



SCIENTIFIC RESEARCH CONDUCTED IN LOCAL CONDITIONS TO FIND NEW ANTHELMINTIC DRUGS

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Annotatsiya. *Ushbu maqolada Fanlar Akademiyasi Polimerlar kimyosi va fizikasi instituti tomonidan antgelmint xususiyati o'rganish uchun taqdim etilgan Alglis deb nomlangan kimyoviy birikmaning qo'ylarning ayrim gelmitozlariga qarshi o'tkazilgan sinov natijalari aks ettirilgan.*

Ushbu maqolda dastlab, alglis birikmasining chorva hayvonlari uchun zaharlilik darajasi o'rganish veterinariya dori vositalari, ozuqabop qo'shimchalar sifati va muomalasi nazorati bo'yicha ilmiy markazning vivariysida oq sichqonlarga o'tkazilganligi so'ngra esa uning antgelmint xususiyatini o'rganish Toshkent viloyatining Oqqo'rg'on tumanlarida parvarish qilinayotgan qo'ylarida olib borilganligi to'g'risidagi ma'lumotlar qayd etilgan.

Shuningdek, maqolada alglis kimyoviy birikmasining zaharlilik xususiyati oq sichqonlarga 500 mg dan 5000 mg/kg miqdorlarda hamda antgelmint xususiyati esa spontan gelmitozlar bilan zararlangan qo'ylarga 20 mg dan 50 mg/kg gacha bo'lgan miqdorlari o'rganilganligi borasidagi ilmiy tadqiqot natijalari aks ettirilgan.

Kalit so'zlar. *Vivariy, oq sichqon, qo'y, fekal, fyullborn, mikroskop, gelmint tuxumi, kimyoviy birikma, alglis.*

Аннотация. *В данной статье представлены результаты испытания антгельминтных свойств химического соединения "Алглиц" против некоторых гельминтозов овец, а также научно-исследовательские результаты по изучению токсичности химического соединения алглица.*

Токсичность алглица изучали в виварии научного центра по контролю качество и оборота ветеринарных лекарственных средств и кормовых добавок на лабораторных белых мышах в дозе от 500 до 5000 мг/кг.

Кроме того в статье представляется антгельминтные свойства спонтанно зараженных гельминтозами овец в Аккурганском районе Ташкентской области а также Асакинском районе Андижанской области при применение от 20 до 50 мг/кг дозах в некоторых гельминтозах овец.

Ключевые слова. *Виварий, белая мышь, овца, фекалии, фюллборн, микроскоп, яйцо гельминта, химический соединение, алглиц*





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Annotation. *This article presents the results of testing the anthelmintic properties of the chemical compound “Alglitz” against some helminthiasis in sheep, as well as scientific and research results on the toxicity of the chemical compound alglitz.*

Alglitz toxicity was studied in the vivarium of the Scientific Center for Quality Control and Turnover of veterinary medicines and feed additives on laboratory white mice at a dose of 500 to 5000 mg/kg.

In addition, the article presents the anthelmintic properties of spontaneously infected sheep with helminthiasis in the Akkurgan district of the Tashkent region at doses from 20 to 50 mg/kg in some helminthiasis of sheep.

Keywords. *Vivary, a mouse, a sheep, a fecal, a fulburn, a microscope, a helminth, a chemical compound, an alglitz*

Relevance of the topic. Parasitic diseases, in particular helminthiasis, are widespread among livestock, and the amount of economic damage they cause is very large. According to estimates, in 2020, the total economic damage caused by three types of helminths (gastrointestinal nematodes, fascioliasis and dictyocaulosis) in 18 European countries was estimated at 1.8 billion euros. 81% of these costs correspond to production losses, and 19% to treatment and prevention costs[1,2,3].

Despite the fact that in recent years, many anthelmintic agents have been produced against helminth diseases in livestock - cattle, sheep and other species - and measures have been taken to combat helminthiasis, livestock farming in the world, including in our republic, continues to suffer significant economic losses from helminthiasis.

One of the main reasons for this is that the use of anthelmintic drugs for many years reduces the sensitivity of helminths to them, that is, they become accustomed to them.

Therefore, replenishing the range of anthelmintic drugs, in particular, the search for new anthelmintic drugs, remains one of the urgent problems of today, and we have focused our scientific research on the issue of finding anthelmintic drugs in local conditions.

The purpose of the study is to study the toxicity of Alglitz compounds provided by the Institute of Polymer Chemistry and Physics of the Academy of Sciences to laboratory animals - white mice, as well as their anthelmintic properties against some helminths in sheep.

Research location, materials and methods. The studies were conducted in the vivarium of the Scientific Center for Quality Control and Circulation of Veterinary Medicines and Feed Additives, on sheep from the population infected with natural (spontaneous) helminths in the Oqqu'rgan district of Tashkent region and Asaka district of Andijan region.

To determine the toxicity of the chemical compound Alglitz, experiments were conducted on white mice weighing 18-21 grams. Alglitz suspension was administered





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orally to mice using a metal atraumatic probe in doses of 500-1000-2000-3000-4000-5000 mg/kg.

To study the anthelmintic properties of Alglitz, dung samples were taken from sheep, and the age and serial number of each sheep were recorded (separate marks were placed on sheep without numbers).

The obtained dung sample was subjected to helminth ovoscopic examination using the Fullerborn method at the Scientific Center for Quality Control and Processing of Veterinary Medicines and Feed Additives under the Committee for the Development of Veterinary Medicine and Livestock. Then, 20, 30, 40 and 50 mg/kg of Alglitz were administered orally to the sheep infected with helminths, and after 7 days, dung samples were taken again from the sheep and helminth ovoscopic examinations were conducted.

Research results. Observations were conducted for 14 days after oral administration of 500-1000-2000-3000-4000-5000 mg/kg of the chemical compound Alglits to white mice weighing 18-21 grams with a metal atraumatic probe.

During this observation period, no pathological processes were observed in the mice - no adverse effects on their general condition, appetite, or gait, and no deaths were observed in any of the experimental white mice during the 14-day observation period.

After studies conducted on laboratory animals, the anthelmintic properties of the chemical compound alglit were studied.

In our initial experiments, doses of 20, 25, 30 and 40 mg/kg of alglyt were studied in 21 sheep infected with other gastrointestinal strongyloidiasis spontaneously (naturally). (Table 1).

Results of the study of the anthelmintic properties of the chemical compound Alglit against other gastrointestinal strongyloidiasis in sheep

Table 1

Amount of Alglitz chemical compound mg/kg	Sheep extensively infected with other gastrointestinal strongyloidiasis				Efficacy of Alglitz against other gastrointestinal strongyloidiasis, in percent
	Before giving Alglitz		After Alglitz is given 7 days later		
	head	%	head	%	
20	4	100.0	3	75.0	25.0
25	5	100.0	2	40.0	60.0
30	5	100.0	1	20.0	80.0
40	7	100.0	—	—	100.0

As can be seen from the table, it was determined that alglitz has an efficacy of 25% at a dose of 20 mg/kg, 60.0% at a dose of 25 mg/kg, 80.0% at a dose of 30 mg/kg, and 100.0% at a dose of 40 mg/kg against gastrointestinal strongyloidiasis in sheep.





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In our subsequent experiments, we conducted experiments to study the anthelmintic properties of Alglitz at doses of 20, 25, 30, 40, and 50 mg/kg against marshalliasis in sheep (Table 2).

Results of the study of the anthelmintic properties of the chemical compound Alglitz against marshalliasis in sheep

Table 2

Amount of Alglitz chemical compound mg/kg	sheep extensively affected by marshalliasis				Alglitz's effectiveness against marshalliasis, in percent
	Before giving Alglitz		After Alglitz is given 7 days later		
	head	%	head	%	
20	6	100.0	6	100.0	-
25	6	100.0	5	83.3	17.7
30	8	100.0	5	71.4	29.6
40	7	100.0	1	16.6	83.4
50	5	100.0	-	-	100

This experiment was conducted on 32 sheep infected with marshalliasis. In this case, 20 mg/kg of Alglitz did not show any anthelmintic properties against marshalliasis, while 25 mg/kg of Alglitz showed 17.7%, 30 mg/kg showed 29.6%, 40 mg/kg showed 83.4%, and 50 mg/kg showed 100.0% efficacy against marshalliasis (see Table 2).

subsequent experiments, the anthelmintic properties of alglit against nematodirosis of sheep were studied (Table 3).

Results of the study of the anthelmintic properties of the chemical compound Alglit against nematodirosis in sheep

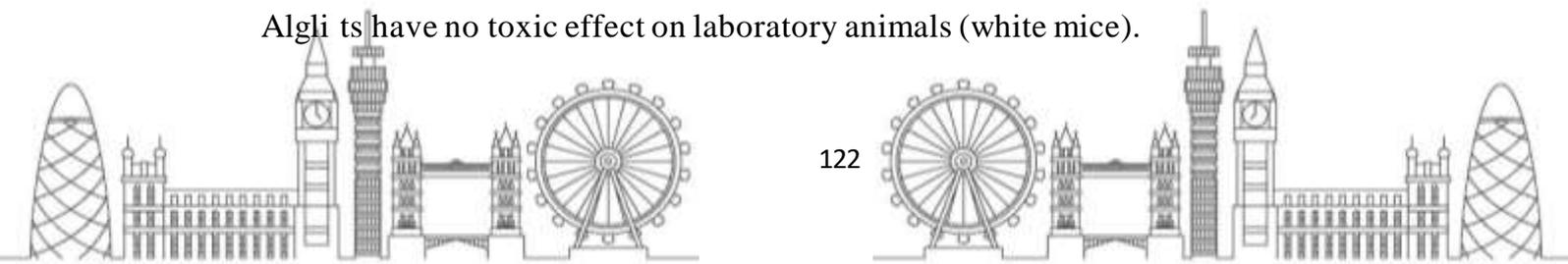
Table 3

Drug dose (mg/kg)	extensive infection with nematodiruses				Extension effect
	Before giving the drug		7 days after drug administration		
	head	%	head	%	
20	6	100.0	6	100.0	-
25	6	100.0	6	100.0	-
30	8	87.5	7	87.5	12.5
40	7	85.7	2	28.5	71.5
50	5	100.0	-	-	100

In this experiment, doses of 20, 25, 30, 40 and 50 mg/kg of alglitz were tested. Alglitz at doses of 20 and 25 mg/kg had no anthelmintic properties against nematodirosis in sheep, while its 30 mg/kg dose gave an effective anti-nematodirosis effect of 12.5%, 40 mg/kg dose of 71.5% and 50 mg/kg dose of 100.0% (Table 3).

Conclusions:

Algli ts have no toxic effect on laboratory animals (white mice).





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According to our primary research :

Alglits against other gastrointestinal strongyloides in sheep were noted starting at 25 mg/kg, with 100 percent efficacy at 40 mg/kg.

Alglitz 40 mg/kg showed an efficacy of 83.4 and 71.5 percent, and 50 mg/kg showed an efficacy of 100.0 percent against marshalliasis and nematodirosis in sheep.

Scientific research is ongoing to study the anthelmintic properties of this compound against helminthiasis in sheep and horses.

References

1. А. О. Орипов, А. Ғ. Ғофуров, Н. Э. Йўлдошев, Ш. А. Джаббаров, Р. Б. Давлатов, М. Э. Ғоипова “ Қишлоқ хўжалик ҳайвонларининг паразитология ва инвазион касалликлари” Дарслик, Тошкент-2023 йил 52-158б.

2. Йўлдошев Н. Э. “ Гельминтозларга қарши курашнинг замонавий услуб ва воситалари” вет. фан. доктори(DSe) диссер. Самарканд-2018. 105-207.б.

3. J. Charlier, L. Rinaldi, V. Musella, H.W. Ploeger, C. Chartier, H. Rose Vineer, B. Hinney, G. von Samson-Himmelstjerna, B. Băcescu, M. Mickiewicz, T.L. Mateus, M. Martinez-Valladares, S. Quealy, H. Azaizeh, B. Sekovska, H. Akkari, S. Petkevicius, L. Hektoen, J. Höglund, E.R. Morgan, D.J. Bartley, E. Claerebout. Initial assessment of the economic burden of major parasitic helminth infections to the ruminant livestock industry in Europe. Preventive Veterinary Medicine, Volume 188, March 2021, Pages 105213.

<https://doi.org/10.1016/j.prevetmed.2020.105103>

