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RESULTS OF THE STUDY OF THE EFFECTIVENESS OF ANTIHELMINTHIC DRUGS AGAINST HELMINTHIC INFESTATIONS IN ANIMALS

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Annotatsiya: Ushbu maqolada otlarlarda uchraydigan gelmintoz kasalliklari va ularga qarshi sinalgan antigelmint vositalar tasiri bayon etilgan.

Kalit so‘zlar: ot, gelmint, gelmintoz, trematodoz, sestodoz, nematodoz, anoplasefalyatoz, strongilyoz, strongiloidoz, trixonematoz, paraskaridoz, degelmintizatsiya.

Annotations: This article describes helminth infections in horses and the effects of tested antihelminthic agents against them.

Keywords: Horse, helminth, helminthiasis, trematodosis, cestodosis, nematodosis, anoplasmosis, strongylosis, strongylodosis, trichonematosis, parascaridosis, deworming.

Аннотация: В данной статье рассматриваются гельминтозные заболевания, встречающиеся у животных, и влияние противогельминтных препаратов на их лечение.

Ключевые слова: Паразиты, гельминты, гельминтозы, трематодоз, цестодоз, нематодоз, анноплазефалятоз, стронгильоз, стронгилоидоз, трихонематоз, параскаридоз, дегельминтизация.

Introduction. The spread of invasive diseases among livestock worldwide, their seasonal characteristics, and the pathological changes that occur in animal organisms, as well as extensive scientific research on the treatment and prevention of these diseases. Particular emphasis is placed on research aimed at accurately diagnosing and effectively treating helminthiasis, which is widespread among horses and other ruminants. In this regard, it is crucial to study the spread of helminthiasis pathogens and develop scientifically based prevention and treatment systems.

In recent years, serious attention has been paid to modernising and further developing agriculture in our country. In this process, the issue of providing the population with high-quality and ecologically clean food products and ensuring food safety has become a priority. As a result, the incidence of infectious, non-infectious and invasive diseases among livestock has been reduced. In particular, it is necessary to pay special attention to the spread of helminthiasis among horses in different climatic and geographical regions and bioecological conditions, as well as to the use of modern methods of diagnosis, treatment and prevention.

Research objective. To study the prevalence of helminth infections among horses in the Oqqo‘rg‘on district of Tashkent province and the effectiveness of treatment methods.

Research subject and methods. The research was conducted in February-March of the current year on 17 horses at the Mavlon Ota farm in the Oqqo'rg'on district of Tashkent province and at the Beshovul village community. The samples taken for examination were processed at the State Scientific Centre's ‘Scientific Helminthological Laboratory’ for the control of veterinary drugs, feed additives and their use. The samples taken from the animals were examined using helminthological (Fyuleborn and rewashing) and helminthological methods. The intensity of the infestation was determined by counting the number of helminth eggs detected in 3-5 gram faecal samples using a microscope with a 10/0.25x160/0.17 objective lens.

Research results and analysis: The results of the research conducted in the Oqqo‘rg‘on district of Tashkent province on the damage caused by helminths to livestock are presented in Table 1 below.

Results of helminthological examination of sheep kept on the Mavlon Ota farm in the Oqqo‘rg‘on district of Tashkent province and in the Beshovul village community.

1-table

№	The colour and age of the horses	Identified gelminthoses				
		Strongylosis	Strongiloidosis	Parascaridosis	Anoplasephalyatosis	Trichonematosis
1	Red bee 7 years old	86	36	-	-	-
2	Red foal 1.5 years old	55	30	10	-	-
3	Red mare	54	6	-	-	-
4	Black mare 5 years old	85	14	-	-	-
5	Red mare	38	19	-	-	-
6	Red mare foal	25	8	-	-	-
7	Red brook mare	75	28	-	-	-
8	Black mare mare	38	6	-	-	-
9	White mare 8 years old	45	15	-	-	-
10	There is a red foal	40	11	-	-	3
11	Black mare 0.8 months old	100	16	45	70	-
12	Black mare 8 years old	44	18	-	-	6
13	Blue stallion 3.5 years old	84	-	-	-	
14	Black foal 1 year old	81	18	-	-	15
15	Blue burul foal	51	16	-	-	15
16	Blue stallion 4.5 years old	45	6	-	-	18
17	Red foal 1 year old	70	25	-	-	-
Total I.E;		100	88	11,8	6,67	29,4
Total I.I		25-100	6-36	10-45	0-70	3-18

Summary: I E– extent of infestation;
II – intensity of infestation

The results obtained revealed that the animals were infested with five types of helminths. The prevalence of infection in the 17 examined horses was 100 per cent for strongylosis, 88 per cent for strongylodosis, 29.4 per cent for trichonematosis, 11.8 per cent for parascaridiasis and 6.7 per cent for anoplasefalylatosis.

The intensity of infestation was 25-100 specimens for strongylosis, 6-36 specimens for strongylodosis, 10-45 specimens for parascaridiasis, 0-70 specimens for anoplasefalylatosis, and 3-18 specimens for trichonematosis.

The table shows that strongyloidiasis and strongylosis were prevalent in 88-100% of the 17 examined horses, with an infection intensity of 36-100 copies, indicating a high level of damage. Although the prevalence of trichonematosis, parascaridiasis and anoplasefalatoz was 29.4%, 11.8% and 6.7% respectively, the intensity of infestation was significantly higher.

We aimed to determine the effectiveness of antihelminthic preparations on horses infected with various helminths. For this purpose, we administered the Egyptian-produced 'Yequiveen' preparation, produced in Egypt, at a rate of 1 gram per 40 kilograms of live weight, and the 'Profiverm-gel' preparation, produced in Ukraine, at a rate of 1 gram per 20 kilograms of live weight, was administered to 5 horses. The effect of antihelminthics against helminths is reflected in Tables 2 and 3.

Determining the efficacy of the 'Equiveen' preparation against grass mites

2-table

№	The colour and age of the horses	Helminthiasis detected before medication					Result after administration of the preparation "Equiveen"				
		Strongylosis	Strongiloidosis	Parascaridosis	Anoplasephalyatosis	Trichonematosis	Strongylosis	Strongiloidosis	Parascaridosis	Anoplasephalyatosis	Trichonematosis
1	Red mare 7 years old	86	36	-	-	-	-	-	-	-	-
2	Red foal 1.5 years old	55	30	10	-	-	-	3	-	-	-
3	Black mare 8 years old	44	18	-	-	6	-	-	-	-	-
4	Blue foal	51	16	-	-	15	-	-	-	-	-
5	Blue stallion 4.5 years old	45	6	-	-	18	-	-	-	-	-
Total number of helminth eggs found		**281**	**106**	**10**		**39**		**3**			
The effectiveness of the anthelmintic used in percent:											
Extension efficiency							100	80	100	100	100
Intense efficiency							100	98.9	100	100	100

The results of the tests showed that When the Equiveen preparation was administered to horses at a dose of 1 gram per 40 kilograms of body weight, it demonstrated 100% efficacy against strongylosis, parascaridosis and trichonematosis. Furthermore, its extensive efficacy against strongylosis was 80 per cent, while its intensive efficacy was 97 per cent.

Determining the extensive efficacy (EE) and intensive efficacy (IE) of anthelmintic preparations

Determining extensive efficacy;

$$EE = 100 - \frac{N1:N}{n1:n} * 100 \qquad \text{here:}$$

$EE = 100\text{-}N_1{:}N/n_1{:}n \cdot 100$, Here:

N – number of plants in the experimental group (after de-infestation);

N1 – number of damaged plants in the experimental group, i.e. number of damaged plants after degermination;

n – number of plants in the control group (before degermination);

n1 – number of damaged plants in the control group.

Determination of intensity;

$$IE = 100 - \frac{N:n}{N1:n1} * 100 \qquad \text{here:}$$

$IE = 100\text{-}N{:}\ n / N_1{:}\ n_1 \cdot 100$, here:

N – number of helminths in the experimental group (after deworming)

N1 – number of helminths in the control group (before deworming).

n – number of worms in the experimental group

n1 – number of worms in the control group.

For example: Determining the extent and intensity of Strongyloidiasis infection.

$$EE = 100 - \frac{1:5}{3:3} * 100 = 80$$

$$IE = 100 - \frac{3:5}{160:3} * 100 = 98.9$$

Determining the efficacy of the 'Profiverm-gel' preparation against nematodes in horses

Table 3

№	The colour and age of the horses	Helminthiasis detected before medication					Result after administration of the preparation "Profiverm-gel"				
		Strongylosis	Strongiloidosis	Parascaridosis	Anoplasephalyatosis	Trichonematosis	Strongylosis	Strongiloidosis	Parascaridosis	Anoplasephalyatosis	Trichonematosis
1	Red foal 0.7 years old	40	11	-	-	3	-	-	-	-	-
2	Blue stallion 3.5 years old	100	16	45	70	-	-	-	-	51	-
3	Black foal 1 year old	84	-	-	-	-	-	-	-	-	-
4	Red foal 1 year old	81	18	-	-	15	49	10	-	-	-
5	Red foal 0.7 years old	70	25	-	-	-	65	24	-	-	-
Total number of helminth eggs found		**375**	**70**	**45**	**70**	**18**	**114**	**34**		**51**	
The effectiveness of the anthelmintic used in percent:											
Extension efficiency							60	50	100	0	100
Intense efficiency							70	51	100	27	100

The results of the tests show that when the 'Profiverm-gel' preparation is administered at a dose of 1 gram per 20 kilograms of live weight, the preparation's extensive and intensive efficacy against parasitic infections and trichonematosis is 100 per cent. Its extensive efficacy against strongylosis was 60 per cent, while its intensive efficacy was 70 per cent. Similarly, its extensive efficacy against strongylodosis was 50 per cent, while its intensive efficacy was 51 per cent. Intensive farming against anaplasmosis accounted for 27 per cent.

Conclusions

1. In our studies, strongyloidiasis and strongylosis accounted for 88-100% of infections, while trichonematosis, parascaridosis and anoplasefalatoz accounted for 29.4%, 11.8% and 6.7% of infections, respectively.
2. The extensive and intensive efficacy of the 'Equiveen' preparation against strongylosis, parascaridosis and trichonematoses was 100%. Furthermore, its

extensive efficacy against strongyloidosis was 80%, and its intensive efficacy was 99.8%.

3. The extensive and intensive efficacy of the ‘Profiverm-gel’ preparation against parascaridosis and trichonematosis was 100%. Its extensive efficacy against strongylosis was 60%, while its intensive efficacy was 70%. Furthermore, its extensive efficacy against strongyloidiasis was 50%, while its intensive efficacy was 51%. Intensive farming against anaplasmosis accounted for 27 per cent.

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