DEVELOPMENT OF TECHNOLOGY AND STUDY OF THE PROPERTIES OF SOLID CHEES ON THE BASIS OF THE "MEITO" FERMENT AND PROBIOTIC CULTURES

Moroz J. V., Zhukova Y. A., Trutaev I. V.
Scientific supervisor: Grand PhD, Prof. Striletc O. P.
National University of Pharmacy, Kharkiv, Ukraine
yliashka1995@rambler.ru

Cheese is a nutritious food product that is derived from milk by enzymatic protein folding, the extraction of cheese mass followed by processing and maturing. Useful cheese properties are largely explained by its nutritional value. The composition of cheese includes vitally important and valuable for human proteins, milk fat, minerals, vitamins and extracts. The protein that is found in cheese is much better absorbed than the protein of fresh milk, and is also an integral part of biological fluids in the human body (blood, lymph), the most important component of immune bodies, hormones, enzymes. Vitamins of group B, have a beneficial effect on the hematopoiesis-B_{12}, B_1- increases efficiency, and B_2 promotes energy production and is a catalyst in the processes of tissue respiration. Extractive substances of cheese have a beneficial effect on the digestive glands, increasing appetite.

The purpose of this study is to obtain a solid cheese with probiotic cultures in the laboratory and study of its properties. To obtain a hard cheese an enzyme of plant origin "Meito" and leaven is used. "Meito" is a milk-coagulating enzyme, represents a specific protease, which in its amino acid composition is identical to a veal rennet enzyme. The given plant-derived enzyme is produced from a food fungus, then fermented on barley and dried by extrusion. Leavens are bacterial combinations, used for manufacture of dairy products. The composition of leavens includes lactic acid bacteria and rods, kefir fungi and many other microorganisms that promote fermentation and lead to milk fermentation. To produce cheese, two main types of leavens are used: mesophilic - prefer low temperatures - 25-30 ° C. This is the most common leaven for many cheeses, such as Cheddar, Manchego, Parmesan. The strains of mesophilic bacteria include bacteria such as, *Lactococcus lactis ssp lactis* and *Lactococcus lactis ssp.cremoris*. Thermophilic bacteria are bacteria that work best at temperatures of 30-40 ° C, but also survive at a temperature of 65 ° C. These starter cultures are most often used to produce cheeses with a high second heating temperature, for example Swiss cheeses. The thermophilic bacteria include strains of bacteria-*Streptococcus thermophilus*, *Lactobacillus delbrueckii ssp. bulgaricus* and *Lactobacillus helveticus*. As of today, the Department of Biotechnology studies the production of hard cheeses based on the enzyme "Meito" and probiotic cultures, and the study of their microbiological and organoleptic properties.