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CONSUMER PREFERENCES TOWARDS PROTEIN SOURCE, FORM AND FLAVOUR OF PLANT-BASED ALTERNATIVES TO MEAT IN FINLAND

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The document length is 7467 words from the introduction to the end of the conclusion.

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ABSTRACT

The purpose of this research is to find out consumer preference towards the protein source, flavour profile and form of plant-based meat alternatives in Finland. Changes in consumer behaviour have sprouted from environmental, ethical and health concerns with traditional meat production. As a result, vegan alternatives to meat products have found their place next to meat products in the shelves of every market with seemingly endless options when it comes to shape, flavour and protein source. The research for this paper is done through an online questionnaire with the data gathered from food related social media groups using convenience sampling. The data was analysed using descriptive statistics. The main results for this study were that those who do not use plant-based meat alternatives have no or little interest in them and are generally negative towards them. However the participants who do use plant-based meat alternatives show high interest towards all protein options apart from wheat. Form-wise the users were most interested minced meat and chicken fillet strip like forms as well as ready-made foods such as sausages or nuggets. The users were preferred fresh products the most and flavour options had no strong preferences.

Keywords: Plant-based meat alternative, Consumer preference, Meat alternative protein, Meat alternative form

INTRODUCTION

Plant-based foods have become incredibly popular in the last few years for a multitude of reasons. Some people have started to increase or completely switch to plant-based foods in their diet for perceived health benefits. Some take issue with the inhumane treatment of animals within the meat-industry and. And some are worried about rising global temperatures that the meat-industry contributes to.

Although plant-based meat alternatives have quickly taken more space on the shelves of every supermarket they have yet to breakthrough on to every plate. Plant-based meat alternatives seem to be very divisive and discourse around the subject often raises emotions to the surface. However global warming does not care for feeling. The global production of meat and its logistics produce around twice the amount of greenhouse emissions than plant-based food production (Xu et al., 2021). Humanity as a whole needs to consume more sustainably if we are to curb the rising temperatures.

Aiking predicted that the rising cost of food and environmental reasons would bring about a trend reversal towards more plant-based foods in place of animal products (Aiking, 2011). So far the markets seem to think he was right as plant-based food sales in the U.S are growing far faster than their animal-product counterparts (U.S. retail market data for the plant-based industry, 2022).

The author is interested in the current cornucopia of plant-based alternatives to meat available to the consumer. There are multiple different base proteins to choose from as well as different forms and sizes to fill every product niche. The research problem is a lack of knowledge about consumer preferences towards these attributes. The study is relevant due to the strong opinions and emotions vegan meat alternatives raise in people. Are there similarities in preference between consumers who use vegan meat alternatives and those who do not? What if the results

indicate interest in a product that does not currently exist on the market? The study aims to find out consumer preference towards the protein source, flavour profile and form of vegan meat alternatives. The research question is thus: Which forms and ingredients are Finnish consumers most interested in plant-based meat alternatives?

The thesis consists of four main chapters. The first chapter goes over previous research of attitudes towards vegetarianism and veganism, plant-based alternatives, the shape and taste of plant-based meats and how sensory attributes, personal ethics and cost affect consuming meat alternatives. The second chapter looks into how plant-based meat alternatives are being sold and consumed in Finland in the recent years as well as price and nutritional comparisons between common ground meat and chicken products and a multitude of their plant-based counterparts. The third chapter is about how the the research was designed, the process of collecting the data and how it was analyzed. The fourth chapter goes over the survey results and findings from the data.

1. THEORETICAL BACKGROUND

In this chapter, the author introduces previous research and topics on general consumer attitudes towards plant-based meat alternatives as well as more specifically their taste, shape, cost and acceptance.

1.1. Consumer orientation towards meat alternatives

A study found that non- and light/medium-users use of meat subsitutes was hampered by unfamiliarity of the product and lower sensory appeal compared to meat. Non-users were also more likely to avoid new foods alltogether. The study found that the less a consumer used meat substitutes, the more they wanted the substitute to have the taste, smell and appearance of meat. Heavy-users of meat substitutes wanted the product not to resemble real meat for the very same reasons. (Hoek et al., 2011, p. 669-670) However meat's taste and texture properties are not currently reflected by the meat alternatives available on the market. A study suggests that in order for meat substitutes to be accepted by non-vegetarian consumers, the product should fit in the meal it is used in and that the product appearance and shape carry significance. (Elzerman, Hoek, van Boekel and Luning, 2011, p. 239).

Naming meat-alternatives after their animal counter-parts has an effect on it's desireability to a consumer. A finnish study found that consumers had slightly negative connotations when a product's name was perceived as trying to mimic an animal product. Consumers felt that vegan alternatives should be named and treated as wholly separate products that do not try to replicate meat. (Poutiainen, 2019, p. 43) There are also differing findings as study participants associated meat alternatives negatively with tofu and soy while many of today's meat alternative products are made with peas and wheat. The researchers speculated that unpleasant memories of tofu

could hinder consumers from trying meat alternatives again. (Michel et al., 2021, p. 7) However another study found that plant-based meats have little food neophobia because soy meats have been on the market for so long (Hwang, You, Moon and Jeong, 2020, p. 10). It should be noted that the studies were respectively German and Korean so food culture could have an impact on the findings. Vegan products had also multi-leveled meanings for consumers in a Finnish study. On a product feature level taste, price, nutritional value, origin, availability and naming were raised as important. On an emotional level pleasure, healthiness, naturalness and purity were brought up. On a value level health and environmentality were raised. (Poutiainen, 2019, p. 1) A qualitative study on nine finnish women trialling vegetarian cooking also found that vegetarian food choices were motivated by environmental factors, health and ethics. Omnivore food choices were motivated by taste of food and ease of preparation. (Weckström, 2019, p.1)

A New Zealand study on attitudes towards vegetarians and vegans found that both groups were percieved generally positively. However comparing the two, attitudes towards vegans were less positive than their vegetarian counterparts. The study also found that non-vegetarian men were significantly less positive towards both groups than women. (Judge and Wilson, 2018, p. 175) A UK study had similar findings in that perceptions of vegan diets were significantly more negative than vegetarian diets on many aspects (Bryant, 2019, p. 1). In one study “Disgust”, “tofu”, “soy”, “vegetarian and vegan” and “negative evaluation” were associated together by both men and women alike. A possible explanation for the negative associations was that meat eaters might have had bad experiences with vegetarians or vegans. (Michel et al., 2021, p. 3) Western vegetarians are overwhelmingly women and that women were more likely to avoid eating red meat compared to men (Ruby, 2012, p. 148). In a study surveying older EU residents, researches found that participants could be open to accepting plant-based products as protein alternatives to meat. The study concludes that an effort should be made to increase exposure to plant-based alternatives to make them more attractive (Grasso et al., 2019, p. 10-13).

Non- and light/medium-users of meat substitutes recognize ethical aspects of consuming meat substitutes but this is less relevant to them. Whereas heavy-users were highly motivated by the ethical aspect when choosing foods which also explains them choosing meat substitutes. (Hoek et al., 2011, p. 1) A consumer acceptance study on blending plant-based ingredients (mushroom) into meat-based foods found that study respondents had a high belief that the blended products

would be environmentally sustainable (Lang, 2020, p. 1). Although many meat-eaters agree with the ethical and environmental arguments for vegetarianism or veganism they do not follow these diets due to practicality relating to pricing, sensory appeal and ease (Bryant, 2019, p. 12).

1.2. Meat alternative sensory appeal

A weak preference was found for meat alternatives to imitate real meat taste-wise (Michel et al., 2021, p. 6). Another study found that the less a consumer used meat alternatives the more they wanted it to taste like meat. For heavy-users of alternative meat the findings were the exact opposite. (Hoek et al., 2011, p. 669). A study done in the UK found that using descriptive and positive language on plant-based product labeling both increased their attractiveness to consumers and lessened frequent meat-eaters dislike of them (Papies et al., 2020, p. 11-12). Similarly a Danish study concluded that specifying a protein ingredient in a food and protein source transparency are regarded positively by study participants (Aschemann-Witzel & Peschel, 2019, p. 26). In a multi-national study on comparing burgers made out of beef, pea or algae protein, plant-based options were expected to taste worse by the study participants. The researchers concluded that expectations for meat alternatives should somehow be increased for them to be seen as reasonable options to meat. (Michel et al., 2021, p. 7)

In a study looking into meat substitute appeal when used in different meals found that substitute appropriateness seemed to be more influenced by the appearance of the meat substitute-meal combination than the flavor and texture itself. The researchers suggest that in order for meat substitutes to be accepted by non-vegetarian consumers, the product should fit in the meal it is used in and that the shape and appearance of it seem important. (Elzerman, Hoek, van Boekel and Luning, 2011, p. 233, 239) Interestingly a more recent study finds that alternative meats should closely resemble highly processed meat products instead on trying to mimic cuts of meat if the product should successfully replace meat (Michel et al., 2021, p. 1).

A study found out how presenting cultured meats, a non plant-based lab grown meat alternative, in „high tech“ scenarios in the media made study participants less likely to consume it due to

perceived unnaturalness. Researcher concluded that using technical descriptive language of cultured meat production results negatively in perceptions of cultured meat. The results indicated that the language used around meat alternatives is very important to it's acceptance. (Bryant & Dillard, 2019, p. 1, 6) A study conducted in a middle school in Georgia, United States that trialled two plant-based entrees at lunch found that students showed moderate dislike towards the flavor, texcture and appearance of the entrees. Compared to other entrees the school offered, the plant-based options rated lowest out of them all. (Cox et al., 2021, p. 1)

1.3. Plant-based meat alternative purchasing decisions

A spanish survey found that a small group of concious consumers diplaying a positive opinion on lab-grown or plant-based meat substitutes would choose to purchase them. However most of the study participants would rather buy sustainably produced meat. (Escribano et al., 2021, p. 16) A Korean study found that consumers who care about sustainable farming have a higher tendency to buy plant-based meat alternatives (Hwang, You, Moon and Jeong, 2020, p. 10). A plant-based milk study found similar results that survey respondents who care about the environment and farm animal welfare were more likely to purchase and consume milk alternatives (Boaitey and Minegishi, 2020, p. 639). A recent Finnish study showed that a relatively large share of survey participants had begun to eat less red meat and move more towards plant proteins or poultry (Nevalainen et al., 2023, p .10-12).

In a burger thought-experiment study, it was found that if prices are equal 65% of consumers would purchase a meat burger, 21% a plant-based one, 11% a cultured meat on and 4% would make no purchase (Slade, 2018, p. 428). However, it has been found that higher price of alternative meat is one of the three factors limiting their use by meat-eaters (Bryant, 2019, p. 1, 12). Similarly anbother study found that spanish consumers were unlikely to pay a price premium for meat alternatives (Escribano et al., 2021, p. 16). Most respondents independent from their meat substitute usage would prefer a cheaper product with less calories and more protein, vitamins and minerals than meat (Hoek et al., 2011, p. 669-670). A key point for successfully replacing meats a study finds is competitive pricing for alternative meat products (Michel et al., 2021, p. 1). In another study respondents had moderate beliefs that a mushroom-

meat blend would cost less and taste better than plain meat. The study concluded that blending plants with meat would have higher acceptance if the product could be shown to taste better and cost less. (Lang, 2020, p. 7) A British study found that for increasing the effectiveness of substituting meat with plant-based alternatives, price was the largest factor. The researchers promoted raising the price of meat and subsidising substitute products. (Apostolidis & McLeay, 2016, p. 83-84) Two studies in Finland and Sweden looking into barriers to decreasing meat consumption and increasing plant-based choices had similar findings. Percieved high pricing was identified as the most relevant barrier by the Finnish study and many Swedish study participants thought that using little or no meat in their diet would actually cost more than using meat. (Mäkiniemi & Vainio, 2014, p. 15; Collier et al., 2021, p. 10)

In a chinese study conducted in Beijing, researcher found that consumer willingness to pay for plant-based meat alternatives increased after the consumer was more informed of the nutritional contents of the products (Wang et al., 2022, p. 11). A study about plant-based beef patties showed that customers would have a higher willingness to pay if the product's ingredients had strong traceability, it's safety certifications were completely disclosed and the production technology was advances enough (Zhou et al., 2022, p. 8).

2. CURRENT SITUATION WITH PLANT-BASED ALTERNATIVES TO MEAT

In this chapter, the author goes over the current meat substitute products available to a consumer, meat substitute nutritional values, cost comparisons and how meat substitute consumption has been developing in the recent years.

2.1. Adoption and consumption

Gettting an accurate statistics on Finnish consumption regarding meat alternatives does not currently exist as they are not directly tracked by neither Statistics Finland or the Natural Resources Institute Finland. However some ideas about alternative meat consumption can be derived from increases in consumption of oats, a common protein source in meat alternatives as well as reported increases in sales by retail companies. From 2015 to it's peak in 2020, oat consumtion rose by 83%. From 2021 the numbers have started to drop (Table 1) and preliminary sales numbers from 2022 show that meat alternative sales have stalled or started to drop as well (Paukkeri, 2022). Whilst there have been other consecutive years of reduction in meat consumption, the small decrease from 2017-2021 may be affected by an increase in alternative meat consumption. It should be noted that Finnish people are still consuming more meat than ever before in measured history.

	2015	2016	2017	2018	2019	2020	2021
Oat	5,9	6,3	7,3	7,3	9,4	11,0	10,2
Total meat	79,3	81,1	81,0	81,3	79,6	79,3	79,1

Table 1. Total yearly oat and meat consumption in Finland, kg/person

Source: Natural Resources Institute Finland 2022

	S-ryhmä	K-ryhmä
2017	124	112
2018	24	-2
2019	21	39
2020	33	57

Table 2. Plant protein sales changes of two largest Finnish retailers from previous year, %

Source: Lindholm, 2021

Finnish retail companies Kesko (K-ryhmä) and S-Group (S-ryhmä) showed large growth numbers in plant protein sales from 2016 to 2017. Both retailers had their sales more than double during that time with the following years still having close to 30 percent average growth per year.

2.2. Nutritional value & price

Two types of meat products and a selection of their plant-based alternatives were chosen to compare nutritional values and prices between the products. The minced meat and chicken fillet strip products were chosen by arranging the K-ruoka online catalogue by most popular. For the minced meat, Atria parempi jauheliha was picked and for the chicken, Kotimaista kanan fileesuikale was picked. Every plant-based meat alternative that resembled the form of the corresponding meat was picked for the comparison.

Every minced meat alternative has a higher calorie count than real meat. This is likely due to their carbohydrate content which the real meat has none. The protein amounts are similar and even higher in some plant-products however every plant-based product has a much higher salt content than real meat, something that a consumer should keep in mind when preparing the products. Price-wise real minced meat is the cheapest option although some alternatives are very close. However if you compare protein content ratios to price then the animal product favors much better from a price point of view.

Per 100g	Atria parempi jauheliha	Elovena Muru	Meeat Muu Jauhis	Meeat jauhismuru	Beanit härkäpapumuru
Energy	168	231	228	175	259
Fat	10	4,3	11,5	4,2	15
Carb	0	25	14,5	16	4,7
Protein	20	20	14,1	10,3	25
Salt	0,12	0,9	1	2	1,7
Price/kg	10,73 €	15,07 €	11,61 €	11,25 €	14,36 €

Table 3. Minced meat product nutritional and price comparison to vegan alternatives data from August 2022

Source: S-ryhmä online catalogue 2022

Compared to plant-based products imitating minced meat, the chicken fillet strips alternatives tell a similar story. The chicken meat baseline product's calorie count in noticeably lower than most plant-based alternatives. This is likely due to the higher fat content with fresh plant-based alternatives and the fact that the dried products need to be reconstituted raising their calorie amount in the dried form. Protein contents are quite equal with one fresh alternative being noticeably higher and both dried options being understandably higher. Salt content is higher across the board with plant-based alternatives apart from a dried soybean strip product that contains close to no salt. Pricing on plant-based alternatives is higher than their animal product counterpart.

Per 100g	Kotimaista kanan fileesuikale	Beanit härkäpapusuikale	Meeat Muu vegesuikale	Meeat kasvisuikale	Hälsans Kök fileesuikale	Vegesun soijasuikale (dried)	Vegesun herne-härkäpapusuikale (dried)
Energy kcal	110	254	299	191	151	315	340
Fat	2,1	14	14	11	4,7	0,5	4,1
Carb	0	5,7	7,8	4,9	1,2	22	15
Protein	23	25	35	17	23	70	53
Salt	0,12	1,6	1,85	1,75	1,4	0,01	1,2
Price/kg	9,83 €	14,36 €	14,33 €	10,20 €	14,07 €	12,20 €	49,80 €

Table 4. Chicken fillet strips nutritional and price comparison to vegan alternatives data from August 2022

Source: S-ryhmä online catalogue 2022

The energy contents for both minced meat-like alternatives and chicken fillet strip-like alternatives is much higher than their animal counterparts. Thus switching these products one for one in place of animal products in a meal will result in much higher calorie intake. The same is true for the salt content of the plant-based alternatives. Lowering salt and fat contents for the plant-based products could be difficult as they might be key elements in making the product taste desireable to the consumer. The nutritional comparisons are very similar to what a study discovered in Australian supermarkets (Curtain & Grafenauer, 2019, p. 6-11).

3. METHODOLOGY AND ANALYSIS

In this chapter the author will go over the methodology used in the research. The goal is to provide an understanding on how choices regarding the design of the research were reached, the research process and data collection as well as how the data was analyzed. The chapter also contains analysis of all respondent answers, vegan meat alternative user and non-user answers separately followed by discussion. The total number of answers may vary in the figures as no question was mandatory to fill in and some surveyees chose not to answer every question.

3.1. Research design & survey

The aim of the study was to to find out consumer preference towards the protein source, flavour and form of plant-based meat alternatives. A quantitative method was chosen as the research approach due to the study's attempt to give a wide picture of consumer attitudes. The author concluded that descriptive statistics would be applied to transform the survey data into something more intelligible. A quantitative method was also chosen due to it's accuracy and ability to gather a large amount of data relatively quickly. Non-probability sampling, more specifically convenience sampling was chosen for the study due to time and cost reasons as well as the study being fully online.

A low barrier of entry was important to get enough data for the study. For this reason convenience sampling and an online questionnaire was chosen as the preferred method. The questionnaire was built in Google Forms for its ease of use and great built-in tools for parsing through the survey data. Due to Google Forms being an online platform it made sense to gather answers from the internet as well. Food and cooking related Facebook groups ended up as the data collection sites. The author reached out to multiple group administrators and moderators in order to post the survey to the groups but unfortunately many didn't either respond or flat out refused their groups to be used for the survey. Ultimately, two large Facebook groups allowed the survey to be posted. A male dominated cooking and grilling focused group "ÄIJÄT KOKKAA" and a vegetarian recipe and product sharing group "Kasvisruokaa <3 (lakto-ovo-vege)". In both groups the survey created a long discussion chain to which the author did not

participate in apart from answering technical questions regarding the survey. In the group "ÄIJÄT KOKKAA" the discussion was mainly focused around the naming conventions of vegan meat alternatives and whether or not the products should be called meat at all. In "Kasvisruokaa <3 (lakto-ovo-vege)" many group members were displeased that the study author did not differentiate between different types of the vegetarian diet and simply clumped them together in the survey.

The basis for formulating the survey questions was a a lack of knowledge about consumer preference towards specific forms, protein sources and flavours of plant-based meat alternatives. The author felt that the previous research on the subject was too generic in it's findings and that more specific data was required. The survey was made up of 8 questions consisting of multiple-choice questions, likert-scale questions, open-ended questions and a comment box at the end of the questionnaire. The survey is separated in to five pages with three of them being large sized likert scales. The questionnaire splits up into two parts from the first question onwards differentiating surveyees that use plan-based meat alternatives from those who do not. This ended up being an unneccessary step as separating the respondents in the survey results turned out to be trivial. The next section asks the surveyees about their diet, age, gender and their purchasing decisions regarding frozen, dried and fresh meat alternatives. The diet question was a multiple-choice one that had three choices: omnivore, plant-focused omnivore and vegan. The plant-focused omnivore answer choice was used to group all forms of vegetarianism i.e. pescatarian, lacto-ovo etc. into a single answer. This was done because vegatarianism as a term is ambiguous and the diet is difficult to correctly self-identify (Vinnari, Montonen, Härkänen and Männistö, 2008 , p. 481). Gender was divided between man, woman, don't want to answer and an open answer if the surveyee identified as a different gender. Age was segmented to ten-year groups starting from 16-25 and ending at 66+ year olds. The first section's last question was a multiple-choice question on if the surveyees were to buy meat alternatives, would they buy fresh, frozen or dried products, I don't buy meat alternatives or can't say. By adding the second last option the author wanted to see if the distinction between buying and using meat alternatives had a correlation.

The next section was a Likert-scale question on how much was the surveyee interested in different forms of vegan meat alternatives. The scale ranged from one to five with one being the

least interested and five the most. There were 6 different forms: crumble/mince, strips, block, cubes, patty/burger and lastly ready-made foods such as sausage, nugget etc. An open comment box for any other forms followed the question. Each category was accompanied by an illustrative picture sourced from www.s-kaupat.fi/tuotteet which is the product website of the grocerystores owned by S-ryhmä. The author chose S-ryhmä for the product pictures as it has a homogenous product catalogue in markets across the country.

The third section was a likert-scale question as well on how much the surveyees were interested in different protein sources in plant-based meat alternatives. Again, the question's scale ranged from one to five, with one meaning the least interested and five the most. There were five different plant protein sources: oat, soybean, favabean, wheat, peas and an open comment box. The survey originally had Quorn, a fungus protein as an option as well but after inspecting the product's ingredients it turned out that Quorn, atleast in Finnish supermarkets, contains egg whites thus disqualifying it as a plant-based meat alterantive.

The last section was a multiple-choice question of when buying meat alternatives, would the surveyee buy "natural" or flavored products. The question's answer choices were: natural, flavored (bbq, thai, etc.) and can't say. After the questions the survey thanked the surveyee for completing the questionnaire and the last page had one more field for an open comment.

In the third question the respondent was asked to choose their gender. 76% of total answers were women, 22% were men and 2% identified as another gender or did not wish to answer. For the vegan meat alternative users 87% were women, 10% were men and 2% did not wish to answer or identified as another gender. 79.3% of the non-users answered man and 20.7% answered woman. The gender distribution for the vegan meat users and non-users were similar but in opposite ways as the meat alternative users were majority women where as the non-users were majority men.

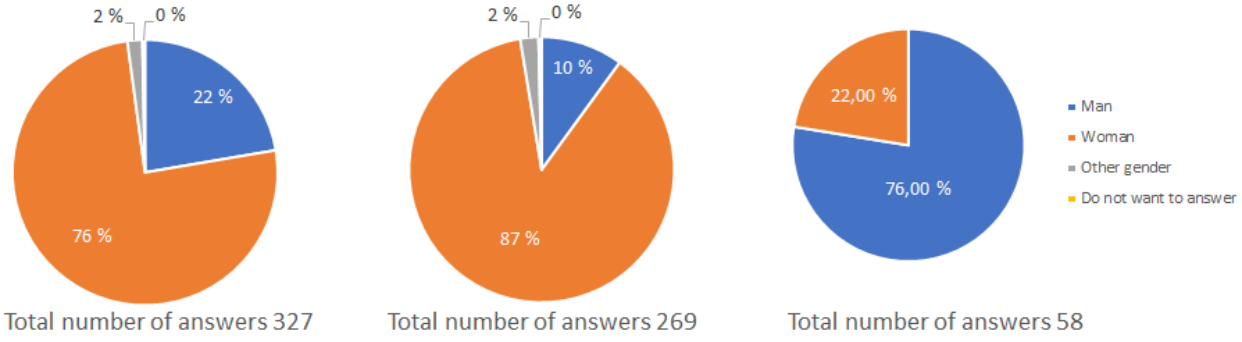

Figure 1. Gender distribution from left to right: total respondents, vegan meat alternative users and vegan meat alternative non-users, %

Source: Composed by the author

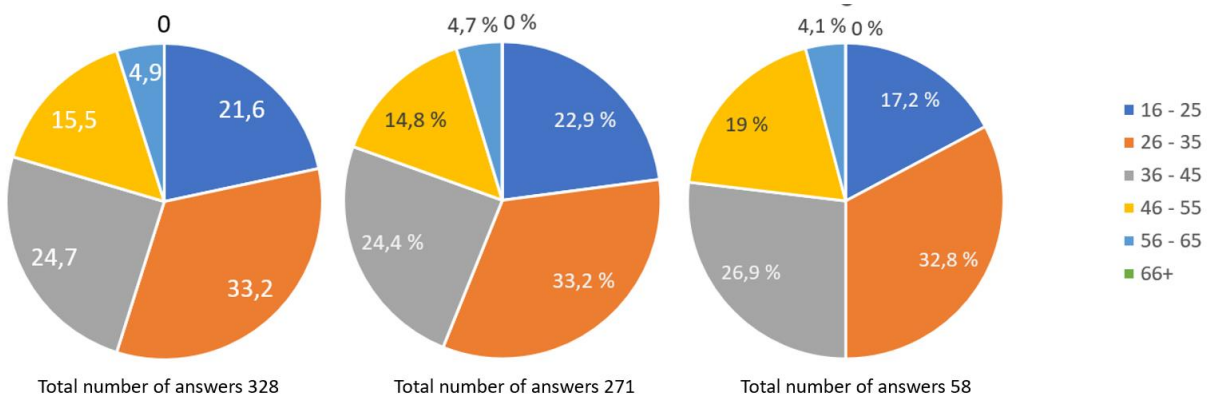

Figure 2. Age distribution from left to right: total respondents, vegan meat alternative users and vegan meat alternative non-users, %

Source: Composed by the author

In the fourth question the respondent was asked to express their age. Age group 25-35 was the largest in total answers with 33.2% of all answers, followed by ages 36-45 with 24.7%, ages 16-25 with 21.6%, ages 46-55 with 15.5% and lastly ages 56-65 with 4.9% of total answers. No one aged 66 or over anwered the survey. The age distribution for both vegan meat alternative users and non-users were very similar with the non users having around 5 p.p. higher age group of 46-55 year olds and having a 5 p.p. lower age group of 16-25 year olds. The rest of the age distribution was within a few percentage points between the groups.

3.2. Results and analysis

The survey consisted of questions which were formed in order to find out consumer preference towards vegan meat alternatives form, protein source and flavour profile.

The first question asks if the respondent uses vegan meat alternatives in their diet. Out of the total of 331 answers given, 272 (82.4 %) of respondents do use vegan meat alternatives and 58 (17.6 %) do not use vegan meat alternatives In the second question the respondent was asked to choose their diet from three options: omnivore, plant-focused omnivore and vegan. For total survey responses, 56.7% of answers chose plant-focused omnivore as their diet. Second highest was omnivore with 27.1% of answers and the third was vegan with 16.2% of answers. From the vegan meat alternative user segment, plant-focused omnivore were up to 67.2% of answers. However in the non-user segment plant-focused omnivore were only 8.6% of total answers. 14% of vegan meat users reported themselves as omnivores while 87.9% of non users did so. Lastly 18.8% of vegan meat users identified as vegan while only 3.5% of the non users did.

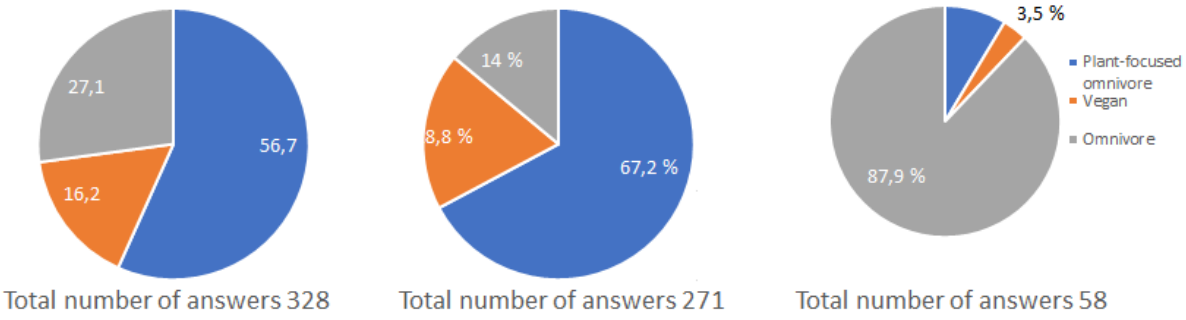

Figure 3. Diet distribution from left to right: total respondents, vegan meat alternative users and vegan meat alternative non-users, %

Source: Composed by the author

After the demographical questions, the fifth question was a multiple choice question about about when buying vegan meat alternatives which type would they buy? The options were: Frozen, Dried, Fresh, I don't buy meat alternatives and I don't know. The participant could choose more

than one answer which is why the total count is higher than the amount survey participants. For total answers Fresh was the most picked one with 266 answers, Frozen and Dried were very close to eachother with 182 and 171 answers respectively. 49 people answered that they do not buy meat alternatives. The vegan meat alternative users had a very similar distribution to the total answers due to the sheer size of the user group compared to non-users. Fresh products were again the most popular answer with 255 people picking it. Frozen and dried were again very similar with 178 and 169 answers respectively. 3 people answered "I don't know" and 3 people do not buy meat alternatives. For the non-users a large majority of 46 chose I do not buy meat alternatives. Interestingly the distribution for the remaining answers is similar to the user group in that Fresh was also the most popular one with 11 answers with Dried and Frozen following with 2 and 4 answers respectively.

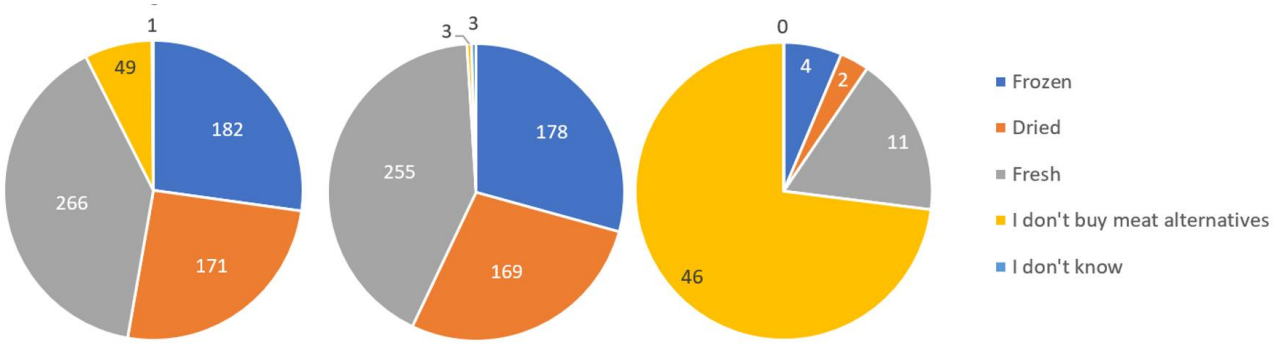

Figure 4. Total meat alternative type purchasing decisions ftom left to right: total respondents, vegan meat alternative users and vegan meat alternative non-users, count

Source: Composed by the author

In the sixth question the survey participants were asked to rate different forms of vegan alternative meat products by interest towards them. The interest scale was from one to five, one being least interested and five being most interested. The forms which were rated were: crumble/mince, strips, small pieces, block/cube, burger/patty and ready-made foods which meant sausages, nuggets and such. The question also had an "other" option with an open comment box which some participants answered. For total respondent averages, strips rated the highest with an average score of 3,1. Second and third highest was shared by crumble/mince and ready-made

foodswith an average of 3 score. Fourth highest was small pieces with 2.9 average score. Fifth was patty/burger with 2.8 average score. And lastly block/cube form had 2.5 average score. Apart from block/cube, all the forms were inside 0.3 average points from highest rated to second lowest.

The mode for crumble and mince, strips and ready-made foods was a score of 4 signalling high or above average interest towards the forms. Mode for small pieces was 3 score signalling average interest. And the mode for block/cube and patty/burger was 1 score signalling the least amount of interest. So while the average scores were quite close, the distribution of the scores was very different between different forms.

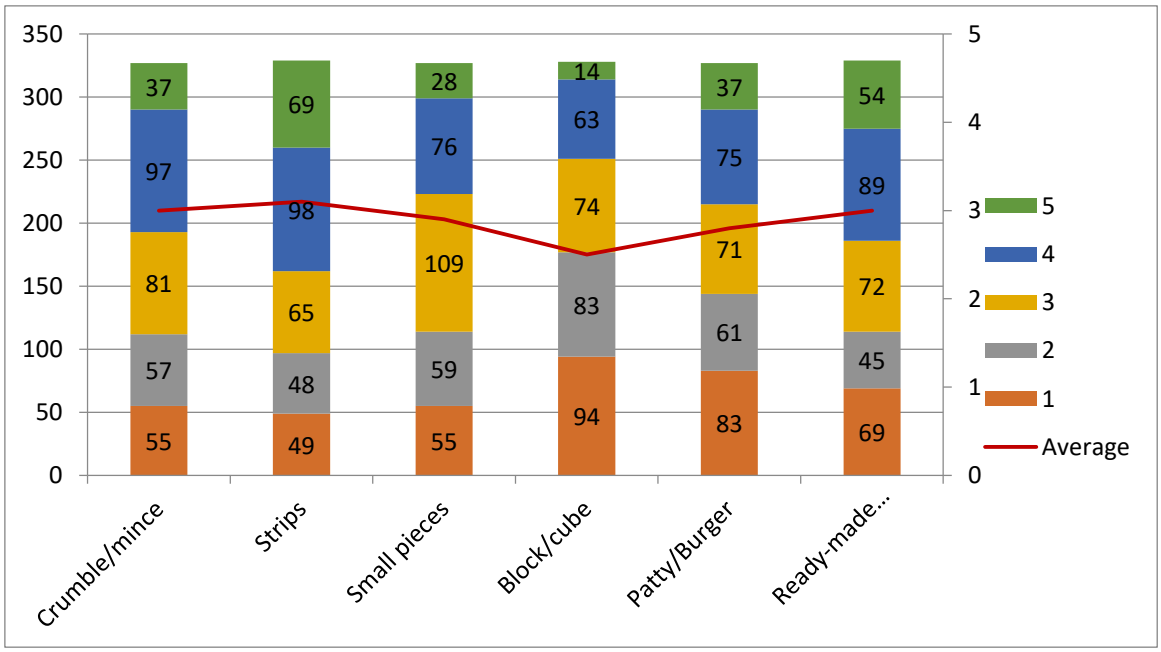

Figure 5. Comparison of how forms of meat alternatives interest all respondents: numbers of answers and average

Source: Composed by the author

The highest average score in the alternative meat user group was strips with an average score of 3.5. The second highest was ready-made foods with an average score of 3.3. Third was crumble/mince with an average of 3.2. Fourth was “small pieces” with 3.1. Fifth was

patty/burger with an average of 3. And the lowest average interest form was block/cube with an average score of 2.7.

Mode for crumble/mince, strips, ready-made foods and patty/burger was score 4 signalling above average or high interest. Mode for small pieces was a score of 3 signalling average interest. And the mode for block/cube was 2 signalling below average interest in the form. Some open form answers which were relevant for the question were: fillet, thin kebab-like slices and powders referring to plant-protein powders. Five people answered dried soy- or broad bean groats.

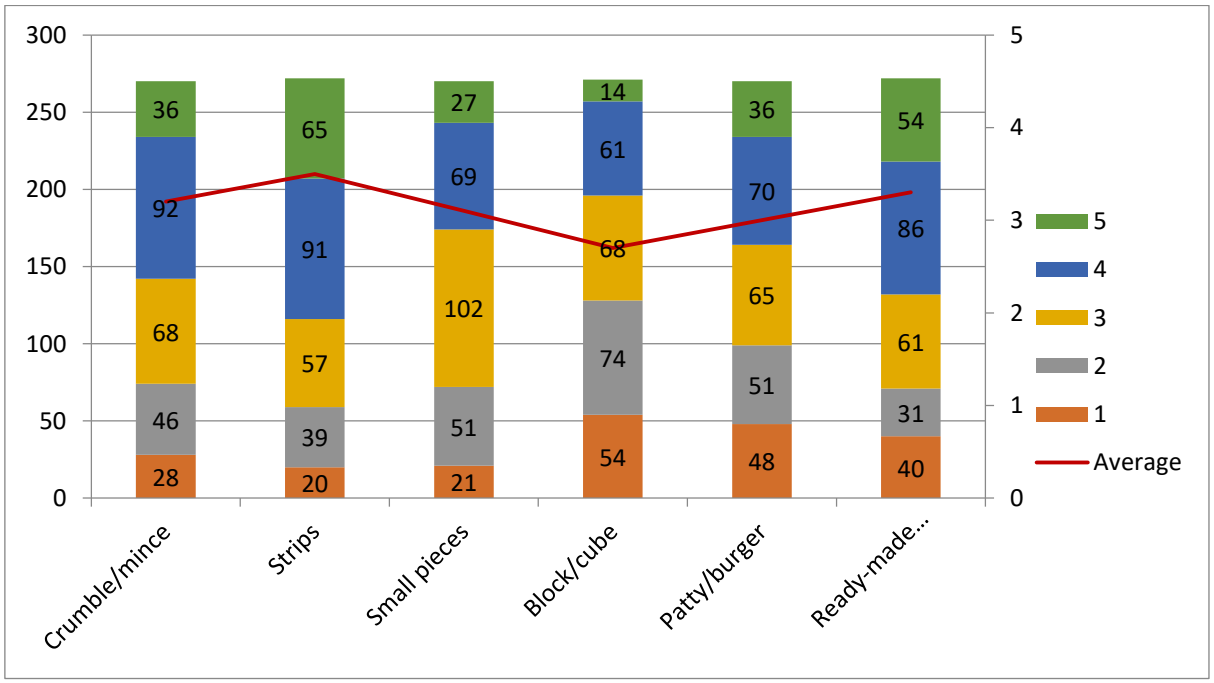

Figure 6. Comparison of how forms of meat alternatives interest meat alternative users: numbers of answers and average

Source: Composed by the author

The meat alternative non-user groups highest average score was strips with 2.1. Second highest was crumble/mince with an average of 2. Third and fourth highest was shared by small pieces and ready-made foods with an average score of 1.8 each. Second lowest form was patty/burger with a score of 1.7. The lowest average was block/cube with a score of 1.5.

The mode score for every form in the non-user group was 1 signalling the least amount of interest. The open form question for the non-user side was mostly used as an impromptu platform for expressing anonymous opinions about meat alternatives. The comments were mostly pondering why meat alternatives exist or simply saying that they were not interested in meat alternatives.

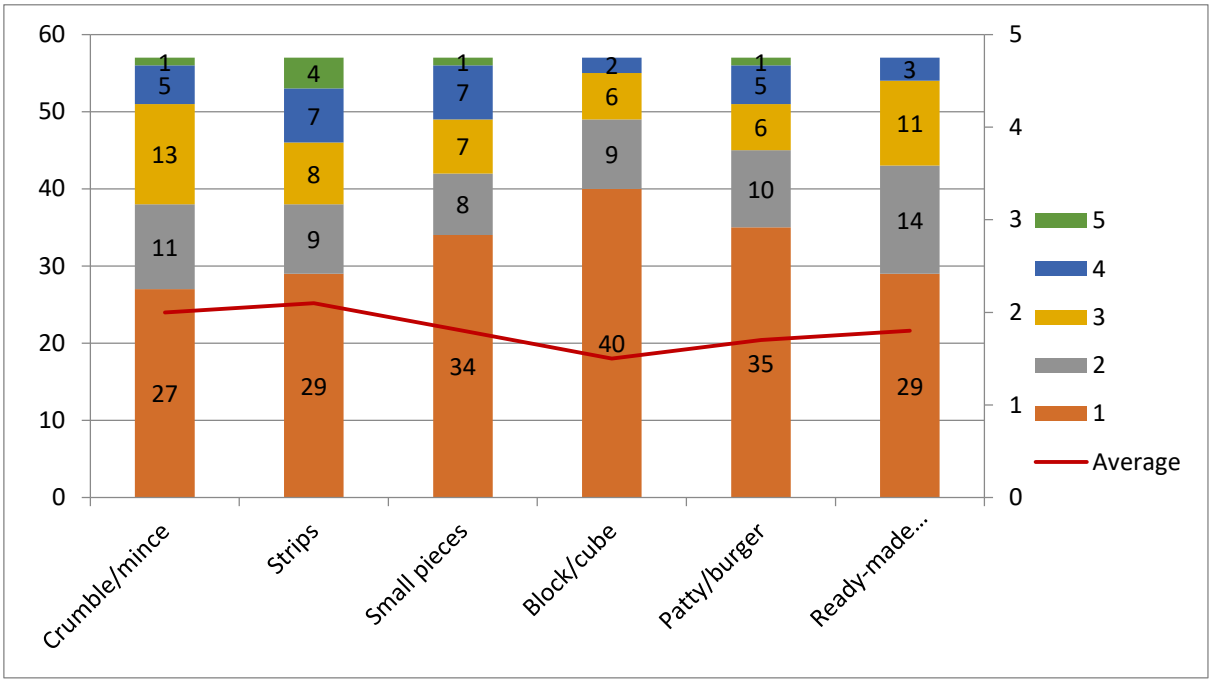

Figure 7. Comparison of how forms of meat alternative forms interest meat alternative non-users: numbers of answers and average

Source: Composed by the author

A T-test was performed to see wether or not using plant-based meat alternatives had statistically provable differences on interest in the forms of meat alternative products. The test was done using Excel data analysis. As can be seen from the following table, all of the tstat values fall way beyond the non-rejection region showing that a statistically significant difference exists between the user and non-user group interests.

	Crumble/ mince	Strips	Small pieces	Block/ cube	Patty- burger	Ready- made foods
tstat	7,80	7,47	7,67	9,05	7,71	10,26
t Critical two-tail	1,99	1,99	1,99	1,98	1,99	1,98

Table 5. T-stat test results of form interest means for plant-based alternative users and non-users

Source: Composed by the author

In the seventh question the survey participants were asked to rate different ingredients of vegan alternative meat products by interest towards them. The interest scale was the same as in question six: from one to five, one being least interested and five being most interested. The proteins being rated were: oat, soybean, broad bean, pea and wheat. The highest average score among all respondents was a shared 1-2 place with oat and broad bean having an average score of 3.6 both. The third highest average score was pea with a 3.4 score. The fourth highest was soybean with a 3.2 score. And the lowest average score was wheat with an average of 2.5. The mode score for oat, soybean, broad bean and pea is 4 indicating an above average or high interest. The mode score for wheat is 1 indicating the least amount of interest.

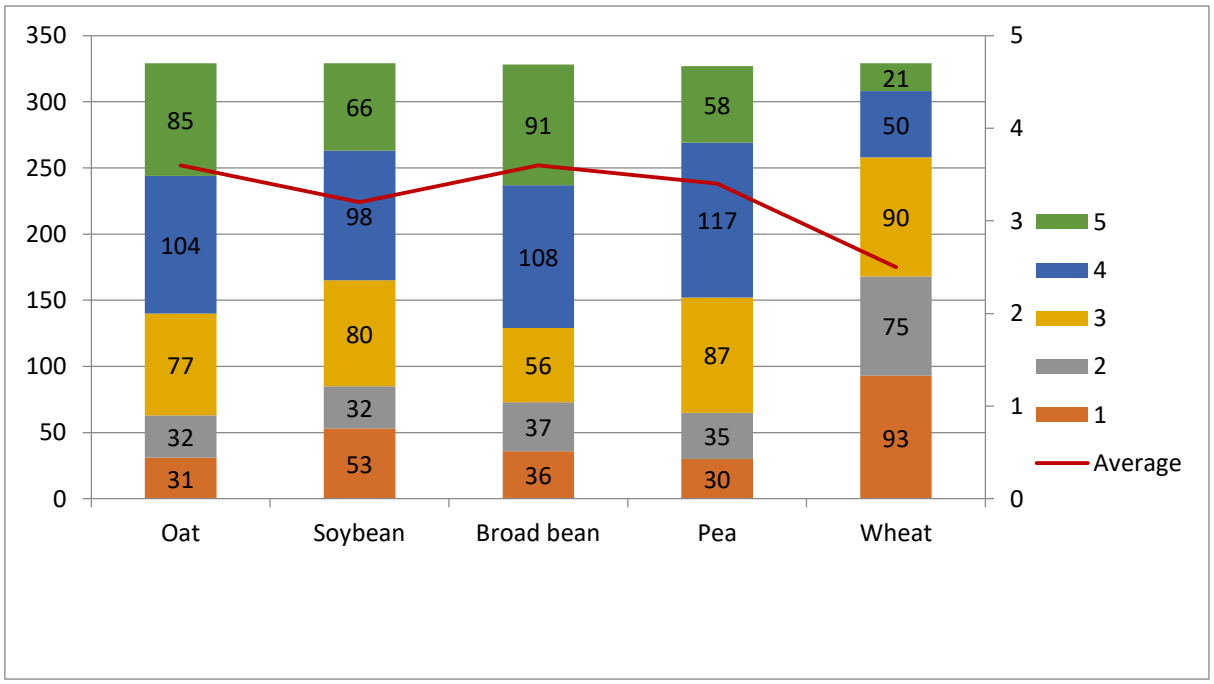

Figure 8. Comparison of how protein sources of plant-based alternatives interest all respondents: numbers of answers and average

Source: Composed by the author

The highest average score among vegan meat alternative users was broad bean with an average score of 3.8. Second highest was oat with an average of 3.7. The third and fourth highest average score was shared between soybean and pea with a 3.6 score. And the lowest average score was wheat with an average of 2.6. The mode score for oat, soybean, broad bean and pea is 4 indicating an above average or high interest. The mode score for wheat is 3 indicating an average of interest. Some open form answers which were relevant for the question were: lentils, quinoa and chickpeas. Ten people answered Quorn or other fungal proteins. Quorn was removed from possible meat alternative protein options in the survey since it contains egg whites thus not making it vegan.

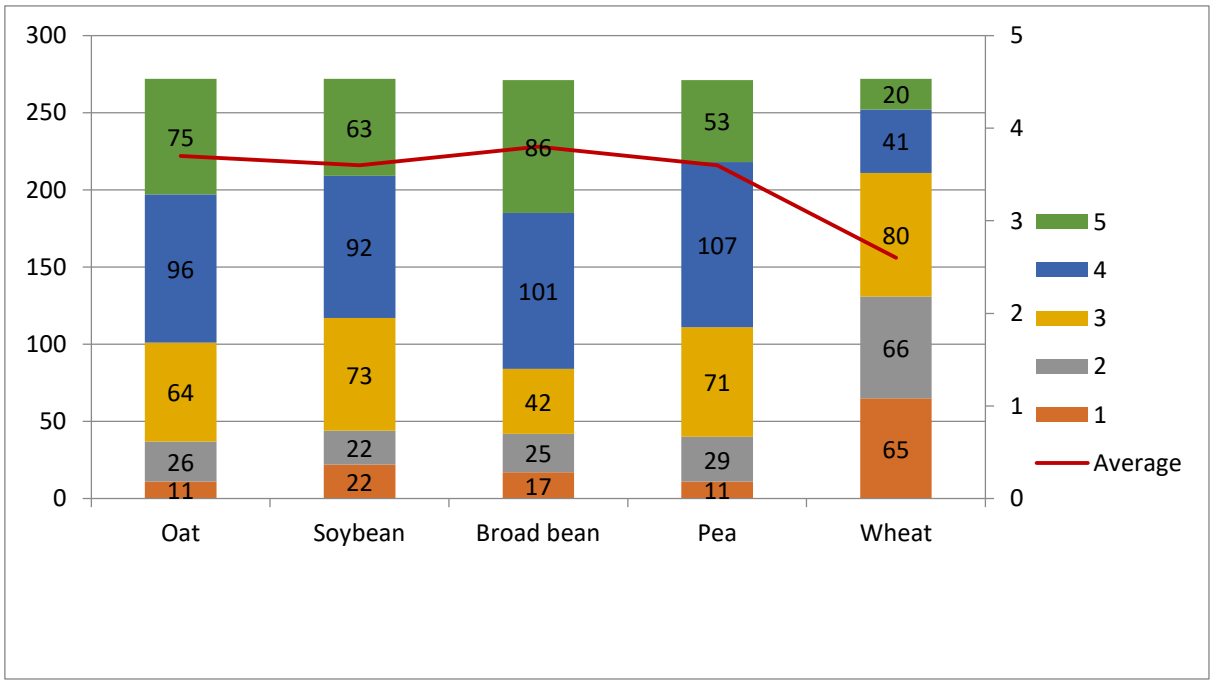

Figure 9. Comparison of how protein source of plant-based meat alternatives interest meat alternative users: numbers of answers and average

Source: Composed by the author

The highest average score among non-users was oat with an average score of 2,7. Second highest was pea with an average of 2,6. The third highest average score was broad bean with a 2,4 score. The second lowest average was wheat with a 2.1 score. And the lowest average score was soy bean with an average of 1,9. Mode score for non-user protein sources was 1 score for every option, the least amount of interest.

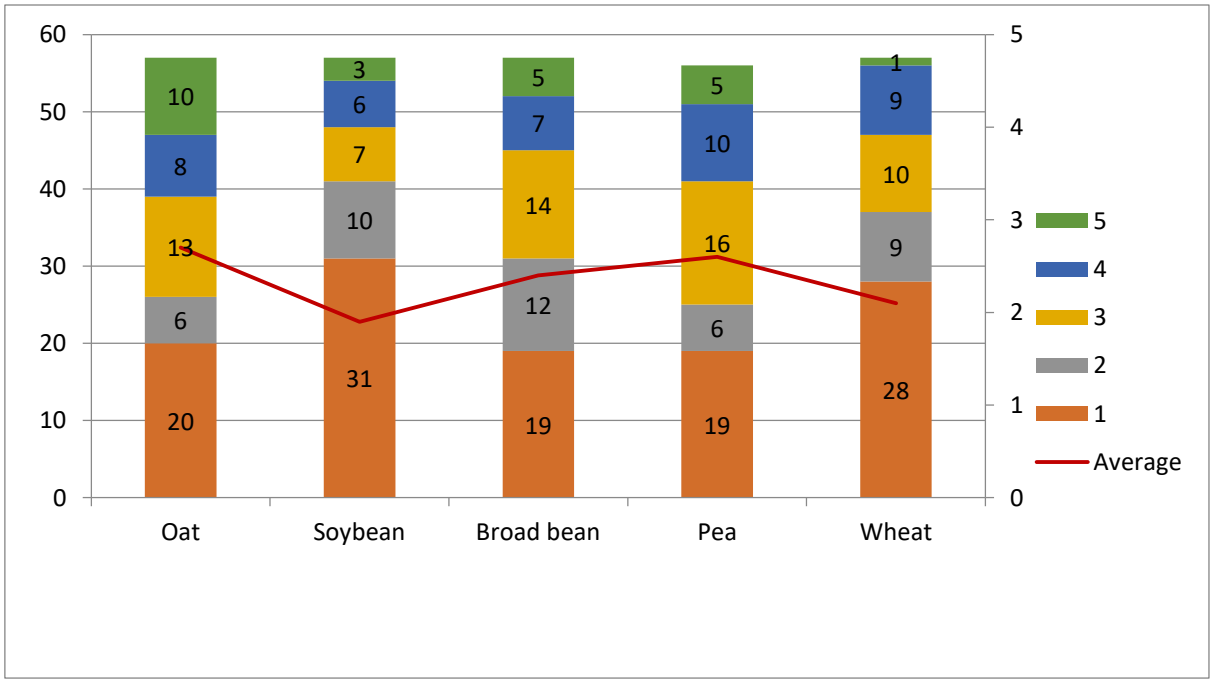

Figure 10. Comparison of how protein source of plant-based meat alternatives interest meat alternative non-users: numbers of answers and average

Source: Composed by the author

Another T-test was performed between the user and non-user groups this time to find out if statistically provable differences exist in the interest to protein sources of meat alternative products. The test was done using Excel data analysis. The following table shows that tstat values for all protein sources fall beyond the non-rejection region showing that a statistically significant difference exists between the user and non-user group interests towards plant-based meat alternative protein sources.

	Oat	Soybean	Broad bean	Pea	Wheat
tstat	4,94	8,89	7,31	5,33	2,96
t Critical two-tail	1,99	1,99	1,99	1,99	1,99

Table 6. T-stat test results of protein source interest means for plant-based alternative users and non-users

Source: Composed by the author

The eigth question was a multiple choice question where the respondent was asked when buying vegan meat alternatives if they bought: flavoured options (bbq flavoured, thai etc.) or unflavoured options. The respondent could also answer that they do not know. In hindsight, the author should have added the option to answer: I do not buy meat alternatives.

For the vegan alternative meat users, “Flavoured” was the most picked option with 64,3% of answers. Altough “Flavoured” was only 5,5 percentage points higher than “Unflavoured” with 160 (58,85) answers. 20 people or 7,4% of the answers did not know which one they would choose. The non-users answered 18 (32,1%) for “Flavoured” and 20 (35,7%) for “Unflavoured” options respectively. However majority answered 24 (42,9%) which was “I don’t know”.

3.3. Discussion

The questionnaire was split into six pages. The first page was to divide the participants into vegan meat alternative users and non-users. The second page was about participant diet, gender age and preferences towards vegan meat alternatives. The third page was about participant preferences towards vegan meat alternative forms. The fourth page was about participant preferences towards vegan meat alternative proteins. The fifth page was about participant preference towards vegan meat alternative flavour profiles. The sixth page was for feedback or comments.

Out of the 331 respondents who started the survey 272 (82,4%) answered that they use vegan meat alternatives. This indicates that meat alternatives are very much mainstream products used by the majority of the participants. Out of the 271 vegan alternative meat user responses for specifying the respondents diet, only 38 (14%) being omnivores indicates that using alternative meat products is linked to lower meat content diets. Out of the 58 responses of vegan alternative meat non-users, 51 (87,9%) of answers are unsurprisingly omnivore. The vegan meat user group is overwhelmingly female with 235 (87,4%) out of 269 responses identifying as women while the non-user group is oppositely overwhelmingly male with 46 (79,3%) out of 58 responses identifying as men. These results are in line with findings about gender ratios in vegetarians and female red meat usage (Ruby, 2012, p. 148). The average age for a vegan alternative meat user was 35 years old and the average non-user is close to 37 years old with the differences being insignificant. Age groups 26-35 were also the largest segments for both users and non-users. When asked about buying meat alternatives, 93,4% of vegan meat alternative user answers chose fresh products as at least one of their answers. Frozen and dried products were close in popularity as 65,2% and 61,9% of answers chose them respectively. From the results it can be deduced that the user group has a clear preference towards fresh vegan meat alternative products but that frozen and dried products are not unpopular at the same time. In the non-user group a large majority of 79,3% of answers do not buy vegan meat alternatives. However 19% of answers buy fresh meat alternatives, 6,9% buy frozen and 3,4% buy dried vegan meat alternatives. These numbers are likely purchases for family or friends.

The crumble/mince form was rated above average by the meat alternative users and very lowly by the non-users. These results do support findings about how meat alternatives should resemble processed meats (Michel et al., 2021, p. 1). The strip form tells a very similar story to the crumble/mince however strip shaped meat alternatives resemble chicken quite closely so findings should indicate more interest in the non-users camp (Michel et al., 2021, p. 6). However the strips do not resemble traditional red meat cuts as much and maybe that has an effect. Small pieces raised quite uninspiring interest among the alternative meat users. The average was slightly over the middle, a 3,1. The results could be explained with that while small pieces don't really resemble any cuts of meat they're also not visually offensive. The findings for substitute appropriateness could apply here (Elzerman, Hoek, van Boekel and Luning, 2011, p. 233, 239). The block/cube shaped is clearly quite divisive as while non-users and the majority of users do

rate it below average it still has quite a few people who are interested in it above average as well. The block shape could have been associated with tofu since a study speculated that unpleasant memories of tofu could hinder consumers from trying meat alternatives again (Michel et al., 2021, p. 7). Patty/burger shape was again quite divisive among the user group. While the average is a little over 3 the answers range quite evenly along the whole scale. Ready-made foods garnered high interest from the user group and while still below average, relatively higher interest from the non-user group as well. This may be attributed due to the lack of preparation that the products require. The high interest also echoes findings that alternative meats should closely resemble highly processed meat products if the product should successfully replace meat (Michel et al., 2021, p. 1).

Oat is rated very high by the user group and while 1 was still the most picked answer among the non-user group it still garnered an impressive amount of interest. The author suspects it is due to a domestic oat meat alternative invention being mentioned in the media quite a lot in the last few years and oat being used in Finnish everyday cooking. Soybean had high interest among the user group and the lowest interest among the non-user group. A study found associations with "Disgust", "tofu" and "soy" and reasons for the associations could be bad experiences for the non-user group (Michel et al., 2021, p. 3). Broad bean rated very high among both groups similar to oats. The reason for this could be another domestic meat alternative invention and broad beings being talked about as a "super-food" in the media. Pea rated strongly above average interest by the user group and a fairly high average interest from the non-user group as well. Wheat raised generally low to average interest from both groups. The author suspects this is due to unfamiliarity with proteins derived from wheat and the prevalence of different gluten and wheat sensitivies in the Finnish population.

Neither the meat alternative user group or the non-users were clearly partial to either flavoured or unflavoured sorts of vegan meat alternatives. The largest answer option for non-users was I don't know which the author suspects that the participants used as an I don't buy meat alternatives button.

There were also 55 comments left in the feedback/comment form. There were multiple comments echoing the sentiment that while vegetables are great in itself, no meat alternative

made of vegetables so far has been good or close to real meat. There were also a few comments saying that meat should be kept as meat and vegetables as vegetables which is quite similar to a study finding (Poutiainen, 2019, p. 43). Multiple comments criticized the options for diet in the survey for which the reasoning was already touched upon in this paper. However if done again, the author would add more options if only to stop potential samples from quitting the rest of the survey. Two comments also took issue with the high salt content that meat alternatives often had.

CONCLUSION

This research was aimed at mapping out consumer interest towards different attributes in plant-based meat alternatives in Finland. Plant-based alternative products have seen a meteoric rise in Finnish markets due to changing consumer behaviour linked to ethical and health concerns with consuming animal products. Making a shift towards a more plant-based diet for everyone will be required in the face global warming and the ever increasing population. The research could be valuable for finding out avenues for making that shift smoother.

The research was done through an online questionnaire made with Google Forms. The survey had 8 questions and an option for open comments. The survey was analyzed through the means of descriptive statistics as well as T-tests on form and protein source interest between the plant-based meat alternative users and non-users. The research question was: which forms and ingredients are Finnish consumers most interested in plant-based meat alternatives? The main results were that respondents who use vegan meat alternatives are interested in fresh products whose form is either crumble/mince, strips or small pieces. The vegan meat alternative user was very interested in all protein sources but wheat. Flavour-wise the vegan meat alternative user did not have a strong preference. Respondents that do not already consume vegan meat alternatives are largely not interested in any shape, form or flavour of them. However form-wise, some of the non-users showed a weak interest in crumble/mince and ready-made foods. For protein sources a large majority of showed low interest for soybean and wheat. Oat, broad bean and pea raised a surprising amount of high interest answers.

Further research could be towards why soy and wheat are viewed negatively or comparitively why the rest of the protein sources have such high interest. Further research could also be done qualitatively to get a different lense on the matter. The high disinterest towards effectively all forms of plant-based meat alternatives could also prompt research towards meat-plant hybrid products as a sort of „olive branch“ towards more fussy eating omnivores. The study data could be useful for businesses looking to go into market with a new product or existing businesses creating new products or perhaps looking to trim their existing product line. Although any existing business has like done market research already on the topic of this very paper.

Although the survey reached quite a lot of people, the convenience sampling method likely distorted the data of the research. While the author cannot be sure, he thinks the vegetarian focused online community consiting of largely women was more enthusiastic in completing the survey than the barbeque enthusiast community consisting of largely men. One reason could be that possible vegan alternative meat non-users simply did not even begin to complete the survey as they might have felt it did not include them sufficiently. If such group of people exists their outlook of the study subject should definitely be researched.

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APPENDICES

Appendix 1. The survey questionnaire in English

Dear participant,

This survey's results are used in a Bachelor's Thesis in Tallinn University of Technology – Department of International Business Administration.

The purpose of this survey is to study consumer preferences towards vegan meat alternative forms, protein sources and flavor options. Individual responses to the survey are confidential but the complete results will be open to public after the thesis is published.

Answering the survey takes about 5 minutes.

Question 1. Do you use vegan meat alternatives? • Yes • No
Question 2. Which of these diets do you follow? • Omnivore • Plant-focused omnivore • Vegan
Question 3. Gender • Male • Female • I prefer not to say • Other (open form)
Question 4. Age • 16-25 • 26-35 • 36-45 • 46-55 • 56-65

• 66+
Question 5. When buying meat alternatives, do you choose… (multiple choice) • Frozen • Dried • Fresh • I don't buy meat alternatives • I don't know
Question 6. On a scale of 1-5, rate these meat alternative forms in terms of interest • A. Crumble/mince Least-----Most • B. Strips Least-----Most • C. Small pieces Least-----Most • D. Block/cube Least-----Most • E. Patty/burger Least-----Most • F. Ready-made foods(sausage, nuggets etc.) Least-----Most • Other (open form)
Question 7. On a scale of 1-5, rate the meat alternative protein sources in terms of interest • A. Oat Least-----Most • B. Soybean Least-----Most • C. Broad bean Least-----Most • D. Pea Least-----Most • E. Wheat Least-----Most • Other (open form)
Question 8. When buying meat alternatives, do you choose … (multiple choice) • Unflavoured/natural • Flavoured (bbq, thai etc.) • I don't know
An open form for comments

Appendix 2. The survey questionnaire originally in Finnish

Hyvä vastaaja,

Tämän kyselyn tuloksia käytetään kandivaiheen lopputyössä Tallinnan teknillisessä yliopistossa. Kyselyn tarkoitus on saada selvyyttä kuluttajien mieltymyksiin vegaanisten lihankorvikkeiden proteiinilähteisiin, muotoihin sekä maku vaihtoehtoihin. Yksittäiset vastaukset kyselyyn ovat anonyymejä, mutta kyselyn kokonaistulokset tulevat julki kun tutkimus julkaistaan.

Kyselyyn vastaaminen kestää noin viisi minuuttia.

Kysymys 1. Käytätkö vegaanisia lihankorvikkeita? • Kyllä • Ei
Kysymys 2. Mitä näistä ruokavalioista seuraat? • Sekaruoan syöjä • Kasvispainotteinen sekaruokavalio • Vegaani
Kysymys 3. Sukupuoli • Mies • Nainen • En halua vastata • Muu
Kysymys 4. Ikä • 16-25 • 26-35 • 36-45 • 46-55 • 56-65 • 66+
Kysymys 5. Ostaessasi lihankorvikkeita, valitsetko… • Pakaste

- Kuivattu
- Tuore
- En osta lihankorvikkeita
- En osaa sanoa

Kysymys 6. Asteikolla yhdestä viiteen, mitkä näistä lihankorvikkeiden muodoista kiinnostavat sinua?

- A. Muru/jauhelihamainen
  Vähiten-----Eniten
- B. Suikaleet
  Vähiten-----Eniten
- C. Pienet palat
  Vähiten-----Eniten
- D. Kuutio
  Vähiten-----Eniten
- E. Muotoiltu pihvi
  Vähiten-----Eniten
- F. Valmisruoat(makkarat, nugetit etc.)
  Vähiten-----Eniten
- Muu, mikä?

Kysymys 7. Asteikolla yhdestä viiteen, mitkä näistä lihankorvikkeiden proteiinilähteistä kiinnostavat sinua?

- A. Kaura
  Vähiten-----Eniten
- B. Soijapapu
  Vähiten-----Eniten
- C. Härkäpapu
  Vähiten-----Eniten
- D. Herne
  Vähiten-----Eniten
- E. Vehnä
  Vähiten-----Eniten
- Muu, mikä?

Kysymys 8. Ostaessasi lihankorvikkeita, valitsetko…

- Maustamaton/natural
- Maustettu (bbq, thai etc.)
- En osaa sanoa

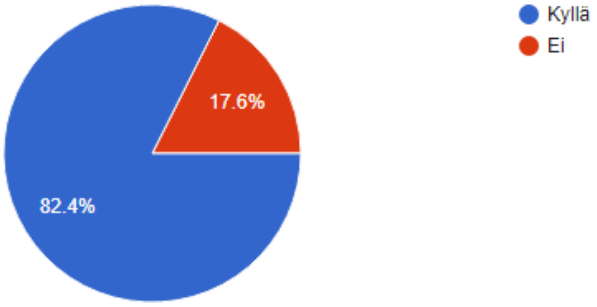
Avoin kommentti

Appendix 3. Online questionnaire results

1. Käytätkö vegaanisia lihankorvikkeita?

Copy

330 responses

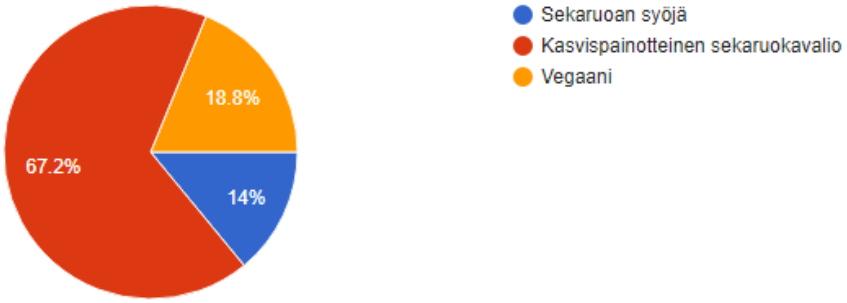


1A

2. Mitä näistä ruokavalioista seuraat?

Copy

271 responses



3. Sukupuoli

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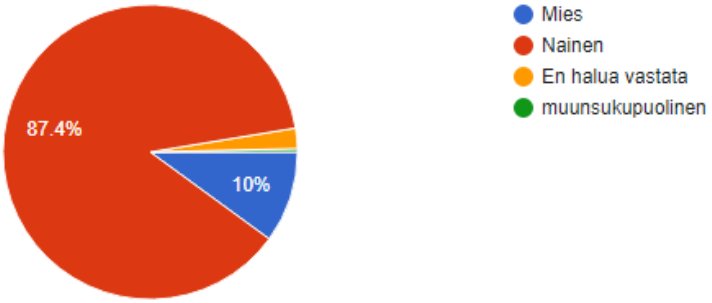
269 responses



4. Ikä

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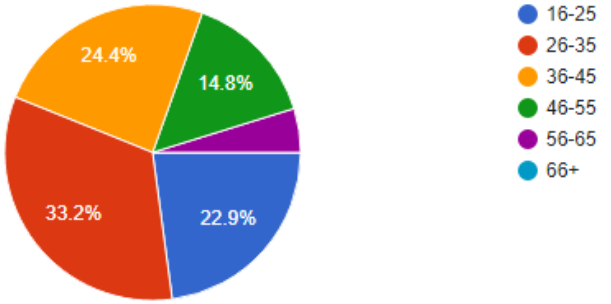
271 responses



5. Ostaessasi lihankorvikkeita, valitsetko...

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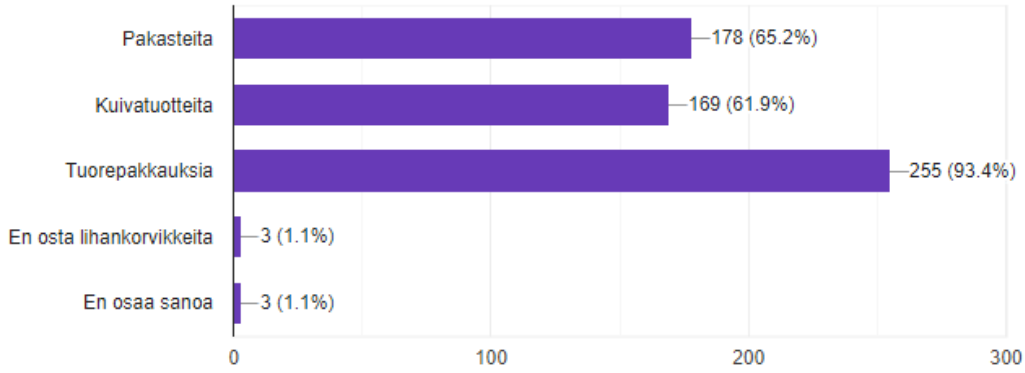
273 responses

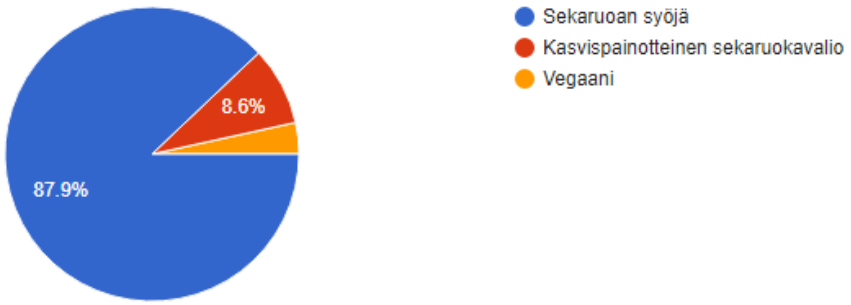


1B

2. Mitä näistä ruokavalioista seuraat?

Copy

58 responses



3. Sukupuoli

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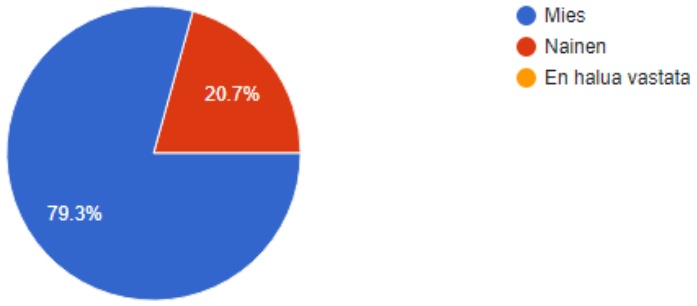
58 responses



4. Ikä

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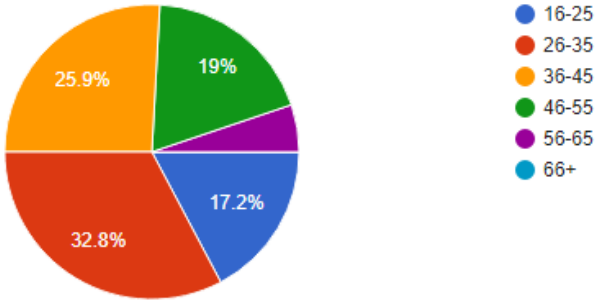
58 responses



5. Ostaessasi lihankorvikkeita, valitsetko...

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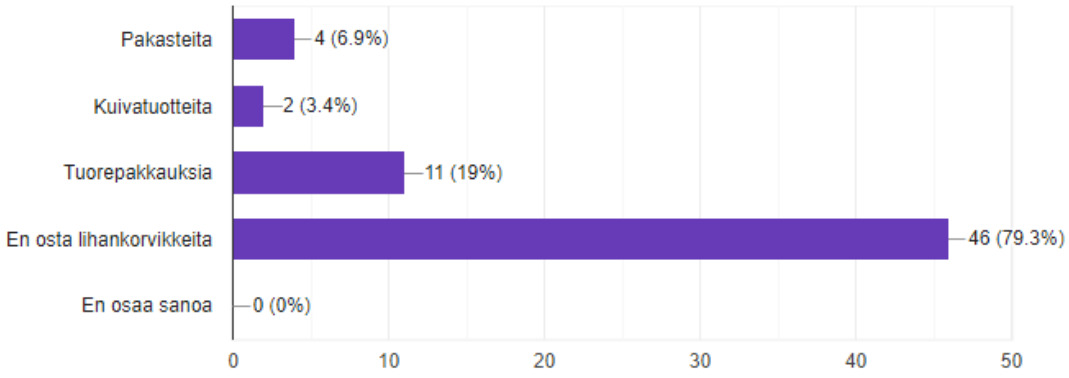
58 responses



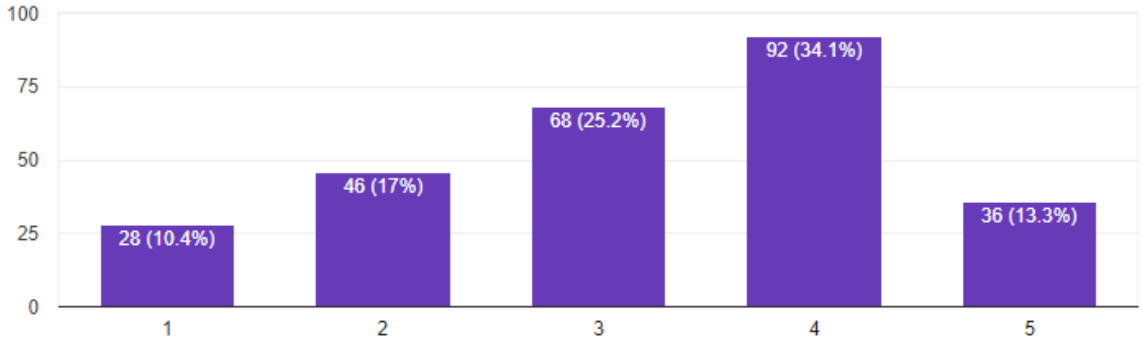
2A

6. Asteikolla yhdestä viiteen, mitkä näistä lihankorvikkeiden muodoista kiinnostavat sinua?

A. Muru/jauhelihamainen

Copy

270 responses



B. Suikaleet

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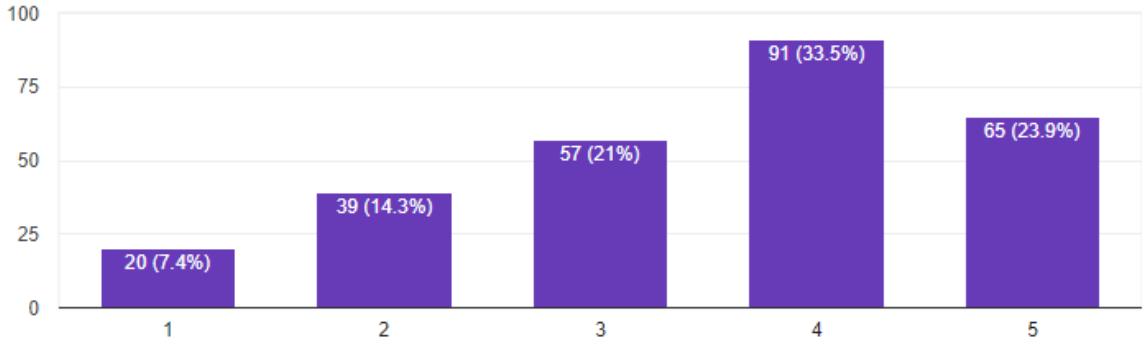
272 responses



C. Pienet palat

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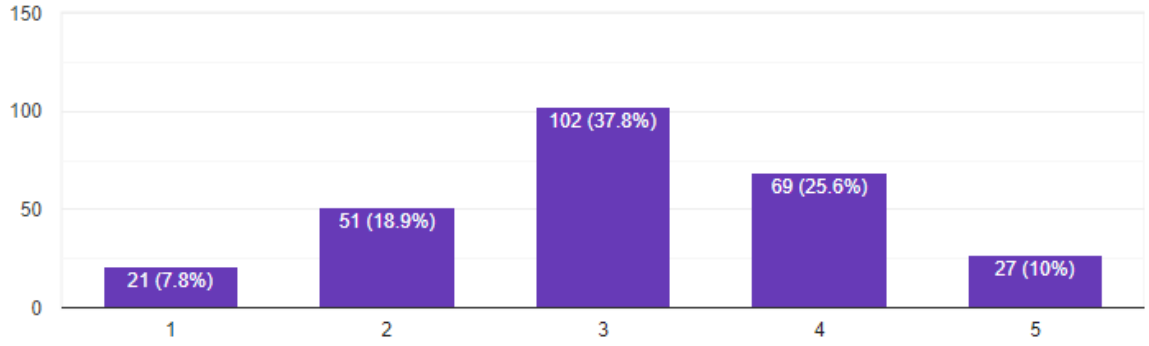
270 responses



D. Kuutio

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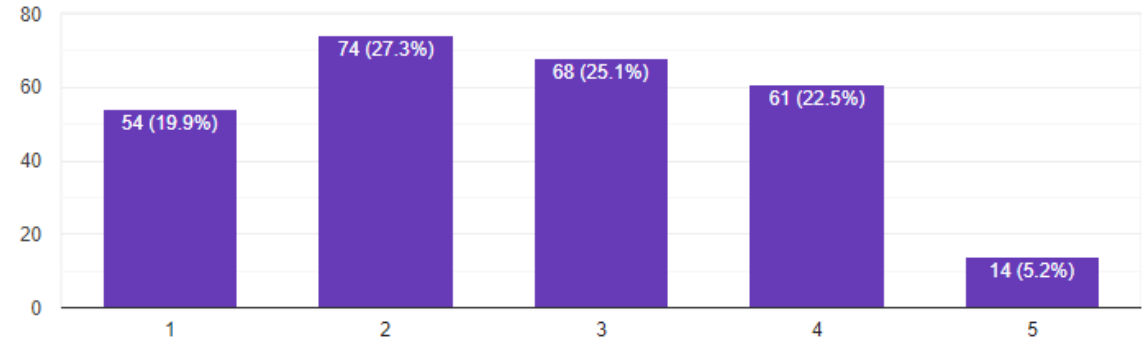
271 responses



E. Muotoiltu pihvi

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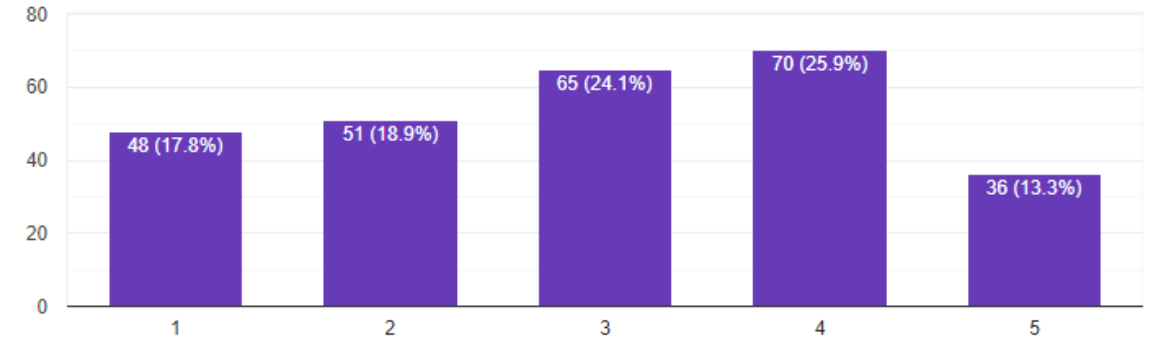
270 responses



F. Valmisruoat(makkarat, nugetit etc.)

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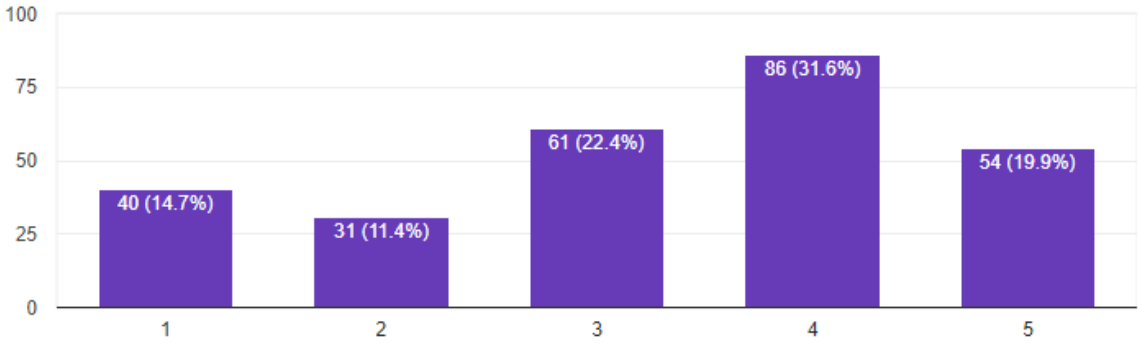
272 responses



Muu

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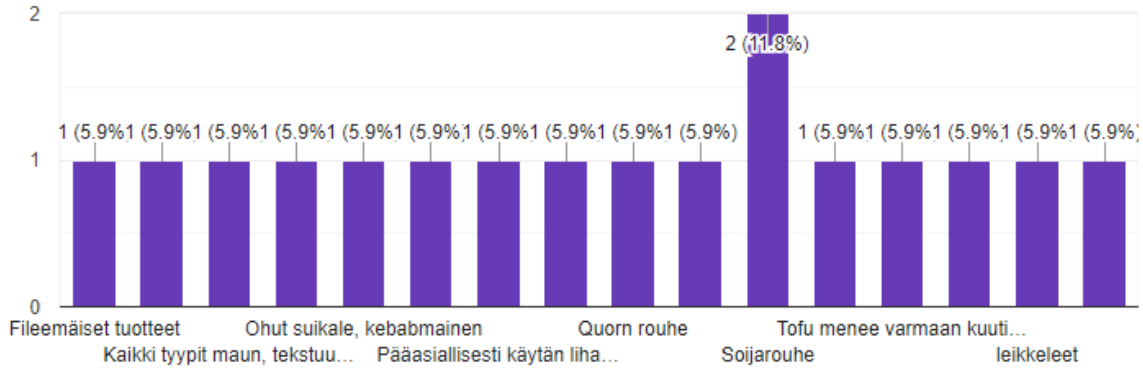
17 responses



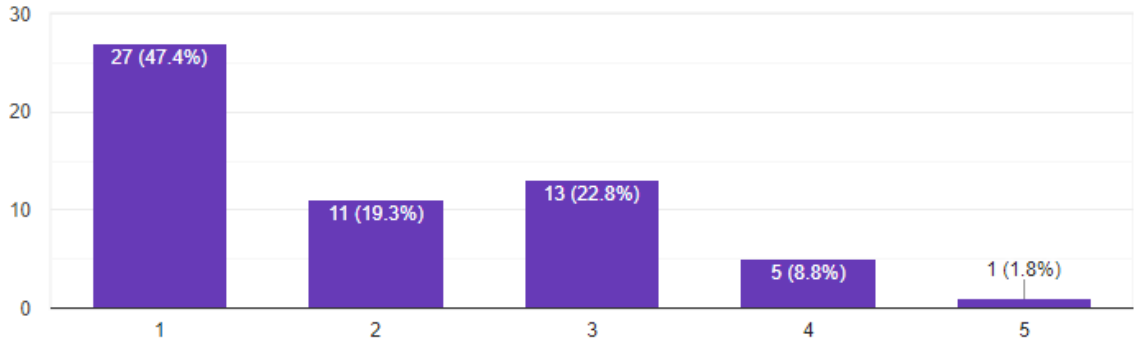
2B

6. Asteikolla yhdestä viiteen, mitkä näistä lihankorvikkeiden muodoista kiinnostavat sinua?

A. Muru/jauhelihamainen

Copy

57 responses



B. Suikaleet

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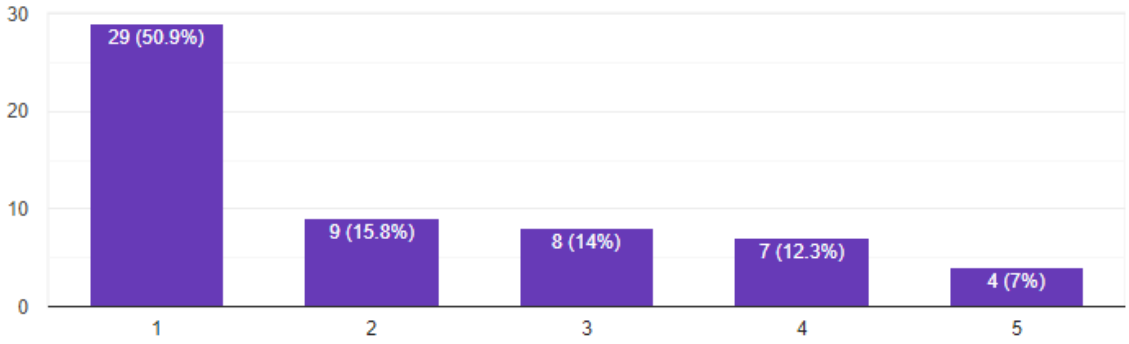
57 responses



C. Pienet palat

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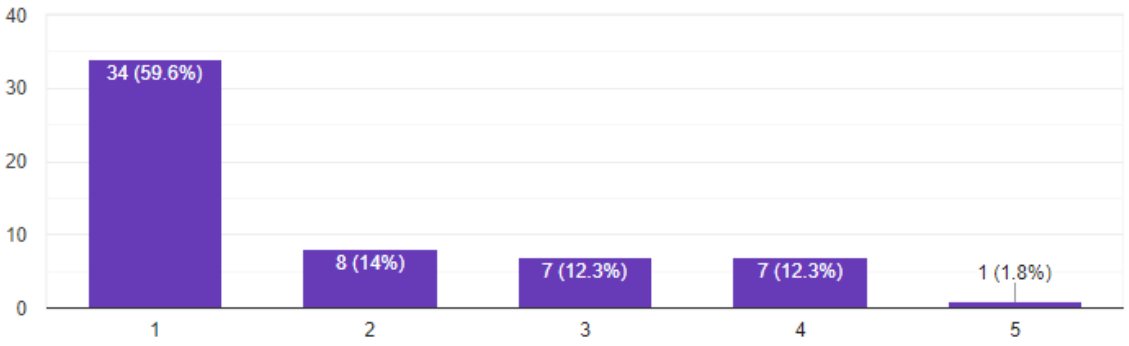
57 responses



D. Kuutio

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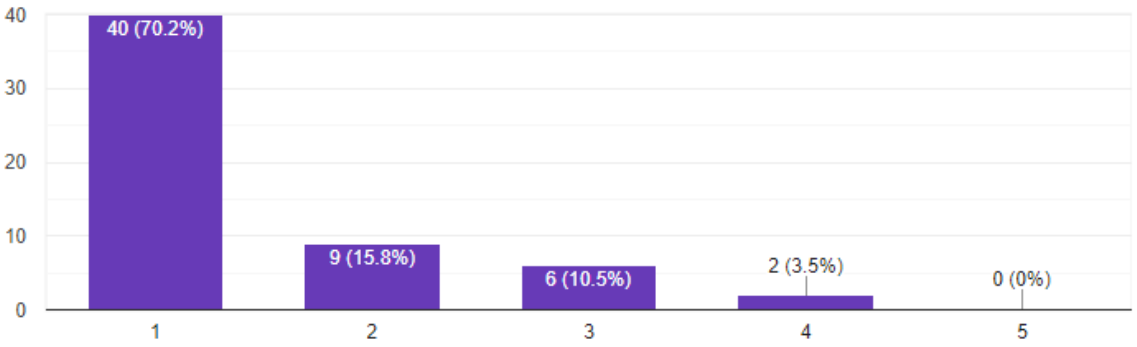
57 responses



E. Muotoiltu pihvi

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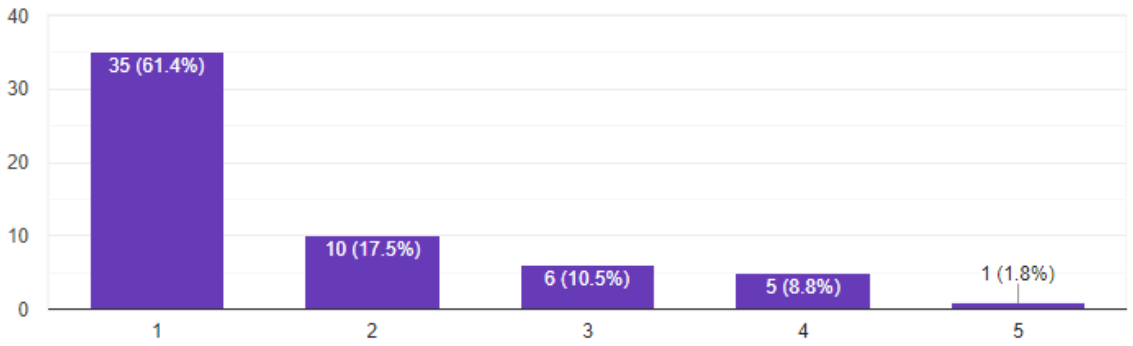
57 responses



F. Valmisruoat(makkarat, nugetit etc.)

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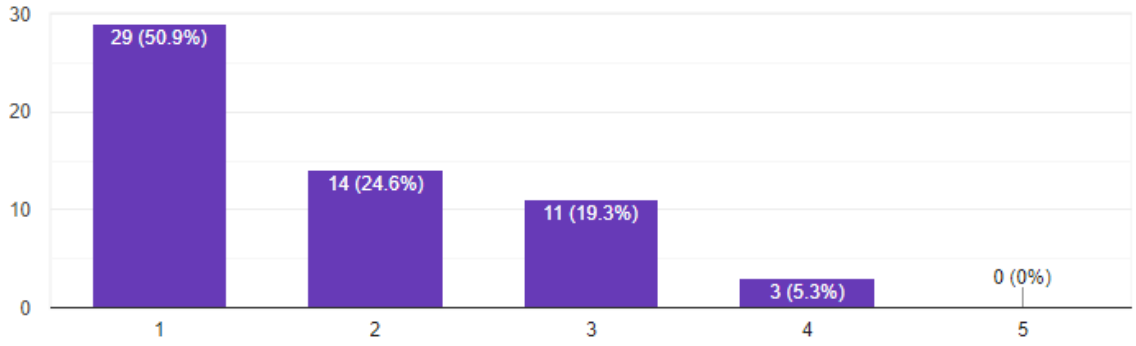
57 responses



Other

8 responses

Paskat ei kiinnosta

Tuoreet vihannekset, kuten munakoiso, paprika tms.

Oikea ruoka

Lihankorvikkeet eivät kiinnosta minua

tofu, soijarouhe 5/5

Lihaa imitoivat kasvistuotteet eivät kiinnosta, koska kasvikset kasviksina ja liha lihana. Kasvikset hyvää evästä omana itsenään.

En osta korvikkeita, eivät maistu miltään. En syö myöskään lihaa.

Miksi pitää olla lihan korvikkeita?

3A

7. Asteikolla yhdestä viiteen, mitkä näistä lihankorvikkeiden proteiinilähteistä kiinnostavat sinua?

Kaura

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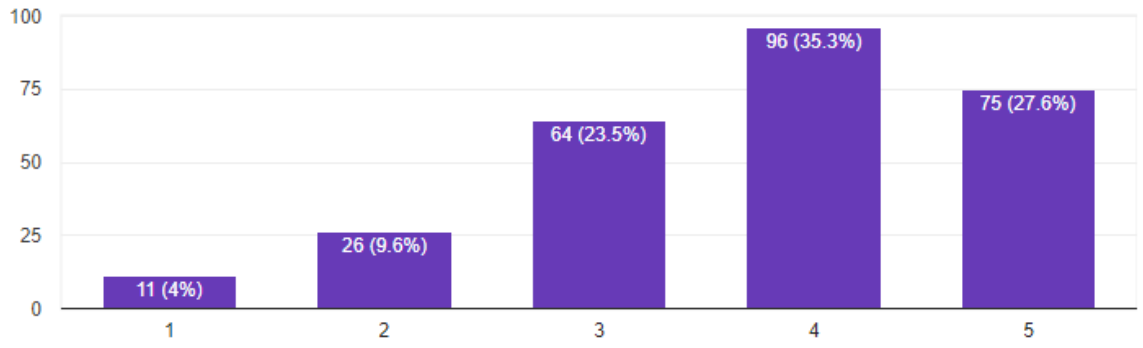
272 responses



Soijapapu

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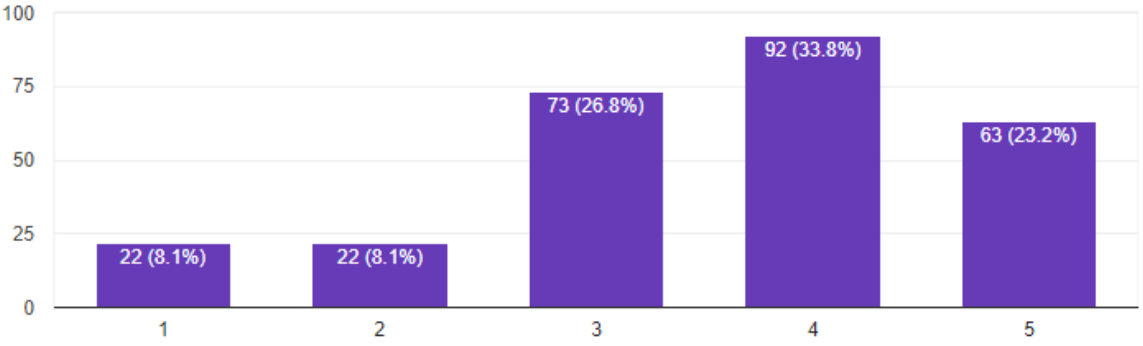
272 responses



Härkäpapu

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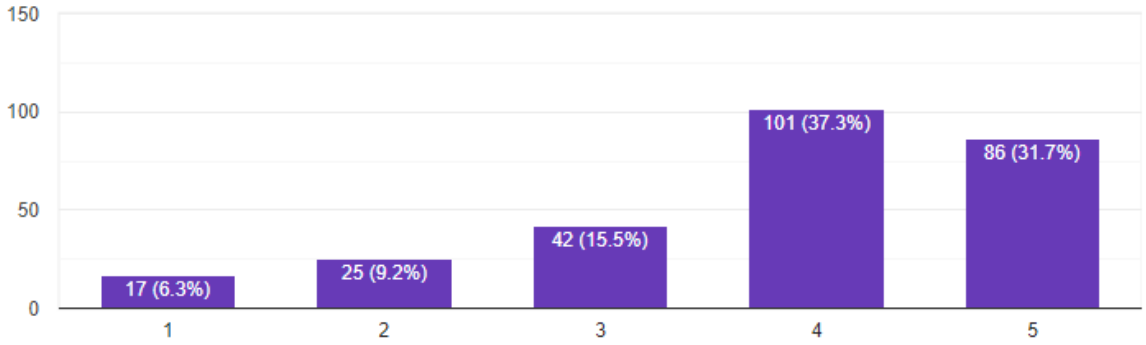
271 responses



Herne

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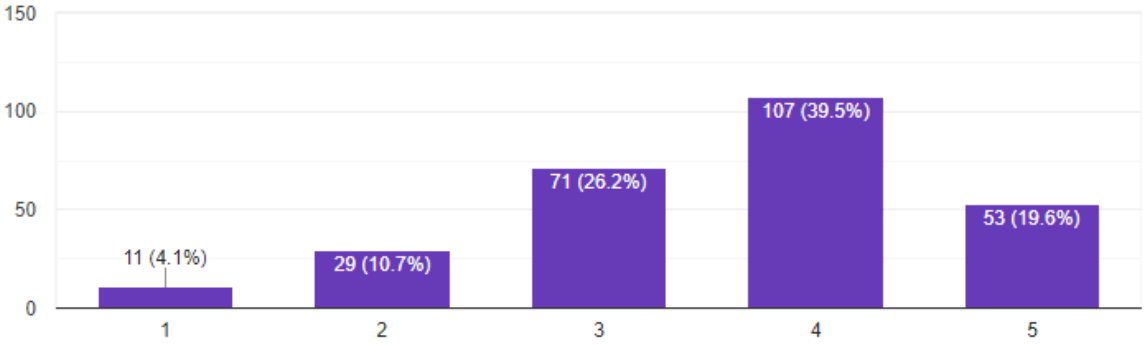
271 responses



Vehnä

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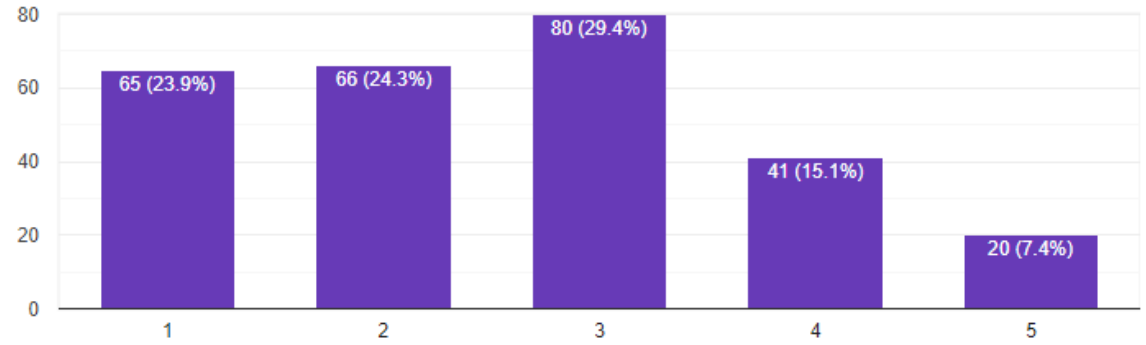
272 responses



Muu

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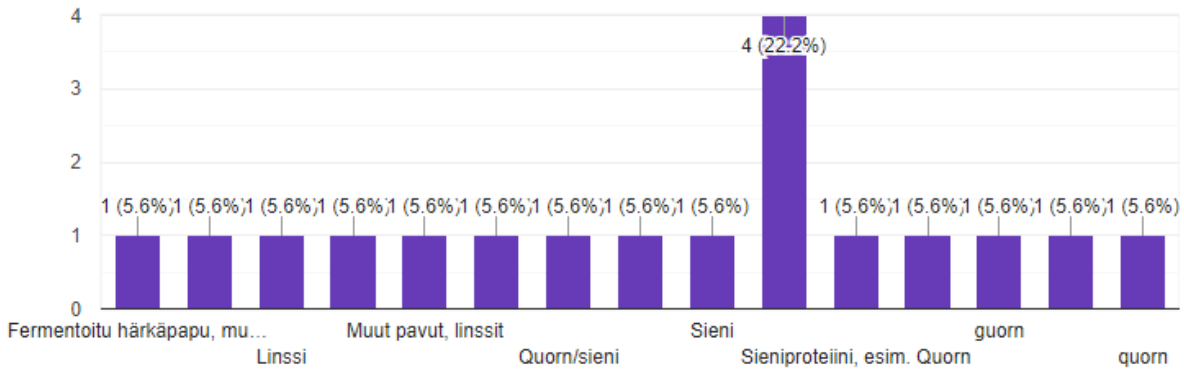
18 responses



3B

7. Asteikolla yhdestä viiteen, mitkä näistä lihankorvikkeiden proteiinilähteistä kiinnostavat sinua?

Kaura

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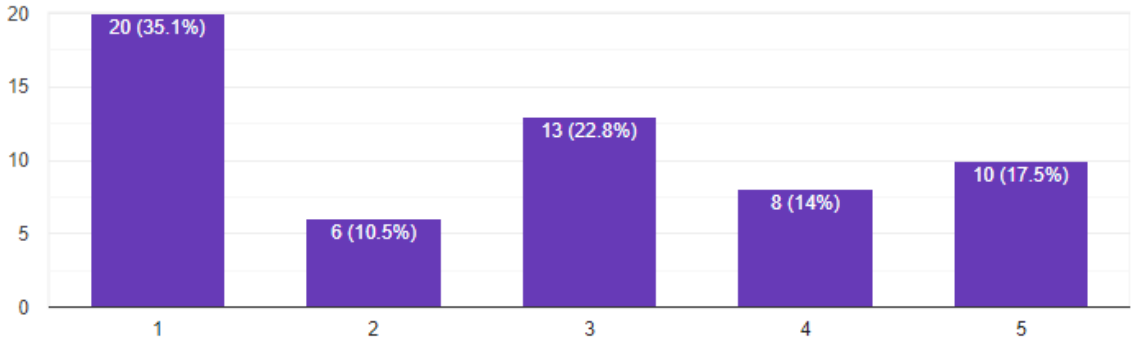
57 responses



Soijapapu

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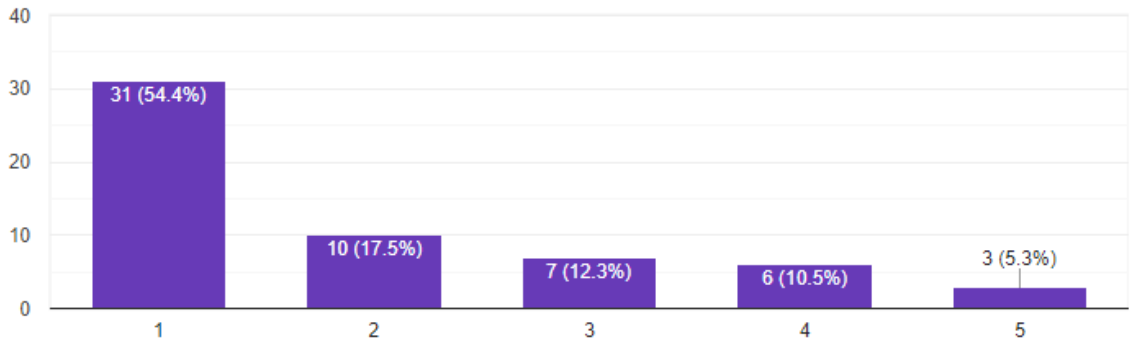
57 responses



Härkäpapu

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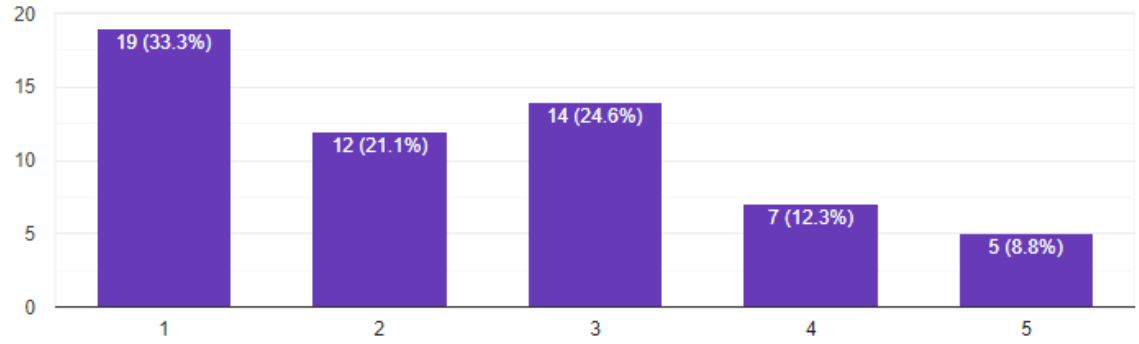
57 responses



Vehnä

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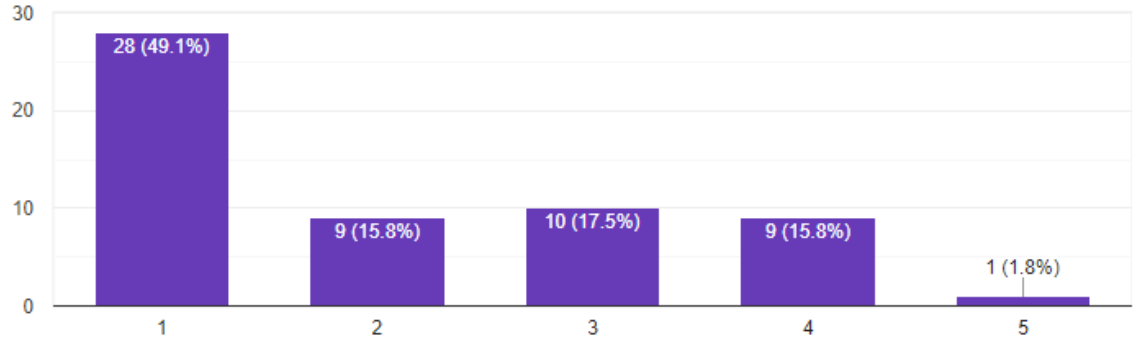
57 responses



Herne

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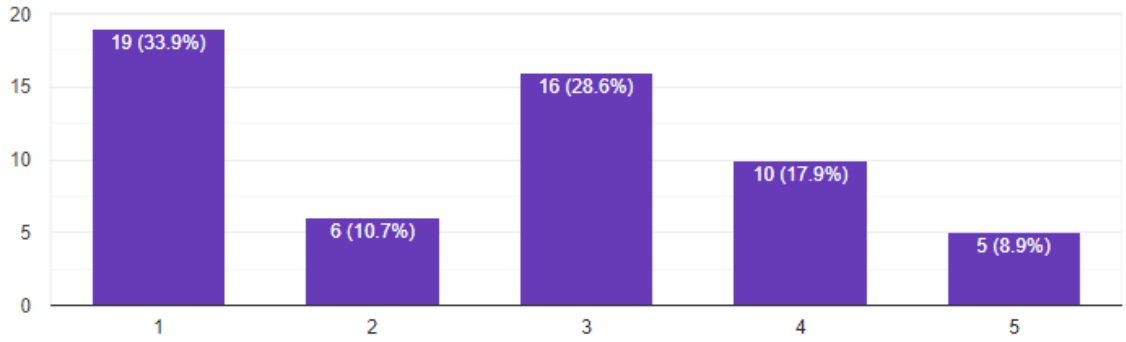
56 responses



4A

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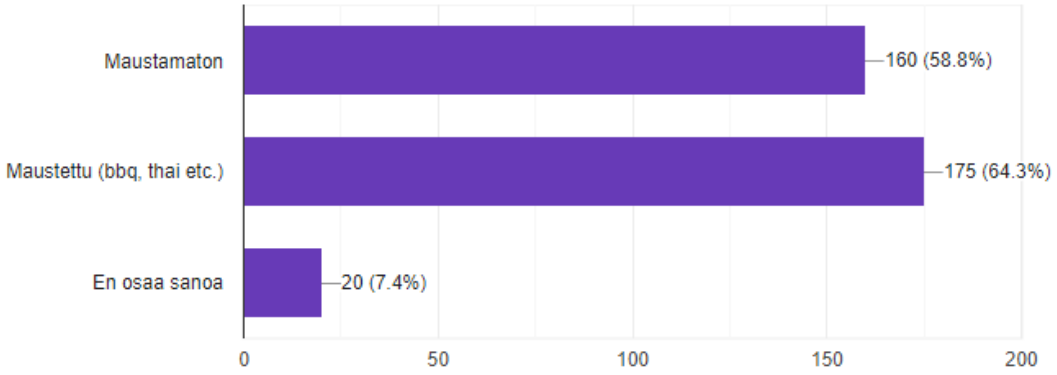
8. Ostaessasi lihankorvikkeita, valitsetko...

272 responses



4B

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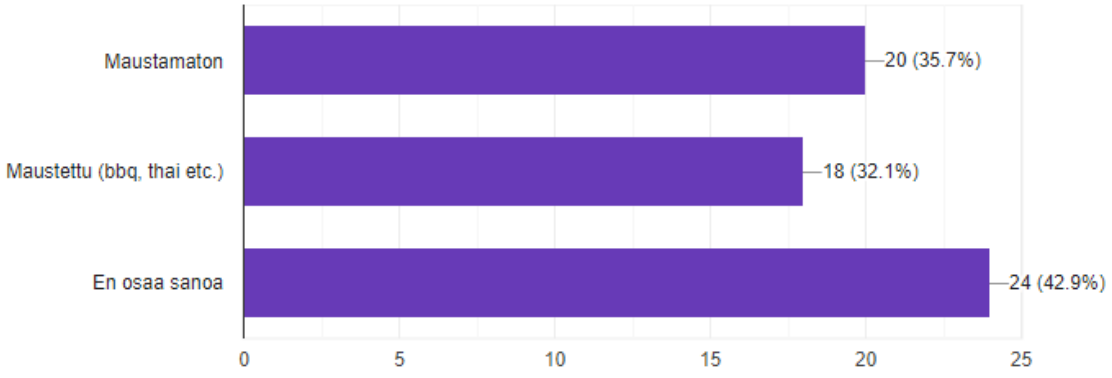
8. Ostaessasi lihankorvikkeita, valitsetko...

56 responses



Avoin kommentti

55 responses

Viimeiseen kysymykseen pitäisi ehkä voida valita useita vaihtoehtoja?
Ei ole sen vähän mitä käyttänyt löytynyt lihan veroista
Ei lihaa voi korvata
Liha miehen tiellä pitää
En näe järkeä syödä lihankorvikkeita. Syön mielummin kasvikset kasviksina
Kasvisravintoloissa tulee käytyä, kasvisruoka on oikein tehtynä oikein hyvää mut joku lounasravintoloiden kämänen kasvisvaihtoehto ei nappaa.
Liha lihana, kasvit kasveina. Miksi sotketaan lihan korvikkeiksi kun kyseessä aivan erituote
korvikkeet 0/5, aidot kasvisruoat on jees

Likimain kaikkia kokeilleena, yksikään vegaaninen "korvike" ei ole ollut hyvä. Muutama on ihan syötävä mutta liha vain ei ole korvattavissa maun tai rakenteen puolesta. Paras vaihtoehtoproteiini on hyönteiset mutta saatavuus on aika heikkoa toistaiseksi. Itse en halua prosessoitua ruokaa joten siksikin kaikki korvikekura jää kaupan hyllylle.

En osta itselle, mutta uusioperheeseemme kuuluu muutama vegaani. Siksi tuotteet (tuotehuijaukset?) ovat tuttuja ja thä olen sitä mieltä että mihinkään like-a-like ei ole syytä, kasvikset ha lihattomat tuotteet ovat hyviä sellaisenaan, omilla nimillään. Sienet, papukasvit jne.

Syön kasviksia ja välillä kasvisruokaa, mutta itsenään eikä korvikkeena.

Joudun syömään koska perheessä keliaakikoita ja kasvissyöjiä,. Ei nämä pahoja ole mutta tuskin tulisi itselle ostettua jos ei olisi nätä ruoka-ainevammaisia perheessä. Härkis on jees.

Korvikkeita en tykkää käyttää, mutta osan lihasta monesti korvaan esimerkiksi kidney pavuilla

Kasvikset kasviksina, liha lihana, ei prosessoitua paskaa.

Kommentoin jo tuossa aiemmin. Eli en välitä lihankorvikkeista. Mikäli vegaaniksi alkaisin, en edelleenkään äärimmäisen prosessoituja lihankorvikkeita ostaisi.

Suolapitoisuutta toivoisin pienemmäksi.

Pyrin ostamaan tuotteita joissa on mahdollisimman vähän lisäaineita ja suolaa.

Vegaanisuus on hölmöjen hommaa. Näkihän tuon jo saksassa -40 luvulla mitä vegaanius saa aikaan.

Kasvisruoka on hyvää, oikein tehtynä aivan loistavaa. Vältän kuitenkin lihakorvikkeita. Miksi yrittää tehdä laadukkaista raaka-aineista jotain mitä ne ei ole?

Olen lihansyöjä

hyvä maku ei mauton eikä tulinen vaan siltä väliltä

Vegaanisissa lihankorvikkeissa on usein se ongelma, että ne ovat palkokasvipohjaisia. Tämä rajaa monet mm. FODMAP-ruokavaliota noudattavat pois, joiden ruuansulatus ei kestä palkokasveja. Itse suosin siksi kaurapohjaisia vaihtoehtoja. Monissa muissa tuoteryhmissä FODMAP-ruokavalio jo usein huomioidaan, mutta vegaanisissa tuotteissa ei yhteensopivuudesta useinkaan näe mainintaa. Ostajakuntaa kuitenkin olisi, esimerkiksi IBS:ää arvioidaan olevan jopa 10% :lla väestöstä.

Että olisi oikeasti lähellä sitä, mitä yrittävät matkia. Ei omituisia mausteita, jotka eivät kuulu siihen alkuperäiseenkään versioon. Mieluummin neutraalin makuinen kuin voimakas ominaismaku. Esimerkiksi härkis ja kauramuru maistuu liikaa itse raaka-aineelta.

Arvostan myös valmiiksi maustettuja, mikäli maut hyviä, mutta usein niissä on joku paha sivumaku

Valmiiksi maustetut vaihtoehdot kiinnostavat eniten; korvikkeet on usein hyvin mietoja maultaan (tai maistuvat pääraaka-aineelta eikä kotona välttämättä ole maustearsenaalia vahvaan maustamiseen. Tuotteen rakenne pitäisi pysyä melko napakkana myös kypsennyksen/kuumennuksen jälkeen eikä muuttua mössöksi. Yleisellä tasolla arvostan sitä, että on runsaasti erilaisia vaihtoehtoja :)

Nyhtökaura takaisin!

Tärkeintä on rakenne.

En käytä lihankorvikkeita. Olen useimmat kokeillut ja pahanmakuisiksi todennut. Ainoastaan nakkeja ostan kerran pari vuodessa. Käytän mieluummin kuivattuja rouheita, papuja, herneitä ja linssejä.

Tätä ei kysytty mutta vähä suolainen

Vastaus ensinmäiseen kysymykseen oli En kuluta. Koska kulutukseni näiden suhteen on yhä vähäistä. Olen kuitenkin huomannut et aivan törkeän hyviä vaihtoehtoja näistä löytyy. Kulutukseni ehkä kasvaa kunhan jotenkin vanhoista kulutustottumuksista irtaantuu enemmän tai jos voi huomata et säästää rahaa vastaaviin lihatuotteisiin verraten.

Kyselyn alussa ruokavalio valinnassa olisi ollut hyvä olla kasvisruoka(muna-ja maitotuotteet) yhtenä vaihtoehtona.

Ruokavaliosta puuttui lakto-ovo/laktovegetaristi vaihtoehdot..

Vehnäallergiselle tosi vaikeaa syödä kasvispainotteisesti tälläisilla tuotteilla, koska tosi moneen on tungettu vehnää. Tai ibs-ihmisillä, koska monessa on hernettä, mikä ei sovellu ainakaan mulle.

Maukkaus, helppo hyödyntää moneen

En pidä lihankorvikkeissa lihan mausta, vaan ostan niitä proteiinin vuoksi ja aterian helpottamiseksi silloin, kun ei ole aikaa laittaa pidempää ruokaa (esim. keittää papuja tms.).

Riippuu paljon tilanteesta, millaisen tuotteen valitsen. Taustatiedoissa ei ollut valittavana kasvissyöjää, joka ei kuitenkaan ole vegaani..

Useimmiten korvikkeet liian mausteisia ja "tulisia". Eivät sovi närästyksestä kärsivälle

Tärkeintä on, että tuotetta on helppo käyttää, se kestää säilytystä (ei esim. muutu limaiseksi kastikkeen kanssa) ja maultaan suht neutraalia, joka helppo maustaa omanlaisekseen. Myös terveellisyys; suolan, sokerin ja tyydyttyneiden rasvojen määrä minimiin, plussaa kotimaisuudesta sekä kestävistä raaka-aineista; soijaa vähemmän, kauraa hernettä ym. lisää. Hyvä kysely, tärkeä aihe! :)

Maitopohjaisia tuotteita käytän myös, toki eivät ole vegaanisia.

Ruokavaliotani haluan tarkentaa sen verran, että en koe olevani kasvisruokapainotteinen _sekasyöjä_, koska en syö lainkaan lihaa enkä kanaa. En kuitenkaan ole myöskään vegaani, koska syön mm. kalaa ja kananmunia. Maustettu/maustamaton kohtaa haluaisin kommentoida sen verran, että se riippuu tuotteista. Esimerkiksi mifujauhiksessa suosin maustettua ja tofussa taas maustamatonta versiota :)

Vegaaneissa lihan korvikkeissa on se ongelma, että ne maistuu usein pahalle. Ne maistuu usein jauhoisella ja haisee pahalle/koiranruoalle. Olen löytänyt joitain hyviä, mutta niissä on haasteena epäterveellisen korkea suolapitoisuus. Söisin pelkkää vegaania, jos tuotteet ei olisi pahan makuisia.

Pavuista tehdyt eivät sovi vatsalle, quorn ainoa hyvä

Syön lihankorvikkeita saadakseni proteiinia. Mitä vähemmän suutuntuma on "lihamainen", sen parempi.

En koe olevani sekasyöjä, en ole syönyt lihaa 20 vuoteen mutta en ole vegaanikaan. Huonot ruokavaliovaihtoehdot.

Mikä tahansa "lihankorvike" olisi kiinnostava, jos maku olisi kohdallaan. Valitettavasti useimmat kokeilemani ovat maistuneet hirvittävältä, joten käyttö olematonta sen vuoksi.

Mahdollisimman lyhyttä tuoteselostetta. Vehnättömyyttä ja maustamattomuutta.

maku

Herneproteiinit ovat maistuneet viimeaikoina todella hyvin! En vain tiedä siitä paljoakaan, kuten en paljon muidenkaan proteiinien ravintosisällöstä tai ekologisesta kuormasta. Haluaisin.

Valitsen lihankorvikkeita sen perusteella, että saan proteiinia tarpeeksi

Lihankorvikkeiden valintaan vaikuttavat eniten, että tuote on gluteeniton ja helppo käyttää. Soveltuu moneen, ei esim haudutettaessa tai uudelleen lämmityksessä hajoa. Ominaismaku tai haju on mieto, eikä peitä kaikkea muuta alleen, tämä ongelma on esim härkiksessä tai härköpapurouheessa.

Vegetaristi kohdan olisi voinut lisätä aloituskysymykseen (:

se ruokavaliokysymys oli aika suppea, vegaanista hypättiin käytännössä heti sekasyöjäksi

Hyvä maku

Mitä vähemmän tuote muistuttaa rakenteeltaan tai maultaan lihaa, sitä parempi

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