

MILK AND MILK PRODUCTS PROCESSING TECHNOLOGY.

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<https://doi.org/10.5281/zenodo.11296408>

Abstract : Dairy products are the primary and irreplaceable human food products, and it is important to preserve them for a long time without losing their quality. The use of milk began several thousand years ago. Although people have been consuming milk for a long time, they did not know what substances it contains and its true essence. However, its value as a good food and healing power was known long ago. The judges of ancient Egypt, Greece and Rome observed the effect of milk on the human body and called this wonderful drink "Source of Health", "Water of Life", "White Blood".

Key words: Milk, cream, yogurt, processing, technology, storage, acidity

The benefits of milk were first scientifically proven in the laboratory of the great Russian physiologist I.P. Pavlov. "Among the foods eaten by humans," wrote I.P. Pavlov, "milk occupies a special place, and this is recognized both by human life experience and medicine. This food, prepared by nature itself, is distinguished from other foods by its wonder. stands". Another Russian scientist S.P. Botkin, as a result of his experiments, concluded that milk is "a valuable tool in the treatment of heart and kidney diseases."

Milk is an incomparable food for people who are weak and tired and need nutritious food. It strengthens the body's resistance and restores metabolism, so it is especially useful for people working with radioactive and toxic substances that disrupt liver functions, substance and mineral metabolism, and have a strong effect on the mucous membranes of the upper respiratory tract. Currently, the preservation and processing of milk and dairy products, meat and meat products is a profitable field on a global scale, which covers several areas of science.

State standard for cow's milk (GOST 13264-70)



Key indicators:	Varieties:		
	I	II	III
1. Acidity ($^{\circ}$ T - Terner indicator based)	16– 18	16– 20	21
2. Purity level according to standard requirements	I	II	III
3. Bacterial purity (specified must not be lower than the class)	I	II	III
4. Reception temperature $^{\circ}$ C	Below 10° is not considered		

Keeping milk in farms at low temperature without heat treatment leads to growth of putrefactive microorganisms, protein breakdown and fat hydrolysis. In this case, the milk will have a bitter taste.

The place where milk is first processed in the farm must have the following rooms; it is necessary to have a room for receiving milk, equipment, (vessels, milking machines), a pump-machine room and a laboratory room, as well as a water and steam generating room, a steam room and a boiler room.

. The milk receiving room is used for receiving milk and preliminary treatment. Separator-cleaners, separator-cream separators, scale SMI-250, milk tank 1000 kg and pumps will be installed in this room.

The size of the milking room is 102 m per 100 cows. hot and cold water is included in this room. This room contains milking and disinfecting mixtures and clean water bath (kata togora), racks for placing milk bottles, tables for milking, dividing into pieces, milking machines and there should be a cabinet where you can put spare parts for other tools.

The dairy laboratory is a specially equipped room, where various indicators determining the quality (variety) of milk are analyzed based on the requirements of the state standard. The task of the laboratory is to prepare yeast for the preparation of acidophilin milk, to detect mastitis cows, to monitor and control the sanitary condition of the farm.

The laboratory room should be bright, well ventilated, covered with metal plates. Chemical tables, reagents, sink will be installed. The laboratory technician must be qualified. A person who knows the process of preparing some dairy products (acidophilin, regular yogurt, chakki, etc.), should know the sanitary-veterinary rules of keeping cows and milk production, as well as the factors affecting the quality of milk. 1 Cream is obtained by passing milk through

separators. During separation, the composition of milk is divided into two parts, i.e. fat and skimmed parts, under the influence of centrifugal force. Skimmed cow's milk is used in the preparation of cream. In this way, the fatty part of the milk is separated using the fact that the density of the fatty and non-fatty parts differs from each other. Pasteurized creams with a fat content of 8, 10, 20 and 35% are obtained for direct consumption. They are white, white-brownish in color, sweet, with a noticeable smell and taste of pasteurization, and have the same consistency. Sour cream can be different depending on how fat it is. For example, the sourness of 8% and 10% fat content is 19°C, and that of 20 and 35% fat content is 17-19°C.

The pasteurization process of cream is almost no different from that of milk. The pasteurization temperature varies slightly depending on the fat content. For example, creams with a fat content of 8-10% are pasteurized at 78-80°C, and those with 20-35% are pasteurized at 85-87°C. In both cases, the pasteurization period is 15-30 minutes. Pasteurized cream is divided into a and b categories depending on the total amount of bacteria in 1 ml of cream.

The number of bacteria in category A cream should not exceed 100,000, and in category B should not exceed 300,000.

In addition, in category A there may be 1 Escherichia coli in 3 ml, and in category B in 0.3 ml.

Creams are also sold sterilized. They should be white-brown in color, have the same consistency, and have a unique smell and taste. The finished cream should have a sweet, pure taste. It is not allowed to have a foreign taste and smell that is not characteristic of fresh cream. The consistency should be the same, there should be no fat, coagulated casein pieces and large fat particles.



Picture 1 Creamer Separator 100 liters/hour (Motorsich-19)



First of all, the nutritional value of sour cream lies in the large amount of easily digestible fat in its composition. In addition, lecithin - protein membranes of fat particles increase its nutritional value. Calories of 10% fat cream - 1173, 20% cream - 2131, and 35% cream - 3345. Cream is used in the preparation of various culinary products.

Creamy drinks and their assortment

As we mentioned above, the fat content of creams produced for consumption is 35%, 20% and 10%. Coffee blends and chocolate creams are also made for sale. In some cases, sugar, cocoa, vanillin and fruit juice are added to the cream to increase its quality and sweetness. Before shipment, such a product is pasteurized at 85°-87°C for 5 minutes, homogenized, and cooled to 3°-5°, then refrigerated for 14-16 hours.

Currently, coffee, cocoa (2.5–4%), as well as cream marshmallows, jelly and cream drinks are also made.

Marshmallow with cream - made by adding sugar (10%) and gelatin (0.32%) to 30% cream. Packed jelly is made by mixing sugar, gelatin and vanilla or cedar for flavoring cream. Chocolate mousse is obtained by adding cocoa to this mixture.

Pasteurized drink with cream is prepared by adding sugar to 10 percent cream. Milk, dry milk, dry cream with sugar, butter, beet sugar and water are also used in the preparation of the cream drink. The content of the drink with kai mok can be as follows: dry matter at least 27.5%, including fat at least 10%, beet sugar at least 12%, and acidity should not exceed 21°T.

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