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Project:

Awareness – raising campaign to prevent and manage food waste among consumers, the food and hospitality industries.

K. Parpounas Sustainability Consultants

July 2022

2nd PUBLIC OPINION SURVEY REPORT



LIFE19 GIE/CY/001166

FOODprint project is co-funded by the LIFE Programme of the European Union



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Executive Summary

The project FOODprint - “Awareness – raising campaign to prevent and manage food waste among consumers, the food and hospitality industries”, co-funded by the Life Programme of the European Union (LIFE19 GIE/CY/001166) aims to reduce food waste in Cyprus through awareness campaigns, educational activities and the creation of tools to combat food waste. The project’s duration is September 2020 to April 2023.

An integral part of the FOODprint project, is research through public surveys to better understand the habits and perceptions of Cypriot households regarding food and food waste. The responsible partner for the co-ordination of this activity is K. Parpounas Sustainability Consultants Ltd. The research activities in their entirety comprise of three main quantitative surveys conducted at the beginning, middle and end of the project and a series of 12 short online polls conducted throughout the project. The survey and polls are questionnaires designed to understand the habits and perceptions of Cypriot households regarding food and food waste.

The research is conducted throughout the project’s duration so that the changes in habits and perceptions can be showcased and at the same time evaluate the effectiveness of the project’s activities. At the time of writing this report the 1st and 2nd main quantitative research surveys have been completed and the 7 out of a total of 12 quantitative online polls. In the report “Project Baseline Report” (November 2020) the results of the 1st main quantitative research survey and the 1st quantitative online poll were analysed. In this report the results of the 2nd main quantitative research survey (completed in May 2022) and the 2nd to 7th quantitative online polls (completed during the period January 2021 – May 2022) are analysed.

2nd main quantitative research survey

The 2nd main quantitative research survey (referred to as 2nd survey or 2022 survey in this report) was conducted between 11/05/2022 – 13/05/2022 and covered 551 people aged 18 and over, who are either responsible for their household shopping or household food preparation. The methodology used was the Computer Aided Web Interviewing (CAWI) and the sample was selected from a panel of participants in online surveys. The geographical distribution of the sample was proportional to the actual distribution of the population.

The 2nd survey comprised of 16 questions, 8 of which are repetitions from the 1st main survey in order to evaluate whether there are changes in behaviours between the 2020 and 2022 survey. Some questions are also repetitions of previous online poll questions (5 questions out of the 16). The main results of the 2nd survey are described in the following paragraphs.

When buying and consuming food, the most common behaviours of Cypriot consumers are checking the expiration date of food (95% of the participants answered positively), paying attention to how the food is stored (90%) and creating a list before the visit in supermarkets (89%). All three of these habits help reduce food waste.

Most households tend to buy more food than needed. When asked why they buy more than the necessary quantities of food, most answered that they prefer to have stocks in case something happens (43% answered positively), feel safe when there is a lot of food at home (34%), and they want to be prepared for guests at home (33%). Only 26% said they do not buy more than they need. Compared to 2020, in 2022 there has been a small increase in the percentage for most of the reasons



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for buying more food than needed, while the percentage who said they do not buy more than required remains at the same level (27% in 2020 and 26% in 2022).

When on outings or when they have guests at home, the majority (61%) state they order/prepare more food than expected to be needed, in order to ensure they will not run out of food.

Regarding the management of surplus food, it seems that the most common actions of Cypriots are consuming leftovers in the following days, using it for feeding pets and storing in the freezer for future use. Only 9% of households compost leftovers on a regular basis. Compared to 2020, in 2022 all the positive actions regarding food waste management show an increase except the habit of using leftovers for pet food which remains at the same level.

Fruits and vegetables are the food categories most often thrown in the trash. When asked what the three main reasons for throwing away food are, the most popular reasons were that food has passed the expiration date (44%), more food is being prepared than needed in the household (28%), some members of the household do not consume all their food (27%) and more food is bought than needed (27%). 15% said they do not throw away food in the trash.

Regarding the feelings consumers associate with throwing food in the trash, the most common feeling is remorse (59%), then comes waste of money (51%) and then the damage to the environment (33%). 4% state they feel indifferent. References to all three of these negative feelings have increased over the last two years, while the percentage who declares indifference has decreased during the corresponding period from 10% to 4%.

Given that in the average Cypriot household 50% of waste is food waste, participants were asked to estimate the percentage of food waste compared to total waste in the household. 78% of consumers estimate they throw away less than 50%. This confirms there is an underestimation of the magnitude of the food waste problem, since in fact the most recent measurements show that organic waste in Cyprus is between 47-52% by weight of Municipal Solid Waste.¹

When asked whether they consider the reduction of food waste important for the protection of the environment, 8 out of 10 participants consider it very important (41%) or quite important (39%).

Participants were asked to give the two main reasons why they want to reduce food waste. Saving money (48%) and "it is the right thing to do" (46%) were chosen to a greater degree than the concern for the environment (39%). Although there is popular belief that reducing food waste is important for the protection of the environment, this is not the first feeling associated with throwing food in the trash. On a personal level, the most likely feelings are guilt and waste of money and third is the damage to the environment.

Results of the 2022 survey compared to the 2020 survey, show there is a slight improvement in consumer habits regarding the purchase, preservation and consumption of food and the management of surplus food. The results also indicate a change in the views and perceptions of Cypriot consumers because food rejection seems to be more strongly associated with negative feelings compared to two years ago.

However, some negative habits and perceptions persist, such as the need of Cypriots to feel there is ample food in their home and during outings, and at the same time to not properly manage the leftovers. In addition, the problem of food waste is not properly assessed. There is not enough

¹ Estimate from Life - FOODprint's "Project Baseline Report", Section 4.2, November 2020



awareness/knowledge about the environmental cost of food waste nor understanding of the scale of the problem. Consumers believe they are throwing away less than they actually are.

Quantitative online poll results (2nd – 7th polls)

The quantitative online polls were conducted via the DIAS Group websites (Signalive, Sportime.com.cy, I love Style, City.com.cy, Check In, Economy Today, MuCyprusTravel.com), during the period January 2021 to May 2022. The main objective of these online polls was to further investigate issues that cannot be explored in the main surveys due to the limited number of questions and to determine the impact of project interventions over time. An average of 1288 people participated in the polls so far, mainly from Cyprus but also from other countries (Greece, UK and EU). The main results of the 2nd to 7th quantitative online polls are described in the following paragraphs.

As showcased in the survey, similarly in the polls there is an underestimation of the magnitude of the problem of food waste. Four in ten consumers believe their food waste in relation to total household waste is less than the average Cypriot household which is 50%.

When asked why they purchase more than the necessary quantities of food, the most popular answer given was “I do not buy more than the necessary quantities of food”. The next most popular reason the feeling of safety when there are stocks available in the household.

Certain initiatives for the reduction of food waste could be more successful than others, such as buying ugly fruits and vegetables and the creation of platforms for the give-away of unwanted food.

The habit of freezing fruits and vegetables to be consumed later is not widespread. One in two “never” or “rarely” adopt this habit. To reduce food waste more could be done to promote the habit of freezing food for later consumption.

Several knowledge gaps were identified such the optimal freezer temperature, how to best store potatoes and how to preserve mushrooms in the freezer.

Incorrect preservation and limited knowledge about correct food storage methods may lead to unnecessary food waste. Therefore, continuous public information campaigns are necessary to improve awareness on how to better preserve food and prolong its shelf life.

Conclusions

The results described in this report, can be used to inform whether efforts made so far have been successful and how public awareness campaigns can be improved or become more targeted. Overall, the main results of the 2nd survey are similar to the 1st survey, therefore in this report the aim is to collect new information or observe differences between the two research surveys and any new information from polls, that will assist in the improvement of the campaign. The 2nd survey and the 2nd to 7th online polls have provided several new insights and these are:

- 6 out of 10 prefer to prepare more food than needed when having guests at home or order more when out in restaurants so that they don't run out of food.
- Less than half take surplus food with them while out in restaurants. Given the tendency to order more than necessary, the adoption of this habit is essential.
- Gross underestimation of the scale of the food waste problem. 8 out of 10 believe their food waste is less than Cypriot average.
- Certain good habits are more prevalent among older age groups such as the “first comes, first consumed” habit and keeping fruits and vegetables in the freezer for future use.



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- Even though 8 out of 10 Cypriot consumers understand that the reduction of food waste is important for the environment, the most important incentives to reduce food waste are saving money and good moral sense.
- Only 1 in 5 Cypriot consumers have seen awareness campaigns regarding food waste reduction on TV, radio and social media in the past three months.
- Storing food in the freezer is not a popular habit. (Only 1 in 5 people use for storage of fruits and veggies).
- Consumers are willing to purchase ugly fruits and vegetables at discounted prices and to participate in surplus food-give away platforms.
- Even though many Cypriots state that they know how to store food the correct way to prolong its life, there are several knowledge gaps such as the optimal freezer temperature, how to store potatoes and how to freeze mushrooms.



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Introduction

This report is an integral part of the project FOODprint - “Awareness – raising campaign to prevent and manage food waste among consumers, the food and hospitality industries”, co-funded by the Life Programme of the European Union (LIFE19 GIE/CY/001166). It presents and analyses the results of research conducted to understand consumer behaviours and beliefs regarding food waste. As there isn’t much research about food waste and consumer habits in Cyprus, the results of this research are valuable in achieving the aims of the FOODprint project to raise awareness and change habits to reduce food waste.

The research activities in their entirety comprise of three main quantitative surveys conducted at the beginning, middle and end of the project and a series of 12 short online polls conducted throughout the project. The survey and polls are questionnaires designed to understand the habits and perceptions of Cypriot households regarding food and food waste. The responsible partner for coordinating this activity is K. Parpounas Sustainability Consultants Ltd.

At the time of writing this report the 1st and 2nd main quantitative research surveys and 7 out of a total of 12 quantitative online polls have been completed. In the previous report “Project Baseline Report” (November 2020) the results of the 1st main quantitative research survey and the 1st quantitative online poll were presented. In this report the results of the 2nd main quantitative research survey (completed in May 2022) and the 2nd to 7th quantitative online polls (completed during the period January 2021 – May 2022) will be presented. The analysis of this report serves two purposes, to evaluate the effectiveness of the project’s campaigns so far and to give insights for the design of future campaigns until the end of the project.



1. Public Opinion Surveys

Due to the need to understand the extent of the problem of food waste in Cyprus, the factors that contribute to it, the pace at which it is produced and the identification of the places where they occur most often, a number of questionnaires will be conducted throughout the implementation of the Life FOODprint project.

The analysis included in this report is part of a series of questionnaires designed to understand opinions and behaviours regarding food waste. Research with the use of questionnaires is conducted in two ways throughout the project: A) 3 main quantitative research surveys and B) 12 quantitative online polls.

During the implementation of the project, three main surveys are to be carried out at the beginning, middle and end of the project. Each survey serves the respective objectives: a) 1st survey to determine the baseline of the project (completed in October 2020); (b) 2nd survey to determine the effectiveness of the project activities during the first months of the communication campaign (completed in May 2022); and (c) 3rd survey to measure the results of the project based on the initial data and information collected (to be conducted towards the end of the project).

The 1st main quantitative survey was conducted at the beginning of the project in October 2020 and the results were presented and analysed in the FOODprint's "Project Baseline Report" in November 2020. The 2nd main quantitative research survey was completed in May 2022, the results of which are presented in this report.

In parallel to the main surveys that will be performed in three waves, during the duration of the project, 12 online polls will also be conducted on a quarterly basis. The purpose of the online polls is to further investigate issues that cannot be investigated in the main surveys due to the limitation of the number of questions and to give additional insights about the potential lack of knowledge in parameters that are related to food waste. For this purpose, the questions for the first 7 surveys have been structured to achieve this. Polls 8 to 12 will be designed in such a way to evaluate the impacts of the project's interventions over time. The online polls are carried out through the websites of the DIAS Group (Sigmalive, Sportime.com.cy, I love style, City.com.cy, Check In, Economy today, MyCyprusTravel.com) and the sample comprises of people living in Cyprus but also from abroad (Greece, UK and EU). So far 7 online polls have been completed in the period November 2020 to May 2022 with a sample average of 1288 respondents. The results of the 1st online poll were presented in the "Project Baseline Report", while the results of the 2nd to 7th online polls will be presented in this report.

Section 1.1 provides the analysis of the results of the 2nd main quantitative research survey and Section 1.2 the analysis of the results of the 2nd to 7th online polls.



1.1 Results of 2nd main quantitative research (May 2022)

The 2nd main quantitative research survey, referred to as 2nd survey or 2022 survey in this report was conducted between 11/05/2022 – 13/05/2022 and covered 551 people aged 18 and over, who are either responsible for their household shopping or household food preparation (see Annex A for the detailed questionnaire). The sample was focused to ensure that the feedback comes from people with good knowledge of food management in their household. The methodology used was the Computer Aided Web Interviewing (CAWI) and the sample was selected from a panel of participants in online surveys. The geographical distribution of the sample was proportional to the actual distribution of the population. Details of the sample are showed in Table 1.

		No.	%
Age	18-24	57	10%
	25-34	104	19%
	35-44	108	20%
	45-54	103	19%
	55-64	85	15%
	65+	94	17%
Gender	Male	265	48%
	Female	286	52%
Social Class	A-B	30	5%
	Γ1	172	31%
	Γ2	235	43%
	Δ-E	114	21%
Education	Up to Secondary	159	29%
	Tertiary (degree)	265	48%
	Tertiary (master)	127	23%
Province	Nicosia	218	40%
	Limassol	160	29%
	Larnaca	81	15%
	Famagusta	36	7%
	Paphos	56	10%
Area	Urban	413	75%
	Rural	138	25%
	Total	551	100%

Table 1: Sample details

The aim of the 2nd survey is to understand whether there have been any changes in consumers' habits and perceptions related to food waste and to determine the impact of the project's activities so far. As a result, 8 out of the 16 questions were repeated from the 1st survey to measure possible changes in consumers' attitudes and behaviours. Of the remaining 8 questions 5 were questions that had previously been asked in online polls and the research team believed they are useful to be added in this survey. Only 3 questions are new. Throughout the analysis of the results, it is specified for each question whether it was used in the 1st survey or online polls previously. The results are compared to the 1st survey or to the online polls accordingly.



General habits of buying & preparing food

Question 1: Here are some habits when buying and consuming food. Which of these do you do in your household?

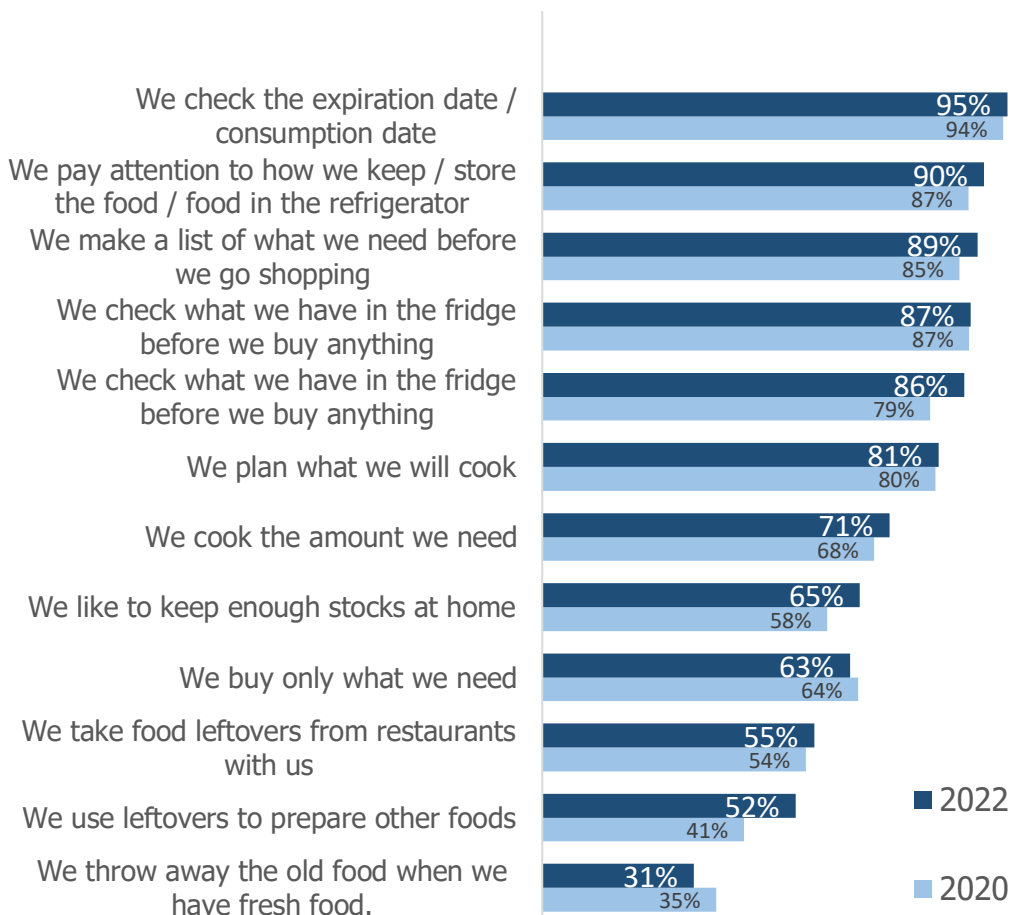


Figure 1: Food purchase & consumption habits

The most common behaviour of consumers, regarding the purchase and consumption of food, is the checking of expiration dates, which is done by almost all consumers (95%). Behaviours that are also common, reported by more than 8 out of 10 households are attention to proper food preservation (90%), shopping list preparation (89%), checking products in the refrigerator before purchasing new ones (86%), consuming food leftovers in the following days (86%) and planning ahead what to cook (81%). Less common behaviours are the take-away of leftover food from restaurant outings (55%), the use of leftovers for the preparation of other foods (52%) and throwing away the old food when fresh food is bought (31%).

63% of consumers responded that they only buy what needed and 65% responded they like to keep stocks at home. Of these responses, 33% state both simultaneously. We see two habits which under normal circumstances would cancel each other out. This is very likely to show a perception shared by a large portion of the population that keeping food stocks at home is essential and buying stocks is not considered a purchase that is not required.



In comparison to the 2020 survey for most of the positive actions regarding food purchase and consumption there is a marginal increase in the percentage results. One of the negative actions shows a small increase too. That is keeping stocks at home (65% in 2022 vs 58% in 2020).

Question 2: For which reasons do you purchase more than the necessary quantity of food?

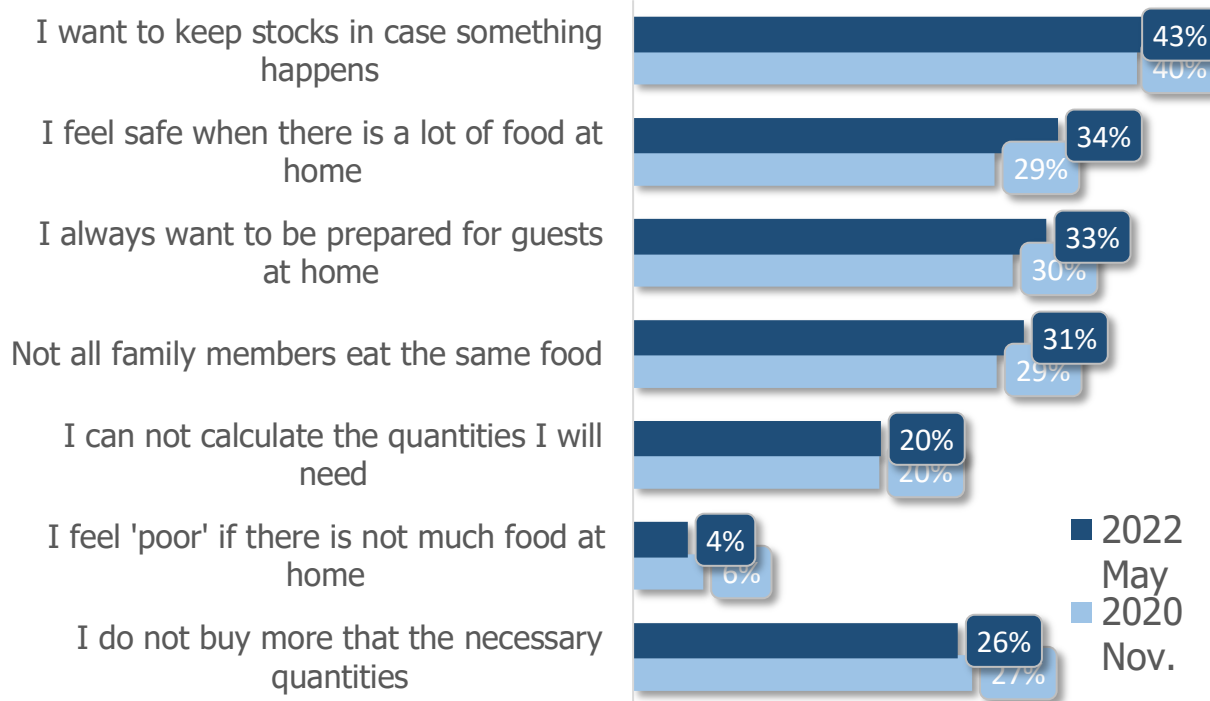


Figure 2: Reasons to buy more food than needed

It seems that most households buy more food than necessary. In this case the percentage of consumers who do not buy more food than necessary remains quite low (26%) and does not show a change from the previous survey (27% in 2020). On the contrary, there is a marginal increase in the purchase of more than the necessary food due to the desire to keep stocks in case of emergency (43%), the feeling of security when there is a lot of food at home (34%), the probability of unexpected visitors (33%) and the particular preferences of household members (31%).

For the answer “I do not buy more that the necessary quantity” we observe that the highest percentages are found in lower economic classes, less educated consumers, in households without kids, in households with fewer members and in apartments instead of houses.

Compared to the 2020 survey, the most common reasons for buying more food than needed show a small increase, while the percentage who responded they do not buy more than required remains at the same level (27% in 2020 and 26% in 2022). Household habits probably indicate cultural perceptions that there is a need for more food at home and at the table than is needed. Consumer views are also likely to be influenced by current events. Given that the survey was conducted in May 2022, the increase in the percentages compared to 2020 for reasons such as "stocks in case something happens" and "a sense of security when there is a lot of food" may have been affected by the Ukraine - Russia war which poses risks for food shortages and uncertainty about the future. There is also a possibility that these percentages were higher than normal in the previous survey (October 2020) due to the change in people’s routines with the COVID-19 pandemic and the fear of lack of products on supermarket shelves.



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Question 3: In terms of managing the food you have in your household, how often do you apply the 'First Comes, First Consumed' practice? That is, I consume first what I buy first. You would say that this happens in your household...

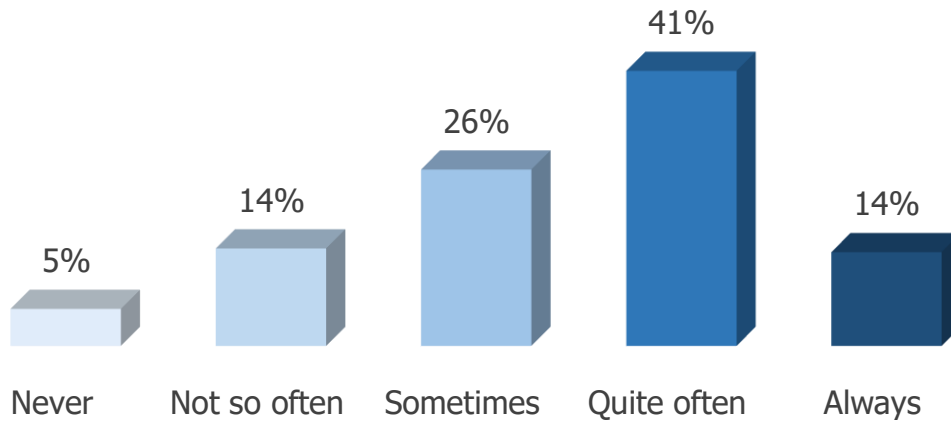


Figure 3: 'First comes, first consumed' habit frequency

The practice 'First comes, first consumed' is applied "always" by 14% of the consumers and "quite often" by 41%. About half of the households (45%) apply it sometimes, occasionally, or never. This habit is also associated with the proper storage of products in the refrigerator and cabinets. In Question 1, 95% of the participants stated that they check the expiration/consumption dates and 90% pay attention to how they store food in the refrigerator. Given these percentages, one would expect the percentage for the habit "First comes, First consumed" to be higher.

The demographics of this question show that this habit is mostly applied by higher age groups, middle and lower economic classes and households with two or more persons.

This question was not used in the previous survey or polls.

Question 4: How often do you keep fruits and vegetables in the freezer to keep them from spoiling?

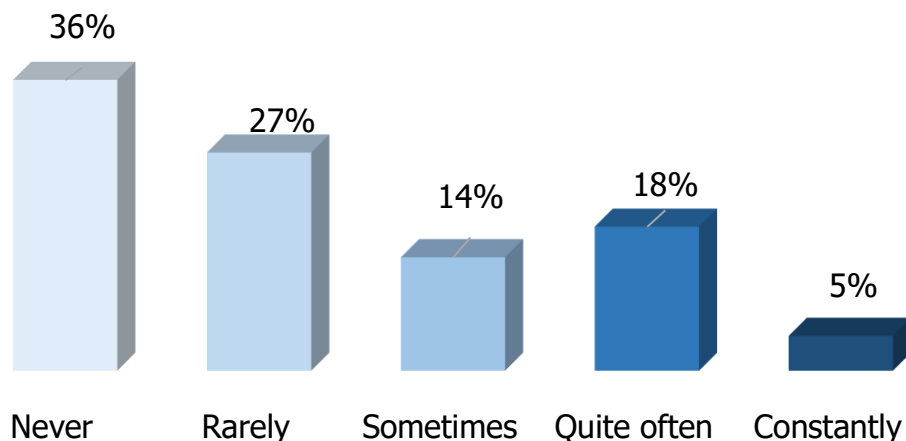


Figure 4: Freezing fruits and vegetables



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The results show that about one fifth (23%) of households systematically store fruits and vegetables in the freezer for preservation. On the contrary, more than a third (36%) never adopt this habit, while 41% do it sometimes or rarely. The habit of freezing food is more common among the elderly (age group 65 and above) and in lower economic classes.

This question was previously used in the 5th online poll conducted in November 2021 (See Section 1.2, 5th online poll, Question 1). Results are more positive for this sample as 37% of the respondents stated they store food in the freezer ‘constantly’ and ‘quite often’ in comparison to 23% in the 2022 survey.

Question 5: Which of the two statements best suits your behaviour when you have guests at home for dinner or when you go out to a restaurant?

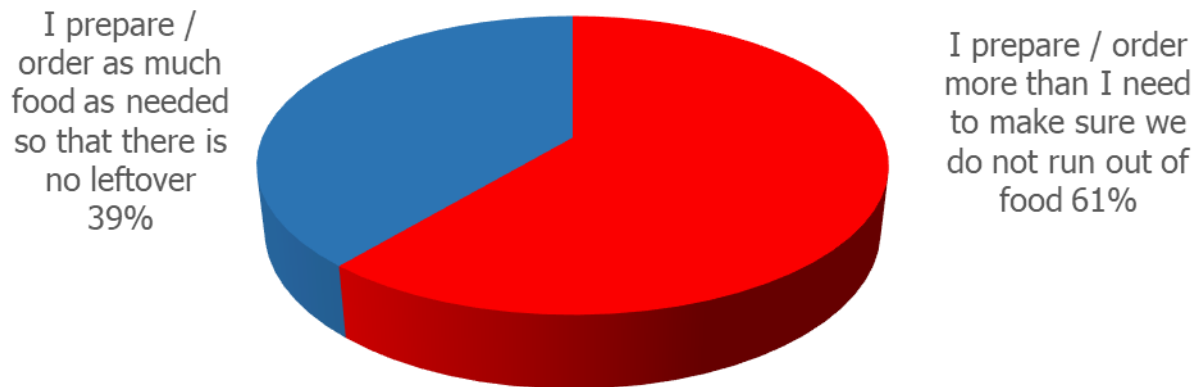


Figure 5: Preparation/ordering of food

The majority of consumers (61%) state that they order/prepare more food than needed, to ensure they will not run out of food. The demographics for this question show that the habit of preparing/ordering more food than necessary is more prevalent among middle age groups (25-54 years of age), middle economic classes and consumers with a higher educational level.

This question was not used previously in the 1st survey or polls.



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Surplus management

Question 6: How often do you do the following in relation with leftover food:

Results of the following question are presented in Figures 6-13.

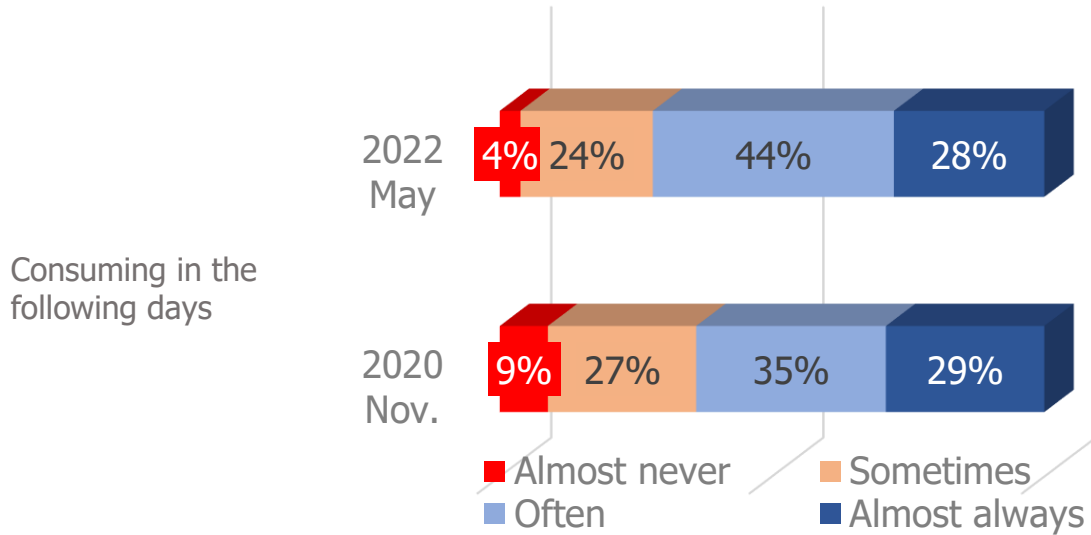


Figure 6: Consumption in the following days

The percentage of households that “almost always” or “often” consume food in the following days amounts to 72% and shows an increase compared to the 2020 survey (64%).

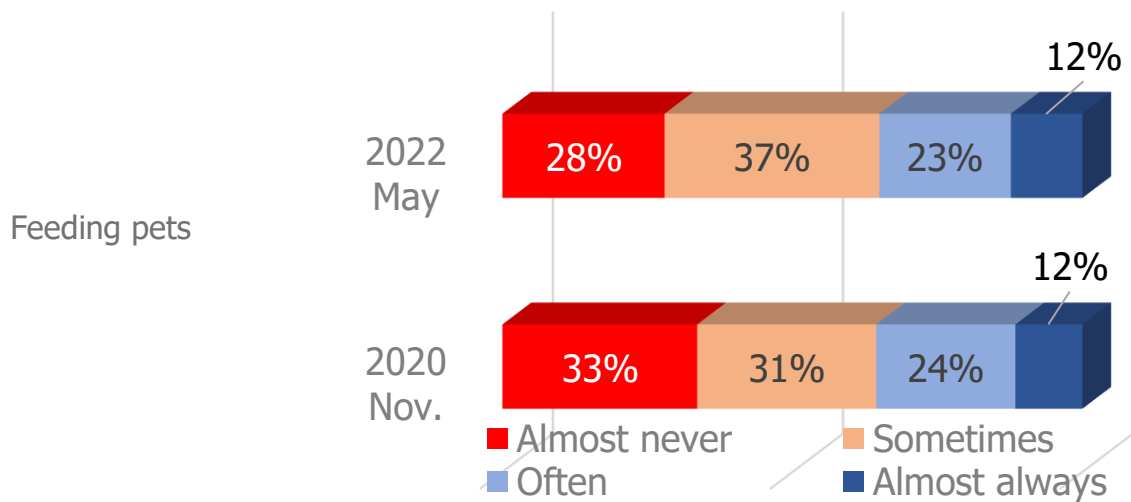


Figure 7: Food for pets

The percentage of households that “almost always” or “often” give the leftover food to pets is 35% and is at the same levels as in the previous survey in 2020 (36%).



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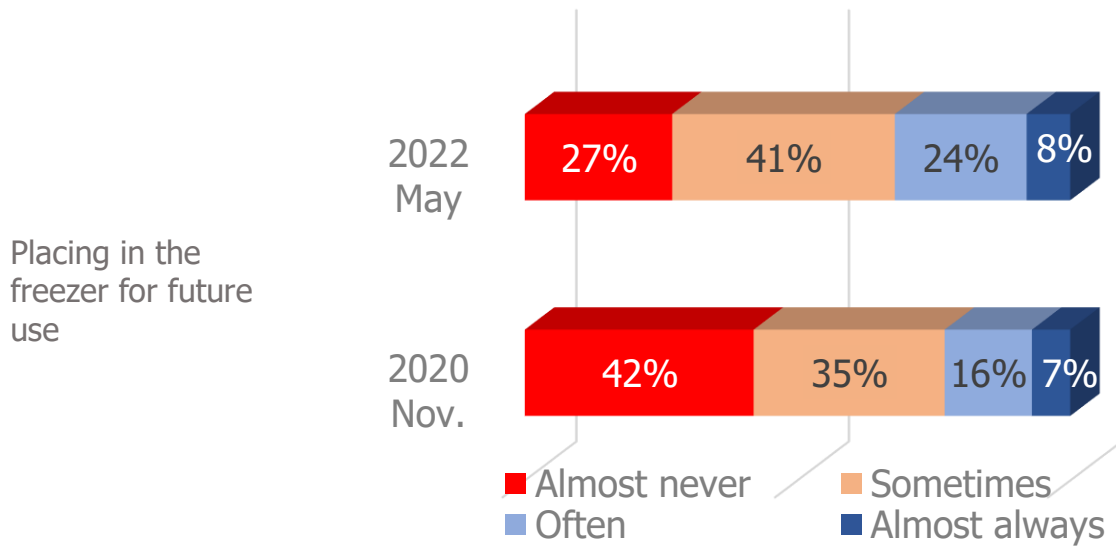


Figure 8: In the freezer for future use

About one third of households (32%) keep leftovers in the freezer “often” or “almost always”, for future consumption. The results of the 2022 survey show an increase compared to 2 years ago (23% in 2020).

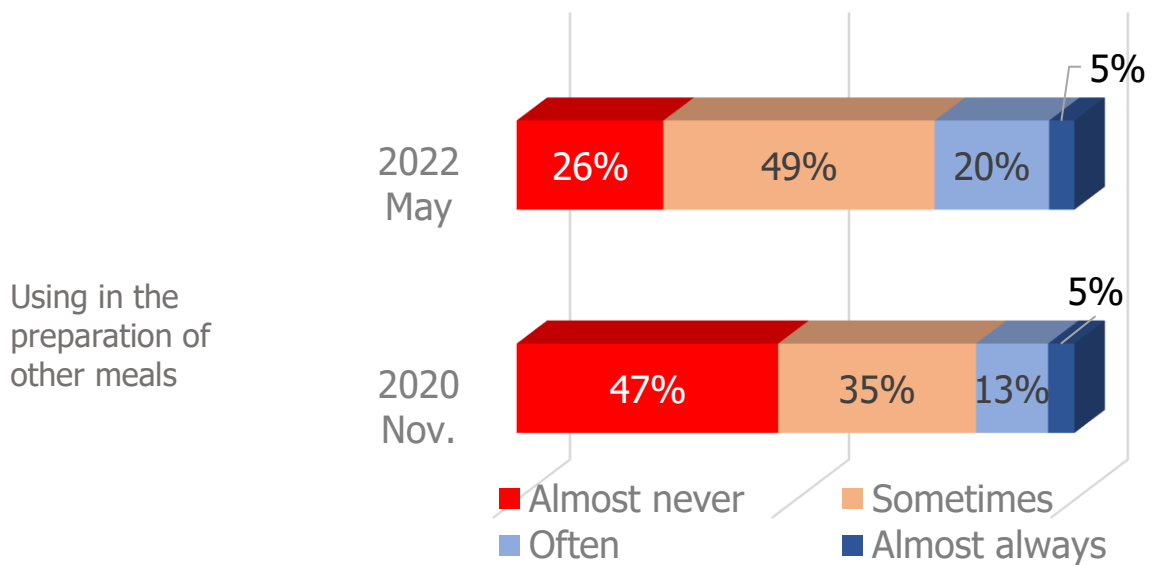


Figure 9: Preparation of other meals

25% of households use “often” or “almost always”, excess food for the preparation of other meals. The equivalent percentage in 2020 was 18% therefore there has been an improvement with regards to this behaviour.



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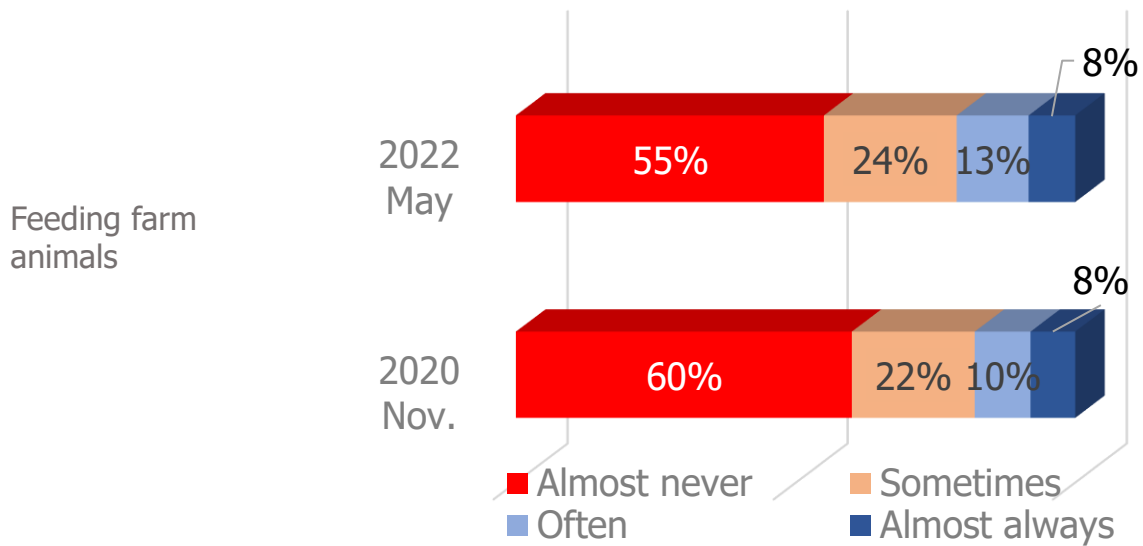


Figure 10: Food for farm animals

Excess food used “often” or “almost always” for farm animals amounts to 21%. As expected, this habit is more prevalent in rural areas rather than urban areas. The equivalent percentage in 2020 was 18%.

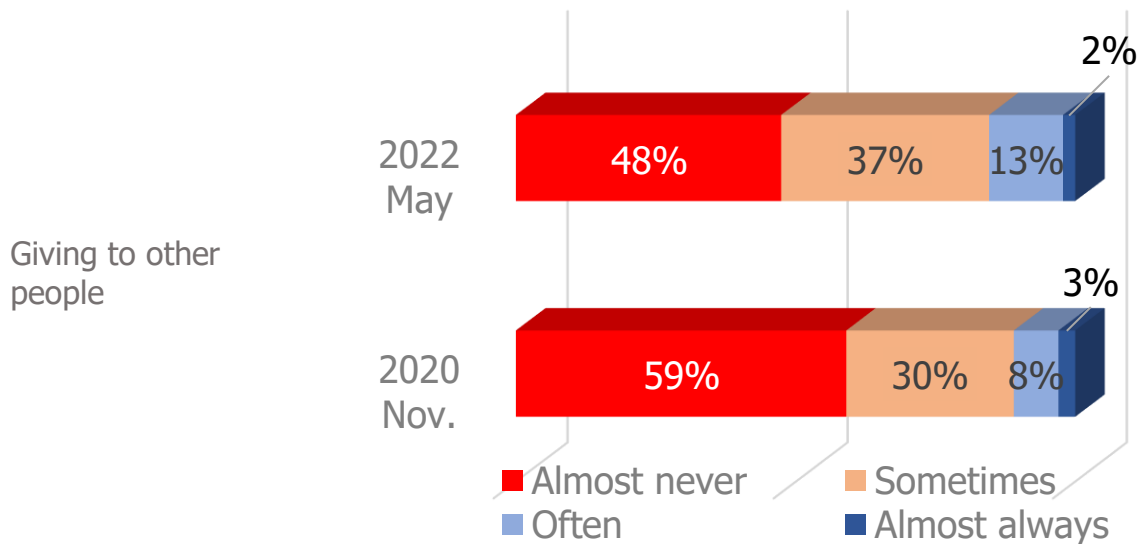


Figure 11: Giving to other people

One in seven households (15%) gives “often” or “almost always”, left-over food to other people. This habit is more common among the younger age groups and in higher economic classes. The equivalent percentage in the 2020 survey was lower (11%) showing an increase in the frequency of this habit over this two-year period.



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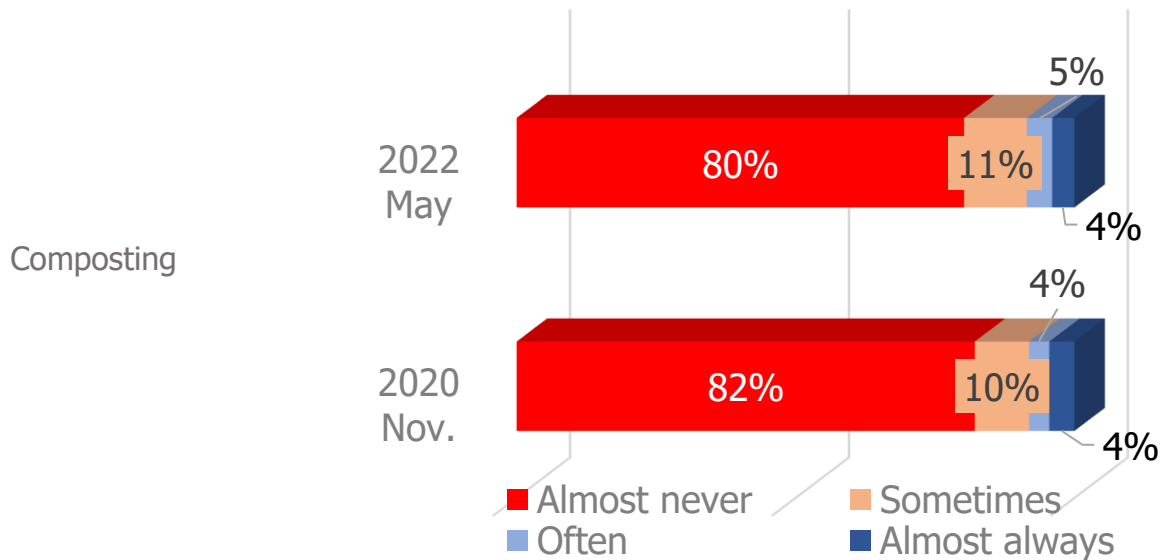


Figure 12: Composting

The results show that composting is not popular among the Cypriot population. Only 9% of households compost food waste on a regular basis. The equivalent percentage in the 2020 survey is at the same level (8%).

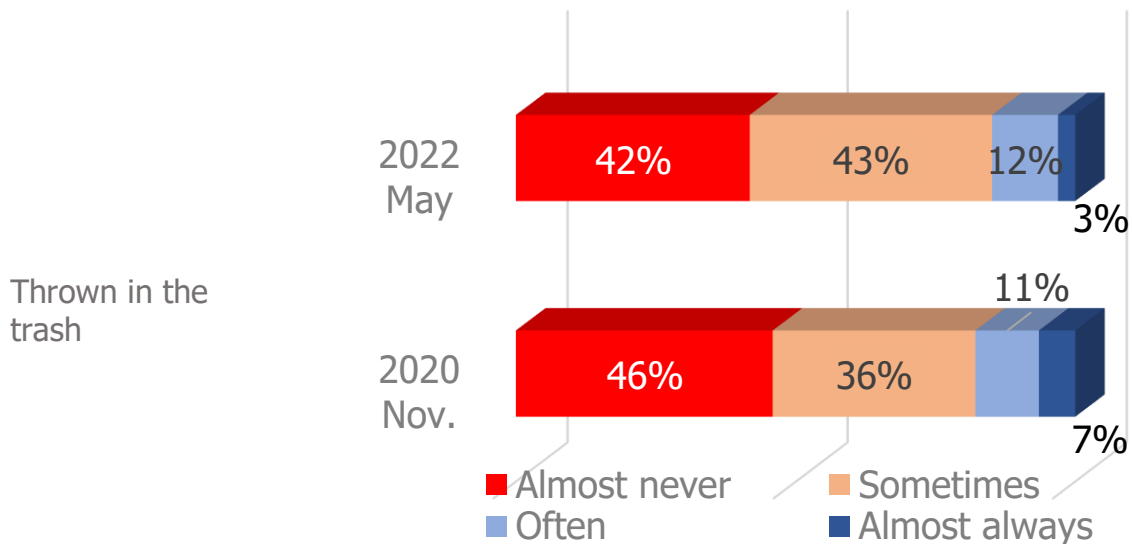


Figure 13: Thrown in the trash

The percentage of food that that is “often” or “almost always” thrown in the trash amounts to 15% and shows a small decrease compared to the 2020 survey (17%). This habit is more prevalent among middle-aged and higher economic classes according to 2022 results.

All the responses for the above survey question show either an increase in the frequency of good habits regarding the management of food leftovers or no change in the frequency of the habit. Therefore, the results seem to indicate an overall improvement in the adoption of good food waste management habits.



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Question 7: While you are out in restaurants and cafes, how often do you take surplus food with you at home?

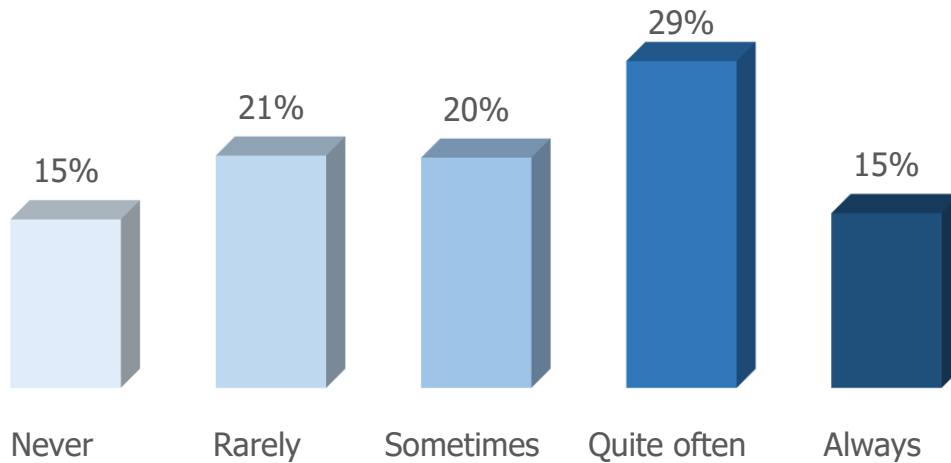


Figure7: Take away of food leftovers

Regarding the management of food surpluses during outings, 44% of consumers take away surplus food with them for future consumption “quite often” and “always”. The majority (56%) do not seem to apply this practice on a regular basis.

The same question was repeated in the first online poll during the period 05/11/20-10/11/20. The results for the sample comprising only of Cypriot residents showed that 49% take away surplus food, “always” and “quite often”. The results for this sample were more encouraging compared to the 2022 survey, but we don’t have more information about the sample in this case other than that they are Cypriot residents. The results of this poll were presented in the “Final Baseline Report” (November 2020).



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Food waste

Question 8: Can you indicate how often you throw in the trash each of the following food categories?

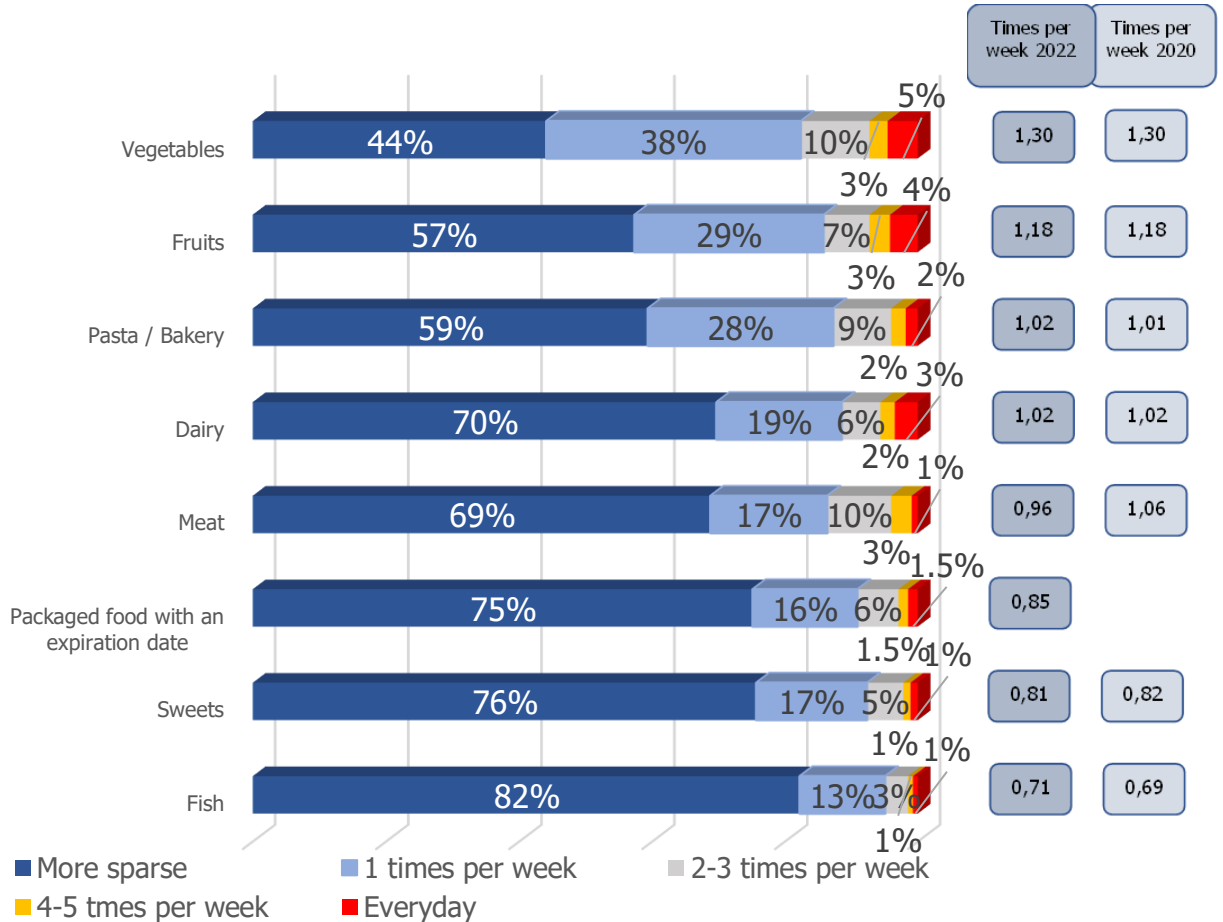


Figure 8: Frequency of Food Waste Generation by Category

Vegetables and fruits are the types of food most often thrown in the trash. Specifically, 56% of consumers throw vegetables at least once a week, while the corresponding percentage for fruits is 43%. For the remaining categories the percentage of consumers who throw away this type of food at least once per week are the following: 41% pasta / bakery items, 31% meat, 30% dairy, 25% packaged food with an expiration date, 24% sweets and 18% fish. Comparing to the 2020 survey, only the meat category has recorded a decrease in the frequency thrown away in the trash (0.96 times per week in 2022 and 1.06 times per week in 2020).



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Question 9: What are the most common reasons that cause food, fruits and vegetables to spoil in your home?

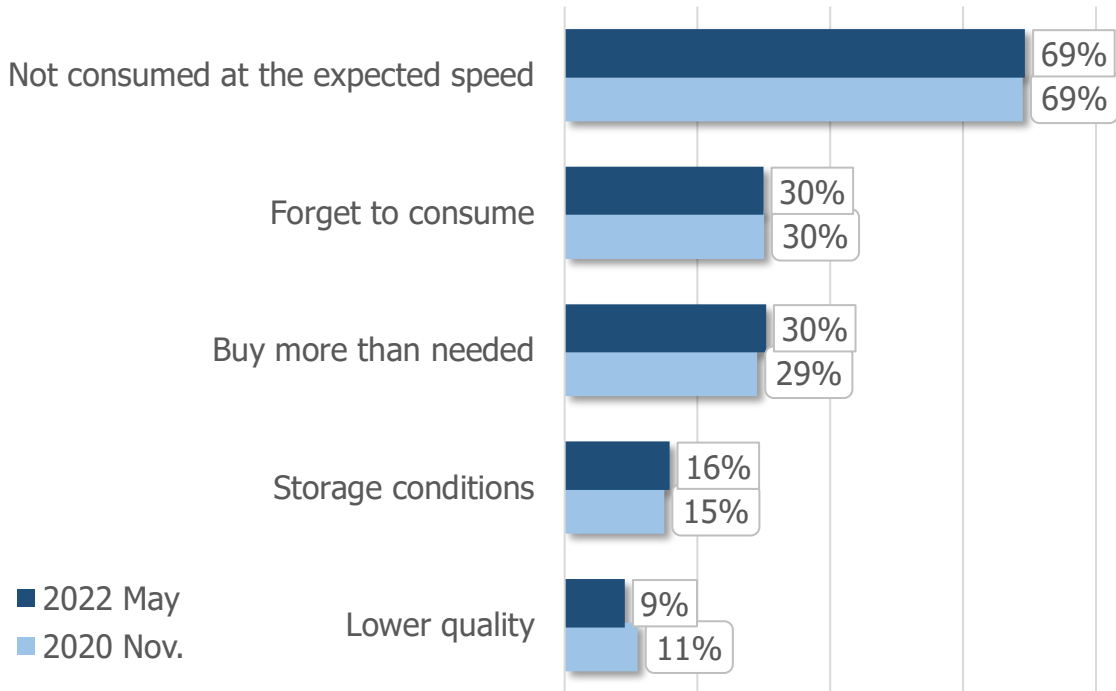


Figure 14: Food waste generation reasons

With a large difference, the main reason that food spoils and is thrown in the trash is not consuming it at the expected speed (69%). To a lesser extent, 30% of consumers state that they forget to consume food (30%) and buy more than needed (30%). Reasons given for food spoilage such as storage conditions (16%) and food quality (9%) are not as common. There does not seem to be any difference in the results between the 2020 and 2022 surveys.

Question 10: In a typical / regular week, if all the foods, fruits and vegetables that you bought correspond to 10 units, how many of them did you throw in the trash?

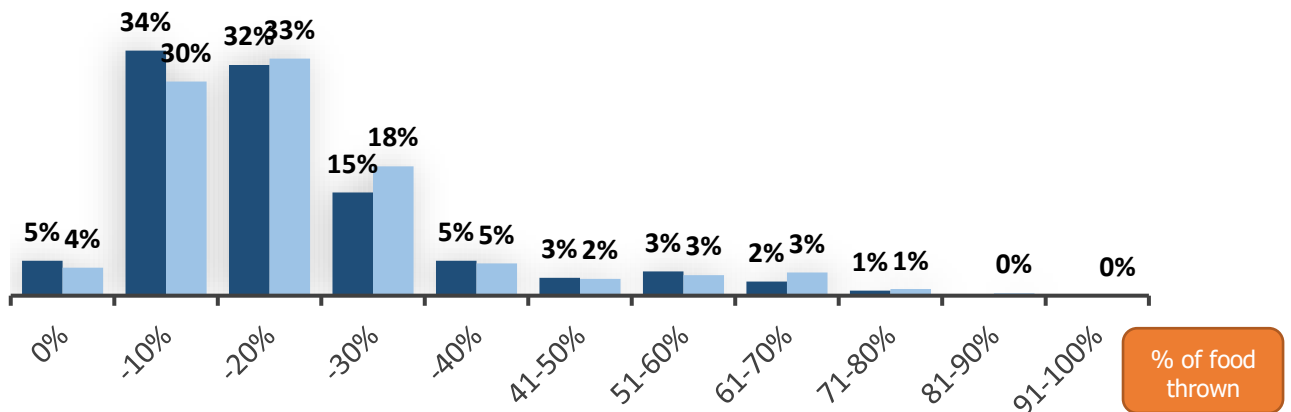


Figure 15: Quantity of food thrown in the trash



Only 5% of households state that they do not throw away food, fruits or vegetables. 81% of households throw 10% - 30% of the food they purchase in a week, while 14% throw more than 30% of the items they buy in a week. On average 22% of food, fruits and vegetables bought are thrown in the trash every week. This percentage is higher among people aged 45 or less. Compared to 2020, there is no significant change in the average percentage of food, fruits and vegetables thrown in the trash (23%).

Question 11: From the following, what are the top 3 reasons you throw food, fruits and vegetables in the trash in your household?

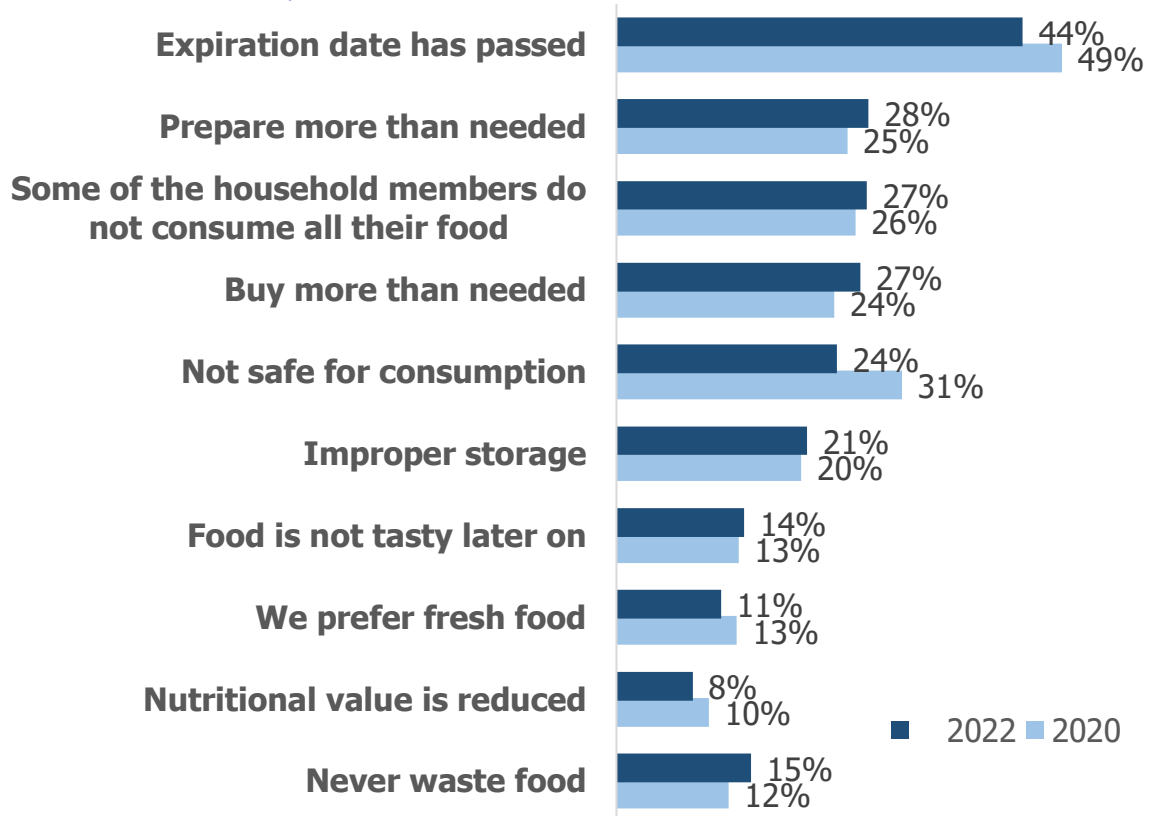


Figure 16: Reasons to throw food away

When participants were asked to state the main reasons for throwing away food, 15% spontaneously responded that they never waste food. This percentage shows a marginal increase compared to 2020 (12%). The main reasons for throwing away food, fruits and vegetables remain the same between the 2020 and 2022 surveys. First on the list is the food past expiration date (44%) followed by the preparation of more food than needed (28%), some household members not consuming all their food (27%), the fact that they buy more than the necessary quantities (27%) and that the excess food is spoiled and unsafe for consumption (24%).

Other reasons for throwing away food are the incorrect storage and therefore spoilage of leftover food (21%), the food not being tasty when consumed later on (14%), the preference for fresh food (11%) and loss in nutritional value (8%).

Compared to 2020 the main reasons for throwing away food are the same and the results did not show much difference except for the reason that "food that is left over and stored, spoils and is not suitable for consumption" (24% in 2022 to 31% in 2020). This may be due to better food storage, which



as shown in Question 6, households tend to store leftover food in the freezer more often in 2022 (32%) than in 2020 (23%).

Attitudes and views

Question 12: How do you feel when you throw food in the trash? (Answer all that apply to you)

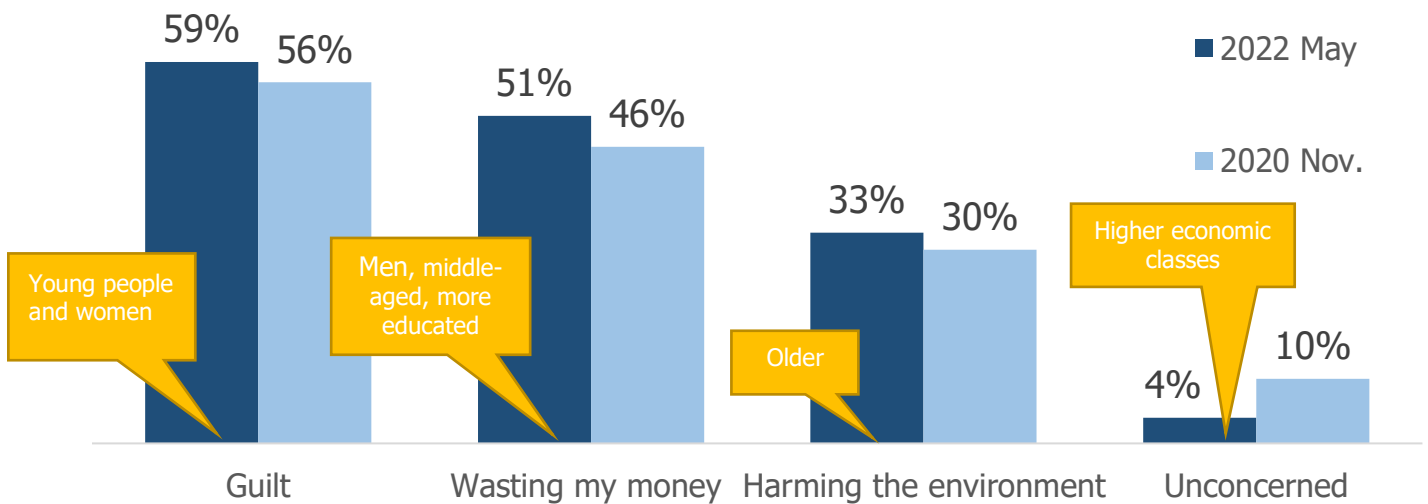


Figure 17: Feelings when wasting food

As in 2020, the main feelings that consumers have when throwing away food are the feelings of guilt (59%), money wastage (51%) and harming the environment (33%).

References to all three of these negative feelings have increased over the last two years, while the percentage who declare indifferent has decreased during the corresponding period from 10 to 4%. The results indicate an improvement in food wastage awareness but still the percentage of consumers who feel they are harming the environment is the third in line with a low percentage of 33% while food wastage is an important contributor to total greenhouse gas emissions. As reported by the intergovernmental Panel on Climate Change (IPCC) it is estimated that global food losses are estimated to contribute to 8%-10% of total greenhouse gas emissions caused by humans (2010-16 estimate)².

The demographic analysis for this question indicates that consumers who feel guilty belong in younger age groups and are mostly women. The consumers who feel they are wasting money mostly belong in middle economic classes, are men, and better educated. The consumers who feel they cause harm to the environment are mostly elderly and the consumers who stated they are indifferent were more affluent.

² IPCC, 2019: Summary for Policymakers. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press. Available online at: <https://www.ipcc.ch/srcl/chapter/summary-for-policymakers/>



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Question 13: In the average Cypriot household, 50% of waste is food waste. In your household food waste is...?

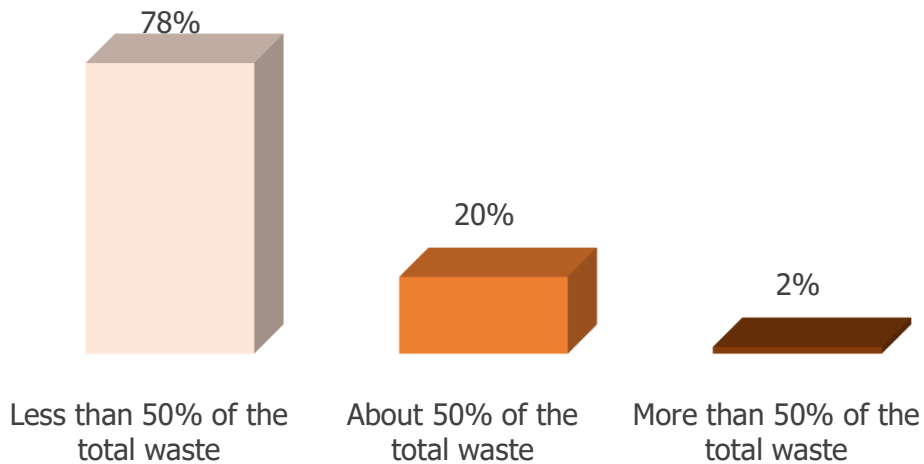


Figure 18: Estimation of the percentage of food waste in the household

Even though respondents are informed that in the average Cypriot household 50%³ of the waste is food waste, the majority of households (78%) state that in their own case food waste is less than 50% of the total waste. Only 20% believe that their food waste is about equal to the national average and only 2% state it is above the average. The notion that food waste accounts for less than 50% of waste is more prevalent among older people and those with a lower level of education. Overall, it seems that Cypriot consumers underestimate the amount of food wasted in their households.

The same question was repeated in the 2nd online poll during the period 13/01/21-18/01/21 (See Section 1.2, 2nd Online poll, Question 2). The percentage of consumers who underestimated their household waste in this case was 42.7% and those who stated that it is more or less equal to 50% were 50.5%.

³ Estimate from Life - FOODprint's "Project Baseline Report", Section 4.2, November 2020



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Question 14: Compared to other actions you can take, how important do you consider the reduction of food waste to protect the environment?

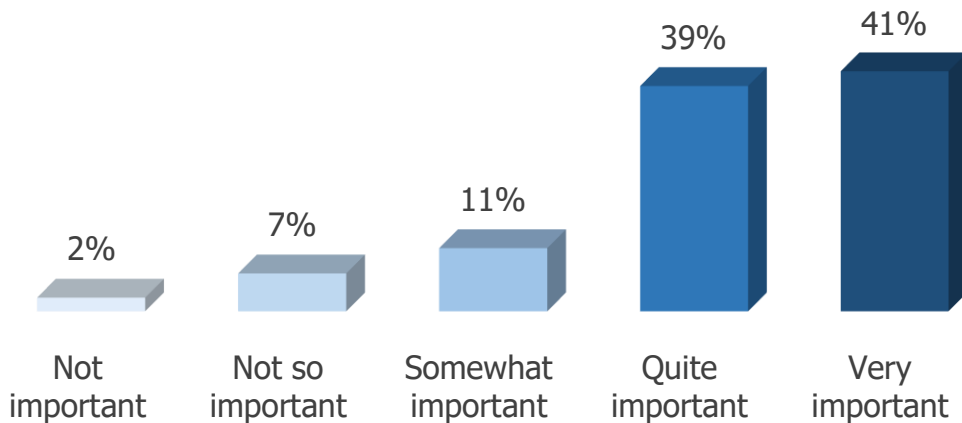


Figure 19: Importance of reducing food waste for environmental protection

Eight out of ten survey participants believe that reducing food waste to protect the environment is either very important (41%) or quite important (39%). Consumers that give higher importance to environmental protection through the reduction of food waste belong in older age groups, are in low and middle economic classes and in larger households.

Although there seems to be a belief that reducing food waste is “quite” or “very important” for the protection of the environment, this is not the main feeling that consumers feel when throwing food in the trash. As we saw in Question 12 on a personal level, the main feelings are guilt and waste of money and third is the damage to the environment. This is also evident in Question 15 where consumers were asked to prioritise the incentives to reduce food waste. Saving money (48%) and that this is the right thing to do (46%) are more important reasons than concern for the environment (39%).

Question 14 was repeated in the 2nd online poll during the period 13/01/21-18/01/21 (See Section 1.2, 2nd Online poll, Question 3). The results showed that five out of ten believe that reducing food waste for the protection of the environment is very important while one in four believe it is quite important. The percentage of respondents who believe that reducing food waste to protect the environment is very important is higher in the poll results (52.7%) than in the 2022 survey (41%).



Question 15: Which two, if any, of the following reasons are the most important reasons for you to reduce food waste?

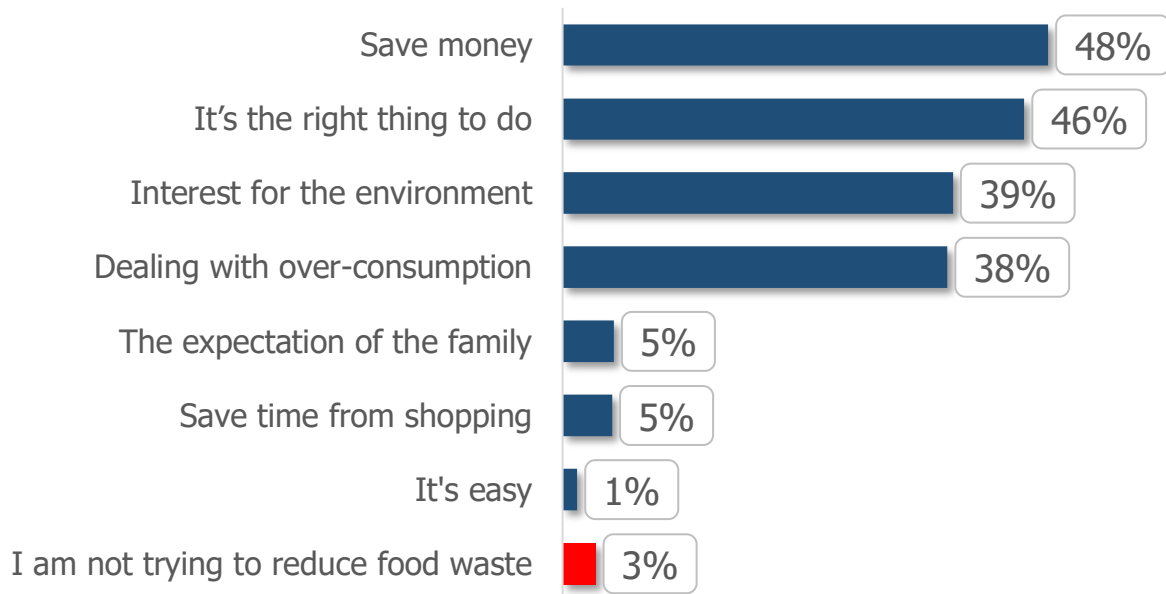


Figure 20: Incentives to reduce food waste

The results show that the most important reasons to reduce food waste are to save money (48%) and because this is the right thing to do (46%). The consumers who believe that reduction of food waste will save money are mostly men, of higher educational level and live in larger households. The consumers who believe reducing food waste is the right thing to do are mostly men, in older age groups, and at lower educational level.

Following the top two reasons, are the interest for the environment (39%) and tackling overconsumption (38%), reported by four out of ten participants in the survey. On the positive side is the fact that only 3% spontaneously state they do not make any efforts to reduce food waste. Most of the consumers who responded they are not trying to reduce food waste belong in younger age groups.

This question was repeated in the 3rd online poll during the period 07/05/21-13/05/21 (See Section 1.2, 3rd Online poll, Question 2). The results were different in this case. The most important reasons were dealing with over-consumption (23.8%), it is the right thing to do (23.1%) and third was the interest for the environment (22.4%). Saving money (15%) was fourth in line of incentives to reduce food waste, in contrast to the 2022 survey where this was the most important incentive (48%). The interest for the environment came third in both cases, the 2022 survey and the online poll.



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Revocation of information

Question 16: Have you seen or heard campaigns or information about the reduction of food waste during the last three months? (On TV, radio or in other media)

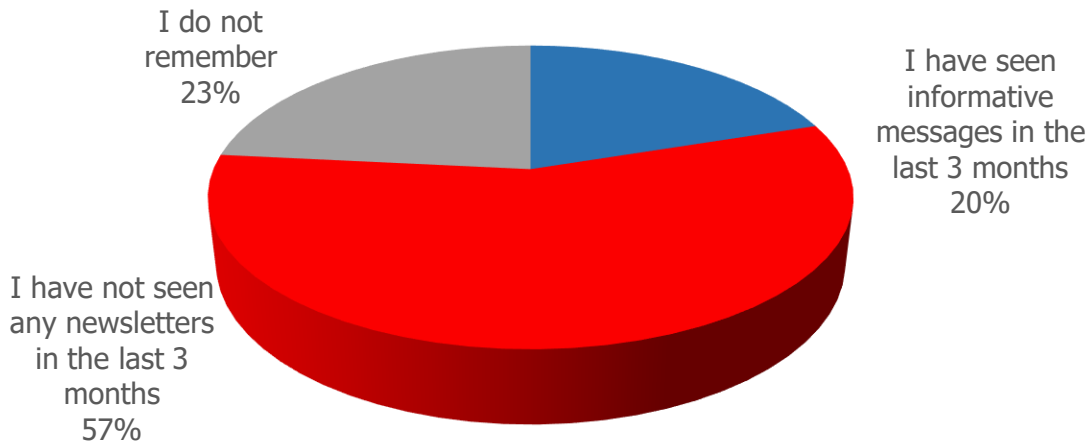


Figure 21: Revocation of information

Consumers were asked to recall if they had seen or heard on television, radio or other media, information campaigns about the reduction of food waste during the last 3 months. Only 20% of the consumers recall information messages about the reduction of food waste in the last 3 months. 23% are not sure if they have seen or heard such campaigns, while the percentage who state they have not seen or heard anything is 57%. Recall of communication messages for the reduction of food waste is higher among older age groups and one-member households.



Summarised 2nd quantitative survey results

The results of the 2nd quantitative survey completed in May 2022 indicate some improvement in the adoption of habits to reduce food waste and better awareness of solutions for the reduction of food waste, but the main conclusions are similar to the 1st survey. Below is a summary of the results.

- When buying and consuming food, the most common behaviours of Cypriot consumers are checking the expiration date (95% of the participants answered positively), paying attention to how the food is stored (90%) and creating a list before the visit to supermarkets (89%). All three of these habits help reduce food waste. The least common behaviours are the use of leftovers to prepare other food (52%) and the rejection of old food when fresh is bought (31%).

63% state they only buy what is needed and 65% state they like to keep stocks at home. Of these, 33% state both at the same time. We see 2 habits which under normal circumstances should cancel each other out, however this indicates there may exist a perception that keeping stocks at home is necessary.

Compared to 2020, there is not much difference in the habits of buying and consuming food. For most positive actions, there is a marginal increase in the percentage of households that perform them in 2022 compared to 2020.

- Most households tend to buy more food than needed. When asked why they buy more than the necessary quantities of food, most answered that they prefer to have stocks in case something happens (43% answered positively), feel safe when there is a lot of food at home (34%) and they want to be prepared for guests at home (33%). Only 26% said they do not buy more than they need.

Compared to 2020, in 2022 there has been a small increase in the percentage for most of the reasons for buying more food than needed, while the percentage who said they do not buy more than required remains at the same level (27% in 2020 and 26% in 2022). The results in this case probably showcase certain cultural habits and perceptions of Cypriots such as the need to have ample food at home and on the table. In addition, consumer views are also likely to be influenced by current events. As the survey was conducted in May 2022, the percentage increase compared to 2020 for reasons such as "stocks in case something happens" and "a sense of security when there is a lot of food" may have been affected by the Ukraine - Russia war which poses risks of food shortages and uncertainty about the future. There is also a possibility that during the previous survey (October 2020) these percentages were higher than normal due to the Covid-19 pandemic and the fear for lack of products on supermarket shelves.

- When asked if they apply the "First comes, first consumed" practice with food in the household, 55% stated they do it "always" or "quite often". This habit is also associated with the proper storage of products in the fridge and cupboards. In a previous question, 95% of the participants stated that they check the expiration/consumption dates and 90% that they pay attention to how they store food in the refrigerator. Given these percentages one would expect the percentage for the habit "First comes, First consumed" to be higher.
- When asked how often they store fruits and vegetables in the freezer only 23% answered they do it "always" or "quite often".



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- When on outings or when they have guests at home, the majority (61%) state they order/prepare more food than expected to be needed, in order to ensure they will not run out of food. This answer is consistent with previous results of the question “why do you buy more food than needed?” where 43% answered they want to keep stocks at home and 33% want to be prepared for guests at home.
- Regarding the management of surplus food, it seems that the most common actions of Cypriots are consuming leftovers in the following days, using it for feeding pets and storing in the freezer for future use. Consumers were also asked about the frequency with which they implement these actions. Eating leftovers in the following days is the most frequent habit (72% do it “quite often” or “always”) while composting seems to be the least frequent habit as only 9% of households say they compost leftovers on a regular basis. 15% report that excess food ends up in the trash “quite often” or “always”.

Compared to 2020, all the positive actions regarding food waste management show an increase except the habit of using surplus food for feeding pets, which remains at the same level. Compared to 2020 the largest percentage increase in the frequency of habits regarding leftovers is seen for the habits of storing food in the freezer for future use, the preparation of other foods and offering it to other people.

- When there is leftover food during outings in restaurants, only 15% “always” take it with them and only 29% “quite often”. Comparing to question 12 (feelings associated with throwing away food), while 96% of consumers feel negative emotions (guilt, waste of money, harming the environment) when throwing food in the trash, only 44% take surplus food from restaurants with them on a regular basis.
- Fruits and vegetables are the food categories most often thrown in the trash. 56% of consumers throw vegetables at least once a week, while the corresponding percentage for fruits is 43%. Compared to 2020, all types of food are at similar levels in the frequency of throwing in the trash except for the category of meat where a decrease in frequency is recorded.
- With regards to the reasons why food, fruits and vegetables are being spoiled the majority (69%) claim that food is not consumed at the expected speed. Compared to 2020 the results are almost identical.
- When consumers were asked to calculate the amount of food, they throw away compared to what they buy, most consumers (81%) answered that every week 10% - 30% of their food purchases are thrown in the trash. Compared to 2020, this percentage remains the same (81%). Only 5% of households say they do not throw away food, fruits or vegetables and this percentage also remains at the same level as in 2020 (4%).
- When asked what the three main reasons for throwing away food are, the most popular reasons were that food has passed the expiration date (44%), more food is being prepared than needed in the household (28%), some members of the household do not consume all their food (27%) and more food is bought than needed (27%). 15% said they do not throw away food in the trash.



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Compared to 2020 the main reasons for throwing away food are the same and the results did not show much difference except for the reason "food that is left over and stored, spoils and is not suitable for consumption" (24% in 2022 to 31% in 2020). This may be due to better food storage habits, which as shown in question 4 of the 2022 survey, households that tend to store leftover food in the freezer is higher in 2022 (32%) than in 2020 (23%).

- Regarding the feelings consumers associate with throwing food in the trash, the most common feeling is guilt (59%), then comes the waste of money (51%) and then the damage to the environment (33%). 4% state they feel indifferent. References to all three of these negative feelings have increased over the last two years, while the percentage who declares indifference has decreased during the corresponding period from 10% to 4%. There seems to be a positive change in consumers' perceptions as more people associate throwing food with negative feelings. At the same time the feeling that environmental damage is being caused by food waste remains third, as in 2020.
- Given that in the average Cypriot household 50% of waste is food waste, participants were asked to estimate the percentage of food waste compared to total waste in the household. 78% of consumers estimated that they reject less than 50%. This confirms there is an underestimation of the magnitude of the food waste problem, since in fact the most recent measurements show that organic waste in Cyprus is between 47-52% by weight of Municipal Solid Waste⁴.
- When asked how important the reduction of food waste is for the protection of the environment, results showed that 8 out of 10 participants consider it very important (41%) or quite important (39%).
- In the following question (question 15) participants were asked to give the two main reasons why they want to reduce food waste. Saving money (48%) and "it is the right thing to do" (46%) were chosen to a greater degree than the concern for the environment (39%). Although there seems to be a perception that reducing food waste is important in protecting the environment (question 14), this is not the main feeling when throwing food in the trash. As we saw in question 12, on a personal level, the main feelings are guilt and waste of money and third is the damage to the environment.
- Lastly, participants were asked to recall if they had seen, heard on television, radio or other media, information campaigns about the reduction of food waste during the last 3 months. Only 20% of the consumers recall information messages about the reduction of food waste in the last 3 months while 23% do not remember.

The results of the 2022 survey compared to the 2020 survey, show there is a slight improvement in consumer habits regarding the purchase, preservation and consumption of food and the management of surplus food. The results also indicate a change in the views and perceptions of Cypriot consumers because food rejection seems to be more strongly associated with negative feelings compared to two years ago.

However, some negative habits and perceptions persist, such as the need of Cypriots to feel there is more than enough food in their home and during outings, and at the same time to not properly

⁴ Estimate from Life - FOODprint's "Project Baseline Report", Section 4.2, November 2020



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manage the leftovers. In addition, the problem of food waste is not properly assessed. There is not enough awareness/knowledge about the environmental cost of food waste nor understanding of the magnitude of the problem. Consumers believe they throw away less than they actually are.



1.2 Quantitative Online Polls via the Dias Media Group websites

This section presents the results of the 2nd to 7th online polls (included in Annex B) conducted via the DIAS Group websites (Signalive, Sportime.com.cy, I love Style, City.com.cy, Check In, Economy Today, MuCyprusTravel.com), during the period January 2021 to May 2022. The main objective of these online polls is to further investigate issues that cannot be explored in the main surveys due to the limited number of questions. An average of 1288 people participated in the polls so far, mainly from Cyprus but also from other countries (Greece, UK and EU).

Up until May 2022, 7 out of the 12 online polls have been completed. The remaining 5 online polls will be conducted between June 2022 until the end of the project to evaluate the impact and success of the communication campaigns developed by the project team. The 5 new polls will be a repetition of previous questions used either in the 1st and 2nd survey or online polls 1-7.

Following are the results of the 2nd to 7th online polls.

2nd online poll

The 2nd online poll was conducted in January 2021 (13/01/2021 - 18/01/2021) and concerned habits and beliefs about food waste.

Question 1: What type of food is mostly discarded in your household?

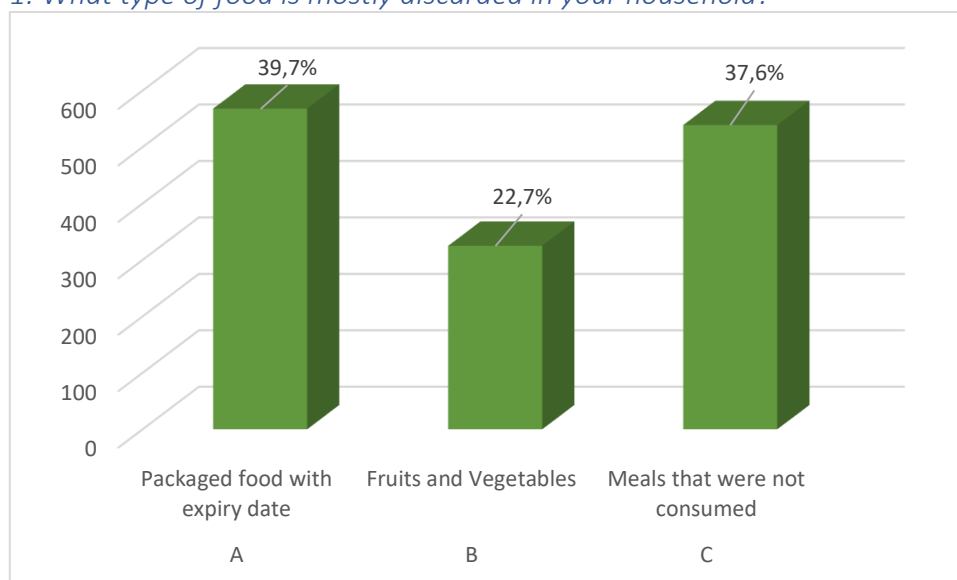


Figure 22: Types of food mostly discarded

Sample size: 1,432 respondents

Out of the three categories the type of food that is thrown away most, is packaged products with expiry dates (39.7%), then the meals that have not been consumed (37.6%) and lastly fruits and vegetables (22.7%). There is a contrast here with Question 8 of the 2nd survey (See Section 1.1, Question 8) even through the survey question gives more food category options to choose from. The results for the survey indicated that the type of food most often thrown away is fruits and vegetables whereas in the case of the online poll it is the type of food thrown the least often out of the three categories.



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Question 2: In the average Cypriot household, 50% of waste is food waste. In your household food waste is...

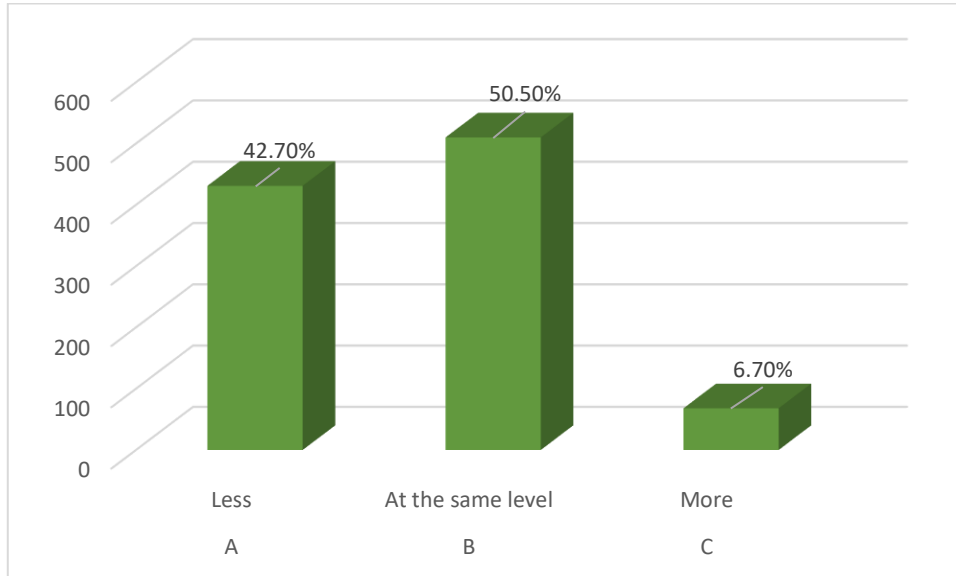


Figure 23: Cypriot household food waste estimation

Sample size: 1,009 respondents

Half of the respondents (50,5%) estimate that their household produces equal amount of food waste compared to the average Cypriot household and only 6,7% consider that they produce more. A quite high percentage (42.7%) believe that they produce less food waste than the average Cypriot household. This question was also included in the 2nd survey (Question 13, Section 1.1).

Question 3: Compared to other actions you can take, how important do you consider the reduction of food waste to protect the environment?

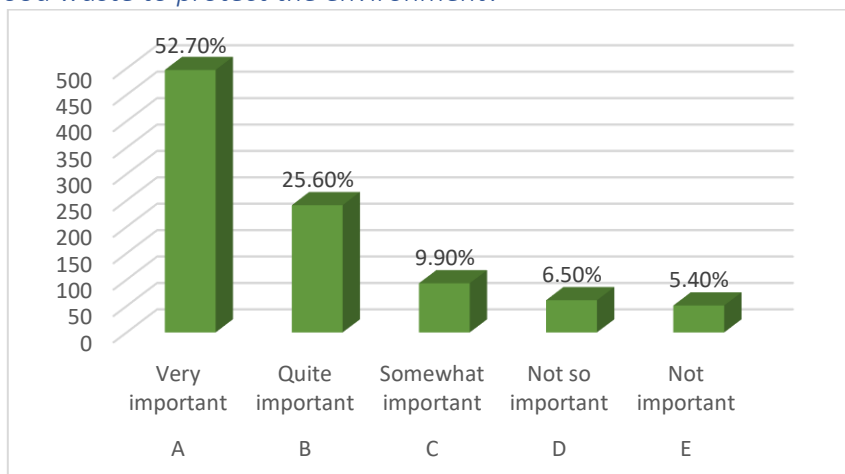


Figure 24: Importance of the reduction in food waste for environmental protection

Sample size: 943 respondents

More than half of the respondents consider the reduction of food waste “very important” (52,7%) while only 5,4% consider it “not important”. This question was repeated in the 2nd survey (Section 1.1, Question 14). The results are similar in both cases and consumers seem to strongly associate the reduction of food waste with the protection of the environment. However as seen from previous



questions such as Question 15 of the 2nd survey (Section 1.1, Question 15), when asked to prioritise the reasons why they would reduce their food waste the environmental impact is not the most important reason and comes third after the “saving money” and “it is the right thing to do” reasons.

3rd online poll

The 3rd online poll was conducted in May 2021 (07/05/2021 – 13/05/2021) and concerned the perceptions/beliefs of people regarding food purchases and food waste.

Question 1: Which of the following feelings do you associate purchasing food with?

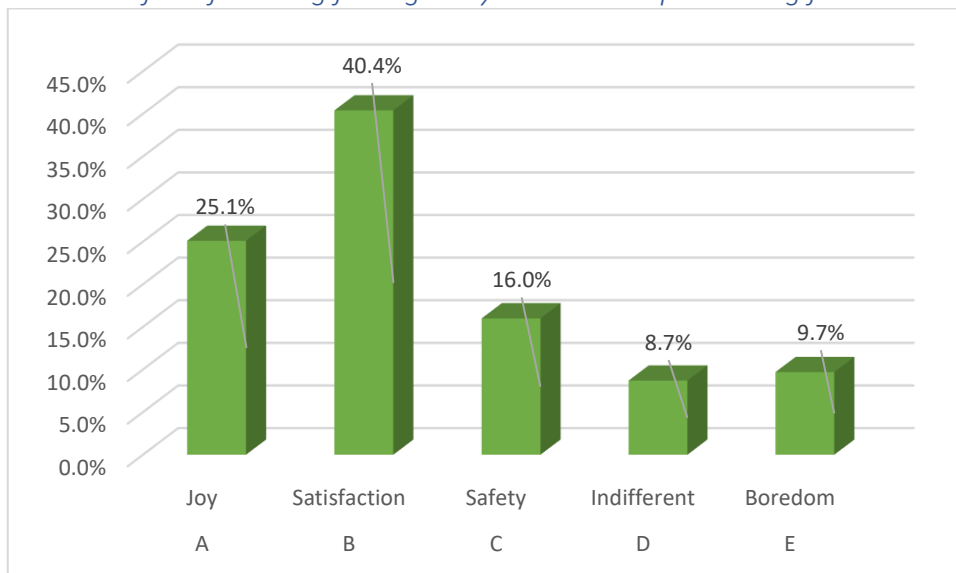


Figure 25: Feelings associated with the purchase of food

Sample size: 1,395 respondents

40.4% of the respondents stated that they associate food purchases with the feeling of satisfaction, 25.1% with the feeling of joy, 16% with the feeling of safety.



Question 2: Which two, if any, of the following reasons are the most important reasons why you are trying to reduce food waste?

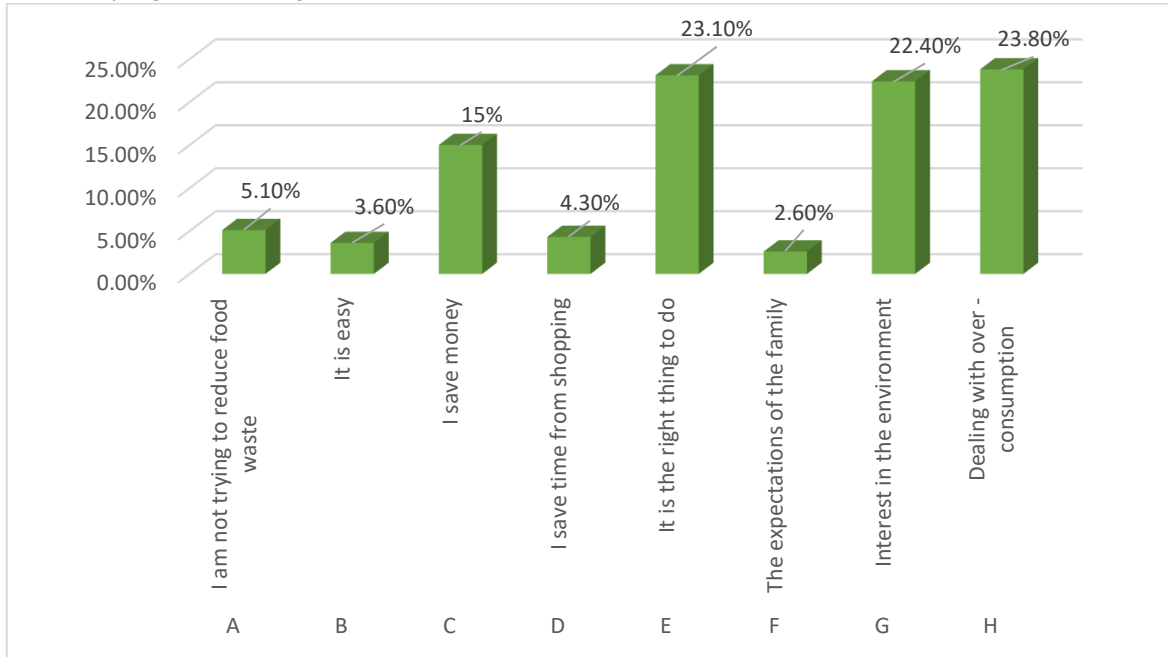


Figure 26: Prioritisation of reasons to reduce food waste

Sample size: 1,821 answers

The main reasons why consumers try to reduce food waste are to deal with overconsumption (23.8%), because it is the right thing to do (23.1%) and because they are interested in the environment (22.4%). The most insignificant reasons are family expectations (2.6%), convenience (3.6%) and saving time (4.3%). 5.1% of the respondents stated that they are not trying to reduce their food waste. This question was repeated in the 2nd survey (Section 1.1, Question 15) where the most important reason was saving money (48%) and not dealing with overconsumption.



Question 3: In your household, why do you buy more than the necessary quantities of food?
(Select all that apply – answer 7 cannot be selected along with other answers)

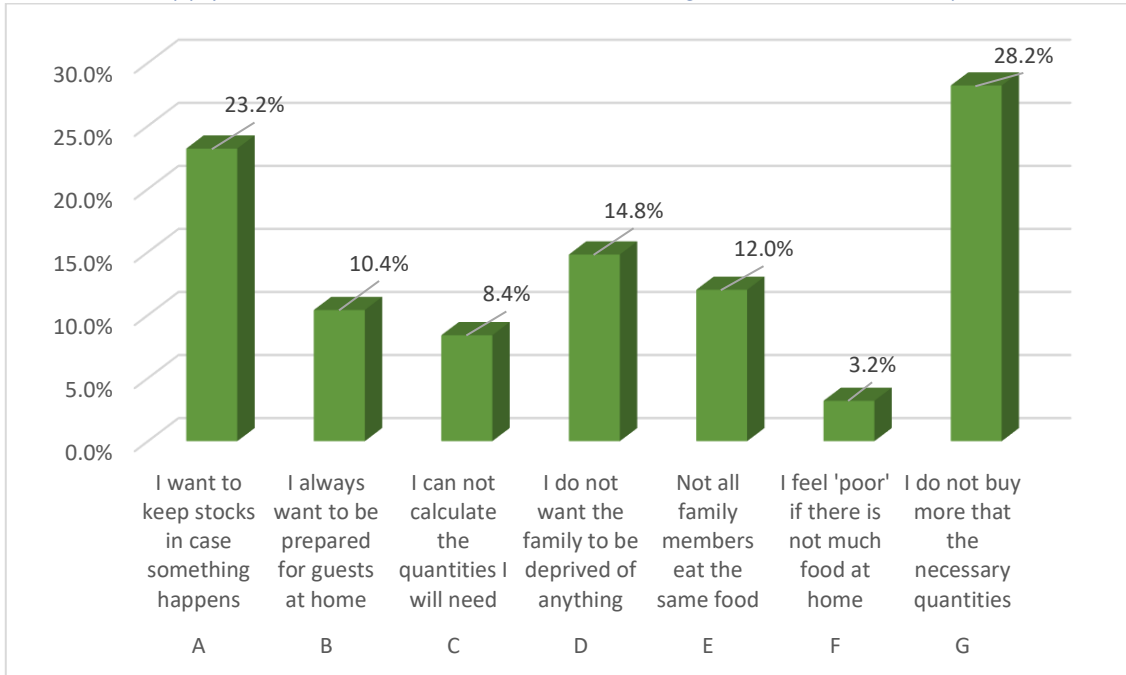


Figure 27: Reasons for buying more food than necessary

Sample size: 1420 answers

Surprisingly a high percentage of respondents (28.2%) stated that they don't buy more food than necessary. The most popular reasons for buying more food than needed were feeling the need to have stocks at home (23.2%), not depriving the family of anything (14.8%) and that different members of the family eat different things (12%). This question was repeated in the 2nd survey (Section 1.1, Question 2).

4th online poll

The 4th online poll was conducted in August 2021 (11/08/2021 – 17/08/2021) and concerned the willingness to adopt habits that can potentially decrease food waste.



Question 1: Many fruits and vegetables, although good in quality, due to their bad appearance are rejected by the producers and do not reach the consumer. To what extent would you be willing to buy good quality but ugly looking fruits and vegetables at discounted prices?

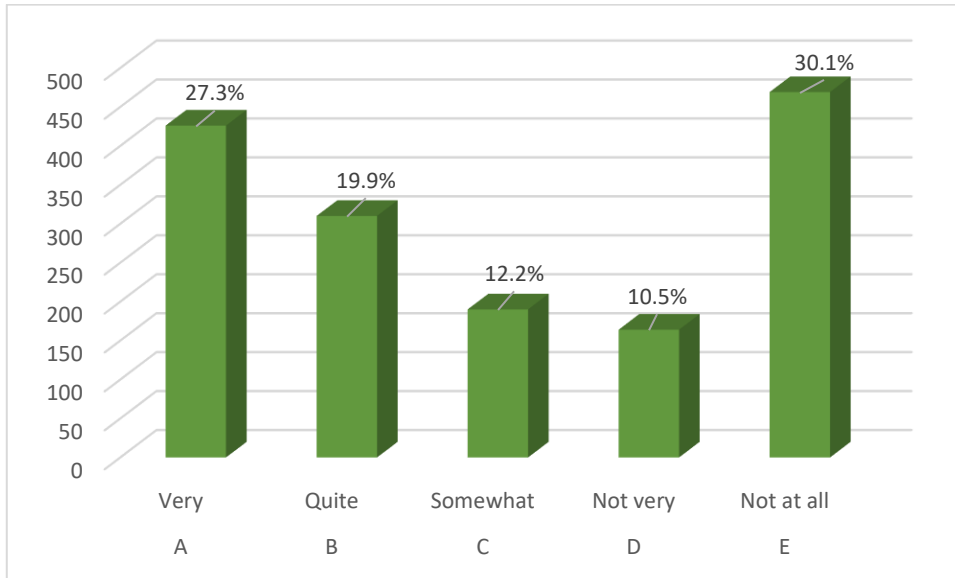


Figure 28: Willingness to buy ugly fruits and vegetables

Sample size: 1,559 respondents

Results are at the two extremes. The highest percentage of people (30.1%) responded “Not at all willing” and the next lowest percentage (27.3%) responded “very willing”. Even though the highest percentage of the sample is not willing to buy ugly fruits and vegetables at lower prices, a total of 47.2% are very willing or considerably willing to buy them. We could infer from these responses that offering ugly fruits and vegetables at lower prices could be a successful tool in minimizing food waste. Further analysis can be conducted to understand what the appropriate price could be for the sale of ugly fruits and vegetables. Producers and retailers for example can co-operate in order to introduce these schemes at lower prices. The retail shops could also prioritize such actions by facilitating a better display of such products in their shops. For example, by promoting the initiative in their existing advertising campaigns and by placing the ugly fruits and vegetables in prominent positions in their shops, as part of their Corporate social responsibility strategies.



Question 2: At the end of each day, many fruits and vegetables that are left are discarded by the retailers who always want to offer the freshest to their customers. To what extent would you be willing to buy good quality, but not fresh fruits and vegetables at significantly reduced prices at the end of each day?

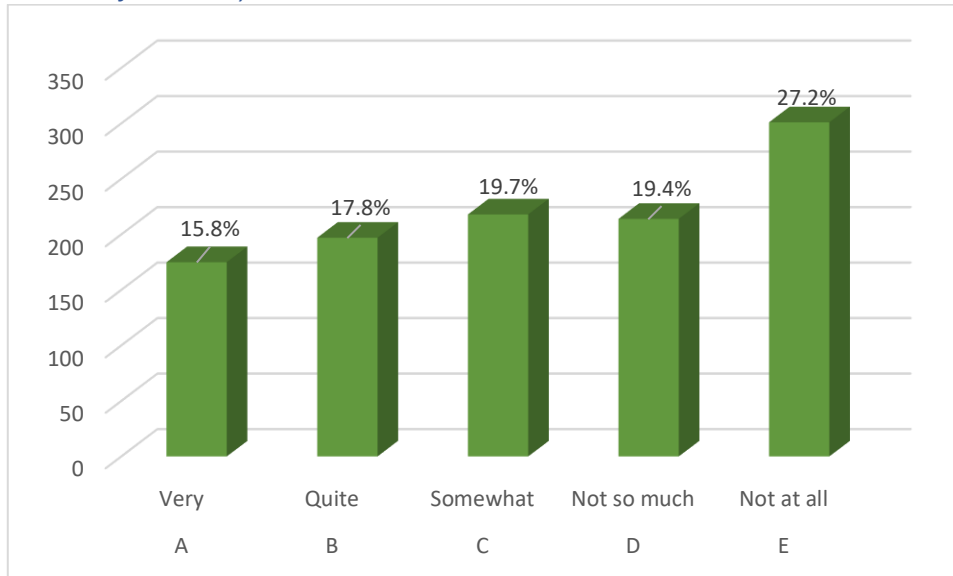


Figure 29: Willingness to buy not as fresh fruits and vegetables at lower prices

Sample size: 1,105 respondents

Responses are skewed towards “not at all willing” with the highest percentage of 27.2%. Only 15.8% responded “very willing” in this case. Since the question specifies that these items will be sold at considerably lower prices, results indicate that price may not be the most important factor in making the decision to purchase them. It seems that freshness is more important than price. Potentially, the results are linked to culture and habits in Cyprus, being a country that cultivates fresh fruits and vegetables, and consumers are used to buying fresh produce. We can conclude that this strategy will not have significant success in Cyprus. However, this is a practice we have seen happening in many vegetable/fruit stores and in some smaller supermarkets, which means there is a market for such products. It is possible that we face here one of these cases where the self-declaration is different from the actual behaviour. It could be the case that in theory people would prioritise freshness, but still would buy not as fresh fruits and vegetables when they are significantly discounted. We can safely assume that ugly fruits and vegetables would sell better than not as fresh ones when discounted.



Question 3: Many households discard leftover food and foods that are nearing or out of date. To what extent would you be willing to participate in a network through which these foods can be offered for free to those in need?

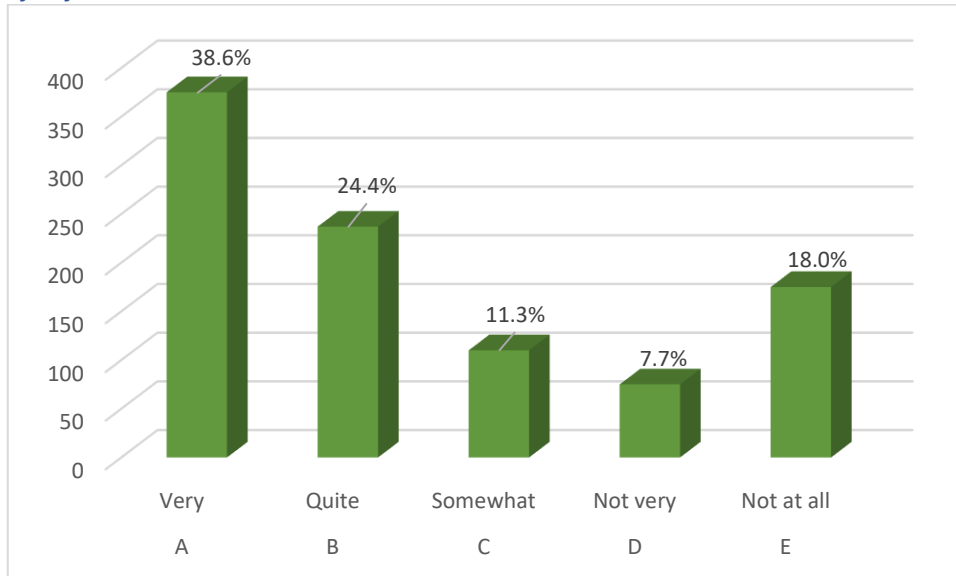


Figure 30: Willingness to participate in a network to give away food you don't need

Sample size: 972 respondents

Results show that most respondents (38.6%) are “very willing” to participate in a food give-away program. Only 18% responded “not at all willing”. The results are encouraging as most people are “very willing” or “quite willing” (that is 63% of the sample) to join such a program than “not at all” and “not very” (that is 25.7% of the sample). Results indicate that such programs could be successful in Cyprus. Apparently, such programs are limited or non-existent today because people do not have access to such networks. This is an interesting finding for the Life FOODprint project which has developed and currently promotes a food exchange platform. Further analysis could indicate as to ‘how’ people are willing to participate. Are people willing to get out of their way to enter such a program? How easy and convenient should this program be in order to succeed, and how long will it be successful for?



Question 4: To what extent would you be interested in purchasing packages of food ingredients that contain everything you need to make a particular food?

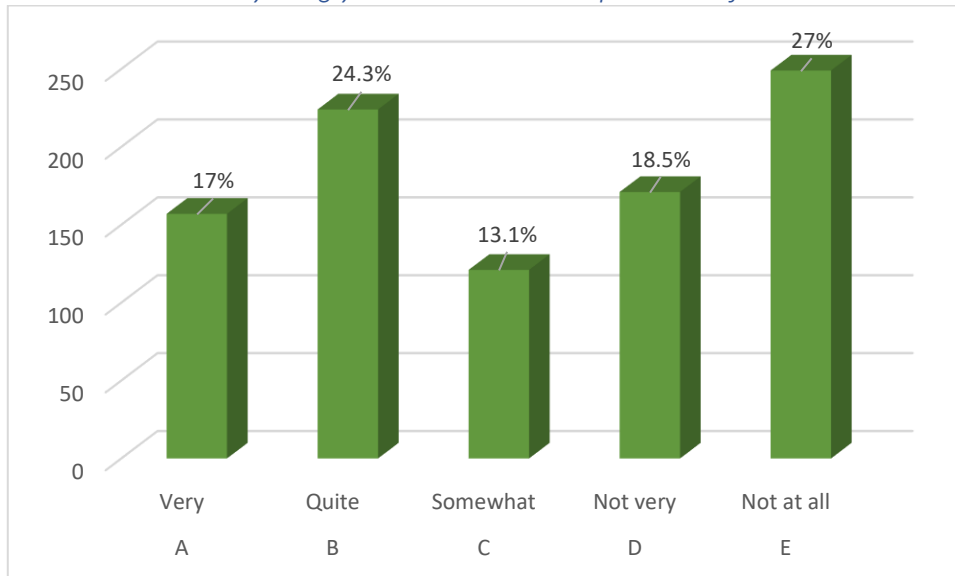


Figure 31: Willingness to purchase packs with complete ingredients for specific meals

Sample size: 922 respondents

Results show that most respondents (27%) are “not at all willing” to buy pre-packaged ingredients for a meal. Only 17% responded “very willing”. However, a high percentage of 24.3% responded “quite willing”. As this is a new and untested concept for the many in Cyprus, there can be other factors influencing the results such as uncertainty, existing habits, convenience, price, not being a tested solution, never done before, etc. It is not clear given these results, whether this strategy will be successful in Cyprus. Perhaps an information campaign explaining how this strategy supports the reduction in food waste will be the first step in adopting such a strategy.

This research can aid municipalities, producers, retailers and other food related stakeholders in deciding which solutions are mostly suited in minimizing food waste in Cyprus. Overall, results indicate that adoption of strategies such as the purchase of ugly fruits and vegetables at lower prices and entering a food give-away program can be successful. Buying not as fresh fruits and vegetables at considerably lower prices and purchasing of pre-packaged ingredients for the preparation of meals proved to be less popular strategies.



5th online poll

The 5th online poll was conducted in November 2021 (19/11/2021 – 26/11/2021) and concerned the management of surplus food.

Question 1: How often do you keep fruits and vegetables in the freezer to keep them from spoiling?

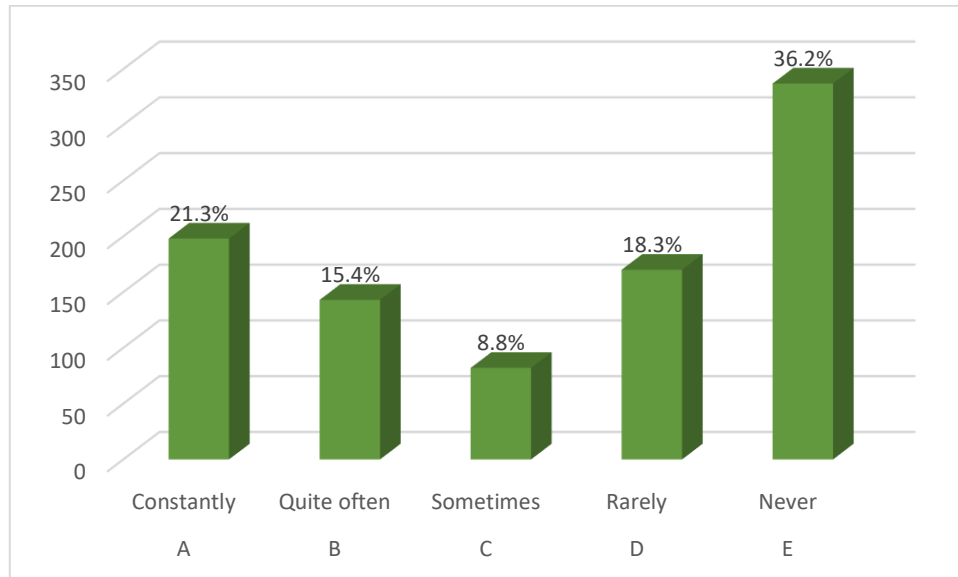


Figure 32: Using the freezer to store fruits and vegetables

Sample size: 930 respondents

From the answers given the highest percentages are at the two ends. Specifically, the majority (36.2%) never adopt the habit of storing fruits and vegetables in the freezer and the next highest percentage (21.3%) stated that they "constantly" adopt this habit. We could conclude from the answers that this habit is not widespread. If we compare the answers at the two ends, 36.7% of the respondents keep fruits and vegetables in the freezer "constantly" and "fairly often" while at the other end 54.5% adopt this habit "rarely" and "never". It could be further investigated whether freezing fruits and vegetables is a well-known habit, to distinguish whether people are aware of the habit and do not adopt it or if people are not aware of the habit and hence do not adopt it. For certain types of food such as vine leaves, broccoli, carrots, and olives it is well known in Cyprus that they can be preserved in the freezer, however with proper preparation many more vegetables and fruits can be preserved in the freezer such as zucchini, beans and tomatoes, if boiled, and grapes, oranges and other fruits can be kept chopped and in freezer bags.



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Question 2: How well do you know the proper way to store food in order to maximise its shelf life?

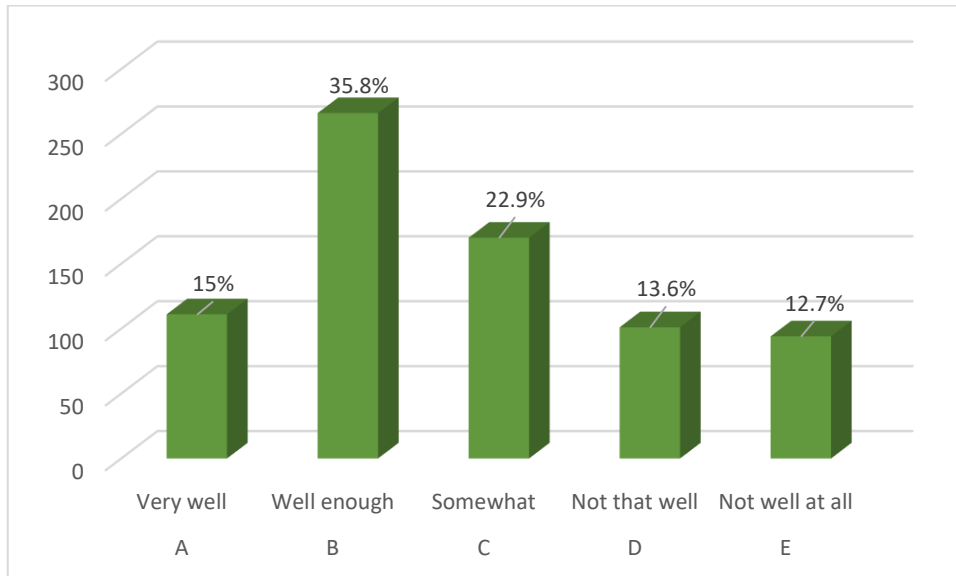


Figure 33: Proper way to store food to maximise shelf life

Sample size: 742 respondents

As it seems, the answers turn to "well enough" with the highest percentage of 35.8%, while 15% answered "very well". Only 12.7% answered "not well at all" in this case. Overall, the results look positive in terms of knowledge of ways to maximise the shelf life of food since 50.8% of respondents know "very well" and "well enough", while only 26.3% know "not well at all" and "not that well". Of course, there are many ways of storing food and the answer in this case is subjective. What is more prominent here is the people's perception of themselves about their knowledge on this subject. What we do not know and could be further analysed in this case is whether what people say they know are also habits they actually adopt. We may encounter here one of those cases where self-declaration differs from actual behaviour, or intention differs from action.

Question 3: Do you consider how to manage your leftovers before you cook, or order food?

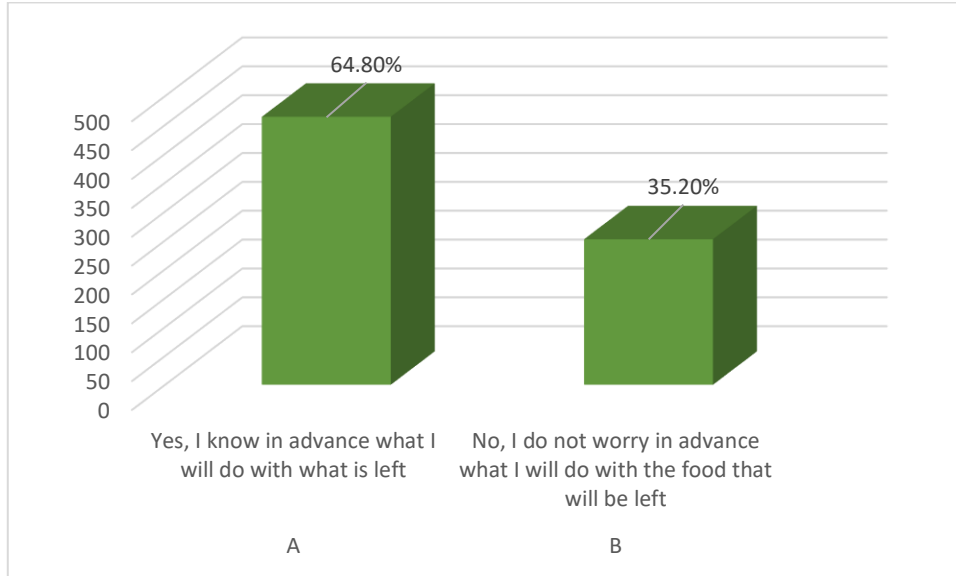


Figure 34: Leftovers management

Sample size: 716 respondents

The results show that most respondents (64.8%) know in advance what they will do with any leftover food when they cook or order. This question explores whether people are concerned about wasting food before they start cooking, or ordering food, or whether they do not take this issue into account at all. Of course, the answer does not determine whether the way of storing and disposing of the leftovers will help reduce waste, but the fact that the majority of participants say they are aware of this issue and are concerned about it from the beginning, increases the chances of reducing food waste.

6th online poll

The 6th online poll was conducted in February 2022 (07/02/2022 – 09/02/2022) and concerned the knowledge of the public regarding the storage of food in the fridge and freezer.

Question 1: What temperature should your fridge be at?

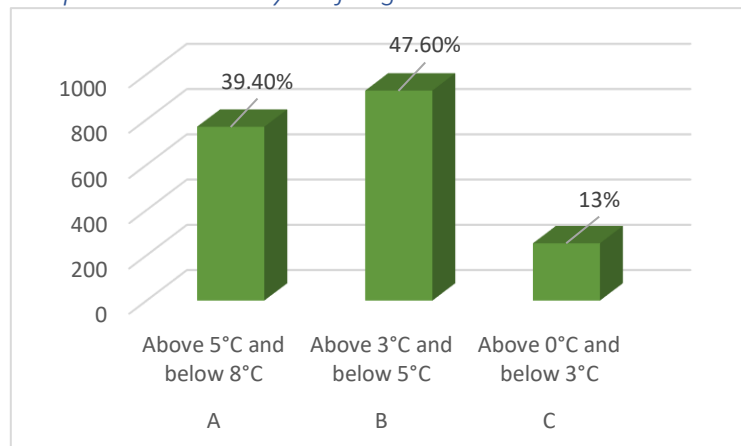


Figure 35: Fridge temperature

Sample size: 1,949 respondents



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In this case, answer B is the correct answer, while answer C is also correct, since temperatures 1°C – 3°C are also good for the preservation of food in the fridge. We come to the conclusion that the majority of the respondents knew the correct temperature to preserve food in the fridge, but we cannot ignore that a substantial percentage of the respondents (39.4%) were not aware of the correct temperature. In this case, the wrong answer does not necessarily equate to a practically incorrect temperature setting in the participants' fridges, but we can assume that if asked to reset the temperature of their fridges, they would probably make the wrong temperature choice. This creates the conditions for food wastage resulting from incorrect food preservation methods.

Question 2: What temperature should your freezer be at?

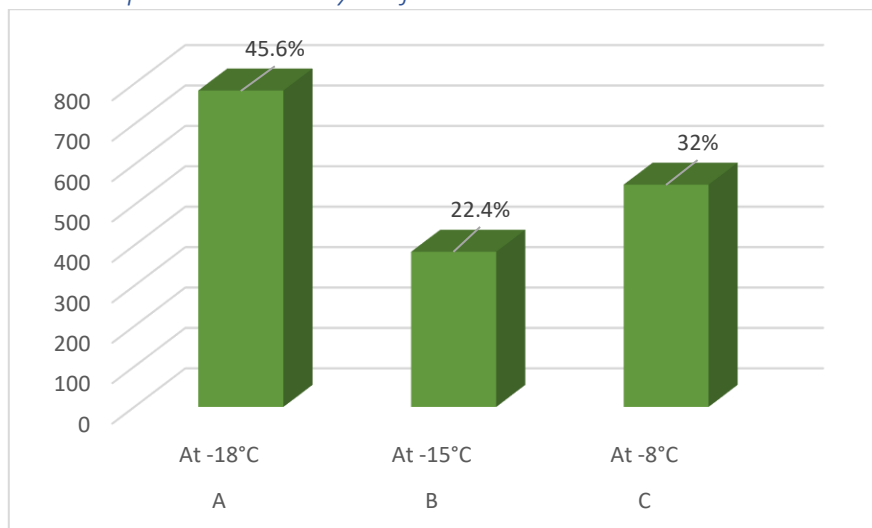


Figure 36: Freezer temperature

Sample size: 1,717 respondents

The ideal temperature of the freezer is -18°C. The most popular answer was "at -18°C" with a percentage of 45.6%, while the second most popular answer was "at -8°C" with a percentage of 32%. Here we can conclude that almost half of the respondents know the correct temperature for the freezer which maximises the lifespan of food stored. For both the fridge and freezer a quite high percentage of respondents are not aware of the optimal temperatures. Therefore, an action that could be implemented based on the answers to Question 1 and 2 of this poll, is a public information campaign about the correct temperature of the fridge and freezer.



Question 3: Food that enters the freezer loses its quality and is less nutritious. True or False?



Figure 37: Quality of frozen food

Sample size: 1,666 respondents

Freezing food, when done properly, can retain more nutrients than other food preservation methods. Therefore, in this case the correct answer is "False". According to the results, the most popular answer was "False" with a percentage of 57.6% and the remaining 42.4% answered "True". Most of the respondents answered the question correctly, but still a large percentage of the respondents had a different opinion. This suggests that there is a large portion of the population who mistakenly believe that freezing food degrades it, and it is very likely that they do not follow this food storage practice.

Question 4: What is the best way to defrost food from the freezer?

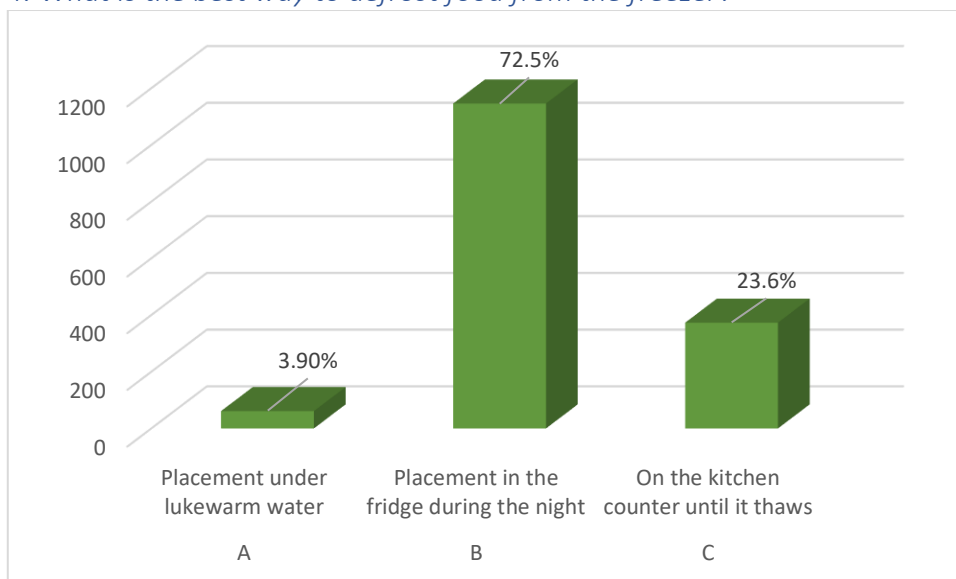


Figure 38: Best ways to defrost food

Sample size: 1,580 respondents



The correct answer is option B and the majority of the participants (72.5%) answered correctly. The next most popular answer was "On the kitchen counter until it thaws" (23.6%), and with a very small percentage (3.9%) the answer "Placing it under lukewarm water". In this case, we can conclude that the majority knows the correct way to defrost frozen food in order to avoid the formation of bacteria.

Food must be kept at a safe temperature during thawing. It should not be thawed on the kitchen counter, outdoors or under warm water. These methods can leave food unsafe for consumption. There are four safe ways to defrost food: in the fridge overnight, under cold water (not lukewarm), in the microwave, and as part of the cooking procedure. Foods thawed in cold water or in the microwave must be cooked immediately after thawing.

7th online poll

The 7th online poll was conducted in late April to early May 2022 (29/04/2022 - 02/05/2022) and concerned the best storage methods of fruits and vegetables. The survey comprised of 4 questions, but the first was not considered clear enough to produce reliable answers, therefore this article analyses only Questions 2-4 (The question excluded can be found in Annex B, 7th Online poll, Question 1).

Question 2: What is the best way to store potatoes?

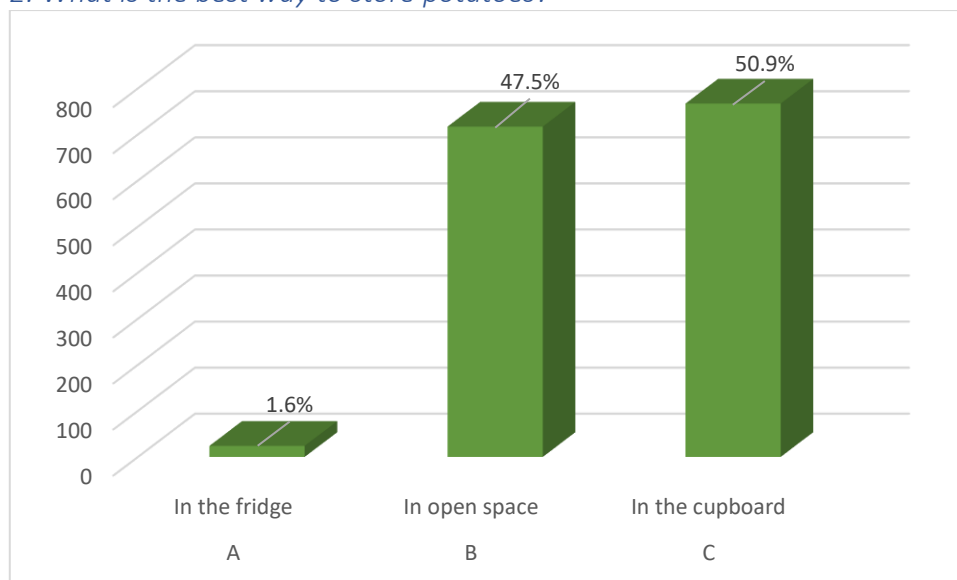


Figure 39: Best way to store potatoes

Sample size: 1,508 respondents

The correct answer is "in a cupboard". It is recommended that potatoes and sweet potatoes are stored in a dark and cool place and separately from onions and garlic. They can be stored either in the basement or loose in a cool cupboard. Quite a high percentage (47.5%) answered "in an open space". If the potatoes are stored in an open space, then it must be dark to prevent them from turning green. Possibly some of the participants who answered "in an open space" had such storage conditions in mind. If not, then for those who didn't know that a dark place is needed, then their answer is wrong.

Question 3: Can mushrooms be frozen and consumed later?

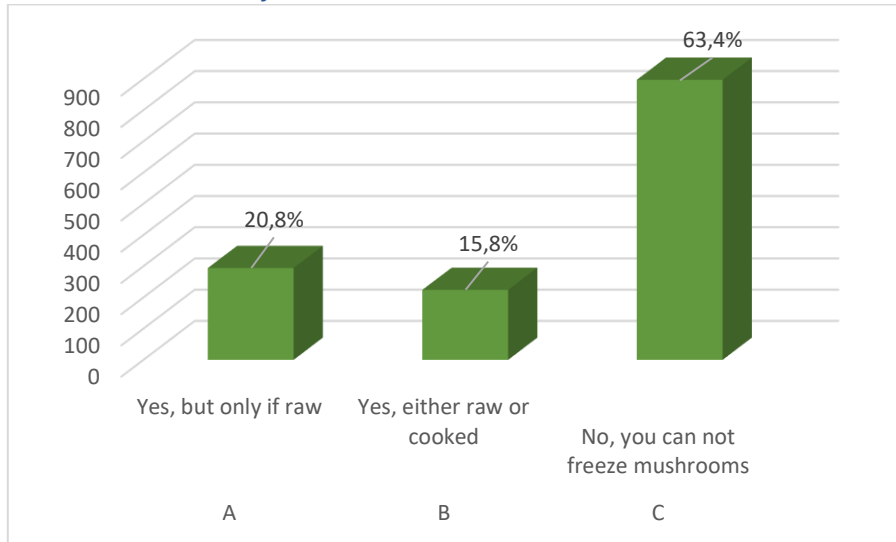


Figure 40: Freezing mushrooms

Sample size: 1,415 respondents

Mushrooms can be frozen either raw or cooked as long as they are stored properly. If they are to be stored raw, they must be fresh, clean of dirt and the stalks slightly cut. If they are to be stored cooked, then they can be steamed or fried before storing in the freezer. Therefore, the correct answer is B (which has the lowest percentage of positive answers). Since most people are not aware that mushrooms can be stored in the freezer, informing people about the possible ways to preserve mushrooms can help reduce food waste.

Question 4: Can you eat fruits and vegetables that are past their expiration date?

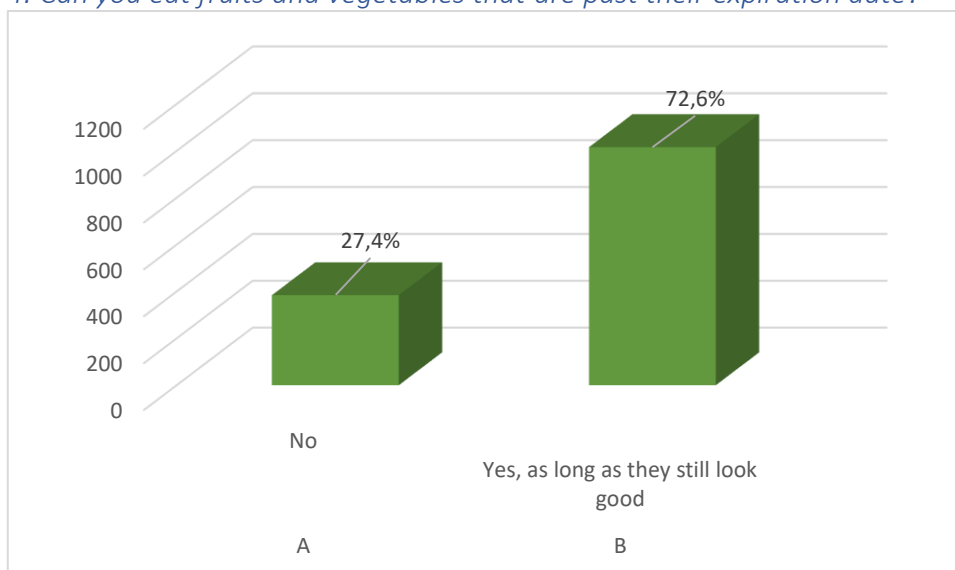


Figure 41: Eating fruits and vegetables past their expiration date

Sample size: 1,400 respondents

The majority, with a percentage of 72.6% answered "Yes as long as they still look good" which is also the correct answer. Most often the spoilage that occurs in vegetables and fruits is not harmful to



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humans. There is no need to throw away vegetables and fruits with the slightest deterioration; we can simply remove the spoiled part and consume what is in good condition. Also, some items such as for example ripe tomatoes can be used to prepare sauce.

The research has shown that there are gaps in the public's knowledge about the correct ways to store fruits and vegetables. There is no doubt that knowing proper food storage practices can reduce food waste. For example, almost half (47.5%) of the respondents answered that potatoes are stored in an open space and not in a cupboard, while in essence if they are stored in an open space which is bright, they will spoil faster and possibly before they can all be consumed. Also, the majority (63.4%) believe they cannot store mushrooms in the freezer and probably throw the surplus amount in the garbage instead of storing them. Therefore, continuous information campaigns about the correct food storage practices are necessary and an effective tool in reducing food waste.



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Summarised Online Poll Results

In summary, the results of the online polls are the following:

2nd Online poll

- The type of food most often thrown away is packaged food with expiry date. The type of food thrown away the least is fruits and vegetables. However, the previous 2 quantitative surveys in October 2020 and May 2022, showed that the category of food most thrown away is fruits and vegetables.
- One in two people believe that the percentage of food waste in relation to total household waste is equal to the average Cypriot household which is 50%. However, four in ten believe it is less than the average, hence many people may underestimate the problem of food waste.
- One in two people believe that reducing food waste is very important for the protection of the environment.

3rd Online poll

- Two out of five people associate buying food with the feeling of satisfaction.
- The three most important reasons which incentivise people to reduce food waste are firstly to deal with overconsumption, second “it is the right thing to do” and third because they are interested in the environment. In the 2nd quantitative survey in May 2022, the most popular reason for the reduction of food waste was to save money.
- When asked why they purchase more than the necessary quantities of food, the most popular answer given was “I do not buy more than the necessary quantities of food”. The next most popular reason for which people buy more food than necessary is the feeling of safety when there are stocks available in the household. Protecting the environment comes third in the list of reasons to reduce food waste even though half of the people understand that reducing food waste is important for the protection of the environment (as observed in question 3 of the 2nd poll).

4th Online poll

- Offering ugly fruits and vegetables at lower prices could be a successful tool in minimising food waste since one in two people are either “very willing” or “quite willing” to adopt this habit.
- People are not very willing to buy ‘not as fresh’ fruits and vegetables at discounted prices, as only three out of ten are “very” or “quite willing” to adopt this habit. Price might not be the most important factor driving the purchase of such products and possibly other ways must be found to utilise ‘not as fresh’ products such as making broths and sauces.
- Six out of ten people are “willing” or “quite willing” to participate in platforms/networks where they can give away surplus food.
- Four out of ten people are “very willing” or “quite willing” to purchase pre-packaged food ingredients to reduce food waste. The results showed that quite a high percentage of people are not at all willing to adopt this habit (three out of ten). As this is a concept that has never been introduced in Cyprus before, the results can be such because consumers are not aware of this habit.

We can conclude that certain initiatives could be more successful than others, such as buying ugly fruits and vegetables and the creation of platforms for the give-away of unwanted food. All the above



food waste reduction solutions could be tested on a trial basis to see whether they would be successful on a larger scale. As part of the FOODprint project actions, a Collaboration Network for Social Food Donation has been created online and is currently being used (<https://foodprintcy.eu/collaboration-platform/>).

5th Online poll

- The habit of freezing fruits and vegetables to be consumed later is not widespread. One in two “never” or “rarely” adopt this habit.
- One in two people know “very well” or “well enough” how to store food to maximise its shelf life.
- Most people, that is six out of ten, know in advance how to manage their food leftovers.

The 5th poll results show that to reduce food waste more could be done to promote the habit of freezing food for later consumption.

6th Online poll

- Six out of ten people are aware of the optimal fridge temperature for the preservation of food.
- When it comes to the freezer it seems that only about five out of ten are aware of the optimal temperature.
- About six out of ten people believe that the nutritional and quality characteristics of food do not change after freezing.
- In addition, most people (seven out of ten) are aware of the correct way to defrost food from the freezer.

Even though for all questions half or more than half of the respondents answered correctly, these figures could be improved through continuous information campaigns. Incorrect preservation and limited knowledge about correct food storage methods may lead to unnecessary food waste. The results of the 6th poll are consistent with the result of the 5th poll - question 2 stating that about half of the consumers know “well” or “very well” of the correct ways to store food to maximise its shelf life.

7th Online poll

- About half the people believe that the best way to store potatoes is in a cupboard and the other half in an open space.
- Six out of ten people believe that you cannot freeze mushrooms. In reality you can, either raw or cooked.
- Seven out of ten people believe that they can consume fruits and vegetables past their expiration date as long as they still look good.

The 7th poll results showed that there are knowledge gaps that need to be targeted such as how to store potatoes and how to freeze mushrooms to minimise food waste.



2. Overall Research Conclusions

The 2nd main quantitative research survey aimed to give further insights into the habits of Cypriot households regarding food management and perceptions about food and food waste. Apart from the main quantitative surveys, several online polls were completed throughout the period January 2021 to May 2022, which provide additional insights into the habits and perceptions of consumers. To facilitate comparability with previous surveys and measure progress in certain areas, the 2nd survey included a combination of questions repeated from the 1st survey and previous online polls, and some original questions to provide further insights. The overall conclusions from the 2nd main quantitative survey and from the 2nd to 7th online polls, are described in the following paragraphs.

Food management habits

According to the self-declarations of citizens several good practices for the management of food seem to be followed by almost all Cypriot consumers (9 out of 10). These are checking the expiration dates, taking care of storing food correctly, creating a list before going to the supermarket and checking what is available in the fridge before shopping. In addition, about half of Cypriot consumers state that they practice the “First comes, First consumed” principle in their household.

Despite the declarations above however, it seems that there is a tendency to purchase more food than necessary. The need of Cypriot consumers to have ample food in the household and on the table is highlighted in the results of this survey. The most popular reasons for this, as seen from both the polls and surveys, are keeping stocks in case something happens, the feeling of safety and being prepared for guests. Only 3 out of 10 reported that they do not buy more than the necessary quantities of food in their household.

The tendency to have more food than needed is also evident on other occasions. More than half of Cypriot consumers want to prepare or order more food than necessary when they have guests at home or when out in restaurants, so that they don't run out of food. In a different question, it was reported that less than half take surplus food with them during restaurant outings. Hence there is a tendency to over order and bad management of the surplus food. In general, when on a set menu (i.e. meze), restaurants in Cyprus tend to serve too much food and many consumers judge a good restaurant by the quantity and not the quality of the food. These habits exacerbate the problem of food waste.

Even though 9 out of 10 consumers stated that they have the habit of checking the expiry dates of food in their household, the most popular reason that food is thrown in the trash is that it is not consumed before the expiration date. This may be the case because consumers tend to buy more than what is needed and therefore food expires before it can be consumed.

The mostly discarded type of food are fruits and vegetables. At the same time, preserving fruits and vegetables in the freezer is not a common habit as seen from both the survey and polls. Better use of the freezer can be achieved by improving awareness. Certain knowledge gaps are evident from the polls such as knowledge of the correct temperature of the freezer and what types of foods can be frozen and how.

With regards to surplus food management the least popular habits are composting and “giving away to other people” while the most popular practices are “consuming it in the following days” and “using



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it as pet food”. This is not a surprise, as home composting is not practiced regularly in Cyprus, while networks to give food away to other people are either nonexistent or scarce.

Beliefs and perceptions

Another important challenge that evolved from the survey and polls, is a gross underestimation of the scale of the food waste problem. The percentage of food waste in relation to total household waste in Cypriot households is about 50% by weight⁵. However, 8 out of 10 Cypriot consumers, as measured in the 2nd survey, believe that the proportion of food waste in their household is less than 50%. The fact that the problem is underestimated, limits the motivation to solve the problem. Similar results however are found in international surveys comparing attitudes in different countries, where in most of the countries the consumers underestimate the magnitude of the food waste problem⁶. The scale of the problem might be better understood by the citizens through the use of the online calculator that was created as part of the actions of this project (Action D.1 and can be found at: foodprintcy.eu/calculator/).

When asked specifically about the importance of reducing food waste for the protection of the environment, most consumers believe it is “very” or “quite important”. However, when asked to prioritise the incentives to reduce food waste, first comes “saving money”, second that “it is the right thing to do”, third the “interest for the environment” and fourth “tackling overconsumption”, as seen in the 2nd survey.

Environmental concerns also came third in line when consumers were asked how they feel when they throw away food. First was guilt, second was wasting money and third was harming the environment. The overall aim is to reduce food waste but understanding the reasons behind this is very important. Saving money is a well understood reason and guilt is possibly linked to other issues such as poverty and famine. The environmental issue might be less well understood given that food is a natural product that will eventually decompose in nature. However, the environmental cost is not only related to what happens to food after it is thrown away but also the cost of production. Much of the food that reaches our table has travelled thousands of miles and was processed several times before it reached the consumer. Therefore, it may be equally important that consumers better understand where food comes from, the processes involved in its production and how these may contribute to greenhouse gas emissions.

Through the polls it is evident that consumers are willing to try out different solutions that were suggested for the reduction of food waste. For example, the purchase of ugly fruits and vegetables at discounted prices and participation in networks for surplus food give away to other people in need. Such a network has been established as part of the actions of this project, the online Collaboration Platform (Action D1.2 and can be found at foodprintcy.eu/collaboration-platform/).

The adoption of good practices seems to be less prevalent among the younger population. Certain good habits are more prevalent among older age groups such as the “first comes, first consumed” habit and keeping fruits and vegetables in the freezer for future use. This is a worrying finding of the survey as it indicates that the food waste problem might get worse over time. There is a need for

⁵ Estimate from Life - FOODprint's "Project Baseline Report", Section 4.2, November 2020

⁶ Wagner, P., 2020. Infographic: Households Waste More Food Than Estimated. Statista Infographics. [online] Available at: <<https://www.statista.com/chart/15143/percieved-food-waste/>> [Accessed 20 July 2022].



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better education regarding food waste at younger ages. The FOODprint project includes actions for the education of primary (5th and 6th grades) and upper secondary school children through workshops and the use of online interactive tools with the assistance of the Cyprus Pedagogical Institute (Actions B.2.3 and B.3.3 – the toolkit can be found at: <https://www.foodprintcy.eu/wp-content/uploads/PCS-FOODPrint-ONLINE-LESSONS28032022.pdf>). The target of this action is that 4,000 children will be taught about food waste through the workshops and 75,000 will use the online activity toolkit.

Differences in behaviours and perceptions between the 2020 and 2022 survey

Comparing the 2020 and 2022 survey, there seem to be slight improvements in consumer habits regarding the purchase, preservation and consumption of food and the management of surplus food. The results also indicate a change in the views and perceptions of Cypriot consumers because food rejection seems to be more strongly associated with negative feelings in the 2022 survey compared to two years ago.

More specifically, there are improvements in the adoption of good habits regarding the management of surplus food. The most common habits of Cypriots regarding surplus food are “consuming leftovers in the following days”, “using it as pet food” and “storing it in the freezer for future use”. Compared to 2020, all the positive actions regarding food waste management show an increase in the frequency of adoption except the habit of “using it as pet food” which remains at the same level.

With regards to the feelings associated with throwing food in the trash, there seems to be a positive change also. More Cypriots associate this action with negative feelings, while less associate it with indifference. At the same time however, the feeling that environmental damage is being caused by food waste remains third, as in 2020. Feeling guilt and feeling that they waste money when they throw food, still prevail.

The main reasons for buying more quantities than needed remain the same, however in 2022 there has been a small increase in the percentage of positive answers for most of the reasons, while the percentage who said they do not buy more than required remains at the same level (27% in 2020 and 26% in 2022). As mentioned, these results may be influenced by special circumstances during the period these surveys were conducted (the COVID-19 pandemic during the 1st quantitative survey and the war in Ukraine in the 2nd quantitative survey). For example, the reason “I feel safe when there is a lot of food at home” has increased from 29% in 2020, to 34% in 2022. This may be related to the Ukraine - Russia war which poses risks of food shortages and uncertainty about the future.

The main reasons for throwing away food are similar between the two surveys except for the reason “food that is left over and stored, spoils and is not suitable for consumption” (24% in 2022 to 31% in 2020). This may be due to better food storage habits, which as shown in question 4 of the 2022 survey, households that tend to store leftover food in the freezer is higher in 2022 (32%) than in 2020 (23%). Despite the fact that we can identify small but consistent improvements in certain behaviours that are important for the reduction of food waste, some of the external circumstances indicated earlier during the period have not been supportive to the scope of improvement. Both the COVID-19 pandemic and the war in Ukraine, have raised existential risks to the minds of people. The pictures of people urging to the supermarkets, emptying the shelves, and fighting over products have been common on both occasions, which contributes to the problem of overstocking and throwing away food that deteriorates. Furthermore, it highlights the perception that people need to store food in order to feel safe. The food crisis that follows the war in Ukraine, further fuels these feelings and motivates people to stock food.



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Overall, we can say that despite some improvements, the main conclusions of the 2nd survey are similar to the 1st survey. Certain negative habits and perceptions on managing food persist, and these should be further targeted in the remaining communication actions of the project.

Tackling Food waste

This Report was preceded by the “Project Baseline Report” in November 2020, which described the 1st main quantitative survey and the first online poll results. The results were used to develop the public awareness campaign of the FOODprint project (Action D.1.4) which utilised several media such as TV, radio, social media and other means such as live links and promotional material. The key messages of the campaign are ways to shop better (preparing a list, checking the expiry dates), ways to store food at home (where to store certain types of food in the fridge), taking the food leftovers from restaurants, and raising awareness about the food waste problem in Cyprus. The results described in this report, can be used to inform whether efforts made so far have been successful and how public awareness campaigns can be improved or become more targeted. As mentioned in previous paragraphs the main results of the 2nd survey are similar to the 1st survey, therefore in this report the aim is to collect new information or observe differences between the two research surveys and any new information from polls, that will assist in the improvement of the campaign. Below is a list of new findings that can be used to tackle food waste:

- 6 out of 10 prefer to prepare more food than needed when having guests at home or order more when out in restaurants so that they don't run out of food.
- Less than half take surplus food with them while out in restaurants. Given the tendency to order more than necessary, the adoption of this habit is essential.
- Gross underestimation of the scale of the food waste problem. 8 out of 10 believe their food waste is less than Cypriot average.
- Certain good habits are more prevalent among older age groups such as the “first comes, first consumed” habit and keeping fruits and vegetables in the freezer for future use.
- Even though 8 out of 10 Cypriot consumers understand that the reduction of food waste is important for the environment, the most important incentives to reduce food waste are saving money and good moral sense.
- Only 1 in 5 Cypriot consumers have seen awareness campaigns regarding food waste reduction on TV, radio and social media in the past three months.
- Storing food in the freezer is not a popular habit. (Only 1 in 5 people use for storage of fruits and veggies).
- Consumers are willing to purchase ugly fruits and vegetables at discounted prices and to participate in surplus food-give away platforms.
- Even though many Cypriots state that they know how to store food the correct way to prolong its life, there are several knowledge gaps such as the optimal freezer temperature, how to store potatoes and how to freeze mushrooms.



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Annexes

Annex A – 2nd Quantitative Survey questionnaire

Στοιχεία επαφής:

Ώρα έναρξης Ώρα λήξης Διάρκεια

Ημερομηνία

Μέρα	Δευ.	Τρ.	Τετ.	Πεμ.	Παρ.	Σαβ.	Κυρ.
	1	2	3	4	5	6	7

ΕΙΣΑΓΩΓΗ:

Καλημέρα / καλησπέρα. Αυτή την περίοδο κάνουμε μια έρευνα κοινής γνώμης για διάφορα θέματα που αφορούν τις συνήθειες αγοράς και χρήσης φαγητού στο σπίτι. Θα θέλαμε να συζητήσουμε για λίγο μαζί σας για να ακούσουμε και τις δικές σας απόψεις. Η επιλογή σας στο δείγμα έγινε εντελώς τυχαία και οι απαντήσεις σας θα παραμείνουν απολύτως εμπιστευτικές. Δεν θα πάρουμε πάνω από 10 λεπτά από τον χρόνο σας.

Φ1. Ξεκινώντας, θα ήθελα να σας ρωτήσω κατά πόσο συμμετέχετε στην αγορά τροφίμων (ψώνια) για το νοικοκυριό σας;

Ναι, Αποκλειστικά	1
Μοιράζομαι την ευθύνη με άλλο μέλος του νοικοκυριού	2
Δεν ασχολούμαι καθόλου	3

Φ2. Συμμετέχετε στην ετοιμασία του φαγητού στο νοικοκυριό σας

Ναι, Αποκλειστικά	1	ΕΑΝ Φ1=3 ΚΑΙ Φ2=3 ΤΕΡΜΑΤΙΣΤΕ ΣΥΝΕΝΤΕΥΞΗ
Μοιράζομαι την ευθύνη με άλλο μέλος του νοικοκυριού	2	
Δεν ασχολούμαι καθόλου	3	



ΚΥΡΙΟ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ:

5. Ξεκινώντας, θα θέλαμε να μάθουμε πόσο συχνά κάνετε τα πιο κάτω σε σχέση με φαγητό που περισσεύει στο σπίτι:

**ΜΙΑ ΑΠΑΝΤΗΣΗ ΓΙΑ ΚΑΘΕ ΔΗΛΩΣΗ
RANDOMISE STATEMENTS.**

	Σχεδόν πάντοτε	Αρκετά συχνά	Κάποιες φορές	Σχεδόν ποτέ
1. Το καταναλώνετε τις επόμενες μέρες	4	3	2	1
2. Το φυλάτε στην κατάψυξη για μελλοντική κατανάλωση	4	3	2	1
3. Το χρησιμοποιείτε για ετοιμασία άλλων φαγητών	4	3	2	1
4. Δίνετε σε άλλα άτομα (φίλους, συγγενείς, ιδρύματα)	4	3	2	1
5. Το δίνετε για τροφή για κατοικίδια ζώα	4	3	2	1
6. Το πετάτε στα σκουπίδια	4	3	2	1
7. Το κομποστοποιείτε	4	3	2	1
8. Το δίνετε για τροφή σε ζώα εκτροφής (κότες, πάπιες, κουνέλια (κτλ)	4	3	2	1

7. Για κάθε μια από τις ακόλουθες κατηγορίες τροφίμων, θα ήθελα να υποδείξετε πόσο συχνά πετάτε τα πιο κάτω είδη στα σκουπίδια;

RANDOMISE STATEMENTS.

	Καθημερινά	4-5 φορές τη βδομάδα	2-3 φορές τη βδομάδα	1 φορά τη βδομάδα	Πιο αραιά
1. Φρούτα	5	4	3	2	1
2. Λαχανικά	5	4	3	2	1
3. Κρεατικά	5	4	3	2	1
4. Ψαρικά	5	4	3	2	1
5. Γαλακτοκομικά	5	4	3	2	1
6. Ζυμαρικά/αρτοσκευάσματα	5	4	3	2	1
7. Γλυκά	5	4	3	2	1
8. Συσκευασμένα τρόφιμα με ημερομηνία λήξης	5	4	3	2	1

8. Ποιοι είναι οι πιο συχνοί λόγοι που αλλοιώνονται τα τρόφιμα, φρούτα και λαχανικά στο σπίτι σας;

**ΣΗΜΕΙΩΣΤΕ ΟΣΑ ΙΣΧΥΟΥΝ.
RANDOMISE STATEMENTS.**

Αγοράζουμε περισσότερα από ότι υπάρχει ανάγκη	1
Δεν τα καταναλώνουμε με την ταχύτητα που αναμένεται	2
Συνθήκες αποθήκευσης/φύλαξης τους	3
Ξεχνούμε να τα καταναλώσουμε	4
Είναι κατώτερης ποιότητας γιατί αγοράστηκαν σε προσφορά και όχι φρέσκα	5



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10. Σε μία τυπική/ συνηθισμένη εβδομάδα, εάν όλα τα τρόφιμα, φρούτα και λαχανικά που αγοράσατε αντιστοιχούν με 10 μονάδες, πόσα από αυτά πετάξατε στα σκουπίδια;

USE SLIDING SCALE FROM 0 TO 10.

11. Από τους ακόλουθους, ποιοι είναι οι 3 κυριότεροι λόγοι που πετάτε στα σκουπίδια τρόφιμα, φρούτα και λαχανικά στο νοικοκυριό σας;

ΣΗΜΕΙΩΣΤΕ ΜΕΧΡΙ 3 ΛΟΓΟΥΣ.

RANDOMISE STATEMENTS. ITEM 1 ALWAYS 1st AND CANNOT BE CODED WITH OTHER ITEMS

Δεν πετάμε φαγητά και τρόφιμα (EXCLUSIVE ITEM)	1
Κάποια μέλη του νοικοκυριού δεν καταναλώνουν όλο το φαγητό τους	2
Το φαγητό που περισσεύει και φυλάγεται δεν είναι εύγεστο μετά	3
Το φαγητό που περισσεύει και φυλάγεται χάνει από τη θρεπτική του αξία	4
Το φαγητό που περισσεύει και φυλάγεται χαλά και δεν είναι ασφαλές για κατανάλωση	5
Η οικογένεια επιθυμεί πάντα φρέσκα τρόφιμα, φρούτα, λαχανικά	6
Ετοιμάζεται περισσότερο φαγητό από ότι υπάρχει ανάγκη για κατανάλωση	7
Αγοράζονται περισσότερα από τις πραγματικές ανάγκες του νοικοκυριού	8
Περνά η ημερομηνία λήξης/κατανάλωσης	9
Τρόφιμα, φρούτα και λαχανικά δεν αποθηκεύονται ορθά και αλλοιώνονται	10

12. Εδώ είναι κάποιες ενέργειες σχετικά με την αγορά και κατανάλωση τροφίμων. Ποιες από αυτές κάνετε εσείς στο νοικοκυριό σας;

ΜΙΑ ΑΠΑΝΤΗΣΗ ΓΙΑ ΚΑΘΕ ΔΗΛΩΣΗ

RANDOMISE STATEMENTS.

	Ναι	Όχι
Ελέγχουμε τι έχουμε στο ψυγείο πριν αγοράσουμε κάτι	1	2
Κάνουμε λίστα για το τι χρειαζόμαστε πριν πάμε για αγορές	1	2
Προγραμματίζουμε τι θα μαγειρέψουμε	1	2
Αγοράζουμε μόνο ότι χρειαζόμαστε	1	2
Ελέγχουμε την ημερομηνία λήξης/κατανάλωσης	1	2
Προσέχουμε για το πως διατηρούμε/αποθηκεύουμε το φαγητό/τρόφιμα στο ψυγείο	1	2
Μαγειρεύουμε την ποσότητα που χρειαζόμαστε	1	2
Χρησιμοποιούμε τα υπολείμματα φαγητού για ετοιμασία άλλων φαγητών	1	2
Καταναλώνουμε το φαγητό που περισσεύει τις αμέσως επόμενες ημέρες	1	2
Όταν έχουμε φρέσκα πετούμε τα παλιά	1	2
Μας αρέσει να διατηρούμε αρκετά αποθέματα στο σπiti	1	2
Παίρνουμε μαζί μας το φαγητό που περισσεύει από εξόδους σε εστιατόρια	1	2

13. Για ποιους λόγους αγοράζετε περισσότερες από τις απαραίτητες ποσότητες τροφίμων και φαγητού;

ΣΗΜΕΙΩΣΤΕ ΟΣΑ ΙΣΧΥΟΥΝ.

RANDOMISE STATEMENTS. ITEM 1 ALWAYS 1st AND CANNOT BE CODED WITH OTHER ITEMS

Δεν αγοράζω περισσότερες από τις απαραίτητες ποσότητες (EXCLUSIVE ITEM)	1
--	---



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Νοιώθω ασφάλεια όταν υπάρχει πολύ φαγητό/τρόφιμα στο σπίτι	2
Θέλω να τηρώ αποθέματα σε περίπτωση που τύχει κάτι	3
Θέλω πάντα να είμαι προετοιμασμένος/η για επισκέπτες στο σπίτι	4
Δεν μπορώ να υπολογίσω τις ποσότητες που θα χρειαστώ	5
Δεν τρώνε όλα τα μέλη της οικογένειας το ίδιο φαγητό	6
Νοιώθω 'φτωχός' εάν δεν υπάρχει πολύ φαγητό σπίτι	7

14. Όταν απορρίπτετε στα σκουπίδια φαγητά και τρόφιμα αισθάνεστε:

ΣΗΜΕΙΩΣΤΕ ΟΣΑ ΙΣΧΥΟΥΝ.

Αδιαφορία/τίποτα (EXCLUSIVE ITEM)	1
Τύψεις	2
Ότι σπατάλησα άδικα τα χρήματά μου	3
Ότι κάνω ζημιά στο περιβάλλον	4

16. Στο νοικοκυριό σας, σε ότι αφορά τη διαχείριση των τροφίμων που έχετε, πόσο συχνά εφαρμόζετε την πρακτική του 'Πρώτο Έρχεται, Πρώτο Καταναλώνεται'; Δηλαδή καταναλώνω πρώτο αυτό που αγοράζω πρώτο. Θα λεγάτε ότι στο νοικοκυριό σας αυτό συμβαίνει...

ΜΙΑ ΑΠΑΝΤΗΣΗ.

Ποτέ	1
Όχι τόσο συχνά	2
Κάποτε	3
Αρκετά συχνά	4
Πάντα	5

17. Πόσο συχνά διατηρείτε στην κατάψυξη φρούτα και λαχανικά για να μην χαλάσουν;

ΜΙΑ ΑΠΑΝΤΗΣΗ.

Ποτέ	1
Σπάνια	2
Μέσα-μέσα	3
Αρκετά συχνά	4
Συνέχεια	5

18. Στο μέσο Κυπριακό νοικοκυριό, το 50% των αποβλήτων είναι απορρίμματα τροφίμων. Στο νοικοκυριό σας τα απορρίμματα τροφίμων είναι...

ΜΙΑ ΑΠΑΝΤΗΣΗ.

Λιγότερα	1
Στο ίδιο επίπεδο	2
Περισσότερα	3

19. Συγκριτικά με άλλες ενέργειες που μπορείτε να κάνετε, πόσο σημαντική θεωρείτε τη μείωση απορριμμάτων τροφίμων για προστασία του περιβάλλοντος;

ΜΙΑ ΑΠΑΝΤΗΣΗ.

Καθόλου σημαντική	1
Όχι και τόσο σημαντική	2
Κάπως σημαντική	3
Αρκετά σημαντική	4
Πολύ σημαντική	5

20. Ποιοι δύο, εάν κάποιος, από τους ακόλουθους λόγους είναι οι σημαντικότεροι λόγοι για τους οποίους προσπαθείτε να μειώσετε τα απορρίμματα φαγητού;

ΜΕΧΡΙ ΔΥΟ ΑΠΑΝΤΗΣΕΙΣ.



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RANDOMISE STATEMENTS. ITEM 1 ALWAYS 1st AND CANNOT BE CODED WITH OTHER ITEMS

Δεν προσπαθώ να μειώσω τα απορρίμματα φαγητού (EXCLUSIVE ITEM)	01
Είναι εύκολο	02
Γλυτώνεις λεφτά	03
Γλυτώνεις χρόνο από ψώνια	04
Είναι το σωστό πράγμα να κάνει κάποιος	05
Οι προσδοκίες της οικογένειας	06
Ενδιαφέρον για το περιβάλλον	07
Αντιμετώπιση υπερκαταναλωτισμού	08

21. Όταν έχετε καλεσμένους στο σπίτι για φαγητό ή όταν βγαίνετε σε εστιατόριο, ποια από τις δύο δηλώσεις ανταποκρίνεται καλύτερα στη συμπεριφορά σας;

ΜΙΑ ΑΠΑΝΤΗΣΗ.

RANDOMISE STATEMENTS.

Συνήθως ετοιμάζω/ παραγγέλνω περισσότερο φαγητό από αυτό που χρειάζεται για να βεβαιωθώ ότι δεν θα ξεμείνουμε από φαγητό	1
Συνήθως ετοιμάζω/ παραγγέλνω όσο φαγητό χρειάζεται για να μην περισσέψει	2

22. Κατά τις εξόδους σας σε εστιατόρια και καφέ, όταν περισσεύει φαγητό, πόσο συχνά το παίρνετε μαζί σας για κατανάλωση στο σπίτι;

ΜΙΑ ΑΠΑΝΤΗΣΗ.

Ποτέ	1
Σπάνια	2
Κάποτε	3
Αρκετά συχνά	4
Πάντα	5

23. Τους τελευταίους 3 μήνες έχετε δει στην τηλεόραση ή ακούσει στο ράδιο ή σε άλλα μέσα ενημέρωσης καμπάνιες ή ενημέρωση σχετικά με τη μείωση σπατάλης τροφίμων;

ΜΙΑ ΑΠΑΝΤΗΣΗ.

Ναι	1
Όχι	2
Δεν θυμάμαι	9



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ΔΗΜΟΓΡΑΦΙΚΑ:

S1. Φύλο	Άντρας	1
	Γυναίκα	2
S2. Ποια χρονολογία γεννηθήκατε; Χρονολογία	
S3. Επαρχία	Λευκωσία	1
	Λεμεσός	2
	Λάρνακα	3
	Αμμόχωστος	4
	Πάφος	5
S4. Περιοχή	Αστική	1
	Αγροτική	2
S5. Υψηλότερο επίπεδο μόρφωσης που ολοκληρώσατε	Πρωτοβάθμια	1
	Δευτεροβάθμια / τεχνική σχολή	2
	Τριτοβάθμια (πτυχίο)	3
	Τριτοβάθμια (μεταπτυχιακό)	4
S6. Ποια από τις ακόλουθες δηλώσεις περιγράφει καλύτερα την οικονομική κατάσταση του νοικοκυριού σας;	Άνετη ζωή, υπάρχουν πάντα χρήματα για απρογραμμάτιστες αγορές / έξοδα και ψυχαγωγία	1
	Διατηρούμε ένα καλό βιοτικό επίπεδο, δεν στερούμαστε τίποτα	2
	Σταθερό εισόδημα, αλλά με κάποιους περιορισμούς στα έξοδα	3
	Κάποιοι περιορισμοί στο εισόδημα / οικονομικά, οι οποίοι έχουν επιβάλει κάποιες περικοπές	4
	Πολύ δύσκολη οικονομική κατάσταση, είναι δύσκολο να τα βγάλουμε πέρα	5
S7. Σύνθεση νοικοκυριού	Ένα άτομο	1
	Ζευγάρι χωρίς παιδιά	2
	Ζευγάρι με παιδιά	3
	Συγκατοίκηση με ενήλικες, μη-συγγενείς	4
IF S7=3 OR 4		
S8. Αριθμός μελών στο νοικοκυριό:	Αριθμός ανήλικων στο νοικοκυριό	
	Αριθμός ενήλικων στο νοικοκυριό	



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S9. Είδος οικίας

Σπίτι	1
Διαμέρισμα	2
Φοιτητική εστία	3

S10. Στην κατοικία σας διαθέτετε:

	Ναι	Όχι
Ψυγείο	1	2
Καταψύκτη	1	2
Κάδο κομποστοποίησης	1	2
Κάδους ανακύκλωσης	1	2



Annex B – Online Polls

2nd online poll: General info on food waste management

1. Ποιο είδος τροφίμων απορρίπτεται περισσότερο στο νοικοκυριό σας;

Είδη φούρνου (ψωμιά/ αλμυρά και γλυκά)	1
Φρέσκα λαχανικά και φρούτα	2
Κρέατα και ψαρικά	3

2. Στο μέσο Κυπριακό νοικοκυριό, το 50% των αποβλήτων είναι απορρίμματα τροφίμων. Στο νοικοκυριό σας τα απορρίμματα τροφίμων είναι...

Λιγότερα	1
Στο ίδιο επίπεδο	2
Περισσότερα	3

3. Συγκριτικά με άλλες ενέργειες που μπορείτε να κάνετε, πόσο σημαντική θεωρείτε την μείωση των απορριμμάτων φαγητού για προστασία του περιβάλλοντος;

Πολύ σημαντική	1
Αρκετά σημαντική	2
Κάπως σημαντική	3
Όχι και τόσο σημαντική	4
Καθόλου σημαντική	5

3rd online poll: Managing food purchasing and waste

1. Με ποια από τα ακόλουθα αισθήματα συνδέετε την αγορά φαγητού και τροφίμων;

Χαρά	1
Ικανοποίηση	2
Ασφάλεια	3
Αδιαφορία	4
Βαρεμάρα	5

2. Ποιοι δύο, εάν κάποιος, από τους ακόλουθους λόγους είναι οι σημαντικότεροι λόγοι για τους οποίους προσπαθείτε να μειώσετε τα απορρίμματα φαγητού;

Δεν προσπαθώ να μειώσω τα απορρίμματα φαγητού	1
Είναι εύκολο	2
Γλυτώνεις λεφτά	3
Γλυτώνεις χρόνο από ψώνια	4
Είναι το σωστό πράγμα να κάνει κάποιος	5
Οι προσδοκίες της οικογένειας	6
Ενδιαφέρον για το περιβάλλον	7
Αντιμετώπιση υπερκαταναλωτισμού	8



3. Στο νοικοκυριό σας, για ποιους λόγους αγοράζετε περισσότερες από τις απαραίτητες ποσότητες τροφίμων και φαγητών;

ΠΟΛΛΑΠΛΕΣ ΑΠΑΝΤΗΣΕΙΣ ΔΕΚΤΕΣ.

Η ΑΠΑΝΤΗΣΗ '7' ΔΕΝ ΜΠΟΡΕΙ ΝΑ ΚΟΔΙΚΟΠΟΙΗΘΕΙ ΜΕ ΑΛΛΕΣ ΑΠΑΝΤΗΣΕΙΣ.

Το να έχουμε αποθέματα στο σπίτι μας κάνει να νιώθουμε ασφάλεια	1
Θέλουμε πάντα να είμαστε προετοιμασμένοι για επισκέπτες	2
Δεν μπορούμε να υπολογίσουμε τις ποσότητες που χρειαζόμαστε	3
Δεν θέλουμε να στερηθεί οτιδήποτε η οικογένεια	4
Τρώμε διαφορετικά φαγητά τα μέλη της οικογένειας	5
Νιώθουμε 'φτωχοί' εάν δεν υπάρχει πολύ φαγητό σπίτι	6
Δεν αγοράζουμε περισσότερες από τις απαραίτητες ποσότητες	7

4th online poll: Adoption of actions 1

1. Αρκετά λαχανικά και φρούτα, αν και καλά στην ποιότητα, λόγο άσχημης εμφάνισης απορρίπτονται από τους παραγωγούς και δεν φτάνουν στον καταναλωτή. Σε ποιο βαθμό θα ήσασταν διατεθειμένος/ η να αγοράσετε καλά σε ποιότητα, αλλά άσχημα σε εμφάνιση λαχανικά και φρούτα σε μειωμένες τιμές;

Πολύ	1
Αρκετά	2
Κάπως	3
Όχι και τόσο	4
Καθόλου	5

2. Στο τέλος κάθε ημέρας, αρκετά λαχανικά και φρούτα που μένουν απορρίπτονται από τα καταστήματα λιανικής πώλησης που θέλουν να προσφέρουν πάντα ότι πιο φρέσκο στους πελάτες τους. Σε ποιο βαθμό θα ήσασταν διατεθειμένος/ η να αγοράσετε καλά σε ποιότητα, αλλά όχι φρέσκα λαχανικά και φρούτα σε σημαντικά μειωμένες τιμές στο τέλος κάθε μέρας;

Πολύ	1
Αρκετά	2
Κάπως	3
Όχι και τόσο	4
Καθόλου	5

3. Αρκετά νοικοκυριά απορρίπτουν φαγητό που περισσεύει και τρόφιμα που κοντεύει ή έχει περάσει η ημερομηνία κατανάλωσης τους. Σε ποιο βαθμό θα ήσασταν διατεθειμένος/ η να συμμετάσχετε σε ένα δίκτυο μέσω του οποίου μπορείτε να προσφέρεται τα τρόφιμα αυτά ως δωρεάν για κατανάλωση από άτομα που το έχουν ανάγκη;

Πολύ	1
Αρκετά	2
Κάπως	3
Όχι και τόσο	4
Καθόλου	5



4. Σε ποιο βαθμό θα σας ενδιέφερε να αγοράζετε συσκευασίες συστατικών ετοιμασίας φαγητού στις οποίες υπάρχουν μέσα όλα τα απαραίτητα για να φτιάξετε ένα συγκεκριμένο φαγητό;

Πολύ	1
Αρκετά	2
Κάπως	3
Όχι και τόσο	4
Καθόλου	5

5th online poll: Adoption of actions 2

1. Πόσο συχνά φυλάγετε στην κατάψυξη φρούτα και λαχανικά για να μην χαλάσουν;

Συνέχεια	1
Αρκετά συχνά	2
Μέσα-μέσα	3
Σπάνια	4
Ποτέ	5

2. Πόσο καλά γνωρίζετε τον ορθό τρόπο φύλαξης φαγητού και τροφίμων για μεγιστοποίηση της διάρκειας ζωής τους;

Πολύ	1
Αρκετά	2
Κάπως	3
Όχι και τόσο	4
Καθόλου	5

3. Μαγειρεύετε ή παραγγέλνετε φαγητό, έχοντας υπόψη τι θα κάνετε ότι μείνει ώστε να μειωθούν τα απορρίμματα;

Ναι, ξέρω από πριν τι θα κάνω με ότι θα μείνει	1
Όχι, δεν προβληματίζομαι από πριν με το τι θα κάνω φαγητό που θα μείνει	2

6th online poll: Knowledge quiz 1

1. Σε ποια θερμοκρασία πρέπει να βρίσκεται η συντήρηση του ψυγείου σας;

Πάνω από 5°C και κάτω από 8°C	1
Πάνω από 3°C και κάτω από 5°C	2
Πάνω από 0°C και κάτω από 3°C	3

2. Σε ποια θερμοκρασία πρέπει να βρίσκεται ο καταψύκτης σας;

Στους -18 °C	1
Στους -15 °C	2
Στους -8 °C	3



3. Το φαγητό που μπαίνει στην κατάψυξη χάνει από την ποιότητα του και είναι λιγότερο θρεπτικό.

Ορθό	1
Λάθος	2

4. Ποιος είναι ο καλύτερος τρόπος για ξεπάγωμα φαγητού από την κατάψυξη;

Τοποθέτηση κάτω από χλιαρό νερό	1
Τοποθέτηση στο ψυγείο κατά τη διάρκεια της νύκτας	2
Στον πάγκο της κουζίνας μέχρι να ξεπαγώσει	3

7th online poll: Knowledge quiz 2

1. Ποιος είναι ο καλύτερος τρόπος φύλαξης λαχανικών; (this question was not presented in the report as it was not considered clear enough to produce reliable answers)

Σε ένα κλειστό δοχείο στο κάτω συρτάρι του ψυγείου	1
Σε χαλαρά δεμένη πλαστική σακούλα στο κάτω συρτάρι του ψυγείου	2
Ελεύθερα στο κάτω συρτάρι του ψυγείου	3

2. Ποιος είναι ο καλύτερος τρόπος φύλαξης πατατών;

Στο ψυγείο	1
Σε εξωτερικό χώρο	2
Σε ντουλάπι	3

3. Ταμανιτάρια μπορούν να καταψυχθούν και να καταναλωθούν αργότερα;

Ναι, αλλά μόνο αν είναι ωμά	1
Ναι, είτε ωμά, είτε μαγειρεμένα	2
Όχι δεν μπορείς να καταψύξειςμανιτάρια	3

4. Μπορείς να καταναλώσεις φρούτα και λαχανικά που έχει περάσει η ημερομηνία κατανάλωσής τους;

Όχι	1
Ναι, εφόσον φαίνονται ακόμη καλά	2