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PHYSIOLOGICAL CHANGES IN THE PARAMETERS OF CHIKEN CROSSES DEKALB WHITE AND LOMAN LSL

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Annotation: *The article presents data on the physiological parameters of the crosses of chickens DeKalb White and Loman LSL. Parameters of live weight, egg weight, body temperature and respiratory rate. The difference in these parameters among crosses is shown starting from the age of four months for 6 months.*

Key words*: crosses, DeKalb White, Loman LCL, body weight, rate of breathing, body temperature, thermometer, plumage, auscultation, age, adaptation, eggs production.*

Relevance of the topic. Some breeds of birds have certain physiological qualities that have been formed in specific natural and technological conditions over many generations. Data and some parameters are usually inherited. The movement of birds from one ecological environment to another requires adaptation to the environment. Under different conditions, the bird manifests its properties in different ways [5].

An example of this is the sharply continental climate of Uzbekistan with high temperatures in summer, which negatively affects the body of chickens of these crosses. In addition, different climatic conditions affect the metabolism and formation of the organism, which affects the productivity of the bird and the organism as a whole [1,6].

Due to their high productivity, DeKalb White are widely distributed not only in the country where they were bred, but also in Uzbekistan.

The body of the DeKalb White breed is of medium size, not large, with well-developed muscles. A small head with a red "face" rests on a short thick neck, turning into a straight back. The limbs are also small in size, the legs are yellow, without plumage.

A large leaf-shaped scallop falls to the side. The color of the plumage is pure white or brown, without inclusions. Light skeletal bones give the body lightness. The color of the comb and earrings is red, the lobes are painted white. The nature of these birds is quite calm, even young cockerels do not have attacks of aggression. On average, they carry 330 eggs per year, 67-74 grams, respectively [2,3].

The breed of chickens Loman LSL is slightly larger than the Dekalb White breed, the color is white, combs and earrings are also red. The egg production rate is at the level of 320 to 340 eggs per year. Cross-country chickens Loman LSL are laid from the age of four months even in the winter season in a chicken coop without heating. The egg is large in size, the shell is white [4].

Materials and research methods. The purpose of this work was to determine the live weight, egg weight, body temperature and respiratory rate.In accordance with the tasks set, 30 heads from each group of 4 months of age were examined. In total, 60 heads of chickens were subjected to research.

The studies were carried out in the morning on an empty stomach in conditions of rest and thermal comfort. Body temperature was measured with a Flex Tip medical electronic thermometer through the cloacal opening. Heart beats were counted by auscultation of the heart.

The frequency of respiratory movements was determined by the results of counting respiratory movements in one minute.

Results of research. Based on the results of the studies, the age physiological parameters of the DeKalb White cross and the Loman LSL cross were determined. The research results are shown in the tables. The data in the table show that with age, body weight increases in chickens, which a physiological norm is.

Temperature indicators, physiological rhythms of respiratory movements, in birds slightly exceed the norm, and live body weight and egg weight are within the physiological optimum.

Starting from the moment of measurement, in DeKalb White cross-country chickens, the average live weight was 993.2±1.93 and by the end of the measurement it was 1557.8±2.92. In the Loman cross, the average LSL at the beginning was 1065.2±1.28 and by the end of the measurement it was 1721.0±1.34 (Table 1).

Normally, the respiratory rate of chickens is on average 20-40 hs / min. Our studies have shown a deviation from the physiological norm, which, in our opinion, is associated with an increased temperature in the summer season (Table 2).

Normally, the body temperature of chickens is on average 39.5-42 ° C, our studies have shown slight temperature changes in the summer season (table 3).

The mass of eggs of chickens is on average 56-65 g. Our studies also revealed an excess of the norm of the mass of eggs, which is a good indicator for these crosses. For example, in hens of the DeKalb White cross, the egg weight at the beginning was 55.1 ± 0.39 on average, at the end of the measurement it was 59.4 ± 1.2 on average. In the Loman LSL cross, at the beginning of the research, the egg weight was on average 61.2±0.58, at the end of the research, the egg weight was 64.2±0.85 (Table 4).

Table № 1. Change in body weight of chickens by crosses, g

№	The name of the crosses	Number of chickens	Months					
1	DeKalb White		July	August	September	October	November	December
		30	993,2± 1,93	1028,5± 1,25	1198,5± 2,96	1358,1± 3,65	1466,6± 2,87	1557,8± 2,92
2	Loman LSL							
		30	1065,2± 1,28	1105,8± 1,91	1177,9± 2,86	1360,6± 2,25	1437,0± 2,81	1721,0± 1,34
			P≤1	P≤1	P≤1	P≤1	P≤1	P≤1

Table № 2. Respiratory rate of chickens by crosses, hour/min

№	The name of the crosses	Time	Number of chickens	Months					
				July	August	September	October	November	December
1	DeKalb White	In the morning	30	29,8± 1,02	38,8± 0,54	32,0± 2,17	29,6± 1,84	29,2± 0,41	28,2± 0,96
		Dinner		38,8± 0,54	44,0± 2,47	35,8± 1,46	39,6± 0,75	40,2± 2,21	35,8± 1,29
		In the evening		45,2± 1,51	47,8± 0,51	41,6± 1,51	46,4± 1,03	41,8± 1,64	38,6± 0,27
2	Loman LSL	In the morning	30	29,8± 0,83	30,2± 0,65	29,2± 0,52	29,4± 0,45	30,5± 0,55	30,4± 0,57
		Dinner		38,2± 0,89	39,8± 1,12	35,2± 0,61	36,5± 0,21	34,9± 0,16	35,4± 0,37
		In the evening		43,2± 0,41	43,2± 0,41	43,1± 0,34	42,5± 0,39	42,5± 0,43	42,2± 0,40
				P≤1	P≤1	P≤1	P≤1	P≤1	P≤1

Table № 3. The temperature of chickens by crosses, ^{o}C

№	The name of the crosses	Time	Number of chickens	Months					
				July	August	September	October	November	December
1	DeKalb White	In the morning	30	39,2± 0,02	38,8± 0,54	38,0± 2,17	39,6± 1,84	39,2± 0,41	38,2± 0,96
		Dinner		41,8± 0,20	41,0± 2,47	39,8± 1,46	39,6± 0,75	40,2± 2,21	39,8± 1,29
		In the evening		42,0± 0,04	41,8± 0,51	41,6± 1,51	46,4±1, 03	41,8± 1,64	39,6± 0,27
2	Loman LSL	In the morning	30	41,4± 0,13	38,2± 0,65	39,2± 0,52	39,4± 0,45	39,5± 0,55	39,4± 0,57
		Dinner		42,0± 0,05	39,8± 1,12	39,2± 0,61	39,5± 0,21	39,9± 0,16	39,4± 0,37
		In the evening		42,2± 0,01	42,2± 0,41	42,1± 0,34	42,0± 0,39	42,5± 0,43	42,2± 0,40
				P≤1	P≤1	P≤1	P≤1	P≤1	P≤1

Table № 4. Change in the mass of eggs by crosses, g

№	The name of the crosses	Number of chickens	Months					
1	DeKalb White		July	August	September	October	November	December
		30	55,1± 0,39	58,5± 0,96	59,1± 0,28	59,6± 0,57	59,0± 0,10	59,4± 1,2
2	Loman LSL	30	61,2± 0,58	62,0± 0,58	62,8± 0,81	64,0± 0,97	64,0± 1,58	64,2± 0,85
			P≤1	P≤1	P≤1	P≤1	P≤1	P≤1

Conclusion

Thus, based on the data obtained, it can be concluded that different climatic conditions affect the metabolism and changes in the physiological parameters of the body, which affects the productivity of the bird. With age, chickens increase body temperature and respiratory rate, but are within the physiological norm.

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