intolerance may incorrectly believe that they cannot consume any dairy products.

A review points to the link between low intake of dairy due to concerns over lactose intolerance and decreased bone density. This review recommends that consumers with lactose intolerance consume the recommended three servings of dairy in order to avoid nutrient shortfalls and ensure healthy bones.<sup>xi</sup>

Avoiding dairy can impact getting enough calcium, potassium and vitamin D - nutrients already lacking in the American diet.<sup>xli,xliii</sup> Regarding dairy avoidance, it is important to recognize that yogurt is, for many people, a more easily digestible alternative to milk because, on average, it contains less lactose than milk.<sup>xliiii</sup> In addition, yogurt's live and active cultures continue to have activity in the intestinal tract and may allow lactose intolerant individuals to enjoy dairy products with fewer associated symptoms.<sup>xliv</sup>

Natural cheese is naturally low in lactose. For people who choose to not regularly consume fluid milk products because of their lactose content, cheese is an excellent way of obtaining the nutrition of dairy foods. Natural cheeses such as cheddar, colby, Monterey Jack, mozzarella and Swiss contain minimal amounts of lactose, because most of the lactose is removed when the curds are separated from the whey in the cheesemaking process. According to the Institute of Medicine, those with lactose intolerance can rely on cheese as a source of calcium: "... virtually unrestricted amounts of reduced-fat hard cheeses with very low amounts of lactose may be ingested to ensure adequate intakes of calcium."<sup>xlv</sup>

A National Institute of Health expert committee urged Americans who think they may be lactose intolerant to get tested before they unnecessarily eliminate dairy foods from their diet.<sup>xlvi</sup> The 2015 DGAC report recommended low lactose or lactose-reduced dairy products such as lactose reduced milk, yogurt and cheese, as a way for individuals to avoid lactose, yet still obtain the nutritional benefits of dairy.<sup>xlvii</sup>

This advice is doubly important when considering the 2015 DGAC's findings that a diet without dairy is lower in a variety of essential nutrients and that many other products marketed as dairy substitutes do not have the same nutrient package as milk and in fact, many have higher levels of added sugars and calories than cow's milk.<sup>xlviii</sup>

The National Medical Association has taken a position that the nutrients provided by dairy products are important and that avoiding these products due to a concern about lactose intolerance could lead to negative health outcomes.<sup>xlix</sup>

Based on the nutrient package that is unique to dairy foods and the loss of nutrients when dairy is not consumed, the Committee report should encourage yogurt, cheese and lactose-reduced milk as the first choice for lactose intolerant individuals.

### **Conclusion**

IDFA members—from dairy cooperatives to processors—are proud of the nutritious dairy products we provide to Americans and appreciate this opportunity to provide input to the DGAC. We believe good nutrition is the foundation of health and wellness for adults and children alike, and dairy is a crucial part of a healthy diet beginning at a very young age. In fact, no other type of foods or beverages provide the range and density of nutrients that dairy contributes to the American diet. Many alternatives marketed as dairy substitutes have higher levels of added sugars and calories than dairy. As detailed in our comments, multiple publications since the 2015-2020 DGAs support reconsideration of the role of dairy at all fat levels in a healthy diet.

For these reasons and more, as the Committee considers the science and develops recommendations about the dietary patterns Americans should choose, we urge the Committee to:

- Keep dairy as a stand-alone recommended food group
- Recommend eating patterns that include 3 servings of dairy each day
- Consider recent science on variety of fat levels in dairy
- Recommend dairy as complementary foods for infants/toddlers
- Recommend strategies for dealing with lactose intolerance.

Sincerely,



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<sup>i</sup> Ronald J Maughan, Phillip Watson, Philip AA Cordery, Neil P Walsh, Samuel J Oliver, Alberto Dolci, Nidia Rodriguez-Sanchez, Stuart DR Galloway, A randomized trial to assess the potential of different beverages to affect hydration status: development of a beverage hydration index, *The American Journal of Clinical Nutrition*, Volume 103, Issue 3, March 2016, Pages 717–723, <https://doi.org/10.3945/ajcn.115.114769>

<sup>ii</sup> Tanja Kongerslev Thorning, Hanne Christine Bertram, Jean-Philippe Bonjour, Lisette de Groot, Didier Dupont, Emma Feeney, Richard Ipsen, Jean Michel Lecerf, Alan Mackie, Michelle C McKinley, Marie-Caroline Michalski, Didier Rémond, Ulf Risérus, Sabita S Soedamah-Muthu, Tine Tholstrup, Connie Weaver, Arne Astrup, Ian Givens, Whole dairy matrix or single nutrients in assessment of health effects: current evidence and knowledge gaps, *The American Journal of Clinical Nutrition*, Volume 105, Issue 5, May 2017, Pages 1033–1045, <https://doi.org/10.3945/ajcn.116.151548>

<sup>iii</sup> Mozaffarian D. Dairy Foods, Obesity, and Metabolic Health: The Role of the Food Matrix Compared with Single Nutrients. *Adv Nutr.* 2019;10(5):917S–923S. doi:10.1093/advances/nmz053

<sup>iv</sup> Buendia JR, Li Y, Hu FB, et al. Long-term yogurt consumption and risk of incident hypertension in adults. *J Hypertens.* 2018;36(8):1671–1679. doi:10.1097/HJH.0000000000001737

<sup>v</sup> Jordi Salas-Salvadó, Marta Guasch-Ferré, Andrés Díaz-López, Nancy Babio, Yogurt and Diabetes: Overview of Recent Observational Studies, *The Journal of Nutrition*, Volume 147, Issue 7, July 2017, Pages 1452S–1461S, <https://doi.org/10.3945/jn.117.248229>

<sup>vi</sup> Fernandez MA, Panahi S, Daniel N, Tremblay A, Marette A. Yogurt and Cardiometabolic Diseases: A Critical Review of Potential Mechanisms. *Adv Nutr.* 2017;8(6):812–829. Published 2017 Nov 15. doi:10.3945/an.116.013946

<sup>vii</sup> Panahi S, Tremblay A. The Potential Role of Yogurt in Weight Management and Prevention of Type 2 Diabetes. *J Am Coll Nutr.* 2016; 35(8): 717-731.

<sup>viii</sup> Buendia JR, Li Y, Hu FB, et al. Regular Yogurt Intake and Risk of Cardiovascular Disease Among Hypertensive Adults. *Am J Hypertens.* 2018;31(5):557–565. doi:10.1093/ajh/hpx220

<sup>ix</sup> Dehghan M et al. Association of dairy intake with cardiovascular disease and mortality in 21 countries from five continents (PURE): a prospective cohort study. *Lancet.* 2018; 392(10161):2288-2297.

<sup>x</sup> U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015–2020 Dietary Guidelines for Americans. 8th Edition. December 2015. Available at <http://health.gov/dietaryguidelines/2015/guidelines/>.

<sup>xi</sup> Thorning, et al. Whole dairy matrix or single nutrients in assessment of health effects: current evidence and knowledge gaps, *The American Journal of Clinical Nutrition*, Volume 105, Issue 5, May 2017, Pages 1033–1045, <https://doi.org/10.3945/ajcn.116.151548>

<sup>xii</sup> Donnelly JE et al. The Effects of Visible Cheese on the Selection and Consumption of Food Groups to Encourage in Middle School Students. *J Child Nutrition and Management*, Vol 34:1, Spring 2010.

<sup>xiii</sup> Mean self-reported fluid milk intake for the US population 2 years and older was:

1.04 cup eq. (standard error 0.037) in 2005-2006

0.95 cup eq (SE 0.033) in 2007-2008

1.00 cup eq (SE 0.011) in 2009-2010

0.91 cup eq (SE 0.029) in 2011-2012

0.83 cup eq (SE 0.021) in 2013-2014

0.75 cup eq (SE 0.030) in 2015-2016

Food Patterns Equivalents Database. Agricultural Research Service, United States Department of Agriculture.

<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/fped-data-tables/> Accessed October 11, 2019.

<sup>xiv</sup> U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015–2020 Dietary Guidelines for Americans. 8th Edition. December 2015. Available at <http://health.gov/dietaryguidelines/2015/guidelines/>.

<sup>xv</sup> The Healthy US-style Eating Pattern recommended in the DGAs includes three daily servings of dairy products at calorie levels ranging from 1600 to 3200 kcals.

U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015–2020 Dietary

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Guidelines for Americans. 8th Edition. December 2015. Available at <http://health.gov/dietaryguidelines/2015/guidelines/>.

<sup>xvi</sup> Van Horn L, Carson JAS, Appel LJ, Burke LE, Economos C, Karmally W, Lancaster K, Lichtenstein AH, Johnson RK, Thomas RJ, et al. Recommended Dietary Pattern to Achieve Adherence to the American Heart Association/American College of Cardiology (AHA/ACC) Guidelines: A Scientific Statement From the American Heart Association. *Circulation* [Internet]. 2016 [cited 2018 Nov 15];134. Available from: <https://www.ahajournals.org/doi/10.1161/CIR.0000000000000462>

<sup>xvii</sup> Weaver CM, Gordon CM, Janz KF, Kalkwarf HJ, Lappe JM, Lewis R, O’Karma M, Wallace TC, Zemel BS. The National Osteoporosis Foundation’s position statement on peak bone mass development and lifestyle factors: a systematic review and implementation recommendations. *Osteoporos Int* [Internet]. 2016 [cited 2018 Jun 18];27:1281–386. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26856587>

<sup>xviii</sup> American Academy of Pediatrics, Kleinman RE, Greer FR. *Pediatric Nutrition : policy of the American Academy of Pediatrics* [Internet]. 2013 [cited 2017 Dec 6]. 1477 p. Available from: <https://shop.aap.org/pediatric-nutrition-7th-edition-paperback/>

<sup>xix</sup> What We Eat in America, NHANES 2015-2016, individuals 2 years and over (excluding breast-fed children), day 1 dietary intake data, weighted. Food Patterns Equivalents Database (FPED) 2015-2016. Available at: [www.ars.usda.gov/nea/bhnrc/fsrg](http://www.ars.usda.gov/nea/bhnrc/fsrg)

<sup>xx</sup> Quann EE, Fulgoni VL 3rd, Auestad N. Consuming the daily recommended amounts of dairy products would reduce the prevalence of inadequate micronutrient intakes in the United States: diet modeling study based on NHANES 2007-2010. *Nutr J*. 2015;14:90. Published 2015 Sep 4. doi:10.1186/s12937-015-0057-5

<sup>xxi</sup> Julie M. Hess, Victor L. Fulgoni & Emily C. Radlowski (2019) Modeling the Impact of Adding a Serving of Dairy Foods to the Healthy Mediterranean-Style Eating Pattern Recommended by the 2015–2020 Dietary Guidelines for Americans, *J Am Coll Nutr*, 38:1, 59-67, DOI: 10.1080/07315724.2018.1485527

<sup>xxii</sup> “Milk, yoghurt and cheese.” *Heart Foundation*. National Heart Foundation of Australia. <https://www.heartfoundation.org.au/healthy-eating/food-and-nutrition/dairy-foods>. Accessed October 2, 2019.

<sup>xxiii</sup> Dariush Mozaffarian, Dairy foods, dairy fat, diabetes, and death: what can be learned from 3 large new investigations?, *The American Journal of Clinical Nutrition*, , nqz250, <https://doi.org/10.1093/ajcn/nqz250>

<sup>xxiv</sup> Mozaffarian D. Dairy Foods, Obesity, and Metabolic Health: The Role of the Food Matrix Compared with Single Nutrients. *Adv Nutr*. 2019;10(5):917S–923S. doi:10.1093/advances/nmz053

<sup>xxv</sup> Astrup A, et al Regular-fat dairy and human health: a synopsis of symposia presented in Europe and North American (2014-2015). *Nutrients* 2016, 8, 463.

<sup>xxvi</sup> Kratz M, Baars T, Guyenet S. The relationship between high-fat dairy consumption and obesity, cardiovascular, and metabolic disease. *Eur J Nutr* 2013;52:1-24.

<sup>xxvii</sup> Rautiainen S, et al. Dairy consumption in association with weight change and risk of becoming overweight or obese in middle-aged and older women: a prospective cohort study. *Am J Clin Nutr* 2016 Apr;103(4):979-88.

<sup>xxviii</sup> Lordan R, A Tsoupras, B Mitra, I Zabetakis. Dairy fats and cardiovascular disease: do we really need to be concerned? *Foods* 2018;7, 29.

<sup>xxix</sup> Guo J et al. Milk and dairy consumption and risk of cardiovascular diseases and all-cause mortality: dose-response meta-analysis of prospective cohort studies. *Eur J Epidemiol* 2017 32(4): 269-287.

<sup>xxx</sup> De Oliveira Otto MC et al. Serial measures of circulating biomarkers of dairy fat and total and cause-specific mortality in older adults: the Cardiovascular Health Study. *Am J Clin Nutr* 2018; 108:476-484.

<sup>xxxi</sup> Liang J et al. Biomarkers of dairy fat intake and risk of cardiovascular disease: A systematic review and meta analysis of prospective studies. *Crit Rev Food Sci Nutr* 2018; 58(7):1122-1130.

<sup>xxxii</sup> Mozaffarian D. Dietary and Policy Priorities for Cardiovascular Disease, Diabetes, and Obesity: A Comprehensive Review. *Circulation* 2016; 133: 187-225.

<sup>xxxiii</sup> Mozaffarian Dariush, Dairy Foods, Obesity, and Metabolic Health: The Role of the Food Matrix Compared with Single Nutrients, *Advances in Nutrition*, Volume 10, Issue 5, September 2019, Pages 917S–923S, <https://doi.org/10.1093/advances/nmz053>

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## Volume Sales (MM lbs)

CY 2016

CY 2017

CY 2018

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<b>Total Nat Cheese</b>	2,217.2	2,222.3	2,312.3
<b>Total Nat Cheese – Better For You</b>	131.1	116.5	108.6
<b>Total Nat Cheese – Full Fat</b>	2,086.1	2,105.9	2,203.8

Source: IRI Sales Data

<sup>xxxv</sup> National Association of Pediatric Nurse Practitioners and International Food Information Council Foundation. Starting Solids: Nutrition Guide for Infants and Children 6 to 18 Months of Age. Found at: <http://www.foodinsight.org/Content/6/startingsolids1-05.pdf>. Accessed April 10, 2015.

<sup>xxxvi</sup> Dietz, WH and Stern L, Ed. Nutrition: What Ever Parent Needs to Know, 2nd edition. American Academy of Pediatrics, 2011.

<sup>xxxvii</sup> United States Department of Agriculture, Food and Nutrition Service. Infant Nutrition and Feeding: A Guide for Use in the WIC and CSF Programs. Revised March 2009.

<sup>xxxviii</sup> “Foods and Drinks to Encourage.” *Centers for Disease Control and Prevention*. Department of Health and Human Services. <https://www.cdc.gov/nutrition/InfantandToddlerNutrition/foods-and-drinks/foods-and-drinks-to-encourage.html>. Accessed October 3, 2019.

<sup>xxxix</sup> Lott M, Callahan E, Welker Duffy E, Story M, Daniels S. Healthy Beverage Consumption in Early Childhood: Recommendations from Key National Health and Nutrition Organizations. Consensus Statement. Durham, NC: Healthy Eating Research, 2019. Available at <http://healthyeatingresearch.org>.

<sup>xl</sup> Hodges JK et al. Lactose Intolerance and Bone Health: The Challenge of Ensuring Adequate Calcium Intake. *Nutrients*. 2019, 11, 718.

<sup>xli</sup> U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015-2020 Dietary Guidelines for Americans 8th Edition.

<sup>xlii</sup> Savaiano DA, Boushey CJ, McCabe GP. Lactose intolerance symptoms assessed by meta-analysis: a grain of truth that leads to exaggeration. *J Nutr*. Apr 2006;136(4):1107-1113.

<sup>xliii</sup> Webb D, Donovan SM, Meydani SN. The role of yogurt in improving the quality of the American diet and meeting dietary guidelines. *Nutr Rev*. 2014; 72(3):180-189

<sup>xliv</sup> Lomer MC, Parkes GC, Sanderson JD. Review article: lactose intolerance in clinical practice—myths and realities. *Aliment Pharmacol Ther*. 2008;27:93–103.

<sup>xlv</sup> IOM (Institute of Medicine). Dietary Reference Intakes for Calcium and Vitamin D. Washington, D.C.: The National Academies Press; 2011:498.

<sup>xlvi</sup> Suchy FJ, Brannon PM, Carpenter TO, Fernandez JR, Gilsanz V, Gould JB, Hall K, Hui SL, Lupton J, Mennella J, Miller NJ, Osganian SK, Sellmeyer DE, Wolf MA. NIH Consensus Development Conference Statement: Lactose Intolerance and Health. *NIH Consensus Scientific Statements*. 2010 Feb 22-24; 27(2):1-27)

<sup>xlvii</sup> Dietary Guidelines Advisory Committee. 2015. Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and the Secretary of Agriculture. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.

<sup>xlviii</sup> Ibid.

<sup>xlix</sup> Bailey RK et al. Lactose Intolerance and Health Disparities Among African Americans and Hispanic Americans: An Updated Consensus Statement. *J Natl Med Assoc*. 2013; 105; 112-127.