

SOCIAL AND ECONOMIC CONTRIBUTION OF RABBIT PRODUCTION IN THE STATE OF MEXICO

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ABSTRACT

The objective of this study was to find out the contribution of rabbit production in the State of Mexico, located in central Mexico at 500 to 5000 meters over sea level and average temperature of 15°C. Direct interviews were made to obtain data in 517 rabbit production units located in 36 municipalities in which a non probabilistic intentional sampling was used. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), and referred to as frequencies and percentages. In the social variables the following indicators were obtained: 75.4% were men producers and only 24.6% were women, 23.8% were young producers (18 to 30 years of age), 57.6% were adults (31 to 60 years of age) and 18.6% were mature adults (over 61 years of age). Average age of producers was 47.1 years; 77.5% were married and 22.5% were single, 78.8% studied up to secondary school and 21.2% studied up to preparatory school or career. In the economic variables, 94.6% of the people used rabbit production as complement to their primary occupation and in only 5.4% of the cases rabbit production represents in between 51 to 100% of their income. 90.1% of the production units were financed using own resources. 64.2% of the farms had walls and ceiling, 2.5% had rabbits on the floor, 88.2% used cages and only in 26.1% of cases productive registers were used. 28% of the farms were whole cycle and 98.3% had 21 reproductive females. Predominant breeds were: New Zealand, California and Flandes Giant. Regarding health, 64.2% referred mange, respiratory and digestive infection as common problems; 86.3% of the producers had no biosecurity programs and 85.5% slaughtered the rabbits in the same place with no knowledge of sanitary regulations. 6.5% of the producers used their production for family purposes, 48.4% sold bunnies and 45% rabbits in carcass; commercialization was local with no marketing strategies. There are 10,933 reproductive female rabbits, with potential to generate 70 direct employments and producing 12,026 kg in carcass/week with a retail price of 5.5 dollars. 89.6% of the producers were not organized and 84.5% had no technical assistance. It is concluded that rabbit production in the State of Mexico is a low scale activity that produces innocuous and nutritive meat for family and local market, promoting direct working opportunities and economic income even though there are no official programs to promote and support experience and vocation of participants as valuable strengths and opportunities that the physical, demographic and commercial environment offers for this activity in the State of Mexico.

Key words: Rabbit production, Social contribution, Economic contribution.

INTRODUCTION

Espinoza *et al.* (1997), cited by Clavel *et al.* (2004), refer that in Mexico small scale rabbit production represents 90% of the total and the rest is at industrial level (10%). Since 2001, the federal government officially recognized rabbit production as livestock activity to promote it because of the broad growth possibilities, due to the increasing demand for rabbit meat. This is why the federal and state governments have assigned economic and training resources to producers in Puebla, Tlaxcala, Morelos, Guanajuato and Hidalgo mainly (Hernández, 2004). The State of Mexico is located in the central part of the Mexican Republic, with 14 million inhabitants, and is considered as number one in Mexico regarding rabbit production, with the highest proportions in Texcoco, Ecatepec, Cuautitlan, Cd. Nezahualcoyotl, Chimalhuacan, Chalco, Ixtapaluca, Atlacomulco, El Oro, Temascalcingo, Jocotitlan and Ixtlahuaca and in the gastronomic circuits such as the Pyramids, Ixta – Popo park, or the

Marquesa (Mendoza *et al.*, 2001b). The demand for rabbit meat has forced overcoming primary production inefficiencies and integration of all the value web. To achieve it, a situation diagnosis is necessary, to know what is happening in the State of Mexico's municipalities reported as rabbit producers taking into consideration aspects such as: production unit size, sex, age or professional level of the producers, its economic contribution or job generation, making it economically and socially important.

The objective of the present work was to find out the social and economic contribution of rabbit production in the State of Mexico.

MATERIALS AND METHODS

The material used for this study included questionnaires, car, computer and stationery. For obtaining data, the direct interview method in farms from the State of Mexico was used. To find out the social importance of rabbit production in the questionnaire, variables such as sex (referred to as gender participation), young rabbit producers (18 to 30 years of age), adults (31 to 60 years of age), and mature adults (over 61 years of age as an indicator of the economically active population in rabbit production), primary, secondary, preparatory education, or university studies (as an indicator of the studies level), time invested in the activity (8-hour workday, as indicator of job generation) and producer professionalization; education for work (as a referent in job training) were included. To find out the economic importance, variables such as farm size, production volume, commercialization, market participation and economic income were included. A non probabilistic intentioned sampling was used and the data were analyzed using the Statistical Package for the Social Sciences (SPSS) and referred to as frequencies and percentages.

RESULTS AND DISCUSSION

The interview was answered by 517 people from 36 municipalities of the State of Mexico. These people were partially or totally dedicated to rabbit raising. Regarding social variables, these indicators were found: 75.4% were men producers and 24.6% were women. In some regions of the country, field abandoning by young and adult farmers have favoured that women assume agricultural tasks generally fulfilled by men. The Procuraduría Agraria (2003) estimated that two out of three rural women participate in agricultural tasks and that in rural homes, four out of ten women are head of the family. Several studies demonstrate that women are responsible for food production. In spite of it, women that work in agricultural tasks have disadvantages because it is frequent that they have no field access, they are not recognized for credit rights, for participation in rural organizations, nor training or extension services. The heavy work load and lack of essential agricultural production factors to increase productivity are the main limitations which contribute to food insecurity and undernourishment in millions of homes, especially those in which women are head of family (FAO, 2006). In the traditional production systems, women and children's work normally contribute during sowing time even though in Mexico agriculture is considered as a male activity. Women in agricultural activities are generating new scenarios in the community's organization, in internal family structures and in tasks directly linked to food supply (Pérez *et al.*, 2003).

23.8% of the rabbit producers were young, 57.6% were adults and 18.6% were mature adults (65 years old or more). In a study regarding means of living for young people, financed by the Natural Resources System Programme from the International Development Department of the United Kingdom, it is demonstrated that many youngsters establish their means of living successfully by using natural resources profit and investing in non natural resources or the other way around. It is also demonstrated that young people overcome the division of urban and rural in their jobs. Finally, it clears out that adults frequently consider that young people enterprises are short term and insignificant, which by the way give their beginners status and respect in their own group (Waladie, 2004). Mature adult population is increasing in all developed countries because of lower birth rates,

higher longevity, higher survival and young people migration. These reasons are acting simultaneously and with great intensity in a lot of countries provoking a demographic phenomena called "second transition" which will have revolutionary effects in society and economy as well (Martínez, 2001). In the State of Mexico the average age of rabbit producers was 47.1 years, compared to what Pérez *et al.* (2003) found in Casas Blancas, Michoacán, Mexico community in which the average age was 59 years, with a high migration proportion of their sons.

78.8% of the producers had secondary studies only and 21.2% had preparatory school or career studies. Rivera *et al.* (2004) found that in Ecatzingo, Mexico, 72.8% of the rabbit producers had studied until primary school, 20.2% up to secondary school, 5.6% up to preparatory school and 1.6% had professional career studies. The Declaration of Rome, regarding food worldwide security (1996) insists that the policies for sustainable development should consider knowledge and human capacities acquired by means of basic education and training before and during employment as essential elements to allow that the poorer people take their own decisions regarding food security. Carnoy (1992) cited by Gasperini (2002) refers that basic education has an immediate and positive effect on small unit productivity and farmer's subsistence, and a farmer that has received four basic education years is 8.7% times more productive than those not receiving any. Farmers with more education obtain more benefits from using new technologies and adapting more rapidly to technological changes. In rural areas, making available better basic education services, literacy teaching and professionalization can substantially improve productivity and life levels. Edwards, (S/A) cited by Gasperini (2002) say that many children will be tomorrow farmers and educated children will have better opportunities of becoming more productive farmers. United Nations conferences during the last decade insist on education and training as essential for sustainable development.

In the economic variables it was observed that 94.6% of the rabbit production is complementary to other main occupations such as house work, agricultural or other non agricultural trades or professions and in only 5.4% of the rabbit producers it represents 51 up to 100% of the total economic income. Asley and Maxwell (2001) maintain that rural development contributes to consolidate equity and economic growth, this is why it is vital to modernize the agricultural area as part of a regional effort to increase competitiveness and suggest recognizing the pluriactivity and social web creation to reduce rural poverty.

84.1% of the producers had less than 30 female rabbits, these production units represent a small scale production system, whose destiny is for family consumption, 14.1% of the producers had 31 up to 300 female rabbit and their production was appointed to local market and use of technology for making their production more efficient. Only 0.4% of the producers are at industrial levels using imported technology. There was an average of 21 female rabbits per farm. Ávila (2006) found in five municipalities in Tlaxcala State that there were 175 associated producers, with an inventory of 2000 female rabbits and an average of 11.4 female rabbits/farm. In some African countries where FAO has motivated the production and consumption of rabbit meat there were 4 female rabbits/farm (Finzi, 2002); in Spain, there was an average of 661 female rabbits/farm (Carabaño, 2006); in France 570 female rabbits/farm (Tudela, 2006) and Gualterio (2006) reported that in Italy there was an average of 714 female rabbits/farm with the fourth place regarding meat production after bovine, porcine and poultry areas.

90% of the producers referred own resource financing for their farm and only 10% received help from the state or federal government. The existence of economically supporting programs in the agricultural activity with almost no recognition regarding rabbit production makes this activity a non credit subject.

85.5% slaughtered their rabbits in the farm without knowledge regarding sanitary regulations, 5.2% sold bunnies, 0.2% had slaughterhouses of their own. NOM (2005) establishes the characteristics for carcass and rabbit meat for consumption, to insure a quality product for consumers. The majority of the rural producers have production and commercialization approach, but no marketing strategies. Marketing strategies pretend looking for competitive advantages such as differentiation in products,

segmentation and marketing niche development (Lundy *et al.*, 2003). 47.8% of the State of Mexico producers did not use publicity, 19.7% used written propaganda such as signs, announcements, leaflets and painted fences. 1.2% used direct exposition in gastronomic fairs or degustations. Alave (2006) points out that modern agrobusinesses have communication with their intermediate or final consumers to increase their sales.

There is an inventory of 10,933 female rabbits, with potential for generating 70 direct full time employments considering that the unit work man is 160 female/man. These female rabbits have the potential of producing 12,026 kg of carcass meat/week with a retail price of 5.5 dollars without considering the capacity of generating added value and additional employment for people dedicated to selling cooked rabbit as traditional food in touristic and gastronomic circuits in the State of Mexico, and without considering indirect employment for those who formulate and commercialize food or design or commercialize cages and special equipment for rabbit production.

89.6% were non organized producers, and 9.5% were registered in rabbit production associations. Lundy *et al.* (2003) pointed out that producers are naturally individualistic and are worried for looking for short term problems instead of looking for initiatives to promote organization, collaboration and competitiveness, translated in poor trust relationships with other members. 84.5% of the producers do not receive technical assistance and refer that they have no economic resources for paying for it or there is no one to give it or they do not need it.

CONCLUSIONS

Rabbit production in the State of Mexico is a small scale activity that produces innocuous and nutritive meat for family and local market, promoting direct working opportunities and economic income in men and women participation even though there are no official programs to promote and support experience and vocation of participants as valuable strengths and opportunities that the physical, demographic and commercial environment offers for this activity in the State of Mexico.

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