



The importance of the fermented milk products

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DESCRIPTION

Dairy products produced by lactic acid fermentation (such as yogurt) or a combination of yeast fermentation (such as kefir) are called fermented milk or cultured milk. Fermented milk is a general term for products such as yogurt, immer, kefir, buttermilk, sour milk (Scandinavian sour milk), sour cream, and kumisu (male milk-based product). The generic name for fermented milk comes from the fact that the milk in the product is inoculated with a starter culture that converts some of the lactose into lactic acid. Depending on the type of lactic acid bacteria used, the conversion produces carbon dioxide, acetic acid, diacetyl, acetaldehyde, and other substances that give the product its characteristic fresh taste and aroma. The microorganisms used to produce kefir and kumisu also produces ethyl alcohol. Originally from the Middle East, sour milk was later popular in Eastern and Central Europe. The first example of fermented milk is probably accidentally made by nomads. This milk became sour and coagulated under the influence of certain microorganisms. As luck would have it, the bacteria were of the harmless, acidifying type and were not toxin producing organisms.

The conversion of lactose to lactic acid has an antiseptic effect on milk. The low pH of the cultured milk suppresses the growth of spoilage bacteria and other pests, extending the shelf life of the product. Sour milk, on the other hand, is a very favorable environment for yeast and moulds that can cause off-flavors and blown packages when yeast flavors and moulds can infect the product. When producing fermented milk, it is necessary to create the best possible growth conditions for the starter culture. These are achieved by heat treating the milk to destroy competing microorganisms. In addition, the milk must be kept at the optimum temperature for each starter culture. Once you have the best flavor and aroma, you need to quickly cool the sour milk to stop the fermentation process. If the fermentation time is too long or too short, the taste will be affected and the consistency will be poor.

In addition to taste and aroma, proper appearance and consistency are important features. Milk for yogurt is an essential "base" for the accumulation of coagulum during the incubation period. There are many similarities in the manufacturing techniques of other fermented products. For example, milk pre-treatment is almost the same. Therefore, the process description for other products focuses primarily on manufacturing steps that are different from the production of yogurt. Yogurt is the best known of all fermented dairy products and is the most popular in the world. Consistency, taste and aroma vary from region to region. In some areas yogurt is made in the form of a highly viscous liquid, in other countries it is made in the form of a softer gel. Yogurt is also made with frozen yogurt as a dessert or drink. Yogurt has a different flavor and aroma than other fermented products, and the volatile flavors contain small amounts of acetic acid and acetaldehyde.

Yogurt with a variety of fruits, flavors and aromas is very popular, but there is a clear tendency to return to natural yogurt in some markets. Common additives are fruits and berries in syrups, processed or as purees. Fruit content is usually about 15%, of which about 50% is sugar. Fruits are mixed with yogurt before or in connection with the packaging. You can also put it on the bottom of the pack before adding the yogurt. Alternatively, the fruits can be packed separately in a double cup integrated into the base cup. Yogurt may also come with flavors such as vanilla, honey and coffee essence. Colorants and sugar in the form of sucrose, glucose and aspartame (unsweetened diet sweeteners) are often added with flavorings. In the manufacturing process, milk selection, milk standardization, milk additives, to produce high quality yogurt with the required taste, aroma, viscosity, consistency, appearance, no whey separation and long shelf life. Various factors such as ventilation need to be carefully controlled. To be able to produce high quality yogurt, the milk for yogurt production must be of the highest bacteriological quality. The content of bacteria

and substances that can interfere with the development of yogurt culture should be low. Milk should not contain antibiotics, bacteriophage, CIP solution residues, or sterile agents. Therefore, dairy products need to obtain

milk for yogurt production from selected and approved producers. Milk needs to be analyzed very accurately with dairy products.