

## Press Release

### Environmentally friendly food consumption choices, shopping, and behaviour in Czech society – Food 2021

- ⊗ The most important factor the Czech public considers when shopping for food is price, followed by a food's ingredients, while the least important factor is the food's packaging.
- ⊗ For a more than one-half majority (51%) of respondents the environmental impact of how the foods they buy are produced is important to them, while for 45% this consideration is not important at all.
- ⊗ For the absolute majority (87%) of respondents their choice of diet is important to them.
- ⊗ The absolute majority (91%) of the Czech public eat regular food without any restrictions, 3% are vegetarians and 3% are flexitarians, and the remaining 3% adhere to some other type of diet (gluten-free, health food, vegan).
- ⊗ The environmentally friendly behaviour that Czech households engage in most is sorting and recycling their everyday waste and bringing their own shopping bags to the store, while the least common behaviour is buying fruit and vegetables in reusable food bags and limiting their travel by car.
- ⊗ One-third (33%) of respondents indicated they at least occasionally buy organic food, which compared to 2020 is an increase of 10 percentage points.

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The Public Opinion Research Centre's special 'Food 2021' survey contained several questions about environmentally friendly behaviours that relate to what foods people buy and what they eat. These issues are closely connected with the issue of food waste and with the currently very topical subject of climate change on Earth.<sup>1</sup>

Climate change is being caused by the growing concentration of greenhouse gasses in the atmosphere. Greenhouse gases are mainly produced by the burning of fossil fuels, the deforestation of rain forests, and intensive livestock farming. The increase in greenhouse gases in the air and in the atmosphere accelerates the greenhouse effect, and the main consequence of this is global warming (the average global temperature in 2019 was 1.1 °C higher than the temperature before the Industrial Revolution).<sup>2</sup> Other signs of climate change include melting glaciers, damage to the oceans, an increased frequency of extreme weather phenomena (floods, hurricanes, fires), and the extinction of plant and animal species.<sup>3 4</sup>

An essential part of the effort to solve climate change and its negative effects is reducing greenhouse gas emissions. Individuals can play a significant role in this through their own behaviour (e.g. by the way they eat, what they buy, how they buy it, and how it is packaged, how people travel, what products they use in their home, etc.). We examined this subject in our special survey and describe the results below.

<sup>1</sup> You can find out what the Czech public think about climate change on Earth in the press release titled 'Czech Public Opinion on Climate Change on Earth – July 2021'. Available at: [https://cvvm.soc.cas.cz/media/com\\_form2content/documents/c2/a5430/f9/oe210819.pdf](https://cvvm.soc.cas.cz/media/com_form2content/documents/c2/a5430/f9/oe210819.pdf)

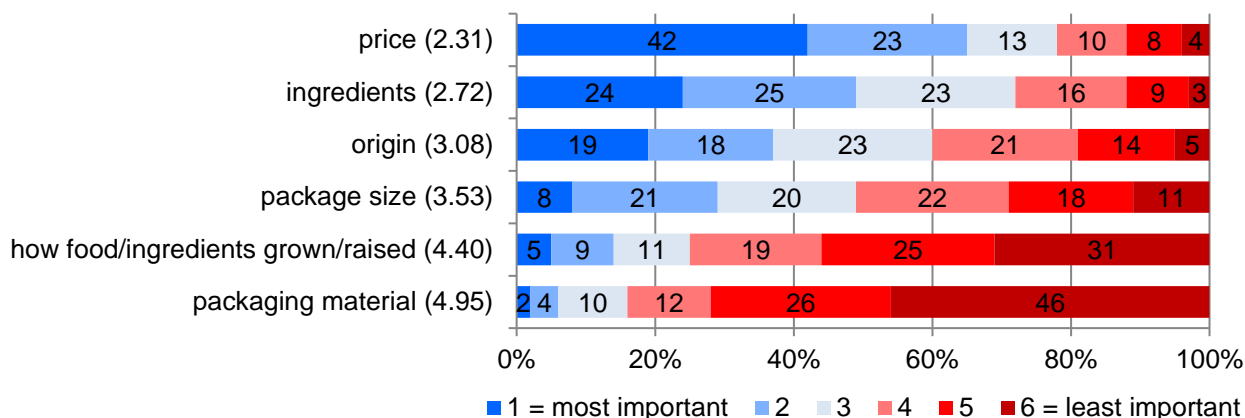
<sup>2</sup> [https://ec.europa.eu/clima/change/causes\\_cs](https://ec.europa.eu/clima/change/causes_cs)

<sup>3</sup> <https://www.klimatickazmena.cz/cs/vse-o-klimaticke-zmene/pruvodce-zmenou-klimatu/>

<sup>4</sup> Hollan. J. 2020. Příčiny a dopady globálního ohřívání Země a projevy jím vyvolané klimatické změny. CzechGlobe. Available at: [https://www.veronica.cz/klima/resilience/Hollan\\_climate\\_resilient.pdf](https://www.veronica.cz/klima/resilience/Hollan_climate_resilient.pdf)

In the survey we presented respondents with six factors they may consider when shopping for food and asked them to rank these considerations according to which ones are most important for them.<sup>5</sup> Figure 1 presents the results.

**Figure 1: Various factors people take into consideration when shopping for food – ranked by their importance (in %, only those respondents who buy food)**



Note: Items are ranked in order according to average scores (in parentheses) from the lowest to the highest average scores. The data in the figure show the distribution of responses after excluding 'don't know', which accounted for 1% of the total sample.

Source: Public Opinion Research Centre, Institute of Sociology, Czech Academy of Sciences, 'Food', 10–26 July 2021, 827 respondents over the age of 15 who said they at least occasionally buy food for their household, face-to-face interviews.

For our respondents, price is the most important consideration when shopping for food, as more than two-fifths said that this was the most important factor for them (42%). Less than one-quarter (24%) of respondents indicated that a food's ingredients was their most important consideration. The third most important consideration for respondents was the food's origin, while the size of the package was another important factor, with an average score of 3.53 on a scale of 1 to 6, where 1 indicates the most important consideration and 6 the least important one. The other two factors – how the food or its ingredients are grown/raised and the product's packaging – are not assigned much importance by people when shopping. This is especially true of the packaging, which almost one-half (46%) of respondents said was their 'least important' consideration when buying food. The results clearly show that for the Czech population what matters most when shopping for food are economic (price) and qualitative (ingredients, origin) factors, while the ethical and environmental aspects of a product play almost no role.

**Carbon footprint<sup>6</sup>** is a concept that relates to the reduction of emissions and denotes the sum of greenhouse gases produced by something expressed as a CO<sub>2</sub> equivalent. This indicator is most often used in connection with products, but it can also be applied to individuals and events.<sup>7</sup> In our survey we were most interested in the carbon footprint of food. This carbon footprint reflects amount of greenhouse gas emissions that are produced across the entire life cycle of a food, from the production and processing of the food and its ingredients to the food's transport and the emissions produced by the disposal of its packaging.<sup>8</sup>

In our survey we were therefore interested in whether respondents consider the environmental impact of the production of the food they buy to be important.<sup>9</sup> We can see from the results in Figure 2 that a more than one-half majority (51%) of respondents indicated that they feel the environmental impact of how the food they buy is produced is important, with 14% saying it was 'very important' and 37% 'somewhat important'. The opposite view, that the environmental impact of how the food they buy is produced is not important, was shared by 45% of respondents, of which 34% said it was 'not very important' and 11% 'not important at all'. The remaining 4% of respondents were unable to answer and selected 'don't know' as their response.

<sup>5</sup> Question wording: 'Rank the following considerations according to how important they are to you when you are shopping for food, going from the most to the least important, where 1 means the most important and 6 means the least important.' Response options: a) origin, b) packaging material, c) price, d) ingredients, e) package size, f) how the food or its ingredients were grown/raised.

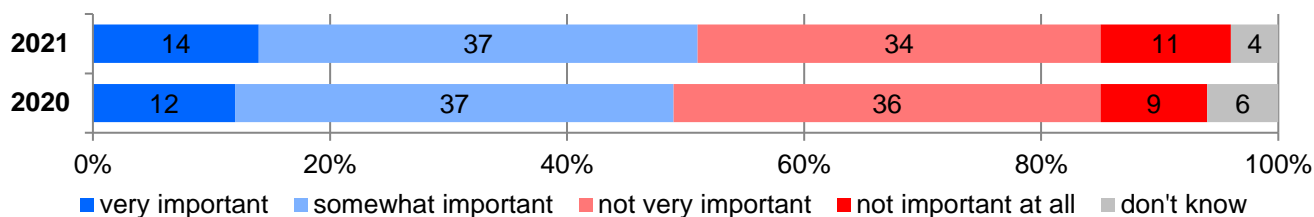
<sup>6</sup> Sometimes the acronym LCA (life cycle assessment) is used.

<sup>7</sup> [https://cs.wikipedia.org/wiki/Uhl%C3%ADkov%C3%A1\\_stopa](https://cs.wikipedia.org/wiki/Uhl%C3%ADkov%C3%A1_stopa)

<sup>8</sup> <https://udrzitelnýzivot.cz/uhlikova-stopa-potravin-proc-se-o-ni-zajimat/>

<sup>9</sup> Question wording: 'When you're shopping for food, is the environmental impact of a food's production an important consideration or not?' Response options: very important, somewhat important, not very important, not important at all.

**Figure 2: How important is the environmental impact of a food's production for consumers? (in %, only those respondents who shop for food)**



Source: Public Opinion Research Centre, Institute of Sociology, Czech Academy of Sciences, 'Food'.

A very simple and measurable way in which every person can reduce the carbon footprint of their food is through the choices they make about what foods they eat – in other words, through their food consumption practices. Meat and dairy products have the biggest carbon footprint. For example, 1 kg of beef produces 20-60 kg of CO<sub>2</sub>, while eggs produce 5-15 kg CO<sub>2</sub>, and legumes, vegan meat substitutes, and vegetables produce around 1-5 kg CO<sub>2</sub>.<sup>10</sup> A study<sup>11</sup> that was conducted by Arnika, a Czech NGO, on the population of Prague offers a good picture of this. The study shows that people who have a diet rich in meat and dairy products have a carbon footprint of 2,624.4 kg CO<sub>2</sub>e/person/year, while the footprint of those who consume an average amount of meat and dairy products is 2,055.0 kg CO<sub>2</sub>e/person/year, and the footprint of those who consume a small amount of meat and dairy products is 1,704.6 kg CO<sub>2</sub>e/person/year. Those people who eat only fish (and no other meat) have a carbon footprint of just 1,427.2 kg CO<sub>2</sub>e/person/year, vegetarians have a footprint of 1,390.7 kg CO<sub>2</sub>e/person/year, and the smallest footprint is among those who follow a vegan diet (1,054.9 kg CO<sub>2</sub>e/person/year). The same findings have been observed in international studies,<sup>12</sup> <sup>13</sup> and the main message that can be drawn from this is that humankind should in the future significantly decrease its consumption of animal and dairy products, because the transition to a plant-based diet represents an effective tool for fighting climate change.

Vegetarianism and veganism have witnessed increasing global popularity in recent years. It was not for nothing, therefore, that *The Economist* magazine declared 2019 the year of veganism.<sup>14</sup> In August 2018 the IPSOS agency conducted a large international survey that focused on people's diets. The results showed that 73% of people in the world are omnivores, 14% are flexitarians (people who occasionally eat meat or fish), 5% are vegetarians, 3% are vegans, and 3% are pescatarians (people who do not eat meat but do eat fish).<sup>15</sup> The most recent statistics indicate that in January 2021 there were approximately 79 million vegans in the world.<sup>16</sup>

Interest in plant-based alternatives to meat and dairy products has been growing in the Czech Republic, according to a survey conducted by the Czech Press Agency (ČTK) among shop owners<sup>17</sup> and to a market research study that was prepared by *Zboží&Prodej* (Goods and Sales) magazine and the Czech Vegan Society.<sup>18</sup> We do not know exactly how many vegans and vegetarians there are in the Czech Republic. Although several surveys have been conducted, the results have differed widely. For example, according to a survey conducted by the Ipsos Agency in cooperation with the Czech Association of Social Responsibility in May 2020, 10% of the Czech population favour a diet that excludes or limits meat consumption.<sup>19</sup> A survey conducted by the FMCG Gurus company for the Czech Vegan Society in September 2020, however, found that 6% of the Czech population are vegetarians and every fourth Czech limits their

<sup>10</sup> <https://www.greenpeace.org/czech/clang/4490/co-je-uhlikova-stopa-potravin/>

<sup>11</sup> <https://arnika.org/moje-uhlikova-stopa>

<sup>12</sup> Poore, J., & T. Nemecek. (2018). Reducing food's environmental impacts through producers and consumers. *Science* 360, 987-992. Available at: <https://science.sciencemag.org/content/360/6392/987/tab-pdf>

<sup>13</sup> Chai, B. C., et al. (2019). Which Diet Has the Least Environmental Impact on Our Planet? A Systematic Review of Vegan, Vegetarian and Omnivorous Diets. *Sustainability*, 11(15), 4110. <https://doi.org/10.3390/su11154110>

<sup>14</sup> [https://zpravy.aktualne.cz/domaci/veganu-v-cesku-pribyva-daleko-silnejsi-je-ale-trend-reduktar/r~a8ca82ec1d9b11eaa24cac1f6b220ee8/potravin/19397567fbclid=IwAR2kNIXQ0iBwYtZR3FTeNjzQTmkIbKvFDzG6GiY9\\_jqpPKUQsLu4j6qslM](https://zpravy.aktualne.cz/domaci/veganu-v-cesku-pribyva-daleko-silnejsi-je-ale-trend-reduktar/r~a8ca82ec1d9b11eaa24cac1f6b220ee8/potravin/19397567fbclid=IwAR2kNIXQ0iBwYtZR3FTeNjzQTmkIbKvFDzG6GiY9_jqpPKUQsLu4j6qslM)

<sup>15</sup> Ipsos. (2018). An exploration into diets around the world. Available at: [https://www.ipsos.com/sites/default/files/ct/news/documents/2018-09/an\\_exploration\\_into\\_diets\\_around\\_the\\_world.pdf](https://www.ipsos.com/sites/default/files/ct/news/documents/2018-09/an_exploration_into_diets_around_the_world.pdf)

<sup>16</sup> <https://wtvox.com/lifestyle/2019-the-world-of-vegan-but-how-many-vegans-are-in-the-world/>

<sup>17</sup> [https://www.ceskenoviny.cz/zpravy/retezce-sleduji-vyssi-zajem-o-vegetarianske-a-veganske-potravin/19397567fbclid=IwAR2kNIXQ0iBwYtZR3FTeNjzQTmkIbKvFDzG6GiY9\\_jqpPKUQsLu4j6qslM](https://www.ceskenoviny.cz/zpravy/retezce-sleduji-vyssi-zajem-o-vegetarianske-a-veganske-potravin/19397567fbclid=IwAR2kNIXQ0iBwYtZR3FTeNjzQTmkIbKvFDzG6GiY9_jqpPKUQsLu4j6qslM)

<sup>18</sup> <https://www.zboziaprodej.cz/wp-content/uploads/2020/12/Pr%C4%8Cehled-trhu-CZ.pdf>

<sup>19</sup> <https://www.ipsos.com/cs-cz/desetina-cechu-preferuje-stravu-s-vyloucenim-ci-omezenim-masa>

meat intake.<sup>20</sup> Therefore, in our surveys we asked respondents about their choice of diet.<sup>21</sup> The results from July 2021 show that the absolute majority (91%) of the Czech public follow a standard diet without any restrictions, while the other 9% have a different dietary pattern. Specifically, 3% reported following a vegetarian diet and 3% a reductionist/flexitarian diet, and 1% followed a gluten-free diet, diabetic diet, or some other alternative diet (veganism, lactose-free, health foods). This question, however, was only posed for the second time in this survey, so it is too soon to analyse any larger trend. When compared to the previous year, however, it is possible to see that the results are almost identical. We will certainly continue to observe this indicator in the years to come.

**Figure 3: Czechs' dietary choices (%)**



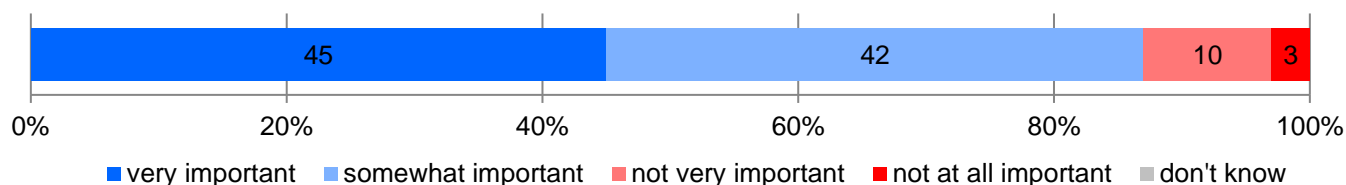
Source: Public Opinion Research Centre, Institute of Sociology, Czech Academy of Sciences, 'Food', 10–26 July 2021, 884 respondents over the age of 15, face-to-face interviews.

The respondents who indicated that they do not follow a standard diet (N = 80) were then asked why they made the decision to follow their selected type of diet.<sup>22</sup> Among the respondents who indicated that they follow a diabetic or gluten-free diet, the main reason they cited for this was health, while among vegetarians and reductionists the main reasons were ethical and environmental, but some of them also cited health as the reason for following their chosen diet.

In reference to their dietary practices, we also asked respondents whether their choice of diet is important to them or not. The results of the survey (see Figure 4) clearly show that the absolute majority (87%) of respondents consider the way they choose to eat to be important (45% consider it 'very important' and 42% 'somewhat important'), while 13% of respondents do not attribute any great importance to their chosen type of dietary practice (10% 'not very important' and 3% 'not important at all').

A more detailed analysis showed that women more than men tend to consider their chosen dietary practices to be important (women 93%, men 81%), as do people with higher education and people who do not eat regular food.

**Figure 4: How important are your dietary choices for you (in %)<sup>23</sup>**



Source: Public Opinion Research Centre, Institute of Sociology, Czech Academy of Sciences, 'Food', 10–26 July 2021, 884 respondents over the age of 15, face-to-face interviews.

<sup>20</sup> <https://trendwatcher.cz/v-cesku-narostl-pocet-flexitarianu-vite-co-jedi/>

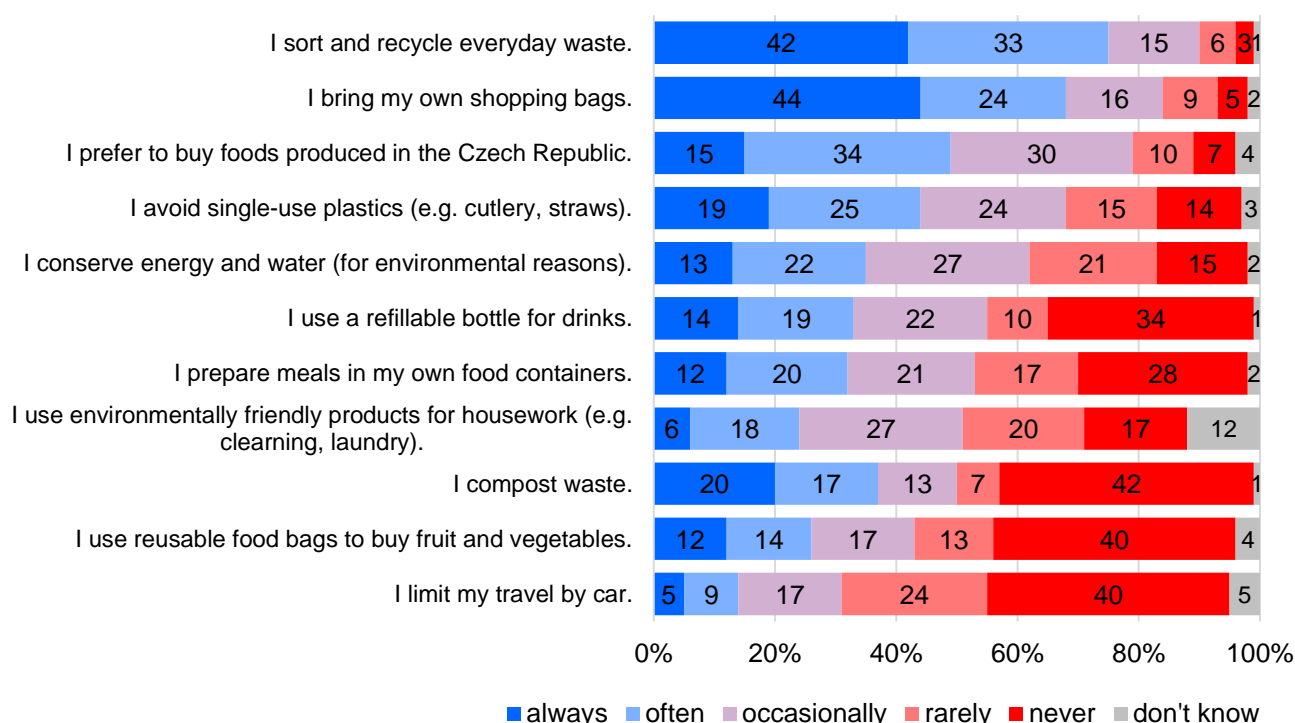
<sup>21</sup> Question wording: 'Please indicate what kind of dietary practice best characterises your food choices?' Response options: regular food (eat everything without restrictions), vegetarian (no meat), vegan (wholly plant-based and no animal products), reductionist (limiting the consumption of some animal products), gluten-free, other.

<sup>22</sup> Question wording: 'What is the main reason why you decided to adopt this type of dietary practice?' Response options: ethical, environmental, health, other.

<sup>23</sup> Question wording: 'How important or unimportant is your choice of diet to you?' Response options: very important, somewhat important, not very important, not important at all.

In the survey we also looked at specific behaviours relating to the environment that respondents and their households may engage in (see Figure 5). The absolute majority of Czech households sort and recycle their everyday waste (90% do so at least occasionally). The absolute majority of Czech households also at least occasionally bring their own bags for their shopping (84%) and prefer to buy food produced in the Czech Republic (79%). Two other environmentally friendly behaviours that approximately two-thirds of respondents said they at least occasionally engage in are not purchasing single-use plastics (68%) and conserving energy and water (62%). A more than one-half majority of respondents also indicated that they at least occasionally use their own refillable bottle for drinks (55%), that they prepare their own boxed meals (53%), and that when doing the housework (e.g. cleaning, laundry) they use environmentally friendly products (51%). One-half (50%) of respondents indicate that they at least occasionally compost their waste. More than two-fifths (43%) of respondents said that they at least occasionally buy fruit and vegetables in reusable food bags. The environmentally-friendly behaviours that respondents engaged in least were limiting their travel by car – 31% said they at least occasionally do so. It was generally found that all these actions and behaviours were performed more often by women, and most of them were performed more often by people with a university education.

**Figure 5: How often do households engage in various environmentally friend behaviours? (%)<sup>24</sup>**



Note: Items are listed in order according to the sum of responses 'always', 'often', and 'occasionally'.

Source: Public Opinion Research Centre, Institute of Sociology, Czech Academy of Sciences, 'Food', 10–26 July 2021, 884 respondents over the age of 15, face-to-face interviews.

A time comparison with the survey conducted the year before reveals that for most items there were no statistically significant shifts in the results. The only exception is the increase observed in the share of people who at least occasionally use a refillable bottle for drinks (an increase of 7 percentage points) and who buy fruit and vegetables in reusable food bags (an increase of 5 percentage points).

<sup>24</sup> Question wording: 'In your household, how often do you do the following? a) bring your own shopping bags to the store, b) buy fruit and vegetables in reusable food bags, c) use your own refillable bottle for drinks, d) use environmentally friendly products to do the housework (e.g. cleaning, laundry), e) prefer to buy foods produced in the Czech Republic, g) avoid single-use plastics (e.g. plastic cutlery, straws), h) limit how much you travel by car in order to protect the environment, i) conserve energy and water in order to protect the environment, j) sort and recycle everyday waste, k) compost waste.' Response options: never, rarely, occasionally, often, always.

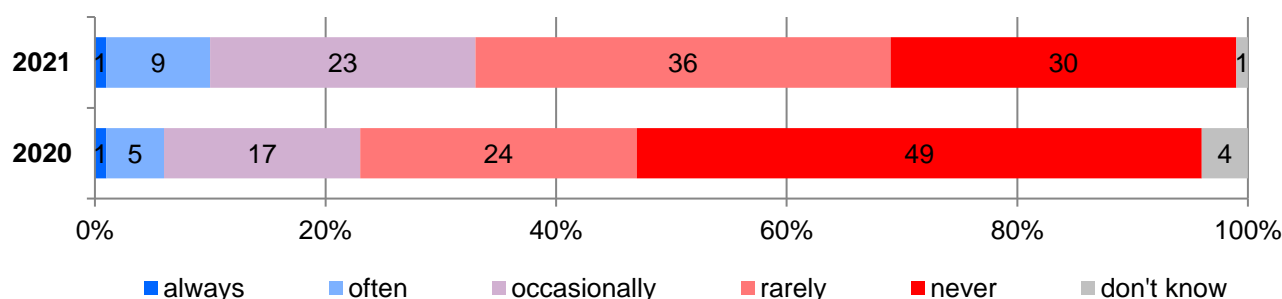
**Table 1: Environmentally friendly household behaviours (%) – time comparison**

	VIII/2020	VII/2021
I sort and recycle everyday waste.	92	90
I bring my own shopping bags.	85	84
I prefer to buy foods produced in the Czech Republic.	77	79
I avoid single-use plastics (e.g. cutlery, straws).	65	68
I conserve energy and water for environmental reasons.	63	62
I use a refillable bottle for drinks.	48	<b>55</b>
I prepare meals in my own food containers.	51	53
I use environmentally friendly products for housework (e.g. cleaning, laundry).	54	51
I compost waste.	48	50
I buy fruit and vegetables in reusable food bags.	38	<b>43</b>
I limit my travel by car for environmental reasons.	28	31

Note: The figures in the table are the sums of the responses 'always' + 'often' + 'occasionally'. The difference to 100% is made of the responses 'rarely' + 'never' + 'don't know'. Items are listed according to the results from the current survey from highest to lowest.

Source: Public Opinion Research Centre, Institute of Sociology, Academy of Sciences, 'Food'.

The survey also looked at how often respondents buy organic foods.<sup>25</sup> We can see in Figure 6 that one-third (33%) of respondents at least occasionally buy organic food – 1% do so 'always', 9% 'often', and 23% 'occasionally'. Another more than one-third (36%) of respondents said that they 'rarely' buy organic food, three-tenths (30%) said they 'never' buy organic food. The remaining insignificant share respondents, just 1%, selected 'don't know' as their response to this question. Compared to 2020, there was an increase of 10 percentage points in the share of those who at least occasionally buy organic food. There was also a very significant decrease in the share of respondents who said they 'never' buy organic food (a decrease of 19 percentage points), mainly with a corresponding increase in the share of those who said 'rarely' (an increase of 12 percentage points) and 'occasionally' (an increase of 6 percentage points) buy organic food.

**Figure 6: How often do Czechs buy organic food? (%)**

Source: Public Opinion Research Centre, Institute of Sociology, Academy of Sciences, 'Food'.

The people who tend to buy organic food more often are women, people with a university education, respondents who indicated their household enjoys a good standard of living, people more on the political right, people for whom it matters what they eat and what impact the food they buy has on the environment, and households with children. Conversely, the people who never buy organic food are more often men, people over the age of 60, respondents with basic education or secondary education without the school-leaving exam or people with a vocational education, respondents who assessed the living standard of their household to be poor, senior citizens, unqualified workers, and people on the political left.

<sup>25</sup> Question wording: „How often do you buy organic food?“ Response options: never, rarely, occasionally, often, always.

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## Technical parameters of the survey

Survey:	<i>Food 2021</i>
Implementer:	<i>Public Opinion Research Centre, Institute of Sociology, Czech Academy of Sciences</i>
Project:	<i>Strategy AV21 'Food for the Future'</i>
Survey fielding dates:	<i>10 July – 26 July 2021</i>
Selection of the respondents:	<i>Quota sampling</i>
Quotas:	<i>Region (NUTS 3 regions), size of place of residence, sex, age, education</i>
Data weighting:	<i>Education X NUTS 2, age X NUTS 2, sex X region, size of place of residence X age, education X age</i>
Source data for quota sampling and data weighting:	<i>Czech Statistical Office</i>
Representativeness:	<i>Population of the Czech Republic aged 15 and over</i>
Number of respondents:	<i>884</i>
Number of interviewers:	<i>161</i>
Data collection method:	<i>Face-to-face interviews with respondents conducted by interviewers – combined CAPI and PAPI techniques</i>
Survey instrument:	<i>Standardised questionnaire</i>
Questions:	<i>PL.34, PL.46, PL.47, PL.48, PL.49, PL.51, PL.56. PL.80</i>
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Published on:	<i>11 November 2021</i>
Prepared by:	<i>Radka Hanzlová</i>

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## Glossary:

**Quota sampling:** This sampling method replicates the structure of the basic survey population (in this case the population of the Czech Republic over the age of 15) by determining the size of selected sample parameters, i.e. 'quotas'. In other words, in quota sampling the same percentages of selected characteristics in the population are reproduced in the sample. To create quotas, we use data from the Czech Statistical Office. In our surveys we set quotas for sex, age, education, region, and size of the place of residence. The sample is therefore created to ensure that the percentage shares of men and women, for example, correspond to the percentage shares of men and women in each region of the Czech Republic. Similarly, the sample reflects the different percentages of the population living in the country's different regions, and the percentage of citizens in different age categories, with different levels of education, and in different community sizes.

A representative sample is a sample of the total population whose characteristics can be validly inferred to be the characteristics of the total population. In our case this means that respondents are selected in a way that allows us to ensure that the data we obtain on them can be generalised to apply to the population of the Czech Republic over the age of 15.

**Data weighting:** A technique used to increase a sample's representativeness for selected population characteristics by assigning weights to each respondent. The weights are created using the method of iterative proportional fitting/weighting and are always within the range of 0.333 and 3.

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The Public Opinion Research Centre (CVVM) is a research department at the Institute of Sociology, Czech Academy of Sciences. It has a history that extends back to 1946, when the Czechoslovak Institute for Public Opinion Research began operating as part of the Ministry of Information. The current centre was founded in 2001 when its predecessor (the IVVM) was transferred from the Czech Statistical Office to the Institute of Sociology of the Czech Academy of Sciences. As part of a research institution the centre has a high-quality professional work environment at its disposal and is part of an institution with a reputation of excellence. As part of an academic setting the Public Opinion Research Centre must fulfil all the requirements for and maintain the highest professional standards. The main part of the centre's work is devoted to the "Our Society" research project, which conducts ten surveys each year. This public opinion research is conducted on a representative sample of the Czech population aged 15 and over and approximately 1.000 respondents take part in each survey. The omnibus form of the questionnaire means that the survey can cover a large range of subjects, which therefore regularly includes political, economic, and other generally socially topics. The survey includes both repeat questions, which can be used to observe the development of certain phenomena over time, and questions on new topics in response to current events. The long-term continuous nature of this public opinion research project makes this scientific project unique in the Czech Republic.

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**'This work was supported under AV21 Strategy of the Academy of Sciences as part of the 'Food for the Future' research programme' (<http://www.potravinav21.cz/>).**