

GROWTH PERFORMANCE OF YOUNG QUAILS EXPLOITED FOR MEAT

D. Costăchescu^{1*}, P.C. Boișteanu¹, G. Hoha¹

¹University of Agricultural Science and Medicine Veterinary Iasi, Romania

Abstract

The research was carried on a population of Faraon quail, raised in a private farm. The following parameters were followed: incubation and hatching, chicken body weight development, feed consumption during the growing season, adult performance over the exploitation period, and sacrificing results for the youth.

Individual gain during growth varied by age, being between 1-10 days 38.5g and during the 1-56 days 258.4g. Consumption of feed for the whole analyzed period was 2492.5g and individually of 614.35g. The average weight of adult quail averaged 338.5g and males of 314.3g.

At the sacrifice of the youth for meat, at nine weeks, the performance differed by gender, so slaughter yield in females was 80.5% and 72.01% in males. On the anatomy of the breast and thigh prevailed that represented in percentage between 32.5 to 47.2% of the housing.

Key words: quails, hatching, breeding, slaughter, consumption

INTRODUCTION

In Romania, quails number began to grow about 4 decades ago, sporadically in the beginning, but after 1990 the increase of these birds has intensified, but without achieving large numbers.

From the accounts of historical sources, domestics of domestic quails began in Asia, China and Japan in the 12th century. The domestic quail, is a small, but a very prolific species. There are many quail species but the most common are the Japanese quails (*Coturnix coturnix japonica*) and the European *Coturnix coturnix coturnix*.

As biological features, it is characterized by sexual precocity, fast growth, early and abundant growth, generating 6 generations per year. This is appreciated by gourmets, being appreciated for different culinary preparations.

MATERIAL AND METHOD

It was formed from 70 adult quails and 30 males belonging to the Faraon meat line (Figure 1), coming from an import from

Hungary and Italy, the sex ratio was 2 females for a male, it secured a reserve of males, because they are replaced by aggressiveness and special sexual vigor.

To characterize the population of the Pharaoh line grown under the conditions of a family-type exploitation. Reproductive, productive parameters and results have been traced to their sacrifice.



Figure 1 Young quail (original)

For the evaluation of hatching results, the following formulas were used:

Fertile eggs (number) = $O_i - O_l$

Embryos dead at mirages = $\frac{EMM I}{O_i}$

Embryos dead at mirages 2 = $\frac{EMM II}{O_i} \times 100$

Percent Fertility = $100 - \left(\frac{OL}{O_i} \times 100\right)$

Eclozionability % = $\frac{T.P.V}{O.F}$

Hatching % = $\frac{TPV}{O_i}$

*Corresponding author:

costachescu_dragos_1990@yahoo.com

The manuscript was received: 09.10.2017

Accepted for publication: 19.04.2018

Where OL = eggs are clear

Oi = incubated eggs

OF = fertile eggs

TPV = total live poultry

The incubation was done in a Cleo incubator, with a capacity of 240 quail eggs (figure 2).



Figure 2 Incubator with quail eggs, before hatching (original)

The eggs incubated came from adult quail, aged 8-10 months.

The incubated eggs were gathered 3-5 days after laying, not longer because the incubation qualities were depreciated with the duration of their storage. Normal eggs were selected, not too elongated but spherical, without cracks or cracks. The bark of the eggs was clean and smooth (Figure 3).



Figure 3 Eggs for incubation (original)

RESULTS AND DISCUSSIONS

The incubated eggs were obtained from 10-12 months old adult quail.

Their average weight was $13.27 \pm 1.14g$, low diameter of 26.75 ± 0.13 mm, and a large diameter of 35.14 ± 0.24 mm

The incubation period was 15-16 days at $38^{\circ}C \pm 1^{\circ}C$ and the humidity was different: in the first period (1-14 days) it was 60-75% and the last 2 days before hatching was 80-90%, it is necessary to regularly sprinkle the eggs with water.

The incubation results of two chicken series are shown in Table 1

Table 1 Results on incubation of quail eggs from the Pharaoh line

No crt	Specification	U M	Incubation 25. IV. 2016	Incubation 15. V.2016	Literature data
1	No eggs inserted	nr	168	130	-
2	Fertility	%	89.8	86.1	90 %
3	Clear eggs	%	17.8	13.8	maxim 10%
4	Live chickens	nr	134	99	-
5	Dead embryos	%	10.12	5.3	5-10%
6	Chicken dead in the egg	%	9.23	4.6	7-10%
7	Unviable chicks	%	2.3	3.0	1-3%
8	% hatching	%	67.8	76.2	72%
9	% hatability	%	82.1	88.4	75-80%

The analysis of the table shows that the results are different for the two series of incubated eggs, as well as comparing them with the data from the literature.

The first series introduced 168 eggs, resulting in 134 live chickens, and 17.8% were clear eggs. The number of dead embryos was 10.12%, and the number of dead chickens in the egg was 9.23%, higher than in the literature. The hatching rate was 68% and the hatching rate was 82.1%.

In the second series, the results were better, meaning that the percentage of dead embryos dropped by half, as did the percentage of dead chickens in the egg.

A ratio of 2.5 females was used in a male, but the fertility rate is small for quail meat, because in their case an impediment is also the body weight to which the frequency battles between males are added in case one is surprised to walk female.

RESULTS ON THE EXPLOITATION PERIOD OF ADULT QUAIL

Domestic quail for meat have made the first eggs 7 weeks. Males reach sexual maturity at 8 weeks when they start singing and chopping females.

The cycle of laying eggs is 8 months, with breaks during the moulting period and

runs between March and September, because during the winter, they are on a break.

Dynamics of weight gain

Body weight was followed prior to laying, on the top and at the end of the female and male reproductive period before and after (Table 2).

Table 2 Dynamics of body weight in adult quails

No crt	Specification	No	$\bar{X} \pm s_{\bar{x}}$	V%
1	Weight before laying (g)	50	268.7±4.54	8.24
2	Male weight before breeding (g)	27	259.2±5.56	7.67
3	Weight of turnip quail (g)	47	307.5±4.66	8.03
4	The weight of quail eggs at the end of the laying period (g)	45	338.5±9.65	11.04
5	Male weight at the end of the breeding period (g)	21	314.35±6.01	13.35

Analyzing the data presented above, some emphasis can be made, namely:

- before the first egg, the quail weight was 268.7g and the male 259.2g;

- when the male starts singing, the females begin the laying on a few days;

- at the beginning of the laying season, the differences in weight are small, but they increase with age;

- when the laying eggs begin, they have not fully completed the growing period, they still weigh an average of 39.5g;

- at the end of the laying season, the weight of adult quail is on average 338.5g and the male 314.35g.

Meatballs cooked for meat offer eggs and eggs

Their number during the exploitation period is lower compared to egg quails, and the period is shorter, only 6 months, plus the period of shedding. Data on egg production and feed consumption are shown in Table 3.

Table 3 Numerical egg production and feed consumption

No crt	Specification	UM	Value
1	Effective motherboard	no	50
2	The laying period	week	35
3	Eggs obtained / head / period	Each wach	171
4	Consumption of females	g/head /day	23.7
5	Males feed consumption	g/head/day	22.5
6	Average number of eggs obtained	no	22 each/hea d/mounth
7	Feed conversion index	g/day	20.14
8	Intensity of laying	%	53.4

Analyzing the following table, the following remarks can be made:

- the total quails, only 70% give a egg
- the laying period were obtained on average 171 eggs:

- Since the weight of an egg is between 12-13g, it results that quail multiplies its body weight by 9-10 times by the eggs it produces;

- an egg represents 4.85% of the weight of adult quail, compared to the hen at which this percentage is 5-6%;

- for the production of an egg, a quail consumes an average of 20.14 / day of feed;

- because they are not grown in a controlled temperature environment, egg production is dependent on atmospheric temperature, as it is found that at a temperature above 30°C, quail suffers, reducing its egg production.

The same happens in the cold season, when the laying is practically interrupted at the end of the exploitation period, respectively at 18-20 months. Adults are sacrificed and the results are shown in Table 4.

Table 4 The results of slaughtering of adult quails

No crt	Specification	Femele		Masculi	
		$\bar{X} \pm s_{\bar{x}}$	V%	$\bar{X} \pm s_{\bar{x}}$	V%
1	Live weight	338.5±9.65	11.04	314.35 ± 6.01	13.35
2	Blood weight	7.03±0.25	14.08	7.5 ± 0.31	4.17
3	Feather weight	17.84±0.27	5.82	16.35 ± 0.40	6.48
4	Head weight + legs	31.19±0.93	11.57	19.35 ± 0.84	4.65
5	Weight of intestinal mass	23.40±3.24	3.57	17.35 ± 0.26	3.97
6	Carcass weight	276.51±7.09	10.38	224.50 ± 8.95	10.09
7	Liver weight + pipette	15.54±0.24	6.05	15.36 ± 0.26	4.49
8	Slaughter yield	81.68±0.35	4.94	72.28 ± 0.89	3.26
9	Chest weight	103.5±0.52	13.33	91.84 ± 0.16	12.55
10	Weight pulp	86.03±1.98	8.92	84.85 ± 4.04	12.59
11	Weight dish	51.50±3.84	23.20	41.92 ± 4.05	25.50

The analysis of the table shows:

- ✓ the car body weight in females was 276.51g and 224.5g in males;
- ✓ the amount of blood was the same in the two sexes, around 7.03-7.05g;
- ✓ the weight of the liver and the pip was about 15 grams
- ✓ chest and pulp weight is over 70% of that of the carcass at both sexes

CONCLUSIONS

1. The hatching and hatching process proceeded normally, with some differences between the two series, but the results are comparable to those in the literature.

2. The weight of adult quail at the beginning of the laying period was 268.7g and the males 259.2g, superior to literature data.

3. Taking into account only the eggs produced by the Faraon line, we estimate that their weight represents the multiplication of their body mass 9-10 times.

4. The slaughter yield was different for the two sows, 81.68% for the females and 72.28% for the males.

5. As anatomical parts, chest and pulp represented the largest amount of meat in the carcass weight in both females and males.

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