

## **EVOLUTION OF EGG PRODUCTION AND LAYING EGG INTENSITY IN PIGEON POPULATION - THE KING BREED IN BIHOR COUNTY**

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### **Abstract**

*The research includes the partial results, regarding the numerical egg production and the laying intensity of some birds of the order Columbiformes, genus Columba, species Columba livia domesticus, from the territory of Bihor county. The study was carried out in five private farms in Oradea and in Bihor County, analyzing 100 specimens from the pigeon population, respectively 50 males and 50 females. The following parameters were studied numerical egg production and egg laying curve.*

**Key words:** eggs yield, laying intensity, King pigeons, fertility

### **INTRODUCTION**

Fanciers in Bihor county have in their households more or less rich effectives of specialized breeds for flight and play but also in ornament. In the study, the King breed was chosen because it is quite poorly represented in the North West of the country. There are 16 known varieties of color, of which the most common in our country are blue, gray, brown and white. Most of the producers in the studied farms presented the gray and white varieties.

### **MATERIALS AND METHODS**

Is well known the seasonal character of egg production in the species Columba livia, the pairs laying eggs from spring to latest August, in 5-6 laying series, interrupted by hatching periods and the growth of freshly hatched chicks.

The data collected were obtained from private breeders, namely: in hatchery C1, 20 heads (10 males and 10 females), hatchery C2, 26 heads (13 males and 13 females), hatchery C3, 18 heads (9 males and 9 females), hatchery C4, 24 heads (12 males and 12 females) and the C5 hatchery, 12 heads (6 males and 6 females). Birds of both sexes, of different ages, were used as biological material (hatching, in the juvenile period, when reaching sexual maturity, in the active period of reproduction).

The following work equipment and materials were used: digital technical and analytical balances, calipers, Petri dishes and flat glass plates, small capacity incubators (50-200 eggs / series), portable ovoscope, camera, computer equipped with software table calculation, depending on the experimental method approached.

The obtained results were compared with the reference values from the literature (Sauveur B., 1988; Usturoi M.G., 1999; Vacaru-Opriş I. et al., 2002).

The experimentally obtained data were centralized and statistically processed.

## RESULTS AND DISCUSSION

Although incubation was performed naturally, some statistical calculations common to the embryonic development process were performed, which included the number of hatched chicks and the hatching percentage (Table 1).

The eggs from which no chicks hatched were analyzed and those found unfertilized (clear) were used to calculate the percentage of fertility in the studied populations.

Table 1

Incubation process analysis in the King pigeons breed					
Laying eggs period	Analyzed population	Eggs introduced (buc.)	Hatched squabs (cap.)	Hatching (%)	Fertility (%)
Layings 1-2	C1	20	13	63,7	85,3
	C2	20	12	58,8	80,4
	C3	14	9	66,2	85,3
	C4	19	12	64,2	84,7
	C5	9	5	58,8	80,2
	Total of hatcheries	82	51	62,5	83,2
Laying 3	C1	15	10	65,4	86,9
	C2	19	12	64,2	84,0
	C3	13	8	62,7	84,3
	C4	16	10	61,9	82,8
	C5	7	4	57,1	80,6
	Total of hatcheries	70	44	62,9	83,6
Laying 4	C1	13	8	62,7	84,3
	C2	17	11	64,7	82,4
	C3	12	8	67,2	91,6
	C4	14	9	64,3	86,2
	C5	6	4	66,7	88,4
	Total of hatcheries	62	40	64,9	86,6
Laying 5	C1	9	6	70,6	76,5
	C2	12	7	58,8	83,2
	C3	9	6	70,6	88,2
	C4	10	6	60,0	84,4
	C5	4	2	50,0	74,6
	Total of hatcheries	43	27	62,9	81,4
Total:		256	162	63,3	83,7

The best fertility was obtained in eggs from the C3 population and, throughout the breeding season, however, existing variations between successive layings. On average, on the 5 studied populations, were registered fertility values in the range of 81.4-86.6% (fig.1).

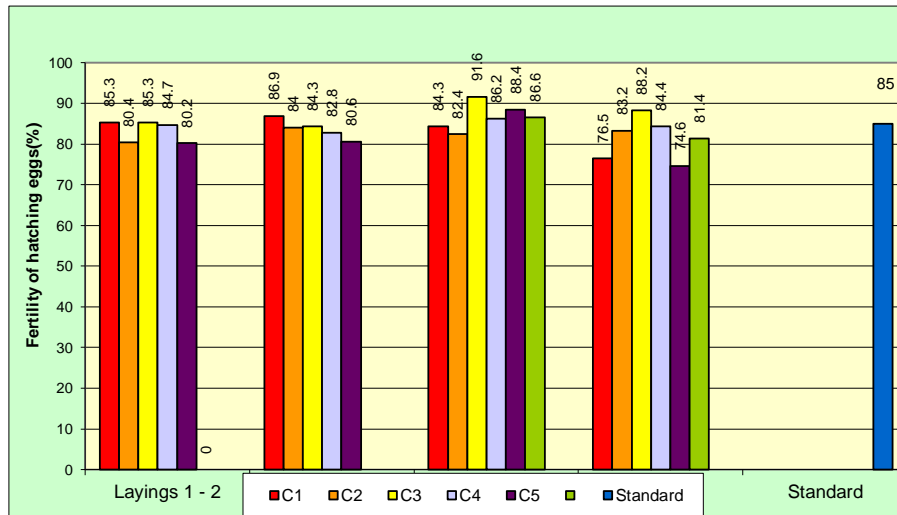


Fig.1. Fertility of the incubation eggs issued from King pigeons populations

The hatching percentage also presented acceptable values, but located in a larger range of variation, compared to the moment of appreciation of this character (50.0% -70.6) (fig.2)

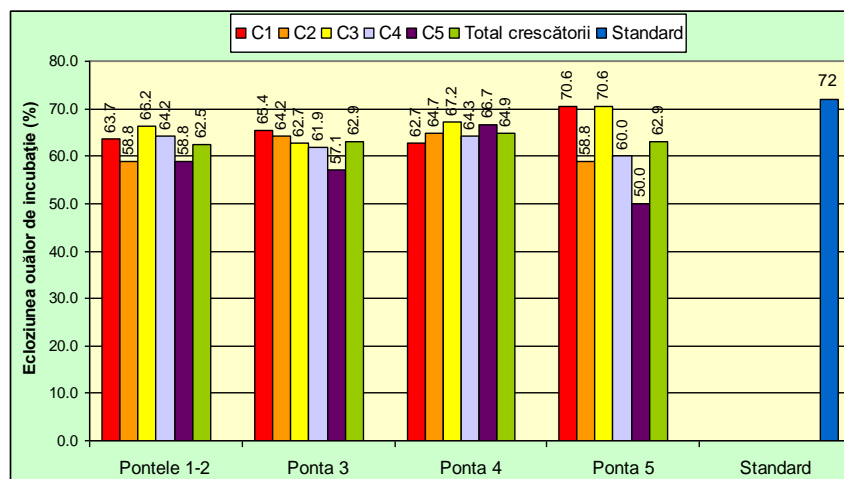


Fig.2. Hatching proportion of the incubation eggs issued from King pigeons populations

## CONCLUSIONS

The specimens of King pigeons, existing in private farms in Bihor County of both sexes achieved average performances below the theoretical potential of the population of origin.

Due to the seasonal specificity of reproduction in pigeons, the average number of eggs obtained / adult pigeon was 6.5, between March and July.

Since the incubation was performed by natural hatching, the only parameters appreciated were fertility and hatching, namely fertility: between 81.4% and 86.6%, and hatching being between 62.5% and 64.9% (Dodu M.2010 ).

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