

SOY MILK AS BEVERAGE

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INTRODUCTION:

Soy milk, also known as soya milk or soymilk, is a plant-based drink produced by soaking and grinding soybeans, boiling the mixture, and filtering out remaining particulates. It is a stable emulsion of oil, water, and protein. Its original form is an intermediate product of the manufacture of tofu. Originating in East Asia, it became a common beverage in Europe and North America in the latter half of the 20th century, especially as production techniques were developed to give it a taste and consistency more closely resembling that of dairy milk. Along with similar vegetable-based "milks," like almond and rice milk, soy milk may be used as a substitute for dairy milk by individuals who are vegan or lactose intolerant, while others may consume it for environmental or health reason.

PROCEDURE FOR THE PREPARATION OF SOY MILK:

Soy milk is made from whole soybeans or full-fat soy flour. The dry beans are soaked in water for a minimum of three hours up to overnight depending on the temperature of the water. The rehydrated beans then undergo wet grinding with enough added water to give the desired solids content to the final product which has a protein content of 1–4%, depending on the method of production. The ratio of water to beans on a weight basis is 10:1 for traditional soy milk. The resulting slurry or purée is brought to a boil in order to improve its taste properties, by heat inactivating soybean trypsin inhibitor improve its flavor, and to sterilize the product. Heating at or near the boiling point is continued for a period of time, 15–20 minutes, followed by the removal of insoluble residues by straining/filtration.



Nutritional Value:-

Nutritional content of fortified cow, soy, almond and oat milks				
Nutrient value per 250 mL cup	Cow milk (whole)	Soy milk (unsweetened)	Almond milk (unsweetened)	Oat milk (unsweetened)
Energy, kJ (kcal)	620 (149)	330 (80)	160 (39)	500 (120)
Protein (g)	7.69	6.95	1.55	3
Fat (g)	7.93	3.91	2.88	5
Saturated fat (g)	4.55	0.5	0	0.5
Carbohydrate (g)	11.71	4.23	1.52	16
Fiber (g)	0	1.2	0	2
Sugars (g)	12.32	1	0	7
Calcium (mg) [b]	276	301	516	350
Potassium (mg)	322	292	176	390
Sodium (mg)	105	90	186	140
Vitamin B12 (µg)	1.10	2.70	0	1.2
Vitamin A (IU)[b][c]	395	503	372	267
Vitamin D (IU)[b][d]	124	119	110	144
Cholesterol (mg)	24	0	0	0

NUTRITIONAL VALUE:-

Most soy milk found in supermarkets and health food stores is fortified with added nutrients. This makes fortified soy milk a great source of calcium, which is the most common mineral in your body. Consuming enough calcium can help strengthen your bones and reduce your risk of osteoporosis.

Soy milk is a plant-based nondairy beverage, often consumed as an alternative to milk. It's made from soybeans, and many brands fortify their soy milk with vitamins and minerals such as vitamin D and calcium. "Soy milk offers culinary diversity, creamy texture, and a healthful nutritional profile, including essential omega-3 fatty acids [if fortified] and flavonoids that exert antioxidant, anti-inflammatory, and cardioprotective properties," says Julieanna Hever, RD, a plant-based-foods dietitian in the Los Angeles area and the author of *The Vegiterranean Diet*.

There are so many reasons why you might turn to soy milk in your coffee, smoothie, or in your cereal. For one, you might not like the taste of cow's milk, and you may also prefer soy milk over other nondairy alternatives. You may also be trying to avoid dairy for a variety of reasons, whether it's for health or weight loss.

Some people are also lactose intolerant, which means that they have trouble digesting a sugar called lactose, which is the carbohydrate found in cow's milk, says Barbara Schmidt, RDN, a nutrition lifestyle program specialist at Norwalk Hospital in Norwalk, Connecticut. That can lead to a variety of uncomfortable gastrointestinal side effects; in this case, drinking a plant milk is a wise choice.

When comparing all plant milks, we can say, broadly, that soy milk is the most nutritionally similar to a lowfat cow's milk. "I call the

soybean the incredible, edible bean. With all nine essential amino acids, soy milk is rich in protein and is balanced in fats and carbs," says Schmidt. It also bests almond milk in terms of protein, as traditional almond milk may have fewer calories (just 30 per cup), but offers a scant 1 gram of protein. (There are some "added protein" versions of almond milk that use pea protein to bump up the protein content.)

Rice and oat milks are other popular plant-based milk choices. Like almond milk, rice and oat milk contain just one gram of protein. (3,4) As for coconut milk, using one popular brand as an example, it contains the same amount of fat (4 g), seven times the saturated fat (3.5 grams), but no protein.

You can feel confident in drinking soy milk, says Hever. As for how much soy milk you can drink, she follows the American Institute for Cancer Research (AICR) recommendation of moderate soy consumption. That means having one to two servings daily of whole soy foods, including soy milk. For instance, if you are planning on having a tofu stir-fry for dinner, you can still include 1 cup of soy milk in your morning smoothie. The AICR notes that research shows up to three servings a day has been found to be safe.

ADVANTAGES OF SOYA MILK:-

- It's a good source of potassium and can be fortified with vitamins A, B-12, and D, as well as calcium.
- It contains as much protein as cow's milk, yet is lower in calories than whole milk and about equal to the calories in 1 percent or 2 percent milk.
- It contains very little saturated fat.

HEALTH BENEFITS

The vitamins, minerals, and antioxidants in soy milk can provide important health benefits. For example, the forms of vitamin B found in soy milk are important for helping your body maintain your nerve cells and DNA. They can also help you avoid certain forms of anemia, which can prevent tiredness and fatigue.

Soy milk is also high in protein. The protein in soy milk is healthy, plant-based, and can help support healthy muscles and organs.

In addition, soy milks can provide other health benefits like:

Brain Health

Soy milk is rich in omega-3 fatty acids, which are “healthy” fats that your body cannot form on its own. Omega-3 fatty acids are linked to a reduced risk of dementia and Alzheimer’s disease. Soy milk is still being studied for its effect on these diseases, but soy in general is one of the best non-animal sources of omega-3 fatty acids.

Improved Heart Health

Soy milk can also help support your cardiovascular system. Soy milk is an excellent source of potassium, whether or not it has been fortified. Potassium is deeply connected to maintaining lower blood pressure and a regular pulse. Furthermore, soy milk has been linked to lower cholesterol levels, especially in people who have high cholesterol.

Soy milk contains isoflavones, which are a class of chemical known as “phytoestrogens.” These isoflavones react in the body like a weak form of estrogen. Because of that, studies have shown that consuming soy milk and other soy products might help reduce the symptoms of menopause, such as hot flashes.

