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Strains of chickens developed in Egypt during the 1970s

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Although poultry production in Egypt includes chickens, geese and ducks, this paper concerns only chickens since they represent more than 95% of such production. There are four traditional strains: Baladi, Fayoumi, Dandarawi and Sinai. The last two strains are found in specific regions in Egypt. Amer (1956) was the first to state that there were no significant differences between Baladi and Fayoumi with respect to productive and reproductive characteristics. They can be also crossed with standard imported breeds and can withstand unfavourable conditions such as poor nutrition and epidemic diseases. But they are small in size, lay fewer and smaller eggs. They are not unique in their color, except for the Fayoumi strain. Dandarawi and Sinai chickens are reared in small numbers and in only a few regions.

Amer (1956) showed that improving egg and meat quality and quantity in Egyptian strains could be attained through one or more of the following three ways:

- 1) selection among native strains (which would take a long time to reach the goal);
- 2) crossing and hybridization among local strains and imported standard breeds;
- 3) importation of standard breeds (which would require considerable hard currency).

Efforts were thus carried out to create new strains of chickens by crossing native strains with standard breeds for several generations accompanied by selection. In this way, the following strains were developed:

- 1) Dokki 4 by mating Fayoumi with Barred Plymouth Rock (Figure 1);
- 2) Alexandria by mating White Leghorn, Barred Plymouth Rock and Rhode Island Red with Fayoumi;
- 3) Golden and Silver Montazah by mating Dokky 4 with Rhode Island Red (Figure 2);
- 4) Matrouh by crossing Dokki 4 with Single White Leghorn (Figure 3);
- 5) Mandarah by crossing Dokki 4 with Alexandria (Figure 4).

The results of a comparative study of these new strains are summarized in Table 1.

10

STRAINS	Fayoumi	Dokki 4	Golden Montazah	Silver Montazah	Mandarah	Matrouh
Annual production (eggs)	160.0	167.4	199.0	205.8	180.0	192.3
Weight 1st egg (g)	38.0	44.2	47.6	47.6	47.6	48.0
Egg weight (mature hen) (g)	40.5	49.8	54.5	53.7	50.4	56.8
Body weight (g) at hatching at sexual maturity Age at sexual maturity in days	31.0 1438.0 188.4	32.3 1490.5 190.0	35.4 1600.0 163.8	35.2 1720.0 163.0	34.5 1710.0 181.0	36.4 1460.0 167.0

Table 1: Summary of some characters studied for various native strains

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Figure 1: DOKKI 4 (an autosexed breed)

- 1 Barring in sex-linked in Barred Plymouth Rock, dilutes pigments.
- 2 Gene e+ restricts color, diminishes black and causes appearance of barring.
- 3 Alleles of e + are : E (black) and e (causes Columbian pattern).

FIRST GENERATION:	Fayoumi e+e+bb	X <u>Barred Plymouth Rock</u> ♀ E E B -		
Offspring:	Ee+Bb ● Dark down, Barred+	E e + b - Dark down, non Barred		
SECOND GENERATION:	Dark down, Barred 🎻 E e + B b	X Fayoumi Q e+e+b-		
Offspring:		₩		
	E e + B b E e + b b • e + e + B b e + e + b b E e + B - E e + b - • e + e + B - e + e + b -	Barred black down males Non barred black down Barred brown down males Non Barred brown down Barred black down females Non barred black down Barred brown down females Non barred brown down		
THIRD GENERATION:	Barred brown down e+ e+ B b	X Barred brown down 2 e ⁺ e ⁺ B ⁻		
Offspring:	e+ e+ B B, e+ e+	+ B b, e + e + B -, e + e + b -		
FOURTH GENERATION:	A test cross was made to distint those having WHITE SPOT on	inguish and detect pure Barring which are head, then,		
	e+ e+ B B	X e+ e+ B-		
Offspring:		+		
(DOKKI 4)	e ⁺ e ⁺ B B In addition CC ii	and e ⁺ e ⁺ B -		

A. El Itriby and I. B. Sayed, 1966.

FIRST GENERATION:	Rhode Island Red 7	X Dokki 4 2 * e e B - S -
Offspring:	· · · · · · · · · · · · · · · · · · ·	
	e e+ B b Ss	ee+b-S-
	Black + spot on head	Black down, No Spot
SECOND GENERATION:	Black of with spot e e + Bb Ss	X Fayoumi 2 e ⁺ eb - S -
Offspring:	J	
	Red + Spot	ee Bb ss
	White + Spot	ee Bb Ss AALES
	No Spot	$ \left\{ \begin{array}{c} e^+ \ e \ bb \ ss \\ e^+ \ e \ bb \ Ss \end{array} \right\}^{\text{rmax}} $
	Spot	$ \left\{ \begin{array}{l} \underline{ee \ B - S} \\ ee \ B - S \\ e^+ \ e \ B - S \\ e^+ \ e \ B - S \\ e^+ \ e \ B - S \end{array} \right\} FEMALES $
	No Spot	{ e ⁺ e B - S - { e ⁺ e B - s -
THIRD GENERATION:	Red down + spot of ee Bb ss	X Red down + Spot ♀ ee B - s -
Offspring:		
	<u>ee BB ss</u> , <u>ee Bb ss</u>	, ee B - s - , <u>ee b - s -</u>
FOURTH GENERATION:	A test cross was made to detect ones.	homozygous males froms heterozygous
FIFTH GENERATION:	Red Barred o ⁴ ee Bb ss	X Red Barred 9 ee B - s -
Offspring:		

Figure 2: GOLDEN MONTAZAH (an autosexed breed)

12

All day-old chicks are golden and autosexed. At older ages, they are golden and white barred with the Columbian Pattern.

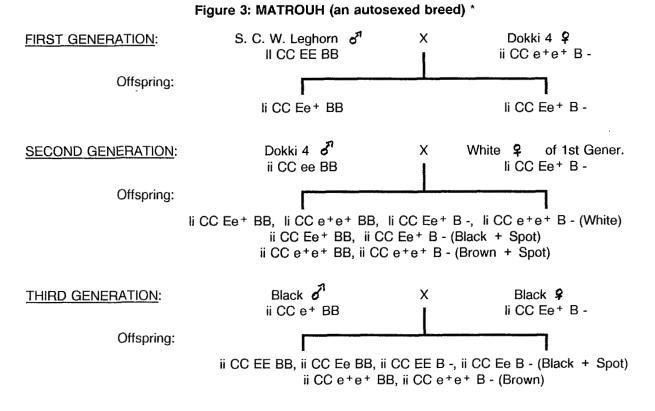
<u>ee B - s -</u>

ee BB ss

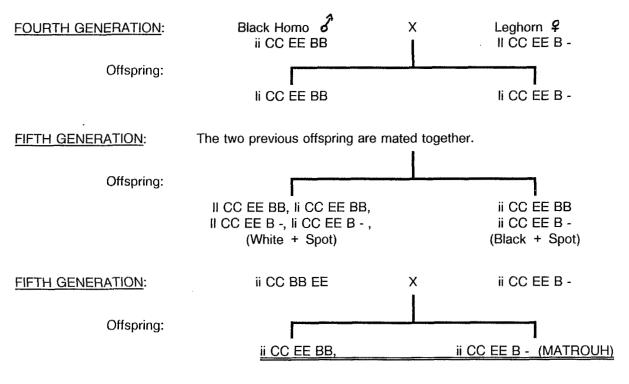
* Formerly, Fayoumi 🕏 was used.

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13



Both sexes are either Homo or Hetero for E for giving Black. So, males were mated to Dokki 4 hens, while females were mated with Dikki 4 Cocks.



* Mahmoud et al., 1973.

14

Figure 4: MANDARAH, A new breed of chickens*

	PARENTS					
GENERATION		Sires	Dams			
	Plumage color	Genotype	Plumage color	Genotype		
1st generation	White silver	li ss Bb CC ee	Barred white	iiS-BCC e⁺e⁺		
2nd generation	Barret	ii Ss BB CC o⁺o⁺	Red spots	II s- B- ig CC e⁺e		
3rd generation	Buff	II SS BB ig CC ee+	Buff	ll s-B-igig CC e⁺e		
4th generation	Buff light	II ss BB igig CC ee+	Buff	II s- B- igig CC ee +		

Summary of the selected parents of the first cross and subsequent generations

* It is well known that buff depends on the dose of chromogen gene (with the extension of gene black e in the presence of ss or s -, gold, and the gene igig which dilutes gold) (Hutt, 1948; Jull, 1952).

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