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DOSTIM PREPARATION AND COLLOID SOLUTION

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ANTONATION: *Colloidal solution, living organism, natural and artificial antibiotic, silver deficiency in the body, immune system, animal health, productivity and immune system stability in modern veterinary medicine, various environmental factors, proportional stress states occurring in the body, infectious diseases, biologically active substances that strengthen immunity - immunomodulators.*
KEYWORDS: *Immunomodulators, immune system, immunogenicity, "Dostm" immunocomplex, silver, solution, natural antibiotic, micronutrient, leukocytes, non-specific.*

Nowadays, while ensuring human health is a global problem, it is no exaggeration to say that animals, which are part of living nature, are also experiencing diseases that are observed in human life. The main reason for this is the increasing consumption of artificial synthetic products by both humans and animals. Animal products are not only for consumption as food, but also to obtain protein and complexes necessary for the human body from animal products.

Nutrients that the human body needs for normal growth and healthy life are called micronutrients. Micronutrients are not produced in the body, a person must obtain them from food, and the body must accept them as a daily requirement. Because the body does not have the ability to store them in reserve. Micronutrients are found in very small quantities in the body. Micronutrients act as biological catalysts of biochemical processes in the body and regulate vital activities. Micronutrients are essential

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components of food that are indispensable for the growth and normal development of the body. They are involved in all physiological and biochemical processes in the body. In the absence or insufficient amount of microelements necessary for the body, the body stops growing and developing, that is, metabolism, digestion, respiration, immunogenesis, blood formation, cell division. According to most scientists in the world, the only way to maintain health and look as beautiful and attractive as when you were in your twenties is to constantly consume micronutrients. Also, since the 1960s, the second type of mineral chelates has been used in agriculture. Chelates are metal atoms surrounded by amino acids, proteins, enzymes, and vitamin D. It has been determined that this form of minerals is absorbed by the body by forty percent.

Colloidal solutions constitute the main part of all living organisms. Our organism also consists of colloidal systems, and colloidal minerals can be called mineral-carrying particles. They have the strongest absorption, and for living organisms, absorption, that is, absorption and assimilation, is of great importance, and it has been determined that colloidal solutions are absorbed by 98%. Colloidal minerals exist only in a liquid state, and their particles are very small (1-100) nm. Each colloidal particle is negatively charged, and the mucous membranes of the intestine are positively charged, therefore, an electromagnetic field is formed between them, which enhances the absorption of minerals in the intestines. Plants play a vital role in the formation of colloidal minerals. They convert metallic minerals into colloidal minerals in their bodies. When we consume these plant products, we absorb the minerals contained in the plant into our bodies. However, due to the lack of sufficient metallic minerals in the soil at present, there are not enough minerals in plant products. Vitamins and minerals are decreasing in plants, fruits and vegetables, therefore, efforts are being made in the field of nanotechnology to prepare colloidal solutions of microelements and make them available to the public. It has been found that particles of colloidal solutions (7000 times smaller than erythrocytes) easily pass through cell membranes and affect the nucleus and DNK. Colloidal solutions restore the entire organism at the cellular level and purify the blood. In order to consume the following products in their natural form, it is advisable to first of all look at animal health, and the absence of infectious viral diseases for humans, as a preventive measure. Currently, the most common diseases in animals are viral, that is, diseases caused by a lack of immunity. Therefore, it is clear to everyone that mastitis, orf, swine flu in animals, and recently the widespread spread of bovine spongiform encephalopathy in the southern regions have caused considerable damage to livestock. In the prevention of these

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diseases and in the implementation of preventive measures, the role of immunomodulatory drugs is particularly important. Immunomodulatory drugs are biological agents that activate the natural defenses of the animal body and are widely used in the prevention and treatment of infectious, viral and contagious diseases. These drugs have the property of strengthening, balancing or, if necessary, reducing the immune activity in the animal body. Therefore, immunomodulatory drugs are gaining great importance in the modern stage of development of veterinary medicine.

Immunomodulator is not the name of a single drug, but the general name of a group of drugs that provide a stable state of immunity. Among immunomodulators, the most widely used type in Uzbekistan is the immunocorrector Dostim, which is mainly used in cattle farms to vaccinate newborn calves after birth to make them resistant to diseases. The Dostim drug has a stimulating effect on the immune system of animals, strengthening the phagocytic, that is, immune function of Dostim neutrophils and mainly increasing the activity of alveolar macrophages in the liver, respiratory and digestive systems. Interferon generally activates the entire intercellular immune system.

The drug Dostim is considered by experts in the field as a low-risk and highly effective vaccine. Another main function of this drug is that it is completely harmless in the preparation of colloid solutions, and the resulting solutions have been used in practice to treat several diseases in black cattle, with high results. Also, high efficiency is being achieved as a result of its widespread use at the Bibinor farm. There are several instructions and procedures for using this immunomodulator in various animals. For example, if gastrointestinal diseases are observed in young calves, it is injected intramuscularly at a dose of three grams for five days. On the contrary, in the case of respiratory diseases, it is injected once a day at a dose of three grams for three days. If these diseases are severe, as mentioned below, when injected as a colloidal solution with the addition of various antibiotics, the development of the disease is blocked. In adult animals, for diseases of the gastrointestinal tract and respiratory system, vaccination is performed intramuscularly at a dose of twelve grams once a day for three days. In cases of severe disease, it is advisable to inject with interferon and respiratory agents. In case of viral diseases (hepatitis, calicivirus) in domestic animals, dogs and cats, it is injected in very small doses. It is recommended to inject once a day, three grams for large animals, two grams for medium animals and one gram for small animals for three days. When using Dostim according to these instructions, no side effects are observed in animals. If there is a rash, it is not recommended to inject this drug. Also, vaccination with this drug must be carried out in strict compliance with hygiene rules. Colloidal

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solutions of this drug must be tested before injection.

Immunomodulators are generally considered to be a means of supporting and strengthening immunity in both humans and animals. Immunomodulators not only have a positive effect on immunity, but also affect the processes of immunogenesis, the number of cells such as lymphocytes, phagocytes. and, at the same time, strengthen the protective reactions against rapidly spreading viral diseases in animals. In recent years, many scientists around the world have been paying great attention to the immune system of animals in combating diseases caused by exogenous factors. In their opinion, the therapeutic value of immunomodulators has been proven to be very high, that is, the use of these drugs increases the resistance of animals to diseases and the function of resistance to antibiotics to high levels. But in order for this drug to give a high result, it is determined how much dose it is injected into the body. If the analyzed blood contains a sufficient amount of immune particles and their percentage increases, it is observed that the formed elements (erythrocytes, leukocytes, thrombocytes) and the most important protein in the blood plasma are destroyed, which leads to the weakening and death of the animal. However, it is scientifically proven that when used correctly, high efficiency is achieved and the plasma composition is also restored. In particular, Dostim immunocorrector shows high positive results in Uzbekistan, this drug is currently being injected into all livestock. Immunomodulators are also used not only for the treatment of diseases, but also for preventive purposes in healthy animals. Regular use of these agents ensures the optimal functioning of the immune system, reduces the risk of epidemics of infectious diseases and increases the effectiveness of vaccines. Modern immunomodulators, developed based on the achievements of biological and pharmacological sciences, are not only effective, but also safe preparations.

Since 2013, the technology of using the immunomodulator "Dostim" in animals to stabilize the immune system and increase the number of lymphocytes and phagocytes has been improved. As a result, by 2024, it has achieved 89% effectiveness in cases of viral immunodeficiency, 85% in autoimmune inflammation, and 83% in cases of chronic immunosuppression.

The first diagram shows the results achieved from the year of starting the use of Dostim to the present day.

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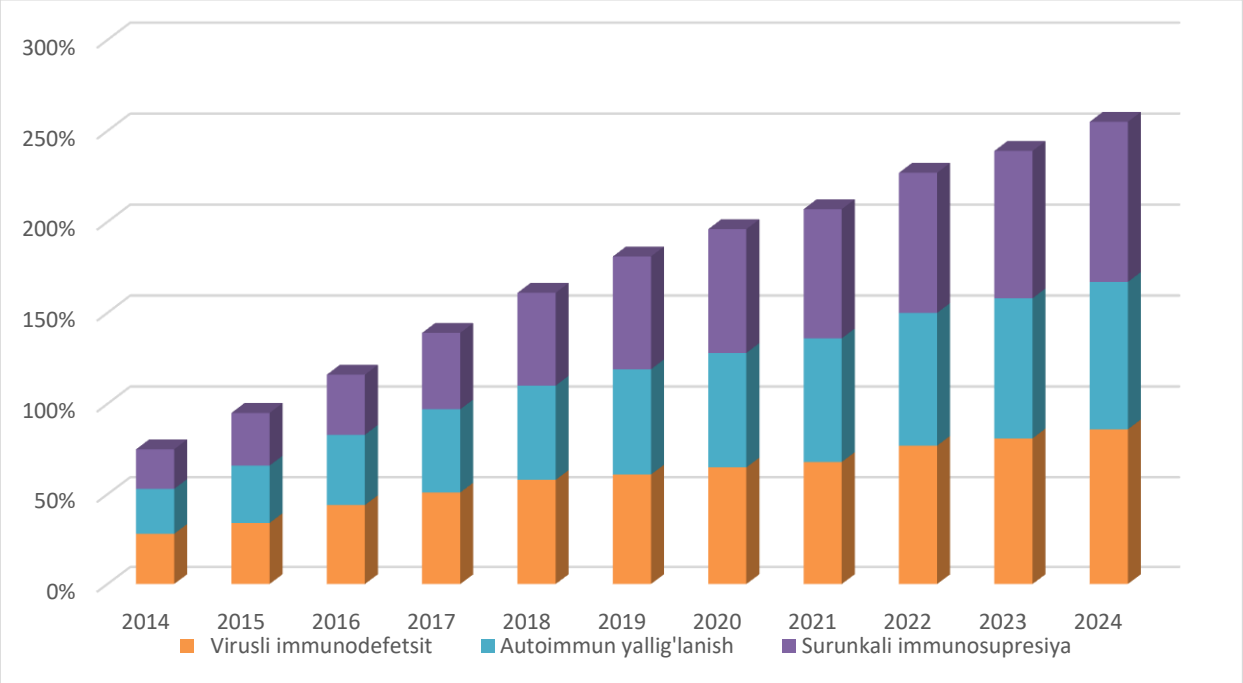

CONCLUSION

We have briefly touched upon the importance of colloidal silver solutions in the normal growth and healthy life of the human body, as well as immunomodulators in supporting animal and human health, regulating the immune system, and reducing infectious diseases, as an important tool in modern medicine and veterinary practice, and the high level of absorption of colloidal silver into cells. Their large-scale study and practical implementation are of great scientific and practical importance in forming healthy livestock populations and achieving high economic efficiency. At the same time, immunomodulators continue to be studied on a scientific basis. Their scientific study, the creation of new generation biotechnological preparations, and the deepening of immune control mechanisms at the genetic level will be of decisive importance.

LIST OF USED LITERATURE:

1Muxammadiyev N.Q Kolloid kimyo fanidan. O‘quv qo‘llanma. Toshkent. Cho‘lpon nashriyoti 2016 y.

2Toshpo‘latov Ch.X., Nurmurodova N.F “Analitik va fizkolloid kimyo” o‘quv qo‘llanma “Dimal” nashriyoti, 2025y

1. www.lex.uz
2. www.fao.org
3. www.agro.uz