

## EVOLUTION OF EGG PRODUCTION FROM QUAIL POPULATION IN BIHOR COUNTY

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### **Abstract**

*The work includes partial results, concerning characterization of the order Galliformes birds, genus Coturnix, Coturnix coturnix japonica species, on the territory of Bihor county. Researches were conducted in three private hennery from both Oradea and Bihor county. Parameters studied refers to the analysis of the incubation process, namely: % clear eggs and % of fertility, % eggs with dead embryos at each cumulated and carried out biological control; % of eclozabilitate; % hatching; dead chickens weight and their fall on quality classes. Following the analysis of the incubation process was calculated a value of 90.7% for fertility and 83.7% for hatching percentage.*

**Key words:** Incubation process analysis, Japanese quail populations.

### **INTRODUCTION**

It is not known precisely the history of this bird species in Bihor county, but it is estimated that Japanese quail farms began to develop intensively after the years 1990-1995, when was created a veritable groundswell favorable to the species studied, due primarily to the superior qualities that producted eggs have, from the nutrition and curative point of view. However, reformed poultry carcasses can be successfully used in the preparation of some culinary specialties.

### **MATERIALS AND METHODS**

Researches were conducted on populations of Japanese quail (*Coturnix coturnix japonica*), in private farms in Oradea and on the territory of Bihor county. The lofts were numbered as follows: in the loft C1, 310 heads (80 males and 230 females), the loft C2, 295 heads (80 males and 230 females), the loft C3, 390 heads (90 males and 300 females).

In order to realize experiments was used biological material represented by birds of both sexes at different ages (hatching, juvenile period, at attaining sexual maturity, in active breeding period).

Were used the following materials and working devices: technical and analytical digital balances, calipers, Petri dishes and glass flat

plates, small incubators, (50-200 eggs / series) portable ovoscope, camera, computer equipped with spreadsheet software, depending on the experimental method addressed.

For a better appreciation of the quality of hatching eggs were calculated two synthetic indicators which give relevant information about the morphological and internal quality of the breeding eggs.

The two indices are: egg format index and Haugh index. Thus, the results obtained were compared with the reference values in the literature (Sauveur, B., 1988; Usturoi MG 1999 Vacaru-Opriş I. et al., 2002).

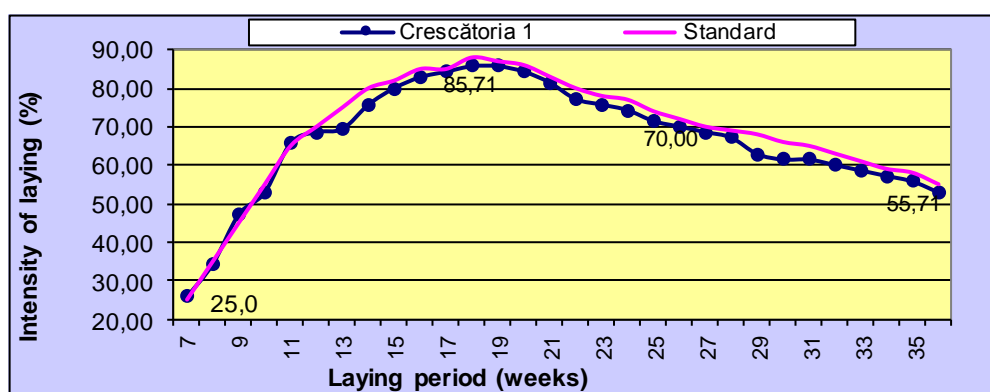
All experimental data obtained were centralized and processed statistically.

## RESULTS AND DISCUSSION

It is observed a low to medium intensity value of laying at the spawning onset (25.3%), then this parameter is improving gradually until it reaches the maximum value of 87.3% in week 18 of birds's age (top laying) following that in the remaining period until laying cycle ends to decline gradually but slowly, reaching the value of 55.85% at the quail's age of 36 weeks (Fig. 1a, b, c.).

The best performances were obtained by the birds in the loft 3 (144.1 eggs / productive period), resulting in an average of the 3 populations of 142.0 eggs / period, value considered as good.

During the incubation period, from the first mirage (on the 5th week), were highlighted the clear eggs and on their base the fertility index was calculated, resulting average values of 86.4% (onset of laying), 91,1% (peak of laying), 90.6% (plateau period), ie 90.1% (end of laying).



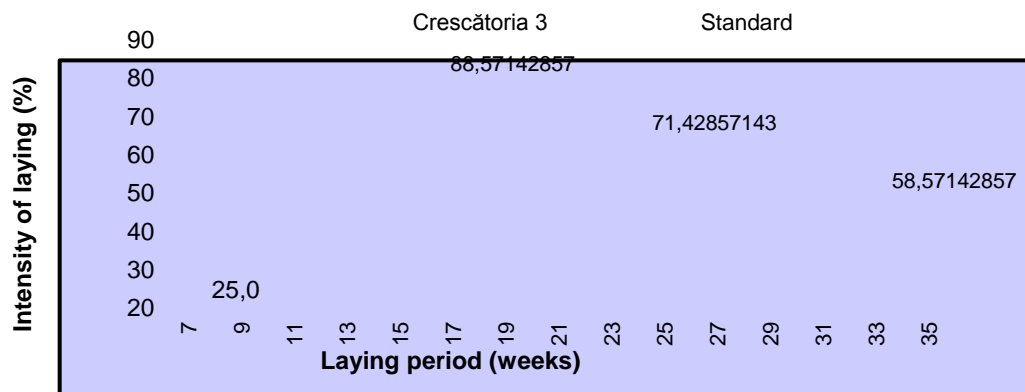
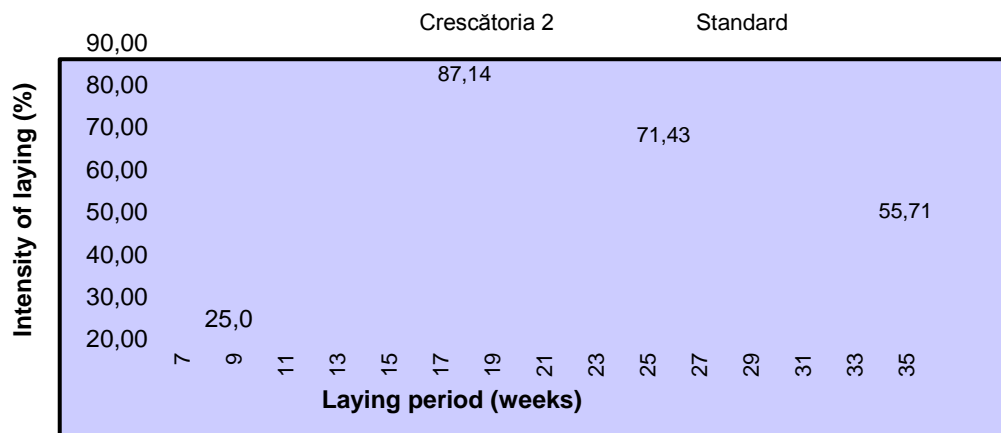


Fig. 1a,b,c. – Laying intensity in the studied Japanese quail population, expressed as yield/farm and as average of the farms, compared to standard

## CONCLUSIONS

Bird flocks from *Coturnix coturnix japonica* species, bred in Bihor county were characterized by a linear trend of weight gain, more pronounced in females than males, especially during juvenile period, following that after the onset of laying the increase to continue very slow and slightly more intense in males. At the end of the evaluation of laying (36 weeks), males have reached a weight of approx. 130 g, and females almost 150g, values located just below the threshold of average performance for this poultry category. Therefore it is recommended the use of these populations, especially that from the loft no.3 (144 eggs/capita) as ameliorating potential for eggs numeric production.

## REFERENCES

1. Beaugard H., 1988, L'aviculture francaise, Ed. R.Rosset, Paris.
2. Cucu I., V. Maciuc, D. Maciuc, 2004, Cercetarea științifică și elemente de tehnici experimentale în zootehnie, Ed. Alfa, Iași
3. Dodgson J.B., H.H. Cheng, J. Burnside, 2000, Integrating quantitative and molecular techniques in selection for diseases rezistence. XXI World's Poultry Congress, Montréal, Canada, Aug. 20-24.
4. Dodu M., 2010, Contribuții la indentificarea și dezvoltarea fondului genetic aviar din județul Bihor.Teză de doctorat,USAMV Iași.
5. Driha A., 2000, Curs de Tehnologia creșterii păsărilor. Editura Mirton, Timișoara.
6. Gîlcă I., 1996, Aprecierea valorii de ameliorare a animalelor, Ed. Periscop, Iași
7. Grosu H., P.A.Oltenacu, 2005, Programe de ameliorare genetică în zootehnie. Ed. Ceres, București
8. Mallard J., M. Donaire, 1990, Evaluation de la selection. C.R. Acad. Agric. Fr. 76, 6 81-91
9. Marcu N., D. Mierlita, O. Ludu, 2008, Materii prime animale, Ed. Risoprint, Cluj Napoca
10. Mărgărint I., P.C. Boișteanu, A. Chelaru, 2002, Fiziologia animalelor domestice, Ed. Ion Ionescu de la Brad, Iași
11. Mierlita D., 2011, Sisteme de productie animala si suguranta agroalimentara, Ed. Universitatii din Oradea
12. Oroian T.E., A. Vlaic, 2001, Ameliorarea genetică a populațiilor de animale domestice, Ed. Academic Press, Cluj- Napoca
13. Popescu-Vifor Șt., 1990, Genetică populațiilor de animale domestice. Editura Ceres, București.
14. Sandu Gh ., 1995, Modele experimentale în zootehnie, Ed. Coral-Sanivet, București
15. Țîrlea S., 1995, Considerații privind producerea și difuzarea materialului biologic avicol în Romania. Simpozionul Științific Național „Dezvoltarea zootehniei-o certitudine pentru viitor”, Iași
16. Usturoi M. G., 2004, Producerea ouălor de consum, Ed. Ion Ionescu de la Brad, Iași.
17. Usturoi M.G., 1999, Incubația la păsările domestice, Ed. Ion Ionescu de la Brad, Iași.
18. Usturoi M.G., 2008, Creșterea păsărilor. Editura Ion Ionescu de la Brad, Iași
19. Usturoi M.G., P.C. Boișteanu P.C., I. Vacaru-Opriș, 1999, Indici de calitate pentru ouăle de prepeliță destinate incubației artificiale. Simpozion Științific de Zootehnie cu participare internațională, Iași 9-10 decembrie
20. Vacaru-Opriș I., 1993, Tehnologia creșterii păsărilor. Vol I și II. Lito, Universitatea Agronomică, Iași.
21. Vacaru-Opriș I., 2000, 2007, Tratat de Avicultură. Vol I. Editura Ceres, București.
22. Vacaru-Opriș, I., 2002, Tratat de Avicultură. Vol II. Editura Ceres, București.
23. Van I., 1999, Creșterea păsărilor în gospodăriile populației, Editura Corvin, Deva.
24. Vancea I., 1981, Rase de păsări domestice. Editura Ceres, București