

Determination of the Amount of Vitamin C in the Columbia of Cows Expressed After Calming Strait Cows

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Abstract: This article describes the results of determining the amount of vitamin C in cow's milk and colostrum.

Keywords: Protein, fat, milk sugar, mineral salts, water, organic acids, vitamins, enzymes dichlor phenol, filtrate.

Relevance of the topic: The dairy industry in our republic is one of the sectors equipped with advanced technology. Milk and dairy products are of great importance in satisfying the population's demand for a unique nutrient protein and improving the composition of consumed food products. Therefore, special attention is paid to the development of the dairy industry. In recent years, dairy enterprises have launched the production of dairy products for young children and milk used for feeding calves. The production of butter, hard and soft cheeses, brynza, technical and feed casein is increasing. In order to more fully satisfy the population's demand for milk and dairy products and improve product quality, joint ventures are being established in cooperation with foreign countries. Milk contains protein, fat, milk sugar, mineral salts, water, organic acids, vitamins, enzymes, etc., which are necessary for the normal development of the human body. Cow, sheep, camel, deer, and goat milk are used for food and processing. The lactation period begins with the production of colostrum. After cows give birth, colostrum is the first to appear and gradually turns into milk over 8-9 days. Colostrum differs from whole milk in its chemical composition, viscosity, and partial saltiness. Another feature that distinguishes it from ordinary milk is that it turns into curd when boiled. It is very nutritious and easily digestible, and has biological properties. The peoples of Central Asia enjoy consuming "curd".[4]

Colostrum is rich in various vital substances. Its density is 1.40-1.080 g/cm³. In addition to water, it contains protein, fat, milk sugar, minerals, vitamins, enzymes, hormones, and so on. When colostrum is examined under a microscope, it contains more blood elements and especially leukocytes. In science, they are called colostrum "bodies". Because it contains a lot of immunity and lysozyme. Colostrum has a high protein content, with 16.0-16.5 grams of protein per 100 grams. Or, if the average protein is 16.3 grams, 5 grams are casein and the remaining 11.3 grams are albumin and globulins.[3] The immune globulins in colostrum create immunity in the newborn calf's body. From then on, the young organism's ability to fight the negative effects of the external environment increases. Most scientists believe that colostrum is not a special secretion produced by the mammary glands, but rather ordinary milk that accumulates in the udder and is transformed into colostrum by the mammary glands over a period of several days.[1]

Colostrum differs from ordinary milk in its chemical composition. In particular, colostrum, milked on the first day after giving birth, contains 4.5 times more protein and 1.7 times more fat than ordinary milk. Its immune cells, lysozyme, and leukocytes protect the young organism from various foreign microorganisms and toxins. Colostrum cleanses the intestines of the baby animal from primary feces, myconia, that is, it acts as a laxative, and subsequently has a positive effect on bowel movements. The

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protein and mineral content of colostrum decreases over 5-7 days, and the sugar content increases, and colostrum turns into regular milk.[2]

Thus, colostrum is produced in the udder of cows from regular milk before giving birth, and is a nutritious and immune-boosting food for new calves. No other food can replace it. Therefore, newborn calves should be fed colostrum frequently and satiated until they are 10 days old, ensuring their rapid growth and healthy development.

The purpose of the study. To determine the amount of vitamins in colostrum obtained from cows and compare it with the amount of vitamins in ordinary milk.

Research location, object and methods. The study was carried out in the biochemical laboratory of the Tashkent branch of the Samarkand Institute of Veterinary Medicine, using the method of testing milk proteins by the method of testing the precipitated filtrate. Milk samples from the "TALANT" farm in the Boston village of Parkent district of the Tashkent region were used as research material.

Results obtained. The filtrate remaining after the precipitation of milk proteins was used for the experiment. 50 ml of milk was measured in a flask, 4 ml of a saturated solution of oxalic acid and 10 ml of a saturated solution of sodium chloride were added to it, and milk oxalates precipitated. The precipitate was filtered and separated. Then, 10 ml of this filtrate was measured in a test tube and titrated with a 0.001 N solution of 2,6-dichlorophenol until the color of the filtrate turned pale pink. Knowing that 1 ml of 0.001 N 2,6-dichlorophenol is equal to 0.088 mg of ascorbic acid, we perform the calculation. 6.3 ml of 2,6-dichlorophenol was used to titrate the obtained filtrate, and considering that 1 ml of it is equal to 0.088 mg of ascorbic acid, we multiply 0.088 by 6.3 to conclude that 50 ml of milk contains 0.55 mg of vitamin C. In the same way, when we determined the amount of vitamin C in colostrum, 11.9 ml of 2,6-dichlorophenol was used. From this we can see that colostrum contains 1.04 mg of vitamin C. Considering that we took 50 ml of milk for testing, 100 ml of milk contains 1.1 mg of vitamin C, and colostrum contains 2.08 mg of vitamin C.

Conclusion.

1. In conclusion, it can be said that milk contains a high amount of vitamins that are beneficial for the immune system and health of humans and young animals.
2. The amount of vitamins in colostrum is 10 times higher than the amount of vitamins in milk. This, in turn, allows you to strengthen the immune system of young animals.

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