AGROSYM

BOOK OF PROCEEDINGS

XVI International Scientific Agriculture Symposium

"Agrosym 2025"

Jahorina, October 2-5, 2025

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PORK MEAT CONSUMPTION: A COMPARATIVE ANALYSIS BETWEEN BRAZILIAN AND PORTUGUESE CONSUMERS

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Abstract

This quantitative and cross-sectional study aimed to analyze the trend in pork consumption among Portuguese and Brazilian households, to identify which attributes were most valued by consumers when purchasing fresh pork meat, and to verify whether there were significant differences between Portuguese and Brazilian consumers regarding the factors/motivations for pork meat consumption. The data collection took place between April 16 and June 16, 2024, using a questionnaire through Google Forms. Later, data were analyzed using statistical software appropriate to the Human and Social Sciences. The Chi-square test was used to compare proportions, and the Mann-Whitney test was used to compare two independent groups. Of the 210 valid responses gathered, most consumers were female, students, single, with higher education, living in households of 1 to 3 members with a net monthly income of up to 2,400 euros (R$14,391.89). A few consumers did not consume pork meat (7.6%). Of those who consumed it (n = 194), the majority preferred to buy fresh meat, valuing attributes such as flavor, taste (preference over other meats), and aroma. In the last six months, the frequency of consumption was similar between Portuguese and Brazilian consumers (p-value > 0.05). Furthermore, consumers would prefer the proportion of lean meat to be greater than the proportion of fatty meat. Considering the nationality, animal welfare, local production, organic production, meat tenderness, and low environmental impact were identified as differentiating factors (p-value < 0.05) of pork meat consumption. These factors prove to be more critical for Portuguese consumers than Brazilian ones.

Keywords: *Consumption, Pork Meat, Market research, Portugal, Brazil.*

Introduction

Meat consumption is part of a balanced diet (Font-i-Furnols, 2023). Pork meat provides a wide range of nutrients, such as proteins, high-value minerals, vitamins, and essential fats, in the human diet (Verbeke & Ward, 2010).

Meat has a significant share of global trade worldwide (Soare et al., 2017). The pork meat trade has grown considerably because of the vast diversity of consumption and ease of preparation offered to the consumer. It can be found as sausages, cooked, fresh, and roasted. Pig farming relies on highly developed processes and maintains the objective of increasing productivity and demystifying some myths that permeate the pork meat market. Perhaps because it is more affordable, pork meat is one of the most consumed meats worldwide (Drewnowski, 2024).

With the increase in demand for pork meat, consumers are increasingly demanding regarding the quality of these products and the welfare of animals during production. Therefore, producers and companies that respect animal welfare requirements are in a privileged position in negotiations, as these requirements become intrinsic characteristics of the product, expressing a potential economic value.

According to the literature, several factors determine the purchase of pork meat: freshness, color, fat content, juiciness, food safety, and price (Banović et al., 2002). For example, Rojo (1994) states that flavor is the main reason for purchasing and consuming fresh pork meat, in addition to versatility and tenderness. Furthermore, fat and cholesterol content are also among the consumer's main concerns. However, the population is not sufficiently informed about the composition, nutritional value, and quality of pork meat currently produced (Rojo, 1994; Tramontini, 2000). In this context, this study aims to analyze fresh pork meat consumption in Portugal and Brazil to identify the attributes most valued by consumers, and to compare Portuguese and Brazilian consumers regarding their motivations to eat pork meat.

Materials and Methods

For this quantitative and cross-sectional study, a questionnaire created using Google Forms, was made available through social media, namely Facebook, Instagram, and WhatsApp, from April 16 to June 16, 2024. The purpose of the questionnaire was to understand the preferences and motivations of Brazilian and Portuguese consumers to purchase the product. The questionnaire had two sections: 1) questions about socioeconomic variables; 2) questions about meat purchases and consumption.

This study was based on a non-probabilistic snowball sample. The non-probabilistic sampling can be used when the probabilities of knowledge and sample selection are unknown, and there is no basis for calculating the universe and sampling error (Neto, 2002; Vinuto, 2014).

Later, the data were edited and processed using statistical software appropriate to the area of Human and Social Sciences. The treatment began with univariate analysis using descriptive statistics, calculating absolute and relative frequencies for qualitative variables (nominal or ordinal) and a measure of central tendency (mean) and dispersion (maximum, minimum, and standard deviation (SD)) for ordinal and quantitative variables. Then, bivariate analysis was performed using the Chi-square test by Monte Carlo simulation to compare the proportions considering the country, and the Mann-Whitney test to compare the mean ranks of two independent groups (Brazilian/Portuguese), at a significance level of 5%.

All ethical principles set out in the General Data Protection Regulation (Law No. 58/2019) were complied. Therefore, all respondents were assured of their voluntary participation, anonymity, and confidentiality of the collected data.

Results and Discussion

Of a total of 224 responses received, 210 were validated. The respondents' ages ranged from 18 to 71 years old. The mean age was 26.3 years (SD = 9.812). Furthermore, Brazilian consumers (77.1%) participate more than Portuguese ones (22.9%). Most of the consumers lived in Brazil (57.1%), in urban areas (87.1%), were female (69.0%), single (86.7%), had higher education qualifications (58.6%), were students (52.4%) and lived in households with 1 to 3 people (67.2%), with a monthly net income of up to 2,400 euros (Table 1).

Table 1. Sociodemographic characterization of the sample (n = 210).

Variable	Group	Frequencies	
		n	%
Nationality	Brazilian	162	77.1
	Portuguese	48	22.9
Country of residence	Brazil	120	57.1
	Portugal	88	41.9
	United States of America	2	1.0
Area of residence	Urban	183	87.1
	Rural	27	12.9
Gender	Male	63	30.0
	Female	145	69.0
	Other	2	1.0
Marital status	Single	182	86.7
	Married	20	9.5
	Divorced	6	2.9
	Widowed	2	1.0
Educational qualifications	1st Cycle (4 years)	2	1.0
	2nd Cycle (6 years)	1	0.5
	3rd Cycle (9 years)	7	3.3
	Secondary (12 years)	77	36.7
	Higher Education	123	58.6
Household monthly net income	< 256 € (< R$1,412)	18	8.6
	257 - 511 € (R$1,412.01- R$ 2,800.16)	43	20.5
	512 – 1,024 € (R$ 2,800.17 - R$ 5,544.	52	24.8
	31)	36	17.1
	1,025 – 2,050 € (R$ 5,644.32 - R$	17	8.1
	11,299)	44	21.0
	> 2,050 € (> R$11,299)		
	I prefer not to answer		
Professional situation	Employed	83	39.5
	Unemployed	14	6.7
	Student	110	52.4
	Retired	2	1.0
	Worker-Student	1	0.5
Household size	1 person	44	21.0
	2 people	39	18.6
	3 people	58	27.6
	4 people	43	20.5
	> 4 people	26	12.4

Source: Authors' elaboration based on the questionnaire survey results.

Of the 210 consumers, 203 (96.7%) were meat consumers, and of these, 194 (95.6%) were pork meat consumers (Figure 1).

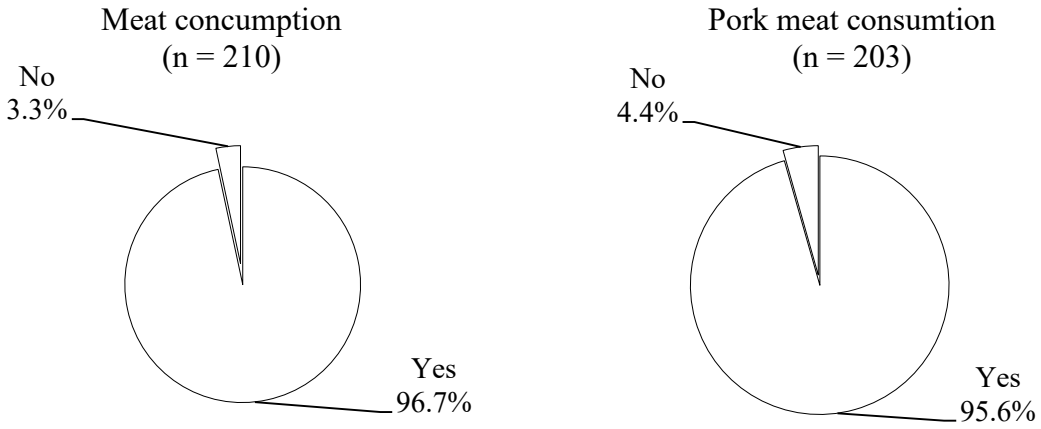

Figure 1. Meat and pork meat consumption.
Source: Authors' elaboration based on the questionnaire survey results.

It was found that, in the last 6 months, the frequency of pork consumption was the same regardless of the respondents' nationality (p-value = 0.168), as shown in Table 2. Furthermore, it was found that the majority consumed this type of meat at least once a week.

Table 2. Frequency of pork meat consumption by nationality in the last 6 months (n = 194).

Nationality	Frequency (times a week)				p-value
	Less than 1	1 to 2	3 to 4	More than 4	
Brazilian	56	59	26	7	0.168
	37.8%	39.9%	17.6%	4.7%	
Portuguese	13	21	9	3	
	28.3%	45.7%	19.6%	6.5%	

Source: Authors' elaboration based on the questionnaire survey results.

Figure 2 shows that most consumers prefer fresh pork meat (71.6%) and buy it at the supermarket and/or hypermarket (83.0%). Similar results (80.0%) were found by Magqupu et al. (2024) in a study developed in Cape Town, South Africa.

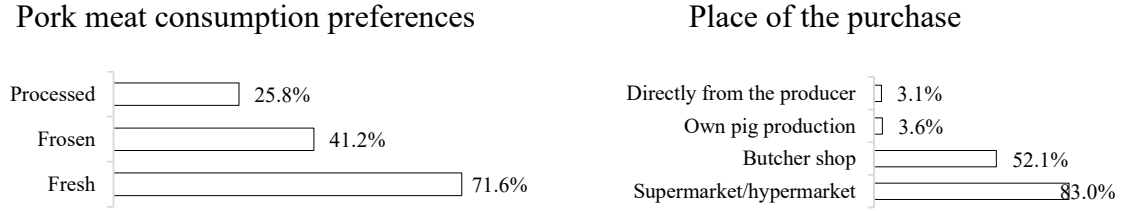

Figure 2. Pork meat consumption preferences and place to purchase pork meat (n = 194).
Source: Authors' elaboration based on the questionnaire survey results.

Considering the attributes when purchasing fresh pork meat, Table 3 shows that the three main ones were: flavor (Mean = 4.58; SD = 0.824), taste compared to other meats (Mean = 4.60; SD = 0.771), and aroma (Mean = 4.45; SD = 0.916).

Table 3. Attributes valued when purchasing pork meat (n = 194).

Attributes	Mean	Standard deviation (SD)
Flavor	4.60	0.771
Taste (compared to other meats)	4.58	0.824
Aroma	4.45	0.916
Succulence	4.38	0.838
Color	4.38	0.909
Fresh	4.22	0.986
Tender	3.98	0.992
Marbled	3.23	1.293

Legend: 1 to 2.44 - Not important; 2.45 to 3.44 - Indifferent; 3.45 to 5 – Important
Source: Authors' elaboration based on the questionnaire survey results.

Table 4 shows that consumers preferred the proportion of lean meat to be greater than the proportion of fat meat (Mean = 3.96; SD = 1.030).

Table 4. Fat-to-lean ratio preferences (n = 194).

Preferences	Mean	Standard deviation (SD)
A proportion of fat meat greater than lean meat	2.51	1.272
A proportion of lean meat greater than fat meat	3.96	1.030
An equal proportion of fat meat and lean meat	3.01	1.178

Legend: 1 to 2.44 - Not important; 2.45 to 3.44 – Indifferent; 3.45 to 5 – Important.
Source: Authors' elaboration based on the questionnaire survey results.

Taking into account the factors most valued by the respondents, all the factors were essential to the consumer, with the three most important being tasty meat (Mean = 4.55; SD = 0.782), assured food safety (Mean = 4.54; SD = 0.769) and trust in the producer/trader (Mean = 4.53; SD = 0.763), as shown in Table 5. Among the various factors considered, the least important are local production (Mean = 3.43; SD = 1.220), organic production (Mean = 3.55; SD = 1.129), and a low environmental impact (Mean = 3.87; SD = 1.133). Interestingly, consumers seem to give less importance to issues related to sustainability, disregarding local production, organic production, and the environmental impact associated with pig farming compared to other factors (Table 5). These results are consistent with those obtained by Lin-Schilstra et al. (2022) in a study developed in ten European Union (EU) and four non-EU countries. In fact, according to the researchers, consumers regard ego-related values such as "health," "price," and "quality" as more important than eco-related factors such as "animal and environmental ethics."
Considering the nationality of the respondents, statistically significant differences were found in the following factors: price (p-value = 0.001), food safety (p-value = 0.030), animal welfare (p-value = 0.001), local production (p-value = 0.033), and tender meat (p-value = 0.001). Portuguese consumers gave more importance to these factors (higher mean ranks). Furthermore, it was found that trust (p-value = 0.249), tasty meat (p-value = 0.555), organic production (p-value = 0.377), low environmental impact (p-value = 0.313), and ease of preparation (p-value = 0.134) were equally important, regardless of the consumers' nationality (Table 5).

Table 5. Factors valued in pork meat production (n = 194).

Factors	Mean	SD	Mean rank		p-value
			Brazilian (n = 148)	Portuguese (n = 46)	
Tasty meat	4.55	0.782	98.73	93.53	0.555
Guaranteed food safety	4.54	0.769	92.88	112.36	0.030*
Trust	4.53	0.763	95.34	104.43	0.249
Ease of preparation	4.15	1.060	94.66	106.63	0.134
Animal welfare	3.99	1.063	89.92	121.88	0.001*
Tender meat	3.98	0.987	90.60	119.71	0.001*
Price	3.97	1.035	88.76	125.61	0.001*
Low environmental impact	3.87	1.133	95.63	103.53	0.313
Organic production	3.55	1.129	99.34	91.59	0.377
Local production	3.43	1.220	92.93	112.20	0.033*

Legend: 1 to 2.44 - Not important; 2.45 to 3.44 – Indifferent; 3.45 to 5 – Important.
* There are statistically significant differences at a 5% significance level.
Source: Authors' elaboration based on the questionnaire survey results.

Conclusions

This quantitative and cross-sectional study aimed to analyze the trend in pork meat consumption among Portuguese and Brazilian households, identify which attributes were most valued by consumers when purchasing fresh pork meat, and verify whether there were differences between Brazilian and Portuguese consumers regarding the factors/motivations for pork meat consumption. The results show that the frequency of pork consumption was similar between Brazilian and Portuguese consumers. Most of them consume this type of meat at least once a week. Consumers preferred to buy fresh pork meat in supermarkets and/or hypermarkets, valuing factors such as flavor, taste, and aroma. Furthermore, this study showed statistically significant differences between Brazilian and Portuguese consumers concerning the value and motivations for pork meat consumption, notably animal welfare, local production, organic production, meat tenderness, and low environmental impact. These factors, associated with sustainability, were more valued by Portuguese consumers.

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