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How do brazilian consumers make the purchase decision for a PLANT-BASED MEAT product?

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Como os consumidores brasileiros tomam a decisão de compra de um produto PLANT-BASED MEAT?

RESUMO

O consumo de produtos animais tem efeitos negativos significativos sobre o ambiente e sobre a saúde humana. Em decorrência disso, faz-se necessária uma redução no consumo de carne. A transição para a carne de origem vegetal, *plant based meat alternatives* (*PBMA*), é uma das soluções potenciais para as questões ambientais e de saúde, que pode assegurar o consumo e a produção sustentáveis (ODS 12). O presente estudo identificou e analisou os fatores de motivação para redução ou eliminação da proteína animal da dieta dos consumidores, bem como os fatores de decisão de consumo dos produtos *PBMA* por meio de questionário semiaberto e entrevistas semiestruturadas. Atualmente, os consumidores podem optar por marcas exclusivamente *plant-based* ou marcas de linhas à base de plantas da indústria tradicional de proteína animal. Prevê-se que o mercado *PBMA* cresça nos próximos anos com o aumento da consciência, familiaridade e conhecimento do público-alvo deste estudo, que engloba flexitarianos, vegetarianos, ovolactovegetarianos e veganos. As empresas devem se concentrar nos fatores que têm guiado a tomada de decisão dos consumidores brasileiros no consumo de *PBMA* se quiserem conquistar o mercado alvo. Esses fatores envolvem principalmente o preço, a saudabilidade, os aspectos sensoriais e o ultraprocessamento.

Palavras-chave: *Plant-based meat alternatives. PBMA.* Fatores de tomada de decisão.

How do brazilian consumers make the purchase decision for a PLANT-BASED MEAT product?

ABSTRACT

The consumption of animal products has significant negative effects on the environment and on human health. As a result, a reduction in meat consumption is necessary. The transition to plant-based meat alternatives (PBMA) is one of the potential solutions to environmental and health issues that can ensure sustainable consumption and production (SDG 12). The present study identified and analyzed the motivation factors for reducing or eliminating animal protein from consumers' diets, as well as the consumption decision factors for PBMA products through a semi-structured questionnaire and semi-structured interviews. Currently, consumers can choose either exclusively plant-based brands or plant-based line brands from the traditional animal protein industry. The PBMA market is expected to grow in the coming years as the awareness, familiarity, and knowledge of the target audience of this study, which encompasses flexitarians, vegetarians, ovolactovegetarians, and vegans, increases. Companies must focus on the factors that have been driving Brazilian consumers' decision making in consuming PBMA if they want to win over their target market. These factors mainly involve price, healthiness, sensory aspects, and the ultraprocessing.

Keywords: Plant-based meat alternatives. PBMA. Decision-making factors.

¿Cómo toman los consumidores brasileños la decisión de comprar un producto CARNE DE BASE PLANTA?

RESUMEN

El consumo de productos animales tiene importantes efectos negativos sobre el medio ambiente y la salud humana. Por ello, es necesaria una reducción del consumo de carne. La transición a alternativas cárnicas de origen vegetal (PBMA) es una de las posibles soluciones a los problemas ambientales y de salud, que pueden garantizar un consumo y una producción sostenibles (ODS 12). El presente estudio identificó y analizó los factores de motivación para reducir o eliminar la proteína animal de la dieta de los consumidores, así como los factores de decisión para consumir productos PBMA a través de un cuestionario semiabierto y entrevistas semiestructuradas. Actualmente, los consumidores pueden optar por marcas exclusivamente de origen vegetal o marcas de líneas de origen vegetal procedentes de la industria tradicional de la proteína animal. Se espera que el mercado de PBMA crezca en los próximos años con una mayor conciencia, familiaridad y conocimiento del público objetivo de este estudio, que incluye flexitarianos, vegetarianos, lacto-ovo vegetarianos y veganos. Las empresas deben centrarse en los factores que guiaron la toma de decisiones de los consumidores brasileños en el consumo de PBMA si quieren conquistar el mercado objetivo. Estos factores involucran principalmente precio, salubridad, aspectos sensoriales y ultraprocesamiento.

Palabras clave: Alternativas cárnicas de origen vegetal. PBMA. Factores de toma de decisiones.

1 INTRODUCTION

The long-term trends supporting the plant-based segment are stronger and more relevant than ever, while pressures on the meat industry continue to build (MENEZES, 2023). According to Estell, Hughes, and Grafenauer (2021), plant-based proteins as alternatives to animal meat will undoubtedly impact food systems over the next decade. They present a sustainable alternative to reduce environmental pollution, decrease resource consumption, and improve animal welfare (WANG et al., 2023).

In the production process of plant-based meat alternatives (PBMA), land resources, freshwater resources, and greenhouse gas emissions are significantly reduced compared to animal-derived meat (WANG et al., 2023). Thus, these meat alternatives have the potential to achieve various Sustainable Development Goals (SDGs), primarily SDG 12, which pertains to responsible consumption and production, according to Zhu and Begho (2022). They also impact SDGs 2, 3, 7, 13, 14, and 15. Heller and Keoleian (2018) compared the production of 1 kg of steak to 1 kg of plant-based meat (PBMA) and found that water use reduced from 1936 liters to 9.7 liters, energy use was almost halved (from 100.5 MJ to 53.8 MJ), land use dramatically decreased from 33.5 m^2 to 2.6 m^2, and greenhouse gas emissions dropped from 32.6 kg to 3.5 kg of CO^2.

A transformation of the food system will require action and changes in individuals' decision-making throughout the food system. But how can consumers be encouraged to adopt PBMA into their diets? (COUCKE et al., 2022).

Recent findings highlight the links between reducing consumption of animal-derived meat and a wide range of motivations, such as health, environmental concerns, and climate change (CHEAH et al., 2020; DE BOER; AIKING, 2022). In this context, alternative foods, like PBMA, are being developed. These are made from plant ingredients that mimic the color, taste, texture, and appearance of animal-based products (AMBIEL; PINHO, 2022). Typically consumed as burgers and sausages (WANG et al., 2022), plant-based meat is primarily made from proteins extracted from peas, soybeans, and chickpeas, with a hint of beet powder added for a rare meat appearance.

According to Andrade et al. (2022), in pursuit of understanding sensory factors, the food industry has sought substitute ingredients and technologies to produce plant-based meat analogs. This is considering various social factors involving consumer behavior research, alternative protein market economic indicators, and products already on the food market.

The intricately intertwined factors in decision-making are influenced by an individual's characteristics interacting with the more sustainable product's features (HOEK et al., 2021). Moreover, there is an interaction in the immediate environment (e.g., family), the indirect environment (e.g., community), and macro-environmental factors (e.g., political, financial, and economic contexts).

According to Szenderák, Fróna, and Rákos (2022), the mitigation potential of food change depends on consumers' food choices, preferences, and consumption patterns, and involves social, cultural, and environmental factors. Initially, with the introduction of plant-based meats to the market, most consumers, regardless of group, were fascinated by these innovative products. According to Shanker (2023), plant-based meat still costs more than animal-derived meat, and with inflation and health concerns, many consumers have switched from expensive meat imitations to their natural grains or simply drastically reduced consumption.

Driven by the growing concern of consumers about health, many companies have developed full plant-based lines or entered the market exclusively aimed at the plant-based sector. Beacom, Repar, and Bogue (2020) comment on the ongoing battle involving traditional meat industry giants acquiring plant-based meat companies and launching their plant-based lines. This way, consumers can choose between plant-based meat brands from multinationals or small businesses. This decision factor is one of the subjects of investigation in this study.

According to Lemken, Spiller, and Schulze-Ehlers (2019), the motivators and barriers to consumption are not the same for everyone, meaning that something that works for one consumer segment might not be effective for another. According to Choudhury et al. (2020), it is essential to note that modern meat alternatives, including plant-based options, are not just targeting vegans and vegetarians, but also flexitarians. This underscores the importance of studying the motivational factors for reducing the consumption of animal-derived meat, as well as the decision-making factors for consuming PBMA by Brazilian flexitarian, vegetarian, ovo-lacto vegetarian, and vegan consumers.

In 2022, the Good Food Institute – GFI (2022) surveyed Brazilian consumers and found that 67% of them claim to have reduced their meat consumption (beef, pork, poultry, and fish) in the last 12 months. This was a significant increase of 17% compared to 2020 when 50% of people were already eating less meat. Notably, women living in the Northeast region and the state of São Paulo showed a strong adherence to this trend: in these three groups, 71% claimed to have reduced meat consumption. In 2020, 25% of Brazilians were putting a smaller amount of meat on their plate. Today, 41% adopt this habit. Although other reduction strategies (like removing meat from a meal in the day or a specific day e week) have not grown significantly, they are adopted by 26% of Brazilians.

The markets for vegetarian, vegan, and flexitarian foods represent a rapidly growing niche, propelled by increasing consumer concerns about the impact of their diet on health, and animal well-being, as well as the environmental impact of production systems, such as farming. The global alternative protein market is expected to reach USD 17.9 billion by 2025 and USD 1.1 trillion by 2040, potentially capturing 60% of the animal meat market (FAIRR, 2022). This market could exceed USD 425.3 million in sales in the Brazilian context by 2026 (EUROMONITOR, 2021). Morais-da-Silva et al. (2022) argue that as the market grows, alternative meats are expected to become more price-competitive, leading to a consumption increase in the coming decades.

The number of publications addressing consumer food decision-making and related topics has risen over the past three decades. Research in business administration/economics primarily emphasizes environmental issues, purchasing intentions, food prices, and labeling content (SYMMANK et al., 2016). In the field of marketing, there are many studies related to food brand, price, and labeling, and there is a recognized need for more interdisciplinary research, incorporating food technology, medicine, psychology, etc., to discern influences on consumer food choices (HOFFMANN et al., 2020).

Graça, Godinho, and Truninger (2019) used the COM-B Model from psychology in their studies on consumer behavior when purchasing PBMA. In this model, a motivational factor would be having a positive attitude towards healthy and sustainable eating or taking pleasure in consuming plant-based meals.

Beacom, Repar, and Bogue (2022) reported that the main motivations for PBMA consumption are due to environmental concerns and animal welfare, which also influence decision-making regarding specific brand products. This typically leads the consumer to choose companies with sustainability initiatives.

Clark and Bogdan (2019) inquired about the types of information consumers seek, where they look for it, and which sources they trust the most regarding alternative proteins. They found that most consumers acquire information from food labels (especially about nutrition and food safety, which display caloric content, nutrients, and allergens), the Internet, family, and friends. Clark and Bogdan (2019) and Veiga et al. (2023) highlight that the main objections to trying PBMA are assumptions that consumers will not like the taste, as well as that they are expensive, highly processed, and have high sodium levels.

This study contributes to the literature in three ways. First, it is one of the few studies examining the motivational factors and decision-making of Brazilian consumers concerning plant-based meat. Second, it provides new evidence complementing previous research on the consumption of these products. Finally, considering that there is still limited knowledge and acceptance among consumers, the findings can guide companies, at least in the Brazilian context.

2 OBJECTIVES

The primary goal of this article is to identify and analyze how consumers can be encouraged to adopt PBMA in their diets, contributing to the achievement of SDG 12 – Responsible Production and Consumption.

The specific objectives are: 1. Identify and analyze the motivational factors for reducing or eliminating animal protein from consumers' diets; 2. Identify and analyze the decision-making factors of consuming PBMA products.

3 METHODOLOGY

3.1. RESEARCH STRATEGY

The research strategy, in terms of its nature, is classified as applied, and as descriptive, according to Triviños (1995). Regarding the approach, the research is characterized as qualitative, following Bogdan and Biklen (1994).

As stated by Creswell (2010), intentionally selecting the sample for the study facilitates understanding the problem and the research question. Thus, the target population chosen for this research is consumers who self-identify as vegan, vegetarian, ovo-lacto vegetarian, or flexitarian. Flexitarian consumers aim to reduce the intake of animal-origin products without eliminating them from their diet (GFI, 2022; DAGEVOS, 2021). Ovo-lacto vegetarians are defined as those who consume cereals, plant-based foods, vegetables, milk, dairy products, and eggs (NEBL et al., 2019). Meanwhile, vegetarians follow a meat-free diet (DAGEVOS, 2021), and vegans strictly adhere to a plant-based diet, refraining from consuming all kinds of animal-derived food (DAGEVOS, 2021; NEBL et al., 2019).

3.2. DATA COLLECTION INSTRUMENTS AND PROCEDURES

The data collection tools used in this study were semi-open questionnaires, semi-structured interviews, and analysis of literature and secondary bases (highlighted news in the media and reports), allowing subsequent data triangulation, as recommended by Yin (2015). The literature review guided the formulation of the questionnaire and interview questions.

After the questionnaire and interview guide were prepared, a pre-test was conducted with an expert, and the suggested adjustments were made. The expert holds a degree in Pharmacy, a master's in Pharmaceutical Sciences from the Federal University of Paraná - UFPR (2015), and a Ph.D. in Cellular and Molecular Biology from the same institution (2020). She considers herself a flexitarian consumer, has experience in Cellular Biology, with an emphasis on cell cultivation, has taken courses on alternative proteins, and is studying the plant-based theme.

Invitations to participate in the questionnaire were made through the LinkedIn social network, where a research presentation letter and informed consent form (ICF) were included. The questionnaire was hosted on Google Forms. Because of time constraints, only six questionnaire respondents were interviewed. The ICF for the study was sent via e-mail, along with a link to the interview conducted online via the Teams platform. The interview began with a brief introduction from the interviewer, a presentation of the study's objective, assurance of confidentiality, and permission from the interviewee for recording the meeting, and then the open and closed questions were applied. The recorded interviews were subsequently transcribed. The next stage of study model validation and reliability involved data and evidence analysis, following the criteria indicated by Yin (2015).

4 RESULTS

4.1 SOCIODEMOGRAPHIC INFORMATION

A total of 39 responses were obtained from the semi-open questionnaire. The demographic coverage represents men and women, aged ≥18 years, from social classes ABCD. According to Cuffey et al. (2022), sociodemographic information is highly relevant for the PBMA industry to understand consumer demand.

Most respondents were female, representing 69.2% of the sample. In the review by Graça, Godinho, and Truninger (2019), females were associated in most studies with lower meat consumption and a higher likelihood of adopting plant-based diets. Based on GFI's (2022) research findings, since women are the primary decision-makers regarding family meals, it is vital to appeal to them to make plant-based proteins a regular part of Brazilian consumption.

The age groups with the highest number of respondents were 25–34 and 35–44 years, which together represent 69.2% of the sample and correspond to the so-called millennials or Generation Y, born between 1979 and 1999 (GALDAMES; GUIHEN, 2022). This group has been the subject of some studies addressing sustainability and consumer perception in the food sector, such as Cavaliere and Ventura (2018) and Bollani, Bonadona, and Peira (2019), precisely because of their greater concern about the topic compared to other generations. Furthermore, this generation is also an essential consumer group, since many are currently parents of young children, and play a crucial role in mediating their children's food consumption habits (ERHARDT; OLSEN, 2021).

The respondents' family monthly income was predominantly concentrated in two ranges: between BRL 2,900 and 7,100 and BRL 7,100 and 22,000. These ranges respectively represent social classes B and C and together comprise 79.5% of consumers.

The majority of participants, around 70%, had completed or were pursuing graduate education. According to Cuffey et al. (2022), the PBMA product category attracts a smaller segment of younger, more affluent, and educated consumers. Graça, Godinho, and Truninger (2019) state that studies consistently show that a higher level of education and greater income facilitate the adoption of plant-based diets.

As for diet, 41% of the survey participants identified as vegetarian, 41% as flexitarian, 12.8% as vegan, and 5.2% as other. Because of the sample size and the selected target population, these results differ from those found in other studies. In the GFI (2022) study, vegans and vegetarians together represented 4% of consumers. According to Knaapila et al. (2022), this population also corresponds to a low proportion of the total consumers, accounting for at most 5% in other countries like the USA, France, and Finland.

4.2. MOTIVATING FACTORS

The motivating factors for reducing consumption or not consuming meat of animal origin are explained in Chart 1.

Chart 1 – Motivating Factors

MOTIVATION FACTOR	INTERVIEW EXCERPTS
HEALTH	
Health was the main motivating factor for changing diets from omnivorous to vegan, vegetarian, or flexitarian in the present study. Knaapila et al. (2022) found that health was the second most cited factor among men.	"I ruptured my Achilles tendon, so I wanted to choose a diet that wasn't so invasive and had better digestion so that my body could work on treating this injury".
Issues such as milk allergy, lactose intolerance, and hypercholesterolemia forced some specific population groups to seek better alternatives for milk (PAUL et al., 2020) and, consequently, a change in diet.	"I am lactose intolerant and allergic to milk protein". "(…) if I choose the vegan option, I don't have to worry about lactose intolerance".
SUSTAINABLE FOOD SYSTEM	
According to Knaapila et al. (2022) and Graça, Godinho, and Truninger (2019), environmental reasons or environmental awareness are among the main facilitators for reducing meat consumption and adopting a plant-based diet. The environmental impacts of farming were one of the main motivators for reducing animal meat consumption for approximately 64% of the survey respondents. This is followed by climate change (greenhouse gas emissions) for about 44% and the search for a general sustainable food system for 36% of participants. .	"There is the environmental issue". "(…) I understood the impact that rampant meat production has on the environment". "(…) to produce meat, the water waste it entails, the carbon dioxide emission in the atmosphere, the number of grains to feed these animals". "Thus, you can continue doing everything you do while helping to improve the world". "(…) fighting for your cause, you see that vegetarianism and veganism align with climate solutions".
ANIMAL WELL-BEING	
Among women (and respondents in general), the third most cited motivating factor was animal welfare. One of the facilitators mentioned by Graça, Godinho, and Truninger (2019) is to diminish or avoid animal suffering by reducing meat consumption and following plant-based diets. Reis and Molento (2019) analyzed major meat industry companies that need to monitor throughout their supply chain if the animals are not undergoing unnecessary suffering, ensuring their well-being, and concluded that there is still much to be done in this regard.	"(…) the issue of cruelty to animals, their suffering, I think that's the main reason to make this reduction". "Always, the first reason will be for the animals".
Graça, Godinho, and Truninger (2019) also consider a close relationship with animals as one of the motivating factors. Understanding that the animals targeted for consumption are sentient makes dietary choices crucial in seeking to save lives and eliminate suffering (PHILIPPI; PIMENTEL; MARTINS, 2022).	"It was because of my affection for animals". "… meat is tasty, but when you look at an animal, you realize that when you kill it, it feels pain, so I don't consume it".

Source: Prepared by the authors (2023).

4.3 CONSUMER DECISION-MAKING FACTORS

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The most considered factors at the time of purchase include price, sensory aspects (flavor, texture), health (wholesomeness), clean label (absence of GMOs and chemical additives), and the ultra-processing of the food. All of these factors are explored in Chart 2.

Chart 2 – Decision-making Factors

CONSUMER DECISION-MAKING FACTOR	EXCERPTS FROM INTERVIEWS
PRICE	**PRICE**
Consumers see price as the main factor in their purchasing decisions. Moreira et al. (2021) state that price is considered a critical factor in decision-making. Based on the characteristics of the PBMA consumer segment, the price of these products may continue to be a hurdle for consumption (CUFFEY et al., 2022), i.e., a barrier to purchase intent (MOREIRA et al., 2021).	"These products tend to be quite expensive." "Price is still a determining factor when buying. If it's too expensive, I won't buy it." "Today, plant-based meat still lacks scale. Despite its exponential growth. This makes its price higher than that of animal-sourced meat."
However, according to the study by Hoffman et al. (2020), when individuals believe in the functionality or healthiness of certain foods, they are willing to spend more money on those foods. About 59% of survey participants, when asked if they would pay extra for a plant-based product as an alternative to animal meat, said they would pay up to 30% more.	"I'm willing to pay more for the product. I think it's worth it. I'd rather spend more now to ensure my health than spend on medications later on." "I would pay more because I choose not to eat meat, so I'm subject to that."
SENSORY ASPECTS	**SENSORY ASPECTS**
The findings by Caputo et al. (2022) suggest that PBMA products are less preferred than animal-sourced meats because of their lower sensory appeal, and aren't yet substitutes for beef in the diets of flexitarian consumers according to Zhao et al. (2022). Sensory aspects are considered essential by all three consumer groups in this study, but especially by flexitarians. According to Moreira et al. (2021), these factors help flexitarians transition to a more plant-based diet.	"I feel better eating the vegan nuggets than the non-vegan ones. And the price doesn't vary much. (...) because of the taste, texture, and experience, it's much more worth investing in the vegan option than in the traditional one." "(...) people have a very childlike palate. We've learned that we need to eat vegetables and grains out of obligation and don't see it as something tasty."
According to Weinrich (2019), after trying a product, the decision to buy it again is driven primarily by taste and sensory appeal. For 59% of survey participants, these aspects are relevant in their consumption decision-making.	"What's important to me in terms of consumption would be texture and flavor." "For those who were used to eating only soybeans, when something different came along (...) to vary the palate, it was very cool."
HEALTH	**HEALTH**
According to Vainio (2019), health has been strongly associated with plant-based diets. Health was considered relevant both as a motivation factor for a diet change and as a decision factor when purchasing PBMA. About 54% of survey respondents, across all three groups, and the majority of those interviewed mentioned this factor.	"I even feel that it's better for health to consume plant protein rather than animal protein." "First, it's a health concern." "It's for health."
When respondents were asked about the frequency of PBMA consumption, there was noted to be low frequency and adherence to the regular diet. These cite barriers, in addition to price, include the perception that whole foods are healthier. Studies by Gehring et	"It's not something I consume in my daily life." "I think it's very occasional. Every two weeks, when I go out." "You can't eat this every day. From the price issue, but mainly because of health."

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al. (2020) and Satija et al. (2017) showed that some PBMA products are not necessarily the protagonists of a healthier diet, because of high amounts of sodium, sugar, and unsaturated fats, for example.	

EASE OF PREPARATION	**EASE OF PREPARATION**
The ease of preparation was pointed out as one of the decision factors by 38.5% of survey respondents. Ready-to-eat products are already available in vegan butchers, which are found in most major urban centers in Brazil. These are specialized stores selling products for a cruelty-free barbecue, offering various types of burgers, sausages, and even special “meat” cuts (PHILIPPI; PIMENTEL; MARTINS, 2022).	“In a busy life, you want something that’s already prepared.”

CLEAN LABEL	**CLEAN LABEL**
According to Aschemann-witzel and Peschel (2019), a portion of modern consumers is increasingly interested in knowing more about the ingredients used by manufacturers. There is a clean-label trend in consumption driven by interest in healthy and natural foods. As a result, this was a decision factor for 38.5% of survey respondents, ranking among the main factors for most consumers, regardless of the group.	“I always try to buy what has as many natural ingredients as possible.”
	“Depending on the composition of the ingredients, it’s a decision factor. Today there are many ingredients put into plant-based meats that are natural, so there’s no problem.”
	“If it’s something new, I always go to the ingredients and look at the nutrition label.”
The nutritional profile of PBMA products is one of the relevant elements for consumers, especially in the decision-making between animal-based meat and a plant-based alternative. According to Hoffman et al. (2020), the influence of labeling on food decisions is strongly intertwined with that of other prior knowledge, such as nutritional and health knowledge.	“If there are two food options, both not based on animal meat, and I can choose between one or the other, and one is made with GMOs and the other isn’t, I will choose the non-GMO one.”
	“If there’s a food with fewer additives, I will choose this one.”
	“Most of the additives... are added to enhance taste, but some of them might have some factor that isn’t very healthy.”
	“I avoid GMOs, high-sodium things, and foods with high cholesterol content.”
	“Usually, I check the amount of sodium.”
Interviewees were questioned about their knowledge regarding additives and GMOs as they were factors frequently mentioned in the questionnaire. Most claim not to have much or in-depth knowledge about these topics and there is no consensus on benefits or harm.	“My knowledge is based on what I read on the label.”
	“I don’t know much about GMOs, but more about additives.”

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	"I would say I have good knowledge. I know, for example, that GMOs aren't harmful."
	"In general, we know it's bad. There are no good GMOs."
	"I can consume plant-based meat with a GMO ingredient label."
According to a study by GFI (2022), if the label content distinguishes the PBMA product from another product the consumer wants to replace, this can help the consumer make decisions aligned with their needs. Safdar et al. (2022) state that PBMA products can be appealing as nutritious replacements for meat and provide a sustainable way to obtain the protein that the human body needs. The amount of protein was one of the factors analyzed in the product's nutritional information, especially among men, according to the questionnaire and interview analysis.	"First, the amount of protein because, like it or not, we need it."

ULTRA-PROCESSING	**ULTRA-PROCESSING**
The results agree with what was found in the GFI (2022) research in which different levels of information on the subject were verified. Most Brazilians do not have much knowledge about the topic but still try to balance the various factors involved in decision-making to make a purchase that leads them to a healthier diet. A good portion of consumers, according to Cavaliere and Ventura (2018), see innovation technologies in food products as risky, without analyzing the specific technology, such as ultra-processing. The list of ingredients is the tool most used by consumers who read the label of ultra-processed foods when deciding to buy (GFI, 2022).	"I don't really understand the difference between ultra-processed and additives. I think that being ultra-processed means it has many additives."
	"I prefer fresh foods. Ultra-processed is a second option for variety. But I know it's not as good for health."
	"Ultra-processed and industrialized, I don't know the difference in category, in intensity, how processed the food is."
	"I think the less processed it is, the better."
	"(...) most plant-based meat products are ultra-processed. Not that this is a health problem."
	"(...) depending on the composition of the product, even if it's very processed, it can be a healthy product."
PACKAGING	**PACKAGING**
Regarding packaging, for most consumers, it is an important factor for PBMA product consumption. The plastic content and whether it is recyclable or biodegradable, among other reasons, are considered in the decision-making by 87% of consumers who answered the questionnaire. However, it is not one of the main decision factors. Hoffman et al. (2020) address packaging as a lesser-importance decision factor linked to sustainability, which corroborates our results. Packaging is considered a decision factor, but it is not a priority.	"(...) many plant-based meat producers are not yet at this second stage of... packaging, like more sustainable packaging. So, I don't differentiate, for now."
AVAILABILITY OR CONVENIENCE	**AVAILABILITY OR CONVENIENCE**

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Graça, Godinho, and Truninger (2019) point out convenience as one of the consumption facilitators. Moreira et al. (2021) comment on consumers' frustration when they cannot find the products available at the point of sale. Reis and Villar (2022) analyzed the availability of these products in large Brazilian supermarket chains, which is much lower when compared with animal-based products.	"(...) the ease of finding this plant-based meat with the same ease I have finding animal-based meats."
	"(...) back in my town, we didn't have this type of food. In the Northeast, we have few industries that bring this product proposal."

AFFECTIVE MEMORY	**AFFECTIVE MEMORY**
Eating habits are influenced by internal and external contexts: internal contexts such as biological and emotional conditions, desires, and external contexts like social, cultural, religious, environmental surroundings, and support networks (PHILIPPI; PIMENTEL; MARTINS, 2022). Affective memory, the desire for social inclusion, and the possibility of influencing others were factors mentioned in the interviews.	"Sometimes I've looked for vegan nuggets, for example. It was because of the affective memory. I consumed it a lot in my childhood, in my adolescence."
	"Feeling included. It's a way for you to be participating without just watching."
	"(...) it's that feeling of bringing something that people will consume and also enjoy, to encourage consumption reduction."
BRAND OF PLANT-BASED MEAT COMPANIES	**BRAND OF PLANT-BASED MEAT COMPANIES**
As a result, it was found that the vast majority, over 90% of the research participants, made up of flexitarians, vegetarians, and vegans of any age, income, or educational level do not consider it relevant for the brand to belong to an exclusively plant-based meat company or to a company that also produces animal protein.	"For me, it doesn't matter. I don't look into that."
	"It doesn't interfere."
	"I'm a flexitarian, so I consume both animal and vegetable meat. (...) it doesn't matter to me."
Graça, Godinho, and Truninger (2019) emphasize the environmental impact of animal meat and the origin of the product's production as one of the facilitators of plant-based consumption.	"I obviously prefer companies that align with this entire chain of not consuming and not producing animal meat. So I will always choose brands that are exclusively vegan, vegetarian."
	"If the brand isn't one hundred percent consistent with what it advocates, it makes no sense to buy it."
According to Hoffman et al. (2020), the brand is considered an important decision factor linked to food-related experiences, cultural background, eating habits, exposure to promotion, and others. Some interviewees argue that 100% plant-based companies are not yet viable enough to meet the market as large companies that produce animal proteins, directly impact product price, availability, and variety, i.e., the purchase decision.	"You make the decision based on what fits in your budget and, at the same time, see if it is for the same price and choose the one that's really only plant-based. But if there's a big price difference, you pick a conventional brand."

	"(...) there are brands that are very committed to producing high-quality food and can produce good products that perhaps a startup would take a long time to achieve."
	"I think it's even cool that omnivorous brands like Seara and Sadia offer a variety and help lower the cost of the product, making it more accessible to people."
	"(...) I analyze the brands and choose the best fit between cost-benefit, nutritional table, and ingredients."
	"(...) if it's a recurring purchase, I choose a brand and it makes a difference. If it's just to try, it doesn't matter."
Graça, Godinho, and Truninger (2019) mention that one of the factors would be the interest in trying new foods and products. Although curiosity can make people try new foods, it can be challenging to establish long-lasting and long-term relationships between buyer and supplier (HWANG et al., 2020).	"I select the ones I like the most, regardless of the brand."
	"I really like trying out new products."
	"Whenever I have the opportunity to try a new plant-based product, I will."

Source: Prepared by the authors (2023).

5 CONCLUSION

Growing concerns about the negative impacts of producing and consuming animal-derived food products, such as health, sustainable food systems, and animal well-being, are factors that have prompted consumers to reduce or even eliminate meat from their diet and introduce PBMA consumption. In this study, these were the primary motivations for consumption. Reducing meat intake is one of the most impactful consumption choices people can make to decrease their carbon footprint (DE BOER, WITT; AIKING, 2016). According to Smetana et al. (2023), plant-based meat substitutes generally have a low resource demand and, on average, 50% less environmental impact. These products offer an opportunity for individuals who want to join the fight against climate change (YE; MATTILA, 2022).

Given the rapid development of PBMA products and the growth of this market, it is essential to understand consumer demand and their purchasing decisions. Study participants were highly concerned about the price, healthiness, and technology used in producing these products, leading to low buying intent or infrequent purchases. Consumers seek a product with flavor and texture similar to animal protein, containing natural and simple ingredients, with adequate protein content, produced using more artisanal methods, and that has a price equivalent to or lower than traditional meat.

Using PBMA consumption decision-making, evidence was found that complements previous studies regarding consumption. It was concluded that consumption decision-making is primarily guided by factors such as price, sensory aspects, composition (ingredients and nutritional table), production technology (ultra-processing), and packaging of these foods. Therefore, the industry needs to strengthen sector operations to offer consumers increasingly healthy, sustainable, and competitively priced alternatives. Moreover, promoting information dissemination plays a crucial role in consumer acceptance.

Considering the growing public recognition of sustainable consumption, but still limited knowledge and acceptance of PBMA products by consumers, the conclusions found in this study can guide companies, at least in the Brazilian context. This study presents limitations concerning the sample size, which was small, making the results only applicable to the studied population. For future research suggestions, more studies in this area are required to confirm these findings, such as quantitative survey-type research.

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