

РАЗРАБОТКА ТЕХНОЛОГИИ КИСЛОМОЛОЧНОГО НАПИТКА ИЗ КОЗЬЕГО МОЛОКА С ДОБАВЛЕНИЕМ НАПОЛНИТЕЛЕЙ

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Аннотация. Приведенные данные в статье свидетельствуют об актуальности исследований по получению молочного напитка путем добавления чечевицы в качестве зернового и зернобобового сырья в козье молоко. Изучены физико-химические и технологические свойства козьего молока, используемого в качестве основного сырья для производства молочной кислоты, а также способы добавления чечевицы в качестве молочно-растительного сырья в молочные продукты.

Ключевые слова: козье молоко, коровье молоко, кисломолочный напиток, чечевица.

CREATING THE TECHNOLOGY OF MILK DELIVERY FROM EXTRAORDINARY MILK ADDITIONAL SUPPLEMENTS

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Abstract. The data demonstrate the relevance of research on the production of lactic acid by adding lentils as cereals and leguminous raw materials to goat milk. The physicochemical and technological properties of goat milk used as the main raw material for the production of lactic acid, and ways of adding lentils as milk-and-vegetable raw materials to dairy products were studied.

Keywords. goat's milk, cow's milk, fermented milk drink, lentils.

For the development of dairy products, first of all, livestock production should be improved. One of the promising areas for livestock breeding development is goat breeding. The development of goat breeding allows for the extensive use of useful goat milk raw materials in the production and increase the range of dairy products.

One of the main problems facing food production is the fact that the physiological needs of the society have certain functional properties, environmentally friendly, high quality and satisfying biodiversity products [1]. The modern trends in improving the nutrition structure of the Company are aimed at the production of balanced products in the diet, nutritional and biological value.

Compared to milk proteins, the combination of milk and plant proteins is an improved composition of amino acids. The milk-fertile system fully complies with the balanced diet. In addition, when introducing plant components into the recipe, the product is enriched with vitamins, minerals, organic acids and food fibers. In this regard, polycomponent dairy products can solve the problem of production of biologically pure "healthy food" for human organism [2].

Domestic and foreign scientists have developed a number of polycomponent milk and dairy products based on milk. This traditional assortment includes: dairy, kefir, cottage cheese, sour cream, sour cream, cheese, oil based products.

At present, several processes for the production of polycomponent dairy products and technologies are defined. Traditionally, fruit and berry additives are added to dairy products. It is also enriched with vegetable ingredients, such as: carrots, beets, topinambur [3].

It provides them with healing properties for dairy products, vitamins, enzymes, lactulose, herbal extracts. In recent years, the direction of enrichment of dairy products with crops and cereal crops, their processing products has been actively developed.

Milk citrus production is used as a raw material for the production of lactic beverages. The results of the literary review showed the specific composition and properties of goat milk for the human body.

Today, in many developed countries, the use of goat milk and its products is rapidly developing. The chemical composition of goat milk depends on milking time, livestock breeds, nutritional status, conditions of detention and weather factors. According to the chemical composition goat milk is close to cow's milk. Unlike

cow's milk, goat's milk is rich in protein, fat and calcium. Its biological value is very high, as in goat's milk is a large amount of sarus proteins (albumin and globulin) and mineral salts. These parameters bring goat's milk to the composition of the mater milk. Goat's milk refers to cashew milk, as 75% of its protein is cousins and protein is rapidly digested in the stomach as it is in the form of delicate, tissue [4].

Nowadays, the increase in the number of individual households, the increase in the raw material supply will allow it to be processed in production and produce high value-added products. In this regard, during the research, the physico-chemical composition and properties and biological value of goat milk selected as the main raw material were studied (Table 1). As a research object, goat and cream cow milk (hereinafter, cow's milk) was obtained.

Table 1 - Comparative physicochemical content of goat and cow milk

Indicators	Cow's milk	Goat milk
Massfraction, % Water	87.8 ± 0.5	87,03 ± 0,5
Dryingredients, including	12.0 ± 0.5	12.97 ± 0.5
Fat	3, 7 ± 0.1	4.14 ± 0.1
Theprotein	3, 1 ± 0.15	3, 56 ± 0.15
Lactose	4, 6 ± 0.2	4, 45 ± 0.2
Theashes	0,60 ± 0,1	0,82 ± 0,1
Density, kg / m ³	1028 ,0 ± 0,0005	1032 ,5 ± 0,0005
Acidity, ° T	1 7.5 ± 0.1	1 7 ± 0.1
Organoleptic parameters: Echo	It's a cow's milk	It is inherent in goatmilk

According to the data in Table 1, the chemical composition of cow's milk in goat's milk is close to each other, but compared with cow's milk, the dry matter (12.0 and 12.97%) in goat's milk, protein (3.1 and 3.56%), fat (3.7 and 4.14%) and lactose (4.6 and 4.45%) were found to be low.

Nutritional value of milk depends on its useful properties. The nutritional requirements of the nutritional elements in the body are particularly important in the nutrition of children, young mothers, the elderly and the sick.

In the human body, milk proteins are the source of the formation of new cells and tissues, biologically active substances, enzymes and hormones. Adding various additives to dairy products allows to increase the physical and chemical composition of the products produced, to expand the product range and to use raw materials economically. Lentil sprouts from grains have a special place in their composition and properties. Lentil is a herbaceous plant that is used in the past. It's a tasty, healthy, and environmentally friendly product. The distinctive feature of the lentils is that it does not collect nitrates, radionuclides and other harmful substances.

In the composition of lentils there is a small amount of fat, and in the fatty acids there are a lot of biologically important oleic and linoleic acids that are not synthesized in the body. It should also be noted that the amount of carbohydrates in the lentils is 45-53%. Lentil is rich in vitamins and minerals that are other important organic compounds. When growing lentils, synthesis and activation of enzymes occurs. most of the complex ingredients (starch, protein) are transmitted to maltose, glucose, dextrine, peptides, peptides, amino acids, when they are grown under the influence of these enzymes. At this point, macro and microelements become easily absorbed. Lentil is rich in amino acids, minerals and vitamins, and does not accumulate toxic substances at all. That's why lime is called ecologically clean product. In the processed lentils are 100 g of product, fat - 0.55, protein - 8.96, carbohydrates - 22,14, water - 67.34, ash - 1,00. Product calories are 106 kcal or 444 kJ.

Table 2 - The amount of amino acids in the stacked stack

No	Aminoacids	Size, 100 g / g	Tästriktik share of the norm, and 100 g / g
1	2	3	4
1	Treonin	0.332	0.0
2	Isoleucine	0.332	13.7
3	Leucine	0.628	13.7
4	Lysine	0.712	17.4
5	Methionine	0.105	5.8

6	Cystine	0.333	18.6
7	Phenylalanine	0.442	10.0
8	Tyrosine	0.225	5.7
9	Valin	0.399	16.0
10	Argygin	0.611	10
11	Histidine	0.257	12.2
12	Alanine	0.335	5.4
13	AsparagicAcid	1,433	11.7
14	Glutamic acid	1,258	9.3
15	Glycine	0.319	9.1
16	Proline	0.335	7.9
17	Serin	0.495	6.0

Table 3 - has placed the axis of the size of the fatty acid composition of lentil

No	fattyacids	Amount: 100 g / g
1	Unsaturated fatty acids	0.06
2	Palmitin	0.05
3	Stearic acid	0.01
4	Mono un saturated fatty acids	0.10
5	Oleic acid	0.10
6	Poly un saturated fatty acids	0.22
7	Linolen	0.18
8	Linol	0.04

Sprouted lentils content fat-soluble vitamin A, water-soluble (C, B₁, B₂, B₃ (PP), B₅, B₆ and B₉) vitamins and macro- and microelements.

Table 4 - The amount of vitamins contained in the lentil extract

No	Vitamins	The amount of 100 g of the product	Daily dose of 100 g / g
1	Vitamin A, µg	2.0	0.2
2	Vitamin C , mg	16.5	18.3
3	B ₁ vitamin, mg	0.2	19.0
4	B ₂ vitamin, mg	0.1	9.8
5	B ₃ vitamin, mg	1.1	7.1
6	Vitamin B ₅ , mg	0.6	11.6
7	Vitamin B ₆ , mg	0.2	14.6
8	Vitamin B ₉ , µg	100.0	25.6

Table 5 - The amount of mineral substances in the lentil extract

No	Mineral substances	The amount of 100 g of the product	Daily dose of 100 g / g
1	Calcium, mg	25.0	2.5
2	Ferrum, mg	3.2	32.1
3	Magnesium, mg	37.0	9.3
4	Phosphorus, mg	173.0	24.7
5	Potassium, mg	322.0	6.9
6	Zinc, mg	1.5	13.7
7	Copper, mg	0.4	39.1
8	Manganese, mg	0.5	22.0
9	Selen, µkg	0.6	1.1

In general, lentil is a protein-rich product, so vegetarian dieters make it healthier to meat. People with diabetes, gastrointestinal tract, recommend adding lentils to rhinestones. Use of lentils in eating can lead to immunity, normalization of the organism and prevention of oncological diseases.

The lentils contain a large amount of plant protein easily absorbed into the body, and lower sulfuric acid and tryptophan than other peas. The lentils have low fat content and are the source of iron. In ages, folic acid is much larger than other products. In ages, a soluble leaflet that improves corticosteroids and prevents rectal cancer.

In kidney cereals there are microelements - calcium, potassium, phosphorus, high iron content and vitamins Omega-3, Omega-6, RR, A, C, and B. By its nutritional properties, lentils can be replaced by bread, cereals and substantial amounts of meat.

Taking into account the above information, the Department of Technology of Food Technology of Almaty Technological University has developed a technology for the production of lactic acid by adding goat milk lentils. In the course of the research, the size of the lentils in the goat's milk was determined.

Adding a yacht to a diet intensifies the circulation and substance appetite, increases immunity, promotes vitamin and mineral deficiency, clears the body and improves digestion.

In this regard, taking into account the above data, conducting research on the production of lactic acid by adding lentils as cereals and leguminous crops to goat milk, is of relevance.

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