GROWTH ISSUES AND EXPLOITATION OF ADULT QUAIL FROM THE FARAON MEAT LINE

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Abstract

Certifications were made on adult quail from the meat line, imported from Italy and Hungary. Research has focused on the quality of eggs hatching, incubation and hatching process, adultelor performance during operation and their slaughter.

The fertility rate was between 86.1-89.8%, the hatching had values between 67.8-76.2% and the hatchet was 82.1-88.4%. Breeding egg weight averaged 13.27g ± 1.14g, 26.75 ± 0.13mm small diameter and large diameter of 35.14 ± 24 mm.

The main production was meat, but it was also observed that were obtained 171 eggs / had / quail, with a weighing 12.9g. At slaughter, the mean weight of adult females was 338.5g, and males 314.5g with a slaughter yield of 81.68% for females and 72.27% for males.

Key words: adult quails, exploitation, slaughter, anatomical parts

INTRODUCTION

Domestic quails are reared in systems all over the world and in different proportions. There are many small quail breeders, with a staff of between 100 and 500 head and is specialized eggs.

Our research aims to present the reproductive and productive performance of the Faraon meat line. In order to characterize this population, raised in a family type farm, the following parameters were observed: incubation and hatching, breeding and slaughtering results at the end of the exploitation period.

MATERIAL AND METHOD

The biological material consisted of 60 adult females and 30 males from the Faraon meat line, obtained in their own household. The queue was made of quails, of three color varieties: standard, Jumbo White (white) and Junbo Gold (yellow) (figure 1).

Fig. 1 Pharaoh quail line

The following formulas were used to evaluate the results of breeding performance:

Fertile eggs (pieces) = Oi – Ol

Embryos dead at mirages

1= $\frac{EMM\ I}{O.i} x100$

Embryos dead at mirages

2= $\frac{EMM\ II}{O.i} x100$

Fertility percentage= $100 - (\frac{OL}{Oi}\ x\ 100)$

Eclozionability % = $\frac{TPV}{O.F}$

Hatching % = $\frac{TPV}{O.F}$ x 100

Where OL = eggs are clear

Oi = incubated eggs

OF = fertile eggs

TPV = total viable chickens

Incubation was done in a IPEE Curtea de Arges incubator with a capacity of 240 quail eggs (figure 2).

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Fig. 2 Quail eggs incubator, before incubation (original)

In adult quail laying intensity was monitored using the following formula:

Intensity of laying $I=\frac{P\ x\ 100}{t}$,

I – the intensity of laying (%)

P – egg / bird production (pcs);

t – time of production (days).

RESULTS AND DISCUSSIONS

The data obtained from the measurements were statistically analyzed using ANOVA.

For the evaluation of the data on the slaughtering of the leaves, the body weight was determined before and after sacrifice for the determination of the yield. It was weighed: blood, feathers, the respective cut portions of the housing chest, legs, tableware, offal and contents of the digestive system. All of these have been weighed and reported to the carcass weight.

The yield of "hot" and "commercial" slaughter (carcass and offal) is determined immediately after slaughter. (after Marius Usturoi, 2008).

The eggs that will be incubated were obtained from healthy quails and fed with a mixture of ground cereals and supplemental PVM. Eggs introduced into the incubate were stored in formwork for 3-5 days at a temperature of 20-22°C, not longer because of their very thin shell, the qualities of incubation decrease with each day.

Normal eggs were selected, not too elongated but spherical, without cracks or cracks. The bark of the eggs was clean and smooth.

Because of the pigmentation of the egg shell, examination with the ovoscope has made it harder. Eggs that were considered appropriate were placed down in the formwork for 24 hours at a temperature of 15-16°C.

The average weight of the eggs was 13.27±1.14 g, the small diameter of 26.75±0.13 mm and the high diameter 35.14±0.24 mm. The incubation period was 15-16 days at a temperature of 38°C ± 1°C and the humidity oscillated during the first period of 1-14 days was 72% and in the last two days 85%, it is necessary to periodically have the eggs sprinkled with water. On the last day, before hatching, wine vinegar was added to the incubator to ease the hatching (figure 3).

Fig. 3 Incubate eggs (original)

Two series of eggs were incubated, the results being different due to the fact that there were no the same environmental conditions for the series of eggs used for incubation.

The results on the incubation of the two chicken series are presented in Table 1.

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

Nr 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%

From the analysis table is found that the results that are different from the two series of incubated eggs, and comparing them with the data from literature.

In the first series, 168 eggs were introduced, resulting in 134 live chickens, and 17.8% were clear eggs.

The number of dead embryos was 10.12%, and the number of dead poultry in the egg was 9.23%, values exceeding those in the literature.

The hatching rate was approximately 68% and the hatching rate was 82.1%.

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

The results obtained by us can be considered to be good, given the influence of external factors, especially the temperature that affected the incubation process.

We have to mention that for the indicator of fertility that the specialized literature has to 90%, this indicator in our experiences had values between 86.1-89.8%.

A ratio of 2 females was used for a male, considering that this ratio is inappropriate because our fertility was lower than that presented in the literature. For quail meat, the literature recommends a ratio of 1/1 for the process of reproduction to proceed normally (Figure 4).

Fig. 4 Ironing aspect (original)

From the behavioral point of view. it was found that the quails of the Faraon line are quite aggressive, with numerous incidents occurring between females and between breeding males.

These incidents end with serious injuries in the head region that can end with the death of individuals.

The hatching began on the 16th day when incubators heard the sounds of the chickens trying to break the egg shell to release it. The hatching process took place on the basis of 3-4 days, most hatched chicks, over 80% were in the 16th and 17th days of incubation (Figure 5).

Fig. 5 Appearance from hatching (original)

RESULTS ON THE ADULT EXPLOITATION PERIOD

Quail for meat hens do not start to 40 days, as is the increased quail egg, it being late, the first egg being submitted to seven weeks. Males reach sexual maturity at 8 weeks when they start singing and chopping females.

In the growth system we practiced, the laying period took place within 8 months (March-October).

Dynamics of weight gain

Weights of body weight were observed before laying the fist egg, at the top and end of the females and males before and at the end of the reproduction period (Table 2).

Table 2 Body weight dynamics in adult quails

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

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

- before the deposition of the first egg, the quail weight is 268.7 g and the male 259.2 g;
- we must emphasize a characteristic aspect of this species, namely for male breeding of the previous year for young females;
- 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;
- data from the literature show quail meat at 5 weeks are weighing 202g for males and 208g in females.

The biological material we have worked far exceeds the values of body weights for meat quails, supported by the results.

Numerical egg production and feed consumption

Quail bred by us as main production meat and the eggs secondary. The number of eggs produced during the exploitation period is lower compared to egg quails.

Data on egg production and feed consumption are shown in Table 3.

Table 3 Eggs yield and feed intake

No crt	Specificare	UM	Valoare
1	Effective motherboard	no	50
2	The laying period	week	35
3	Eggs obtained / head / period	wach	171
4	Consumption of females	g/head/day	23.7
5	Consumption of male fodder	g/head/day	22.5
6	Average number of eggs obtained	no	22 pcs / head / month
7	Feed conversion index	g/day	20.14
8	Intensity of laying	%	53.4

Analyzing the following table, the following can be made:

- the number of eggs obtained from the 31 quails was an average of 22 pieces / day;
- of the total number of quail eggs per day 70% of the herd;
- on laying. an average of 171 eggs are obtained:
- since the weight of an egg is between 12-13 g, the quail multiplies its body fat 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 on average 20.14g / day of feed;
- because they are not grown in a controlled temperature environment, egg production is dependent and influenced by atmospheric temperature, as it is found that at a temperature above 30^0C, quail suffers. reducing its egg production.

Results on quail killing

In order to assess the performance of slaughtering of meat quail, it was slaughtered at the end of the 15-month period of exploitation.

Adult slaughtering results are shown in Table 4.

Table 4 Results on the slaughter of adult quail

Nr crt	Specification	Adult quails			
		Females		Males	
		$\bar{X} \pm S\bar{X}$	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-to-head weight	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	Liver weight + pipette	276.51±7.09	10.38	224.50 ± 8.95	10.09
7	Carcass weight	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

The analysis of the table shows that the average slaughter weight was 338.5 g, with high variation ranges between 297-438g.

✓ Slaughter yield was 81.68% for females and 72.82 for males;

✓ Breast and pulp weight accounted for 68%

✓ We mention that in the carcases from adult quail there was a large amount of yellow internal fat, not seen in young quail carcasses.

✓ The weight at slaughter in males was 314.35 g, the difference in weight between the two sexes was 24.2 g in favor of the females.

Similar to adult females, weight of chest and pulp accounted for more than half of the carcass weight (73.1%). Analyzing the percentage of participation of different anatomical parts in the carcass, the results obtained are presented in Table 5.

Table 5 Participation of different anatomical parts in the carcass (%)

No.	Part	Adults		Youth (50 days old)	
		Males %	Females %	Males %	Females %
1	Feathers (% of live weight)	5.20	5.25	5.56	6.31
2	Head + legs	6.13	9.21	8.38	7.65
3	Blood	2.38	2.37	2.71	2.08
4	Intestines	7.71	10.33	7.96	6.37
5	Liver + heart	6.81	6.86	10.21	5.61
6	Breast	46.1	40.56	32.51	39.69
7	Thighs & shanks	37.7	37.99	47.27	31.5
8	Thoracic chest	18.6	22.7	24.79	17.5

Analyzing the table. the following issues ware evidenced:

- feathers are the percentage of live weight between 5.20% and 6.31%;

- there were no significant differences in blood volume (2.08-2.71%);

- the intestinal mass represents a higher percentage in adult quail, as the reproductive apparatus has entered here.

It is noted that the largest amount of meat in the carcass was that of the chest with percentages between 32.51-46.1% and the pulp by 31.5% and 47.2%.

CONCLUSIONS

1. The incubation process was normal, this fact is illustrated by the hatching indices made, namely

✓ the percentage of fertility was between 86.1-89.8%;

✓ the percentage of hatching was 67.8-76.2%;

✓ the hatching percentage was between 82.1-88.4%;

Specialty literature present for the same indicators 90% fertility, 72% hatching and 75-80% hatching.

2. The weight of the adult quail studied was on average 268.2 g and the males were

259.3 g which places this character as value over that presented by the literature.

3. Faraon linings are mainly grown for meat, but egg production also contributes to profitability by raising 171 eggs per quail in a laying period.

4. The laying rate is only 53.4%, well below that achieved by the quail eggs.

5. The weight and yield at slaughter were different depending on sex;

6. Extensive quail growing, besides being a relaxing work. offers satisfaction, the production being used for both family needs and part for capitalization.

7. What is disheartening for quail growing is the fact that the market is disorganized, even if there are requirements for meat and quail eggs, it is difficult to sell because there is no intermediary between the producer and the trader.

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