

## EVALUATION OF THE EGYPTIAN LOCAL STRAINS OF CHICKENS.

By

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Received: 18/11/2008

**ABSTRACT:** *The present study aimed to evaluate some local chicken breeds in Egypt. The results indicated that the averages of fertility %, hatchability %, body weight at 4 and 8 weeks of age for males, females and combined sexes as well as age at sexual maturity, egg number and egg mass during the first 90 days of laying for these breeds were: 90.16%, 77.68%, 229.5 g, 202.9, 225.5 g, 602.9 g, 528.7 g, 582.5 g, 1628.2 g, 170.8 days, 45.5 eggs and 1459 g.*

### INTRODUCTION

As early as 1950 many attempts were made to produce Egyptian local strains of chicks. All of them used a cross breeding between a native strain and foreign strain, followed by selection for different traits on some crosses. In 1958 cross mating was done between Fayoumi xB.RxR.I.R.x.W.L. to produce the Alexandria strain (Kosba, 1966). In 1966 cross breeding was made between Fayoumi xB.R to give Doki- 4 strain (El- Itriby and Sayed 1966)In 1974 Daki- 4 x R.I.R. was crossed to produce Golden Montazah (Mahmoud, *et. al.*, 1974b). In the same year (1974) and from the same crosses selection was carried out to give Silver Montazah (Mahmoud, *et. al.*, 1974c). Doki - 4 xW.L. was crossed to produce Matrouh strain (Mahmoud, *et. al.*, 1974a). Dakki- 4 x B.R was cross mated to give Gammizah strain (Mahmoud, *et. al.*, 1982). In 1983 Abd- El-Gawad *et. al.*, (1979) made a crossing between Alex. x Dokki- 4to give Mamourah strain. Also Mandarah strain was produced from a crossing between Alex X Dokki- 4 (Abd- El- Gawad *et. al.*, 1981). In 1982 crossing was done between Gamazah x Cormish to produce Bandara strain (Mahmoud, *et. al.*, 1982b) At 1983 (Abd- El- Gawad *et. al.*, (1983) made a crossing between Michols x Mamourah to produce El- Salam strain. Abdou and Kolstad, (1984) crossed Fayoumi x Baladi x W.L. to produce Norfa strain.

Bahig strain was produced from a crossing between Alex. X Silver montazah (Mahmoud, *et. al.*, 1989).

The aim of this study was to evaluate some of the local new strains of Egyptian chickens for the reproductive and productive traits to produce a meat and egg layer strains.

## MATERIAL AND METHODS

The present study was carried out in 2005 in the poultry production department, Faculty of Agriculture, Alexandria University.

Records were used to obtain the averages of some researchers on the Egyptian local strains of chickens on the following traits: Fertility and hatchability percentages, body weight at 4 and 8 weeks age for males, females and combined sexes, as well as at age at sexual maturity. Age at sexual Maturity, egg number and egg mass during the first 90 days of laying.

## RESULT AND DISCUSSION

Table (2) shows the averages of 14 local strains for the 12 traits as well as the number of researchers, which gave these averages. From this table the best 3 strains in each trait were reported in Table 3.

From Table 3 represents the following:

**A:** To improve fertility and Hatchability percent in our local strains crossing will be done between the following strains:

**Dan. , Mat., G.M. , Mam. , Man., and Dokk\_4**

In all possible combinations to give a "strain No 1 with higher average on these two traits.

**B:** Also, to improve body weight at 21 days or other ages in our local strains crossing will be done between the following strains:

**E.S, Mat. Bah and Man**

In all possible combinations to give a strain No2 with higher body weights.

**C:** To improve the reproduction traits (Age at sexual maturity, egg number and egg mass during the first 90 days of laying) crossing will be done between the following strains.

**Nov., G.M., Bah. S.M, Man. Alex and G.**

In all possible combinations to give a strain No 3 with higher averages on egg production traits.

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Now we have three new local strains each of them superior in definite traits. It is grandparents of a new local strain for meat and egg production on the commercial basis.

Selection must be continued for these traits on the grandparents for some years in the future. Crossing between strain (1) x strain (2) to give a meat strain and between strain (1) x strain (3) to give a layer strain.

**Table (1):** List of The abbreviation of strains

<b>Population</b>	<b>Abbreviation</b>
Alexandria	Alex.
Bahig	Bah.
Bandarah	Ban.
Dandarawy	Dan.
Dokki-4	D-4
El-Salam	E.S.
Fayoumi	Fay.
Gimmizah	G.
Golden Montazah	G.M.
Mandarah	Man.
Matrouh	Mat.
Mamourah	Mam.
Norfa	Nor.
Silver Montazah	S.M.

Table (2): The averages of some reproductive and productive traits in the Egyptian local strains of chickens.

Traits	Alex.		Bah.		Ban.		Dan.		D-4		E.S.		Fay.		
	N.	X̄	N.	X̄	N.	X̄	N.	X̄	N.	X̄	N.	X̄	N.	X̄	
Fertility percentage (%)	10	88.17	-	-	2	89.65	3	93.87	2	91.5	4	88.1	12	89.7	
Hatchability percentage (%)	10	76.82	-	-	2	79.45	3	67.3	3	84.1	2	79.2	8	79.2	
Body weight at 4 weeks (g.)	M.	4	196.7	-	-	1	287.6	1	189.3	-	-	-	-	-	
	F.	4	179.7	-	-	1	263.6	1	165.5	-	-	-	-	-	
	Comb.	6	192.9	1	305	1	208.7	4	161	3	185.7	2	317.6	3	208
Body weight at 8 weeks (g.)	M.	8	515	1	593	-	-	-	-	1	765	2	834.7	1	306.7
	F.	8	439.7	1	536	-	-	-	-	1	662	2	738.6	1	267.4
	Comb.	4	451.8	1	800	2	531.2	5	423.4	4	472.3	1	904	4	494.5
Body weight at s.m.(g.)	16	1516	2	1884	1	1181	2	1095	5	1483	2	2526	10	1130	
Age at sexual maturity (d.)	15	171.8	1	162	2	170.7	7	170.3	5	166.6	3	179.7	18	178.2	
Egg number	15	47.4	-	-	-	-	2	45.3	-	-	1	48.8	8	41.1	
Egg mass (g.)	9	1987	-	-	-	-	-	-	-	-	-	-	1	627	

Traits	G.		G.M.		Mam.		Man.		Mat		Nor.		S.M.		
	N.	X̄	N.	X̄	N.	X̄	N.	X̄	N.	X̄	N.	X̄	N.	X̄	
Fertility percentage (%)	9	90.81	6	91.83	3	90.27	7	90.43	2	92.85	-	-	5	90.56	
Hatchability percentage (%)	9	82.3	8	78.6	1	84.7	6	84.5	4	77.3	-	-	5	82.2	
Body weight at 4 weeks (g.)	M.	3	303.6	1	262.4	-	-	2	286.4	2	151.4	1	146.5	2	278.1
	F.	3	263.9	1	230.8	-	-	2	256.5	2	137.9	1	131.6	2	251.2
	Comb.	4	250	4	262.9	1	277.8	3	261.2	2	331.8	1	145	3	287.5
Body weight at 8 weeks (g.)	M.	4	702.1	1	812.6	1	868.4	3	734.3	2	450.4	1	419.3	2	728.9
	F.	4	569.3	1	695.2	1	686.8	3	606.9	2	345.3	1	354.8	2	592
	Comb.	4	598.2	4	643.2	-	-	4	711.7	1	655	2	361.2	3	657.3
Body weight at s.m.(g.)	7	1627	5	1492	3	1751	11	1614	4	1336	5	1219	6	1578	
Age at sexual maturity (d.)	9	170.9	7	162.8	5	174.2	12	167.7	5	165.7	6	161.2	8	166.9	
Egg number	5	46.4	4	44.6	-	-	5	52.9	3	46.3	8	50.6	4	60.7	
Egg mass (g.)	2	1762	-	-	-	-	1	1460	-	-	-	-	-	-	

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**Table (3):** The best local strains in the reproduction and production traits.

Fertility percentage (%)	Dan.		Mat.		G.M.	
	N.*	X	N.	X	N.	X
	3	93.87	2	92.85	6	91.83
Hatchability percentage (%)	Mam.		Man.		D-4	
	N.	X	N.	X	N.	X
	1	84.7	6	84.5	3	84.1
Body weight at 4 weeks (g.) (Male)	G.		Ban.		Man.	
	N.	X	N.	X	N.	X
	3	303.6	1	287.6	2	286.4
Body weight at 4 weeks (g.) (Female)	G.		Ban.		Man.	
	N.	X	N.	X	N.	X
	3	263.9	1	263.6	2	256.5
Body weight at 4 weeks (g.) (Comb)	E.S.		Mat.		Bah.	
	N.	X	N.	X	N.	X
	2	317.6	2	331.8	1	305
Body weight at 8 weeks (g.) (Male)	Mam.		E.S.		G.M.	
	N.	X	N.	X	N.	X
	1	868.4	2	834.7	1	812.6
Body weight at 8 weeks (g.) (Female)	E.S.		G.M.		Mam.	
	N.	X	N.	X	N.	X
	2	738.6	1	659.2	1	686.8
Body weight at 8 weeks (g.) (Comb)	E.S.		Bah.		Man.	
	N.	X	N.	X	N.	X
	1	904	1	800	4	711.7
Body weight at S.M. (g.)	E.S.		Bah.		Mam.	
	N.	X	N.	X	N.	X
	2	2526.5	2	1884	3	1751
Age at sexual maturity (d.)	Nor.		G.M.		Bah.	
	N.	X	N.	X	N.	X
	6	161.2	7	162.8	1	162
Egg number 90 days.	S.M.		Man.		Nor.	
	N.	X	N.	X	N.	X
	4	60.7	5	52.9	8	50.6
Egg mass 90 days. (g.)	Alex.		G.		Man.	
	N.	X	N.	X	N.	X
	9	1987.2	2	1762.4	1	1460.5

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### المخلص العربي

#### تقييم سلالات الدواجن المحلية المصرية

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تهدف هذه الدراسة الى تقييم بعض سلالات الدواجن المحلية المصرية اوضحت النتائج ان متوسط % للخصوبه ٩٠,١٦%، ومتوسط % للفقس ٧٧,٦٨% وزن الجسم للذكور عند عمر ٤ اسابيع ٢٢٩,٥ جم وللاناث ٢٠٢,٩ جم ووزن الجسم للذكور عند عمر ٨ اسابيع ٦٠٢,٩ جم وللاناث ٥٢٨,٧ جم ومتوسط وزن الجسم عند عمر النضج الجنسي وكمتوسط عام للذكور والاناث ١٦٢٨,٢ ومتوسط العمر عند النضج الجنسي ١٧٠,٨ يوم ومتوسط عدد البيض خلال ال ٩٠ يوم الاولى من بداية انتاج البيض ٤٥,٥ بيضه متوسط كتلة البيض خلال نفس الفترة ١٤٥٩ جم .