

THE ROLE OF NON-TRADITIONAL DAIRY PRODUCTS IN THE DIET OF THE POPULATION OF KARAKALPAKSTAN

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Annotation

The article describes the solution of the problems that have arisen in connection with the tense environmental situation in the southern Aral Sea region. To do this, it is necessary to make an effort to widely develop and use environmentally friendly products from local livestock raw materials. In connection with the current situation, in order to increase the immunity of the population, non-traditional dairy products should be used in everyday life. In this case, the article provides a comparative physical and chemical analysis of cow and camel milk. Studies show that camel milk has been studied quite well by scientists in a number of countries and introduced into production.

The South Aral Sea region is characterized by a tense ecological and epidemiological situation. Numerous science-based publications of scientists have been published on the negative impact of environmental factors on the health status of the population of Karakalpakstan. The state is taking a number of effective measures to prevent and address the environmental, medical, socio-economic, etc. associated with this. problems.

To solve this problem, it is necessary to make an effort for the widespread development and use of environmentally friendly products from local livestock raw materials. The use in the diet of such products that will compensate for the lack of minerals, vitamins, proteins, etc., obtained from natural sources, should increase the resistance of the human body to external influences. The most promising in this respect are milk and dairy products of various animals common in the region.

The territory of Karakalpakstan has great potential for the development of animal husbandry, this is a historically established industry that can give the state a high economic profit. In a market economy, it is important to accelerate the increase in livestock production in order to meet the population's need for food.

Animal husbandry is developed in the South Prearalie for use in the production of dairy products. Modern technologies make it possible to obtain high-quality and healthy products. These products have all the biological substances necessary for the body, increase the effectiveness of treatment, and can also be used for preventive purposes.

In recent years, serious attention has been paid to the full-fledged dietary nutrition of the population, by improving the quality, biological value and taste of food products, as well as expanding the range and production of dietary food products. Nutrition is undoubtedly the main factor determining physical and mental development, the resistance of the human body to negative influences, its ability to work, life expectancy, etc.

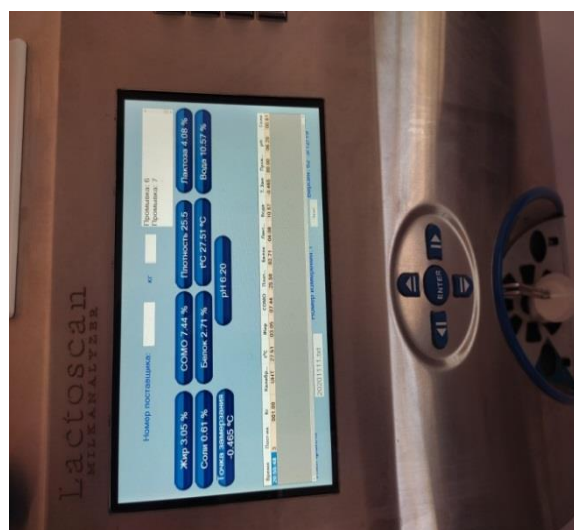
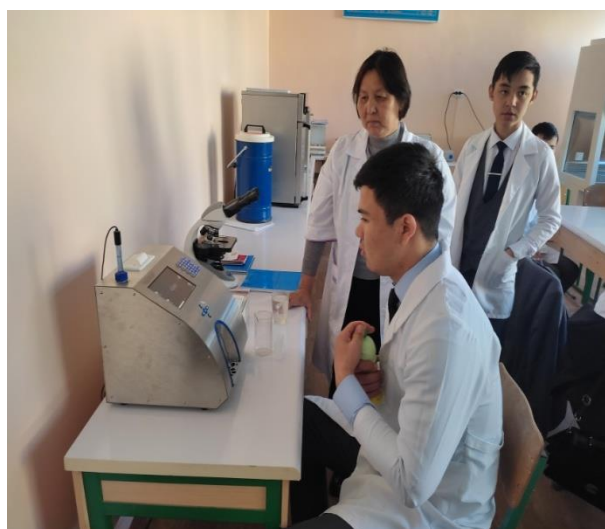
In this regard, milk and dairy products are of great importance in human nutrition. First of all, it should be noted the high content of calcium and phosphorus in them, which perform a number of important functions in the human body. Both elements are found in milk in well-balanced proportions, which leads to their relatively high digestibility. About 80% of a person's daily calcium requirement is

met by milk and dairy products. Milk fat is of some value. Compared to fats of animal origin, it is better absorbed in the human body. The coefficient of digestibility of milk fat is 97-99%.

The milk of different animals is similar in composition, but they differ in quantitative ratio and their valuable features. In areas where breeding of cultivated breeds of cattle is difficult, camels are the most dairy animals. They produce milk using the natural pasture vegetation of the desert and semi-desert zones of our country. Camel milk has a longer bactericidal phase than cow's milk. Cooled to 100C, it does not turn sour for 72 hours. The possibilities for selecting camels for milk production are exceptionally large, and breeding work in the direction of increasing milk production can give good results and open up new ways for the development of camel breeding. In recent years, the increase in the number of camels in the region has increased, which makes it possible to develop a technological line for the production of camel milk and shubat.

Research materials: Whole camel and cow milk.

The purpose of the study: Carrying out a comparative physical and chemical analysis of camel and cow milk. The indicators of physical and chemical analysis were carried out in the laboratory of the Karakalpak Institute of Agriculture and Agrotechnology. As a result of the study, the following indicators were obtained.



Comparative physical and chemical analysis of cow and camel milk, %

№	Type of milk	Physical and chemical composition									
		Fat %	COMO	density, r/cm3	Lactose	Salt	Protein	t, °C	Water	Freezing point	pH
1	Cow	3,04	7,74	26,7	4,25	0,63	2,82	21, 44	6,53	-0.486	6.25
2	Camel	3.05	7.44	25.5	4.08	0.6	2.71	27. 5	10.57	-0.465	6.20

Whole camel milk has a thick and viscous consistency, low transparency, bright white color. The local population usually consumes whole camel milk with tea, using it as cream.

Camel milk is useful for people suffering from allergies, diabetes, and digestive disorders. Fresh and warm camel milk has a strong smell and slightly salty taste, opaque white color. You can also catch a little sweetness. In many ways, the taste of the drink depends on the camel's diet and the amount of water he has previously drunk. When people try camel milk for the first time, not everyone can digest it, so there is a chance of diarrhea for 1-2 days. This is normal, as the gastrointestinal tract is being cleansed. As soon as the body gets used to the new product, the side effects will disappear. The drink is slightly saltier in taste, contains 3 times more vitamin C and 10 times more iron than cow's milk.

It is lower in fat and cholesterol and is a good source of protein and unsaturated fatty acids. Also present: vitamins A and B-complex, calcium and potassium, iron and copper, magnesium, manganese, zinc and phosphorus. Camel milk is easy to digest and is a natural probiotic, that is. supports the growth of beneficial bacteria in the gut. In the milk of camels, the dry matter content varies, depending on the food and habitat, from 11.6-12.5% to 15.2-16.4%, with an average protein content of 3.2-3.8%, fat 3.9-6.0%, sugar - 3.4-5.0%, ash - 0.7-0.8% at a density of 1.027-1.032. Information about the vitamin composition of camel milk given by researchers shows that 1 liter of Bactrian milk contains on average 0.3-0.5 mg of vitamin A, 57-79 mg of vitamin C, 0.9-1.8 mg of vitamin B1, 0.7-1.7 mg of vitamin B2. At the same time, the content of vitamin C in the milk of camels is affected by the diet and individual characteristics of animals. It is known that when camels are fed with dry camel thorn, milk contains 75.43 mg/l of vitamin C, and when grazing on spring pastures, its content rises to 97.07 mg/l. 1 liter of dromedary milk contains (mg) vitamin A-0.343-0.487, vitamin B1-0.95-1.86, vitamin B2-0.66-1.75, vitamin C-58.2.

The average fat content of dromedary milk is 4.5%, Bactrian - 5.4%.

The duration of lactation in different species of camels varies. In dromedaries it is 500-560 days, in Bactrians it is 520-540 days. Milk yield for the first lactation in dromedaries is 2800-3500 kg, for the second it rises to 3400-5300 kg. Milk production of Bactrians is lower and averages 770-1700 kg. This milk yield rises to 4-5 lactations. Lactation is most intense for the first time 6-7 months. During this period, they receive half of the milk yield for the entire lactation. The maximum daily milk yield of dromedaries reaches 18-20 kg, for Bactrians - 3-7 kg at 5-6% fat.

Fundamental work on the study of camel milk is being carried out in Egypt, the United Arab Emirates, and Israel. However, in the Arab countries, Egypt and Israel, one-humped camels are common - dromedaries, the composition of whose milk differs significantly from the milk of two-humped Bactrians.

The milk of camels, cows, buffaloes, sheep, goats, mares, donkeys, as well as women's milk was analyzed for the composition of amino acids, and for the concentration of immune factors such as lysozyme, lactoferrin and immunoglobulin. The highest concentration of immunoglobulin is in camel milk.

Basically, camel milk is used to prepare a delicious and very nutritious fermented milk drink - shubat. Shubat is a drink made from camel milk, widely used in Kazakh cuisine. According to its biological properties, shubat is not only a nutritious and tasty product, but also a source of vitamins A, B1, B2, C. So, in terms of the content of vitamins B1, B2, C, camel milk is many times superior to cow's milk. One liter of shubat can satisfy the daily requirement of the human body for vitamin C, thiamine and riboflavin. Shubat contains much more than kefir, fat, protein, some minerals, vitamins. The quality of

shubat largely depends on the quality of the sourdough, the best is a good strong shubat. Shubat is prepared in wineskins, clay vessels and small barrels with a capacity of up to 30 liters. Sour camel milk or shubat of the previous preparation is used as a starter for making shubat. Shubat is divided into weak - it ripens within a day, medium - two days, strong - in three days. Arabs consider it an elixir of eternal youth, food and medicine that has bactericidal properties and helps with asthma, tuberculosis, inflammation of the liver, diabetes and psoriasis. It is also believed that it cools in summer and warms in winter. The drink, like camel milk itself, contains calcium, copper, iron, magnesium, soda, zinc, phosphorus and other elements. Vitamins C and D - three times more than in cow's milk. And there is more sugar lactose, which provides nutrition for the brain and nervous system.

When organizing dairy camel farms, it is advisable to use camel milk not only for the preparation of shubat, but also for the production of various types of cheese from it.

In the future development of camel breeding, the use of the milk productivity of these animals can be of great importance.

One-humped camel breed – **dromedary**.



Since shubat, which is extremely valuable in terms of nutritional and medicinal qualities, but a perishable drink, in order to increase its shelf life for our region, the most acceptable is the development of technology for dried camel milk and shubat, which positively affects the stabilization of the production process and the quality of the finished product.

To solve the task, that is, the development of environmentally friendly products from local livestock raw materials, it is necessary:

- to establish a technological process for the production of dairy and sour-milk products from the milk of different types of animals, for example, goats, camels;
- to study the raw material base of the region;
- it is necessary to put into production non-traditional dairy products, common among the population, in particular for camel products

Conclusions:

- the above properties of camel milk make it possible to judge that in our ecologically unfavorable region, the use of this product is a necessity.
- camel milk can be recommended for the industrial production of a number of new products (fermented milk, cheese, drinks).
- the use of camel milk, in combination with cow and goat milk, will make it possible to diversify the range of nutrition for children with dairy products.

List of Used Literature

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