

MORPHOPRODUCTIVE PERFORMANCE STUDIES ON THE POPULATION OF PIGEONS – KING RACE IN BIHOR AREA

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Abstract

In this paper are presented partial results on the characterization and identification of birds from the order Columbiformes, Columba livia domesticus species from Bihor county. The researches conducted were realized in five private farms both on Oradea and Bihor county, being analyzed a total of 100 specimens from King breed, respectively 50 males and 50 females. Parameters studied refers to the analysis of the incubation process, namely: % clear eggs and % fertility, % eggs with dead embryos at each biological control performed and accumulated; % of hatching, dead chicks weight and their classification on quality classes. Fertility obtained throughout the reproduction process was ranged between 81.4 - 86.6%, considered to be good, compared to the breed average standard (85%).

Key words: Morphological indexes, eggs, laying intensity.

INTRODUCTION

Pigeon fanciers have followers on any meridian; there is no exception for the North-West side of the country. Most pigeons fanciers in Bihor county have in their farms more or less rich effectives (no. head individuals breeding adult) flying and sporting specialized breeds but also fancy pigeons.

In this paper was chosen King breed because it is quite poorly represented in the Northwest side of the country and morphoproductive performances are not as well-known as at other races.

MATERIALS AND METHODS

In this paper were performed researches on populations of pigeons, King breed (*Columba livia domesticus*) in private farms in Oradea and the Bihor county. Farms were named C1, C2, C3, C4 and C5 as follows: in farm C1, 20 heads (10 males and 10 females), farm C2, 26 heads (13 males and 13 females), farm C3, 18 heads (9 males and 9 females), farm C4, 24 heads (12 males and 12 females) and farm C5, 12 heads (6 males and 6 females).

Most fanciers of the studied farms presented gray and white varieties.

It was used in the experiments biological material represented by birds of both sexes at different ages (hatching, juvenile period, to the achievement of sexual maturity, during active reproduction period). Also as

biological material has been used also hatching eggs of the studied species, at different laying cycle (onset, peak, plateau, end).

There were used the following materials and working devices: digital technical and analytical balances, calipers, Petri plates and flat plates of glass, small incubators, (50-200 eggs / number), portable candling lamp, camera, computer equipped spreadsheet software, depending on the experimental method addressed.

To ensure a better appreciation of the quality of hatching eggs were calculated two synthetic indices that give relevant information about the internal and morphology quality of breeding eggs, respectively: index format of egg and Haugh index.

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

So experimental data obtained were centralized and statistically processed.

RESULTS AND DISCUSSION

Although the incubation was performed in a natural way, there were some common statistical calculations for embryonic development process; involving the number of chicks hatched and the hatching percentage (see Table 1). Also eggs that do not hatch chicks were examined and those found unfertilized (clear) were used to calculate the percentage of fertility in the studied populations.

The most improved fertility was obtained at eggs derived from C3 population and, throughout the breeding season, there were also variations between successive spawns (Figure.1).

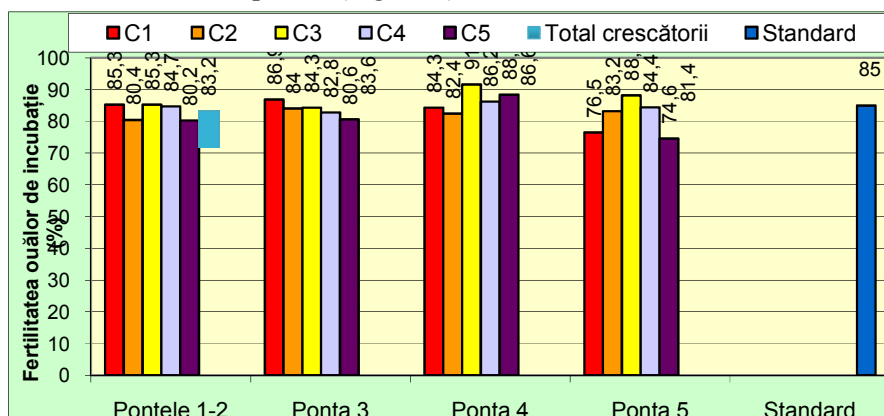


Fig. 1. - Fertility of the incubation eggs issued from King Pigeons populations

On average, on the 5 populations studied, there were fertility values within the range of 81.4 - 86.6%, considered to be good, compared to the average of the standard race (85%).

Regarding the percentage of hatching has presented acceptable values, but located within a larger variation interval, reported to the moment of assessment of this character (50.0% -70.6 Ponta 5). The values obtained were lower than the standard race (72%) (Fig. 2)

Table 1.

Incubation process analysis in the King pigeons breed

Period lay	Population analyzed	Eggs introduced (no.)	Chicks hatched (no.)	Hatching (%)	Fertility(%)
Spawns 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 farms	82	51	62,5	83,2
Laying chicks 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 farms	70	44	62,9	83,6
Laying chicks 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 farms	62	40	64,9	86,6
Laying chicks 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 farms	43	27	62,9	81,4
Total:		256	162	63,3	83,7

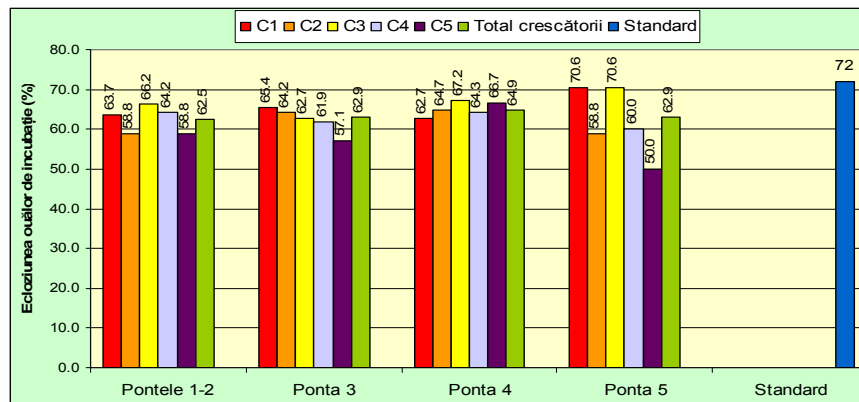


Fig. 2. – Hatching proportion of the incubation eggs issued from King Pigeons populations

CONCLUSIONS

King pigeon breed specimens of both sexes have achieved average performance situated below the theoretical potential of the origin population. Since the incubation was achieved by natural hatching, the only parameters appreciated were fertility and hatching. Thus, the fertility of the eggs placed in incubation was between 81.4 and 86.6%, while the percentage of hatching reached values of 62.5 and 64.9%.

In the future it is desired the replacement of King-bred effectives, the variety of the exhibition with the variety King Utility or Autosexabil that is wonderfully suitable for meat production. (Dodu, 2010).

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