

## **RABBIT BREEDING IN LA PAMPA: A COOPERATION MODEL FOR THE RABBIT BREEDING IN LA PAMPA: A COOPERATION MODEL FOR THE PRODUCTION OF QUALITY RABBIT MEAT**

**FACCHIN E.<sup>1</sup>, COSSU M. E.<sup>2</sup>., GARCÍA S. M.<sup>3</sup>, GAUNA C.<sup>3</sup>**

<sup>1</sup>Scambiarti-Onlus Vía Faccio 12 “A” 37122 Verona, Italia  
[a.associazionescambiarti@tin.it](mailto:a.associazionescambiarti@tin.it)

<sup>2</sup>Facultad Agronomía. Univ. Buenos Aires. Av. San Martín 4453  
(1417) Buenos Aires, Argentina

[mcossu@agro.uba.ar](mailto:mcossu@agro.uba.ar);

<sup>3</sup>Fundación Nuestros Pibes, Bolívar 370 (6300) Santa Rosa La Pampa  
[fnpibes@cpenet.com.ar](mailto:fnpibes@cpenet.com.ar)

### **ABSTRACT**

La Pampa's rabbit basin is situated in the centre of the Argentine Republic (at 35° and 39°S), and since the year 2000 has been receiving support from International Cooperation Programs with the purpose of implementing an “integrated farmed rabbit breeding model.” The aim of the project is to help impoverished population sectors that have been deeply affected by the country serious social crisis. Among the most vulnerable sectors considered, young people at risk or in legal trouble with the criminal law are included. The main objective was to develop a production chain – production and distribution of rabbit meat - characterized by high levels of environmental and ethological compatibility, sustainability, and social utility. The model is based on the principle of permanent professional training and information updating for chain operators, a “rural” and “multifunctional” production and the re-investment of part of the profits on other sustainable and socially useful projects. The Productive Model receives support from municipal and provincial governments and has set up a Professional Development and Training Centre, which offers permanent advice to rural operators by a technical team. From the productive point of view, a Pilot Centre for the production of rabbit (New Zeland x California) meat was developed, including an Artificial Insemination Centre and a Professional-Technical Assistance Centre. There is a slaughter house complying with all the national regulations for the home market and, in the near future, for export. The producers of the basin organized themselves into: an Association (30 members) and 33 producers “in training” (5 young ex-convicts, 10 young in legal trouble, 14 young persons coming from Minority Programs for youth at risk without relapsing into crime, 4 women “family chief” .

**Key words:** rural meat production, cooperation model, high-quality meat, social responsibility.

## INTRODUCTION

Since the 1980s, FAO (Food and Agriculture Organization of the United Nations) has proposed rabbit breeding as 'an interesting model to fight hunger and to develop rural areas in tropical countries' (BRANKAERT *et al.*, 1996).

An increase and standardization of production with and increasing orientation towards the market of Organized Great Distribution (OGD) was also verified, together with loss of know-how and profits of part of the breeders and slaughterhouses (BONEZZI, 1993a,b) that play the role of industry "operators," being this industry the only provider for OGD. Producers, responsible for meat safety and quality, have seen themselves forced to produce under conditions of greater density, stress and sanitary risk, in spite of the remarkable use of drugs (DUPERRAY, 1998; LICOIS and COUDERT, 1999).

The gap between consumers' "demand" and producers' "supply" recorded during the 80s and 90s paved the way for experimentation and for the creation of a new production-distribution model based on "integrated rural" production greatly sustained at environmental and economic levels.

An international cooperation "pilot" project (FACCHIN, 1997) carried out in Brazil served as the basis for a similar project in Argentina. Since integrated cooperation can improve adequate levels of development and economy (STIGLIZ, 1998; WILSON, 1999; AMARTYA, 2000) we defined the aim of our project as the setting up of an "integrated" production-distribution chain of rabbit meat, characterised by high economic sustainability, and social utility. The project has been designed to help impoverished social sectors and young people presenting problems of social integration.

## MATERIAL AND METHODS

The main activities of the project are carried out in the premises of our foundation-'Fundación Nuestros Pibes-' situated 3 km away from the capital city of the province of La Pampa, and started at the beginning of the year 2000. In said premises we have the Training Center, the production units, the insemination center and the slaughter house.

In order to develop an integrated chain of rabbit production we carried out the following:

1. Professional training and updating of all chain operators
2. Promoting producers and consumers groups and associations
3. Application of production discipline and veterinary self-control plans during all production phases
4. Application of Good Production and Commercialisation Practices
  - a. Promoting social responsibility / utility by reinvesting a percentage on other sustainable and socially useful projects.
  - b. Activating an integrated production/distribution chain based on a "rural" and "multifunctional" production

The activities were:

1. Setting up a Professional Training / Updating Centre for rural operators. Setting up a Pilot Centre for the production of rabbit meat connected to the Artificial Insemination Centre and to the Technical Assistance Centre.
2. Foundation of an Association of rabbit meat producers.
3. Defining production discipline (Table 1) and veterinary self-control for each production phase, economic and quality sustainability indicators, including, also, ethical quality and social responsibility and utility (Table 2).
4. Experimentation with innovative techniques and technologies in order to improve safety indexes, environmental compatibility, economic sustainability and quality.

**Table 1. Production discipline for integrated warrens**

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- \* Rearing: on rural farm run by its producer.
  - \* Sheds or barns: natural ventilation and light.
  - \* Traditional wire cages or “open-air” ones.
  - \* Well-known breeds for their international standards and/or hybrids.
  - \* Cyclical production with possible use of A.I.
  - \* Drugs used to synchronise oestrous: forbidden.
  - \* Extensive reproduction rhythm with post-weaning insemination.
  - \* Replacement by mean of A.I., using sanitarilly and genetically controlled semen
  - \* Load animals for slaughter with clear identification of the animal batch.
  - \* Transportation maximum time to slaughter house: 8 hours.
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**Table 2. Compatibility, sustainability and quality indicators**

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- \* Environmental Compatibility: No “ without land rearing;” Rearing in cages.
  - \* Animal Welfare: ventilation and natural light, reproduction rhythm: extensive.
  - \* Mortality rate control (25 % maximum between birth and slaughter).
  - \* Transportation time and characteristics: maximum 8 hours.
  - \* Economic sustainability: feeding cost = maximum 63% of total cost.
  - \* Work cost: maximum 20 % of total cost.
  - \* Sale price = Live weight at origin: 8 times its feeding cost.
  - \* Slaughtered rabbit's price: 18 times its feeding cost
  - \* Social Quality: percentage of workers belonging to the following “weak” categories: women- head of family-; youth at risk; handicapped people; etc. plus percentage of returns reinvested on other social utility projects.
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## RESULTS AND DISCUSSION

Results obtained so far are stated in relation to the planned activities as follows:

- 1) Training Tasks

- a) Setting up a Professional Training / Updating Centre for rural operators. This centre is legally operating under regulations of the Ministry of Education of La Pampa; it has classrooms and production units that totalise 200 m<sup>2</sup>. In the last 3 years, 25 training / updating courses were offered, 240 participants received tuition, 125 of those got an official diploma and 40 are producing according to current regulations. Training topics are related to production systems, basic information about anatomy, reproduction and digestibility physiology, pathology, slaughter conditions and also economical organization.
  - b) The 1<sup>st</sup> Latin American Sustainable Rabbit Breeding Seminar was held in 2002, with participants from Argentina and special guests from Brazil, Chile and Italy.
  - c) In progress is the preparation of a bilingual CD/DVD (Spanish/Italian) to be used as part of the training and updating courses, including topics and illustrations concerning production discipline, rabbit meat preparation, standard operations at warren, veterinary self-control plans and the compatibility, safety, and quality indicators.
- 2) The Rabbit Production Pilot Centre built in the premises of our Foundation comprises:
- a) Three sheds (910 m<sup>2</sup>) housing 180 mother cages and 540 fattening cages;
  - b) One “open-air” unit;
  - c) One Artificial Insemination Centre built next to a laboratory where the preparation / freezing of the seminal material is carried out strictly supervised by a veterinarian. The A. I. Centre provides our producers as well as those belonging to the Association with the necessary seminal material.
- 3) The Rabbit Breeding Association of La Pampa has been officially incorporated and recognized in its legal capacity under N° 111/01 on March 26<sup>th</sup> 2001 and has 40 members that live in 12 municipalities totalising 1,000 breeding New Zeland x California rabbits.
- 4) The “weak categories group” incorporated 28 young and mothers
- 5) Total production for the year 2002/2003 in the Pilot Centre of our Foundation and in the Association members’ warrens was of approximately 30,000 rabbits per year (78,000 kg of live weight). Technical results over a consecutive 2-year period are shown in Table 3.

**Table 3. Mean productive parameters obtained in La Pampa’s rabbit breeding basin (1.000 New Zeland x California crossbreed does and 27.000 meat rabbits)**

	Year 2002	Year 2003
Mortality from birth to weaning	8,9%	8,7%
Mortality from weaning to sale	9,3%	8,7%
Mortality of mothers/month	3,4%	2,6%
Does’ culling for low production/month	8,2%	6,9%
Sale weight	2,600 kg	2,600kg
Kg produced by does / month	5,790 kg	6,000 kg
Feed conversion ratio	4,5	4,4

4) The Rabbit Slaughter house has been regularly authorised by SENASA (National Animal Health Service; record 12799, August, 23<sup>rd</sup> 2003) to slaughter animals for their meat for the home market. The cold storage plant has a covered area of 400 m<sup>2</sup>, a slaughtering capacity of 140 head/hour and cooling and storage capacity of 10,000 head. A contract signed between FNP and the Municipality of Santa Rosa agrees on structural updating, economic-administrative management, which at present are in charge of the Municipality. With this *modus operandi*, producers integration is encouraged offering them services and official control at a reasonable price. The deep economical crisis of Argentina at the end of 2001 determined that local slaughtering (Table 4) was substituted, almost totally, by international commercialization by slaughter houses recognized by UE out of our control.

**Table 4. Characterization of local slaughtered animals**

Animals	Crossbreed WNZ x California
Average live weight (kg)	2,350
Average age (days)	82
Average dressing (%) <sup>1</sup>	50

<sup>1)</sup> after 4 hours, without skin, head and liver

5) The bilingual CD (Spanish/Italian) made during the development of the project contains information concerning production discipline, the veterinary self-control plan, the environmental compatibility, traceability, bio-safety, economic sustainability and quality indicators (Table 2). This material is used in the training / updating courses, and is available for rabbit chain operators and members of the system.

6) Experimentation with innovative techniques and technologies refers to two main issues: the “open-air” type cages and feeding animals with products from our premises. Some results have already been published in Cossu *et al.*(2002) where results indicated that substitution of wheat by extruded corn grain for post-weaning and fattening rabbit diets do not affect productivity, as well as carcass and meat quality; also results support the incorporation of extruded corn grain up to 35% in diets for rabbits from 40d of life.

7) During the course of this project of international cooperation, a network of local and international partnerships has been established as follows:

- a)- Movimento Laici America Latina, Italian NGO that developed support action in 2001.
- b)- European Union, that has co-financed MLAL support action and facilitated the organisation of the 1<sup>st</sup> Latin American Sustainable Rabbit Breeding Seminar.
- c)- Regione Veneto, co-financed the Scambiarti-Onlus project in 2003.
- d)- Municipality of Santa Rosa, in charge of the management of the slaughter house.
- f) Government of the province of La Pampa, through its Ministry of Education provides training and technical assistance and co-operates the Program designed to help youth at risk and the re-reinsertion Work Program for ex-convicts (Table 5).

**Table 5. Program of Social Re-insertion of youth at risk: preliminary results.**

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*	4 young persons (ex convicts who have served their sentences) put to work without relapsing into crime for more than 3 years.
*	5 young persons coming from Minority Programs for youth at risk without relapsing into crime.
*	6 young persons without criminal records but at serious social risk.
*	14 young persons with criminal records but not serving sentences in jail
*	4 women “family chief”

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The planned tasks in process of development are:

- a) Setting up a specific area for the preparation and packaging of rabbit meat to be run directly by the producers/members of the project, independent from the cold storage plant, in order to commercialise part of the production directly to consumers.
- b) Industrialization of rabbit meat as preserves, and opening a “Gather and Food Patio” in our premises to advertise our production and to carry out events.
- c) Organization of a Loan Centre.

## CONCLUSIONS

1. The professional Training / Updating Centre has developed a wide variety of training activities leading to the graduation of several producers, that were later to become members of the Association showing interesting technical-financial-social results. It also carries out permanent veterinary technical assistance and veterinary self-control plans.
2. In the Pilot Centre and in each of the producers' warrens, the mean technical results obtained have been increasing as along time.
3. A cool storage plant has been set up for the home market.
4. The application of production discipline, the Self- Control Plan, rendered a favourable evaluation of project development with respect to compatibility, sustainability and quality of production, also in the social field.

A first evaluation indicates that, in general terms, the project has achieved the pre-established goals and has been able to design an ecologically-friendly production “model.” Small-scale rural producers achieve social improvement via productive action and the implementation of associative integration practices. The social coherence of the productive model turns it into a valuable means to promote the rehabilitation and social recovery of youth at risk and in legal trouble.

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