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**ORGANIZATION AND STRATEGIES OF BRAZILIAN RABBIT PRODUCTION
- A SEARCH FOR SOLUTIONS**

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ABSTRACT

Brazil is an emerging country with great potential for rabbit production. However, the history of this activity has been marked by ups and downs. The Brazilian rabbit population has decreased over the last few years despite the considerable increase of pet rabbits. It is not possible estimate the exact amount of meat produced, because most of it happens in informal conditions. We know that the demand for meat is greater than the supply. Pet rabbit production has grown in recent years and attracted the interest of new breeders. There is a great market to be explored considering items and services for pet rabbits. There are a lot of institutions that research and teach rabbit science. It has been noted that several renowned researchers are retiring and new researchers are needed. There are over 40 factories of rabbit feed, but few present quality and good prices. There are many problems that affect Brazilian rabbit breeders, with emphasis to the lack of specific public policies to support this activity, the work of breeders without organization, the need to improve the available genetic material, the lack of slaughterhouses and lack of meat processing plants, the lack of specialists in rabbit production, the lack of good quality materials and equipment, the lack of public information about the nutritional quality of rabbit meat and the high price of meat to the final consumer. In addition, Brazilian law is extremely strict for slaughterhouse installation. Actions have been implemented by the Brazilian Rabbit Science Association (ACBC) such as: the creation of discussion groups in the internet aimed at the improvement of the dialogue, the publication of a new webpage to disseminate technical information and activities, the organization and distribution of a CD with publications, the development of teaching materials such as feed formulation manual and supplements for rabbits, a publication with applied rabbit production and technical notes, events such as rabbit production mini courses, rabbit breeder day, national seminars of science and technology in rabbit science, the creation of a national magazine. Information and support for rabbit breeders and people interested in the matter, encouragement for the formation of cooperatives and associations of breeders and the institution of an award for professional notoriety. Besides these actions the implementation of courses for initial and ongoing training in rabbit production and the divulgation of this activity, highlighting its benefits to society and the development of an explanatory videos on the Internet have been planned. In the last two years, an increase in demand of meat production has been noted. The organization of the industry should be prioritized so that dialogue can occur and the management of buying and selling can happen through a proper channel.

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1) Introduction

Brazil is a developing country that has excellent conditions for rabbit production. However, this activity went and still goes through numerous difficulties related to production technology, and organizational deficiency in the production chain and lack of specific policies for the sector, which raises the costs of production. The proper structuring of the production chain, as well as the promotion of dialogue among actors is very important to the activity so it can be performed safely and profitably.

This work presents information about the rabbit industry in Brazil, structure, strengths, limitations and challenges for the Brazilian rabbit production. It can be an attractive activity that generates a quantity of goods and services to the society. Also presents some actions implemented by national scientific association in order to improve the dialogue between those involved in rabbit production, thus seeking to contribute to the improvement of the structure of this activity.

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2) Brazil, an emerging country with agricultural vocation

Today, Brazil is an emerging country and presents favorable conditions for the development of rabbit production. Its area of 8 514 million km², with a population that exceeds 200 million, with most of the territory of cultivable areas, presenting predominantly tropical climate although presents other types of weather throughout the vast territory.



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Nowadays Brazil is considered the world's seventh economy. Some Brazilian indexes can be seen in Table 01 and reflects the views of an emerging country.

Table 01 - General Brazilian Indices

Indices	Value
Life expectancy*	73,4 years
Illiteracy*	9,6%
HDI*	0,73
GDP Growth in 2013**	2,5%
Inflation in 2013**	5,9%
Unemployment rate in 2013**	5,4%
HDI in 2013**	US\$ 2,07 trillion**

* Data obtained from IBGE (2010)

** Data obtained from different sources

Brazilian economy is based on agricultural products, livestock, mining and manufacturing and consumer durables. In livestock production poultry, beef cattle, dairy cattle and swine production stand out, with smaller scale production there are sheep, goats, horses, buffaloes and rabbits. Even in a period of crisis and low global growth in 2013, there was an increase of 2.5% of GDP and 4.45% of agribusiness. However, forecasts made by the International Monetary Fund (IMF) and published in July 2014 show that Brazil will grow only 1.3% in 2014 and 2.0% in 2015, suggesting that the country is going through a slight recession. World crisis is also affecting all emerging countries.

Brazil is a country that is emerging to be the largest agricultural exporter in the world. Projections made by the Ministry of Agriculture, Livestock and Supply (MAPA, 2013) for the years the 2012/13 - 2022/23, refer to a situation where Brazil will be the largest producer and exporter of meat in the world by 2023. According to Roppa (2008), the most consumed meat is poultry (43.0 kg/inhabitants year), followed by beef (42.2 kg/inhabitants year) and pork (14.8 kg/inhabitants year). When compared to the consumption of such meat, consumption of rabbit is insignificant. Data from FAOSTAT (2014) shows that the production of rabbit meat in Brazil is 1 635 ton/year, which would result in an estimated consumption of 0.008 kg/ inhabitants year. It is

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known that most animals are slaughtered without inspection and these records are not computed in the official data. Anyhow, one can imagine the large expansion capacity of rabbit production in Brazil.

3) A brief history of Brazilian rabbit production - past and present

The history of rabbit production in Brazil has ups and downs, resembling the story of this activity in some neighboring countries, such as Uruguay (Denes, 2006). In the 60s and 70s, there were investments for the production of angora mohair, as well as for breeding young rabbits for the production of vaccines against FMD. As new technologies for the production of synthetic materials have been developed, as well as new ways to produce vaccine for the prevention of FMD were created, rabbit breeders had to adapt the use of animals for meat production and aggregate other products. By the final years of the '80s, rabbit breeding for meat production, was very encouraged by some state governments, such as the Our Rabbit Program in the Paraná State, aiming among others, the strengthening of family farming. For several reasons, including the lack of infrastructure and public policy and support of the sector, the system has been disrupted (Ferreira and Machado, 2007; Ferreira et al, 2010).

Looking at the estimates of rabbit population in the past few decades, we can see a gradual reduction over the years (IBGE, 2006; FAOSTAT, 2014). In 1992 there was a population of 593 000 animals, reduced to 350 000 in 2002 and 205 000 in 2012. It is necessary to consider that a portion of the population does not enter in the count, as emphasized by Machado (2012). Anyway, we can verify that in recent years the rabbit population has been slowly recovering its growth in some regions of Brazil. There was a slight increase in counted population between the years 2010 and 2011, although the population has decreased in 2012, mainly due to problems occurring in state of São Paulo. As remembered by Moura (2010) recent health problems related to outbreaks of bird flu and swine flu, may have contributed to the rise in demand for rabbit meat. During the years 2013 and 2014, all major slaughterhouses of Southeast Brazil demonstrated interest in the purchase of animals for slaughter, suggesting that progressively, the rabbit production will recover.



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It must also be emphasized that the Pet Rabbit Production, which provides pets with high value added, have been growing in recent years. This activity represents a significant portion of the rabbit production in the present market and is also an activity of extreme importance for the generation of income for small breeders.

4) Current Brazilian market of rabbit production

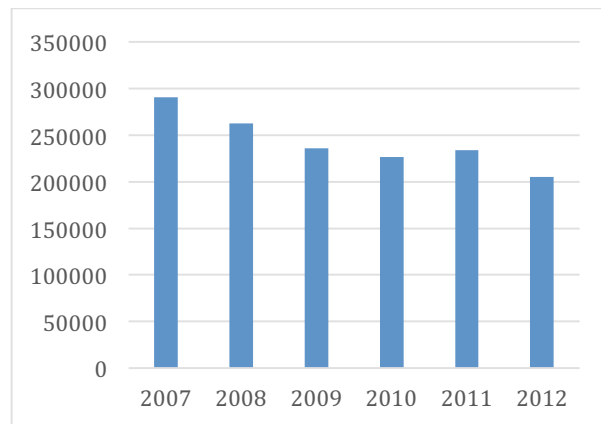
a) Statistical data of rabbits in Brazil

In Brazil, data of the rabbit population and rabbit meat produced are scarce, unsafe, slightly outdated, and lead to numerous questions. The agricultural sense 2006 (IBGE, 2006) outlined a total population of 295 584 animals, over 17 615 farms with an average of 17 animals per establishment. One must remember that most of these establishments is not commercial. Analyzing the groups of economic activity, it appears that most of the farmers also work with "Livestock and breeding of other animals" and "production of temporary crops". Indeed, one realizes that there are few stores that deal exclusively with rabbits and that the vast majority of rabbit breeders work with this activity secondarily. The data also show that most animals are in small properties, with dimensions up to 10 hectares. In 2006, it was verified that most of the animals were located in the southern region. Currently, even without official data, it is observed that the proportion of rabbits in the southeastern region increased considerably, mainly from the expansion of the rabbit production in the state of São Paulo. Most of the rabbit breeders are small producers (20 to 100 does) and work mainly for the production of meat or pet rabbits, although fur production, manure, animals for research, craftwork take place these products have little evaluations.

It should be noted that many livestock supervision agencies, which make the actual count of the animals do not do so in appropriate manners and in many cities where there are rabbits, there are no records of these animals. In addition, several pet rabbits are not considered. Therefore, we believe that the rabbit population reported in the 2006 census, and the population estimated by the FAOSTAT system, are underestimated, as mentioned by Moura (2010) and Machado (2012).

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Graph 01 - Evolution of the population of rabbits in Brazil –
 Source: Adapted from www.sidra.ibge.gov.br

Considering rabbit meat, the actual total production in Brazil is unknown. Some more experienced breeders reported a production 20-25 tons per month, this being, perhaps, the amount produced and inspected in the state of São Paulo. It must be remembered that the rabbit is created in other parts of Brazil and the largest amount of animals is slaughtered without supervision and sold regionally by rabbit breeders. Data from FAOSTAT (2014) system point to production of 1 635 tons for the year 2012 and that, as also commented by Moura (2010), Brazil is among the seven Latin American countries that produce more than 1 000 tons/year of rabbit meat. Although there had growth in the production of rabbit meat in global and Latin America levels, in recent years the Brazilian production of rabbit meat are decreasing (Moura, 2010).

b) Organization of the industry

The productive sector of rabbits in Brazil is, in general, poorly organized. There are some local initiatives, which include breeders, slaughterhouses, feed factories, distribution, etc (Machado, 2012).

Today there are few associations and cooperatives, consisting of less than ten structured groups in activity. It should be noted that the organization of rabbit breeders in little groups is the key for the success for entrepreneurs (Machado, 2013). The rabbit breeder is the weakest link in

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the production chain, so he is the one who gets the smallest share of the profits. It must be considered that the breeders work alone and hardly seek help from organizations, partnerships, institutions etc. The organization of the productive chain actors, as well as dialogue and collaboration between them, would be very important for sector growth. It is necessary to emphasize that there is the work of some isolated rabbit breeders seeking alternatives to get government funding or in the organization of rabbit breeders groups. It is also essential that the academic sector works together with the productive sector, seeking improvements applicable to the problems and challenges of the farms. These improvements cannot be proposed only for the scientific community. The information generated by research must be disseminated in an easy to understand way and must provide and applicability.

c) Rabbit Meat Breeders

Most Brazilian rabbit breeders raise animals for slaughter. The slaughterhouse prefers animals weighing from 2.3 to 3.0 kg providing carcasses ranging from 1.2 to 1.6 kg. Most of the meat is sold in as whole rabbit. Furthermore there is no sale of special cuts, processed meat and products such as sausages, ham, meatballs, hamburgers etc., which would be very important to increase the demand.

Most meat rabbit breeders are located in central and south of Brazil, but close to other urban centers in other regions of the country there are rabbit breeders also. São Paulo state has the most slaughterhouses, and there resides the only one qualified for export. In this state, especially in the years 2010, 2011 and 2012, the rabbit production was greatly stimulated, through various campaigns, mainly through television. Currently, a group of rabbit breeders in the region of Brasilia verified with the Federal Government, the possibility of inclusion of rabbit meat in school lunches.

The breed most used for slaughter in Brazil is the White New Zealand, other breeds of medium size, as the Californian, Chinchilla, and mixed breeds are used also. Only one lineage has been developed in Brazil, *Botucatu*, with high potential for meat production and maternal

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ability. There was no introduction of new genetic material in recent years, as has happened in Uruguay, reported by Denes (2006).

In the production of animals for slaughter, the profit margin is very low, mainly due to high production costs involved in the activity and the risk is very high because the rabbit breeders are dependent of factors such as acceptance by the slaughterhouses, transportation, feed, among others. The price paid per kilogram of live animal costs around R\$ 5.10 (US\$ 2.30), often being unfeasible considering the transportation and feed costs, among other factors. The current price of July/2014 released by the largest Brazilian slaughterhouse is R\$ 5.60 (US\$ 2.53), being this the highest price ever recorded.

Many rabbit breeders slaughter the animals and sell on their own, being this situation inconsistent with Brazilian law, which is extremely strict and bureaucratic in relation to meat commercialization. Moreover, it is not a common practice amongst Brazilian breeders the signing of contracts between those involved. In this sense, at all times, caution has been the key word for the new business in rabbit production.

The production of rabbits with an integrated system, model similar to the one used in the poultry industry, has been done in southern Brazil a few years ago, as shown by Militão (2011). In this model the breeder invests in the construction of rabbitry, purchases equipment and the integrator provides technical assistance and other inputs, ensuring the commercialization of the product. Although interesting, the system was unsuccessful.

Regarding the demand for animals for slaughter, the slaughterhouses have been increasing it, and there is also demand from the international market. It is verified that although there are a few breeders in Brazil, the quantity demanded is much higher than quantity produced.

In addition to producing animals for slaughter, most rabbit breeders take a byproduct for activity, even in an informal way (handmade), although the degree of utilization is less than ideal. Some breeders sell the skin *in natura* or processed, although most rabbit breeders eliminates this material because of lack of conditions and minimum volume to store and deliver. Except for a few exceptions, there are practically no farms that work with skin production, using specific breeds. There are still interested people that buy the raw skin at an average price of R\$ 2.00 (US\$

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0.90). When this skin is processed it reaches greater value, being sold at a higher price. One should note that there is great demand for Brazilian skins in the international market. It is not possible to export yet, mainly for logistical problems because the amount needed to close a container would be approximately 70 000 skins, being above of the production capacity of the cooperatives, centers and associations of rabbit breeders.

Other breeders have diversified the benefits from the activity. The most traditional way has been the sale of breeding animals that are normally sold at a minimum price of R\$ 100.00 (US\$ 45.00). The market for the sale of fur is highly restricted, existing in the state of Rio Grande do Sul, where very few breeders who do so. Rabbit manure is a by-product highly valued mainly by the gardeners and florists. Many rabbit breeders sell this material, being one important source of supplementary income. From the slaughter of animals, few breeders and slaughterhouses holds the information about the sale of other products such as bowels, blood, eyes, brain etc. The laboratories pay well for animals intended for studies and thus some breeders have achieved good profits offering animals for this purpose. This activity is performed with high bureaucracy by companies that buy, because the Brazilian law is very strict. Thus, favoring middlemen that go through all this documentation. There is an urge regarding the adoption of a certification of quality and food safety in the rabbit production and there are no governmental policies.

Although there are reports of problems with myxomatosis in 2008 in the state of Rio de Janeiro (Bruno et al., 2008), there are no vaccines for rabbits in the market. There are no other serious problems compared to what happened in Uruguay, which had serious problems with viral haemorrhagic disease (Denes, 2006).

Differently as occurred in Argentina, as reported by Douna (2007) and Moura (2010), in Brazil there is no regular export of rabbit meat. There is only a slaughterhouse located in the state of São Paulo, enabled for exports. Probably the tariff conditions and monetary conversion practiced in Brazil are not attractive or favorable in this moment, as in the neighboring country. In addition, the volume produced in Brazil is still very small.

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There are prospects for growth in the production of rabbit meat, considering the aging of population, the greater concern with high quality products, being yet a sustainably correct activity (Ferreira and Machado, 2007; Ferreira et al., 2010). One should also consider that several studies have pointed to Brazil as the future global food supplier, which will contribute to growth in all activities of animal production. However, the Brazilian market is in need of coordination to make the sales and marketing to facilitate contact between breeders and slaughterhouses, and perform sales and logistic.

d) Producers of pet animals

The production of pet animals is of great importance for the Brazilian rabbit production. One can not disregard that a rabbit owner is also a consumer of inputs with ample purchasing power, although it is uncertain that the same would constitute a consumer of meat rabbit. In Brazil there is ample space for growth of the two lines (slaughter and pet), without any competition between them or inhibition by consumers.

Data from the Brazilian Association of Products for Pet Industry revealed that in 2012, Brazil was the 4th largest country in the world in number of pets, with 2.17 million of “other animals”, including rabbits, reptiles and small mammals and excluding the aquarium fish. Still in 2012, the sector of pets moved about R\$ 14.2 billion (US\$ 6.62 billion) being the second largest market, together with Japan, accounting for about 8.0% of global turnover. Attention is drawn to the fact that it has been requested to the competent organ, that from 2016, the rabbit count may be carried out in separate way.

In recent years, particularly since the popularization of the internet, the pet rabbit production increased very significantly (Ferreira et al., 2010). In modern times, families are increasingly reduced, the number of people living alone is rising and the number of pets is growing. The pet rabbit have high added value, mainly arising from dwarf breeds. The sale price is varied and is common an animal be marketed on the average for about R\$ 80.00 (US\$ 36.30) to R\$ 150.00 (US\$ 67.87). The most used breeds for this purpose in Brazil are Mini Lyon Head, Mini Fuzzy Lop, Netherland Dwarf, Mini Rex, Mini Dutch, White Hotot, Hermelin, Polish among



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others on a smaller scale. Many breeders entered recently the market, stimulated by the high sale value of these animals, getting good profits from a relatively small number of animals. Besides the animals, many sell accessories such as cage, clothes, toys, feed and packaged hay, this being essential for raising the profit and success of the activity.

The sale and marketing of pet rabbits is mainly done through the internet, through particular sites, sales sites or social networks. Marketing is also done through outdoor fairs and pet shops. Creativity is essential to the pet breeder and location close to urban centers is preferable. It is also important that there is a commercial airport nearby to the breeder so that the animals may be transported by air.

To estimate the potential of this market in Brazil nowadays, when entering the key words "Mini Rabbit", in a traditional search site 7 750 000 results appeared. Also on specific sites for selling the amount of animals supplied is too large. When you consult the Facebook with the words "Mini Rabbit" the amount of profiles and groups is immense and the count is not possible. Of the 35 breeders indexed on the ACBC website, 26 are selling breeds of pet rabbits.

However, there is a big market for specific items and services to be explored for the pet rabbits. There are few shops, services or products specific to these animals. There are no cages with appropriate size for housing or with items of environmental enrichment. There is no specific feed technically formulated for this situation. Attention is drawn to the fact that in 2013, there was the creation of a small business for rabbit grooming, located in Salvador, state of Bahia.

It was also found that there are other websites that sell specific items, such as clothing, accessories and treats. Recently a website for buying and selling animals (Figure 01) was developed, and this idea initiated by traditional rabbit breeders from São Paulo.

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Figure 01 - Specific Site for buying and selling of pet animals, created by traditional rabbit breeders

e) Educational and research institutions

Brazil is a country with many higher education institutions and maintains several of these courses in agricultural and livestock sciences offered at public and private universities, colleges and federal institutes. Over the last thirty years, the research groups of the Federal Universities of Ceará (UFC), Lavras (UFLA), Minas Gerais (UFMG), the Rural of Rio de Janeiro (UFRRJ) and Santa Catarina (UFSC) and State Universities of Maringa (UEM) and Paulista (UNESP / Botucatu Campi and Jaboticabal) have gained prominence furthermore there are so many other good researchers in at least thirty institutions. It appears today that the specific subjects of rabbit science are invariably offered as electives and the teachers also work with others species in the research and teaching. The ACBC has assisted in the distribution of bibliographic and support materials open to consultation by the academic community.

As discussed by Machado (2012) in recent years there was a reduction in the percentage of courses in Animal Science that maintains a structured rabbitry. In 2001, 63.4% of the courses had this sector and in 2011, only 42.0% of the courses held. It should be emphasized that the main reason for that was the amazing growth in the number of graduation courses in Animal Science in Brazil and usually less traditional livestock sectors, such as rabbit sector, are not prioritized in the early years of recently created courses.

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A worrying situation in research in rabbit science is expected for the coming years. Some recognized researchers are retiring without preparing a new generation of researchers, which may result in a significant impact on research as well as the number of papers published in rabbit science.

f) Feed manufacturers

There are over 40 companies that produce feed for rabbits in Brazil. Do not know exactly the total volume of ration produced annually, but from personal information obtained, the quantity produced is much higher than the necessary to feed the rabbit population estimated by the national census. The rabbit ration is also used for other small herbivores.

Although much has been produced scientific knowledge about nutrition of rabbits in Brazil, most of this information "has not come to the feeder of animals", i.e., many manufacturers still fail in producing correct formulation of commercial rations for rabbits. Some manufacturers report that the volume demanded in the market is very low which discourages interest in investing in the quality of this product.

Most rations are sold at high prices. Many do not consider the inclusion of a fibrous source of good quality. In the market basically three types of ration are found: for little productions, usually with low quality and sold in pet stores and supermarkets, two industrial types one for growth and another for reproduction, which are of better quality, obtained from a commercial dealer. There is still a growing segment that is the ration for pet rabbits, of high added value, being sold at high prices without any apparent justification.

Brazilian law is absent with regard to the requirement of adequate nutrient levels in diets and declaration of minimum and maximum levels of nutrients. To exemplify this situation, it is required that the ration labeling displays the highest level of fibrous matter, while for rabbits should be necessary to show the minimum level associated with energy concentration.

Few are the rabbit breeders that negotiate larger amounts of ration directly from the manufacturer or its representatives, or even produce their own rations; these situations could reduce prices and provide greater feasibility of the system.



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5) Understanding the problems

In Brazil, there have always been many problems for rabbit production. Most are related to the lack of structure and organization of the sector, aggravated by the lack of dialogue between the actors of the production chain. Duarte (2011) points out that if the consumption of meat in Brazil is insignificant due to the low quantity, on the other hand production is low due to the little consumption which becomes a vicious cycle. The author also notes that the breeder is the weakest actor and burdened in the supply chain, because is dependent of the production inputs besides being a simple supplier of feedstock for industry. Thus, the breeder is subjected to a very high risk. There is not an institution that to deal with commercialization and marketing which would stimulate contact between producers and slaughterhouses, plus the ability to make sales and coordinate deliveries.

Although there is lack of a specific policy for the rabbit production in Brazil, there are of many options of loans for small investments. The Federal Government provides funds to start the activity at very low rates, provided that all documentation has been fulfilled. However, due to the high risk of the activity, most rabbit breeders feels insecure to access these resources.

But then, how could these problems be minimized? As appointed by Ferreira and Machado (2007) and Ferreira et al. (2010), the following critical issues stand out, especially considering the breeders than work with the production of animals for slaughter: lack of specific public policies to encourage the activity; the rabbit breeders have been working in isolation without organization; need for improvement of genetic material available; lack of slaughterhouses and meat processing; lack of specialists in rabbit science; lack of materials and equipment of good quality, especially cages; prejudice and lack of knowledge of the population in relation to the nutritional quality of rabbit meat; lack of investment and studies referred to the promotion of animal health and at last the meat high price to the final consumer. It should be emphasized that the rabbit meat in Brazil is still an elitist commodity, which has a high cost to sell, and most often sold as exotic meat. A kilo of rabbit meat arrives cost about R\$ 35.00 (US\$ 15.83) in some supermarket chains. If sold at a more affordable price, the quantity of sales could



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be much larger. Another point to be noted is that the chicken meat competes directly with rabbit meat and is much cheaper. It is common a kilo of chicken meat being sold at prices below to R\$ 5.00 (U\$ 2.26).

In a research presented at conducted a rabbit forum held in 2012 and unpublished, with 12 involved people from several Brazilian states, it was confirmed the observations made by Ferreira and Machado (2007), and five main problems were pointed out: the lack of certified slaughterhouses; lack of skilled health professionals in rabbit science as well as studies in the area; high acquisition cost of feed and manufacturing difficulties in the farm; lack of opportunities for funding or government support and difficult to access the specific literature, with little information for the breeders. Besides these, the lack of supply of good quality ration; lack of adequate technical assistance; difficulty in acquiring of genetically superior breeding; difficulty in the sales of products; difficulties of legalization and poor dissemination of the activity were other issues identified.

It should be emphasized that the activity of rabbit production presents high risk. In the state of São Paulo, in recent years there has been a large drop in the production level after several failed investments. Some rabbit breeders reported that they had to reduce the number of animals, which contributed to the reduction of the production. Associated with this, feed price has risen too, being common prices of R\$ 1.50 (U\$ 0.68) per kg.

One can not forget the high rigor and bureaucracy of Brazilian law for the construction of a legalized slaughterhouse, which greatly contributes to the increase informal slaughter of animals. To get an idea of the problem, there are practically no legalized rabbit meat in southern Brazil, a region that is identified with highest number of rabbits according to IBGE (2006). In addition, the new legislation on animal welfare has collaborated with new barriers to be dealt by rabbit breeders whom provide animals to laboratories.

Thus, it is clear the scale of the problems of Brazilian rabbit production. It will not be easy to resolve the majority of them in the short term. It is necessary for the sector to be organized in order to gradually minimize these problems. Collective interests should be prioritized over individual interests. An agent to coordinate sales and marketing is also crucial.



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6) The Scientific Brazilian Rabbit Science Association (ACBC)

The ACBC has focused on the promotion and dissemination of rabbit production. It plays today an outstanding role in establishing dialogue between all sectors of the industry. It was formed in 1996 by teachers and researchers of rabbit science, currently being an affiliation of the World Rabbit Science Association, global entity that seeks to put together those interested in the art and science of rabbit science.



Figure 02 - Historic photo of the ACBC meeting held in 1996, carried by Dra. Marilia Padilha

Although currently it counts with few associates, among teachers, researchers, students and rabbit breeders, the ACBC are seeking and enabling a greater understanding of rabbit agribusiness in Brazil, having an important role in the sector dialogue, discussion of problems, as well as providing information about the rabbit science. Apart from scientific meetings, it has promoted important events, supports and provides free technical support for rabbit breeders in online discussion forums, keeps an important site (www.acbc.org.br) with various information available to all interested parties, distributes a free compilation of many publications and publishes semiannually the Brazilian Journal of Rabbit Science (RBC).

7) Actions performed by the ACBC

During the last years, the ACBC sought to encourage the dialogue between the various production agents, as well as assist the rabbit breeders as best as possible. The association

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encouraged the organization of new associations and cooperatives. Furthermore the ACBC has been sought after by several people in various companies, institutions or interested in the activity. Questions originated from foreign, ministry of agriculture and livestock, recreation magazine, newspapers, Foreign Ministry, rabbit breeders in general, sites and others with interest in the activity, were received. Thus, it is believed that the ACBC currently plays important role as a consultative body, emphasizing also the role of interlocutor, promoting improvements in the understanding and dialogue, assisting in the resolution of problems relating to the rabbit production. The Following are the main actions taken by the ACBC since 2010.

a) Creation of discussion groups for improvement of dialogue

In 2010 a list of emails contacts from some teachers dedicated to rabbit science or took in scientific works was created. From there, the following months, the list increased with several emails obtained from schools. The movement gained strength whit the entry of the rabbit breeders, intensifying discussions on various issues and problems. Currently this list contains over 300 names, between rabbit breeders, students, teachers, researchers, staff and others interested in the activity.

A more specialized group “Brazilian Rabbit Production” was created in googlegroups. This group has about 100 people, mostly rabbit breeders. Since its creation, we discussed various topics of interest to rabbit science, such as use of heated nests, prevention of myxomatosis, prevention and treatment of scabies in rabbit, animal sales, assembly of slaughterhouses - documentation and structure, legislation and registration of new developments, lines of credit and government support for small entrepreneurs, quality of rations, registration and documentation for farms, mortality of young rabbits etc.

It seems that the group is very important in helping rabbit breeders for resolving questions and problems, although in recent years there has been a gradual reduction in participation. We notice also that after 4 years, these strategies have been key to improving the dialogue between the actors of the productive chain, since most of the breeders already know where to search for new information. The forum is also essential for those beginners in rabbit science.



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b) Creation of a webpage to disseminate technical information and activities

The ACBC had a website when its office was located in the city of Maringá. However, the update was difficult and the site was very limited, considering that it was linked to the general site of the State University of Maringá.

In 2011, the new management of ACBC started a website with specific domain (.org), which favored the updating and dissemination of information. Today the site www.acbc.org.br accumulates approximately 300 000 page views, getting about 400 of these per day and is the first site to be located by google from the key word "rabbit production". The site features news, technical notes, information about the sector, information about the association, publications, materials for download, interesting links, being extremely important for information dissemination in rabbit science.

Among the news, rabbit breeders' creativity is always highlighted, and also reported intentions to purchase, research results, curious facts, as well as various information about rabbit production.

Through the website the ACBC has also given support to slaughterhouses to disseminate purchase intentions and opportunities.



Figure 03 - Website of the Brazilian Scientific Rabbit Science Association

c) Organization and distribution of one CD of publications

In 2010 the direction of the ACBC began an activity of compilation of technical papers and others academics works for free distribution, the upgrade held every two years. This material was combined on a CD, which is sent free to interested people. During this time they were scanned and retrieved many old and valuable materials. Over 300 units of this material had been distributed for the whole country.

d) Preparation of teaching materials

- Guidebook for formulation of ration and supplements

Whereas almost no standardization of rabbits rations in Brazil and that most diets do not meet the nutritional requirements of the specie, the ACBC drafted in 2011, a guidebook of feed formulation and supplements to these animals, providing information about the requirements, nutritional value of ingredients, inclusion levels as well as practical strategies for preparation of rations and supplements. A second edition of this material, revised and enlarged, was published in 2014.

- Practical guidebook of rabbit production

Whereas there was a great shortage of materials easy to read for the breeders, the ACBC drafted in 2012, a practical guidebook on rabbit production, which is available on the ACBC website and is highly sought by all segments.

- Technical Notes

Technical notes try to meet the gaps and problems that are observed in the daily farms. Are prepared by professionals and placed on the ACBC website. Examples of how to elaborate techniques notes and already available: "Transport of rabbits to the slaughterhouse", "PET rabbits, mini or dwarf", "Cost management" and "Mortality of young rabbits", the latter being

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drawn from the collaboration of 12 people among teachers, students and breeders, seeking to understand and propose solutions to the problem of high mortality of young rabbits.

e) Holding events

As noted by Machado (2013), the events in rabbit science are extremely important to promote dialogue between the various involved, as well as to present and discuss new proposals and technologies for the sector. There should be events where all segments can participate. Some events held in Brazil in recent years are presented next:

- Short courses of rabbit production

The short courses are essential for dissemination of activity and professional training. They are held in different cities and states in most cases independently. In recent years were performed short courses in Uberaba (MG), Viçosa (MG), Lavras (MG), Cuiabá (MT), Foz do Iguaçu (PR), Botucatu (SP), Areias (PB) etc. It is necessary to increase the number of short courses as well be offered to the less traditional areas.

- Rabbit breeder day

The rabbit breeder day was an event held in 2011 in the city of Esteio-RS, during the EXPOINTER, the largest livestock fair in Latin America. On this occasion, we tried to resume the performance of specific events in rabbit science, which are essential to promote improvements in the dialogue between everyone involved in the rabbit production, as well as presenting new technologies. There were about 70 people between breeders, students, professionals and professors. It was noticed that the event was very important for mobilization of the sector as well as served as a stimulus for rabbit breeders continue in the activity beyond the elevation of self-esteem.



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Figure 04 – Rabbit breeder day held in 2011 in Esteio - RS.

- National Seminar of Technology and Rabbit Science

National seminars of technology and rabbit science (SENACITEC) are events that seek to present and discuss general issues of interest to the sector. In the late of 90s, 3 editions were held. In 2012, the IV SENACITEC was held in the city of Botucatu-SP, being very important for the promotion and dissemination of rabbit science because it provided extensive dialogue, publication of papers, conferences, short course and one homage. In 2013, the V SENACITEC was held concurrently with the ZOOTEC 2013 being the largest multi event of Brazilian Animal Science, held in Foz do Iguacu-PR. Currently the ACBC are studying the best way to hold this event, together with a multi event or not.



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Figure 05 - Opening the IV SENACITEC, occurred in 2012 in the city of Botucatu - SP

- Meetings of the productive sector

Although ACBC does not directly organize the meetings between breeders, it supports them, which is essential for further dialogue in the sector in addition to identifying problems and possible solutions.

In August 2010, about 12 people, mainly breeders attended the first meeting. After several discussions of different matters the main goal of the meeting, which was the formation of the national confederation was not achieved. In 2011, on the occasion of the rabbit breeder day, a new meeting took place the issue was discussed and a new business proposed.



Figure 06 - First meeting of the rabbit productive sector, held in 2010 in Esteio-RS



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- Fairs organized by breeders

The ACBC supports the divulgation of fairs organized by rabbit breeders on their own as well as events organized by associations and cooperatives. These fairs are key to marketing of animals and for the dissemination of the activity.



Figure 07 - Exposure of rabbits in EXPOINTER in Esteio-RS, competing as the largest fair, exhibition and judgment of rabbits Brazil.

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f) Creation of a national magazine

The creation of a scientific journal was an aspiration of the association. From the ACBC meeting held in 2011, on the occasion of the rabbit breeder day, we chose to implement a magazine to publish general issues about the market in rabbits, in addition to scientific articles and literature review. This decision was extremely important to the growth of the magazine. Thus, in 2012, the first edition of the Brazilian magazine of rabbit science (RBC) was published and is available on line on the address www.rbc.acbc.org.br.



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Figure 08 – Web site of the Brazilian magazine of rabbit science

During these years, the RBC was approached by various interested people, especially professors, researchers, students and rabbit breeders. A total of 11 scientific papers, six articles of literature review, one article of extension, two opinion articles and four patterns racial (New Zealand, Castor Rex, Chinchilla and California), and other miscellaneous information about the sector has been published in five editions.

g) Service for rabbit breeders and interested people from around the country

In addition to organizing the academy, the ACBC tries to promote the rabbit science through dialogue and guidance to producers and interested. The attending to these people has been held by phone or e-mail and has been performed widely. This advice is very important for the promotion of rabbit production in a cautious manner and with greater security.

h) Encouraging the formation of cooperatives and associations of rabbit breeders

The ACBC has spurred the organization of rabbit breeders through associations and cooperatives, as it believes that one of the outputs for successful activity is the union of breeders,

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as also highlighted by Machado (2013). A group will be much stronger and more stable, forward market fluctuations when compared to a breeders in isolation.

In January 2014, met rabbit breeders, representatives from academic and livestock support, for the creation of Brazilian Association of rabbit breeders. This association will play a key role in organizing of the Brazilian rabbit breeders, it also helps to improve dialogue between those involved in the activity.

Currently, the elected council has faced many bureaucratic problems to the registration, which has contributed to discourage and delay to the start of the activities. The name of this association is being changed to "Rabbit breeders association of pet and slaughter" (ACPEC).



Figure 09 – First meeting for the formation of the new rabbit breeders association

i) Institution of one award for a feature professional

To recognize people who have dedicated much of their life to the promotion of rabbit science, in 2012 a recognition of dedication award was established. For the name of the award, the name of Dr. Laura de Sanctis was chosen; she was an extensionist who served in rabbit production in the 80s and 90s, being a person intensely dedicated to the development of this activity. The award has already taken place in the years 2012 and 2013.

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8) Recent changes in demand for animals for slaughter

At the end of 2013 and early 2014, it was realized that the main slaughterhouses of the Brazilian southeast increased demand for live animals for slaughter. A related news was reported in the media and linked to the ACBC website (Figure 09). The four main slaughterhouses in southeastern expressed interest in the purchase of live animals for slaughter. Some of them are paying R\$ 6.00 (US\$ 2.71) per kilogram of live animal. In the Federal District, some breeders reported that are getting R\$ 8.00 (US\$ 3.62) per kilo, being this the highest value ever reported.

The organization of rabbit breeders in small cooperatives is very important to meet the demands of these slaughterhouses.

Cunicultura paulista volta a crescer

Maio/2014



A cunicultura paulista passou por um período de leve turbulência nos anos de 2011 e 2012, onde alguns cunicultores haviam desistido da atividade. Aos poucos, o estado está retomando seu crescimento. Uma reportagem da rede globo enfatizou a atual falta de coelhos no mercado. O vídeo pode ser visualizado em:

<http://g1.globo.com/economia/agronegocios/noticia/2014/05/mercado-de-coelhos-esta-aquecido-e-criadores-nao-atendem-demanda.html>

De uma maneira geral, percebe-se no Brasil, aumento da procura por animais vivos por parte dos frigoríficos dos estados de São Paulo, Minas Gerais e Rio de Janeiro.

Figure 10 - News reports that the great demand for live rabbits for slaughter in the ACBC web site

9) Upcoming challenges

There are many challenges for the rabbit production to become an organized activity, generating large amounts of goods and services. New ideas to be developed by the ACBC for future implementation are:



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a) Courses of initial and continuing training

It is one of the future projects of the ACBC, the promotion of courses of initial and continuing training in rabbit science. This initiative is very important to improve the qualification of the breeders, being necessary the professionalization of those involved in the activity. Currently, the syllabus of these courses are already being drafted, and should be done by 2017. It is also important also that there are more professional practice opportunities in commercial farms for interested students.

b) Divulcation of the activity of rabbit science

For the association it will be important to invest in publicizing the activity of rabbit production as well as its benefits to society. Thus, the ACBC plans to print information for distribution. Besides printed material, this campaign will be done also through websites, e-mails or social networks, and may also be initiated in 2014.

c) Creating a channel for the dissemination of explanatory videos

Leveraging the popularity and ease of "You tube" the ACBC plans to create a channel for the dissemination of explanatory videos on rabbit science as well as treat a simple and objective way some problems of productive activity. It is thought in creating of a program called "Dr. Cuni", where various experts could make their contribution. This activity can be implemented by 2018.



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Final considerations

Brazil presents great conditions to support the growth of rabbit production. However, the difficulties encountered by rabbit breeders are still persistent, highlighting mainly the strictness of the Brazilian legislation. There is need for an entity to organize the purchase, sale and delivery of animals nationwide.

Identified problems should be solved by improving the dialogue between all actors involved in the production chain, and the union of the breeders should be prioritized. In addition, the breeders should increase their production, diversifying and commercializing more than live or slaughtered animals, the others products and sub products of the activity must become real alternatives.

References

BRUNO S.F., SANCHEZ C.M.S., MATIAS A.S.A. 2008 Mixomatose: uma doença emergente no Estado do Rio de Janeiro e suas implicações na cunicultura nacional. **Revista do Conselho Federal de Medicina Veterinária**. v. 45, p. 68-71, 2008.

DENES D. W. Políticas y estrategias de desarrollo de la cunicultura en los países Americanos: Informe Uruguay. In: Congreso Americano de Cunicultura, **Anales...** 3. Maringá - Brasil, 2006.

DOUNA E. **Historia y situación actual de la cunicultura en Argentina**. Artículos Técnicos, 2007. Disponible en <http://www.engormix.com/MA-cunicultura/articulos/historia-situacion-actual-cunicultura-t1788/p0.htm>

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS. **Faostat – Production: livestock primary: rabbit meal**, 2012. <http://faostat3.fao.org/faostat-gateway/go/to/download/Q/QA/E> - consultado em 02/07/2014

FERREIRA W. M., MACHADO L. C. Perspectivas da Cunicultura Brasileira. **Revista Veterinária e Zootecnia em Minas**, p. 41-44, 2007.

FERREIRA W. M.; MACHADO L. C.; RAMIREZ M. A.; FERREIRA S. R. A. The Rabbit Production in Brazil. In: Congreso Americano de Cunicultura, **Proceedings...** 4. Cordoba - Argentina, 2010.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTADÍSTICA. Senso Agropecuario 2006 – Resultados preliminares. 2006. Disponível em:



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<http://www.ibge.gov.br/home/estatistica/economia/agropecuaria/censoagro/2006/agropecuario.pdf>

MACHADO L. C. Opinião: Panorama da Cunicultura Brasileira. **Revista Brasileira de Cunicultura**, v. 2, n. 1, 2012. Disponível em

http://www.rbc.acbc.org.br/index.php?option=com_content&view=article&id=63&Itemid=71

MACHADO L. C. Opinião: Organização, eventos e comunicação em cunicultura. **Revista Brasileira de Cunicultura**, v. 4, n. 1, 2013. Disponível em http://www.acbc.org.br/images/stories/Opinio_-_organizacao_eventos_e_divulgacao_em_cunicultura.pdf

MINISTÉRIO DA AGRICULTURA, PECUÁRIA E ABASTECIMENTO – Assessoria de Gestão Estratégica. **Projeções do Agronegócio – Brasil 2012/13 a 2022/23 – Projeções de longo prazo**. 2013. Disponível em: http://www.agricultura.gov.br/arq_editor/projecoes%20-%20versao%20atualizada.pdf

MOURA A. S. A. M. T. Rabbit Production in Latin America. In: American Rabbit Congress, **Proceedings...** 4. Cordoba - Argentina, 2010.

ROPPA L. Brasil: O consumo de carnes passado a limpo! **Aveworld**, 2008. p. 10-14.

DUARTE C. L. G. Reflexão - A cadeia reprodutiva do coelho. **Cunicultura em Foco**, v. 1, p. 9-10, 2011.

MILITÃO L. Entrevista. . **Cunicultura em Foco**, v. 1, p. 11-12, 2011.

SIDRA: **Sistema IBGE de Recuperação automática**. Disponível em: <www.sidra.ibge.gov.br>. Acesso em 16 de Julho de 2014.