

Rabbit meat contribution to vulnerable family diet, in Mendoza northeastern departments, Argentina.

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ABSTRACT

Poor families feeding, especially in developing countries, is limited in the intake of animal protein, among other deficiencies. Their diet can be improved by incorporating rabbit meat produced by themselves at familiar farms. This has been demonstrated, in different emerging countries of the world, by the results of the implementation of projects and programs for this purpose over time. PROHUERTA Program, financed by the Argentinian Social Development Ministry and executed by National Institute of Agricultural Technology (INTA), has been implemented for 30 years, with the purpose of improving the diet of population in vulnerable situation through orchards and farms of domestic species. In this research, the amount of protein supplied to the family diet and the required time for animal care were quantified, which support the importance of this type of production in rural and peri-urban areas in Mendoza province northeast. The methodology was based on the analysis of 32 survey results realized to members of these families. In addition, qualified referents as public agents of Extension and Rural Development Area of INTA, responsible of territorial execution of PROHUERTA Program, were interviewed. As a result, it is possible to observe that the contribution of rabbit meat was sufficiently significant for the surveyed families, in 44% of the cases the consumption has weekly frequency, and in 56% of the cases, monthly.

Key words: rabbit, feeding, poverty, PROHUERTA, INTA.

INTRODUCTION

General context

The National Institute of Agricultural Technology (INTA) is a public body in Argentina. It is leader of agro-technological research, rural extension and innovation in value chains of several regions of the country. It has the mission to improve competitiveness and promote rural development. It joins capacities to foster inter-institutional cooperation, generate knowledge and put it at service of the agricultural sector through its extension, information and communication systems. INTA is located in all regions of Argentina: Northwest, Northeast, Cuyo, Pampeana, and Patagonia and its structure comprise a central office, 15 Regional Centers, 52 Experimental Stations, 6 Research Centers, 22 Research Institutes, and more than 350 Extension Agencies.

Work objective

The objective of this research is to get to know rabbit meat contribution in the diet of families in social vulnerability situations, in Mendoza northeastern departments, Argentina.

Mendoza, characterization of agricultural activities

Mendoza province is located in the western central part of the country, it covers 148,827 Km² (5.4% of the national territory) and has a population of 1.8 million inhabitants. Due to its low rainfall (annual average 250 mm), its cultivated area is only 4.8% of the territory, where 95% of the population is located, they are called oases. As productive activities, two asymmetric models are observed: intensive agriculture under irrigation in the oasis (wine grapes, fruit trees, olive trees, vegetables) and extensive livestock farming in dry land area (cattle and goats).

PRO HUERTA Program

It is a program financed by the Social Development Ministry and executed by INTA, which promotes food production for self-consumption since 1990. It is aimed to rural and urban people who has no access to safe and healthy food, because of being located under the so-called "poverty line"(where situations of structural poverty are included), as well as sectors impoverished by the fall in their income or by unemployment. The reached population includes unemployed, under-employed, smallholders, rural wage earners, original communities, schools in socially critical areas, and families in situation of food insecurity.

Several local institutions and organizations participate in this Program, through their volunteer promoters who work together with Program technicians, in the task of identifying the target population. The requirements for families to access to the program are to have the minimum area necessary for the implementation of an orchard, and to participate in training instances.

As part of the Program strategy, hens and rabbits have been historically delivered. The criteria that the family must meet to receive animals are to have at least a one year old family garden, and to have available place and infrastructure to carry out animal raising.

In Argentina, PROHUERTA reaches more than 4 million people, through a network of 9,192 volunteer promoters, coordinating actions with more than 3,000 organizations and institutions, and promoting 618,000 family vegetable gardens; 1,800 community vegetable gardens; 13,000 school vegetable gardens; 5,000 in other institutions; and 744 agroecological fairs¹.

In Mendoza, PROHUERTA counsels 18,135 family gardens and 659 farms, while in the selected area for our study, there are 5865 family gardens and more than 450 farms of hens and rabbits.

Table 1: Number of family gardens and farms by department

Department	Number of family vegetable gardens	Number of Farms
Guaymallén	1030	60 hens only
Maipú	1500	No data
Santa Rosa	1340	15 hens and rabbits
Junín	1145	77 hens and rabbits
Rivadavia	850	164 hens and rabbits
San Martín	925	No data

Source: PROHUERTA Program, Mendoza

Rabbit breeding in the selected area

This research work focuses on the raising and consumption of rabbit meat in order to know the nutritional contribution to the diet of surveyed families in eastern departments of Mendoza Province, Argentina: Maipú, Guaymallén, Santa Rosa, Rivadavia, Junín and San Martín.

In the background search, several papers were found on the implementation of rabbit for self-consumption in poor families, and information on programs executed in developing countries linked to rabbits raising to improve the family feeding (Arroyo, L. 1997; Lukefahr, S.D. 2000; Díaz Nodaro, L. et al. 2010; Quagliariello, G. 2012).

Characteristics of rabbit meat

This meat is well known for its nutritional and organoleptic properties (taste, aroma and texture). It is considered lean meat, easily digestible and tender, due to its low lipid and collagen content. It is qualified as "white" meat, for its lower amount of myoglobin (protein that gives the meat a characteristic red color).

¹ <https://intainforma.inta.gob.ar/prohuerta-una-politica-publica-con-30-anos-de-historia/>

Rabbit meat is one of the highest protein content meats (19 to 25%), compared to other domestic animals. These proteins have high biological value, because of the essential amino acids content that the human organism needs in different periods of life (Camps, J.1996; Cury, K. 2010).

It is a lean meat, with less than 5% fat and low cholesterol content; with fairly balanced lipid profile, with lower proportion of saturated fats than other kind of meats, that is why it is recommended in obesity and cardiovascular disease prevention diets.

MATERIALS AND METHODS

The main tool was the realization and processing of surveys, complemented with interviews and participant observation, in order to obtain data referred to the nutritional contribution of animal products in family diet. The methodology used combines qualitative and quantitative researches, since it was based on the collection of quantitative and qualitative data associated throughout the study. Statistic methods were used to present the results related to families that have rabbits provided by PROHUERTA Program or obtained from other source. The surveyed families were selected by qualified informants, technicians linked to the Program.

RESULTS AND DISCUSSION

The data obtained from surveys were analyzed and graphically represented.

As Figure 1 shows, most of the families were composed of a high percentage of adults (55%); while the segment of children and adolescents added, represented 42% of the members of these families. This is a fact to highlight, considering that, nowadays in Argentina, 6 out of every 10 children or adolescents are considered poor (Report of Argentinian Catholic University, 2019).

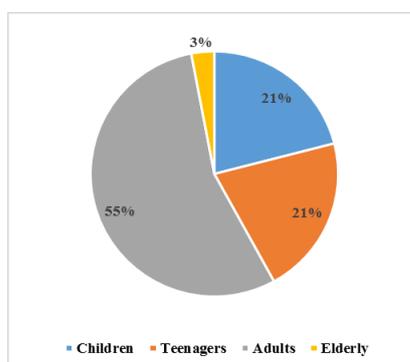


Figure 1: Surveyed family composition

Rabbit breeding is mainly carried out for family self-consumption (72%). The second destination, in order of importance, is meat sale (17%), in order to increase family income (Figure 2).

Regarding the frequency of consumption, 44% of the families surveyed answered that they consumed rabbit meat weekly (Figure 3), while the remaining 56% consumed this meat with monthly frequency.

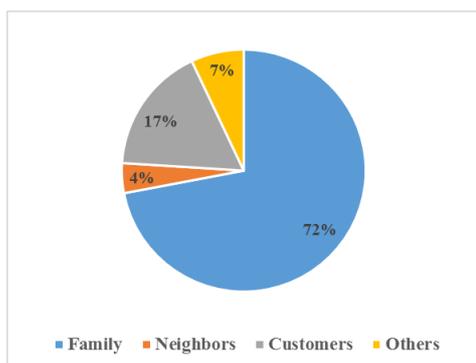


Figure 2: Destination of rabbit meat

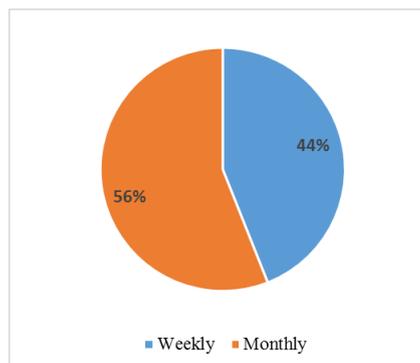


Figure 3: Frequency of consumption

Considering the presented data, it was calculated that families have an average consume of 2.3 kg of rabbit meat a week, which represents almost 120 kilograms of good quality meat annually and 26.4 kg of protein of high biological value (22%).

CONCLUSIONS

This study demonstrates that, at local level, the raising of rabbits for family consumption (self-consumption) represents a valid alternative to improve the diet of families in situations of poverty or socioeconomic vulnerability. This family-level activity can also improve their economy by generating incomes through meat sale, with low time demand.

Finally, it can be seen that the local implementation of PROHUERTA Program, which promotes the raising of domestic animals for family consumption, can improve the diet of families in situations of poverty and socioeconomic vulnerability.

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