



## Press release

## The Way of Eating, Shopping, and Behaviour of Czech Society with Respect to the Environment – Food 2020

- Less than a quarter (24%) of respondents were interested in the issue of packaging in which they bought food, while three-quarters (75%) were not interested.
- Three-fifths (60%) of people did not avoid any packaging material. If they did, it was most often plastic (17%).
- For the Czech public, the most important issue when buying food was the price and then the composition of food; on the contrary, the packaging material was the least important.
- Just about one-sixth (16%) of the respondents bought packaging-free food, of which 12% bought it sometimes and 4% often. Their main motives were reduction of the amount of waste / packaging / material and environmental protection.
- The vast majority (93%) of the Czech public ate a normal diet without any restrictions and the remaining 7% of respondents indicated a different diet.
- Of the activities beneficial for the environment, Czech households most often sorted ordinary waste and carried their own bag when shopping; on the contrary, the least often they bought vegetables and fruits in so-called "endless bags" and reduced driving.

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The special Food 2020 research also included several questions related to the issue of food packaging materials, packaging-free shopping, environmentally friendly behaviour or diet, which are all areas closely related to one another but also in general to food waste.

At the same time, all of the above areas are very closely related to the long-discussed topic of the Earth's climate change.¹ Climate change is caused by the growing concentration of greenhouse gases in the air, which are mainly produced by burning of fossil fuels, harvesting of wood from rainforests, as well as more intensive livestock farming. The higher concentration of greenhouse gases in the air and subsequently in the atmosphere intensify the greenhouse effect, the main consequence of which is global warming (the average global temperature is currently 0.85°C higher than at the end of the 19th century) .² Other manifestations of climate change include the melting of glaciers, damage to the oceans, increased frequencies of extreme events (floods, hurricanes, fires) or the extinction of plants and animals.³ 4

An integral part of solving the issue of the climate change and its negative impacts is undoubtedly the reduction of greenhouse gas emissions, to which people themselves can make a significant contribution through their behaviour (e.g. what they eat;, what, in what packaging, and how they shop; how they travel; what products they use in

<sup>&</sup>lt;sup>1</sup>You can find out what the Czech public thinks about the Earth's climate change in the press release entitled: Attitudes of the Czech Public to the Earth's Climate Change

<sup>-</sup> June 2020. Available from: https://cvvm.soc.cas.cz/media/com\_form2content/documents/c2/a5249/f9/oe200805.pdf

https://ec.europa.eu/clima/change/causes\_cs

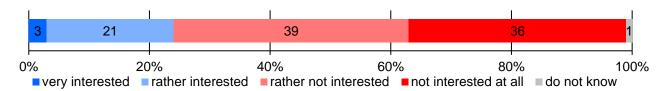
https://www.klimatickazmena.cz/cs/vse-o-klimaticke-zmene/pruvodce-zmenou-klimatu/

<sup>&</sup>lt;sup>4</sup> Hollan. J. 2020. Causes and Impacts of Global Warming and Manifestations of the Climate Change Caused by It. CzechGlobe. Available from: <a href="https://www.veronica.cz/klima/resilience/Hollan\_climate\_resilient.pdf">https://www.veronica.cz/klima/resilience/Hollan\_climate\_resilient.pdf</a>

households, etc.). We focused on this very topic in our special research, the results of which we will present in this press release.

We will first address the issue of the packaging materials in which we buy food. We asked the respondents who at least sometimes buy food whether they were interested in the packaging in which they bought food. As we can see from Chart 1, less than a quarter (24%) of Czech citizens are interested in the issue of packaging in which they buy food, of which 3% were very interested and 21% were rather interested. On the other hand, three quarters (75%) of the respondents said that they were not interested in the issue of packaging in which they buy food (39% were "rather not interested", 36% were "not interested at all"). A statistically insignificant 1% of the respondents answered this question with "do not know".

Chart 1: Interest of the Czech public in the issue of packaging (in %, only those who buy food)



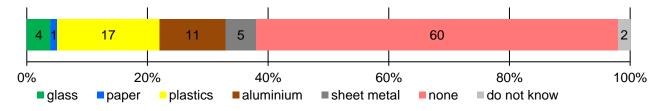
Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 902 respondents over 15 years old, who stated that they at least sometimes purchased food for their household, personal interview.

A detailed analysis has shown that interest in the issue of packaging in which we buy food is increasing with increasing education and improving our household standard of living. The following groups of the respondents were significantly more often interested in this topic: women (30% of women, 18% of men), the respondents who considered food waste to be a major problem, the respondents who were interested in the topic of organic food and who often bought it, as well as people for whom the environmental impact of the production of the food they buy is "definitely important".

Another question we asked was whether the respondents try to avoid certain packaging material.<sup>6</sup> Three-fifths (60%) of the respondents stated that they do not avoid any packaging material. Less than two-fifths (38%) of the respondents mentioned specific material, with plastic being the most often cited (17%), followed by aluminium (11%), sheet metal (5%), glass (4%) and paper being the least often mentioned (1%).

Men, people with elementary education, the respondents with a poor household standard of living, those who are not interested in the topic of organic food and never buy it, as well as the respondents for whom the environmental impact of the production of the food they buy is not important, more frequently stated that there is no packaging material they avoided. On the contrary, plastics were more often avoided by university graduates, the respondents evaluating their household standard of living as good, those who are interested in organic food and often or sometimes buy it, as well as those who sometimes or often buy packaging-free food and people who perceive the importance of the environmental impact of the production of the food they buy.

Chart 2: Avoiding certain packaging material (in %, only those who buy food)



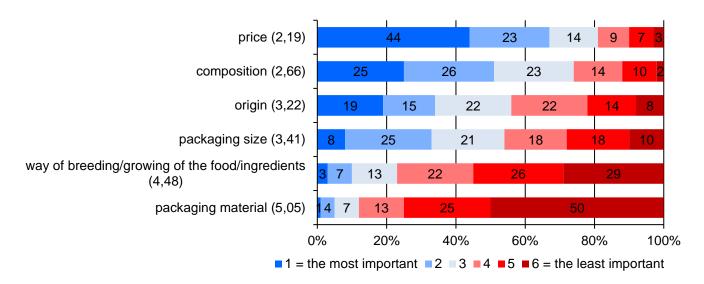
Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 902 respondents over 15 years old, who stated that they at least sometimes purchased food for their household, personal interview.

<sup>&</sup>lt;sup>5</sup> Question wording: "Are you interested in the issue of packaging in which you buy food? You are very interested, you are rather interested, you are rather not interested, you are not interested at all."

<sup>&</sup>lt;sup>6</sup> Question wording: "Do you try to avoid any of these packaging materials? If you try to avoid more materials, we are interested in knowing the one which is most important." Response variants: glass, paper, plastic, aluminium, sheet metal and no you do not avoid any packaging material.

On the contrary, only about one-sixth (16%) of the respondents declared that they bought packaging-free food, of which 12% bought it sometimes and 4% often. The results are shown in the following Chart 3.

Chart 3: Order of importance of various aspects when buying food (in %, only those who buy food)



Note: The items are ranked according to the average rating (in parentheses) from the lowest average value to the highest. The data in the chart represents the distribution of responses excluding the "I do not know" responses which makes up 1% of the entire set.

Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 902 respondents over 15 years old, who stated that they at least sometimes purchased food for their household, personal interview.

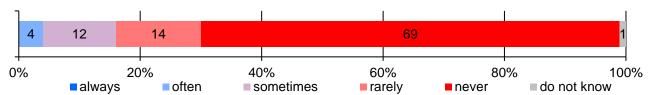
By far the most important aspect when buying food was its price, which was identified as the most important by more than two-fifths (44%) of respondents. A quarter (25%) of the respondents saw the composition of food as the most important when buying food. Other important aspects include the origin and size of the package, for which the average importance value is approximately 3.3 on a scale of 1 to 6, where 1 means the most important and 6 means the least important. The remaining two aspects - the way of breeding/growing of the food and its ingredients and the packaging material - were not attributed much importance by people when shopping. This is especially true for packaging material, which was perceived as "the least important" by half (50%) of the respondents. The results show that economic (price) and qualitative (composition, origin) aspects play a major role for the Czech public when buying food, while they attribute almost no importance to ethical and ecological aspects.

It is also clear from the above results that it was not very important for the Czech public how and in what they bought their food. This is also evidenced by the responses to the question (see Chart 4), whether the respondents **buy packaging-free food**, when the majority of them (69%) stated that they never bought packaging-free food and approximately one-seventh (14%) bought it only rarely. Just about one-sixth (16%) of the respondents bought packaging-free food, of which 12% bought it sometimes and 4% often. The remaining statistically insignificant 1% of the respondents did not provide any specific answer and chose the "I do not know" option. A more detailed analysis has shown that packaging-free food was bought more often by women, by those who were interested in organic and local food and also bought it more often, as well as by people who generally try to be environmentally friendly.

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<sup>&</sup>lt;sup>7</sup> Question wording: "Please rank the following options according to how important they are to you when shopping for food. Please proceed from the most to the least important, where 1 means the most important one and 6 the least important one." Response options:a) origin, b) packaging material, c) price, d) composition, e) size of packaging, f) method of breeding / growing of the food or its ingredients.

Chart 4: Frequency of buying food without packaging (in %, only those who buy food)8



Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 902 respondents over 15 years old, who stated that they at least sometimes purchased food for their household, personal interview.

Respondents who stated that they at least rarely bought packaging-free food were further asked through open-ended questions why and where they bought it. Respondents answered both questions in their own words and had the opportunity to provide two answers. The answers were repeated for both questions, so we created a formula according to which we classified the individual answers. The analysis focused on the "Why do you buy packaging-free food?" question which showed that the main motive for people to buy this food was to reduce the amount of waste, packaging or material (23%) as well as the ecological aspect and protection of the environment and nature (19%). The respondents also stated that they bought packaging-free food because of its quality (10%) and also because they had the option to choose the quantity or size of the food / product (7%). Other reasons were significantly less frequent (see Table 1). Almost a quarter (23%) of the answers could not be categorized because they often did not relate specifically to the reasons and did not answer the question directly. From these "other" answers, we can mention e.g. "I have / carry my own bags / packaging" or "There are no bags in the shop."

Table 1: Reasons for buying packaging-free food (only those who at least rarely buy packaging-free food)

	Frequency	Percentage (%)
saving / elimination of waste, packaging and material	84	23
ecology, environment / nature protection	72	19
food quality	37	10
quantity and selection as required	27	7
plastic (specifically stated by the respondent)	20	5
better price, economical, I do not have to pay for the packaging	15	4
hygiene	9	2
good feeling	4	1
other reason	85	23
do not know	23	6
Total	376	100

Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 376 answers, 274 respondents over 15 years old, who stated that they purchased food and at least rarely purchased packaging-free food for their household, personal interview.

To the question "Where do you buy packaging-free food most often?", The respondents mostly answered that it was in a supermarket or hypermarket (see Table 2). From this answer, it can be concluded that under the packaging-free purchase of food, people imagine mainly the purchase of fruits, vegetables or bakery products, which can be found unpackaged in ordinary shops. Of the specific shops, the respondents most often mentioned Kaufland and Lidl. This conclusion is also confirmed by other responses, where approximately one-seventh of the respondents stated that they most often bought packaging-free food in a specialized shop (15%), another smaller shop (14%) or in a market, marketplace or farmers' market (12%). Only 4% of the respondents declared that they bought packaging-free food in a farmers shop, health food shop or in a packaging-free shop, which are places where people can buy a wide range of packaging-free food and not just fruits, vegetables and bakery products.

<sup>&</sup>lt;sup>8</sup> Question wording: "Do you buy food without packaging (i.e. in your own containers, bags)?" Response variants: always, often, sometimes, rarely, never.

Table 2: The most frequent places for buying packaging-free food (only those who at least rarely buy packaging-free food)

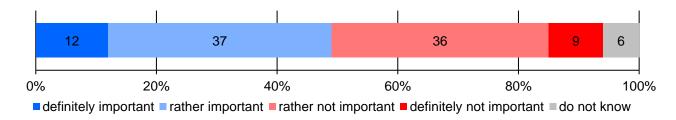
	Frequency	Percentage (%)
hypermarket, supermarket	126	31
specialized shop (e.g. butcher shop, bakery shop)	61	15
other smaller shop (e.g. Hruška, Flop)	55	14
market, marketplace, farmers market	50	12
farmers shop, health food shop	14	4
packaging-free shop	14	4
another place	49	12
do not know	32	8
Total	401	100

Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 401 answers, 274 respondents over 15 years old, who stated that they purchased food and at least rarely purchased packaging-free food for their household, personal interview.

In connection with the reduction of emissions, we encounter the term carbon footprint9, which is the sum of greenhouse gas emissions expressed in CO2 equivalents. This indicator is most often used in connection with products but it can also refer to an individual or an event. 10 We are particularly interested in the carbon footprint of the food. This includes the amount of greenhouse gas emissions that occur during the entire life cycle of the food, i.e. from the production of food / ingredients, through their processing and transport up to emissions from the disposal of their packaging.11

In our research, we were therefore interested in finding out whether the respondents considered the environmental impact of the production of the food they buy as important or unimportant. 12 From the results shown in Chart 5, we can see that almost half (49%) of the respondents stated the same reason, i.e. that the environmental impact of the production of the food they bought was important for them when shopping, of which 12% perceived it as definitely important and 37% as rather important. The opposite opinion, i.e. that the impact of the production of purchased food is not important, was expressed by 45% of respondents, of which 36% perceived it as rather unimportant and 9% as definitely unimportant. The remaining 6% of the respondents were unable to answer and chose the "I don't know" option.

Chart 5: Importance of the impact of food production on the environment (in %, only those who buy food)



Source: CVVM SOÚ AV ČR (Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 902 respondents over 15 years old, who stated that they at least sometimes purchased food for their household, personal interview.

A very simple and measurable way for each person to reduce their own carbon footprint is to choose the food they consume, in other words the way they eat. Meat and dairy products have the largest carbon footprint. For example, 20-60 kg of CO<sub>2</sub> is produced per 1 kg of beef, 5-15 kg of CO<sub>2</sub> for eggs and about 1-5 kg of CO<sub>2</sub> for legumes, vegan meat substitutes or vegetables.<sup>13</sup> This is very clearly demonstrated by the results of a study<sup>14</sup> carried out by Arnika on

<sup>&</sup>lt;sup>9</sup>Sometimes the LCA abbreviation (life cycle assessment) is used.

<sup>10</sup> https://cs.wikipedia.org/wiki/Uhl%C3%ADkov%C3%A1\_stopa

https://udrzitelnyzivot.cz/uhlikova-stopa-potravin-proc-se-o-ni-zajimat/
2 Question wording: "Is the environmental impact of food production important or unimportant for you when buying food?" Response variants: definitely important, rather important, rather unimportant, definitely unimportant.

https://www.greenpeace.org/czech/clanek/4490/co-je-uhlikova-stopa-potravin/
 https://arnika.org/moje-uhlikova-stopa

the inhabitants of Prague. It turns out that people who consume a diet rich in meat and dairy products have a carbon footprint of 2,624.4 kg CO<sub>2</sub>e/person/year. Those who consume an average amount of meat and dairy products have a carbon footprint of 2,055.0 kg of CO<sub>2</sub>e/person/year. For people with a low consumption of meat and dairy products it is 1,704.6 kg CO<sub>2</sub>e/person/year. Those who eat only fish meat it is just 1,427.2 kg CO<sub>2</sub>e/person/year, vegetarians 1,390.7 kg CO<sub>2</sub>e/person/year and the people who follow a vegan diet have the smallest carbon footprint (1,054.9 kg CO<sub>2</sub>e/person/year). The same conclusions resulted from foreign studies<sup>1516</sup>, whose main message was that people should significantly reduce the consumption of animal and dairy products in the future because the transition to a plant-based diet is an effective tool for combating climate change.

The worldwide popularity of vegetarianism and veganism has been growing in recent years. It is not for nothing that 2019 was marked by The Economist magazine as the year of veganism.<sup>17</sup> In August 2018, the IPSOS agency carried out a large worldwide study focused on dietary regimens. The results show that 73% are omnivores, 14% are flexitarians (people who sometimes eat meat or fish), 5% are vegetarians, 3% are vegans and 3% are pescatarians (people who do not eat meat but eat fish). 18 The latest statistics show that in September 2020, there were approximately 78 million vegans in the world.19

Interest in plant alternatives for meat and dairy products is also growing in the Czech Republic, as follows from a CTK survey conducted among traders.<sup>20</sup> However, we do not know the exact number of vegans and vegetarians in the Czech Republic. In our research, we therefore asked the respondents the nutritional direction of their diet.<sup>21</sup> The results showed that the vast majority (93%) of the Czech public ate a normal diet without any restrictions and the remaining 7% of respondents indicated a different diet. In particular, 2% to both vegetarianism and low carb (carbohydrate restriction) diet and 1% to reductarianism / flexitarianism, gluten-free diet and other alternative directions (dia, lactose-free, veganism, paleo diet, macrobiotic diet). This was the first time we asked this question in our research, so we cannot analyse the development. However, we will definitely monitor this indicator in the coming years.

We also asked those respondents who stated that they do not eat a regular diet, why they chose this type of diet.<sup>22</sup> For the respondents who indicated that they eat a low carb or gluten-free diet, the main reason was their own health, while the reasons prevailing in vegetarians and reductarians are ethical and ecological. However, there were also respondents who ate a different diet for religious reasons.

Chart 6: How do Czechs eat? (%)



Source: CVVM SOÚ AV ČR (Public Opinion Research Centre of the Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 979 respondents over 15 years old, personal interview.

<sup>15</sup> Poore, J., & T. Nemecek. (2018). Reducing food's environmental impacts through producers and consumers. Science 360, 987-992. Available from:

https://science.sciencemag.org/content/360/6392/987/tab-pdf

16 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

https://zpravy.aktualne.cz/domaci/veganu-v-cesku-pribyva-daleko-silnejsi-je-ale-trend-reduktar/r~a8ca82ec1d9b11eaa24cac1f6b220ee8/

<sup>&</sup>lt;sup>18</sup> Ipsos. (2018). An exploration into diets around the world. Available from: https://www.ipsos.com/sites/default/files/ct/news/documents/2018-09/an exploration into diets around the world.pdf

<sup>19</sup> https://wtvox.com/lifestyle/2019-the-world-of-vegan-but-how-many-vegans-are-in-the-world/ 20 https://www.ceskenoviny.cz/zpravy/retezce-sleduji-vyssi-zajem-o-vegetarianske-a-veganske-

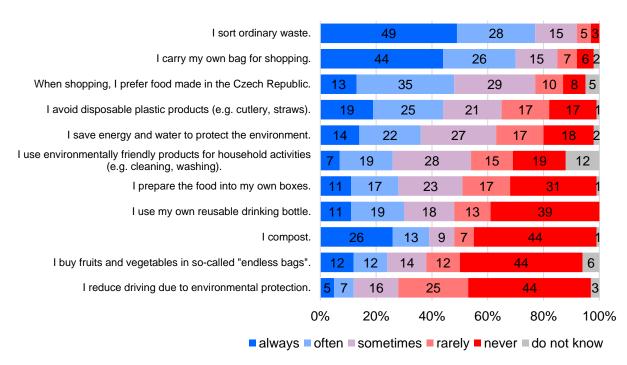
potraviny/1939756?fbclid=lwAR2kNIXQ0iBwYtZR3FTeNJizQTmklbKvFDzG6GiY9\_iqpPKUQsLu4j6qslM

21 Question wording: "Please indicate the main nutritional direction characteristic of your diet." Response options:regular diet (everything without any restrictions), vegetarianism (without meat), veganism (purely plant diet without all animal products), reductarianism (reduction of consumption of animal products), gluten-free diet, paleo diet, low carb (restriction of carbohydrates), macrobiotic diet, raw food (which does not undergo heat treatment above 42 degrees Celsius), other.

22 Question wording: "What is the main reason why you chose this diet?" Response variants: ethical, ecological, health, other.

Within the research, we also focused on specific activities or the behaviour of respondents and their households with respect to the environment (see Chart 7). The absolute majority of Czech households sort ordinary waste (at least sometimes 92%). As far as shopping is concerned, the vast majority of Czech shoppers at least occasionally carried their own bag when shopping (85%) and preferred food made in the Czech Republic (77%) when shopping. The other two activities, which are at least sometimes carried out by about two-thirds of the respondents, relate to environmental protection, namely the avoidance of disposable plastic products (65%) and energy and water saving (63%). More than half of the respondents also stated that they at least sometimes used environmentally friendly products for their household activities (e.g. cleaning, washing) (54%) and that they prepare food into their own boxes (51%). Other environmentally friendly activities include the fact that people at least sometimes used their own reusable drinking bottle and the fact they compost (equally 48%). Almost two-fifths (38%) of the respondents stated that they at least sometimes used the so-called "endless bags" when buying fruits and vegetables. The least often, due to environmental protection, people reduce driving; in particular 28% said they did so at least sometimes. In general, the research showed that all activities are done more often by women and most of these activities are also done by people with a university degree.

Chart 7: Household activities in relation to the environment (%)23



Note: Items are listed in descending order of the sum of the "always", "often", and "sometimes" responses.

Source: CVVM SOÚ AV ČR (Public Opinion Research Centre of the Institute of Sociology of the Czech Academy of Sciences) Food 15th - 31st August 2020; 979 respondents over 15 years old, personal interview.

<sup>&</sup>lt;sup>23</sup> Question wording: "As far as your household is concerned, how often do you do the following activities? a) You carry your own bag when you go shopping., b) You buy fruits and vegetables in so-called "endless bags"., c) You use your own reusable drinking bottle., d) You use environmentally friendly products for household activities (e.g. cleaning, washing)., e) When shopping, you prefer food made in the Czech Republic., f) You prepare food in your own boxes., g) You avoid disposable plastic products (e.g. cutlery, straws)., h) You reduce driving due to environmental protection., i) You save energy and water due to environmental protection., j) You sort ordinary waste., k) You compost. "Response variants: never, rarely, sometimes, often, always.

## **Technical Parameters of the Research**

Research: Food 2020

Implementer: Centrum pro výzkum veřejného mínění, Sociologický ústav AV ČR, v.v.i. (Public Opinion

Research Centre of the Institute of Sociology of the Czech Academy of Sciences)

Project: Strategy AV21 "Food for the Future"

Date of field investigation: 15th August - 31st August 2020

Selection of respondents: Quota sampling

Quotas Region (NUTS 3 areas), size of the place of residence, sex, age, education

Data weighting: Education X NUTS 2, age X NUTS 2, sex X region, size of the area of residence X age,

education X age

Source data for quota sampling

and data weighing: Czech Statistical Office

Representative rate: Population of the CR, 15 years old and older

Number of respondents: 979 Number of interviewers: 161

Data collection method: Personal interview of the interviewer with the respondent - a combination of CAPI and PAPI

interviews

Research tool: Standardized questionnaire

Questions: PL.46, PL.47, PL.48, PL.49, PL.50, PL.51, PL.52, PL.53, PL.55, PL.56

Message code: OR201118

Published on: 18 November 2020 Prepared by: Radka Hanzlová

## **Dictionary of Terms:**

Quota sampling - it mimics the structure of the basic set (in our case it is the population of the Czech Republic older than 15 years) by setting the size of selected parameters, the so-called "quotas". In other words, the quota selection is based on the same percentage of selected properties. We use data from the Czech Statistical Office to create the quotas. Our research sets quotas for gender, age, education, region, and community size. The sample is therefore selected so that the percentage of e.g. men and women in the sample corresponds to the percentage of men and women in each region of the Czech Republic. Similarly, the percentage of the population of individual regions of the Czech Republic, citizens of different age categories, people with different levels of education and from differently sized municipalities is preserved.

A representative sample is such a sample from the whole population, from the characteristics of which it is possible to validly conclude the characteristics of the whole population. In our case, this means that the respondents are selected so that we can generalize the data to the population of the Czech Republic older than 15 years.

Data weighting - a way to increase the representativeness of the file with respect to selected characteristics of the population by assigning a weight to each respondent. The weights are generated using the iterative proportional weighing method and they range from 0.333 to 3.

Public Opinion Research Centre (CVVM) is the research department of the Institute of Sociology of the Czech Academy of Sciences (Sociologický ústav AV ČR, v.v.i.) Its history dates back to 1946, when the Czechoslovak Institute for Public Opinion Research began operating as part of the Ministry of Information. The current centre was established in 2001 by transferring its predecessor (IVVM) from the Czech Statistical Office to the Institute of Sociology of the Czech Academy of Sciences. Incorporation into a scientific institution guarantees quality professional background and workplace credit; as a part of the academic environment, CVVM SOÚ AV ČR (Public Opinion Research Centre of the Institute of Sociology of the Czech Academy of Sciences) must meet all requirements and thus reach the highest professional level. The main task of the department is the "Our Society" research project, within which ten surveys are conducted annually. This is public opinion research on a representative sample of the Czech population from the age of 15, in which it is always participated in by approximately 1,000 respondents. The omnibus form of the questionnaire makes it possible to cover a wide range of topics and therefore political, economic and other general social issues are regularly included in the research. The research uses repeated questions, which makes it possible to monitor the development of the studied phenomena, as well as new topics that respond to current events. Due to its long-term and continuous nature, this scientific project of public opinion research is unique in the Czech Republic.

The activity was supported by the AV21 Strategy of the Academy of Sciences within the "Food for the Future" research program. <a href="http://www.potravinyav21.cz/">http://www.potravinyav21.cz/</a>