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CHARACTERISTIC PROPERTIES OF THE SPREAD OF ASSOCIATIVE DISEASES IN DOMESTIC CHICKENS

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ХАРАКТЕРИСТИКА РАСПРОСТРАНЕНИЯ АССОЦИАТИВНЫХ ЗАБОЛЕВАНИЙ У ДОМАШНИХ КУР

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Abstract. In private poultry farms, located in the Fatmai and Sarai settlements of Apsheron district there have been carried out scatological and helminthological examination for various age groups. It became known that in Fatmai settlement infection of birds with various invasions, including with IE of ascaridiosis was 32.0%, II 2–31 of specimens, with IE of raillietinosis 18.9%, II 1–9 of specimens, with IE of heterakiosis was 30.9%, II 2–28 of specimens, and according to the results of examinations, conducted on poultry in Sarai settlement, with ascaridiosis having IE of 30.7%, II 1–29 of specimens, with IE of raillietinosis of 19.1%, II 2–17 of specimens, with IE of heterakiosis of 30.2%, II 1–23 of specimens of helminths, have been identified in the mixed form.

Аннотация. В частных птицеводческих хозяйствах, расположенных в поселках Фатмай и Сарай Апшеронского района, проведено копрологическое и гельминтологическое обследование для различных возрастных групп. Стало известно, что в поселке Фатмай зараженность птиц различными инвазиями, в том числе ЭИ аскаридиоза, составила 32,0%, ИИ 2–31 экз., с ЭИ райллиетиноза 18,9%, ИИ 1–9 экз., при ЭИ гетеракидоза 30,9%, ИИ 2–28 особей, и по результатам исследований, проведенных на домашней птице в поселке Сарай, с аскаридиозом с ИЭ 30,7%, ИИ 1–29 экз., с ЭИ райллиетиноза 19,1%, ИИ 2–17 экз., с ЭИ гетеракидоза 30,2%, ИИ 1–23 экземпляра гельминтов выявлены в смешанном виде.

Keywords: helminths, bird, egg, private farm, invasion extensiveness, invasion intensity.

Ключевые слова: гельминты, птица, яйцо, фермерское хозяйство, экстенсивность инвазии, интенсивность инвазии.

After the attainment of independence, the Republic of Azerbaijan carried out radical changes in the economy of our country, and these works are ongoing, so far. As a result of reforms in agriculture, which is an important part of the national economy, new forms of farming have been created that have an impact on the development of agriculture, including livestock and poultry farming.

Along with some infectious diseases, parasitic diseases also affect the development of poultry in modern times. Nowadays, along with some infectious diseases, parasitic diseases also exert their influence upon the development of poultry farming. Therefore, for the rapid development of poultry, there is a need to develop new measures for the protection of poultry from parasitic

diseases. In this regard, the study of mixed invasions such as raillietinosis, acidosis, and her acidosis, which have the greatest damage to poultry farming not only in Azerbaijan but also in other countries, remains relevant [1–5]. The lack of sufficient development so far of control measures for mixed invasions, conduction of continual research works in this area is an urgent task in this regard. Recently, despite the implementation of periodic control and veterinary-sanitary measures and an increase in the management culture in poultry farming in connection with the creation of private and small poultry farms in Azerbaijan, mixed invasions are still observed.

Materials and methods

The studies were carried out in the parasitology department based on materials collected from private poultry farms in Fatmai and Sarai settlements of the Absheron district.

In order to study mixed invasions in domestic chickens, on the whole 271 of samples of feces, 136 samples of intestines were sampled from birds, with age groups above 2–3, 5–6; and 8 months, kept on floor conditions in private poultry farms in Fatmai settlements, and 246 samples of feces and 165 samples of intestines were collected from the private poultry farms of Sarai settlements and examined. The extensiveness and intensity were studied using the Fulluborn and sequential washing in faeces, and in the intestines using the partial dissection examination method.

Discussion of the results received

Infection with helminthiases of domestic chickens in private poultry farms of Fatmai and Sarai settlements were studied by age groups of birds.

On the basis of helminthooscopy studies conducted, there were detected the infestation of domestic chickens, kept in private poultry farms in Fatmai settlements with ascaridiosis, raillietinosis and heterakiosis. In these farms, there were recorded infestations with raillietinosis at the rate of 18.9%, ascaridiosis of 35.8%, heterakiosis of 33.7% in birds 2–3 months of age. The presence of infestations has been detected during the scatological examinations in birds of 5–6 months of age group with raillietinosis of 19.5%, ascaridiosis of 33.3%, heterakiosis of 31.0%, and in adult group of birds higher than 8 month the infestation level with raillietinosis was 16.1%, ascaridiosis 26.9%, heterakiosis was 28.1%. Results of examinations are given in Table 1.

Table 1.

AN INFESTATION OF DOMESTIC CHICKENS WITH MIXED INVASION
(scatological examination)

Age group (month)	Number of faeces samples (piece)	<i>Ascaridia galli</i>		<i>Raillietina tetragona</i>		<i>Heterakis gallinarum</i>	
		Infestation (head)	%	Infestation (head)	%	Infestation (head)	%
2–3 months of age	95	34	35,8	18	18.9	32	33.7
5–6 months of age	87	29	33,3	17	19.5	27	31.0
Adults	89	24	26,9	14	16.1	25	28.1
<i>Total</i>	<i>271</i>	<i>87</i>	<i>32.0</i>	<i>49</i>	<i>18.2</i>	<i>84</i>	<i>30.9</i>

Summarizing the general results of studies conducted the extensiveness of invasions (IE) prevalent in farms was determined. Thus, in private poultry farms in Fatmai settlement there was recorded the presence of infestation with ascaridiosis of 32.0%, raillietinosis of 18.2%, heterakiosis of 30.9%.

In order to determine the invasion intensity (II), 45 head of birds at 2–3 months of age, 51 head of birds at 5–6 months of age and 39 head of adults dead and slaughtered birds were examined by incomplete dissection method. During the examination of dissected carcasses there was detected that the extensiveness of invasion (IE) with *Ascaridia* in 2–3 months of age was 37,8%, invasion intensity was (II) 2–31, IE of raillietinosis was 20.0%, II was 2–9, IE of heterakiosis was 35.5%, II was 3–28 of specimens. In 5–6 months of age, IE of ascaridiosis was 35.3%, II was 2–26, IE of raillietinosis was 21.6%, II was 1–6, IE of heterakiosis was 33.3%, II was 2–23 of specimens was detected. In adults the IE rate of ascaridiosis was 28,2%, II 3–29, IE of raillietinosis — 17.9%, II — 2–7, IE of heterakiosis — 30.8%, II — 2–21. The results are presented in Table 2.

Table 2.

AN INFESTATION OF DOMESTIC CHICKENS WITH MIXED INVASIONS
 (on the basis of dissection studies)

Y Age groups	Number of birds dissected, head	Infestations								
		<i>Ascaridia galli</i>			<i>Raillietina tetragona</i>			<i>Heterakis gallinarum</i>		
		Number of birds infected (head)	Extensiveness of invasion (in %)	Intensity of invasion (specimen)	Number of birds infected (head)	Extensiveness of invasion (in %)	Intensity of invasion (specimen)	Number of birds infected (head)	Extensiveness of invasion (in %)	Intensity of invasion (specimen)
2–3 months	45	17	37.8	2–31	9	20.0	2–9	16	35.5	3–28
5–6 months	51	18	35.3	2–26	11	21.6	1–6	17	33.3	2–23
Adults	39	11	28.2	3–29	7	17.9	2–7	12	30.8	2–21
Total	135	46	33.8	2–31	27	19.8	1–9	45	33.2	2–28

Based on dissected examinations for all age groups the invasion intensity of *A. galli* in birds were determined as 2–31, *R. tetragona* II — 1–9, *H. gallinarum* II 2–28 of specimens (Table 2).

During the scatological examinations carried out in private poultry farms in Sarai settlement in 2–3 months age group of birds, there was determined that the rate of infestation with raillietinosis was 20.5%, ascaridiosis 32.1%, and heterakiosis was 34.6%, in 5–6 months of age the rate of raillietinosis was 22.1%, ascaridiosis was 32.5%, heterakiosis — 29.1%, and in adult domestic chickens higher than 8 month of age the rate of raillietinosis was 14.6%, ascaridiosis — 27.5%, heterakiosis was 26.8% (Table 3).

Table 3.

AN INFESTATION OF DOMESTIC CHICKENS WITH MIXED INVASION
 (scatological study)

Age group	Sample of faeces (piece)	<i>A. galli</i>		<i>R. tetragona</i>		<i>H. gallinarum</i>	
		infected (head)	%	infected (head)	%	infected (head)	%
2–3 months	78	25	32.1	16	20.5	27	34.6
5–6 months	86	28	32.5	19	22.1	25	29.1
Adults	82	22	27.5	12	14.6	22	26.8
Total	246	75	30.7	47	19.1	74	30.2

In general, in farms of Sarai settlement, in all age groups of domestic chickens there were detected infestation with raillietinosis of 19.1%, ascaridiosis of 30.7%, heterakiosis of 30.2%

To determine the intensity of invasion (II) 61 head of birds at 2–3 months of age, 59 head from 5–6 months of age, from adults 45 head dead and slaughtered birds were dissected. During the dissection in 2–3 months of age extensiveness of invasion (IE) of ascaridiosis was 34.4%, invasion intensity (II) was (II) 2–31, IE of raillietinosis — 19.7%, II — 3–15, IE of heterakiosis was 32.8%, II — 2–23, in 5–6 months of age IE of ascaridiosis was 32.2%, II — 1–23 of specimens, IE of raillietinosis was 23.7%, II — 2–17, IE of heterakiosis was 30.5%, II 2–21, and in adults IE of ascaridiosis was 26.7%, II — 2–29, IE of raillietinosis was 15.5%, II — 2–14, IE of heterakiosis was 28.9%, II 1–19 of specimens have been determined based on studies carried out (Table 4).

Table 4.

INFESTATION OF DOMESTIC CHICKENS WITH INVASION
 (based on dissections)

Age groups	Number of birds dissected, head	Infestations								
		<i>A. galli</i>			<i>R. tetragona</i>			<i>H. gallinarum</i>		
		Number of birds infected, head	Extensiveness of invasions, %	Intensity of invasion, specimen	Number of birds infected, head	Extensiveness of invasion, %	Intensity of invasion, specimen	Number of birds infected, head	Extensiveness of invasion, %	Intensity of invasion, specimen
2–3 months	61	21	34.4	2–31	12	19.7	3–15	20	32.8	2–23
5–6 months	59	19	32.2	1–23	14	23.7	2–17	18	30.5	2–21
Adults	45	12	26.7	2–29	7	15.5	2–14	13	28.9	1–19
Total	165	52	31.1	1–29	33	19.7	2–17	51	30.7	1–23

Summarizing the results of studies carried for settlement the intensity of invasions has been determined. Thus, in family poultry farms there were *Ascaridia galli* 1–29, *Raillietina tetragona* 2–17, *Heterakis gallinarum* 1–23 of helminth specimens.

In general, according to the results of the scatological studies and dissection methods carried out in private poultry farms grazing inspections in individual poultry farms, associative invasions are still widespread in poultry.

Conclusion

1. In the private poultry farms of Fatmai settlement having IE of ascaridiosis at the rate of 32.0%, II 2-31, IE of raillietinosis of 18.2%, II 1–9, IE of heterakiosis of 30.9%, II 2–28 of helminth specimens, the occurrence of associative infestation has been identified as a result of studies.

2. For private poultry farm of Sarai settlement, there was recorded the IE of ascaridiosis — 30.7%, II 1–29, IE of raillietinosis of 19.1%, II 2–17, IE of heterakiosis of 30.2%, II 1–23 of helminth specimens.

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