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THE ASSESSMENT OF INCUBATION PROCESS IN THE GEESE POPULATION, (*White Rhine Dutch geese)* REARED IN BIHOR CUNTRY

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Abstract

This paper presents partial results regarding the identifying and characterizing of certain domestic poultry populations, belonging to Anseriformes species, Anser anser domestic species, white Rhine Dutch breed, from the Bihor county area. The experimental results and the case studies have been run in 3 farms of pure breed. There were analyzed 22 male and 88 female and were also studied the following incubation process parameters: infertile eggs% and % eggs fertility; % eggs with dead embryos after each biological control exercised and cumulated; % of hatchability; % hatching percentage; weight of the new hatched chicks and their classifying on quality classes. Populations belonging to the white Rhine Dutch breed, which are studied in Bihor county, were characterized by an egg fertility of 85.4% and hatching rate reached 69.9%.

Key words: White Duthch of Rhine geese, fertility of the incubation eggs, embryos

INTRODUCTION

In 1982, Romania imported birds that belong to populations of White Dutch Rhine breed, which were used to cross with Landaise breed in order to obtain hybrids of meat producers. These populations have spread in the west part of the country, starting with the poultry platform from Arad.

Although this species is characterized by a strong seasonality in egg production, people prefer this kind of species for other valuable productions, namely meat, down and fatty liver, consequently, suited for achieving the very best of traditional products, especially in the west part of the country.

MATERIALS AND METHODS

The experimental results and the case studies have been run in 3 farms of pure breed fowl, situated in the Bihor county area, conventionally assigned with: C1, C2 and C3 notations. The total number of individuals studied was 22 males and 88 females as follows: farm C1: 35 pieces (7 males and 28 females); farm C2: 28 pieces (6 males and 26 females); farm C3: 45 pieces (9 males and 36 females).

The material used in the experiment consisted in birds of both sexes and of different ages (hatching in the juvenile period, reaching sexual maturity, the active period of reproduction), hatching eggs of the studied species, in different periods of the laying cycle (onset, peak, plateau, end).

After introducing the eggs in the incubator, two mirages were accomplished, at different times (first mirage in 8 days and second mirage in 28 days).

The infertile eggs have been highlighted in the first mirage, and those with dead embryos have been identified and removed in both biological controls of incubation.

Finally the new hatched products were classified on quality classes. The collected data is extracted from the records of poultry farms, regarding the studied characters and who showed measurable and quantifiable properties, have been statistically accumulated and processed.

RESULTS AND DISCUSSION

Information regarding the hatching performances, in all four key moments of the laying cycle, is represented in Table 1.

Table 1

Incubation process analyses in White Rhine Dutch geese populations

Laying moment	Farm	Fertility (%)	Embryos dead the mirage I		Embryos dead the mirage II		Chicks hatched (cap.)	Eclozabilitatea (%)	Hatching (%)
			Buc.	%	Buc.	%			
Onset (33-34 wks)	C1	83,4	6	10,0	4	6,6	48	80,1	66,8
	C2	85,7	4	8,2	4	8,2	40	81,0	69,4
	C3	84,8	8	10,1	5	6,3	64	80,6	68,3
	Total farm	84,6	18	9,6	13	6,9	152	80,5	68,1
Peak (37-38 wks)	C1	85,8	19	9,7	10	5,1	163	82,8	71,0
	C2	86,3	16	10,0	8	5,0	132	82,6	71,3
	C3	85,5	21	8,5	15	6,1	205	83,0	70,9
	Total farm	85,8	56	9,3	33	5,5	500	82,9	71,1
Plateau (42-43 wks)	C1	85,3	10	8,7	7	6,1	96	82,7	70,6
	C2	85,9	12	11,3	4	3,8	87	82,4	70,8
	C3	85,7	13	9,8	7	5,3	110	82,5	70,7
	Total farm	85,6	35	9,9	18	5,1	293	82,5	70,6
Ceasing (48-49 wks)	C1	84,7	6	10,2	3	5,1	48	82,0	69,5
	C2	84,8	5	10,9	2	4,3	38	82,1	69,6
	C3	83,8	6	9,7	3	4,8	51	82,7	69,3
	Total farm	84,4	17	10,2	8	4,8	137	82,3	69,4
Total:		85,4	126	9,6	72	22	1082	82,4	70,3

On average, in all the 3 studied populations, there were registered values of fertility, around 85%, recommended by the literature in the field. The best fertility was obtained by the eggs from C2 population, throughout the entire breeding season, but with maximum variations (peak of laying) and minimum variations (end of the submission of laying). The interbreeding had high values, mainly due to good fertility of eggs placed in incubation, that ranged between 82.9% (peak of laying) and 80.5% (end of lay). The percentage of hatching showed acceptable values, when assessing the data reported (71.1% in the peak of laying, and 68.1% at the beginning of the laying of eggs).

The incubation process analysis has been completed with the classifying of one day old chicks on quality classes, the results being presented in Table 2.

Table 2

White Rhine Dutch day old geeslings weight and their classifying on quality classes

Farm	Buds hatching. (Head.)	Buds first Clas			Buds II-nd group			Buds III-nd group		
		Cap.	Weight average (g)	%	Cap.	Weight average (g)	%	Cap.	Weight average (g)	%
C1	355	343	161,4	96,7	11	143,1	3,1	1	<140 g	0,2
C2	297	285	160,1	95,9	10	142,5	3,4	2	<140 g	0,8
C3	430	415	158,6	96,6	14	141,2	3,3	1	<140 g	0,2
Total farm	1082	1043	-	96,4	35	-	3,2	4	-	0,4

Out of 920 new hatched chicks, in the I-st group there were 96.4% chicks, in the II-nd group 2.5% and the chicks from the III-rd group, who were removed from the flock, being found only in a proportion of 1, 1%.

CONCLUSIONS

Populations belonging to white Dutch Rhine breed, which is operating in Bihor county, was characterized by a fertility of eggs placed in incubation , of 85.4%, while the hatching rate reached 69.9%;

Breeding perspectives of flocks of geese, in this area of the country are optimistic, having in the western part of Romania, the tradition for consumption of meat and liver specialty.

One of the main objectives is hatching, at the widest scale, the families of breeders corresponding to the standard of breed, in the anser species existing in Bihor county, in order to improve the existing performances and reduce the degree of hatching (Dodu, 2010).

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