

Development of eco-friendly products from local raw materials animal husbandry in the Southern Aral Sea region

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Annotation. The paper describes the problem of the influence of environmental conditions on the health of the population. The solution to this problem is the use of natural raw materials. The region has sufficient conditions for the development of the livestock industry. The most promising in this regard are milk and dairy products of various animals common in the region.

Keywords: ecology, factors, animal husbandry, sheep's milk, camel's milk, mare's milk, shubat, koumiss.

Relevance. The negative impact of environmental factors on the health status of the population of Karakalpakstan has been studied in many scientific research publications of scientists. The State takes a number of effective measures to prevent and address related environmental, medical, and socio-economic problems.

To solve this problem, it is necessary to introduce the 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 meet the requirements of a balanced diet and increase the resistance of the human body to external influences. The most promising products in this regard are milk and dairy products of various animals, distributed in the region.

The region has conditions for the development of animal husbandry, which is a historically established industry that can give the state a high economic profit. In a market economy, it is important to accelerate the production of livestock products, which will meet the population's need for food (meat, milk), industry – raw materials (wool, leather).

In addition to cow's milk, animal and other types of milk play an important role among valuable food products. The region has goats, sheep, camels and mares available so that they can be used for the production of dairy products. Modern technologies allow you to get high-quality and healthy products. These products have all the necessary biological substances for the body, increase the effectiveness of treatment, and you can also use them for preventive purposes. Milk of different animals is similar in composition, but they differ in quantity and their valuable features.

Chemical composition of milk of different animals and humans, in %

Milk	Water	Dry Weight	Fat	Total Protein	Casein	Lactose	Ash
Cow	87.30	12.7	3.7	3.5	3.0	4.8	0.70
Goat	86.88	13.12	4.07	3.7	3.1	4.4	0.80
Sheep	78.5	21.3	8.9	6.34	5.34	5.02	1.00
Camel	87.0	13.00	3.9	3.7	2.57	4.49	0.87
Mare	90.6	9.4	1.14	2.0	1.3	5.90	0.36
Human	88.24	11.76	3.00	2.06	1.56	6.47	0.23

In terms of dry mass content, sheep's milk is in the first place (21.3%), while mare's milk is the lowest (9.4%). The composition of dry mass includes such indicators as fat content%, protein content, milk sugar (lactose), mineral salts (ash), etc. Sheep's milk also has the highest fat content (6.34%), a distinctive feature of mare's milk is a high carbohydrate content (lactose) - 5.9%. After cow's milk, goat's milk is most commonly used in everyday life. During lactation for 5-7 months, you can get 150-200liters of milk. Goat's milk is closer in composition to cow's milk, but it is more easily absorbed by the human body due to smaller fat balls. It also has high health-improving properties and is used in folk medicine for bronchial asthma, fevers, colitis, liver diseases, burning in the bladder, sciatic nerve inflammation, relieves pain in peptic ulcer disease, and has a

beneficial effect on the psyche during severe nervous tension. Goat's milk can replace mother's milk for infants, as it does not cause allergies. Goats eat a lot of plants, which affects the astringent taste of milk, so it can stop bleeding, and this property can be used for gum diseases and tuberculosis.

Sheep's milk in racha is recommended to be used for prevention in the treatment of diseases such as gout.

Freshly milked cow's milk has a bactericidal property and is stored for two hours at room temperature. This property prevents the reproduction of microorganisms in it and is due to the content of such bactericidal substances as immune bodies, oxonin, lysozyme, lactenin, etc. in milk. These substances enter milk through the blood, but lactenin is formed in the mammary gland. Most often, sheep's milk is used for the production of cheese and soft cheeses and is a very nutritious product.

Camel breeding is one of the branches of animal husbandry in our region, as the camel, based on its biological characteristics, is able to use the vegetation of desert pastures and is content with water of considerable salinity. Camel milk is consumed in both whole and processed forms. The chemical composition of camel milk is similar to cow's milk, but it depends, like other farm animals, on the breed and feeding conditions. Camel milk has increased bactericidal properties, which slows down the increase in acidity. This property also facilitates the course of infectious diseases. Studies of scientists have shown that camel milk contains amino acids that contribute to the formation of red shaped blood elements, this property should be taken into account in the treatment of anemia.

Mare's milk also has distinctive properties. It is very different in composition and properties from cow's milk, but similar to human milk. Of the total protein content in cow's milk, casein dominates, it is 80%, and the remaining 20% are soluble proteins-albumins and globulins. In mare's milk-50% are soluble proteins from all proteins, so it, like human milk, is easier to digest and assimilate by the body. It is known that mare's milk contains a lot of vitamins, especially A and C, so it is useful to use it for people weakened by the disease, children and infectious patients.

Among the population, cow's milk is used most often both in everyday life and in production. Given the harsh climate of our region, sheep and goat milk is less often used in nutrition, which is associated with the feeding of lambs and goats. Despite this, for example, goat's milk could be used to feed infants and weak children in the first month of their life.

The fermented milk product "shubat", obtained by fermenting camel milk, has useful properties. It is known that this drink strengthens the human body, quenches thirst, and has a beneficial effect on the gastrointestinal tract. In folk medicine, "shubat" is used as a general tonic for wasting chronic diseases, as well as for rickets. Koumiss, made by fermentation from mare's milk, has no less high useful properties. It is known that koumiss increases the body's metabolism, improves the absorption of food, and has a positive effect on the nervous system. The carbon dioxide contained in "kumiss" is absorbed into the blood and passes through the lungs, which facilitates hemoptysis in tuberculosis, has a diuretic effect, which is important for edema and fever.

We have considered the properties of milk of different animal species, and based on this, it will be possible to develop new types of products.

To solve this task, i.e. to develop environmentally friendly products from local livestock raw materials, we must:

- study the raw material base of the region;
- it is necessary to put into production non-traditional dairy products that are common among the population, in particular camel and horse breeding products.

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