Demand for organic plant-based foods among flexitarian, vegetarian and vegan consumers in the Netherlands

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Introduction

The purpose of this inspirational paper is to present the preferences of Dutch flexitarian, vegetarian and vegan consumers in organic and organic plant-based foods (in the following, the term 'green consumer segments' is used when these three consumer groups are mentioned collectively).

The inspirational paper will be used as a basis for a dialogue with buyers in the Netherlands and to equip Danish organic plant-based producers for exports to the Dutch market.

The inspirational paper thus has a dual purpose and will also contribute to increasing the level of knowledge about the green consumer segments in the Netherlands in general.

The inspirational paper is based on 1,790 responses among the green consumer segments, distributed on 50% vegans, 31% vegetarians and 19% flexitarians[1]. The gender distribution for the green consumer segments is 81% women, 16% men and 3% binary, while the age distribution is 28% for 13-34-year-olds, 47% for 35-55-year-olds and 25% for respondents aged over 55.

In the representative EU project 'Smart Protein', 42%[2] of the consumers state that they eat flexitarian (defined as 'I sometimes eat meat, but I am trying to reduce my meat consumption and often choose plant-based foods instead'), while the figure in our survey is 18%. However, this can probably be attributed to the use of a broad definition of flexitarians in the Smart Protein project as opposed to our survey, in which we ask more directly about how many meals the respondents eat weekly that contain meat. Furthermore, our survey is not representative of the population as a whole.

In the Smart Protein project, the share of vegetarians and vegans is 7%[3], whereas they make up 29% (vegetarians) and 47% (vegans), respectively, in our survey.

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[1] The flexitarian consumer segment consists of persons who have stated that they eat vegetarian supplemented with fish as well as persons who eat meat and/or fish up to 2-3 days a week.

[2] https://proveg.com/wp-content/uploads/2021/11/FINAL_Pan-EU-consumer-survey_Country-Specific-Insights-2.pdf

[3] https://proveg.com/wp-content/uploads/2021/11/FINAL_Pan-EU-consumer-survey_Country-Specific-Insights-2.pdf

Results and conclusions

Organics is a high preference among the green consumer segments' food purchases in the Netherlands. This means that 74% of the green consumer segments have an organic share of at least 20%.

The Netherlands could thus be an interesting export market for organic plant-based foods.

Across the green consumer segments, the highest proportion of organic food purchases of 80-100% is at just over 10%. For organics purchases of 60-79%, the group who eat flexitarian has the highest share of 26%, while persons who eat vegetarian is 21% and persons who eat vegan is 18%, respectively. Such a high organic share among flexitarians is very positive from an export perspective, as this consumer group has a high volume[4].

Among the green consumer segments, there is an increased willingness to pay for organic products, although the maximum price increase level is 20%. Organics as a preference is thus something the green consumer segments are also willing to pay more for, which is useful knowledge when organic plant-based products are to be priced and gain a foothold in the Dutch market.

Across the green consumer segments, the statements 'Animal welfare' (96-99%), 'Looking after nature and the environment' (96-97%) and 'Safeguarding biodiversity' (89-91%) are those most frequently selected by the respondents. These values are embraced to a high degree in ecology, and it may therefore be relevant to work with communication of these values when exporting organic plant-based foods to the green consumer segments.

When the green consumer segments are to state **why** they buy organic products, 'Organic production protects nature, the environment and groundwater' (54-57%) and 'You avoid pesticides when buying organic foods' rank highest (43-53%). Again, this knowledge can be used when organic plant-based products are to be marketed or sold in the Dutch market.

For persons who eat flexitarian, the main reasons are climate/environment/sustainability, followed by animal ethics and health. For persons who eat vegetarian or vegan, animal ethics is in a clear first place, followed by climate/environment/sustainability and then health.

[4] This group constitutes 18% in our survey, corresponding to 344 persons, while the consumer group in an EU project, Smart Protein, which uses a different definition than us – constitutes 42%. Read more about this in the methodology section on p. 19.

Communication to the green consumer segments in the Netherlands can advantageously be differentiated to the extent possible.

In relation to product labelling, persons who eat vegetarian or vegan have a stronger demand for veg labelling, i.e. whether a product is vegetarian or vegan, than for organic labelling – despite these consumers having high organic preferences. For persons who eat flexitarian, an organic labelling scheme is more important – this applies to both a national labelling scheme and a European labelling scheme. Veg labelling and organic labelling of an organic plant-based product (vegan or vegetarian) can thus probably contribute added value for the green consumer segments.

The green consumer segments in the Netherlands express a lesser degree of satisfaction with the range available in 'plant-based beverages and alternatives to dairy products', 'organic processed alternatives to meat' and 'organic plant-based breads and cakes'. In an export context, it would therefore be relevant to take a closer look at the opportunities within these product categories – especially because Denmark has a number of companies with an organic plant-based range in these product categories.

As an overall group, 61% in the green consumer segment find it 'Very important' or 'Important' that plant-based foods are as natural and as little processed as possible. In the green consumer segment, 57-66% find it 'Very important' or 'Important' that plant-based foods are as natural and as little processed as possible. This is consequently something that the green consumer segments find important when buying plant-based foods, which is also in line with organic foods often being less processed. The existence of a correlation between a smaller degree of processing and greater naturalness in organic plant-based products is thus something that producers can pay attention to when marketing their products.

Almost 2/3 of the green consumer segments state that they shop in supermarkets weekly, while this figure is only 10-15% for discount supermarkets. 29-42% of the green consumer segments shop in specialty stores monthly, while the figure for online purchases is 24-33%. Based on the shopping places of the green consumer segments, it would be advantageous to start with supermarkets and specialty stores in relation to the export part.

Recommendations

Based on this consumer survey among the flexitarian, vegetarian and vegan consumer segments in the Netherlands, clear organic preferences are seen, including willingness to pay for organic products. The survey also indicates that the green consumer segments in the Netherlands are dissatisfied with the range of organic plant-based food categories in 'plant-based beverages and alternatives to dairy products', 'processed organic plant-based products such as falafel' and 'organic plant-based breads and cakes'. The dissatisfaction with the range of these foods thus gives Danish organic plant-based companies that produce these foods a good angle of approach to exploring and looking towards the Dutch market. The green consumer segments also want their plant-based foods to be as little processed as possible. This is positive for organics, as organic plant-based foods will largely be less processed, so that the degree of processing can itself also be seen as a competitive parameter for companies offering organic plant-based foods.

Communicative means

The green consumer segments in the Netherlands also agree with values that are closely linked to organic production, for example 'animal welfare', 'looking after nature and the environment' and 'safeguarding biodiversity'. Focus on communicating these values when companies want to export organic plant-based foods can thus be a communicative lever/means that highlights something the green consumer segments have a positive attitude towards and which can therefore be emphasised instead of solely using the term organic. If all three segments of flexitarian, vegetarian and vegan consumers are to be catered for, the use of labelling for both organic and vegetarian/vegan on organic plant-based foods will be a competitive parameter and constitute useful information for these green consumer segments.

In addition, the green consumer segments have different motives for eating the way they do, for example climate/environment/sustainability, animal ethics and health. Knowledge about the motives of the green consumer segments can thus contribute to sharpening organic plant-based companies' marketing to these groups. The green consumer segments' motives for buying organic products are primarily connected with statements related to 'organic production protects nature, the environment and groundwater' and 'you avoid pesticides when buying organic foods'. The fact that the green consumer segments buy organic products for these reasons also provides an opportunity to communicate these reasons in the marketing of organic plant-based products when establishing a foothold for these products in the Dutch market.

Strengthening and increasing Danish organic plant-based exports also require that food producers have knowledge of the different countries' rules for these foods, including the requirements from the retail chains that the producers want to access. This can be a big task, and different stakeholders, including the Danish Ministry of Foreign Affairs and Organic Denmark, are therefore trying to help producers with this knowledge and support companies' access to different export markets.

The marketing of organics is something that must be continuously explored and strengthened, as the benefits of organics are not necessarily known to all consumer segments or consumers need to be reminded of what organics entails. How and in what way the producers can best market their products and messages on, for example, the packaging are thus elements that it will be advantageous to develop – including whether some information can advantageously be provided via a QR code and not necessarily on the packaging.

In addition, many consumers will probably continue to associate organics with a high price, and pricing is therefore also a central factor and that organic plant-based foods can compete on price. The location of organic plant-based products in supermarkets and online is also a key element, as many consumers make their purchase decisions while they are shopping.

A highlighting of organics, such as organic plant-based products, as a premium product that offers consumers a lot on the sustainability barometer and that can therefore also warrant a (slightly) higher price is thus a communicative tool that producers and export delegations should keep in mind.

Organic purchases among green consumer segments

Figure 1 – Organic share of food purchases among green consumer segments

How large a share of your purchases are organic? (certified organic)	Number	Percentage distribution
Approx. 80-100%	210	13
Approx. 60-79%	337	20
Approx. 40-59%	379	23
Approx. 20-39%	294	18
Less than 20%	216	13
Do not buy organic products	21	1
Don't know	187	11
Total	**1644**	**100**

Approx. 1/3 of the green consumer segments state that they have an organics share of between 60-100%, while just under 1/4 have an organics share of between 40-59% and just under 20% have an organics share of between 20-39%.

Just as in Denmark, the green consumer segments in the Netherlands have a high organics share. If we look at the green consumer segments with an organics share of more than 20%, this constitutes 74%, while the figure is 94% in Denmark.[5] The fact that the figure is also high in the Netherlands shows that organics also here plays an important role when the green consumer segments make their food purchases. It is thus an important point that organics should be available in all food categories and products.

[5] Dansk Vegetarisk Forening 2021: Den plantebaserede forbrugeranalyse (The Vegetarian Society of Denmark 2021: Plant-based Consumer Analysis) – see link

If we look at the green consumer segments divided into whether they eat flexitarian, vegetarian or vegan, they are distributed as follows in the figure below.

Figure 2 – Organic food purchases among green consumer segments, broken down by dietary preferences

Dietary preferences and organics purchases	Approx. 80-100%	Approx. 60-79%	Approx. 40-59%	Approx. 20-39%	Less than 20%	Do not buy organic products	Don't know	Total
Vegan	12% (N=95)	18% (N=146)	24% (N=197)	20% (N=162)	15% (N=125)	2% (N=14)	10% (N=83)	100% (N=822)
Vegetarian	14% (N=74)	21% (N=110)	22% (N=111)	16% (N=84)	11% (N=56)	1% (N=5)	14% (N=72)	100% (N=512)
Flexitarian	13% (N=41)	26% (N=81)	23% (N=71)	15% (N=68)	11% (N=35)	1% (N=2)	10% (N=32)	100% (N=310)

For the highest organics share of 80-100%, the share is 12-14% among the green consumer segments.

For the second highest share of 60-79%, persons who eat flexitarian have the highest share of organics purchases of 26% among the green consumer segments. The largest organics share across the green consumer segments is in the range of 40-59% with 22-24%. In the range of 20-39%, the level among the green consumer segments is 15-20%.

Overall, the figure shows that the green consumer segments, across dietary preferences, have roughly the same share of organics purchases, although the group of flexitarians is slightly higher in relation to an organics share of 60-79%. The flexitarians' high share of organic food purchases is important information, as these constitute a larger group of consumers than persons who eat vegetarian and vegan.

Willingness to pay for organics

One thing is how large an organics share the green consumer segments state that they buy, another is how much they are willing to pay for organics. This is important information when introducing organic products in the market.

Overall, 32% and 34% of the green consumer segments are willing to pay up to 10% or 11-20% extra for organics, respectively, while only 7% are not willing to pay more for organics. Overall for the green consumer segments, 90% are thus willing to pay more for organics. Below, the willingness to pay is presented for each of the three consumer segments.

Figure 3 – Willingness to pay for organics among green consumer segments

Dietary preferences	No	10% extra	11-20% extra	21-30% extra	31-40% extra	41-50% extra	+ 50% extra	Don't know	Total
Vegan	9% (N=62)	32% (N=227)	32% (N=225)	15% (N=104)	3% (N=21)	2% (N=15)	2% (N=14)	4% (N=27)	100% (N=710)
Vegetarian	5% (N=22)	29% (N=117)	37% (N=150)	18% (N=73)	5% (N=21)	2% (N=10)	1% (N=5)	2% (N=10))	100% (N=408)
Flexitarian	5% (N=14)	36% (N=97)	32% (N=86)	15% (N=40)	4% (N=10)	3% (N=10)	1% (N=4)	3% (N=9)	100% (N=268)

Only very few respondents in the green consumer segments state that they do *not* want to pay more for organics (5-9%), although there are also only few respondents who want to pay more than 30% extra for organics (1-5%).

Among respondents who eat flexitarian, 36% and 32% are willing to pay up to 10% and 11-20% extra for organics, respectively, while the figure for persons who eat vegetarian is 29% and 39%, respectively, and the figure for persons who eat vegan is 32% and 32%, respectively.

Among the green consumer segments, there is thus an increased willingness to pay for organic food products, although the maximum level is 20% more than for conventional products. This knowledge can be used as an overall guideline for pricing organic foods, if they are particularly aimed at the green consumer segment.

Attitudes to organics among green consumer segments

The four organic principles that form the basis of Organic Denmark's work are: The Health principle, the Ecology principle, the Fairness principle and the Care principle[6]. In this survey, we have tried to approach the green consumer segments' attitudes to a number of values that organics embraces. We have also asked about a number of other statements that may be of importance when the green consumer segments make their food purchases, for example local products.

The purpose of this question has been to establish the green consumer segments' attitude to organic values without mentioning organics explicitly. Also with a view to such statements being used by producers to market their organic products, and the same applies to retail chains.

[6] https://okologi.dk/vi-arbejder-for/vaerdigrundlag/

The statements included in the survey are the following:

Figure 4 – Statements

Securing clean groundwater
Avoiding pesticides
Looking after nature and the environment.
Safeguarding biodiversity
Food safety
Animal welfare
Fewer additives
Local products

For each statement, the green consumer segments could mark on a scale from 1 to 5 how important/not important this statement is to them.

The percentage distribution for each statement among the green consumer segments that have responded ‘Very important’ or ‘Important’ is shown in Figure 5 below.

Figure 5 – Distribution on statements among green consumer segments

Statements	Green consumer segments	
Securing clean groundwater	Vegan (N=564)	67%
	Vegetarian (N=369)	71%
	Flexitarian (N=226)	71%
Avoiding pesticides	Vegan (N=650)	77%
	Vegetarian (N=424)	81%
	Flexitarian (N=276)	87%
Looking after nature and the environment	Vegan (N=820)	97%
	Vegetarian (N=502)	96%
	Flexitarian (N=305)	96%
Safeguarding biodiversity	Vegan (N=772)	91%

	Vegetarian (N=463)	89%
	Flexitarian (N=289)	91%
Food safety	Vegan (N=722)	86%
	Vegetarian (N=449)	88%
	Flexitarian (N=284)	90%
Animal welfare	Vegan (N=834)	99%
	Vegetarian (N=514)	98%
	Flexitarian (N=303)	96%
Fewer additives	Vegan (N=578)	68%
	Vegetarian (N=400)	77%
	Flexitarian (N=267)	83%
Local products	Vegan (N=536)	64%
	Vegetarian (N=394)	76%
	Flexitarian (N=236)	74%

The green consumer segments express strong support across the various statements, and the statements can therefore also be regarded as being usable in connection with the promotion of organic (plant-based) products.

The greatest support among persons who eat flexitarian is for the statements 'Looking after nature and the environment' and 'Animal welfare' (96%) followed by 'Safeguarding biodiversity' (91%).

The greatest support among persons who eat vegetarian is for the statements 'Animal welfare' (98%), 'Looking after nature and the environment' (96%) and 'Safeguarding biodiversity' (89%).

The greatest support among persons who eat vegan is for the statements 'Animal welfare' (99%), 'Looking after nature and the environment' (97%) and 'Safeguarding biodiversity' (91%).

The statements that have the least overall support are 'Securing clean groundwater' and 'Local products'. A probable reason for the low support for the statement 'Securing clean groundwater' is that the question does not make sense in a Dutch context or that the green consumer segments are not aware of this connection. The fact that the green consumer segments also do not rate the statement 'Local products' highly may be a plus for Denmark when we want to export organic plant-based foods to the Netherlands.

Reasons for buying organic products among green consumer segments

We have also listed a number of reasons for buying organic products and asked the green consumer segments to indicate which of these reasons they think are relevant to them. The green consumer segments have thus been free to choose how many reasons they found relevant to them. The figure below shows the breakdown on the various reasons. The extent of support for the various reasons can serve as a benchmark for producers in relation to their communication to the green consumer segments.

Figure 6 – Green consumer segments' reasons for buying organic products

Reasons	Dietary preferences
Organic production protects nature, the environment and groundwater	Vegan (N=488) 54%
	Vegetarian (N=550) 55%
	Flexitarian (N=340) 57%
Organic foods are produced with more care	Vegan (N=147) 16%
	Vegetarian (N=103) 19%
	Flexitarian (N=82) 24%
You avoid pesticides when buying organic foods	Vegan (N=422) 47%
	Vegetarian (N=234) 43%
	Flexitarian (N=182) 53%
Organic food is more climate friendly	Vegan (N=325) 36%
	Vegetarian (N=213) 39%
	Flexitarian (N=134) 39%
Organic foods are healthier	Vegan (N=233) 26%
	Vegetarian (N=152) 28%
	Flexitarian (N=121) 35%

You contribute to better animal welfare when buying organic foods	Vegan (N=210) 23%
	Vegetarian (N=200) 36%
	Flexitarian (N=117) 34%
Organic products taste better	Vegan (N=140) 16%
	Vegetarian (N=89) 16%
	Flexitarian (N=86) 25%

Based on the green consumer segments' attitude to the listed reasons for buying organic products, it becomes clear that the reasons 'Organic production protects nature, the environment and groundwater' rank highly and the same applies to 'You avoid pesticides when buying organic foods'. However, it may be surprising that the percentage is not higher for the various statements, although this may be due to the green consumer segments having been able to choose between several statements. The 'classic' reasons for organics are thus stated by most of the respondents in the green consumer segments as the reasons why they buy organic products. These are consequently still the reasons that it will be relevant to highlight vis-à-vis the green consumer segments when selling organic foods to them.

As only a very small minority of the respondents in the green consumer segments do *not* buy organic products (21 persons), we have chosen not to look further at the reasons for this, as the analysis would be based on too small a data volume.

Why do the green consumer segments eat the way they do?

To obtain a signpost for why the green consumer segments eat the way they do, we have given them an option to state up to three reasons for this. The purpose of this signpost is that it may be important when new products are to be developed and/or introduced in a new market that you as a producer have knowledge of the consumers' reasons for eating the way they do to be able to target the communication or support communication handled by retailers, wholesalers, etc.

The figure below shows the green consumer segments' reasons for eating the way they do.

Figure 7 – Green consumer segments' reasons for eating the way they do.

Reasons	Dietary preferences
Health	Vegan (N=464) 52%
	Vegetarian (N=278) 51%
	Flexitarian (N=203) 59%
Prevention and cure of illness	Vegan (N=115) 13%
	Vegetarian (N=48) 9%
	Flexitarian (N=58) 17%
Animal ethics	Vegan (N=791) 88%
	Vegetarian (N=481) 87%
	Flexitarian (N=216) 63%
Climate/environment/sustainability	Vegan (N=676) 75%
	Vegetarian (N=418) 76%
	Flexitarian (N=239) 69%

As the figure shows, climate/environment/sustainability (69%) is the most important reason for persons who eat flexitarian, followed by animal ethics (63%) and health (59%). For persons who eat vegetarian, the reasons are distributed on first animal ethics (87%), followed by climate/environment/sustainability (76%) and health (51%). For persons who eat vegan, it is probably not surprising that animal ethics scores the highest (88%), with climate/environment/sustainability (75%) in second place followed by health (52%). Persons who eat vegetarian and vegan, respectively, thus have an identical distribution in this survey.

In the questionnaire, we have also listed the reasons 'religion', 'my family's eating habits' and 'I have always eaten like this'. However, these are not included in the figure, as the number of respondents within the green consumer segments who have chosen these is too low to provide a basis for analyses.

Based on our knowledge of the green consumer segments' reasons for eating the way they do, there may be different parameters that producers need to take into account and communicate about, and how their product relates to these reasons.

Labelling schemes

In the survey, we have also asked about the green consumer segments' attitudes towards different types of labelling schemes for vegetarian, vegan and organic foods.

The green consumer segments' attitudes, broken down by dietary preferences, are distributed as follows.

Figure 8 – Official vegetarian labelling scheme

Official vegetarian labelling	Very import ant	Importa nt	Neither nor	Less import ant	Not import ant	Don't know
Vegan	17% (N=138)	25% (N=203)	23% (N=186)	12% (N=101)	22% (N=182)	2% (N=13)
Vegetarian	31% (N=161)	37% (N=195)	15% (N=79)	9% (N=49)	7% (N=36)	1% (N=4)
Flexitarian	18% (N=57)	36% (N=113)	19% (N=61)	12% (N=39)	13% (N=40)	2% (N=5)

Across the green consumer segments, the figure is between 41% and 68% in terms of whether the respondents think an official vegetarian labelling scheme is 'Very important' or 'Important'. For persons who eat vegetarian, the figure is not surprisingly highest. For persons who eat vegan, about 1/3 state that such a labelling scheme is 'Less important' or 'Not important', while this only applies to 25% of the flexitarians and 16% of the vegetarians. The reason why persons who eat vegan do not find that an official vegetarian labelling scheme is important must be that this information is not useful to them.

Regarding an official vegan labelling scheme, the green consumer segments' views are shown in the figure below.

Figure 9 – Official vegan labelling scheme

Official vegan labelling	Very import ant	Import ant	Neither nor	Less import ant	Not import ant	Don't know	Total
Vegan	42% (N=351)	30% (N=250)	13% (N=105)	8% (N=65)	7% (N=62)	0% (N=0)	100% (N=833)
Vegetarian	24% (N=122)	39% (N=204)	18% (N=92)	11% (N=57)	8% (N=40)	1% (N=3)	100% (N=518)
Flexitarian	17% (N=52)	30% (N=95)	24% (N=76)	13% (N=41)	14% (N=44)	2% (N=6)	100% (N=314)

Unsurprisingly, just 75% of the respondents who eat vegan state that an official vegan labelling scheme is 'Very important' or 'Important' to them. For flexitarians and vegetarians, this figure is 47% and 61%, respectively. Across the green consumer segments, the figure for the respondents who think it is 'Less important' or 'Not important' is between 7-14%.

For a national organic labelling scheme, the green consumer segments' views are shown in the figure below.

Figure 10 – National organic labelling scheme

National organic labelling scheme	Very important	Important	Neither nor	Less important	Not important	Don't know	Total
Vegan	14% (N=119)	35% (N=286)	27% (N=225)	13% (N=105)	10% (N=82)	1% (N=11)	100% (N=828)
Vegetarian	17% (N=87)	43% (N=225)	22% (N=115)	10% (N=52)	6% (N=31)	2% (N=10)	100% (N=520)
Flexitarian	18% (N=36)	42% (N=134)	21% (N=66)	8% (N=24)	9% (N=38)	3% (N=8)	100% (N=316)

Regarding a national organic labelling scheme, at least 60% of the respondents who eat vegetarian and flexitarian think that this is 'Very important' or 'Important', while the figure for respondents who eat vegan is 49%. Across the green consumer segments, however, only 1-13% find it 'Less important' or 'Not important'.

If we look at a European organic labelling scheme, the green consumer segments' views are shown in the figure below.

Figure 11 – European organic labelling scheme

European organic labelling scheme	Very important	Important	Neither nor	Less important	Not important	Don't know	Total
Vegan	16% (N=130)	32% (N=267)	28% (N=231)	12% (N=101)	10% (N=81)	2% (N=20)	100% (N=830)
Vegetarian	18% (N=96)	41% (N=215)	21% (N=111)	10% (N=52)	7% (N=35)	2% (N=12)	100% (N=521)
Flexitarian	22% (N=71)	38% (N=120)	20% (N=62)	8% (N=26)	8% (N=25)	4% (N=12)	100% (N=316)

For respondents who eat flexitarian and vegetarian, the share is almost the same relative to a national organic labelling scheme, i.e. around 60%, and the same applies to persons who eat vegan, where the share is approx. 50%.

Also for a European national labelling scheme, there are more persons who eat vegan who state that this is 'Less important' or 'Not important', i.e. 12% and 10%, and for flexitarians and vegetarians the figure is between 7% and 10%.

Across the different types of labelling scheme, just under 50% of the green consumer segments state that this is something they find 'Important' or 'Very important'.

Especially for persons who eat vegetarian and vegan, there is a stronger demand for veg labelling (vegetarian or vegan) than for organic labelling. As shown in Figure 2, both these two groups have high organic preferences, but, in terms of labelling, they find that labelling of whether the product is vegetarian or vegan is more important to them. Export companies should be aware of this nuance and that it can probably create added value for them to have both veg labelling and organic labelling.

Satisfaction with the range of organic and organic plant-based products

To obtain an insight into the green consumer segments' satisfaction or lack thereof with the range of organic foods and organic plant-based foods, we have asked the respondents about a wide range of product categories.

The results are presented below.

Figure 12 – Organic and plant-based grain, flour and breakfast cereals

Grain, flour and breakfast cereals	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	21% (N=139)	36% (N=241)	20% (N=131)	9% (N=63)	3% (N=17)	10% (N=64)	3% (N=16)	100% (N=671)
Vegetarian	21% (N=83)	35% (N=139)	22% (N=85)	11% (N=45)	1% (N=5)	6% (N=22)	3% (N=13)	100% (N=392)
Flexitarian	26% (N=68)	36% (N=93)	16% (N=41)	6% (N=16)	3% (N=7)	8% (N=22)	5% (N=13)	100% (N=260)

Figure 13 – Organic fruit

Fruit	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	16% (N=108)	32% (N=215)	21% (N=143)	20% (N=136)	3% (N=19)	6% (N=41)	1% (N=7)	100% (N=669)
Vegetarian	15% (N=57)	37% (N=143)	23% (N=89)	20% (N=80)	3% (N=11)	3% (N=10)	0% (N=1)	100% (N=391)
Flexitarian	17% (N=35)	33% (N=85)	19% (N=38)	20% (N=52)	5% (N=14)	4% (N=11)	1% (N=3)	100% (N=258)

Figure 14 – Organic vegetables

Vegetables	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	19% (N=130)	36% (N=239)	20% (N=132)	16% (N=107)	3% (N=20)	6% (N=38)	0% (N=3)	100% (N=669)
Vegetarian	19% (N=73)	41% (N=162)	19% (N=73)	16% (N=62)	3% (N=10)	3% (N=12)	0% (N=0)	100% (N=392)
Flexitarian	22% (N=57)	37% (N=97)	15% (N=38)	18% (N=47)	4% (N=10)	4% (N=10)	1% (N=2)	100% (N=261)

Figure 15 – Organic plant-based breads and cakes

Plant-based breads and cakes	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	5% (N=35)	18% (N=120)	25% (N=167)	**27% (N=179)**	7% (N=49)	10% (N=70)	8% (N=51)	100% (N=671)
Vegetarian	9% (N=35)	21% (N=83)	28% (N=111)	**23% (N=91)**	7% (N=26)	6% (N=23)	5% (N=21)	100% (N=390)
Flexitarian	10% (N=26)	23% (N=57)	24% (N=60)	**24% (N=60)**	5% (N=12)	6% (N=14)	8% (N=21)	100% (N=250)

Figure 16 – Organic plant-based beverages and alternatives to dairy products

Plant-based beverages and alternatives to dairy products	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	5% (N=34)	26% (N=174)	26% (N=176)	20% (N=135)	7% (N=48)	10% (N=79)	4% (N=25)	100% (N=671)
Vegetarian	11% (N=42)	29% (N=115)	26% (N=102)	19% (N=74)	4% (N=16)	6% (N=19)	6% (N=24)	100% (N=392)

Flexitarian	7% (N=19)	27% (N=70)	26% (N=69)	15% (N=48)	3% (N=9)	5% (N=22)	14% (N=34)	100% (N=261)

Figure 17 – Organic beans and lentils

Beans and lentils	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	19% (N=130)	35% (N=235)	21% (N=143)	12% (N=83)	2% (N=13)	9% (N=62)	1% (N=5)	100% (N=671)
Vegetarian	20% (N=80)	34% (N=135)	24% (N=95)	11% (N=45)	2% (N=6)	6% (N=25)	2% (N=7)	100% (N=393)
Flexitarian	23% (N=55)	36% (N=95)	21% (N=55)	9% (N=24)	2% (N=4)	8% (N=20)	3% (N=8)	100% (N=261)

Processed products as alternatives to meat	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	4% (N=30)	27% (N=180)	**27% (N=181)**	**23% (N=153)**	4% (N=25)	12% (N=79)	3% (N=21)	100% (N=669)
Vegetarian	9% (N=37)	31% (N=121)	**27% (N=105)**	16% (N=62)	6% (N=22)	7% (N=29)	4% (N=17)	100% (N=393)
Flexitarian	6% (N=15)	30% (N=79)	**25% (N=66)**	13% (N=33)	3% (N=8)	8% (N=21)	15% (N=38)	100% (N=261)

Figure 18 – Organically processed products as alternatives to meat

Figure 19 – Organic plant-based toppings

Plant-based toppings	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	3% (N=17)	10% (N=65)	23% (N=150)	11% (N=75)	2% (N=13)	**31% (N=203)**	**21% (N=142)**	100% (N=665)
Vegetarian	4% (N=14)	13% (N=49)	23% (N=88)	7% (N=27)	2% (N=7)	**29% (N=112)**	**24% (N=92)**	100% (N=389)
Flexitarian	3% (N=8)	13% (N=24)	19% (N=49)	8% (N=20)	1% (N=3)	**29% (N=76)**	**27% (N=70)**	100% (N=260)

Figure 20 – Organic tofu, seitan and tempeh

Tofu, seitan and tempeh	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	17% (N=114)	38% (N=253)	22% (N=145)	9% (N=62)	1% (N=10)	9% (N=62)	3% (N=22)	100% (N=668)
Vegetarian	17% (N=65)	39% (N=152)	16% (N=63)	7% (N=29)	1% (N=2)	6% (N=23)	15% (N=57)	100% (N=391)

Flexitarian	16% (N=41)	31% (N=80)	20% (N=51)	4% (N=11)	2% (N=4)	7% (N=18)	20% (N=53)	100% (N=259)

Figure 21 – Organic plant-based ready meals

Ready meals	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied	Don't know	I do not buy these products	Total
Vegan	1% (N=6)	8% (N=55)	18% (N=118)	15% (N=99)	5% (N=33)	12% (N=80)	**41% (N=275)**	100% (N=666)
Vegetarian	4% (N=14)	11% (N=42)	17% (N=66)	10% (N=41)	2% (N=9)	9% (N=35)	**47% (N=185)**	100% (N=393)
Flexitarian	1% (N=3)	6% (N=16)	12% (N=30)	8% (N=22)	3% (N=7)	11% (N=28)	**59% (N=154)**	100% (N=260)

The green consumer segments (50% or more) express the greatest satisfaction in the product categories 'organic and plant-based grain, flour and breakfast cereals' and 'organic fruit and vegetables'.

When it comes to organic plant-based breads and cakes, satisfaction is significantly lower and about 1/4 of the green consumer segments state that they are dissatisfied with the range.

If we look at the satisfaction with organic plant-based plant beverages and alternatives to dairy products, the satisfaction among the green consumer segments is maximum 40% and is lowest among persons who eat vegan (31%) and flexitarian (40%). In addition, approx. 1/4 of the green consumer segments express neutrality regarding this product category, which could indicate that there is room for improvement.

Also when it comes to organic processed products as alternatives to meat, the satisfaction is maximum 40% among the green consumer segments, while 1/4 remain neutral. Among persons who eat vegan, 23% state that they are decidedly dissatisfied with the range, while the figure among persons who eat flexitarian is 13%.

For the product category of organic plant-based toppings, 21-27% of the green consumer segments state that they do not buy these products, and 29-31% have responded 'Don't know'. This product category thus stands out a lot from the others.

Likewise, between 41-59% of the respondents in the green consumer segments state that they do not buy organic plant-based ready meals, with the percentage being highest (59%) for persons who eat flexitarian.

Based on the above, this could be interesting in an export context for Danish companies with an organic plant-based range within:

- Plant-based beverages and alternatives to dairy products

- Organic plant-based toppings
- Organically processed products as alternatives to meat

To look at the Netherlands and examine more closely the products offered in these product categories. A possible reason why a significant share of the green consumer segments state that they do not buy organic plant-based toppings or organic plant-based ready meals may be that such products are not currently available. Although it may also be that the food culture is different in the Netherlands and that they eat out or buy take-away instead of preparing ready meals. It could be relevant to examine this further, as export opportunities for organic plant-based ready meals will be relevant from a Danish perspective.

Quality of processed plant-based foods

Our hypothesis is that the more widespread plant-based products become, the more consumers will demand a higher quality, which may concern, among other aspects, the degree of processing of the products. We therefore asked the green consumer segments about the following:

'How important is it for you that processed plant-based foods are as natural and as little processed as possible?'

Figure 22 – Degree of processing of plant-based foods

How important is it that plant-based foods are as natural and gently processed as possible?	Very importan t	Import ant	Neither nor	Less importa nt	Not importan t	Total
Vegan	24% (N=211)	33% (N=300)	17% (N=153)	8% (N=73)	7% (N=66)	100% (N=896)
Vegetarian	27% (N=146)	39% (N=215)	11% (N=63)	7% (N=38)	4% (N=20)	100% (N=550)
Flexitarian	31% (N=105)	33% (N=115)	8% (N=28)	3% (N=12)	3% (N=9)	100% (N=344)

As an overall group, 61% in the green consumer segment find it 'Very important' or 'Important' that plant-based foods are as natural and as little processed as possible. In the green consumer segment, 57-66% find it 'Very important' or 'Important' that plant-based foods are as natural and as little processed as possible. This is consequently something that the green consumer segments find important when buying plant-based foods, which is also in line with organic foods often being less processed. It may be useful information for food producers in relation to communication about plant-based products that this is also an important parameter for the green consumer segments when they buy foods.

Green consumer segments' shopping places

When we want to export more organic plant-based products to the green consumer segments in the Netherlands, it is relevant to look at where these consumer segments make their purchases and at what frequency. This is shown in the figure below.

Figure 23 – Green consumer segments' shopping places

Discount supermarkets	**Daily**	**Weekly**	**Monthly**	**Almost never**	**Never**	**Total**
Vegan	1% (N=4)	10% (N=79)	18% (N=135)	44% (N=335)	27% (N=200)	100% (N=753)
Vegetarian	1% (N=3)	13% (N=61)	13% (N=60)	43% (N=198)	30% (N=136)	100% (N=458)
Flexitarian	1% (N=2)	15% (N=42)	14% (N=40)	41% (N=114)	28% (N=78)	100% (N=276)
Supermarkets	**Daily**	**Weekly**	**Monthly**	**Almost never**	**Never**	**Total**
Vegan	21% (N=159)	74% (N=562)	3% (N=26)	2% (N=14)	0%	100% (N=763)
Vegetarian	19% (N=86)	74% (N=344)	5% (N=21)	2% (N=10)	0%	100% (N=463)
Flexitarian	22% (N=63)	71% (N=205)	5% (N=14)	2% (N=6)	1%	100% (N=290)
Specialty stores	**Daily**	**Weekly**	**Monthly**	**Almost never**	**Never**	**Total**
Vegan	2% (N=13)	25% (N=194)	42% (N=321)	27% (N=205)	4% (N=28)	100% (N=761)
Vegetarian	2% (N=10)	30% (N=137)	36% (N=167)	27% (N=125)	4% (N=25)	100% (N=464)
Flexitarian	3% (N=9)	38% (N=112)	29% (N=85)	25% (N=73)	5% (N=14)	100% (N=293)
Online	**Daily**	**Weekly**	**Monthly**	**Almost never**	**Never**	**Total**
Vegan	0% (N=3)	15% (N=110)	33% (N=252)	37% (N=282)	15% (N=111)	100% (N=758)
Vegetarian	0% (N=0)	17% (N=76)	23% (N=104)	34% (N=155)	26% (N=119)	100% (N=454)
Flexitarian	0% (N=1)	16% (N=45)	24% (N=68)	32% (N=92)	28% (N=79)	100% (N=285)

Almost 2/3 of the green consumer segments state that they shop in supermarkets weekly, while this figure is only 10-15% for discount supermarkets. Between 1/4-1/3 of the green consumer segments shop in specialty stores weekly, while the figure is 29-42% monthly. Here, respondents who eat vegan have the highest share at 42%, while respondents who eat flexitarian constitute the largest share (38%) weekly. Just under 1/4 of the respondents who eat flexitarian make online food purchases monthly, whereas this is 1/3 for respondents who eat vegan. Among the green consumer segments, most respondents state that they 'Almost never' or 'Never' shop in discount supermarkets – this amounts to 69-73% overall.

As we have not given examples of discount supermarkets and supermarkets in the survey, it may be that a discount supermarket is regarded as a supermarket by some respondents in the green consumer segments, while this is not the case for others. However, the figure shows that the green consumers segments shop primarily in supermarkets and specialty stores, and it would therefore make sense initially to concentrate export initiatives on supermarkets and specialty stores, respectively.

Methodology and reflections

Data collection was done in collaboration with **Vegetariërsbond/Dutch Vegetarian Union** in the Netherlands in the period from 3 to 15 May 2022. A total of 1914 responses were collected. As the questionnaire survey was conducted among consumers with a relation to Dutch Vegetarian Union, these consumers will probably be consumers with high commitment, which may constitute a bias in the survey.

Below, it is shown how the demographic factors are distributed on dietary preferences as well as dietary preferences crossed with gender and age.

Figure 23 – Dietary preferences

Dietary preferences	**Number**	**Percentage distribution**
I eat vegan[7]	896	47%
I eat vegetarian[8]	550	29%
I eat vegetarian supplemented with fish[9]	188	10%
I eat meat and/or fish up to 2-3 days a week[10]	156	8%
I eat meat and/or fish 4-5 days a week[11]	41	2%
I eat meat and/or fish 6-7 days a week[12]	83	4%
Total	**1914**	**100%**

In the analysis, we have divided the respondents into the following groups:

Persons who eat vegan
Persons who eat vegetarian
Persons who eat flexitarian (this category includes the persons who have responded that they eat vegetarian supplemented with fish as well as persons who eat meat and/or fish up to 2-3 days a week.)
Persons who eat meat (the respondents who have stated that they eat meat and/or fish up to 4-5 days or 6-7 days a week), a total of 124 persons, have been excluded from the analysis, as we wish to focus on persons who eat vegan, vegetarian and flexitarian, respectively.

[7] Wording in the questionnaire: I eat vegan food - I do not eat any kind of animal products
[8] Wording in the questionnaire: I eat vegetarian food - I do not eat meat (nor fish)
[9] Wording in the questionnaire: I eat vegetarian food supplemented with fish
[10] Wording in the questionnaire: I eat meat and/or fish up to 2-3 days a week
[11] Wording in the questionnaire: I eat meat and/or fish 4-5 days a week
[12] Wording in the questionnaire: I eat meat and/or fish 6-7 days a week

In the analysis, the collective term 'green consumer segments' is used to refer to the respondents who eat flexitarian, vegetarian or vegan, respectively. In total, this group consists of 1790 respondents.

As the green consumer segments have not answered all the questions in the survey (we have chosen to make some of the questions optional), the total number of respondents who have answered each question will vary. However, the number will be shown in each figure.

Only the green consumer segments will be included in Figures 17 and 18 – see below.

Figure 24 – Dietary preferences and gender

Dietary preferences	Woman	Man	Non-binary	Total
Vegan	80% (N=715)	17% (N=151)	3% (N=30)	100% (N=896)
Vegetarian	82% (N=452)	16% (N=87)	2% (N=11)	100% (N=550)
Flexitarian	84% (N=290)	15% (N=50)	1% (N=4)	100% (N=344)
Total	81% (N=1457)	16% (N=288)	3% (N=45)	**100% (N=1790)**

Figure 25 – Dietary preferences and age[13]

Dietary preferences	13-34 years	35-55 years	Over 55 years	Total
Vegan	36% (N=324)	51% (N=453)	13% (N=119)	100% (N=896)
Vegetarian	22% (N=122)	46% (N=252)	32% (N=176)	100% (N=550)
Flexitarian	16% (N=55)	41% (N=142)	43% (N=147)	100% (N=344)
Grand total	**28% (N=501)**	**47% (N=847)**	**25% (N=442)**	**100% (N=1790)**

If we compare the size of the group of flexitarians in our survey with the number of flexitarians in the representative EU project Smart Protein, where 42%[14] of consumers state that they eat flexitarian (defined as 'I sometimes eat meat, but I am trying to reduce my meat consumption and often choose plant-based foods instead'), the figure in our survey is significantly lower (18%). However, this can probably be attributed to the use of a broad

[13] The youngest respondent is 13 years old.
[14] https://proveg.com/wp-content/uploads/2021/11/FINAL_Pan-EU-consumer-survey_Country-Specific-Insights-2.pdf

definition of flexitarians in the Smart Protein project as opposed to our survey, in which we ask more directly about how many meals they eat weekly that contain meat. Furthermore, our survey is not a representative survey.

In the Smart Protein project, the share of vegetarians and vegans is 7%[15], whereas they make up 29% (vegetarians) and 47% (vegans), respectively, in our survey. In this survey, however, we have also been interested in obtaining the green consumer segments' attitudes to organic plant-based products. Especially vegans and vegetarians will often be among the first to try and buy new plant-based products and they often work actively to get more plant-based products on the shelves. Of the total volume, they still buy a significant quantity of these products.

[15] https://proveg.com/wp-content/uploads/2021/11/FINAL_Pan-EU-consumer-survey_Country-Specific-Insights-2.pdf