Effect of "Panaroot-98" on blood indicators of ostriches

Shakhlo Babaeva[1*]

[1] Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies, Samarkand, Uzbekistan

Abstract. This article describes the preliminary experiments on the adaptation of ostriches to the conditions of Uzbekistan. The effect of Panaroot-98 supplement obtained from Ferula tenuisecta plant was studied in feeding ostriches. The uses and importance of the plant Ferula tenuisecta are recorded. Also, hematological and morphological indicators of ostriches were determined and discussed. Conclusions are written in the results obtained.

1 Introduction

Today, many scientific works are being carried out in the field of ostrich farming in our country. Therefore, increasing the productivity of ostriches and increasing their number requires a scientific approach [1].

The relevance of the article is that scientists from different countries and our scientists have worked with this drug on different animals. This drug has not been used in ostriches. Scientists also studied the increase in productivity of various animal species from Panaroot-98. The article is the first to study the hematological parameters of ostriches at different dosages of the drug.

In the article, some blood indicators of ostriches. Made from Ferula tenuisecta plant"Panaroot-98" supplement was studied. During the experiment, the data of the ostriches in the experimental group that consumed Panaroot-98 supplement and the control group that did not consume it were formed [1-2].

The drug "Panaroot-98" is developed from finely cut roots of Fērula tenuisēcta. The medicinal raw material of Fērula tenuisēcta is the powder of the roots. The effect is tonic, anti-inflammatory, antibacterial, tonic and antitumor. Ferula is used both internally and externally. An infusion is used for swallowing. Externally, ferula is used to rub painful areas, and is also used to treat wounds, tumors, abscesses, and trophic ulcers.

The preparation Panaroot-98, which is a natural mixture of complex esters of sesquiterpene alcohols, is obtained from the root of the plant. Among the preparations containing these estrogen ferulens, they are used in medicine for ovarian hypofunction, Shereshevsky-Tetner syndrome, infertility due to anovulation, menopause syndrome and delayed sexual development, in general, as a substitute for female sex hormones, in

* Corresponding author: shaxlo-babayeva@mail.ru

veterinary medicine due to the fact that it increases and stimulates the egg production of chickens, it is a phytopreparation - nutritional supplement. 'recommended as a supplement.

The drug Panaroot-98 is widely used in veterinary practice to increase egg production in chickens and to prevent infertility in sheep and cows. Tefestrol drug is used in the treatment of sexual diseases, i.e. dysmenorrhea, hypofunction of the ovaries, impotence, infertility, dysfunctional bleeding of the uterus.

In this study, we studied ostriches because of their importance in ovarian development and increased egg production. Also, in this article, we have analyzed the changes in some parameters of the blood of ostriches.

In this article, the experiments carried out in the conditions of Uzbekistan,Importance of Ferula tenuisecta plant,in feeding the ostriches. The effective effects of Ferula tenuisecta and changes in blood morphological parameters in ostriches were analyzed [1, 3].

It has been found that various factors affect the body of ostriches, and the feeding method is the first of these reasons.

It is important to feed ostriches with coordinated food based on standard rations. Because the poultry organism is very sensitive to the lack of nutrientsand in the absence of any nutrient or vitamin in their body, the target productivity cannot be achieved [1, 4].

It is advisable to feed ostriches with full-value mixed feeds. Nutritional composition - from corn grain, wheat (in the form of cereal), soybean meal, bran, fish meal, meat and bone meal, alfalfa meal, vegetable oil, table salt, mineral additives, etc.consists of, and with the advice of a specialist, it is necessary to coordinate the ration structure according to the productivity of the poultry [1, 4].

In one day, ostrich chicks are fed 3-5 times, and large ostriches are fed 2-3 times. Ostrich chicks are given 300-500 grams of mixed feed per day, and large ostriches - 1100-2400 grams.

Nutritious and biologically active substances in feed are necessary for the poultry body as a source of energy and building materials, and for the normal functioning of metabolic processes.

Non-infectious diseases of ostriches are often caused by violations of feeding and storage rules.

In order to fully meet the needs of the ostrich organism, the food contains organic substances, nitrogen-containing substances: proteins, amino acids, non-nitrogen-containing substances; fats (glycerides, fatty acids, wax, sterols), crude fiber (lignin, cellulose, pentoses), nitrogen-free extractives (organic acids, sugar, starch) and biologically active substances - vitamins, hormones, enzymes [2-4].

Proteins in the diet are organic substances with a complex structure, which are essential for growth, development, reproduction, protection and production. Therefore, sufficient protein content in the diet of poultry is one of the necessary factors.

When feeding ostriches, amino acids are added as the main structural elements of proteins, and the full value of proteins in the ostrich diet is evaluated according to their amino acid composition. Today, more than 100 amino acids have been identified, 20 of which are involved in protein synthesis. Among the amino acids, lysine, methionine, tryptophan, arginine, histidine, leucine, isoleucine, phenylalanine, threonine, valine and glycine are very necessary for the poultry organism [4-6].

A lack of amino acids causes a decrease in appetite in poultry, stunted growth and development of chicks, and a decrease in egg production in laying hens. That is why it is important to have enough amino acids such as methionine, lysine, tryptophan, arginine in feeding chickens [6-7].

Amino acid methionine 0.30%, lysine - 0.705%, tryptophan - 0.16% and arginine 0.85% should be present in mixed feeds for egg-laying birds.

The energy needs of the poultry body are mainly provided by carbohydrates and fats. 65-80 percent of the poultry's diet consists of grain food, and its content should be made up of starch and fiber.

The mineral part of the ration (macro- and micronutrients) is of primary importance in feeding poultry. Macroelements (calcium, phosphorus, sodium) and microelements (manganese, zinc, copper, iron, cobalt) contained in food cannot fully satisfy their needs for mineral substances. That is why they should be given additionally to poultry.[7,8,9]

Full and valuable feeding of ostriches largely depends on providing them with biologically active substances (amino acids, vitamins and enzymes).

Biologically active substances increase the resistance of the ostrich organism to the effects of the external environment, allow rational use of nutrients and increase productivity.

Ferula tenuisecta the plant has been recorded growing in Central Asian steppes, steppes, sandy deserts, mountainous soils, sometimes in foothills [1, 3]. The nutritional value of Ferula tenuisecta is that they are eaten by all species of ostriches, especially their seeds are full.

Ferula tenuisecta the parameters for extracting complex ethers from the roots were studied, and it was determined that for this process, the size of raw material particles should be 2-6 mm, and the alcohol concentration should be 95%. A new drug "Panaroot-98" was created based on esters of sesquiterpene alcohols.

Also, "Panarot-98", "Panarot-50", tefestrol, panaferol, kufestrol and zofarol preparations synthesized from the root, stem, leaves and flowers of the Ferula tenuisecta plant, which are widely used in medicine, animal husbandry and poultry, increase the egg production of poultry. has high efficiency in increasing.

This food additive is estrogenic and is used in the treatment of various gynecological diseases. Insufficiency of gonads is prevented. Reduces overall breakdowns. Increases the process of ovulation. Increases productivity of laying hens, growth and development of young chickensimproves.

The steps of extracting complex esters of sesquiterpene alcohols from the above-ground part of F.tenuisecta and purifying the obtained extract and obtaining the final substance without green color were studied. Based on the obtained results, a technology for extracting a substance called tenestrol with estrogenic effect was developed based on the complex esters of sesquiterpene alcohols from the surface part of F. tenuisecta.[1-5].

2 Materials and methods

In this article, the effect of "Panaroot-98" on the feeding of ostriches was studied. Blood analysis and general examinations were carried out. Based on analysis results:

In the general inspections, the general condition of the ostriches was examined, the rate, depth and number of breathing were determined, and attention was paid to the nature of breathing.

The ostriches in the first control group of the experiment were not fed Panaroot-98 nutritional supplement. The ostriches of the second experimental group were given Panaroot-98 powder, which is collected from the stem and root of Ferula tenuisecta plant and contains 80% biologically active substance, in the amount of 20g per 1 ton every day for 90 days. It was noted that an average of 0.006 g of sesquiterpenes and other biologically active substances per 20-25 mg/kg of live weight per day per ostrich organism.[1]

All experimental and control group ostriches were clinically examined before the experiment, on the 30th, 60th, and 90th days of the experiment, in which their general condition, body temperature, pulse and respiration, food and water response, habitus, mucous membrane and skin cover were recorded. status was checked. In addition, before

and during the experiment, blood was taken to check the morphological parameters of the blood.

After the ostriches of the second experiment group were fed Panaroot-98 nutritional supplement to their feed, when their clinical indicators were checked, on the 1st day of the experiment, all the ostriches were active, their general condition, body temperature, pulse and respiration, food and water response were recorded. , the condition of mucous membranes, skin covering, pupils is normal, the general condition of the ostriches is similar to that of the control group, and no changes characteristic of poisoning were observed in the clinical signs.

On the 30th day of the experiment, the clinical parameters of the ostriches of the first group were checked, and it was noted that all the ostriches were active, their general condition, body temperature, pulse and respiration, reaction to food and water, the condition of mucous membranes, skin covering and pupils were normal. , the general condition of the ostriches was similar to that of the control group, and there were no changes in the clinical signs characteristic of poisoning.

On the 60th day of the experiment, it was noted that the active movement of the ostriches of the first experimental group, the condition of the mucous membranes, and the clinical parameters were unchanged, as in the ostriches of the control group.

On the 90th day of the experiment, when the clinical parameters of the ostriches of the first group were examined, it was noted that the ostriches in the experiment were active, the condition of the mucous membranes and the clinical parameters were unchanged, like the ostriches of the control group. Clinical-physiological indicators of ostriches were studied in comparison with the control group, and characteristic differences were not noted. There were almost no differences in heart rate, breathing and body temperature.

In the laboratory tests, blood samples were taken from ostriches, morphological and biochemical, that is, generally accepted hematological testing methods were used in the examination of the obtained samples.

In this case, the obtained blood samples were examined for morphological indicators, the amount of erythrocytes, the amount of leukocytes, the amount of hemoglobin and the rate of sedimentation of erythrocytes.

3 Results

Scientific economic studies were conducted to determine the clinical and physiological indicators of ostriches.

As a result of clinical examinations, 12 heads were obtained for experiments at the "Mash'al straus" farm specialized in ostrich breeding, Pastdargom district, Samarkand region.3 months oldostriches were separated.

The selected ostriches were divided into 2 groups of 6 heads each based on the principle of similar pairs.

The ostriches in the first control group were fed conventionally on the basis of farm rations, and in the morning and in the evening clinical examinations were conducted on the rest of the ostriches.

The ostriches of the second experimental group were given 20 g of Panaroot-98 nutritional supplement per 1 ton of their food for 90 days in addition to the farm diet.

The habit, appetite, clinical and physiological parameters of all ostriches in the experiment were monitored. Physiological parameters were recorded daily: respiration rate and heart rate, body temperature, body weight gain and retention percentage were studied. All ostriches in the experiment had blood samples taken for laboratory tests before the experiment in the morning before feeding and on days 30-60 and 90 of the experiment.[9]

Table 1. Experimental feeding scheme.

No	Groups	Number of ostriches (head)	Feeding procedure
1	1 group Control	6	Feeding with farm ration: 1) corn grain100 kg 2) chopped alfalfa 3) ground beans 4) ground wheat 5) monocalcium phosphate 6) lysine 7) methionine 8) soy meal 9) salt and vegetable oil
2	2 groups Experience	6	A) to determine the following by adding "Panaroot-98" nutritional supplement in the amount of 20 g per 1 ton in addition to the farm ration.

4 Discussion

All experimental and control group ostriches underwent clinical examination during the experiment, in which their general condition, body temperature, pulse and respiration, food and water response, live weight, condition of mucous membranes and skin covering were checked. In addition, before the start of the experiment and during the experiment, blood was taken to check the morphological, biochemical and immunobiological parameters of the blood.

Table 2. Morphological indicators of ostriches in the control group.

t/r	The age of ostriches	Biometric indicators	Erythrocyte	Leukocyte	Hemoglobin	EEC
1	Until the experience	M ±m %	5.53	7.4	85	6.4
2	30 days	M ±m %	5.67	6.9	81	7
3	60 days	M ±m %	5.30	7.4	87	6.8
4	90 days	M ±m %	5.33	7.8	88	6

Table 3. Morphological indicators of ostriches in the experimental group.

t/r	The age of ostriches	Biometric indicators	Erythrocyte	Leukocyte	Hemoglobin	EEC
1	Until the experience	M ±m %	5.65	7.3	92	6.7
2	30 days	M ±m %	5.96	7.7	82	7.7
3	60 days	M ±m %	6.15	7.9	94	7.9
4	90 days	M ±m %	6.09	6.7	96	7.8

When the obtained data were analyzed during the experiment by groups, the amount of erythrocytes in the first control group compared to the beginning of the experiment was 7.6% on the 30th day of the experiment, 11.4% on the 60th day, and 19.1% on the 90th day ($r < 0.05$) increased (Table 1). The amount of erythrocytes in the second group of ostriches

increased by 19.1% on the 30th day of the experiment, by 21.1% on the 60th day ($r < 0.05$) and by 22.4% ($r < 0.05$) on the 90th day of the experiment compared to the beginning of the experiment. was determined. (Table 2).

The number of leukocytes in the ostriches of the first control group also increased during the experiment, and compared to the beginning of the experiment, it was 7.3% on the 30th day of the experiment ($r < 0.05$), 20.5% on the 60th day ($r < 0.05$) and 90th day. and it was noted that it increased by 28.8% ($r < 0.05$) (Table 1). The amount of leukocytes in the second group of ostriches compared to the beginning of the experiment was 36.5% ($r < 0.05$) on the 30th day of the experiment, 54.5% on the 60th day ($r < 0.05$) and 81.4% on the 90th day ($r < 0.05$) increased (Table 2).

In the blood he amount of hemoglobin in the ostriches of the first control group increased in accordance with the amount of erythrocytes in the blood of this group, and it was noted that it increased by 1.1% on the 30th day of the experiment, by 0.8% on the 60th day, and by 1.4% on the 90th day (Table 1). The amount of hemoglobin in the blood of the ostriches of the second experimental group increased until the end of the experiment and it was noted that it increased by 5.2% on the 30th day of the experiment, 7.7% on the 60th day, and 11.8% on the 90th day of the experiment compared to the beginning of the experiment (Table 2) .

Erythrocyte sedimentation rate decreased by 2.7% and 8.2% on the 30th and 60th days of the experiment in the ostriches of the first control group, and by 2.8% ($r < 0.05$) at the end of the experiment compared to the initial values ($r < 0.05$). table). We can see that the sedimentation rate of erythrocytes in experimental group 2 increased by 2.7% on the 30th day of the experiment compared to the beginning of the experiment, by 5.6% on the 60th day of the experiment, and by 8.5% on the 90th day of the experiment (Table 2).

As can be seen from the data mentioned above, the increase in the amount of leukocytes in the blood of ostriches in the first control and the second experimental group during the experiment is related to the higher intake of phytoestrogen, sesquiterpene and other biologically active substances contained in the Ferula tenuisecta plant.

5 Conclusion

During the experiment carried out in this article, it was found that the morphological parameters of the blood of ostriches increased effectively; It is known from the literature that an increase in blood-forming elements leads to an increase in immunity and productivity indicators.

As a result of the introduction of the skills obtained from general experiences to the farms specialized in ostrich breeding in the Samarkand region, the weight of ostriches in the farm has increased, and the external characteristics of the ostriches have improved. Due to the increase in the egg productivity index of ostriches, the economic efficiency index of the farm has increased. In exchange for the full use of the genetic potential of ostriches, it is possible to provide low-cost, high-quality meat and egg products, that is, the economic efficiency of each soum spent is 10 soums, as a result of scientific research"Panaroot-98"that the drug not only increases the egg productivity of ostriches, but also achieves high economic efficiencyproven in experiments.

References

1. Kh.M. Komilov, M.A. Omirali, Esters of terpenoids (Ferula tenuisecta Korov), Pharmaceutical Journal, Tashkent, **4**, 18 (2004)
2. E.P. Korovin, Sam. Umbelliferae, Flora of the Uzbek SSR, Tashkent,.4-459 (1959)

3. A.I. Yatusevich, K.B. Yunusov, E.O. Kovalevskaya, S.A. Jabborov, A.S. Daminov, Prevention and treatment of trichocephaliasis and capillariosis of ruminants, Journal of Advanced Research in Dynamical and Control Systems, **12**, **7**, 1451–1454 (2020)
4. L.D. Kotenko, M.A. Mamachanova, R.M. Khalilov, A.U. Mamachanov, G.B. Sotimov, Standardization of the herb Ferula variablea, Chemistry of plant raw materials, Barnaul, **4**, 151-154 (2009)
5. A.A. Kudryatsev, L.A. Kudryatseva, Clinical hematology of animals (Kolos, Moscow 1974)
6. M.I. Madrakhimova, L.D. Kotenko, G.B. Sotimov, M.A. Mamachanova, R.M. Khalilov, A.U. Mamachanov, Creation of technology for cinaroside tablets and assessment of ix quality, Pharmaceutical Journal, Tashkent, **3**, 49-53 (2008)
7. K. Yunusov, F. Kurbanov, X. Yuldashev, U. Asomiddinov, U. Xolova, Diagnosis of saproligniosis and protozoa of fish and veterinary and sanitary assessment of their meat (Uzbekistan), BIO Web of Conferences, **95**, 01024 (2024)
8. M.A. Mamachanova, L.D. Kotenko, R.M. Khalilov, A.U. Mamachanov, G.B. Sotimov, Chromatospectrophotometric method for determining cynaroside in the aerial part of Ferula variablea, Current problems in the chemistry of natural compounds: Abstracts of the conference, Tashkent, 82 (2009)
9. A.I. Saidkhodzhaev, Sesquiterpene derivatives of the genus Ferula tenuisecta, Chemistry of nature. connected, **4**, 332-336 (1979)
10. R.M. Khalilov, M.A. Mamachanova, L.D. Kotenko, A.U. Mamachanov, Selection of solvent for recrystallization of cinaroside, VII All-Russian Conf. “Chemistry and medicine, Orchimed-2009”: Abstracts. July 1-5, 2009, Ufa, 301 (2009)
11. Kh. Niyazov, Treatment of aseptic diseases of the joints of the distal limbs in Uzbek sports horses, Journal of Microbiology, Biotechnology and Food Sciences, Faculty of Biotechnology and Food Sciences in Nitra, Slovakia, 478-481