

## TECHNOLOGY OF PRODUCTION OF BIO CHEESES AND REQUIREMENTS FOR QUALITY OF USED MILK

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### ABSTRACT

Along with the increase in livestock production, the quality and environmental friendliness of the finished product is one of the important indicators. The work discusses the technology of preparation of bio-cheese presented to bio-cheese and to the quality of milk used for the production of cheese.

**KEY WORDS:** Milk, cheese, labyrinth, yogurt, whey extract, salting process, drying, packaging.

### INTRODUCTION

Livestock reform in the country is one of the most important issues of ensuring food security and increasing the country's export potential by satisfying the population's demand for quality food.

In addition to expanding milk production, increasing the number of highly productive cows, scientific advances, and advanced methods for storing and processing milk are of particular importance. It is known that in recent years in our country much attention has been paid to the production of milk and dairy products. Currently, in our country, at home and abroad, milk cheese and cheese products are in great demand, because they are important in human nutrition.

Depending on the type of cheese produced, the modes of the technological process and the duration of their ripening may vary, and some processes may be excluded or occur unevenly. If used in the production of cheese, ultrafiltration, an ultrafiltration device is included in the milk preparation circuit.

There are special requirements for the quality of the milk used in the production of cheese. Because the quality of cheese is heavily dependent on the quality of primary milk.

For the production of all types of cheeses, milk of the highest and first grade is used. In accordance with this, the milk used must have a clean taste and smell without foreign tastes and odors not characteristic of fresh milk. In appearance, the consistency is a homogeneous liquid without precipitation and should have no precipitation from white to slightly yellow. Milk suitable for the production of cheese, the co-density of not less than 1027 kg / m<sup>3</sup>, acidity 16-180 tons, fat content of 3.2% and a protein content of at least 3.0%. In addition, there are the following specific requirements for milk used in the production of cheese. In accordance with this, the milk used must have a clean, taste and smell without extraneous tastes and flavors that are not inherent to fresh milk. In appearance and consistency, the liquid is homogeneous without precipitation and should have a white to slightly yellow color.

If there is any doubt about the falsification of milk, it should be checked for naturalness. At the same time, a dry non-fat milk residue (COMO) is determined, if necessary, the freezing temperature, the presence of hydrogen peroxide, ammonia soda.

Daily, in each batch of milk, acidity, purity, fat content, density and number of somatic cells are determined. It is important to avoid getting into the milk gas-forming microorganisms (E. coli, tremors, fatty acid bacteria), which are very harmful for the production of cheese.

Milk is divided into groups that under the action of rennet normally coagulate and poorly coagulate. Milk belonging to a certain group is determined by its acidity and the amount of water-soluble calcium salts. With

this in mind, the suitability of the second group of milk for the production of cheese can be improved due to its maturation (acidity) and the introduction of a shelf dose of calcium chloride.

For the production of cheese, it is important to consider changes in the chemical composition and properties of milk. Colostrum obtained during the first 7-10 days after calving is very different from regular milk in that it contains a high level of immune substances, antitoxins and bactericidal substances and is considered unsuitable for the production of cheese. Milk 10-15 days before calving, is also not suitable for the production of cheese.

Acidity, purity, fat content, density and number of somatic cells are determined daily in each batch of milk. Every 10 days, each applicant's milk samples are identified as having a class of milk rash, a class of reductase, substances that inhibit the growth of lactic microorganisms in milk, spores of anaerobic mesenchyme lactate and fatty acid bacteria. If there is any doubt about the falsification of milk, it should be checked for additional. Determined (SOMO) dry, dehydrated milk residue, if necessary, freezing temperature, the presence of hydrogen peroxide, ammonia soda on ammonia.

According to the results of organoleptic evaluation, physico-chemical and hygienic indicators determine the suitability of milk for the production of cheese.

## RESEARCH RESULTS

The cheese production process is as follows. Initially, 5 hours before the start of the process, all equipment is disinfected with a special disinfectant (hirhoflusha). Milk is milked using a special milking machine, filtered through a paper filter and sent through rough pipes to the process bath. The temperature of milk is 35-36 ° C (corresponds to body temperature). Then the milk is cooled. When the temperature of the milk reaches 30-33 ° C, a starter is introduced (Kultura CSK D 447, 1000 18 g per 1000 liters of milk, YC 380 12.5 g per 1000 liters of milk). After the fermentation is made, the milk is stirred for 10 minutes using an automatic device. Milk is left alone for 60 minutes. After sixty minutes, Labart 20 g of powdered milk per 100 liters of milk is added to the milk and mixed for 10 minutes. When mixing is complete, the milk is kept for 50-55 minutes. After the procedure is completed, the milk in the bath coagulates and becomes dense. After this, the milk clot is cut within 25 minutes using special automatic knives and mixed for 20 minutes. The finished product is washed twice. This process is performed in the following order:

First wash:

- 22% of the obtained whey is removed from the bath;
- Introduce hot water with a temperature of 45-50 ° C (200 liters).

At this time, the contents of the bath are mixed.

Second flushing:

- 33% of the obtained serum is removed from the bath
  - Hot water with a temperature of 45-50 ° C (300 liters) is added to the bath.
- At the end of the above operations, organoleptic testing (manual compression) of the resulting product is carried out. During the test, it checks the elasticity of the product. Then the product is molded using special baskets. After the product is molded, it is pressed at 0.3 atm using an automatic device. Then, every 30 minutes, the product is removed from the mold, refilled and pressed again. After that, another pressing is bred for 3.5 hours. After the last pressing, the product is removed from the mold and rephased again. The product is held in the form of 18 hours. Then the product is removed from the mold and sent to the ambassador. Salting is made in bathtubs filled with brine. The salting process lasts 2 days. The product is injected into the bath for 1 day on one side and for 2 days on the other side. Brine contains 20% salt and boiled 30% whey 50% water. The product is removed from the salt bath and left for 24 hours. Then the product is packaged in special plastic bags using automatic equipment. The finished product can be consumed after 6 weeks.

## CONCLUSION

Thus, to obtain a high-quality biospra, it is necessary to pay special attention to the quality of the milk used. Since for the production of biospra it is possible to send only cheese-filigree milk that meets apeyal requirements. In addition, the strict observance of technological and sanitary-hygienic production regimes is of no small importance for obtaining high-quality cheese.

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