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# Libyostrongylosis In Ostriches

*The article contains information about process of identification libyostrongylosis infection on one of the ostrich's farms of Kyiv region.*

*Ostriches, libyostrongylosis, laboratory methods of diagnosis, brovermektin-granulate*

Ostrich farming is relatively young poultry industry in Ukraine. In our country there are about 30 ostrich farms, including the 5 farms that exist in Kyiv region. Like any area of breeding, ostrich helminthoses are common [2]. Therefore the problem of infective diseases of ostrich-like poultry caused by parasitic worms gaining urgency [3].

The aim of investigation was identification of distribution ostrich's helminths at the farm "Chubynsky ostrich", that located in the village Chubinske, Boryspil district of Kyiv region.

In 2011 on the farm was firstly registered high degree of libyostrongylosis infection with considerable economic losses [1]. On the farm twice a year was carried out dehelminthization of poultry by medicines with ivermectin basis. Antihelminthic medicines were used in granules form with the food by group method.

Materials and methods of investigation. For the investigation were used feces samples from 13 adult black African ostriches (*Struthio camelus*). Researches were carried out by standardized Fulleborn's and McMaster's methods in the laboratory of Parasitology and Tropical Veterinary Medicine Department National University of Life and Environmental Sciences of Ukraine.

Results of investigations. 5 from 13 samples of ostriches feces that had studied, contains one kind of type parasite eggs Strongylidae family – *Libyostrongylus douglassii*. Extensiveness of infection (EI) was 38%. By McMaster's method number of helminths eggs in one gram of feces (intensiveness of infection, II) was 610 on an average. These results mean that the poultry is a carrier of the libyostrongylosis infection agent.

So, as a result of helminthoscopy investigation of "Chubynsky ostrich" farm was registered high extensiveness of agents of libyostroglyosis infection of poultry.

During the clinical investigation 3 adult ostriches, which were affected by *Strongylus* spp. had a general weakness, depression, hypodynamia, loss of appetite, retardation in growth.

13 ostriches were dehelminthized with the help of brovermektin-granulate (Brovafarma, Ukraine) at a dose of 1 g/10 kg body weight of the poultry. Calculated for flocks dose of anthelmintic was mixed with dry fodder and was given by group method within 3 days.

Later were examined samples of ostriches feces at first, 7th, 14th, 28th days after the moment of using of the medicine and on day 7th after the second poultry's dehelminthization. The research results are presented at the table.

After repeated clinical examination (7th day after the first dehelminthization and after it) visible clinical signs of disease in ostriches have not been identified.

### 1. Results of helminthoscopy investigation of ostriches libyostroglyosis

Date	Day of investigation	Number of affected poultry	II (eggs per 1g)	EI (%)
01.10.15	Before dehelminthization	5	610	38.5
07.10.15	1th day after dehelminthization	2	575	15.4
13.10.15	7th day after dehelminthization	4	100	30.7
20.10.15	14th day after dehelminthization	6	92	46.1
3.11.15	28th day after dehelminthization	4	188	30.7
20.11.15	7th day after repeated dehelminthization	2	75	15.4

The table data shows that the intensity of infestation was highest in ostriches before their deworming. It amounted to 610 eggs per 1 g of feces at the extensiveness of infection – 38.5%. By 14th day after deworming infestation intensity gradually decreased (from 575 to 92 eggs per 1 g of feces), and on day 28th increased by almost 2 times (188 eggs per 1g of feces). Extensiveness of infection substantially changed. On the first day after deworming it decreased in more than 2 times. However, later began to grow in 2-3 times (with a significant decrease in the intensity of infestation). On the 14th day extensiveness of infection reached 46.1% and was higher than before deworming, although the intensity of infestation was the lowest for the entire period after the first deworming. On day 28th the intensity of the infestation has grown in 2 times, and the extensiveness of infestation decreased.

On day 7th after the second deworming was observed the lowest on record the intensity of infestation (75 eggs per 1 g of feces) and extensiveness was the same as in the first day after the first deworming of ostriches (15.4%).

As a result, brovermektin-granulate (3.5 mg ivermectin in 1g) in our experiments has not showed high efficiency in the treatment of ostrich's libyostroglyosis. It also may be connected with repeated infection of ostriches from the environment.

Earlier diagnostic investigations conducted by national scientists showed that in Ukraine ostriches was found only one specie of helminths, *Libyostroglyus douglassii*, which belong to the suborder Strongylata, class Nematoda, type of round helminths Nemathelminthes.

We assume that most ostriches of Ukrainian farms are affected by this nematode. This necessitates a thorough study of various age groups of African ostriches, especially epizootological aspects of infestation, diagnosis and peculiarities of treatment and also determine other types of parasites of ostrich's farms in Ukraine.

### Conclusions

1. Libyostroglyosis is a common parasitic disease of ostriches in Ukraine.
2. The agent of libyostroglyosis in ostriches is nematode *Libyostroglyus douglassii*.
3. Brovermektin-granulate at dose 1 g/10 kg body weight was not highly effective anthelmintic in the case of libyostroglyus infestation in ostriches. But it also may be connected with repeated infection of ostriches from the environment. ■

*В роботі приведені дані, касаючія либіостронгілезної інвазії на одній із страусових ферм Києвщини.*

*Страуси, либіостронгілез, лабораторні методи діагностики, бровермектин-гранулят*

*У роботі наведені дані, що стосуютья либіостронгілезної інвазії на одній із страусових ферм Київщини.*

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