

## Nutrient Contributions of Dairy Foods in the Diet of Children Ages 9 to 18 Years

The dairy group (milk, cheese and yogurt) is a top contributor of many essential nutrients in the diet of children 9-18 years old.<sup>1</sup>

### Calcium

- Calcium is a nutrient of public health concern according to the 2010 Dietary Guidelines for Americans.<sup>2</sup>
- The dairy group provides more than half (57%) of the calcium in the diet of 9-18 year olds.
- Milk is the No. 1 source of calcium in the diet of 9-18 year old children – with white milk supplying 29% of daily calcium intake.
- Flavored milk supplies another 4%.
- Cheese contributes 22% of children's daily calcium.
- Yogurt and milk drinks supply 1% of calcium in their diet.

### Potassium

- Many children 9-18 years old are consuming below recommended intakes for potassium,<sup>3</sup> a nutrient of public health concern according to the 2010 Dietary Guidelines for Americans.<sup>2</sup>
- Dairy is the main provider of potassium in the diet, contributing 22% of dietary potassium for 9-18 year old children.
- Milk is the No. 1 food source of potassium – with white milk supplying 16% of the total potassium in the diet of children 9-18 years old.
- Flavored milk contributes another 2% of potassium.
- Three percent of potassium in their diet is provided by cheese, yogurt and milk drinks.

### Phosphorus

- Sixteen percent of boys and 34% of girls ages 9-13 years old are not meeting recommended intakes of phosphorus.<sup>4</sup>
- Fourteen percent of boys and 51% of girls ages 14-18 years old similarly are not meeting recommended intakes of phosphorus.<sup>4</sup>
- Milk and milk products provide 34% of dietary phosphorus for 9-18 year old children.
- Eighteen percent of their daily phosphorus intake is from white milk and 2% of their intake is from flavored milk.
- Cheese contributes 13% to dietary phosphorus.
- The remaining phosphorus contributed by the dairy group is from yogurt and milk drinks (1%).

### Protein

- Most children ages 9-13 years old are meeting the recommended intakes for protein (0.76 g per kg body weight).<sup>3</sup>
- Most boys ages 14-18 years old are meeting the recommended intakes for protein (0.73 g per kg body weight), however, 14% of girls this age are consuming below the recommended amount (0.71 g per kg body weight).<sup>3</sup>
- Dairy products provide about a quarter (23%) of the protein in the diets of 9-18 year olds.
- White milk provides 11% of total dietary protein.
- Cheese further contributes 10% of daily protein.

- Flavored milk, yogurt and milk drinks supply 2% of dietary protein.

### **Vitamin A**

- Thirteen percent of boys and about one-third (34%) of girls 9-13 years old have inadequate intakes of vitamin A in their diet (445 retinol activity equivalents for boys and 420 retinol activity equivalents for girls).<sup>3</sup>
- More than half of children 14-18 years old similarly have inadequate intakes of vitamin A (55% of boys and 54% of girls).<sup>3</sup>
- The dairy group supplies over one-third (36%) of the vitamin A in the diets of 9-18 year old children.
- Milk is the No. 1 food source of vitamin A in the diet of 9-18 year olds.
- Almost a quarter of their total vitamin A is from white milk (22%).
- Three percent of their vitamin A is from flavored milk.
- Cheese also contributes 11% to vitamin A intake.
- The rest of the dairy group - yogurt and milk drinks - contributes another 1%.

### **Vitamin D**

- Vitamin D is a nutrient of public health concern according to the 2010 Dietary Guidelines for Americans.<sup>2</sup>
- Dairy is by far the largest contributor of vitamin D in children and teens' diets. The dairy group supplies 69% of their vitamin D.
- Fortified milk is one of the few food sources of vitamin D in the diet.
- White milk supplies 58% of all vitamin D for children 9-18 years old.
- Flavored milk provides another 7%.
- Four percent of vitamin D is contributed from cheese, yogurt and milk drinks.

### **Vitamin B<sub>12</sub>**

- Most children ages 9-13 years old are meeting recommended intakes of vitamin B<sub>12</sub>, 1.5 µg per day.<sup>3</sup>
- Most children ages 14-18 years old are meeting recommended intakes of vitamin B<sub>12</sub>, 2.0 µg per day.<sup>3</sup>
- Children 9-18 years get 31% of vitamin B<sub>12</sub> from dairy products.
- Twenty-one percent of vitamin B<sub>12</sub> in their diet is from white milk.
- Cheese, yogurt, flavored milk and milk drinks supply 10% of vitamin B<sub>12</sub> in their diet.

### **Riboflavin**

- Most children are meeting the recommended intakes for riboflavin.<sup>3</sup>
- The dairy food group supplies nearly one-third of the riboflavin in the diets of 9-18 year olds (31%).
- Milk is the No. 1 food source – with white milk contributing 21% of riboflavin in their diet.
- Flavored milk also contributes 3%.
- Cheese, yogurt and milk drinks provide 7% of the riboflavin in their diet.

### **Magnesium**

- Twenty-two percent of boys and 30% of girls 9-13 years old are not meeting the recommended intakes for magnesium.<sup>4</sup>
- The majority of boys (69%) and girls (89%) 14-18 years old fail to meet their estimated daily needs for magnesium.<sup>4</sup>

- Milk is the main food source of magnesium – with white milk supplying 11% in the diet of children 9-18 years old.
- Flavored milk contributes a little more than 2% of their intakes.
- Four percent of magnesium comes from cheese, yogurt and milk drinks.

### **Zinc**

- The majority of boys 9-18 years old are meeting the recommended intakes for zinc.<sup>3</sup>
- Ten percent of girls 9-13 years old and about a quarter of girls 14-18 years old have inadequate intakes of zinc in their diets.<sup>3</sup>
- Nineteen percent of the zinc in 9-18 year olds' diets is supplied by the dairy group.
- Nine percent of dietary zinc is provided by white milk and 1% is supplied by flavored milk.
- Cheese contributes an additional 9% of the total zinc in the diet.
- Milk drinks and yogurt provide 1% of zinc in the diet.

### **Fat**

- It is recommended that children ages 9-18 years old get 25-35% of their total calories from fat.<sup>2</sup>
- The average fat intake for children ages 9-18 years old is 85 g, which represents 34% of their average daily calorie intake (2263 total calories).
- The dairy group contributes 6% of total daily calories from fat in the diet of 9-18 year olds.
- White milk supplies 2% of the total daily calories from fat in their diet.
- Cheese contributes 3% of their total daily calories from fat.
- Flavored milk, yogurt and milk drinks only contribute 1% of the total daily calories from fat in the diet of 9-18 year olds.
- In comparison, desserts, sweets, fats and oils contribute 10% of the calories from fat in their diet.

### **Saturated Fat**

- The 2010 Dietary Guidelines for Americans recommend that less than 10% of calories come from saturated fat.<sup>2</sup>
- The average saturated fat intake for children ages 9-18 years old represents 12% of their average daily caloric intake (2263 total calories).
- The dairy group contributes 3% of calories from saturated fat in the diet of 9-18 year olds.
- White milk supplies 1% of the calories from saturated fat in their diet.
- Cheese contributes 2% of the calories from saturated fat in their diet.
- Flavored milk contributes less than 1% of the calories from saturated fat in their diet.
- Yogurt and milk drinks do not contribute a significant percentage of the calories from saturated fat in the diet of 9-18 year olds (less than 1%).

### **Sodium**

- The 2010 Dietary Guidelines for Americans recommend less than 2,220 mg per day of sodium for children 9-13 years old and less than 2,300 mg per day for 14-18 year olds, with the exception of African Americans or children with hypertension, diabetes or chronic kidney disease who are encouraged to consume no more than 1,500 mg per day of sodium.<sup>2</sup>
- The average sodium intake for children ages 9-18 years old is 3,500 mg per day.
- White milk supplies 3% of the sodium in the diet of children ages 9-18 years old and flavored milk supplies 1%.
- Cheese contributes 8% of the sodium in their diet.

- Yogurt and milk drinks do not contribute a significant percentage of the sodium in the diets of 9-18 year olds (less than 1%).
- In general, sodium comes from a combination of several foods in their diets of children 9-18 years.

Values include dairy in food mixtures (e.g. pizza, smoothies). Milk refers to whole, reduced-fat, low-fat, non-fat and acidophilus milk; buttermilk, and reconstituted dry milk. Flavored milk includes chocolate and other flavored milks. Milk drinks are milk based drinks with caloric additions, including cocoa based milk drinks, malted milk and eggnog; includes milk substitutes such as soy beverage, which contributes less than 1% of total daily nutrient intakes.

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1. Dairy Research Institute™. NHANES (2003-2006). Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey Data. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2003-2004; 2005-2006]. [<http://www.cdc.gov/nchs/nhanes.htm>]
  2. U.S. Department of Health and Human Services and U.S. Department of Agriculture. Dietary Guidelines for Americans, 2010. 7th Edition, Washington, DC: U.S Government Printing Office, December 2010.
  3. Moshfegh, Alanna; Goldman, Joseph; and Cleveland, Linda. 2005. *What We Eat in America*, NHANES 2001-2002: Usual Nutrient Intakes from Food and Water Compared to Dietary Reference Intakes. U.S. Department of Agriculture, Agricultural Research Service.
  4. Moshfegh, Alanna; Goldman, Joseph; Ahuja, Jaspreet; Rhodes, Donna; and LaComb, Randy. 2009. *What We Eat in America*, NHANES 2005-2006: Usual Nutrient Intakes from Food and Water Compared to 1997 Dietary Reference Intakes for Vitamin D, Calcium, Phosphorus, and Magnesium. U.S. Department of Agriculture, Agricultural Research Service.

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