

Yogurt and Yogurt Products

Revised 2018

Storage Conditions

	Refrigerated Yogurt	Frozen Yogurt	
Temperature	35-40°F (2-4.4°C)	0 to -10°F (-18 to -23°C)	-20°F (-29°C)
Storage Period*	35-45 days	1 month	3-5 months**
Relative Humidity	Controlled by packaging		
* May vary with formulation and method of preparation			
** Storage periods longer than 5 months could result in flavor and body/texture degradation			

Yogurt is a fermented dairy product resulting from the growth of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* in milk, to produce a smooth, viscous gel. Although its origin is lost in antiquity it has been cultivated in Western Europe since the 16th century. The reason for its popularity in Europe is due to the idea that formerly many people in Bulgaria consumed large quantities of yogurt, and also many Bulgarians lived to be over 80 years old.

The sharp rise in yogurt consumption in the United States occurred during the last 30 years, when many variations on the initial yogurt product were introduced. There is little doubt but that a substantial part of this rapid growth is due to the magic of the name and its reputation as a nutritious health food. At this time yogurt is a specific well-defined product used as a basic ingredient in an entire class of products, all characterized by a typical yogurt flavor and forming a more or less gel structure. Some of the variations simply add fruits and fruit-sugar mixtures while other variations are desserts and a variety of salad garnishes. Even the bacterially fermented base can now be absent with imitation flavor added. It must therefore be emphasized that refrigerated yogurt products are no longer a single type of product for which specific recommendations on storage conditions can be given. Depending on the composition and method of preparation, it is safe to assume that storage conditions for yogurt-based products are equivalent to the products they resemble. Thus, for example, yogurt and liquid yogurt should be handled and stored in a manner similar to milk. Frozen yogurt should be stored in a manner similar to frozen ice cream desserts.

The popularity of yogurt in America was undoubtedly the result of the addition of sweeteners and fruit. Thus, the first American-type yogurt was refrigerated and distributed as other milk products.

There are many styles of this refrigerated product, including but not limited to:

1. Plain yogurt
2. Light yogurt
3. Whole Milk, Low-Fat, or Non-Fat yogurt

4. Natural or Organic yogurt
5. Liquid (drinkable) yogurt – Swiss-style with the fruit evenly distributed throughout
6. Sundae-style yogurt – with the fruit on the bottom
7. Swiss-style yogurt – with the fruit evenly distributed (blended) throughout the product
8. Greek-style yogurt – concentrated high protein
9. Custard-style yogurt
10. French-style yogurt
11. Western-style yogurt – with the fruit at the bottom of the cup and fruit flavor in the upper portion of the yogurt cup
12. Eastern-style with fruit at the bottom of the cup with no fruit flavor or color in the upper portion of the cup

Frozen Yogurt

The composition of frozen yogurt is similar to reduced fat/low fat ice cream. While the latter are carefully standardized, federal standards for frozen yogurt have been proposed but have not been adopted. In the meantime, numerous new yogurt-like or yogurt-flavor based products are being developed. The major difference in the basic composition of ice cream and frozen yogurt is the substantial reduction in milk fat and the increase in sugars in frozen yogurt. There are two types available similar to low fat ice cream. One is hard frozen at manufacturing and is sold like ice cream. The other is soft-serve mix that is dispensed from a soft-serve freezer as the consumer's request. The vendor may purchase soft-serve mix as a liquid in half-gallon or gallon containers or as a frozen product in these containers. The latter must be thawed for 24 to 48 hours in a refrigerator before use.

Non-standardized frozen yogurts can be produced where no fermentation is involved. Body and texture, whether hard or soft-serve yogurt, depends on the quantity of total solids, fat, non-fat milk solids, sugars and stabilizer present. An appropriate flavor can be produced by one or a blend of fruit concentrates, purees, or syrups. The usual stabilizers for sherbet function adequately in these high acid products.

Yogurt and Health

Yogurt, like milk, ranks high in nutritional quality, although like milk, it is not a good source of iron, copper or vitamin C. Its protein is of excellent biological quality. It is claimed that yogurt is easier to digest than milk because the milk protein is partially broken down by the bacteria. Also, yogurt is claimed to have the ability to restore the normal balance of microflora in the large intestine after illness, among other attributes.

Yogurt and Liquid Yogurt

When storage temperatures are elevated, the normal flora found in yogurt continue to grow and produce acid. As a result free whey may develop and eventually the product will shrink from the sides of the container. Normal shelf life under conditions of proper storage, 35-40°F (2-4.4°C), is 35 to 45 days.

Frozen Yogurt

When storage temperatures rise or fluctuate some ice crystals generated in the mechanical freezer will melt. Subsequent re-cooling allows only refreezing to existing ice crystals. No new ice crystals develop. Consequently, ice crystals become larger and larger thus become perceptible to the mouth senses. Frozen storage at -15 to -20°F (-26 to -29°C) with minimum temperature fluctuations will hold the product stable for 3-4 months.

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