

TECHNOLOGY OF CHEESE PRODUCTION AND ITS IMPORTANCE IN THE FOOD INDUSTRY

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Abstract. *This article provides information on cheese production methods and the benefits of cheese in the food industry. The raw materials needed to make cheese are also specific bacteria and enzymes*

Keywords: *cheese, production, technology, bacteria, enzymes, food, microorganisms, components, lactose, cultivation, biotechnology, organism, casein protein.*

ТЕХНОЛОГИЯ ПРОИЗВОДСТВА СЫРА И ЕЕ ЗНАЧЕНИЕ В ПИЩЕВОЙ ПРОМЫШЛЕННОСТИ.

Аннотация. *В данной статье представлена информация о способах производства сыра и пользе сыра в пищевой промышленности. Сырьем, необходимым для производства сыра, также являются специфические бактерии и ферменты.*

Ключевые слова: *сыр, производство, технология, бактерии, ферменты, продукты питания, микроорганизмы, компоненты, лактоза, культивирование, биотехнология, организм, казеиновый белок.*

PISHLOQ ISHLAB CHIQRISH TEXNOLOGIYASI VA OZIQ-OVQAT SANOATIDAGI AHAMIYATI

Anotatsiya. *Ushbu maqolada pishloq ishlab chiqarish usullari va pishloqning oziq-ovqat sanoatida tutgan oʻrni foydalari haqida malumotlar berilgan. Shuningdek pishloq ishlab chiqarishda kerak boʻladigan hom ashyolar mahsus bakteriyalar, fermentlar haqida ham toʻxtalib oʻtilgan*

Kalit soʻzlar: pishloq, ishlab chiqarish, texnologiya, bakteriyalar, fermentlar, oziq-ovqat, mikroorganizmlar, komponentlar, laktoza, yetiltirish, biotexnologik, organizm, kazein oqsili.

Cheese is the first product to be processed naturally using milk microbes. Because milk contains almost all the components necessary for the nourishment and reproduction of microorganisms, it is easily digested. The basis of this process is the conversion of lactose into lactic acid. For thousands of years, the causes of spontaneous fermentation of milk have been studied, and as a result, the causes of fermentation of milk have been studied, and as a result, technologies have been developed to make cheese and other products by fermenting milk.

To make cheese, milk is filled with bacteria of a certain generation. The quality, aroma, and a number of other characteristics of the product depend on the generation and type of these bacteria.

The proliferation of lactic acid bacteria during milk fermentation is an important technological process, as bacteria that are prone to reproduction prevent the growth and reproduction of bacteria belonging to another generation or species, and therefore enter the product. It has a unique quality, namely smell and taste. Lactic acid bacteria have a positive effect on the gastrointestinal microflora. Once bacteria are added to the milk, it is kept at a certain temperature, which causes the milk to ferment. In order to deepen this process, additional proteolytic enzymes are added to break down the proteins in milk. These enzymes are taken from the stomach of a lamb or calf and are called bone enzymes or renin. Renin is produced in the fourth part of the stomach by a suckling calf or lamb.

In-depth scientific research has led to the discovery of a microbial enzyme with



specificity similar to the enzyme enzyme, and it has been included, at least in part, in the regulation of sorghum preparation technologies to replace this enzyme. Another biotechnological process is the isolation of a gene that synthesizes renin, which is incorporated into the genome of mycelial fungi, creating a very similar analogue of the enzyme enzyme.

Thus, enzymes are obtained industrially from the stomachs of animals (calves, lambs, piglets) and fungi. Shortly after the enzyme is added to the milk, the casein protein in the milk is partially broken down. The coagulated casein forms a gel-like mass and adheres to the oil, after which the separated whey is filtered off, the thick mass is compressed, the remaining liquid is separated as much as possible, and dried in a swab or other material. The next stage is the cooking (maturation) of the cheese. Making cheese from milk is a dehydration process in which casein and milk fat are concentrated 6-12 times.

In the process of ripening some cheeses, it is filled with microorganisms (bacteria and fungi) from the outside, which gives the cheese a fragrant aroma and a unique taste. Due to the large number of species and species of bacteria in nature, the variety of cheese is growing from year to year. Other products can also be made

from milk. What sets them apart is the sour products. For example, yogurt is made in many countries. In Georgia, its analogue matson is made. Yogurt is usually made from milk by growing *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. In the process, *L. Bulgaricus* forms acetaldehyde, acetaldehyde is formed, and with the help of enzymes synthesized by *Streptococcus thermophilus*, milk sugar is converted into lactose lactic acid, resulting in the full sourness of yogurt.

100 grams of cheese contains 25 grams of protein, which is a "building material" for muscles, enhances immunity, participates in the processes of growth, development and cell regeneration. Therefore, people who want to gain muscle mass try to consume more protein.

About 99% of the calcium in the body is stored in the bones and teeth. The remaining 1% is in the blood and tissues. If there is a lack of calcium in the blood, the body takes it from the bones. This "credit" does not last long: the bones become brittle and the risk of developing osteoporosis increases. It is therefore important to include calcium-rich products in the diet, including cheese. 100 grams of cheese can provide a daily norm of calcium intake: in it this macronutrient - about 1000 milligrams. The exact amount depends on the variety. Hard and semi-hard varieties, such as parmesan, cheddar and gaud, are high in calcium. In addition, cheese is one of the few products that contains vitamin D. In particular, it helps in better absorption of calcium. Vitamin D is usually synthesized in the human body under the influence of sunlight. That's why it's important to find additional sources during the cloudy days of winter. Cheese contains vitamin B12, which is involved in the formation of erythrocytes. These red blood cells carry oxygen to the tissues and organs. Therefore, if a person is deficient in vitamin B12, there is a lack of oxygen in the cells, which leads to fatigue, lethargy and breathing problems. So you have to eat cheese to breathe freely. In addition, cheese is a high-calorie product (an average of 300-400 kcal per 100 grams of cheese), which indicates that it can be quite fat and energizing.

Cheese contains beneficial bacteria that improve the intestinal microflora. This allows the body to better absorb a variety of nutrients and remove toxins. Cheese should be consumed in moderation to be beneficial, not harmful. This is the basic rule. Two servings a day (about 25 grams) will provide you with nutrients and bacteria, but will not have a negative effect on the heart and body.

References:

1. R.Khojiev Namangan Engineering-Pedagogical Institute, Department of Food Technology Methodical instructions for laboratory classes on the subject "Technology of milk and dairy products" Namangan 2005.
2. A.Karimkulov Gulistan State University, Department of Food Technology, Educational and Methodological Complex on Food Biotechnology Gulistan 2019.
3. Ismoilov T.A., Fatxullayev A., Raximdjonov M.A., Muxitdinova M.U. Meat and dairy biochemistry. Textbook. Tashkent Cholpon Publishing House, 2014.