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Consumer Preferences and Behaviors in the Plant-Based Meat Substitute Market in Poland

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Abstract

Theoretical background: The growing popularity of plant-based diets reflects broader changes in consumer values and priorities, including ethical concerns, environmental sustainability, and health awareness. These shifts have driven the expansion of the plant-based meat substitute market, which challenges traditional food consumption patterns and redefines modern dietary choices.

Purpose of the article: This study aims at analyzing consumer preferences and behaviors in the Polish plant-based meat substitute market. It explores key motivations, barriers, and influencing factors related to purchasing decisions among vegetarian and vegan consumers, while also identifying areas for potential market development.

Research methods: The study employed an exploratory approach and was conducted using an online survey (CAWI method) among 220 respondents following vegetarian or vegan diets. The research tool enabled data collection on shopping habits, motivational factors, and barriers to choosing plant-based meat substitutes.

Main findings: The results suggest that the main factors motivating consumers to choose plant-based alternatives are concerns about animal welfare, ecological factors, and the perception of these products as healthier compared to conventional meat. The study also examined barriers hindering market development, such as high prices, insufficient availability, and differences in the sensory qualities of the products. The

findings reveal that consumers most often make purchases in supermarkets and hypermarkets, primarily considering the quality, price and availability of the products. An important conclusion is also the respondents' identification of shortages in specific product categories, such as plant-based fish substitutes and raw meat alternatives, as well as the need to improve their sensory properties. The conclusions drawn from the study are of significant importance for producers and organizations promoting plant-based diets. They highlight the need to increase product availability and diversity, as well as the necessity to reduce price barriers. The research results may contribute to the popularization of plant-based meat alternatives, which, in turn, supports sustainable development and promotes healthy eating habits.

Introduction

In recent years, growing consumer interest in a healthy lifestyle, as well as the ecological and ethical aspects of food production, has led to a significant increase in demand for plant-based meat substitutes (Runte et al., 2024). This trend is observable in many countries, where consumers are increasingly choosing to reduce their consumption of animal-based products in favor of healthier and more sustainable alternatives (Cruz & Boukid, 2024). Poland is no exception, experiencing dynamic growth in the plant-based meat substitute market that reflects global changes in dietary preferences driven by several key factors. Increasing health awareness, environmental concerns, and ethical considerations related to animal welfare are key motivations encouraging consumers to choose plant-based meat substitutes (He et al., 2020; Smetana et al., 2015). However, despite this growing interest, the market is still emerging, and knowledge about consumer preferences and behaviors in Poland remains limited.

The purpose of this study is to analyze consumer preferences and behaviors in the plant-based meat substitute market in Poland, focusing exclusively on individuals who follow vegetarian or vegan diets. The study aims, in particular, to understand the factors influencing consumers' purchasing decisions, their motivations, and the barriers they encounter in the decision-making process. The significance of this study stems from several key aspects. First, the growing market for plant-based meat substitutes is an important part of the modern food industry, and understanding consumer preferences can help producers better tailor their product range to fulfill market needs. Second, the study's findings may contribute to promoting healthier and more sustainable eating habits, which are crucial for public health and environmental protection. Third, analyzing the barriers and challenges consumers face can help develop more effective marketing and educational strategies aimed at increasing awareness and acceptance of plant-based meat substitutes. This study aims to provide insights that can be used by businesses to fathom consumer behavior and provide for their needs in a more effective way. To fulfill this objective, the study addresses the following research questions:

RQ1: What are the main motivations behind the choice of plant-based meat substitutes among vegetarians and vegans in Poland?

RQ2: What barriers hinder the development of the plant-based meat substitute market from the consumers' perspective?

RQ3: How do consumers assess product availability, pricing, and sensory characteristics?

This study addresses a knowledge gap in the literature concerning the Polish market, particularly in relation to consumers who follow plant-based diets, and provides insights that may be useful in further research and strategic planning in the area of sustainable food systems.

Characteristics and determinants of the development of the plant-based meat substitute market

Plant-based meat substitutes, defined as food products obtained from plant-based raw materials, aim to imitate the taste, texture, and appearance of traditional meat (Kyriakopoulou et al., 2019; Morais-da-Silva et al., 2022; Rubio et al., 2020). These innovative solutions play a crucial role in transforming the modern food system (Mason-D'Croz et al., 2022). The main ingredients of such products include plant proteins, such as soy, peas, and wheat (Webb et al., 2023), as well as mycoproteins derived from fungi (Khan et al., 2023), various plant oils, and functional additives. Technological processes such as protein extrusion and fermentation enable the achievement of organoleptic properties similar to those of meat, as highlighted in the works of Dekkers et al. (2018) and Joshi and Kumar (2016). However, despite the technological advancements, these products are not devoid of limitations and continue to face critical consumer scrutiny. Although soy-based products dominate the market due to their affordable price and high protein content, soy consumption is controversial, especially in the context of potential hormonal effects related to the presence of isoflavones (Rizzo et al., 2022; Viscardi et al., 2025). Although most studies confirm the safety of moderate soy intake, especially in adults, these concerns still affect consumer perceptions and market acceptance. Nevertheless, the plant-based meat substitute market continues to grow rapidly. As noted by Choudhury et al. (2020) and Reis et al. (2023), the growing interest in this market segment is a response to global challenges related to environmental protection, public health, and animal welfare.

In 2023, the global plant-based meat substitute market reached a value of approx. USD 7.7 billion. It is forecasted that by 2030, this figure will rise to USD 24.77 billion, with a compound annual growth rate (CAGR) of 19.4%. The HORECA (hotels, restaurants, cafes) sector plays a key role in popularizing plant-based products, and co-operations with fast-food chains such as Burger King and Subway contribute to their broader acceptance. Plant-based burgers and sausages, particularly those based on soy protein, are among the most popular products, that accounted for 48% of the meat substitute market in 2023 (Research and Markets, n.d.). In Poland, consumer interest in plant-based meat substitutes has grown steadily, although the market remains relatively young compared to Western Europe. According to Kosicka-Gębska et al. (2025), Polish consumers are increasingly open to meat alternatives, especially those

living in large cities and holding a university degree. However, the attachment to traditional meat dishes remains strong. The Polish plant-based meat substitute market, despite being smaller in comparison with global markets, is developing dynamically. In 2023, the value of this segment was estimated at PLN 176 million, accounting for 15% of the packaged meat segment (GFI Europe, 2023). The industry experienced a slowdown in growth in 2023, which was largely attributed to inflation. According to the *Review of the Plant-Based Meat Substitute Market in Poland* (2024), Poland had 49 manufacturers offering a total of 471 different meat substitute products. These figures illustrate the increasing diversity and innovation within this food industry.

The composition of plant-based meat substitutes responds to the growing demands of modern consumers, offering protein- and fiber-rich alternatives that are also enhanced with vitamins (such as B12) and minerals (e.g. iron and zinc) (Ishaq, 2022). Innovative technologies enable the development of fibrous textures characteristic of traditional meat, increasing consumer acceptance of these products (Dekkers et al., 2018). However, despite technological advancements, consumers still perceive differences in taste and texture compared to meat, which remains one of the main challenges for this segment (Olegario et al., 2024; St. Pierre, 2024).

Consumer motivations for choosing plant-based meat substitutes are diverse and include health, environmental, and ethical considerations (Cooper et al., 2024). Increasing health awareness encourages consumers to seek alternatives that may improve well-being. Plant-based diets are often perceived as beneficial to health, potentially reducing the risk of chronic diseases such as obesity, heart disease, strokes, and type 2 diabetes (Almuntashiri et al., 2025; He et al., 2020; Landry & Ward, 2024). These products are considered healthier due to their low levels of saturated fat, absence of cholesterol, and higher fiber content. Environmental concerns also play an increasingly important role in purchasing decisions. Animal husbandry is a major source of greenhouse gas emissions, while the production of plant-based meat substitutes has a significantly lower environmental impact, requiring fewer natural resources such as water and farmland (Fechner et al., 2024; Saget et al., 2021; Smetana et al., 2015, 2023). Additionally, ethical considerations related to animal welfare and opposition to industrial farming motivate many consumers to prefer plant-based alternatives over meat products (Bryant, 2022).

Despite these benefits, the development of the plant-based meat substitute market faces substantial obstacles. Frequently cited barriers include higher prices compared to animal-based products (Caputo et al., 2024), sensory attributes (Sogari et al., 2024; Waehrens et al., 2023), limited product availability, and concerns about insufficient nutritional value (Begho, 2024). While international research has addressed various aspects of this market, relatively little is known about the preferences and behaviors of Polish consumers. Although recent studies have begun to explore this area (Jeżewska-Zychowicz et al., 2024; Sajdakowska et al., 2023), in-depth data focused on the Polish context remain limited.

Research methods

Primary research was conducted, for the purposes of this article, in order to examine the behaviors and preferences of Polish consumers regarding plant-based meat substitutes. The study was exploratory in nature and employed a diagnostic survey method using a structured questionnaire (CAWI technique). The aim was not to test specific hypotheses, but to gather descriptive insights that could serve as the basis for future quantitative and comparative studies. A survey questionnaire containing 28 substantive questions and 8 demographic questions was employed as the research tool. The substantive questions included both single- and multiple-choice items, with several formulated using a 7-point Likert scale. The study was executed between November 24, 2023, and February 28, 2024. A total of 220 Polish respondents participated in the survey. The sample was purposively selected to include adult consumers who follow a vegetarian or vegan diet and regularly purchase plant-based meat substitutes. Respondents were recruited through online platforms such as social media groups and vegetarian/vegan forums. Participation was voluntary and anonymous and all participants were informed about the purpose of the study. A detailed demographic profile of the respondents is presented in Table 1.

Table 1. Characteristics of the study sample ($N = 220$, in %)

Variable	Variable value	Percentage of respondents
Gender	Female	85
	Male	12.7
	Other	2.3
Age	18–25	27.7
	26–35	36.4
	36–45	21.8
	46–55	9.1
	56–65	4.5
	66 and more	0.5
Place of residence	village	8.2
	city up to 20k residents	6.8
	city 20–49k residents	8.2
	city 50–99k residents	7.7
	city 100–199k residents	13.2
	city 200–500k residents	15
	city over 500k residents	40.9
Education	elementary school	0
	junior high school	0
	primary vocational	0.5
	trade school	0
	trade-focused high school	4.1
	high school	25.5
	bachelor's degree	18.2
	master's degree	47.3
	doctorate degree	4.5

Variable	Variable value	Percentage of respondents
Household size	1	13.2
	2	55
	3	17.7
	4	10
	5	3.2
	6 and more	0.9
Professional situation	own business	12.7
	full-time job	55.5
	part-time job	9.1
	occasional work	3.2
	unemployed	3.6
	student	14.5
	retiree/pensioner	1.4
Income (gross) of the household per person (in PLN)	up to 2,000	10
	2,001–3,000	13.2
	3,001–4,000	17.3
	4,001–5,000	15.9
	5,001–6,000	11.8
	6,001–7,000	8.6
	7,001–8,000	7.3
	8,001–9,000	5.9
	10,000 and more	10

Source: Author's own study.

The study sample was predominantly female, accounting for 85% of respondents. The majority of participants (64.1%) were young adults aged 18 to 35. Nearly half of the respondents held a master's degree, and over 40% lived in cities with more than 500,000 inhabitants. The majority indicated that they worked full-time (55.5%), and 55% reported living in a two-person household. The sample included consumers from all voivodeships in Poland, with the largest number of respondents coming from the Masovian and Lesser Poland provinces.

Results

At the beginning of the survey, respondents were asked how long they had been excluding meat products from their diet. A total of 29.1% stated that they had done so between 2 and 5 years before, and the same percentage indicated that it had been between 5 and 10 years. More than 19% of respondents reported not consuming meat for 15 years or more. A graphical representation of this data is shown in Figure 1. Respondents were also asked whether the members of their household followed a vegan or vegetarian diet as well. A total of 51.8% answered negatively, while 38.6% responded affirmatively.

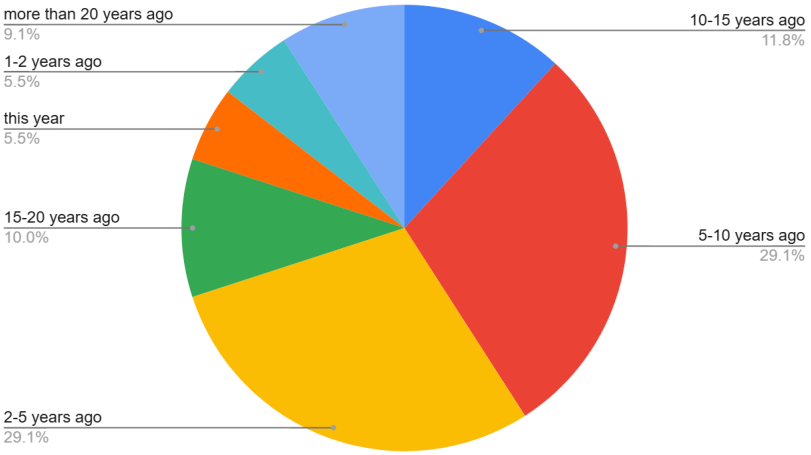

Figure 1. The length of time since meat products were excluded from the diet

Source: Author's own study.

The motivations of respondents for excluding meat products from their diet were diverse, but several key factors were prominent. The most frequent reason was concern for animal welfare (88.6%), which highlights the growth of ethical awareness among consumers. Ethical and moral issues related to preventing animal cruelty were also a common reason for dietary change (70%). Environmental concerns (45%) and health considerations (30.5%) were mentioned slightly less frequently. A graphical representation of the motivations for adopting a vegetarian or vegan diet is shown in Figure 2.

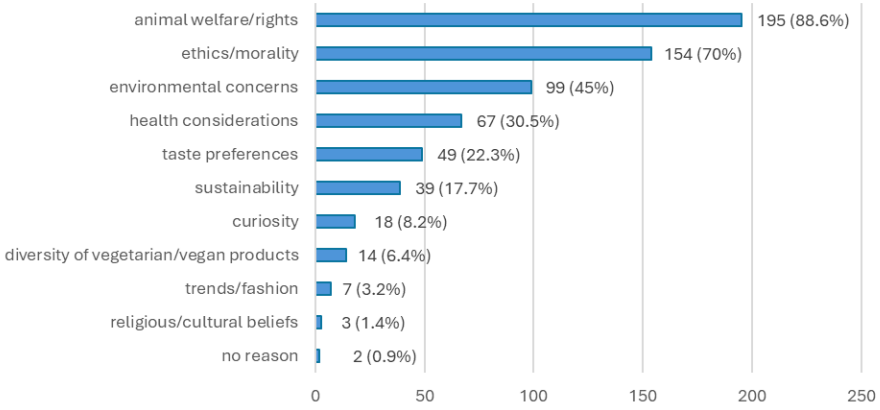

Figure 2. Reasons for adopting a vegetarian/vegan diet

Source: Author's own study.

The majority of respondents (63.2%) regard plant-based meat substitutes as a healthy alternative to traditional meat products. An opposing opinion was expressed by 23.2% of respondents, while 13.6% had no opinion on the matter. Respondents were also asked about the most important properties influencing the choice of plant-based meat substitutes. Taste, nutritional value, texture, ease of preparation, cruelty-free production, and environmentally- and climate-friendly production were the highest-rated factors on a 7-point scale. The least important aspects were low calorie content and the absence of artificial additives. Among the factors that respondents pay the most attention to when purchasing meat substitutes, quality, price, widespread availability in stores, and special offers ranked highest. Slightly lower ratings were given to package size and eco-friendly packaging. The least important features were the country of production, brand, and recommendations from the Internet or family/friends (Table 2).

Table 2. Factors influencing the choice of plant-based meat substitute ($N = 220$, in %)

Rating	1	2	3	4	5	6	7	Mean score value
price	1.8	4.5	8.6	11.8	28.6	22.3	22.3	5.17
special offer	3.2	5.9	7.7	12.7	19.1	28.2	23.2	5.16
quality	0	0	1.8	4.5	22.7	33.6	37.3	6.00
weight	4.5	3.6	7.7	29.5	25.5	17.7	11.4	4.66
availability in stores	0.9	5	6.8	12.7	25.9	24.1	24.5	5.28
eco-friendly packaging	4.5	7.3	12.3	23.6	23.2	17.7	11.4	4.52
country of production	20.5	15.5	16.8	20	12.3	9.1	5.9	3.39
brand	28.2	18.2	17.3	22.7	10	2.3	1.4	2.80
family/friends recommendations	12.7	8.2	14.5	28.6	22.3	10.9	2.7	3.83
recommendations on the Internet	10.9	10.9	15.9	26.4	23.2	10	2.7	3.81

Source: Author's own study.

The most common points of sale mentioned by the respondents while shopping for plant-based meat substitutes are supermarkets and hypermarkets (61.2%), which might be a result of wide product range and competitive prices. Discount stores account for 23.7% of purchases. The remaining consumers purchase their products in online grocery stores, directly in online stores of vegetarian products manufacturers, health food stores, as well as drugstores and markets (Figure 3).

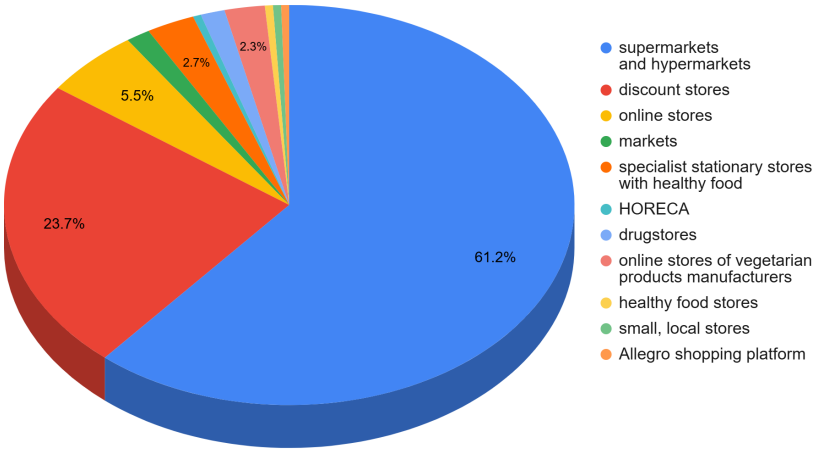

Figure 3. The most common points of sale of plant-based meat substitutes

Source: Author's own study.

When asked about their preferred brands of plant-based meat substitutes, the vast majority of respondents indicated private-label brands from retail chains (90.5%). Other popular choices included Dobra Kaloria (78.2%), BezMięsny (52.7%), Polsoja (33.6%), Vivera and Garden Gourmet (both at 32.3%), One Day More (30.5%), Z Gruntu Dobre (30%), Well Well (19.5%), Heura (16.4%), and the Vegetarian Butcher (13.2%).

The respondents were also asked about their monthly spending on meat substitutes. A total of 84.1% reported spending no more than PLN 400 on these products, while 11.3% allocate between PLN 401 and PLN 800. Only 1.4% of respondents spend more than PLN 1,000 on meat substitutes (Figure 4).

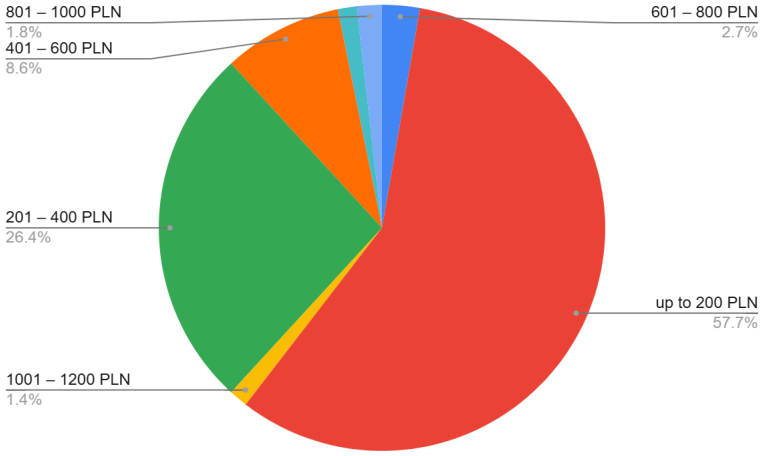

Figure 4. Monthly spending on plant-based meat substitutes

Source: Author's own study.

The majority of respondents (70.5%) expressed satisfaction with the plant-based meat alternatives offered on the Polish market. An opposite opinion was held by 23.6%, while 5.9% of respondents had no opinion on the matter. The respondents also mentioned products missing from the domestic market, which include, *inter alia*, fish substitutes (mainly salmon, smoked mackerel, herring, and fish spreads) and seafood, raw minced meat, liver, tartare, devolay, "chicken" wings, steaks, pork neck, frankfurters, and dry-cured sausage. High-quality hot dogs, properly textured grilling sausages, and soy-free products were also frequently indicated.

Among the drawbacks of plant-based meat alternatives identified by respondents were high price (70.5%), low availability in stores (45.9%), a limited product range (31.4%), low content of valuable nutrients (28.2%), lack of widely available information or advertising about the products (20.5%), and a taste that is not quite equivalent to real meat (10%).

The respondents most often choose plant-based meat substitutes as a base for preparing main meals, such as minced meat, gyros, or chicken pieces (32.7%), plant-based chop and burger alternatives (25.5%), plant-based sausages, hot dogs, and *kabanosy* (12.3%), cold cut alternatives (11.8%), and pâtés (9.5%). The least popular choices are ready meals (ready-to-cook, frozen, or refrigerated products) containing meat substitutes, with only 3.6% of respondents selecting them (Figure 5).

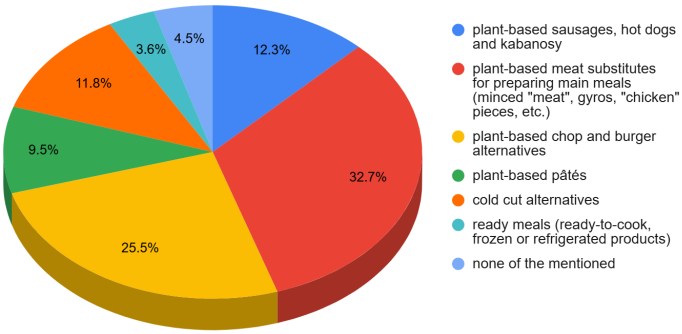

Figure 5. Most often purchased plant-based meat substitutes

Source: Author's own study.

The respondents were also asked about their opinion about whether plant-based meat substitutes should bear a name similar to the product that they substitute (e.g. plant chicken). More than half of the surveyed (62.3%) answered affirmatively, whereas 25% had no opinion on the matter. 12.6% of respondents are of the opinion that meat substitutes should be labeled with a brand-new name. The respondents prefer meat substitutes made from peas (24.1%), soy (18.6%) and chickpeas (16.4%) the most. A much smaller proportion of survey participants indicated mycoproteins (7.3%), wheat (3.2%), hemp protein or lentils (0.5% each). 22.7% of answerers have no preferences on the matter (Figure 6).

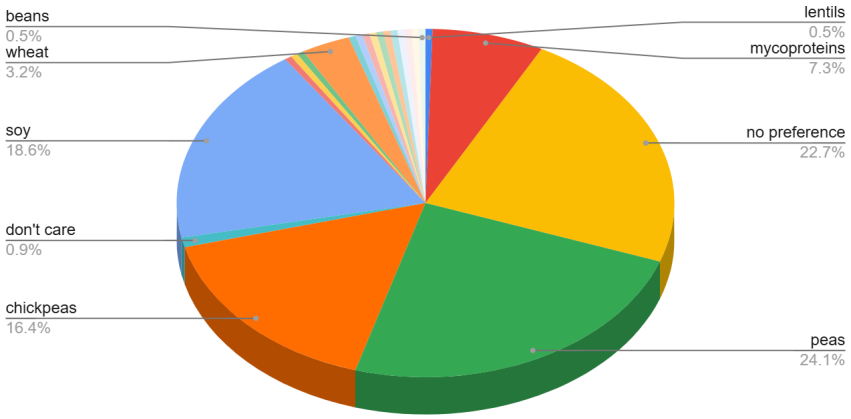

Figure 6. The main ingredient preferred in meat substitutes

Source: Author's own study.

The respondents were also asked whether the availability of plant-based meat alternatives had been helpful in their decision to switch to a vegetarian or vegan diet. The majority (68.1%) answered negatively, while 6.4% had no opinion on the matter. Responses varied regarding the question of purchasing cultured meat. 34.1% of respondents would be willing to buy such a product if it became available in stores, while 44.5% would not, and 21.1% had no opinion.

The participants were also asked whether vegetarian or vegan meal and snack options were available at business meetings or events they attended. The responses were evenly split – 45.5% answered positively, while another 45.5% answered negatively. The remaining respondents indicated that the question did not apply to them. Regarding the use of vegetarian or vegan options in fast food restaurants (such as McDonald's, KFC, etc.), 63.6% of respondents answered affirmatively. Those who do not purchase food from such eating places cited ethical, health, and taste-related reasons, including frying vegetarian products in the same oil as meat, disagreeing with company policies, unwillingness to support businesses that contribute to animal slaughter, poor ingredient quality, avoidance of fast food, and lack of suitable options. The survey participants were also asked about their purchasing habits concerning other animal products (e.g. leather shoes) and their attention to food ingredients that may contain animal-derived substances, such as gelatin or the coloring agent E120. The vast majority remained consistent with their dietary beliefs – 71.4% stated that they do not buy other animal-based products, and 86.4% reported paying attention to animal-derived ingredients in food products such as jellies or yogurts.

Almost 70% of the surveyed believe they lead a healthy lifestyle. Many of them also consume dietary supplements. The most commonly taken supplements include vitamin D (67.3%) and B12 (64.4%). A smaller percentage of respondents take magnesium and omega-3 fatty acids (both 28.6%), iron (19.5%), calcium (8.2%), zinc

(7.7%), and iodine (3.6%). Additionally, 18.2% of respondents stated that they do not take any dietary supplements at all. The answerers were also asked whether they experience any form of discrimination due to their diet. The most common response was "sometimes" (41.4%), followed by "rarely" (34.1%), "usually" (12.3%), "never" (10.9%), and "always" (1.4%). They were also asked to rate several statements related to their dietary choices and social environment using a 7-point Likert scale. The analysis of their ratings indicates that respondents feel strong support from their loved ones regarding their choice of a vegetarian or vegan diet. A sense of belonging to a group of people sharing similar attitude also proved to be important, as it may facilitate adherence to their diet. However, active participation in organized communities, such as online groups or associations, played a lesser role, suggesting that most respondents primarily receive support from personal relationships. Opinions on the diet making one stand out from the crowd were divided, which may be triggered by different motivations for adopting this way of eating. Meanwhile, the relatively low level of controversiality in eating in the company of meat-eaters suggests that, for most respondents, their diet does not pose a significant barrier to social relationships.

Table 3. Opinions on the adoption of a vegetarian/vegan diet in the context of social support and nutritional situation ($N = 220$, in %)

Specification	Strongly disagree	Disagree	Partially disagree	Undecided	Partially agree	Agree	Strongly agree	Mean score value
My loved ones support my choice of a vegetarian/vegan diet	3.2	5.5	6.4	14.5	18.2	26.4	25.9	5.22
I have sufficient contact with other vegetarians /vegans	8.6	14.5	9.5	17.7	16.8	14.5	18.2	4.36
I am actively involved in a vegetarian/vegan group or organization (e.g. an online community, Facebook group)	23.2	20.9	11.8	15.5	15	4.5	9.1	3.28
Eating in the company of people who eat meat is problematic for me	38.6	19.5	11.4	7.3	9.1	6.8	7.3	2.78
I like that my vegetarian/vegan diet makes me stand out from the crowd	22.3	13.2	6.4	30.9	9.5	6,.8	10.9	3.56

Source: Author's own study.

At the end of the study, two questions related to the COVID-19 pandemic were asked. The first query concerned the impact of the pandemic on respondents' frequency of preparing vegan or vegetarian meals at home instead of purchasing ready meals. The majority (61.8%) responded negatively. The second question asked about the availability of plant-based meat alternatives in stores, including online retailers. Responses were evenly split – just over one-third of respondents (34.5%) stated that they had not noticed an expansion of plant-based product range, while an equal number of respondents held the opposite view. Additionally, 30.9% of respondents remained neutral on the matter.

Discussion

The findings of this study offer insight into the motivations, preferences, and purchasing behaviors of Polish consumers adhering to vegetarian or vegan diets who choose plant-based meat substitutes. Ethical concerns – particularly animal welfare – emerged as the dominant factor, followed by environmental and health motivations. This trend aligns with existing research that emphasizes the moralization of dietary choices in modern societies (Bryant, 2022; Cooper et al., 2024), and it confirms national studies showing similar incentives among Polish consumers (Kosicka-Gębska et al., 2025). Although interest in plant-based meat alternatives is increasing, consumer expectations remain high. Respondents emphasized the importance of taste, texture, and nutritional value, which corresponds with findings from Olegario et al. (2024) and Waehrens et al. (2023), who reported sensory limitations as a barrier to wider adoption. Moreover, high prices and limited availability continue to hinder market growth – an observation consistent with international trends (Caputo et al., 2024; Fechner et al., 2024) and national studies (Sajdakowska et al., 2023).

In terms of market structure, the dominance of supermarkets and hypermarkets as purchase locations underscores the importance of conventional retail formats in product visibility and accessibility. However, there is room for improvement through e-commerce and the expansion of specialty stores, particularly in underserved regions. The popularity of private-label brands suggests that affordability and convenience are critical factors, but also that brand awareness of niche producers may be limited.

The study also revealed the importance of social context. Respondents reported receiving support from their immediate social environment, which positively influenced their dietary commitment. While active participation in formal communities was limited, a sense of shared identity played a significant motivational role. Another dimension worth exploring is the perception of ingredients – especially soy. While not explicitly addressed by respondents, it is important to acknowledge that soy consumption remains a subject of debate due to potential hormonal effects (Rizzo et al., 2022; Viscardi et al., 2025). This warrants more direct investigation in future research, particularly given the widespread use of soy in meat analogs.

This study contributes to the growing body of literature by providing insights based on an analysis of Polish consumers following vegetarian and vegan diets. The results may serve as a starting point for further analysis and marketing strategies aimed at improving product features and availability. To better understand the dynamics of dietary change, future research – particularly longitudinal and comparative studies – should consider including other consumer segments, such as flexitarians.

Conclusions

The conducted research provided insights into consumer preferences and behaviors in the Polish plant-based meat alternative market. The analysis of results highlights the complexity of factors shaping purchasing decisions, including growing health, ethical, and environmental awareness among respondents. In the context of modern consumption, values related to animal welfare and environmental protection are gaining importance. Plant-based meat substitutes are perceived not only as alternatives to traditional meat products but also as a means of fulfilling ethical and ecological values. The standardization of such dietary choices reflects a growing shift in societal norms and ethical awareness. Despite the rising interest in plant-based meat alternatives, the study identified several barriers limiting the growth of this market segment. The most significant obstacles include high product prices, limited availability, and differences in sensory quality compared to traditional meat. Consumers have high expectations regarding taste, texture, and nutritional value, which are key factors in the acceptance of these products on the market. These findings are consistent with prior research conducted both in Poland and abroad (Caputo et al., 2024; Fechner et al., 2024; Sajdakowska et al., 2023).

Consumer preferences indicate that the most popular meat alternatives are based on peas, soy and chickpeas, providing valuable insights for producers looking to optimize product composition. The study also emphasizes the crucial role of distribution channels in popularizing plant-based meat substitutes. Supermarkets and hypermarkets were identified as the primary points of purchase, underlining their key role in shaping product availability and diversity. However, respondents' answers also highlight the need to develop alternative distribution methods, such as online sales and plant-based health food stores, which could improve product accessibility in smaller towns and regions with limited product range.

The findings indicate that while interest in plant-based meat alternatives is growing, this market still faces significant challenges. Consumers reported a lack of certain product categories, particularly fish substitutes, plant-based cold cuts, and more technologically advanced alternatives. Expanding product availability and diversifying product range could contribute to greater acceptance and wider adoption of these products in society. This observation is also supported by recent national report (World Food Poland, 2024). In the context of global dietary trends, the role of plant-based meat substitutes in a sustainable food system is becoming increasingly evident. Reducing greenhouse gas emissions, decreasing the use of natural resources, and limiting industrial animal farming are key arguments supporting the continuous development of this market segment. The study also revealed that social factors play a significant role in maintaining a plant-based diet long-term. Support from close friends and a sense of belonging to the vegetarian or vegan community can help sustain pro-environmental consumer choices. While active participation in online groups and vegetarian organizations is not widespread, interactions with

like-minded individuals can serve as an important motivational factor. This insight could be valuable for marketers and organizations promoting plant-based diets, who may take advantage of this aspect in educational activities and social campaigns.

While the conclusions are encouraging, the results must be interpreted with caution due to several methodological limitations, including sample composition and lack of comparison with omnivores or flexitarians. These limitations open important directions for future research. Additionally, the analysis suggests that the future growth of the plant-based meat substitute market should focus not only on increasing availability and product diversity, but also on eliminating price barriers, intensifying educational efforts, and improving sensory qualities. Raising consumer awareness of the nutritional value and quality of meat substitutes could lead to greater acceptance. Future strategies should consider not only economic and technological aspects, but also social factors that significantly influence purchase decisions. The study provides valuable data that can be used by policymakers and organizations promoting plant-based diets to develop more effective educational and promotional strategies.

In conclusion, the plant-based meat substitute market in Poland is experiencing dynamic growth. However, to fully realize its potential, overcoming existing barriers and challenges is essential. The gathered data offers valuable insights for producers, retailers, and organizations supporting sustainable development, highlighting the need for investment in product quality, availability, and educational activities. Further research, including broader and more diverse consumer segments, will be crucial for deepening our understanding of consumer behavior and advancing sustainable dietary transitions.

Limitations

Although the study offers important insights into the behaviors of Polish consumers in the plant-based meat substitute market, several limitations must be considered. First, the research focused exclusively on vegetarians and vegans. This narrow sample excludes omnivores and flexitarians, despite their increasing interest in plant-based products. Their exclusion limits the generalizability of the findings and reduces the relevance of the conclusions for the full consumer market. Second, the sampling method was non-probabilistic and based on online recruitment. As a result, the sample was disproportionately composed of women, younger adults, city dwellers, and individuals with higher education. These demographic biases could have influenced the results. Future research should aim to include more diverse and representative populations. Third, the research instrument was a structured questionnaire administered via the CAWI method.

Although efficient, the use of exclusively quantitative tools limited the depth of insights. The absence of open-ended responses or qualitative interviews prevented the exploration of more complex psychological or cultural factors influencing behavior.

Fourth, the study did not distinguish between vegetarians and vegans in the analysis. While they share many values, differences in motivation, purchasing patterns, and nutritional needs might be significant. Finally, the cross-sectional design of the study prevents any assessment of changes over time. Longitudinal studies would allow for the tracking of evolving attitudes and the stability of plant-based consumption behaviors, especially in response to market or societal shifts.

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