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Profile and perception of consumers of goat and sheep meat in Euclides da Cunha – BA

Profile and perception of the consumer of goat meat and sheep in the municipality of Euclides da Cunha – BA

Summary

The aim was to understand the profile of consumers of goat and sheep meat in the municipality of Euclides da Cunha. - BA. Questionnaires were applied, which addressed aspects of the consumer, such as: gender, age, education, income, occupation, in addition to frequency of consumption, reasons for not consuming, characteristics appreciated in meat, aspects related to the purchase, among others. The majority of the interviewees (54.4%) were male and the age range of the interviewees varied from 17 to 74 years old, with more than 50% being between 16 and 35 years old. It was found that 31% of the interviewees had completed higher education and that the majority (44.4%) had an income between 1 and 3 minimum wages. 89.1% stated that they consumed goat and sheep meat and only 1.1% said they did not consume it. Of these, 18.9% consume it daily, while 35.6% consume it weekly. 70% of the consumers choose to buy from butchers and slaughterhouses and 24% are responsible for their production. One of the factors that most influences purchasing decisions is the health and hygiene of the product and its price. Goat and sheep meat are highly appreciated by the people of Euclid. Actions to improve and organize the production chain should be promoted, aiming to give greater visibility and value to the product.
Keywords:goat and sheep farming, consumption, animal protein

Abstract–The objective was to know the profile of the consumer of goat meat and sheep in the municipality of Euclides da Cunha - BA. Questionnaires were applied, which addressed aspects of the consumer, such as: gender, age, schooling, income, occupation, in addition to frequency of consumption, reasons for not consuming, characteristics appreciated in meat, aspects related to the purchase, among others. The majority of respondents (54.4%) are male and the age range of the interviewees ranged from 17 to 74 years, being more than 50% with a range of 16 to 35 years of age. It was found that 31% of the interviewees had completed higher education and that the majority (44.4%) has an income between 1 and 3 minimum wages. 89.1% reported consuming goat meat and sheep meat and only 1.1% said they did not. Of these, 18.9% consumption daily, while 35.6% weekly. 70% of consumers choose to buy in butchers and refrigerators and 24% are responsible for their production. One of the factors that most imply in the purchase is the sanity and hygiene of the product and price. Goat and sheep meats are much appreciated by euclideans. Actions to improve and organize the production chain should be promoted, aiming to give more visibility and appreciation to the product.
Keywords:caprinovinoculture, consumption, animal protein

Introduction

Sheep and goat farming is an activity of great relevance to the economy of the Northeast, especially if we consider the high capacity of these species to adapt to the conditions of the Semiarid region and the potential of products generated, all with the potential to be commercialized and generate income and as a source of protein in the diet. In specific regions, livestock farming traditionally aims at commercialization, food, and use as a reserve of value in times of financial difficulty.

In Bahia it is no different, as sheep and goat farming has consolidated itself as one of the main subsistence activities for rural families and the local population, which, despite low-technology farming and low production rates, can have significant socioeconomic significance, as it generates local income and moves the production chain.

Among the products resulting from this activity, meat can be considered the most noble, having gained space in the most diverse menus of northeastern cuisine, due to its high nutritional value and acceptability, mainly of a cultural nature for (Amaral et al., 2012).

The importance of meat in human nutrition is undeniable, along with eggs and milk, it appears as excellent nutritional source, ensuring its daily presence on tables. It has proteins of high biological value both in qualitative and quantitative aspects. According to Albuquerque et al (2017), it is rich in essential amino acids, and in a balanced way, it meets approximately 50% of the daily protein needs of humans.

However, it is only in recent years that these meats have received more attention, being found

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more frequently found in supermarkets and butchers who do not specialize in these species, not only in large cities but also in small towns, demystifying the idea that it was merely for rural consumption and only in the interior.

The consumption of goat and sheep meat by Brazilians is lower when compared to other species (beef, pork and poultry); however, in large urban centers, especially in the Southeast region, there has been an increase in their consumption. For this growth to continue, producers must increasingly focus on offering a quality product (Vieira et al., 2010).

In some regions of Bahia, such as the northeast of Bahia, due to the aptitude and tradition in the exploration of goats and sheep, this consumption has greater potential, and can be improved, based on knowledge and investment in improving the chain.

The lack of investment and expansion of the production chain in this segment of the livestock scenario may be directly related to the lack of accurate information on the consumption of sheep and goat meat and estimates of consumer habits, reflecting the population's lack of knowledge regarding both the product and the production systems (Constantino et al., 2018).

Understanding what a population thinks about a given product, especially one of great cultural and economic importance, is crucial for local decision-making and management of actions to improve the supply of these products. The opinion of the end consumer must be taken into account in the meat production chain, mainly because they express opinions about the most important characteristics of this product, through the expression or lack thereof of satisfaction with the product.

It is known that misinformation regarding knowledge of how the market behaves ends up exposing some difficulties for producers to plan, especially regarding the scale of production and the main characteristics of the products that they will place on the market, aiming to meet demand. This fact compromises the economic results of production systems (Carvalho et al., 2016). Thus, the objective was to evaluate the consumption profile of goat and sheep meat in the municipality of Euclides da Cunha - BA.

Material and Methods

To collect the information necessary to meet the objectives of this work, a “Survey” type research was carried out, where interviews were conducted with randomly chosen participants.

The interviews addressed themes (questions) about the topic studied, where a structured questionnaire was applied, aiming at standardizing the data collection process (Francisco et al., 2007).

This study was developed in the municipality of Euclides da Cunha, Bahia, with the application of questionnaires taking place between January and May 2020. Interviewers approached people in different sectors of the city (commerce, streets, residences, educational institutions, public offices, among others). In total, 150 complete interviews were conducted.

The structured questionnaire contained 46 multiple-choice and/or option-box questions, which addressed aspects related to the interviewee's socioeconomic characteristics (profile) and consumption of goat and sheep meat.

The data were collected in the presence of the researcher (interviewer). Appropriate language was used to adapt the situation, so that the interviewee could feel comfortable during the interview, with their observations being taken into account, so that the researcher remained impartial throughout the interview.

The interviews were only conducted with people over 16 years of age. The interviews took place randomly, on different days of the week. They were quantitative approaches, aiming to point out in numbers, the existence of a fact and the proportion in which it occurs in our society.

The questions allowed us to verify aspects inherent to the consumer profile, such as gender, age, marital status, monthly income, education, consumption, reasons for not consuming, frequency of consumption, place of purchase, influence on purchase, preference for type of cut.

The questionnaire was applied and the data collected was managed and stored using the Google Forms data collection platform. From the interview results, graphs and tables were generated using electronic spreadsheets, providing averages and frequency of occurrence of each proposed event. The questionnaire was applied and the data collected was managed and stored using the Google Forms data collection platform. From the

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results of the interviews, graphs and tables were automatically generated, providing averages and frequency of occurrence of each proposed event.

Results and discussion

As an operational tool, the application of questionnaires in systematic research is widely used to characterize the opinion of a given population on a specific subject. In this way, this process helps the researcher to access events that have already occurred, develop consumption and behavior profiles, in addition to applying various diagnoses.

Of the consumers interviewed, 54.4% were male and 45.6% were female. As mentioned, children were not interviewed, so of the total considered in the approach, the age range of the interviewees varied from 16 to 74 years old, with 54.44% being between 16 and 35 years old, while 14.44% were 56 years old or older, as shown in Table 1. The ages that occurred most frequently were 27 years old (8.8%), 20 and 35 years old (6.66% each), 57 years old (5.55%) and 30 years old (4.4%).

Table 1. Profile of consumers of goat and sheep meat in the municipality of Euclides da Cunha – BA

Sex		**Age (years)**			
Masculine	Feminine	16-30	31-45	46-59	> 60
54.40%	45.60%	42.22%	32.22%	22.22%	3.33%
Education					
Illiterate	Fundamental	Average	Superior incomplete	Superior	Post-Graduate duation
2%	11%	31%	31%	11%	13%
Monthly Income (minimum wages)					
No income	Up to 1	From 1 to 3	From 4 to 6	From 7 to 9	> 10
15.60%	30%	44.40%	3.30%	5.60%	1.10%
Occupation					
Retiree	No occupation-dog	Student	Self-employed/ Businessperson	Public servant	Private employee
9.2%	7.1%	31.6%	22.5%	21.4%	15.3%

A social profile of the interviewees was drawn up, with regard to education, jobs, and economic power, represented by monthly income. Regarding the level of education, for example (schooling), 31.1% of the interviewees had completed higher education and 11.1% had completed higher education, while only 2.2% said they were illiterate (Table 1). The percentage of interviewees with postgraduate degrees was 13.3.4%.

An important aspect of the consumer profile, directly related to the purchasing power of meat, is income, which varied between 1 and 10 minimum wages. Of those interviewed, 44.4% have a monthly income of 1 to 3 minimum wages, 30% have an income of up to one minimum wage and 15.6% have no income whatsoever. Other details related to income can be seen in Table 1.

The occupations found among the interviewees were as varied as possible, ranging from retirees, students, and even civil servants. One point worth highlighting, on a positive note, is that the rate of unemployed people was not that high, not reaching 8% (Table 1), revealing an important social indicator, which is a low unemployment rate.

The greater number of people with a family income below a minimum wage and a maximum of three minimum wages may be related to the levels of education presented, as the greater percentage of people with only a secondary level of education corroborates with a greater portion of lower paid people.

When asked about the consumption of goat/sheep meat, 77.3% stated that they consume it and only 1.1% declared not to consume (Figure 1).

Figure 1. Preference of the main meats consumed in Euclides da Cunha –BA

The questionnaire also asked about other meat consumption preferences, showing that everyone also had other preferences besides goat and sheep, such as for beef (92.2%) and less for fish (64.4%).

Of those who declared themselves to be consumers of goat and sheep meat, 18.9% consume it every day and 35.6%

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consume weekly. Only 4.4% said they rarely consume it, at most twice a year. Those who stated they do not consume goat/sheep meat gave the reason as high fat content, a reason given by 45% of the interviewees, who attributed this to the rancid characteristic of the meat (Table 2). These reasons listed corroborate the reasons for non-consumption verified by Pessoa (2019).

Table 2. Profile of goat and sheep meat consumption of the population of Euclides da Cunha – BA

Consumes goat/sheep meat		**Reasons for do not consume**
Yes 91.1%		Flavor 75.67%
Frequency of consumption		
Does not consume 6.7%		Rarely (>5 times/year) 4.4%
Place of purchase		
Pro-production priate 24.4%		Other sellers 11.1%
Cut preference		
Indifferent 20%		Rear 44.4%
Factors that influence the purchase of the meat		
Health/hygiene 61.2%		Price 40.8%

These daily consumption data are important from a cultural and, mainly, economic point of view, as it is understood that the increase in commercialization to meet this demand has led to the emergence of more breeders, making prices more accessible, in addition to reinforcing to society that the municipality already has an important demand for infrastructure, designed for slaughtering and improvements in commercialization.

For authors such as Costa et al. (2008) and Pessoa et al. (2019), the deposition and distribution of body fat in goats and sheep can in fact influence the acceptability of meat, a fact also verified by Gois et al. (2016). Many people, both in the research and in a general context, gave as a reason the characteristic odor of the meat, being a trademark of this product.

These sensory characteristics can indeed interfere with the variation of the consumer market, as also stated by Constantino et al. (2018). For them, these characteristics considered unpleasant, linked to odor and flavor, are responsible for not attracting more adherents to the list of regular consumers of meat products from these species. This means that the standards of acceptability of meat among the population are very divergent, even within a single municipality, even where goat and sheep have great cultural and social value.

From the above, it can be seen that, just like beef and pork, goat and sheep meat also have some cultural restrictions or taboos. However, many people avoid them due to the manifestation of this characteristic odor during cooking. Young et al. (1994), reporting on the odor of goat and sheep meat, state that it is a highly appreciated characteristic in some countries, and can be masked (herbs) in those those who are not.

Examples include Kuwait, Saudi Arabia, Libya, among others, however, these are countries where consumption*per capita*exceeds 35, 21 and 18 kg/person/year, respectively, while in Brazil, this number is 0.5 kg/person/year, with the northeast having a consumption three times higher, 1.5 kg/person/year, with a highlight on the two main cities of the São Francisco Valley, Juazeiro (BA) and Petrolina (PE), with consumption of 10.8 and 11.7 kg per capita, respectively (Nogueira Filho; Kasprzykowski, 2006).

Consumption differs even more when compared with the consumption of the most consumed meats in Brazil, which are beef, poultry and pork, with consumption of 38.6 kg/inhab/year, 46.8 kg/inhab/year and 14.5 kg/inhab/

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year, respectively (Castro Jr, 2017; Pessoa et al., 2019).

Even with these exceptions (some cities such as Juazeiro and Petrolina), it is still clear that the average consumption in Brazil is in fact far below that of many countries, such as those mentioned above and other developed countries, which have averages ranging from 20 to 28 kg/person/year. In part, this is a reflection of deficiencies in the production chain, as in many regions, even with a tradition of raising animals, animals are rarely slaughtered in the city and/or reach the shelves. Only in recent years has it been observed that these meats have become more popular in supermarkets and non-specialized butcher shops, giving consumers more options of dishes in restaurants in cities in the interior (Seanson & Santos, 2009).

The population of Euclid has shown itself to be very fond of consuming goat and sheep meat, even with some supply limitations, as we will see in this article, since of the entire population interviewed, 91.1% and 87.8% said they liked goat and sheep meat, respectively, thus demonstrating the local appreciation of these species, even more so since consumption takes place in their own homes, in 86.7% of cases.

This preference of the population of Euclides da Cunha certainly means that the average local consumption is above the national average, considering an estimated consumption of approximately 4 kg/ person/year.

When asked how often they consume goat/sheep meat, 18.9% of respondents said they consume it daily and 35.6% weekly, with butchers and cold storage facilities (70%) being the main place of purchase, followed by their own production (24.4%), supermarkets (20%) and street markets (16.7%). Among other aspects, price was also considered an important factor in this frequency of consumption, which was considered high by 23.3% of respondents, indicating an average price of R$18.50 per kilo.

There has been much discussion in society in general, especially in cities in the interior of the Northeast, about issues related to illegal slaughter and lack of certification, as a result of the lack of infrastructure in this production chain, a fact also observed by Diniz et al. (2012). With this in mind, another issue discussed with the interviewees and considered important in the decision-making process for purchasing meat was quality/origin, so that 80% consider meat quality to be essential as a parameter for purchasing, followed by health and hygiene (57.8%) and price (42.2%). These beliefs will have a great impact on the moment of choice, especially regarding the places where these products will be purchased.

This last approach is essential to understand how the population deals with food safety issues, supporting experts in drawing up an appropriate plan to attract public policies aimed at improving the production chain. This can give consumers confidence in the products they are purchasing and, consequently, win over more followers of goat and sheep meat consumption.

Checking these consumption data, with regard to the frequency with which the people of Euclid consume these meats, it becomes clear how essential this product is in the diet of this population, not to mention its value as a cultural and social heritage. It is clear that we cannot close our eyes to a reality that, while there is great potential for exploitation to meet demand, there is also a lack of structure, especially with regard to the slaughter and processing of these products, which directly results in discrediting them, which is not interesting for a municipality that sees goat and sheep farming as a great possibility for moving figures in the local economy.

It should also be part of the strategy to attract potential consumers to invest time and resources in marketing meat and cuts from these species, emphasizing mainly the fact that it is a healthy food (Monte et al. 2012), considering that among the most consumed meats in the world, goat meat, for example, is the healthiest, having the lowest cholesterol content (2.75g of fat in 100g of meat), even less than chicken meat (3.75g of fat in 100g of meat), in addition to being the two meats (goat and sheep) with the best digestibility (Carneiro et al., 2012).

However, due to the reality found in the municipality, which does not have a slaughterhouse and, as a consequence, an inspection seal, a natural tendency for consumers to opt for convenience, purchasing selling their meat products at more popular points of sale, which in many cases offer them at lower prices. Another factor that reinforces this trend is the fact that most local supermarkets do not offer many options of goat and sheep cuts in their butcher shops.

Cultural factors also favor these purchasing choices, given that family relationships, often passed down from generation to generation, strengthen this relationship of trust between seller and buyer, endorsing the credibility of suppliers with regard to the origin of the animals and, consequently, of the meat and other products. This is a perception also described by Kaur (2010).

The population that is adept at consumption also responded about their preferences regarding the form of purchase

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and consumption, cuts and preferences regarding the form of consumption. 76.7% of the consumer population prefer to buy fresh meat. Since there is no tradition of standardizing cuts in the municipality, 44.4% of this population prefers to buy the hindquarter of the animal, followed by 30% who opt for the ribs and 18.9% who choose to buy the ham. The latter is considered the most noble cut (Madruga et al. 2011), followed by the shoulder and loin. 20% said they were indifferent to the type of cut. In general, most of the interviewees mentioned not being aware of a standardization of the main cuts commonly used for goats and sheep (ham, ribs, shoulder, loin, saw and rib).

Most of the consumer population stated that they preferred to consume this meat roasted (66.7%), boiled (58.9%) or fried (53.3%). In addition to these preferences, 80% of those interviewed said that they consumed goat and sheep tripe, a typical and highly appreciated dish, not only in Euclides da Cunha, but in most municipalities in the northeast with a tradition of consuming meat and products from these species (Nascimento et al. (2018).

Overall, 54.4% and 36.7% of those interviewed consider goat meat to be very tasty and tasty, respectively, with some stating that they only do not consume more of it because of the price, which they consider to be high. Only 12.2% of this population considers access to meat difficult in the city. 59.9% consider that sales are satisfactory and 36.7% state that meat and other products from these species are barely visible in the supermarkets that sell them. 80% of the population interviewed would like to see more goat and sheep meat dishes served in local restaurants, thus providing more options besides home-made ones.

It is clear that the goat and sheep meat market in the municipality of Euclides da Cunha has great potential for growth, considering the data obtained, which highlights the great acceptance of the products and adding these to data related to animal production. The adoption of public policies and initiatives by research institutions and sectors linked to livestock can further strengthen this chain, culminating in a better structuring of the same, thus allowing the animals that are mostly sold outside the municipality to be better used locally.

Conclusions

Goat and sheep meat are highly appreciated by the population of Euclides da Cunha – BA, being an integral part of their daily diet.

Actions to improve and organize the production chain must be promoted, aiming to give greater visibility and value to the product, emphasizing its nutritional quality and benefits to the consumer's health.

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