

LINE MOSHTOHOR (Egypt)



Moshtohor line. Male, Yellow-brown



Moshtohor line. Female, Yellow-brown



Moshtohor line. Male, White



Moshtohor line. Female, White



Moshtohor line. Male, Gray



Moshtohor line. Female, Gray

Line Moshtohor (Egypt)

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Summary: A description of the main features of the line Moshtohor (**M**) is carried out. This line is an Egyptian synthetic line coming from a first cross between the Egyptian Sinai Gabali (50%) and the V-Line (50%), followed by three consecutive generations of “inter se” mating.

Key words: Line **M** rabbits, heat stress, maternal line, performance.

1. Breed name

(i) *Breed name synonyms:* line M

(ii) *Strains within breed:* none

2. General description

2.1. Population data

2.1.1. Population size and census data

Total number of females being used in purebreeding: 170

Total number of females being used in crossbreeding: 200

Percent of females being used pure 45.9 %.

2.1.2. Herd sizes

Adult animals: 90

Young animals: 250

2.1.3. Origin of the breed

Line M was founded in 2006 (Iraqi *et al.*, 2008 and Youssef *et al.*, 2008) as a synthetic line between the Egyptian Sinai Gabali (50%, Afifi, 2002) and the V-Line (50%, Estany *et al.*, 1989). The procedure of foundation began mating V line does to Sinai Gabali bucks and it was followed by three generations of “inter se” mating. Afterwards the line has been selected to increase litter weight at weaning and individual weight at 56 d. The method of evaluating the animals was a BLUP under a repeatability animal model. Now, the generation four has been reached and the line was kept closed since its foundation.

2.1.4. Situation with regard to danger of extinction

There is no danger, despite the great number of males and females of the line being mated to produce crossbred does.

2.1.5. Conservation program: No

2.2. Use of the breed in a descending order of product importance.

This line is a specialized maternal line used to be crossed with another strain to produce crossbred does of interest in meat production.

2.3. Colour

Mostly yellowish-brown (56%), White (34%) and Gray (10%).

2.4. General type

2.4.1. Body parts

Middle size breed, broad and cylindrical body, well developed trunk, imperceptible neck, low shoulders and raised rump, dewlap possible.

Table 1. Body measurement (cm) at marketing age (9-12 weeks)

Trait	Mean	Range
Body length	42.7	39 - 46
Chest circumference	32.5	28 - 37
Loin width	14.6	11 - 18
Thigh circumference	15.5	10 - 23

2.4.2. *Head*: Diamond – shaped

2.4.3. *Eyes*: Black in yellowish-brown and red in white rabbits.

2.4.4. *Ears*: Erect

2.4.5. *Feet and legs*: Medium in length

2.4.6. *Tail*: Straight or curly

2.5. Basic temperament (for males and females): docile

2.6. Special characteristics of the breed:

This line is being selected in Moshtohor rabbitry farm, Faculty of Agriculture, Benha University, Egypt, for litter weight at weaning and body weight at 56 d. Culling against Pasteurellosis and foot disease is carried out.

2.7. Nest quality: Pooled

3. Pattern

3.1 Main features of farming

3.1.1 *Elevation and topography*: This line is raised in crossbreeding all around middle and east of the Delta of the Nile, Egypt.

3.1.2. *Favorable climate*: temperature and relative humidity ranged from 15 - 35°C and 30 - 70%, respectively.

3.2. Main features of farming

3.2.1. *Socio-management system*: Intensive

3.2.2. *Mating method*: Natural mating

3.1.3. *Nutrition*

(i) *Pelleted (ad libitum)*

(ii) *Water*: Freely available

(iii) *Seasonality of nutrition*: No seasonality

3.2.4. Housing

- (i) *Cages*: Wired cages, indoor rabbitry is the most common situation.
- (ii) *Photoperiod*: Natural

3.3. Common diseases and parasites: Pasteurellosis.

4. Performance

4.1. Reproduction (Tables 2, 3 and 4)

Table 2. Information of sexual maturity.

Trait	Mean	Range
Age of buck at first service (months)	4.5	4 - 5
Age of doe at first mating (months)	4.5	4 - 5
Age of doe at first kindling (months)	5.5	5 - 6
Weight of doe at first mating (g)	3114	2400 - 3660
Weight of buck at first mating (g)	2865	2640 - 3910

Table 3. Information of semen.

Trait	Mean	Range
Reaction time (sec)	6.4	3 - 10
Ejaculation volume (ml)	1.6	0.2 - 2
Sperm concentration per ml ($\times 10^6$)	420	375 - 465
pH	8.3	7 - 9
Live sperm (%)	82	67 - 92
Sperm motility ⁺	1.8	1 - 2.5
Sperm abnormalities (%)	5	2 - 13
Mass Motility ⁺⁺	3	2 - 4

⁺Score of sperm motility: 0= dead sperm, 1= mostly weak and oscillatory, 2= largely strong but without waves, 3= strong motility with slow waves, 4= less wave motion and 5= strong wave motion.

⁺⁺Score of forward motion: 1= lower than 20%, 2= ranged from 20-50%, 3= ranged from 50-70%, 4= ranged from 70-80% and 5= more than 80%.

Table 4. Maternal traits.

Trait	Mean	Range
Conception rate (%)	79	60 - 90
Kindling interval (days)	38.9	33 - 68
Litter size born alive	6.94	1 - 12
Litter size at weaning (28 d)	5.77	1 - 10
Litter weight born alive (g)	450	90 - 600
Litter weight at weaning (28 d)	1654	350 - 3150

4.2. Prenatal mortality per litter (Table 5):

Table 5. Prenatal mortality per litter.

Trait	Mean	Range
Total (%)	5	4 - 10
Abortion (%)	0.6	0 - 1
Stillbirth (%)	3.2	0 - 4

4.3. Milk yield and composition traits (Table 6):

Table 6. Milk yield traits.

Trait	Mean	Range
Total milk yield at 21d (g)	2400	613 - 3990
Total milk yield at 28 d (g)	3415	683 - 4865

The number of teats has a mean of 9 and ranges between 8 and 10.

4.4. Lifetime production per doe (Table 7):

Table 7. Lifetime production per doe.

Trait	Mean	Range
Number of litters per year	7.5	4 - 8
Doe longevity (year)	1.2	1.1 - 1.8

4.5 Post-weaning body weight and gains (Table 8):

Table 8: Post weaning growth traits of body weight and gain (g).

Trait	Mean (g)	Range
Weight at weaning (28 d)	589	210 - 1100
Weight at 8-week	1193	490 - 2245
Weight at 12-week	1729	815 - 2610
Daily gain during 4 - 8 weeks	22.4	9 - 74
Daily gain during 8 - 12 weeks	19.3	10 - 70

Source: Iraqi *et al.* (2008) and Youssef *et al.* (2008).

4.6 Carcass traits (Table 9):

Table 9. Carcass traits.

Trait	Mean	Range
Slaughter age (days)	84	70 - 91
Slaughter weight (g)	2290	1860 - 2600
Hot carcass weight (g)	1345	1015 - 1555
Carcass length (cm)	33.2	29 - 39
Dressing percentage (%)	58.9	54.6 - 63.1
Fur weight (g)	390.3	300 - 500
Empty gastrointestinal tract (g)	154	125 - 180
Liver weight (g)	84.6	57 - 143
Kidney weight (g)	15.3	11 - 21
Head weight (g)	134.5	100 - 161
Perirenal fat weight (g)	24	5 - 48
Scapular fat weight (g)	12.6	2.9 - 29.0

4.7. Heat stress of animals (Table 10):

Table 10: Measurements of animals' temperature+.

Body temperature (°C)	Mean	Range
Ear	31.9	28.0 - 35.3
Body surface	31.3	28.3 - 34.3
Rectum	31.2	28.3 - 33.8

+Ambient temperature and relative humidity (%) within the farm were 32.1 °C and 57.5%, respectively.

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