

Nutritional composition of milk and milk alternatives  
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**Table 1.** Energy and nutrients in one cup of milk and milk alternatives

	Cow's milk <sup>1</sup> (low-fat)	Cow's milk (fat-free)	Cow's milk (whole fat)	Silk Soy Beverage (unflavored)	Silk vanilla Almond beverage (unsweetened)	Rice Dream Rice beverage	Silk Coconut beverage <sup>2</sup> (unsweetened)
Calories	120	79	149	100	29	120	40
Protein	10 g	8 g	8 g	7 g	1 g	1 g	0 g
Fat	2.5 g	0 g	8 g	4 g	2.5 g	2.5 g	4 g
Carbohydrates	15 g	11 g	13 g	8 g	1 g	23 g	1 g
Total sugars	15 g	11 g	12 g	6 g	0 g	10 g	0 g
Vitamins and minerals							
Calcium	350 mg*	300 mg*	300 mg*	299 mg	451 mg	19 mg	460 mg
Vitamin A	499 IU	499 IU	300 IU	501 IU	499 IU	0 IU	600 IU
Vitamin D	101 IU	101 IU	101 IU	119 IU	101 IU	Data not available	80 IU

<sup>1</sup> Data are taken from the USDA National Nutrition Database available at <https://ndb.nal.usda.gov/ndb/>; Cow's milk (low-fat) (NDB No. 45289712); cow's milk (fat-free) (NDB No. 45277723); cow's milk (whole-fat) (NDB No. 45192661); Silk soy beverage (unflavored) (NDB No. 16235); Silk vanilla almond beverage (unsweetened) (NDB No. 45179304); Rice Dream Rice beverage (NDB No. 45138587).

<sup>2</sup> Data are taken from the Silk website available at <https://silk.com/products/unsweetened-coconutmilk>

\* Naturally occurring

**Findings from the 2015 Dietary Guidelines Advisory Committee Report**

Available at: <https://health.gov/dietaryguidelines/2015-scientific-report/>

“Most of the milk alternatives are fortified with calcium, so similar amounts of calcium can be obtained from fortified rice, soy and almond milks, and fortified juices, but **absorption of calcium is less efficient from plant beverages** (Heaney, 2000). Magnesium intake also is comparable from plant-based milk alternatives. However, **vitamin D and potassium amounts vary across these milk alternatives** (see Appendix E-3.6: Dairy Group and Alternatives, Table 3). Calorie levels also are higher for most of the plant-based alternative milk products for a given calcium intake level. In other words, **to obtain a comparable amount of calcium as one cup equivalent for non-fat fluid milk, the portion size required to meet the calcium intake need results in higher energy intake** (see Appendix E-3.6: Dairy Group and Alternatives, Table 4).”

Table 3. Calcium and Selected Other Nutrients in Standard Amounts of the Dairy group and selected foods in the group, compared to and Non-Dairy Calcium Sources.

	Std Amt	Energy kcal	Protein g	Calcium mg	Magne- sium mg	Potas- sium mg	Vitamin A µg RAE	Vitamin D IU
<b>Dairy Group Profile</b>	1 cup equiv	77	8.7	295	20	235	98	59
<b>Selected foods in Dairy Group:</b>								
Fat-free milk	1 cup	83	8.3	299	27	382	149	116
Fat-free flavored yogurt (w/ low calorie sweetener)	8 ounces	97	8.8	324	29	401	5	107
Fat-free mozzarella cheese	1½ ounces	60	13.5	408	14	45	54	0
Soy milk, unswtnd, w/ added Ca, vit A & D*	1 cup	80	6.95	301	39	292	134	119
<b>Non-Dairy calcium sources:</b>								
Almond milk, chocolate	1 cup	120	1.51	451	29	180	151	101
Rice Drink, unswtnd, w/ added Ca, vit A & D	1 cup	113	0.67	283	26	65	151	101

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Table 4. Amount of Non-Dairy Calcium Sources with Calcium Equivalent to 1 Cup Milk and Amount of Selected Other Nutrients in that Amount.

	Std Amt	Energy kcal	Protein g	Calcium mg	Magnesium mg	Potassium mg	Vitamin A $\mu$ g RAE	Vitamin D IU
<b>Dairy Group Profile</b>	<b>1 cup equiv</b>	<b>77</b>	<b>8.7</b>	<b>295</b>	<b>20</b>	<b>235</b>	<b>98</b>	<b>59</b>
Almond milk, chocolate	~2/3 cup	80	1.01	300	19	120	101	67
Rice Drink, unswtnd, w/ added Ca, vit A & D	1 cup	113	0.67	283	26	65	151	101

**The Dietary Guidelines for Americans, 2015 - 2020**

Available at <https://health.gov/dietaryguidelines/2015/guidelines/>

**Soy beverage fortified with calcium and vitamins A and D is included in the 2015 Dietary Guidelines for Americans (DGA) policy document as part of the Dairy food group.** Specifically, the DGA states, “Soy beverages fortified with calcium, vitamin A, and vitamin D, are included as part of the dairy group because they are similar to milk based on nutrient composition and in their use in meals. Other products sold as “milks” but made from plants (e.g., almond, rice, coconut, and hemp “milks”) may contain calcium and be consumed as a source of calcium, but they are not included as part of the dairy group because their overall nutritional content is not similar to dairy milk and fortified soy beverages (soymilk)” (DGA, 2015).

**Dairy-nutrient consumption in the United States**

Cow’s milk is the leading food source of shortfall nutrients – calcium, vitamin D and potassium, in the diet of children and adults (Keast, 2013; O’Neil, 2012). For children, milk is the leading source of nine essential nutrients (protein, calcium, phosphorus, magnesium, potassium, vitamins A, B-12, D and riboflavin) (Keast, 2013). Data from the National Health and Nutrition Examination Surveys (NHANES) indicate that soy beverage is not commonly consumed by Americans. In NHANES 2007-2010, of all the foods consumed by Americans two years and older, milk alternatives, including soy beverage, were consumed infrequently and contributed only 0.5% of the calcium in U.S. diet, on average (WWEA, 2007 – 2010).

**References**

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What We Eat in America, NHANES 2007-2010, individuals 2 years and over (excluding breast-fed children), day 1 dietary intake data, weighted. Food Patterns Equivalents Database (FPED) 2007-2010. Analyzed by Nutrition Impact, LLC.