

**RABBIT MEAT SITUATION IN EGYPT**

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Efforts are devoted to intensively develop the rabbit industry and to increase the quantity of rabbit meat (0.3 kg per capita/annum, 2.9% of total meat consumption) in Egypt. The prevailing breeds for industrial rabbit meat production are the New Zealand White and the Californian, both in rural and urban areas.

**I. Research Work**

Several teams contribute to research-development programs with the aim of improving productivity and production of a semi-intensive system:

- A. "National Rabbit Research Project", Faculty of Agriculture, Zagazig University, Zagazig (sponsored by the Academy of Scientific Research and Technology)
- B. Research Institute of Animal and Poultry Production, Ministry of Agriculture, Agricultural Research Center, Dokki, Cairo.
- C. A project of scientific approach through "University Linkage" with partnership of American colleagues. "Rabbit Project", Faculty of Agriculture, Ain Shams University, Cairo.
- D. The "Small Farmer's Project", sponsored by AID, USA, and National Development Agricultural Bank for raising rabbits in rural areas.
- E. "The Rabbit Project", Faculty of Agriculture, Alexandria University, Alexandria, sponsored by Republic Development Organization, Cairo, Egypt.
- F. Small scale pilot and applied research projects are underway at the faculties of Agriculture of Cairo University, Mansoura University, Tanta University, Monofia University, Suez Canal University, El-Minia University and Assiout University.

**II. Industrial Meat Rabbit Production**

- A. A state large scale integrated project was implemented in cooperation with Hungary at San El-Hagar Investment Company for Agriculture and Food Security, Hussiniyah, Sharkia Governorate, Egypt. This is an essential project in Egypt, for the time being for industrial meat rabbit production, with a capacity of 10,000 does. Details about this project will be presented in this paper.

Project: Weanling broiler rabbit production, integrated project (10,000 doe rabbits)

Location: San El-Hagar Investment Company for Agriculture and Food Security, Hussiniyah, Sharkia Governorate, Egypt.

Financial support:

1. Hungarian governmental loan (4.3 million) for equipment from Hungary  
Rabbit houses (14 for parents and 24 for fattening weanling rabbits)  
Feed mill: for pelleted rabbit diets (6 tons/h),  
A slaughter house with frozen storage (90 ton capacity)  
A water purification and water supply station
2. Egyptian government currency for infra structure and civil work

Objectives of the project:

According to the general strategy of Egypt which aims to maximize or optimize the rate of self sufficiency from different agricultural resources in order to restrict imports, minimize inflation, create jobs, and develop desert and land reclamation areas, this project was established to realize the following goals:

1. To produce extra white meat of high protein, lower triglycerides and cholesterol and energy value.
2. Annual production aimed to be 400,000 head of 2-2.5 kg/head (live weight).
3. Marketing of rabbit meat as dressed whole carcass or part cuts well packaged to encourage consumer desire; possible export to some Arab or European countries.
4. Production of breeding lines, either purebreds or hybrids (35,000 head/year) as replacements for breeding does and bucks and for sale, to encourage breeding by youth in rural and urban areas.
5. The project will be the first one for raising and breeding grand-parent stocks (New Zealand White, Californian and Giant Bauscat) all over the country.
6. Production of dry or processed fur with a capacity of 300,000 pieces/year for sale either locally or for export.
7. Marketing by-products after processing such as slaughtering by-products for animal feeds and manure as organic fertilizer.
8. The integration of the project is important economically; it will create a new industry, providing new jobs, and a positive effect on social and environmental welfare.
9. Besides all the former advantages, rabbits have characteristics giving them the best potential to solve protein deficiency, such as:
  - a. Early sexual maturity (4-5 months)
  - b. High reproductive efficiency year-round under favorable climatic conditions
  - c. Short gestation period (1 month)
  - d. Short fattening period (less than two months from weaning)
  - e. Rapid growth rate and better feed conversion ratio (3:1 F/G)
  - f. Most of the ingredients of rabbit diets are available in the local market and are cheaper than those of poultry diets.
  - g. The rabbit is not a competitor for humans in consuming the grains in the diet.

Project components:

First location: 15 Feddans (one Feddan = 4200 m<sup>2</sup>):

1. 20 houses
2. Feed mill
3. Water station
4. Store houses

Second location:

5. 18 houses
6. Slaughter house and freezing unit (90 tons)

Third location:

7. Storage, curing, tanning and glossing rabbit pelts

Project units:

1. Fattening and breeding rabbit houses (38 houses):

14 houses for maternal and paternal lines and hybrids (3-way crosses) up to 1-month old

2 houses for grand parents (576 does and their bucks and young/house)

22 houses for fattening weanling rabbits up to 3 months old and 2-2.5 kg live weight (2400/house)

2. A feed mill (6 tons/hour)
3. A slaughter house (200 head/h) including packaging according to consumer requirements
4. Freezing storage unit (90 tons)
5. Water purification station (70 m<sup>3</sup>/h)
6. Unit for drying, tanning and glossing pelts (2500 pieces/day)
7. Electric power station includes:
  - a. generator of 500 KVA for feed mill
  - b. generator of 300 KVA for the slaughter house
  - c. generator of 100 KVA for the slaughter house

Production procedures of the project started on 19/11/91 by the arrival of the first batch of breeding flock as follows (by freight):

<u>Breed</u>	<u>Sex</u>	<u>No.</u>
New Zealand White (NZW)	pure does	538
Californian (Cal)	pure does	69
Giant Bouscat	pure does	295
NZW x Cal	crossed does	3880
Total		4782 - 17 (Mortality during transportation)
NZW	pure bucks	36
Cal	pure bucks	90
Bouscat	pure bucks	674
Total		800

A cyclic intensive production system is being carried out. The population size of parental breeds and crosses has reached 8064 does and 115 bucks and broiler rabbit production has an average of 13,000 head/month (from April-June). The peak of production will begin in December, 1992, with the completion and operation of the feed mill, slaughter house and freezer storage unit.

B. El-Barary Investment Company, Cairo-Ismailya, Egypt (10,000-15,000 does).

This is a full, integrated project for producing fattening weanling rabbits and purebred lines from NZW and Cal on an intensive production basis with pelleted commercial diets. At the present time the company has partially sustained its activities due to problems with Kuwaity share holders because of the Gulf war and lack of liquid money.

C. Egyptian-Italian Project, Sharkiya Governorate

Components include 3 units:

1. Rabbit production unit - a fully automatic rabbitry, 580 breeding does (NZW maternal line and Cal paternal line for producing NZW x Cal commercial hybrids as broiler rabbits for fattening and slaughtering).

The rabbit building is provided with full automation and is operated by an automatic electronic panel.

The flat deck caging system for parents and young is practiced in a total confinement system. Climatic temperature, humidity % are read on a panel screen.

A water purification unit, feed mill and slaughter house and freezing unit have been built and installed.

The production system will be on an intensive basis and cyclic production will be followed.

2. Dairy cattle production plant with 280 parent stock buffaloes and 5 bulls.
3. Reclamation and cultivation of 400 Feddan (1 F = 4200 m<sup>2</sup>) to be cultivated by roughage crops for rabbits and for cattle.

### III. Conventional and Traditional Production Systems

Local rabbits are characterized by their popular and delicious meat which is marketed for higher prices than commercial broiler rabbits. The domesticated local rabbit (*L. aegyptius*) has been known in Egypt since the ancient Egyptians (5-6 thousand years B.C.). Rabbitries located in the countryside and on desert land were either on the floor or in wood or clay hutches and did not exceed 30-40 does.

However, caging systems, pelleted diets and replacement of paternal purebreds or crosses instead of the local breeds started as a traditional production system in the countryside and now rabbitries of small holders under semiintensive production systems of windowed houses and natural ventilation are very common, especially in the Delta and Middle Egypt. Rabbitries with 50, 100, 200, 500 or 1000 doe capacities have started to take place in the Egyptian market, either cooperatives, private sectors, or investment companies.

The population size of local rabbit breeds decreased from 2.053 million in 1975 to 1.994 million in 1980. The deterioration in population size may have been due to disease, unbalanced feed, housing systems and/or hot summers, and failure in management and hygiene control. Local breeds are raised on a small scale and are characterized by small size (1.75 to 3.5 kg adult weight), lower

fecundity, poor carcass dressing percentage (48-49%), and pure or spotted colors, but they are adapted to the prevailing climatic conditions (6 to 25° C in winter and 19.3 to 42° C in summer).

It is worthy to mention that the NZW and Gal have shown satisfactory results under intensive, semiintensive and traditional production systems in Egypt. There is coordination of research among several universities and the National Rabbit Research Center. The Egyptian Rabbit Science Association was established in January, 1990.

A symposium on "Development of the Rabbit Industry in Egypt" was held at Zagazig University, September, 1989. Several internal national conferences were held by El-Barary Investment Company for four successive years (1987-1990). The second conference on "Rabbit Production in Mediterranean Countries" was held at Zagazig University, coordinated by the International Center for Advanced Mediterranean Agronomic Studies. The second volume of the Egyptian Rabbit Science Journal has been published.

Again, the goal is to reach self-sufficiency by developing meat rabbit production in Egypt, to improve traditional production and to optimize industrial meat production to increase the per capita consumption of meat rabbit marketed in suitable packages and prices.