

# **MEAT PRODUCTION OF RABBIT: AN ALTERNATIVE FOR THE SEMIDESERT QUERETANO AND PEOPLE IN EXTREME POVERTY**

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## **ABSTRACT**

The municipalities of Tolimán and Ezequiel Montes (state of Querétaro, Mexico) are located in the so-called semi-desert queretano, a region characterized by limited natural resources, high marginalization, discrimination and child malnutrition. The rabbit breeding in 10 villages in the municipalities of the semi-desert queretano under a system semi-technical and infrastructure paperback has been an option for 51 Indigenous women, the elderly (vulnerable population) and their families to have access to better food, besides obtaining revenue from the sale of the rabbit meat and crafts produced with rabbit skin. The initial aim of this work was to produce meat for personal consumption and to realize that with a good handling within RPU (Rural Production Units). Production exceeded what expected, the mentality changed and was directed towards increasing the production of meat for sale to the public. This was accomplished through the interaction with a technical training, advising, coordinating and managing resources support (grants) from government institutions through programs aimed at improving the quality of life of rural people and the most vulnerable poor people, women and the elderly. There are five groups and each group has been integrated into a cooperative that, in turn, has become a rabbit breeders Association. Each producer works individually on his RPU, teamwork is for training, processing, marketing, procurement of inputs, resource management and promotion of their products. Fifty one producers and their families now eat 308 g per person per week of meat in addition to an average weekly income of € 13.37 per family coming from the sale of rabbit meat and crafts made with rabbit skin.

**Key words:** Alternative, Quality of life, Personal consumption, Vulnerable population, Rural Productions Units.

## **INTRODUCTION**

Tolimán is 84 km and Ezequiel Montes 59 km away from the city of Santiago de Querétaro, capital of the state of Querétaro, a city whose main characteristic is the rapid urban and industrial development that has been achieved in the past 20 years. The municipalities of Tolimán and Ezequiel Montes are located within the region that is known as the semi-desert queretano: Tolimán is characterized by the lack of rain, high rates of child malnutrition (the highest in the state, Male migration in search of jobs (40% working illegally in the EU and 60% work of a mason in the cities, we believe that México is work with lower wages), erosion and small size suited for the agriculture and livestock coupled with the marginalisation and discrimination suffered by 40% of the population is indigenous (Ñhönhö ethnicity), mean alternatives to livestock production.

The municipal seat of the municipality of Ezequiel Montes, a city of the same name is recognized by the fattening of cattle and sale of meat, which generates large revenues, but this only benefits a few people in this city, for the majority of the population this town life is difficult particularly for the elderly vulnerable people for whom it is almost impossible to get a job or perform an activity which will raise money. An alternative is undoubtedly the rabbit, the rabbit breeding and exploitation is an option for areas like Tolimán and Ezequiel Montes, due to the characteristics reproductive, productive small space requirement and have the advantage that the producer can consume meat high quality

every week and at the same time can produce to sell (being an important source of income). An important part of the Rabbit is the training, this species is very noble but if the producer does not learn the technical aspects and constantly update their knowledge of rabbit breeding and exploitation of this hopelessly condemned to failure.

These are the reasons why these producers who have great capacity for cooperation, desire to learn, initiative and who are determined to make the rabbit its way of life in every sense of that word. The objective of this study is that poor and rural producers in extreme poverty in 10 villages in the semi-desert queretano produce rabbit meat for consumption and sale of the surplus to improve their standard of living.

## MATERIALS AND METHODS

Tolimán, which is located in the Midwest state of Querétaro, coordinates between 20° 31' and 21° 04' north latitude and between 99° 44' and 100° 05' west longitude, with elevations ranging from 1350 and 2740 meters above sea level, with a land area of 1022.98 km<sup>2</sup> representing 8.1% of the total area of the state (H. Municipality of Tolimán, 2003, H. Ezequiel Montes City Hall, 2003). The types of weather in town are dry and dry BS<sup>1</sup> Bso (Zamudio *et al.*, 1992), with an average rainfall of 395 mm (H. Municipality of Tolimán, 2003, H. Ezequiel Montes City Hall, 2003). The dominant vegetation type crasicuale scrub and scrub submontano (Zamudio *et al.*, 1992).

In the present study involved 51 poor producer of 4 villages in the municipality of Tolimán and 6 villages in the municipality of Ezequiel Montes, producers of Tolimán have been integrated into cooperatives and 4 of Ezequiel Montes participating in the program for the Elderly Integral Farms. (Table 1).

**Table 1:** Villages and characteristics of the population

Village	Name of the Cooperative	Municipality	Number of members	Women (%)	Men (%)	Indigenous population (%)	Elderly (%)
La Puerta	Cooperativa “La Puerta” (The gate)	Tolimán	5	5		0	0
Mesa de Ramírez	Cooperativa “Ya dónxu” <sup>1</sup> (The Women)	Tolimán	4	4		4	0
Bomintza	Cooperativa “Mbominza” <sup>1</sup> (Place of the thorns)	Tolimán	15	10	5	15	0
San Pablo	Cooperativa “Ya jwa” <sup>1</sup> (The rabbits)	Tolimán	5	3	2	0	0
Ezequiel Montes		Ezequiel Montes	3	2	1	0	3
El Ciervo		Ezequiel Montes	8	7	1	0	8
Villa Progreso		Ezequiel Montes	6	4	2	0	6
Bernal		Ezequiel Montes	1	1		0	1
Guanajuatito		Ezequiel Montes	3	2	1	2	3
Los Sánchez		Ezequiel Montes	1		1	0	1
Total			51	74.51	25.49	41.18	43.14

<sup>1</sup>Name in Nñhōnhō language

Each producer works of individual way in its UPR (Units of Rural Production). The used production system semi-technified using cages of galvanized wire caliber 12, tropicalizadas European type of the following dimensions 78x55x30 cm and modules Cunitodo 4 (EXTRONA). In the beginnings of this project the male rabbits and females and the equipment were acquired in the National Center of Rabbit Breeders and Small Species, Irapuato, Guanajuato, México. In the year 1998 will be promoted by the Family Packages that offered this Center. Start with the purchase of 10 packets family in the year 1998 (10 producers), each package consisted of 5 females and one male lineages of tattooed and selection of the following races, New Zealand, California or black Aztec. We work in groups for training, processing of beef and beef, marketing, procurement of inputs, resource management and promotion of their products. There were purchased drinkers, feeders and nests, the purchase of this equipment

increased at more than twice the cost (cost € .98 acage like a nest), which nests, feeders and waterers were replaced by example; the drinking and feeding facilities for packaging disposable plastic or aluminum and nests by wooden boxes and / or containers of clay (that used for cooking and that they were damaged).

**Table 2:** Current inventory of the resources and equipment

Cooperative or Working Group	N° of females	N° of cages (hollows)	Farms made with brick and mortar	Rustic Farm	Integral Farm 9 m <sup>2</sup>
La Puerta	182	388	5 <sup>2</sup>		
Ya donxu	96	215	4 <sup>3</sup>		
Mbominza	280	849	12 <sup>2</sup>	3	
Ya jwa	80	216	5 <sup>2</sup>		
Integral Farms	120	236			22
Total	758 <sup>1</sup>	1,904	26	3	22

<sup>1</sup>188 modules Cunitodo 4 (each module has 4 hollows) the rest are individual cages European type; <sup>2</sup>65 m<sup>2</sup>; <sup>3</sup>35 m<sup>2</sup>

The workshop Cooperative "The Gate" operates as a centre for collecting, processing, packaging and marketing of rabbit meat.

The training of producers is essential to the development and operation of cooperatives. Training is provided by a technical and Extension Training Program on the basis of an educational program in which they perform different activities such as:

- Training course. In this training course teach to producers a breeder, health, preparing meat products clothing and tanning of leather garments with rabbit.
- Technological Exchange tours. Visits to production areas in schools (universities and technological).

The role of the technique was not only training, is also responsible for developing the project, coordinating the work between the different cooperatives, marketing, resource management and support.

The federal and state government institutions like; SAGARPA (Secretariat of Agriculture, Livestock, Fisheries and Food), SEDEA Querétaro (Secretariat to Agropecuario Development of Querétaro), Statal DIF (Integral Development of the Family) and Municipal Tolimán presidency (1998-2000) supported directly to producers programmes for the Countryside Alliance and Integrated Farms for Elders. These units participated supporting producers with a subsidy ranging from 60% to 80% for the procurement of equipment and construction of infrastructure and livestock to pay the technical adviser.

## RESULTS AND DISCUSSION

This project was born in April 1998 with the goal of having a production backyard (Subsistence), providing meat at least once a week to the producers and their families, for the development of this project sought aid program "Alianza Para el Campo (The Alliance For The Countryside)" (PADER [Subprogram to Rural Equipment]), \$ 2520.00 (€ 249.16) for the acquisition of 10 "paquets of rabbit" (5 females and 1 male), and 15 rabbit cages and every producer built a rustic hut (rustic farm) with materials in the region (chiquiña, thorny shrub in the region ) and waste material (foil, wire, wood, etc.), to realize that taking a good handling in the UPR (Rural Production Units), to produce more meat rabbit expected the mindset of the producers changed if only meat for personal consumption to be meat for sale, forming a micro-enterprise and legalized as a cooperative in 1999, this year Municipal Tolimán Presidency support of the Cooperative "The Gate", a local who was completing work in black and condition for use as workshop. This location, in addition to being used as a meeting point for business and training group, the weekend is used as a restaurant.

This year the supports are awarded by The Alliance For The Countryside (subprogram PADER)\$ 60267.22 (€ 6006.48) for the purchase of equipment for the workshop and for the UPR, Municipal Tolimán Presidency supported with \$ 20000.00 (€ 1998.18) for preparation for the workshop, initiated

the sale of rabbit carcasses and rabbit sausage. In 2000, the rabbit is sold to restaurants and individuals in different presentations; carcass, cut carcass, thighs, adobado, chorizo and rabbit pâté and the workshop continues to operate as a restaurant so successfully that the call to make meals for various events, both the municipal government as individuals. In this year began selling rabbit foot to cooperatives associated with cooperative "The Gate", which is responsible for cooperative slaughter, processing and marketing of meat and sausage rabbit thereby benefiting a total of 51 producers.

An important event in 2000 was the fact that the project which works Cooperative "The Gate" Meat production and processing rabbit chorizo "won first place nationally in the event Successful Development Projects Sustainable Rural. In December of 2000 were invited by Dr. Heliodoro Diaz Cisneros Program Director for Latin America and the Caribbean of the Foundation Kellogg's expose this project at the Second Meeting of Latin American and Caribbean Project for Food in the City of San Salvador, El Salvador C. A. In January of 2001 participating in the training course "Tanning and fur" one week and the knowledge received them have served to build a comprehensive rabbit. This year, groups from Mesa de Ramírez and San Pablo constitute legally, so the 4 cooperatives are legalized in 2001.

In October 2001 the 4 cooperatives are legally "Cunicultoras Association of Tolimán Mbodenthi (instead of tule) setting as its main objective the construction of a small track to improve conditions for the slaughter of rabbits to sacrifice more animals and meet requirements of slaughter calling potential customers who require 300 to 350 channels per week and thus generate more revenue (Table 3). This increase in demand for rabbit meat in the state is the result of the promotion of cooperatives that have made their products in addition to giving a presentation, attractive and hygienic.

The year 2002 saw increases production by improving the performance parameters; Maximizing the resources, not the presence of disease, construction of booths, the work of the Association of Rabbit Breeders of Tolimán and using technology to provide comfort to the animals and that adapt to the requirements within the UPR, were purchased 137 cages (4 divisions in each, altogether 548 compartments) EXTRONA with support from the Programme for Women in Rural Development, we opted for this team because of their characteristics better design, durability and medium term are less expensive, were built 33 huts made of brick and roofed with galvanized sheet with the support of FIRCO (Risk-Sharing Trust); 19 booths 10 x 6.5 x 3.5 m 9 booths 5 x 3.25 x 3.5 m.

In 2005 implements an alternative program of agricultural production for the elderly. An alternative is undoubtedly production Farms Integrals for the Elderly (production backyard), which dealt with by senior citizens who enjoy technical assistance for more efficient production. The backyard has always been a stronghold of the humble people of the field has enabled them to obtain food at seasons economic crisis and as a source of resources to sell the surplus. These are the reasons why they have been given support to these groups of seniors who have great capacity for cooperation, patience, desire to learn, initiative and who are determined that the Comprehensive Farms as a source of animal protein and plant excellent for subsistence and as a generator of extra income by selling surplus.

**Table 3:** Weekly salary and benefit families

Weekly salary (average)	Benefit families	Nº Beneficiaries
€ 13.37	51	255

Another way to earn money to the members of these cooperatives is the sale of handicrafts produced with rabbit skin, the tail and feet are used for the development of key chains. The pieces that make and sell handicrafts are: bags, hats, pillows, slippers, dolls, ornaments for the hair, key chains, pens and pencils adorned with rabbit skin.

The semi-desert queretano is poor in natural resources, human resources but has resolutely striving to improve their standard of living. It is important to note, although there are no automatic equipment and booths designed with High-tech, there are no diseases that are limiting production, and generating economic losses that exist in countries possessing a rabbit industry. We can ensure that the rabbit meat

produced in the semi-desert queretano is virtually free of antibiotics, vaccines, and so on, because there is rarely applied drugs and the need most often is on an individual basis.

One of the main objectives to initiate this work was to produce meat for their own consumption (Table 4) and managed to improve the quality of the food producers and their families. Consume 308 g of meat per week can be seen as an insignificant amount, but for these people is a great achievement, as the daily diet for 75% of the population in this region was mainly based on; tortillas, chili and beans rarely meat, egg or milk. In México 10 million people consume no more than 1 kg of meat per year. In addition to the elderly include meat in their diet which is the best choice because of its features and qualities.

**Table 4:** Details to personal consumption of rabbit meat

N° carcass/year	Weight of the carcass kg (average)	Household consumption kg/year	Per person kg/year	Per person per week (g)
3,411	1.2	80.26	16.05	308

In November 2007 opened two outlets with the support of SEDIF (State System of Integral Development of the Family), these premises are selling 40 carcass a week and is delivered weekly to 12 kg of meat Hostel for abused children in the state government

The production of rabbit meat from these breeders rabbit is not very big but the excellent quality of the meat offered by these producers in the semi-desert has conquered the consumer preference.

In a country like México where the 45% of the population is poor and rarely eat meat, and consumption of rabbit breeding is an alternative for this sector of the population because of the low cost of production and the nutritional quality of meat rabbit.

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