

Yogurt

What is Yogurt?

Yogurt is a cultured dairy product that can be made from whole, lowfat or skim milk, including reconstituted nonfat dry milk powder. The Food and Drug Administration (FDA) describes yogurt as a food produced by culturing one or more of the basic ingredients (cream, milk, partially skimmed milk, skim milk, or the reconstituted versions of these ingredients may be used along or in combination) and any of the optional dairy ingredients with a characterizing bacteria (live and active) culture that contains the lactic acid-producing bacteria (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*). Yogurt is made by inoculating certain bacteria (starter culture), usually *Streptococcus thermophilus* and *Lactobacillus bulgaricus*, into milk. After inoculation, the milk is incubated at approximately $110^{\circ}\text{F} \pm 5^{\circ}\text{F}$ until firm; the milk is coagulated by bacteria-produced lactic acid. Yogurts may have additional cultures, sweeteners, flavorings, color additives, stabilizers and emulsifiers and preservatives add to it. Yogurts may be heat-treated after culturing to extend the shelf life of the food. Most yogurts in the United States is made from cow's milk, any type of milk can be used. In other countries, yogurt is made from the milk of water buffalo, yak, goat, horses and sheep.

Because of yogurt's is made with live and active cultures, it has become a healthy lifestyle favorite. Yogurt comes in many flavors and varieties which appeals to everyone's taste buds.

Health Benefits

Yogurt is a nutrient-dense food that meets a wide variety of nutritional needs at for everyone. Yogurt is a good source of protein—an average 8-ounce serving contains between 8 and 10 grams of protein, or 16 to 20 percent of the Daily Recommended Value (DRV). Because yogurt is cultured the amount of protein often succeeds liquid milk. Yogurt is also an excellent source of calcium. Yogurt may contain up to 35 percent of the Recommended Daily Intake (RDI) for calcium. Yogurt is low in fat and high in certain minerals and essentials vitamins, including riboflavin B2, Vitamin B12, phosphorus and potassium.

The words "live and active cultures" refer to the living organisms—*Lactobacillus bulgaricus* and *Streptococcus thermophilus*—which convert pasteurized milk to yogurt during fermentation. Researchers are currently exploring how live and active culture yogurt may have a beneficial effect on the immune system, the potential to lower cholesterol, and how it may combat certain types of cancer-causing compounds, particularly in the digestive tract.

Health Benefits of eating yogurt:

- ❖ May help reduce osteoporosis risk
- ❖ Yogurt can be eaten by people who are lactose intolerant
- ❖ Diets rich in calcium may help reduce hypertension
- ❖ May enhance the immune system of certain individuals
- ❖ Versatile and convenient –use as a substitute for mayonnaise, sour cream and cream cheese to lower calories
- ❖ May reduce the risk of colon cancer
- ❖ Excellent source of calcium
- ❖ Yogurt is considered a meat alternative because of high protein content
- ❖ Large variety of flavors and styles that can be used to reduce calories

Protein

An average eight-ounce serving of live and active culture contains approximately 20 percent of the Daily Value for protein.

Recommended Dietary Allowances (RDA) of Protein for Children

Age Group (years)	RDA (g/day)
1-3	13g
4-8	19g
9-13	34g
14-18	52 g (boys), 46g (girls)

Source: Food and Nutrition Board, Institute of Medicine of the National Academy of Science

Calcium

Calcium is needed at every stage of life and yogurt with its live and active cultures are a great source. Calcium is critical for bone growth, development, and maintenance at every age and stage of life. Toddlers have an increased need for dietary calcium to support growth and skeletal development that takes place rapidly in the early years of life. Calcium needs continue into the teenage years and is particularly crucial for adolescent girls who need to stock their calcium supplies to prevent osteoporosis later in life. The need for calcium increases as the body matures. Adults achieve their peak bone mass at age 35 and after that bone loss begins to take place. Calcium intake is critical in helping reduce bone loss, especially for postmenopausal women.

Yogurt is rich in calcium, high in protein, tolerated by lactose-sensitive children and adults, convenient, versatile and tasty.

Dietary Reference Intake:

Age Groups (years)	Adequate Intake (mg/day)
1-3	500 mg
4-8	800 mg
9-18	1300 mg
19-50	1000 mg
51+	1200 mg

Source: Food and Nutrition Board, Institute of Medicine of the National Academy of Sciences

Calcium is an essential part of any balanced diet and is found in a wide variety of foods, most people just don't get enough calcium each day. Use the chart below to ensure that you are meeting your daily calcium quota.

Quick-Read Equivalency Chart

Food	Serving Size	Calcium (mg)
Live & Active Culture Yogurt (plain)	One cup	450 mg
Calcium-fortified Orange Juice	One cup	300 mg
Milk, (nonfat)	One cup	300 mg
Chocolate milk 1%	One cup	285 mg
Swiss Cheese	One ounce	270 mg
Cheddar cheese	One ounce	205 mg
Salmon (edible with bones)	3 ounces	180 mg
Frozen yogurt	1/2 cup	155 mg
Turnip greens, cooked	1/2 cup	125 mg
Dried figs	3	80 mg
Broccoli, cooked	1/2 cup	35 mg

Source: The Food Processor. Esha Research 7.0, 1998

Yogurt Varieties

Yogurt products come in a wide variety of flavors, forms and textures. Here are the common terms associated with yogurt products available today. Some of the definitions were established by the Food and Drug Administration (FDA), while others were determined by the manufacturers.

Lowfat and nonfat: There are three types of yogurt: regular yogurt, lowfat yogurt and nonfat yogurt. Yogurt made from whole milk has at least 3.25 percent milk fat. Lowfat yogurt is made from lowfat milk or part-skimmed milk and has between 2 and 0.5

percent milk fat. Nonfat yogurt is made from skim milk and contains less than 0.5 percent milk fat.

Lite (light) yogurt: 1/3 less calories or 50% reduction in fat than regular yogurt.

Swiss or custard: Fruit and yogurt are mixed together for individual servings. To ensure firmness or body, a stabilizer, such as gelatin, may be added. These products are also referred to as “blended” yogurt.

Frozen yogurt: Frozen yogurt is a non-standardized food and, therefore, is not subject to Federal composition standards, as is the case for “yogurt”. In order to qualify for National Yogurt Association’s (NYA) Live and Cultures seal, frozen yogurt must be a product made by fermenting pasteurized milk (can include skim milk and powdered skim milk, plus other ingredients), using traditional yogurt cultures, until the proper acidity is reached. Many manufacturers, according to their unique recipes, will then mix this (the “yogurt” component) with a pasteurized ice cream mix of milk, cream, and sugar, plus stabilizers or other ingredients needed for desired consistency. This frozen yogurt base mix can then be blended with fruit or other ingredients and then frozen. The freezing process does not kill any significant amount of the cultures—in fact, during the freezing process the cultures go into a dormant state, but when eaten and returned to a warm temperature within the body, they again become active and are capable of providing all the benefits of cultures in a refrigerated yogurt product.

Not all products terms “frozen yogurt” actually contain live and active cultures. Some so-called “frozen yogurts” use heat-treated yogurt, which kills the live and active cultures, or they may simply add in cultures to the mix along with acidifiers, and skip the fermentation step all together. To make sure that a frozen yogurt contains yogurt produced by traditional fermentation and has a significant amount of live and active cultures, look for the NYA Live & Active Cultures seal.

Contains active yogurt cultures: Yogurt labeled with this phrase contains the live and active bacteria thought to provide yogurt with its many desirable healthful properties. Look for the NYA Live & Active Cultures seal to ensure that the yogurt you buy contains a significant amount of live and active cultures

Heat-treated: Yogurt labeled with this phrase has been heated after culturing, thereby killing the beneficial live and active yogurt cultures.

Liquid or drinkable yogurt: Fruit and yogurt are blended into a drinkable liquid.

Made with active cultures: FDA regulations require that all yogurts be made with active cultures. Only those that are *not* heat-treated, however, retain live and active cultures when they reach consumers.

Sundae or fruit-on-the-bottom: Fruit is on the bottom, so that turn upside down, it looks like a sundae. Consumers can mix the fruit and yogurt together to make it smooth and creamy.

Buttermilk: Buttermilk is reminiscent of yogurt because it made by adding a lactic acid bacteria culture to pasteurized whole milk (skim milk or nonfat milk can also be used). The old-fashioned way to make buttermilk was from the left over liquid from churning butter from cream, i.e., milk from the butter or buttermilk. After the addition of the culture, the milk is left to ferment for 12 to 24 hours at a low temperature. It is usually labeled cultured buttermilk and may be salted or unsalted. Buttermilk is slightly thicker in texture than regular milk but not as heavy as cream.

European-Style yogurt or stirred curd method: Yogurt in which the yogurt is cooked in a large vat instead of in individual cups. The curds are stirred in the vat, before they are poured into the cups, resulting in a smoother, creamier yogurt.

French yogurt or French-style yogurt: Is the same as custard-style yogurt.

Greek yogurt: Greek yogurt is a thicker, creamier version of the regular variety. Greek yogurt is strained to remove the excess whey from the yogurt which in turns gives it a thicker and creamier texture. In Greece, yogurt is made with sheep's or goat's milk.

Yogurt cheese: Yogurt that has been drained and pressed into a soft cheese form. The consistency of the yogurt cheese will be similar to soft cream cheese. It can be used as a base for dips and spreads, as a topping for baked potatoes. It is a great alternative for regular mayonnaise, sour cream or cream cheese.

Smoothie: There are many types of smoothies that contain yogurt or frozen yogurt. These smoothies usually use yogurt as the base and mix in various fruits into the consistency of a milkshake with healthier benefits.

Liquid Yogurt or Yogurt Smoothie: Yogurt that has been thinned to make it drinkable and blended with fruit, fruit juice or other flavorings.

Kefir: is similar to a drinking-style yogurt, but it contains beneficial yeast as well as friendly 'probiotic' bacteria found in yogurt. Kefir can be made from any type of milk, cow, goat or sheep, coconut, rice or soy. The curd size of kefir is smaller than yogurt which makes it easier to digest. Kefir is rich in Vitamin B12, and Vitamin K. It is an excellent source of biotin, a B vitamin which aids the body's assimilation of other B vitamins, such as folic acid, pantothenic acid, and B12.

Yogurt drinks: A "yogurt drink", according to Federal Standards of Identity, must meet the requirements for yogurt (the white mass –yogurt portion). It must contain a minimum of 8.25 percent milk solids not fat and 3.25 percent milkfat prior to the addition

of other ingredients. It also must be fermented with *Streptococcus thermophilus* and *Lactobacillus bulgaricus*. The processes of yogurt beverages closely resemble that used for stirred-style yogurt. Yogurt drinks usually pass through a homogenizer to reduce the particle size. This assures complete hydrocolloid distribution and stabilizes the protein suspension. Flavor may be added immediately prior to homogenization or the white mass may be homogenized and then flavored.

Costs

When looking at costs, you will need to decide whether to buy single-size cartons or larger cartons. Larger cartons are generally cheaper when you compare the price per ounce.

32-ounce store brand nonfat @\$1.66 = \$.05 per ounce

6-ounce store brand flavored nonfat @ \$.60 = \$.10 per ounce

Package of eight 2.25-ounce name brand portable yogurt treats (18 ounces) @\$2.95 = \$.16 per ounce.

Fruit-flavored varieties may cost more and include jam-like fruit that adds extra sugar. The sweetened fruit replaces some of the yogurt in the carton so you get less of the calcium-rich yogurt. Buy plain or vanilla yogurt and add your own fruit to it.

Other things to consider:

Serving size, calories, fat content and price.

Resources Used:

National Yogurt Association: <http://aboutyogurt.com/index.asp>

Iowa State University Extension: Spend Smart. Eat Smart. Milk, Cheese, and Yogurt: <http://www.extension.iastate.edu/Publications/PM2066AX.pdf>

Food and Drug Administration: <http://www.fda.gov/>

Making yogurt drinkable, Dairy Foods, June, 2004, by Bob Roberts: http://findarticles.com/p/articles/mi_m3301/is_6_105/ai_n6081210/

What is buttermilk? Does buttermilk contain butter: <http://homecooking.about.com/od/cookingfaqs/f/faqbuttermilk.htm>

Nutritional Content of Kefir: <http://www.kefir.net/nutrit.htm>

Yogurt Cheese: <http://lowfatcooking.about.com/od/quicktips/qt/yogcheese.htm>

How to Make Yogurt Smoothie: http://www.ehow.com/how_4536718_make-yogurt-smoothie.html

What is Greek Yogurt? http://www.cookthink.com/reference/257/What_is_Greek_yogurt

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<https://utextension.tennessee.edu/centralold/4H/Documents/CDM%20and%20Lifeskills/CDM%20-%202012%20Yogurt.pdf>.