FOOD WASTE IN TIMES OF COVID-19 SURVEY

18-05-2020 FINAL

SAMPLE CRITERIA

- Age \ge 18 years
- Only respondents who are responsible for at least half of the shopping trips AND meal preparations in their household
- Representative sample of Italian household composition
- Furthermore, representative spread of: age, gender (M/F), income groups, education, region and small/large city.

AIM OF THE STUDY

The aim of this project is to gain insights on the effects of the COVID-crisis with its quarantine and social distancing restrictions on shopping, storing, preparation and discard behaviors of households, and how these differ from the pre-COVID-19 period.

QUESTIONNAIRE

INTRODUCTION SCREEN

Welcome

The corona virus had and has a substantial impact on all of our daily lives.

In this online survey we aim to investigate how the corona restrictions taken by the Italian government affect shopping routines, purchasing behavior and the way food is handled in households.

A few remarks before filling out the survey:

- Please take your household in mind when answering the questions. If the question only applies to yourself, it will be clearly stated.
- Whenever we are talking about the start of the corona crisis and the quarantine period, we talk about the 11th of March, when the restrictions were announced by the Italian government
 - The 17th of May is considered the last day of quarantine when the majority of the restrictions were officially removed by the Italian government.
- Therefore when we ask questions regarding the quarantine period we refer to the period between the 11th of March and the 17th of May. When we ask questions regarding the period prior the quarantine we refer to the period before the 11th of March
- For some questions we ask you to answer if things have changed now, as compared to before the corona crisis on 7-point scales. If the statement does not apply to your household at all (before corona, and now) then please select zero (not applicable/never). This also applies if you do not know the answer.
- The participation is on voluntary basis. You can decide not to take the questionnaire. If you decide to take the questionnaire you can decide to withdraw at any time. The provision of data required by the questionnaire is optional and refusal to provide it will have no consequence.
- This questionnaire is carried out by Alma Mater Studiorum Università di Bologna in partnership with MSI-ACI Europe BV

It will take about 15-20 minutes to complete the questionnaire.

We thank you very much in advance for your contribution to this study.

Privacy Policy

Answers are confidential and the survey is completely anonymous. The collection of information through the questionnaire is aimed exclusively to research and dissemination purposes. The data will be processed anonymously with the support of automated tools. Specific security measures are implemented to prevent the loss, unauthorized access and the illicit or non-correct use of data.

The data owner is Alma Mater Studiorum University of Bologna and the privacy policies fulfil the requirements laid down in Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data (the GDPR). In any case, data will not be stored for more than 24 months.

If you have any question regarding the survey you can contact us at:

matteo.vittuari@unibo.it; matteo.masotti8@unibo.it; elisa.iori5@unibo.it.

SCREENING QUESTIONS

 \Box 1 a month or Less often

Criteria for representative sample:
C1. Household size (question for representative sample); see socio-demographic questions
C2. Gender (question for representative sample); see socio-demographic questions
C3. Age (question for representative sample); see socio-demographic questions
C4. Income groups (question for representative sample); see socio-demographic questions
C5. Education (question for representative sample); see socio-demographic questions
C6. Province/region (question for representative sample); see socio-demographic questions
C7. Small/large city (question for representative sample); see socio-demographic questions
Screening: S1. Age [screening question, <18 years = screen out]; see socio-demographic questions S2. How often do you do the groceries in your household? [1=screen out] 1. Less than half the times [screen out] 2. Half of the times. 3. More than half of the times S3. How often do you do the cooking in your household? [screening question, 1=screen out] 1. Less than half the times 2. Half the times. 3. More than half the times 54. Have you been ill since the start of the corona crisis for more than 2 weeks? [screening question, yes=screen out] Yes No
SHOPPING BEHAVIOUR
The following questions are related to grocery shopping.
FREQUENCY OF SHOPPING
Q1. How often did your household (on average) do groceries before the corona crisis?
 □ (Almost) every day □ 4-6 times a week □ 2-3 times a week □ Once a week □ 2-3 times a month □ 1 a month or Less often
Q2. How often does you household (on average) do groceries <u>now</u> (during the corona crisis)?
☐ (Almost) every day
□ 4-6 times a week
□ 2-3 times a week
 □ 2-3 times a week □ Once a week □ 2-3 times a month

SHOPPING OUTLETS

The following questions are about <u>where</u> your household does most of the grocery shopping/buys most foods, and whether this has changed due to the pandemic.

Q3a. Please indicate whether your household did groceries/bought foods at one of the following places, before the quarantine:

	Yes	No
1. Online supermarkets		
2. Online shops different from supermarkets		
23. Local shops (e.g. bakeries, butchers, specialty stores)		
4. Farms		
5. Market places		
6. Supermarkets		
7. Take-away/delivery restaurants (no pizzerias)		
8. Take-away/delivery Pizzerias		

Q3b. Please indicate whether your household was doing groceries or buying food products at one of the following places, <u>during the quarantine:</u>

	never buy here/not applicable 0	much less often	less often	a bit less often	just as much	a bit more often	more often	much more often
1. Online supermarkets								
2. Online shops different from supermarkets								
33. Local shops (e.g. bakeries, butchers, specialty stores)								
4. Farms								
5. Market places								
6. Supermarkets								
7. Take-away/delivery restaurants (no pizzerias)								
8. Take-away/delivery Pizzerias								

PLANNING

If we talk about 'shops' in the next questions, we mean all places for grocery shopping like (online) supermarkets, specialty stores, markets, local farms etc.

For the following statements, we ask you to indicate how often you did something before the quarantine, and how often you did it during the quarantine.

Q4. I plan what my household will eat before going to the shop (planner)

<u>a)</u> before the quarantine:

Never	Rarely	Occasionally	Sometimes	Frequentl y	Usually	Every time
1	2	3	4	5	6	7

b) after the quarantine:

Never	Rarely	Occasionally	Sometimes	Frequentl y	Usually	Every time
1	2	3	4	5	6	7

Q5. I make the decision of what my household will eat in the supermarket (impulsive buyer)

<u>a)</u> before the quarantine:

Never	Rarely	Occasionally	Sometimes	Frequentl y	Usually	Every time
1	2	3	4	5	6	7

b) after the quarantine:

Never	Rarely	Occasionally	Sometimes	Frequentl y	Usually	Every time
1	2	3	4	5	6	7

Q6. I usually buy a range of products per week and improvise with the recipes per day (improvisation buyer)

a) before the quarantine:

Never	Rarely	Occasionally	Sometimes	Frequentl y	Usually	Every time
1	2	3	4	5	6	7

b) after the quarantine:

Never	Rarely	Occasionally	Sometimes	Frequentl y	Usually	Every time
1	2	3	4	5	6	7

PLANNING + IMPULSE BUYING

Q7. Please indicate if the following statements apply less or more to you.

As compared to before the 11 th of March 2020, during the quarantine	never do	much less often	less often	a bit less often	just as much	a bit more often	more often	much more often
ITEMS RANDOM	0	1	2	3	4	5	6	7
1. I made use of a shopping list (planning)								
2. I bought products that I had not planned to buy (impulse buying)								
3. I forgot to buy what I had planned (environmental pressure)								

HOARDING

Q8. The following statements are about the quarantine period . Please indicate to what extend you (dis) agree to the following statements.

During the quarantine	Comple disagree			Neutra	1	Co	mpletely agree
	1	2	3	4	5	6	7
I bought more at once for my household per shopping trip							
2. I wanted to ensure I have enough foods in my home, so I stocked(piled) up on supplies more than before the quarantine							
3. I was worried about the availability of food in the shops							
4. I was worried about going to the shop too often and being in contact with others							
5. I spent less time in the supermarket than before the quarantine (environmental pressure)							
6. Inside the supermarket I moved around according to others' movements (environmental pressure)							
7. I had sufficient storing space in my house for the food I bought (stocking)							

IF item $2 \ge 5$

Show item 6 and 7:

	Comple disagree			Neutra	1	Co	mpletely agree
	1	2	3	4	5	6	7
6. When I stocked up on supplies, there might have been less food left for others							
7. When I stocked up on supplies, I might have wasted more of this food later							

PRODUCT TYPES

Q9. Please indicate if your household in general purchases less or more of the following food products as compared to before the corona crisis.

	never buy	much less	less	a bit less	just as much	a bit more	more	much more
	0	1	2	3	4	5	6	7
1.Bread, pasta, rice								
2. Flour and yeast								
3. Cured meat								
4. White meat (poultry, rabbit, cattle, oyster)								
5. Beef meat								
6. Pork meat								
7. Milk								
8. Cheese and other dairy products								
9. Eggs								
10. Fish and shellfish (fresh)								
11. Fish and shellfish (deep frozen)								
12. Fish and shellfish (canned)								
13. Fresh vegetables								
14. Deep-frozen vegetables								
15. Preserved vegetables								
16. Fresh Fruit								
17. Preserved fruit								
18. Potatoes and derived products								
19. Savory snacks								

20. Sweets				
21. Wine				
22. Alcoholic beer				
23. Spirits				
24. Other alcoholic drinks				
25. Sweetened drinks and cola				
26. Ready to eat meals				
27. Frozen meals and pizzas				
28. Pulses				
29. Olive oil				
30. Butter				

Q10. In general, did you buy more food for your household during the quarantine, as compared to before the quarantine (prior 11^{th} of March 2020)?

Much less	Less	A bit less	Just as much	A bit more	More	Much more
1	2	3	4	5	6	7

Q11. In general, did you eat at home more often <u>during the quarantine</u>, as compared to before the quarantine (prior 11^{th} of March 2020)?

			Just as				
Much less	Less	A bit less	much	A bit more	More	Much more	
1	2	3 4		5	6	7	

Q11a. How often did you eat out (alone or with other members of the household) \underline{before} the quarantine, during the following meal moments?

Breakfast:

3 T
Never

☐ Less than once a month

□ Once a month

□ 2-3 times a month

□ 1-2 times per week

□ 3-4 times per week

□ More than 5 times per week

	Never
	Less than once a month
	Once a month
	2-3 times a month
	1-2 times per week
	3-4 times per week
	More than 5 times per week
Diner:	
	Never
	Less than once a month
	Once a month
	2-3 times a month
	1-2 times per week
	3-4 times per week
	More than 5 times per week

Lunch:

PREPARATION BEHAVIOUR

The following questions are related to the preparations of food in your household.

PRECISION COOKING

Q12. Please indicate if the following statements applied less or more to your household, during the quarantine as compared to before the quarantine.

Compared to before the quarantine								
	never do	much less often	less often	a bit less often	just as much	a bit more often	more often	much more often
ITEMS RANDOM	0	1	2	3	4	5	6	7
1. We aimed to have no unnecessary leftovers								
2. We were precise in cooking the right quantities								
3. We more often weighted/measured our ingredients during cooking								

MENU SELECTION

Q13.During the quarantine period, we bought more/less:								
	never buy	much less	a bit less	less	just as much	a bit more	more	much more
ITEMS RANDOM	0	1	2	3	4	5	6	7
1. Deep-frozen products								
2. Preserved products								
3. Fresh products								
4. Basic ingredients to make products myself (such as flour for pancakes, bread etc.)								

FREQUENCY OF COOKING

Q14. How often	did you	household	cook per	week	during th	<u>ne quarantine</u> ?
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- ☐ (Almost) every day
- □ 4-6 times a week
- □ 2-3 times a week
- □ Once a week
- □ Less often

Q15. Did your household less/more frequently cook during the quarantine, as compared to before the quarantine (prior the 11^{th} of March 2020)?

We never	Much less	Less	A bit less		A bit more	More	Much more	
cook	frequent	frequent	frequent	Just as much	frequent	frequent	frequent	
 0	1	2	3	4	5	6	7	

Q16. Did your household spend less/more time on cooking per meal during the quarantine, as compared to before quarantine (prior the 11^{th} of March 2020)?

We never	We never Much less		A bit less	Just as much	A bit more	More	Much more
cook	time	time	time	time	time	time	time
0	1	2	3	4	5	6	7

STORING BEHAVIOUR

The following questions are related to the storage of foods in your household.

STOCK MANAGEMENT

Q17. Did your household have less/more foods in stock during the quarantine, as compared to before the quarantine (prior the 11^{th} of March 2020)?

Much less	Less	A bit less	Just as much	A bit more	More	Much more	
1	2	3	4	5	6	7	

Q18. Please indicate if the following statements apply less or more to you, during the quarantine as compared to before the quarantine.

Compared to before the quarantine	much worse	worse	a bit worse	just as good	a bit better	better	much better
ITEMS RANDOM	1	2	3	4	5	6	7
1. I knew what I had in stock							
2. My shelves and/or fridges were organized							

FOOD WASTE AMOUNTS

The following questions are about the foods your household discards.

Q19. Do you feel like your household in general discarded less, just as much or more of the following food products during the quarantine, as compared to before the quarantine (prior the 11th of March 2020)?

Compared to before the quarantine, we discarded								
	never buy	much less	less	a bit less	just as much	a bit more	more	much more
	0	1	2	3	4	5	6	7
1.Bread, pasta, rice								
2. Flour and yeast								
3. Cured meat								
4. White meat (poultry, rabbit, cattle, oyster)								
5. Beef meat								
6. Pork meat								
7. Milk								
8. Cheese and other dairy products								
9. Eggs								
10. Fish and shellfish (fresh)								
11. Fish and shellfish (deep frozen)								
12. Fish and shellfish (canned)								
13. Fresh vegetables								
14. Deep-frozen vegetables								
15. Preserved vegetables								
16. Fresh Fruit								
17. Preserved fruit								
18. Potatoes and derived products								
19. Savory snacks								
20. Sweets								
21. Wine								
22. Alcoholic beer								
23. Spirits								
24. Other alcoholic drinks								
25. Sweetened drinks and cola								
26. Ready to eat meals								
27. Frozen meals and pizzas								
28. Pulses								
29. Olive oil								
31. Leftovers								

IF \geq 5 FOR EACH OF THE ABOVE ITEMS:

Q20a. What was/were the main reason(s) your household discarded \underline{more} of this product than before quarantine?

(max 3	answers possible, ranking in order of importance)
` _	We bought too much of the product
	There was too much of the food in one package
	We prepared/cooked too much
	We forgot it was there
	We prepared the product in the wrong way
	We disliked the taste
	The expiration date had exceeded
	The product was spoiled
	We decided to finish other products first, so this product was left
	It did not fit into my menu schedule
	There was too little left to keep it for storage and/or use it for another meal
	We ate it more often now, so we discarded more
	No specific reason
	Other:
$IF \leq 3$,	FOR EACH OF THE ABOVE ITEMS:
Q20b. V	What was/were the reason(s) your household discarded <u>less</u> of this product than before quarantine?
(max 3 a	answers possible, ranking in order of importance)
	We did not buy it
	only buy exactly what I need of this product now
	We ate everything I bought
	We make us of easy-to-portion products
	We eat it less often so I throw away less
	No specific reason
	Other:

Q21. Do you in general feel like your household was wasting less or more food during the quarantine, compared to before quarantine (prior the 11^{th} of March 2020)?

Much less	Less	A bit less	Just as much	A bit more	More	Much more
1	2	3	4	5	6	7

IF≤

Q22

IF≤3	
Q22a W	hy do you think your household was wasting <u>less</u> food during the quarantine?
(max 3 a	answers possible, ranking in order of importance)
	We cooked more precise
	We had a better overview of what we have in stock
	We did less often (unexpectedly) eat out
	We were more aware of the food supply chain
	We wanted to use all the food we had in home to avoid going out to the supermarket again
	We cooked more often at home, so we could use leftovers more easily the next day
	We more often cooked with left-overs
	We prepared better tasting meals during the quarantine, that we were usually finishing
	We paid more attention to the best-by and use-before dates
	We paid more attention to storing foods in the right way to keep them fresh as long as possible
	We felt more guilty about discarding food
	We could better estimate how much the household should eat
	We had less unexpected circumstances that led to food leftovers
	No specific reason
	Other:
IF≥5	
_	hy do you think your household was wasting more food during the quarantine?
_	answers possible, ranking in order of importance)
` _	We ate at home more often, so we were discarding more
	We were buying more food per shopping trip We had a larger stock of food products
	We were cooking less precise
	We had a worse overview of what we have in stock
	We were less often cooking with left-overs
	We spent less time on our meals to make them taste good, so we did not finish them
	We paid less attention to the best-by and use-before dates
	We paid less attention to storing our foods in the right way to keep them fresh as long as possible
	We felt less guilty about discarding food
	We had other things on our minds than thinking about food waste
	We could estimate worse how much the household should eat
	We had more unexpected circumstances that led to food leftovers
	No specific reason
	Other

The following questions are about all <u>meal</u> left-overs (hot meals and bread meals) in your household.

Q23. Did your household in general have less or more meal left-overs during the quarantine, as compared to before the quarantine (prior March 11)?

We never have leftovers	Much less	Less	A bit less	Just as much	A bit more	More	Much more
0	1	2	3	4	5	6	7

Q24. How did your h	household mostly handle	these meal left-overs	before the quarantin	ne (prior the 11 th of 1	March
2020)?					

		We threw away what was left
		We saved what was left and consumed it later
		We saved what was left and (often) threw it away later
		We fed it to animals
		We never had leftovers
		Other:
025	5. Ha	ow did your household mostly handle these meal left-overs during the quarantine?
Q25	5. Ho	ow did your household mostly handle these meal left-overs during the quarantine? We threw away what is left
Q25		ow did your household mostly handle these meal left-overs during the quarantine? We threw away what is left We saved what was left and consumed it later
Q2:		We threw away what is left
Q25		We threw away what is left We saved what was left and consumed it later

□ Other:_____

ITEMS MOA

The following questions are related to your perceptions about food and food waste.

MOTIVATION

Q26. Please indicate if the following statements apply less or more to you during the quarantine, as compared to before the quarantine (prior the 11^{th} of March 2020).

Compared to before the quarantine							
	much less	less	a bit less	just as much	a bit more	more	much more
ITEMS RANDOM	1	2	3	4	5	6	7
1. I felt less/more guilty about throwing away food (M)							
2. I was more/less aware of the food that I waste (M)							
3. I thought people in my surroundings threw away more/less food (M)							
4. I thought people in my surroundings found it important to waste more/less food (M)							
3. I paid less/more attention to the expiry dates, such as use-by and best-before dates (A)							
4. I paid less/more attention to storing my food in the right way to keep my food fresh as long as possible (A)							
5. I found it less/more difficult to prepare leftovers into new meals (A)							
6. I found it less/more difficult to estimate how much food my household should eat (A)							
7. I found it less/more difficult to estimate how much food I needed to buy (A)							
8. I tried less/more new recipes and cooking techniques (A)							
9. I paid less/more attention to the amount of food I wasted (behavior)							
10. I had meals at regular times							
11. I paid attention to the taste of what I ate							
12. I had more sustainable habits in the kitchen (less energy, less waste, less packaging)							
13. I felt good in kitchen, I took care of it.							

Q27. Please indicate if the following statements applied less or more to you during the quarantine, as compared to before quarantine (prior the 11th of March 2020)

MOTIVATION + ABILITY

Compared to before the quarantine, I found (competing motives)								
	not appli- cable	much less	less	a bit less	just as much	a bit more	more	much more
ITEMS RANDOM	0	1	2	3	4	5	6	7
1. eating healthy important (health)								
2. eating tasty food important (taste)								
3. having cheap foods important (price)								
4. the convenience of food important (convenience)								
5. having enough food important (enough food)								
6. not having too much food for my household important (too much food)								
7. the safety of food important (food safety)								

OPPORTUNITY

Q28. Please indicate if the following statements applied less or more to you during the quarantine, as compared to before quarantine (prior the 11th of March 2020)

Compared to before the quarantine,								
	not appli- cable	much less	less	a bit less	just as much	a bit more	more	much more
ITEMS RANDOM	0	1	2	3	4	5	6	7
1. I used television programs dedicated to cooking to learn new recipes and cooking skills. (A)								
2. I used books and magazines dedicated to cooking to learn new recipes and cooking skills (A)								
3. I used websites and social media pages dedicated to cooking to learn new recipes and cooking skills (A)								
4. I used social media channels and pages of food bloggers and influencers dedicated to cooking to learn new recipes and cooking skills (A)								

Q29. Please indicate if the following statements applied less or more to you during the quarantine, as compared to before quarantine (prior the 11th of March 2020)

Compared to before the quarantine,								
	not appli- cable	much less	less	a bit less	just as much	a bit more	more	much more
ITEMS RANDOM	0	1	2	3	4	5	6	7
1. I used the oven. (A)								
2. I used the stove (gas or electric) (A)								
3. I used the microwave oven (A)								
4. I used the mixer (A)								
5. I used the cutting board (A)								
6. I used the pressure cooker (A)								
7. I did the sorted waste collection of all the packages								
8. I threw away the plastic packages								
9. I threw away the glass packages								
10. I threw away the paper packages								

Q30. Please indicate if the following statements applied less or more to you during the quarantine, as compared to before quarantine (prior the 11th of March 2020)

Compared to before the quarantine, the shops where I bought most of my food products:	much worse	worse	a bit worse	just as good	a bit better	better	much better
ITEMS RANDOM	1	2	3	4	5	6	7
1. Had a better/worse supply, which matched with what I needed for my household							
2. Was better/worse accessible when I wanted to shop for food							

Q31. Please indicate if the following statements applied less or more to you during the quarantine, as compared to before quarantine (prior the 11th of March 2020)

During the quarantine	never occurr ed	much less often	Less often	a bit less often	just as much	a bit more often	more often	much more often
ITEMS RANDOM	0	1	2	3	4	5	6	7
I was too tired to prepare the meal for which I bought the products								
2. Unexpected circumstances occurred, in which I had food left over								
3. I felt under time pressure in my day to day life								
4. The meals during the week diverged from what I had planned								
5. I often felt under stress taking care of housework								

SOCIO-DEMOGRAPHICS

Q32. I	am a:
	Male
	Female
	Other/do not want to say
Q33. I	am:
y	ears old
Q34. O	On which location did you work during the quarantine?
	I (mainly) worked on location
	I (mainly) worked from home
	I was hardly/not working
	Not applicable
	low was your professional workload during the quarantine compared to before the quarantine (prior the f March 2020?
	I work more than normal
	I work less than normal I am doing other work than I used to do
	I am not working (same as before corona)
	low was your domestic workload during the quarantine compared to before the quarantine (prior the 11th rch 2020?
	I work more than normal
	I work less than normal
	I am doing other work than I used to do I am not working (same as before corona)
037. 0	Of how many persons does your household consist?
Q -11.5	persons, of which:
	children (0-12 years)
	children (13-18 years)
	adults (18 years and over)
Q38. V	What is your highest accomplished education level?
	Elementary school degree
	Middle school degree
	High school degree
	Other/vocational diploma
	University degree Master Degree/PhD
\Box	11140101 205100/1112

Q39. In	Q39. In which region did you spend the quarantine?								
	Abruzz	CO							
	Basilic								
	Calabri								
	Campa								
	Emilia-Romagna								
	Friuli Venezia-Giulia								
	Lazio Liguria								
	Lomba								
	Marche								
	Molise								
	Piemor	nte							
	Puglia								
	Sardeg	na							
	Sicilia								
	Toscan	a							
	Trentin	o Alto-Adig	e						
	Umbria								
	Valle d								
	Veneto)							
Q40. Is	the sam	e region wher	re you usuall	ly live?					
	Yes								
	No								
Q41. W	hat is th	e total pre-cr	risis (netto) n	nonthly inco	me of your hous	sehold?			
		ın €1.500		·	·				
	€1.500	to € 3.000							
	€ 3.000	to € 7.500							
	26 4 0 5 500								
	I do not know/do not want to say								
Q42. D	id you us	e the COVID	0-19 food sta	mps (provid	ed by the munio	cipality)?			
	Yes								
	No								
IF Q42	=Yes								
Q42a. How much do you think the covid-19 food stamps contributed to the livelihood of your household?									
Don't									
know/		Not useful							
answe		at all			No effects			Essential	
	0	1	2	3	4	5	6	7	
		_	_	_		-			