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ASSESSMENT OF MORPHOLOGICAL PARAMETERS HATCHING EGGS QUAIL BREED ENGLISH WHITE DEPENDING ON AGE

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The article comparative evaluations of morphological parameters of hatching eggs of quail breed English white different ages are presents. Found a reliable increase in weight of egg and egg yolk, reliable decrease of egg index, relative weight of protein and relation protein:yolk with age of quails.

Quail, breed English white, morphological parameters, hatching eggs, protein, yolk, shall.

Percent of healthy young birds, viability of quails and the subsequent productivity depends on the quality of hatching eggs of quails. Evaluation of hatching eggs for morphological and physical characteristics is one of the preconditions for the effective conduct of incubation [3]. In order to test the effectiveness of breeding parental forms are checking for egg production, hatching eggs quality, output and survival of young birds [1].

Literary sources covering data of morphological parameters of eggs traditional poultry [2, 3, 4, 10]. Similar information about hatching eggs of quails is not full.

The most important morphological parameters eggs are mass, index form, unit Howe, protein index, the ratio of the components of eggs [4, 6, 9, 11, 5].

The purpose of our work was to evaluate the quality of hatching eggs quail breed English white of all ages on morphological parameters.

Material and methods of research. Research was conducted at the laboratory of poultry of National University of life and environmental sciences of Ukraine. The objects of the research were hatching eggs of quail breed English white. For a comparative analysis of morphological parameters were selected 50 quail eggs breed

English white at the beginning (age 56-60 days) and at the peak (age 148-150 days) of productive period. During the researches was determined the absolute weight and form index of eggs, an index of protein and yolk, absolute and relative weight of the protein, yolk and shell, relation «protein:yolk» [7, 8].

Results. The analysis of morphological parameters of hatching eggs quail breed English white of all ages is given in Table.

Morphological parameters of hatching eggs quail breed English white, (n = 50)

Indicators	Age 56–60 days (n=50)		Age 148–150 days (n=50)	
	x±Sx	CV,%	x±Sx	CV,%
Weight of egg, g	13,1±0,16	8,70	14,4±0,21***	10,5
Form index	78,7±0,33	3,00	76,1±0,50***	4,62
Absolute weight of protein, g	7,3±0,10	9,03	7,9±0,15	13,87
Protein index	11,6±0,26	15,91	9,4±0,23***	17,41
Hau units	90,2±0,44	3,44	85,9±0,54***	4,48
Absolute weight of yolk, g	3,8±0,07	12,98	4,7±0,07***	10,18
Yolk index	47,8±0,82	12,16	43,3±0,58***	9,41
Wight of shell, g	1,7±0,02	9,77	1,9±0,02***	8,84
Relative weight of protein, %	57,9±0,28	3,41	54,2±0,40***	5,23
Relative weight of yolk, %	29,2±0,28	6,84	32,8±0,23***	7,70
Relative weight of shell, %	12,9±0,17	9,47	13,0±0,15	7,94
Relations «protein:yolk»	2,0±0,03	9,97	1,7±0,03***	12,19

*Note: * – P<0,05; ** – P<0,01; *** – P<0,001 (compared with indicators at the age 56-60 days).*

As a result of determining the mass of eggs found probable increase of this signs with birds' age. The difference was 1,33 g or 9,24 % (P<0,001). It should be noted that the form of eggs at the peak of productive period is changed and become more elongated. Form index of quail eggs at the age of 148–152 days has decreased by 3,48 p.p. (P <0,001) and was 76,1 % versus 78,7 % at age 56–60 days. With age of birds has increased yolk weight by 0,88 g or 18,73 % (P <0,001) and relative weight of yolk by 3,59 p.p. (P <0,001) and constituted 32,8 % vs. 29,2% at the beginning of the productive period. At the same time it has a negative impact on the ratio of protein to the yolk (19,59 % at P <0,001). At the peak productive period, the figure was 1,7 versus 2,0 at the beginning of egg laying. Indicators of large and small diameters of yolk with age of birds have significantly increased, however, the height of the yolk has not changed that led to decline of yolk index on 3,68 p.p. (P<0,001).

With age, was observed reduction in the height of dense protein at 13,61 % (P <0,001), that in turn led to a decline in the index of the protein by 24,04 % (P <0,001) and Hau units by 4,93 % (P<0,001). The absolute mass of the eggs shell with the age of quails increased by 0,18 g or 9,75 % (P<0,001). In the relative weight of the eggs shell significant difference had not been established.

Conclusions

1. The results of the study of morphological parameters of hatching eggs of quail breed English white found plausible increase of egg weight, absolute and relative yolk weight, absolute weight of protein with age of birds.
2. At the peak of productive period was observed plausible decline of the form index of eggs, index of protein, the relative weight of the protein, units Hau and the ratio of «protein:yolk».
3. The relative weight of eggs shell of quails at the age of 148–152 days remained almost unchanged compared with the beginning of the productive period, despite an increase in absolute mass of shell. This may indicate a decrease in the strength of eggs shell with age of quails.
4. Perspectives for further research are to examine the reproductive qualities of English white Quail breed.

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