



**FOOD CONSUMPTION SURVEY**  
**2022-2023**  
Food safety

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## Introduction

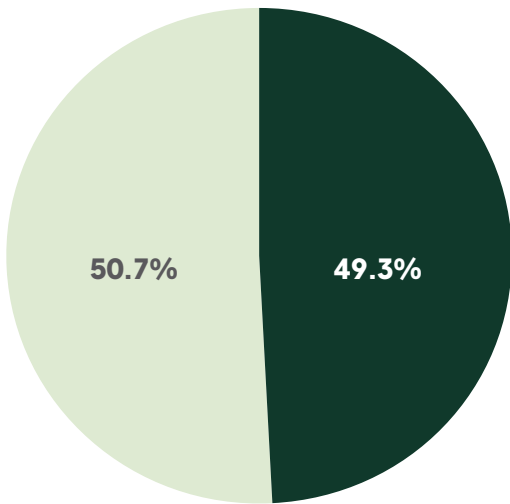
The **National Food Consumption Survey (FCS) 2022-2023** examined not only what people living in Belgium eat but also how they handle food at home. A dedicated food safety module collected information on everyday practices, including hygiene, cooking, storage, and awareness of expiration dates. Adults aged 18 years and older answered for themselves, while parents or guardians answered on behalf of children aged 3 to 9 years. This module makes it possible to map current habits and compare some of them with the previous survey conducted in 2014-2015.

More results are available on our [website](#).

**We would like to thank all the interviewers who contributed to the data collection, and all the participants who accepted to take part in the survey!**

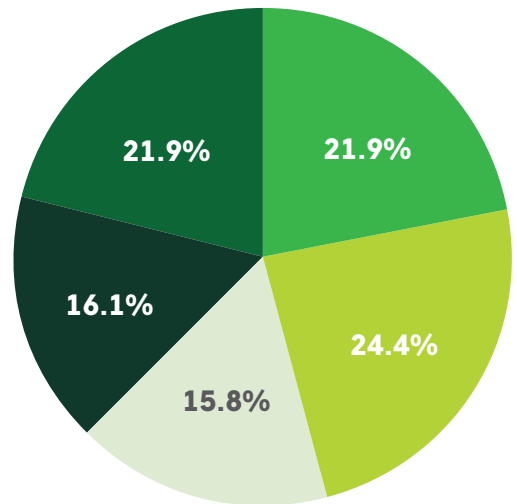
# Profile of the participants

Distribution (%) by sex



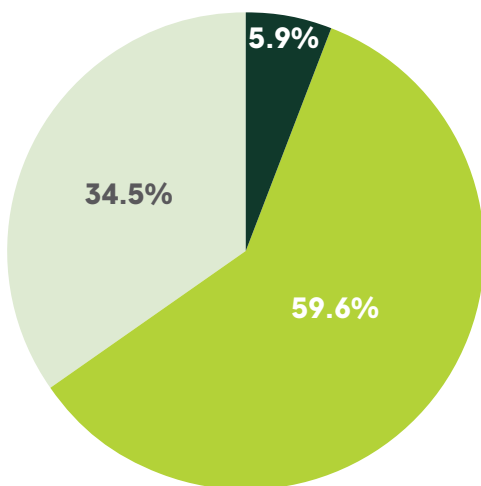
- Females
- Males

Distribution (%) by age



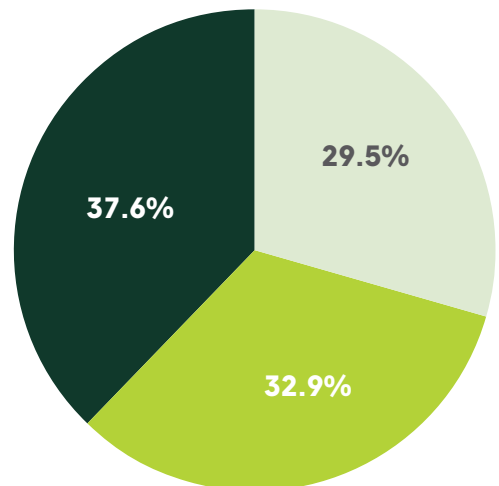
- 3-9 years: children
- 10-17 years: adolescents
- 18-39 years: young adults
- 40-64 years: middle-aged adults
- 65+ years: older adults

Distribution (%) by region



- Wallonia
- Brussels
- Flanders

Distribution (%) by educational level



- Low: secondary school or lower
- Mid: short-type higher education
- High: long-type higher education

The results presented in this report are weighted to provide a representative picture of the Belgian population. A detailed description of the methodology can be found on our [website](#).

## How did we measure awareness of food safety?

The food safety questionnaire was based on items from the previous FCS conducted in 2014–2015. Questions were updated for clarity and consistency. Consequently, some questions asked in the FCS 2022–2023 are not comparable to those of the previous survey. Visual tools were used to assess cooking practices for hamburgers and fries.



All estimates were weighted to be representative of the adult population aged 18 years and older in Belgium (using the population on 01/01/2024 as reference). Weights accounted for age, sex, socioeconomic status, and season. Results are presented overall and stratified by sex, age group, education level, and region. Comparisons between survey years only concern adults aged 18-64 years.

## Food safety practices were assessed using eight simple indicators, covering how people wash, cook, store, and check their food

### Handwashing before meal preparation

Participants were asked how often they wash their hands before preparing a meal.



### Use of water and soap when washing hands

Respondents indicated whether they use both water and soap when washing their hands before cooking.



### Thawing method for frozen foods

Adults reported how they typically thaw meat, poultry, or fish (e.g. in the fridge, at room temperature, microwave).



### Cooking level of hamburgers and fries

Participants selected images to indicate how thoroughly they usually cook these foods.



### Verification method for chicken doneness

Participants reported how they check if chicken is cooked (e.g. by color, time, thermometer, or no check).



### Understanding and behavior regarding expiration dates

Participants answered questions on their interpretation of "use-by" and "best-before" dates and what they do when these dates are passed.



### Storage duration of fresh meat or fish

Participants indicated how long they typically store fresh meat or fish in the refrigerator before consumption.



### What are food stored in?

Participants selected the types of containers they usually use to store leftovers.



# How safe are we when preparing our food?

## Hand hygiene

In 2022–2023, 86.4% of adults aged 18 years and older (including parents of 3–9-year-old children) reported washing their hands “often” or “always” before preparing a meal. This level is similar to the proportion reported in 2014–2015, although direct comparisons should be interpreted cautiously due to changes in response scales. Parents of children aged 3–9 years (88.8%) were slightly more likely to wash their hands before preparing a meal than young adults aged 18–39 years (82.7%).

Soap use was reported by 88.0% of adults aged 18 years and older who washed their hands, indicating widespread adherence to proper handwashing techniques. A regional difference was observed, with a higher percentage in Wallonia (94.5%) than in Flanders (84.0%). The percentage using soap to wash their hands was also slightly lower among adults aged 65 years and older (81.3%) than in younger age groups (between 88.7% and 91.7%).

## Thawing methods

Among adults, the most frequently used method for thawing frozen meat, poultry, or fish was refrigeration (50.4%). This method was more commonly used by women (53.6%) than by men (45.1%). Microwave thawing was used by 15.7% of adults.

Thawing at room temperature, which is considered as an unsafe practice, was still used by 27.8% of adults. This proportion was lower in adults aged 65 years and older (20.4%) than in younger age groups (between 28.3% and 34.5%).

Other methods, such as immersion in hot or cold water, were reported less frequently (1.4% to 2.8%).

## Cooking practices

### Cooking level of beef burgers<sup>1</sup>

In 2022–2023, 76.1% of adults aged 18 years and older (including parents of 3–9-year-old children) usually prepared beef burgers to a well-done level (considered the safest method) (Figure 1, n°4). This proportion was higher among parents of children aged 3–9 years (86.8%) than among adults aged 18–39 (71.2%), 40–64 (77.0%) and 65 years and older (71.4%). In addition, the proportion of adults using a safe cooking level for beef burgers was higher in Flanders (83.0%) than in Wallonia (64.6%)

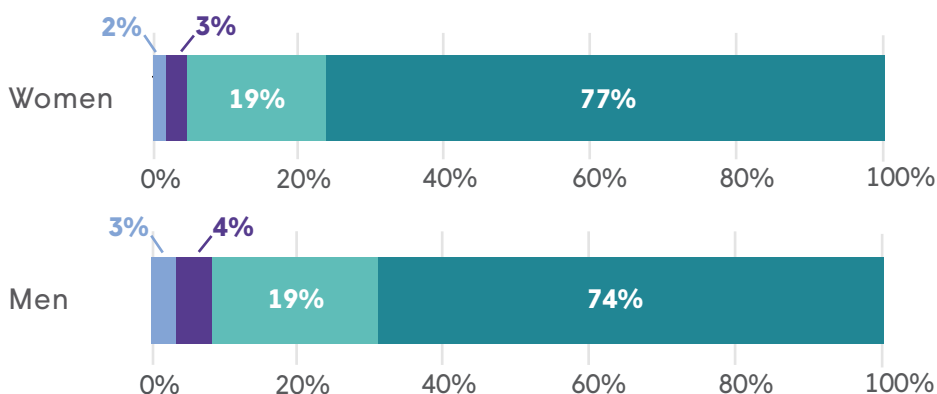


**Figure 1** Photographs of beef burgers presented to participants, illustrating four levels of doneness: (1) well-done, (2) medium-well, (3) medium-rare and (4) rare.

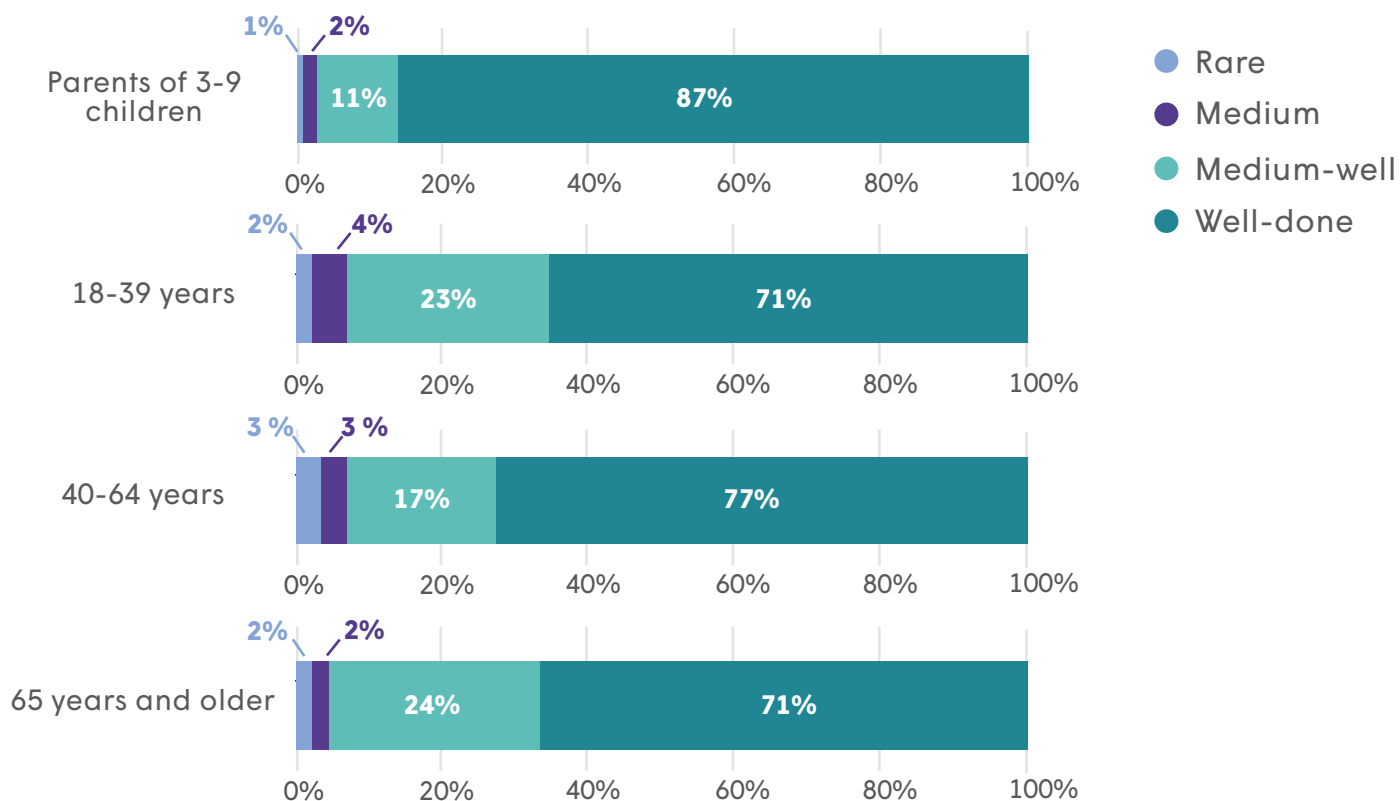
<sup>1</sup> Pictures produced for the survey and used to ask participants about the level of cooking.

The medium-well-done level (Figure 1, n°3) was chosen by 18.7% of adults, with a higher rate among those aged 65 years and older (24.4%) than among parents of children (10.7%). The medium level (Figure 1, n°2) and the rare level (Figure 1, n°1), considered less safe, were chosen by 2.9% and 2.3% of adults respectively.

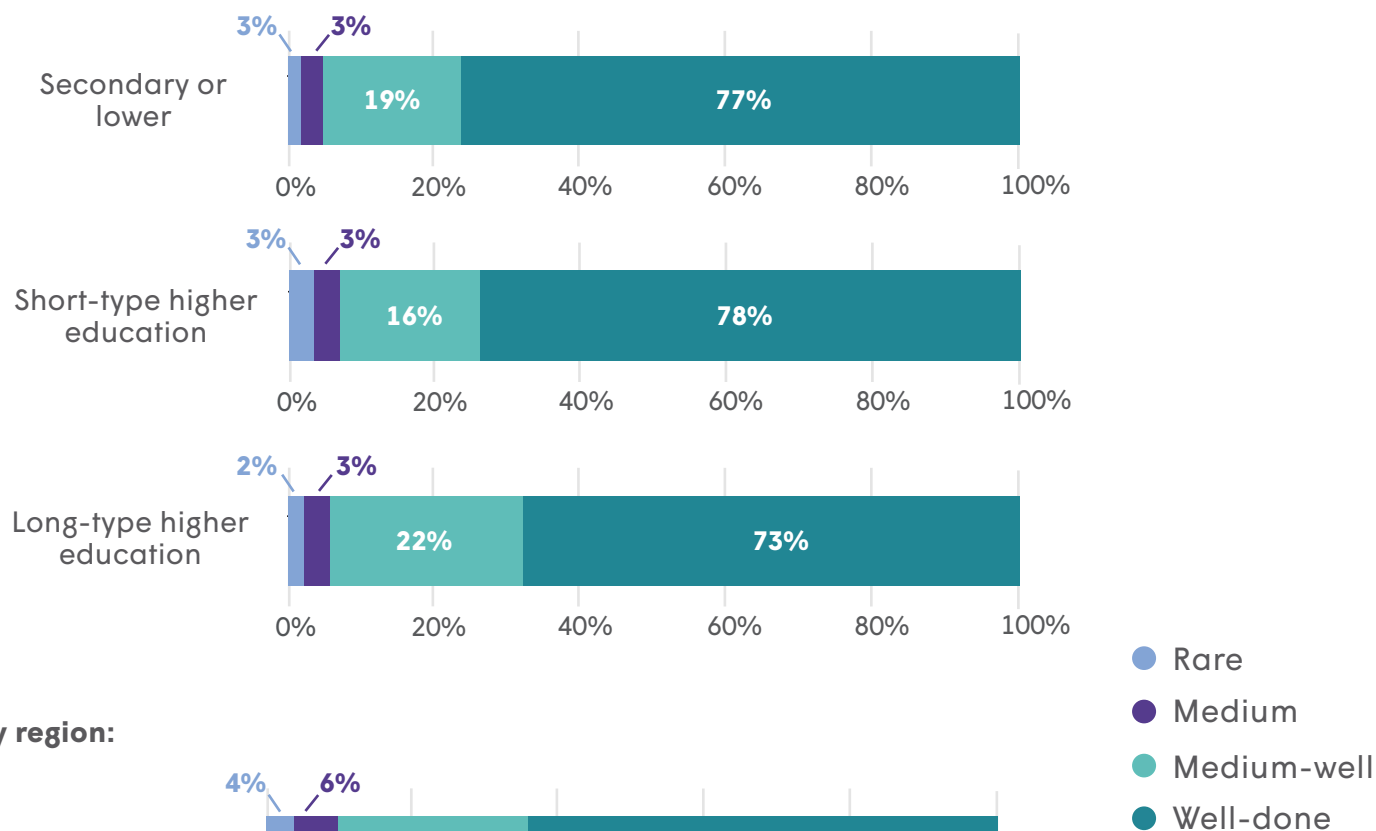
**By sex:**



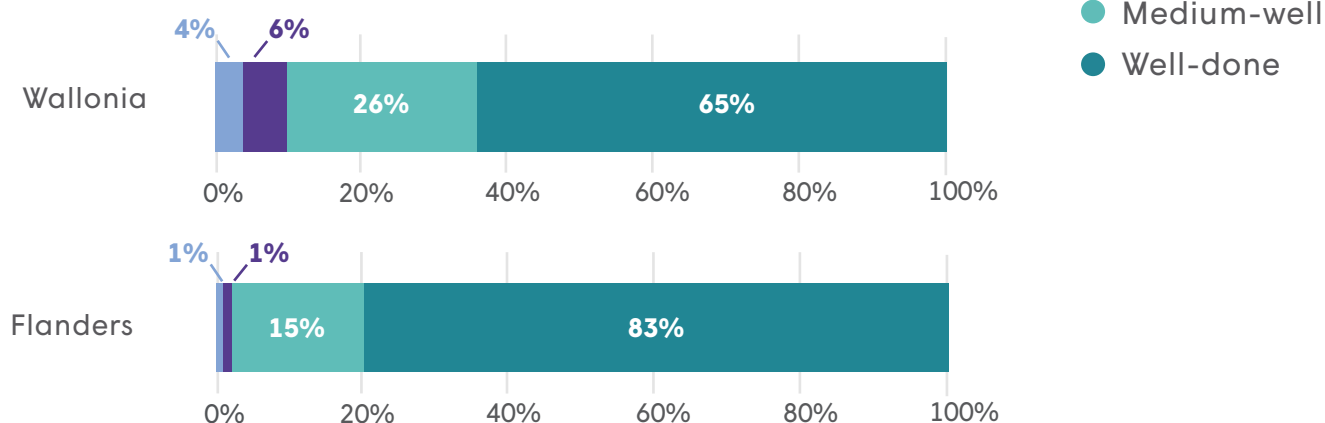
**By age:**



### By education level:



### By region:



**Figure 2 • Distribution of adults aged 18 years and older (including parents of 3-9 year-old children) living in Belgium (in %) according to the cooking level of beef burgers prepared at home, by sex, age, education level and region, Belgium, 2022-2023.**

### Verification of chicken doneness

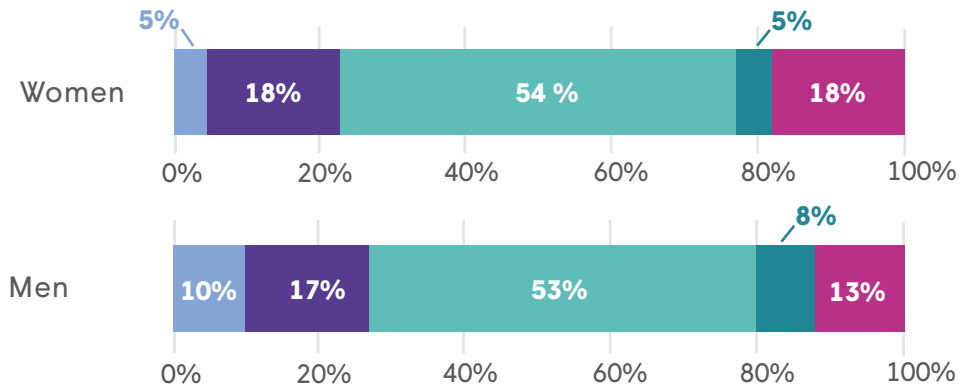
In 2022-2023, visual inspection based on meat colour was used by 53.6% of adults to verify chicken doneness. This represents a decrease compared with 2014-2015 (approximately 80%), partly due to a change in question format.

The use of a thermometer increased from 1.9% in 2014-2015 to 6.6% in 2022-2023. In 2022-2023, thermometer use was slightly more common among men than women (Figure 3).

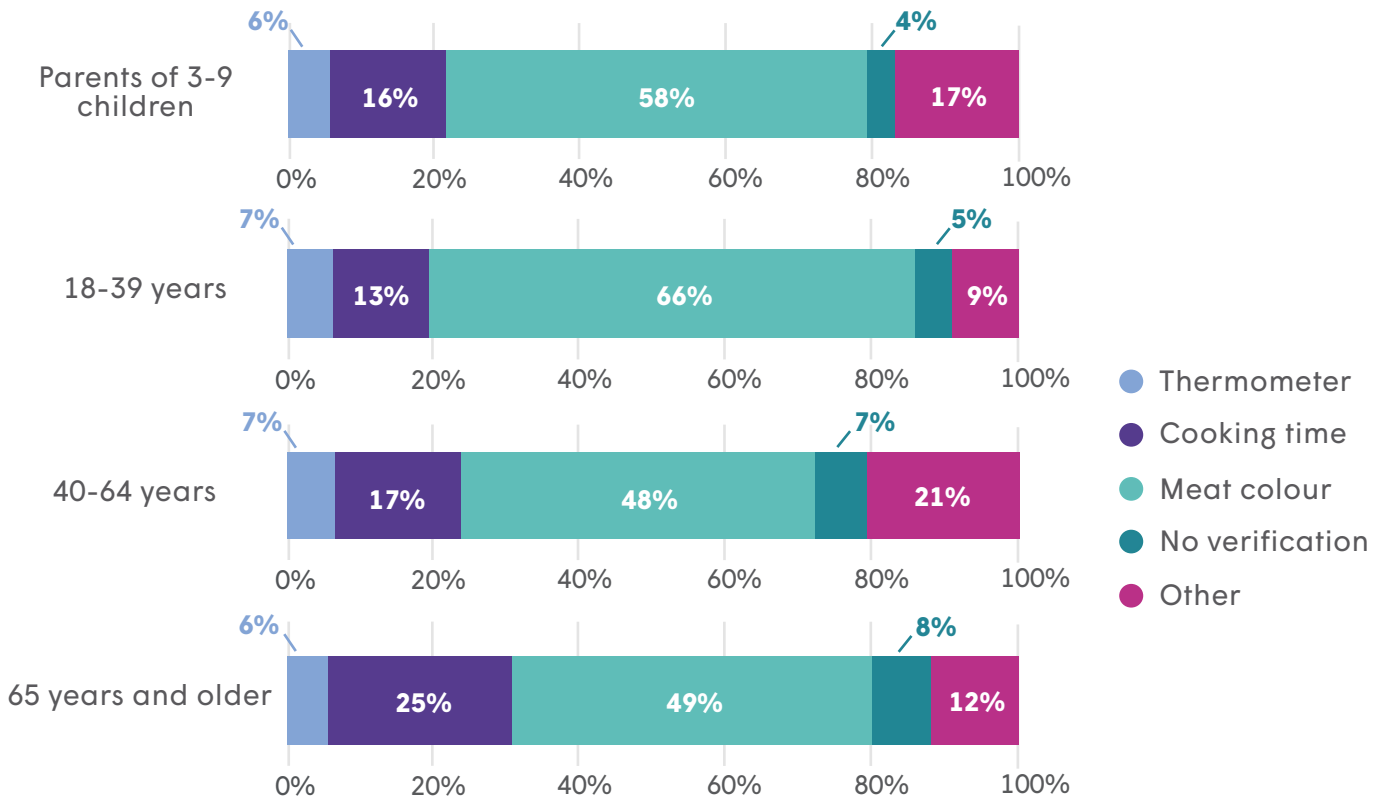
17.7% of adults checked whether chicken was cooked based on cooking time and weight. Checking the cooking timing based on chicken weight was more commonly used in Wallonia (25.1%) than in Flanders (11.1%), and among older adults (24.9%) than among parents of children aged 3-9 years (15.7%) (Figure 3).

The proportion of adults who did not verify doneness was 6.0%. This proportion was higher in Flanders (9.3%) than in Wallonia (2.3%) (Figure 3).

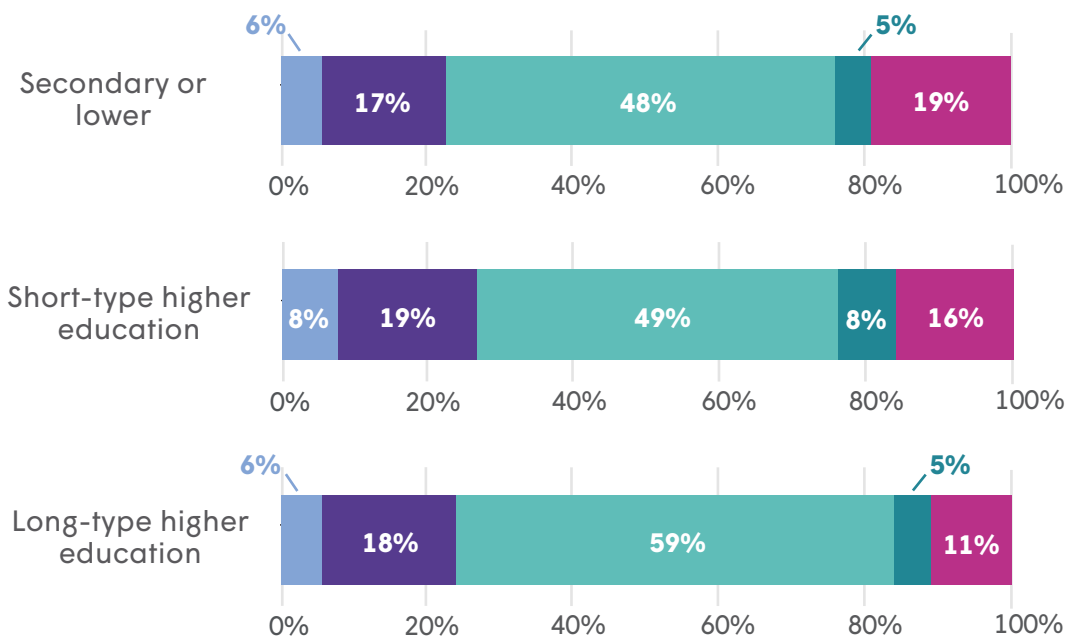
**By sex:**



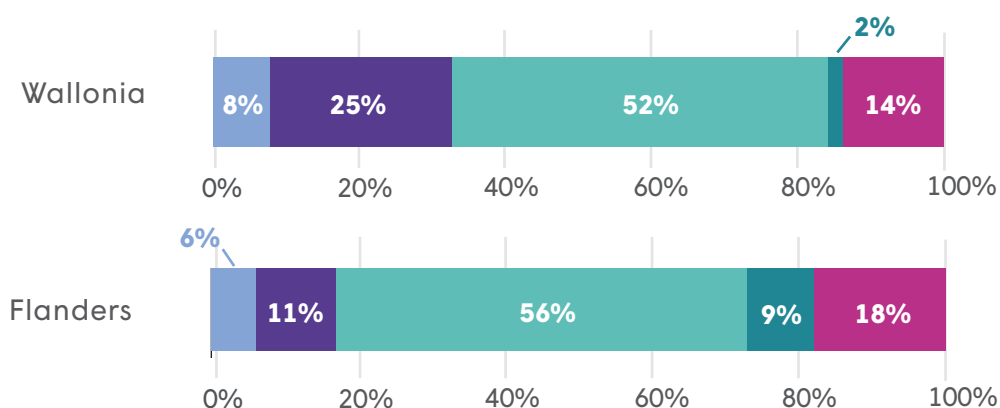
**By age:**



**By education level:**



## By region:



**Figure 3 • Distribution of adults aged 18 years and older (including parents of 3-9 year-old children) living in Belgium (in %) according to the method used to verify that the chicken is well cooked, by sex, age, education level and region, Belgium, 2022-2023.**

## Cooking level of fried potatoes<sup>2</sup>

Acrylamide is a chemical substance that forms naturally when starchy foods such as potatoes are cooked at high temperatures. This substance has been classified by the World Health Organization's International Agency for Research on Cancer as probably carcinogenic to humans. To limit the formation of acrylamide during the frying process, it is recommended to cook fries at a maximum temperature of 175°C until they turn a light-golden colour (Figure 4). The darker the colour of the fries, the greater the production of acrylamide (<https://www.health.belgium.be/fr/alimentation/securite-alimentaire/contaminants-chimiques/contaminants-de-processus/acrylamide-0>).

The most common cooking level used for fries was the “dark-golden” colour (55.5%), followed by “golden” (28.8%) (Figure 4). 11.4% of adults indicated cooking fries until the darkest level. This proportion was twice as high among men (16.4%) as among women (8.7%).



**Figure 4 • Photographs of baked French fries presented to participants, illustrating four levels of doneness: (1) light-golden colour, (2) golden colour, (3) dark-golden colour and (4) dark colour.**

<sup>2</sup> Pictures that were presented to the participants during the survey. Source: Danish Veterinary and Food Administration.

Adherence to the safest level, “light-golden” , was 4.3% among adults in 2022-2023. This practice was most common among adults with a low educational level (5.7%) than in those with a medium educational level (2.2%). It was also more common among older adults (7.5%) than among adults aged 18-39 years (2.0%). In general, more adults reported a dark colour than a safe light-golden colour.

**Trend:** The proportion of adults aged 18-64 years and parents of children aged 3-9 years reporting the safe cooking level (i.e. the light golden) decreased markedly between 2014-2015 (14.2%) and 2022-2023 (3.2%). This decline may reflect changes in household cooking habits (e.g. increased reliance on ready-to-eat foods or new appliances such as air fryers) or reduced visibility of public health messages on acrylamide mitigation.

## Understanding food date labels

Food labels are key to guiding consumers on food safety and shelf life. In the FCS 2022–2023, three questions were used to assess knowledge and behaviour regarding expiry dates. As a reminder, there are two types of expiry date (<https://www.health.belgium.be/en/node/38776>):

- The **use-by date**: found on microbiologically highly perishable foods (such as meat, fish, salads, ready meals, etc.) which are likely to pose an immediate health risk after a short period of time. Once this date has passed, the product must not be consumed.
- The **best-before date**: found on products with a medium or long shelf life (such as rice, pasta, coffee, chocolate, etc.). Once this date has passed, the product may have lost some of its texture, colour or taste, but it is generally still safe to consume if stored in the appropriate conditions (indicated on the label). Before consuming a product past its best-before date, it is recommended that you check it (visually, by smell, or taste) for any defects, such as a musty smell.

### Do people know the difference?

Two-thirds of adults in Belgium (66.1%) correctly indicated that use-by and best-before labels have different meanings, while 24.8% believed they meant the same and 9.1% answered “I don’t know.” Awareness of the difference between both dates was higher among those with long-type higher education (78.5%) than those with a low educational level (56.5%). By contrast, knowledge on the difference between both dates was lower in older adults (52.8%) than in younger age groups (between 68.4% and 71.9%).

### What do they do when the use-by date has passed?

32.0% of adults indicated they would still eat unopened food one day past its use-by date, 38.1% said it would depend on the type of food, and 19.2% reported discarding it. Adults aged 65 years and older were more likely to consume expired food (41.6%) than parents of children (23.0%) and adults aged 18–39 years (21.9%). In addition, the proportion of adults consuming food past its use-by date was higher in Wallonia (37.0%) than in Flanders (29.3%).

## What do they do when the best-before date has passed?

44.1% of adults would eat unopened food one day past its best-before date, 32.3% said it depends on the type of food, and 12.1% would throw it away. The permissive approach was more frequent among older adults (51.6%) than parents of children (38.4%) and adults aged 18-39 years (39.1%). Regional differences were again visible, with 51.1% of adults in Wallonia willing to eat products past their best-before date, compared with 39.8% in Flanders.

These indicators provide complementary insights into awareness and decision-making around food safety, balancing food safety and food waste considerations. The 2022-2023 results indicate that a substantial share of adults still report risky behaviours, such as eating food past its use-by date, and highlight the persistent gap between knowledge and behaviour.

## Storing food at home

### Storage duration

Two-thirds of adults (60.6%) stored fresh meat or fish preparations bought at detailers in the fridge for 1-2 days. Storage duration of 3-4 days was reported by 33.1% of adults, storage duration of 5-6 days by 5.5% of adults, and storage duration of 7 days or more by 0.7% of adults.

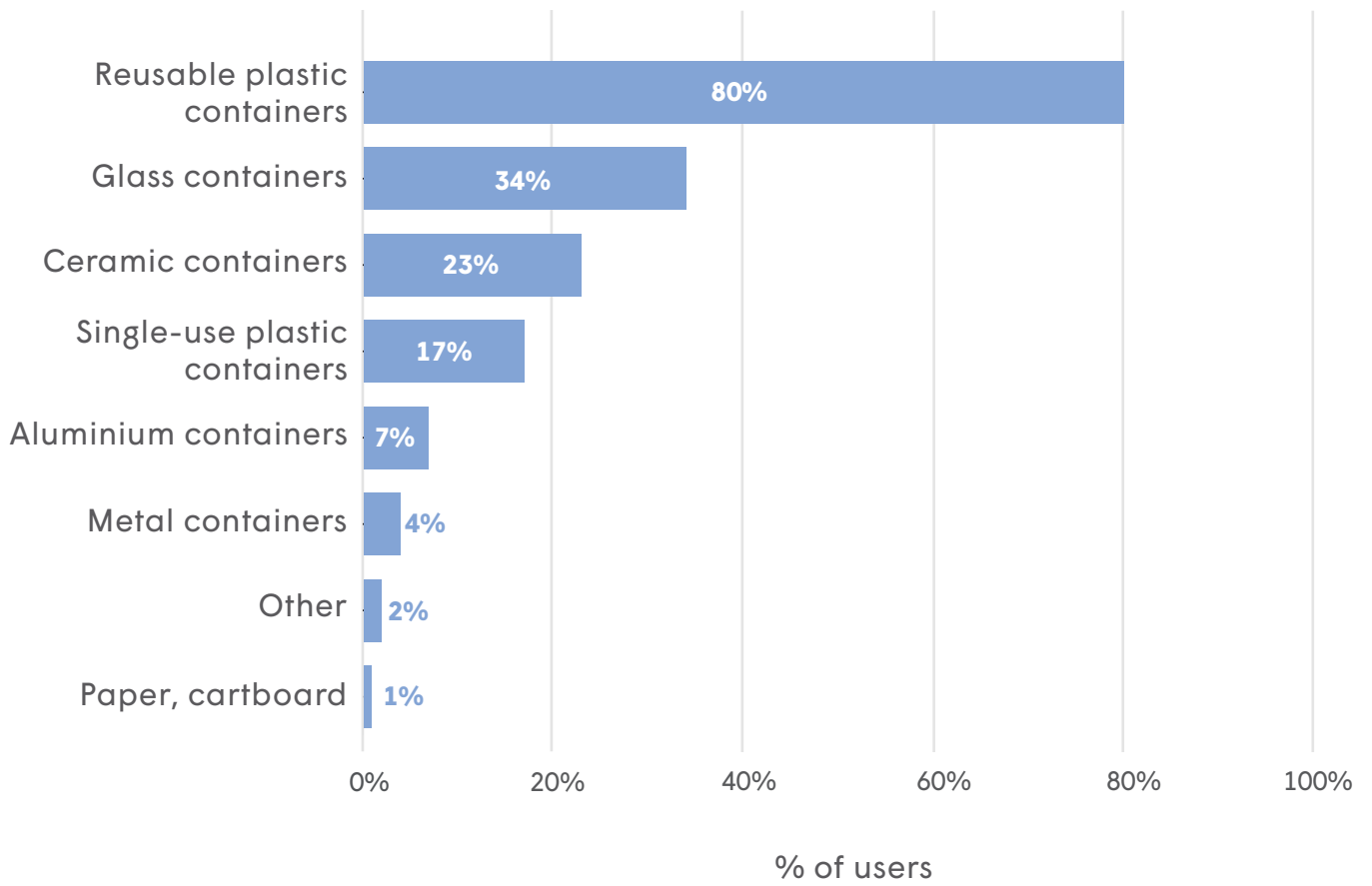
Age was a key factor: 68.2% of older adults (65 years and above) stored meat or fish bought at detailers maximum 2 days in the refrigerator, while this percentage was only 45.4% among young adults (18-39 years). Nearly 10% of young adults stored this kind of products for 5-6 days in the fridge, which is twice as much as in other age groups. Regional differences were minor, though the proportion of people storing fresh meat and fish preparations in the fridge for 7 days or more was higher in Flanders (1.0%) than in Wallonia (0.1%).

Overall, most participants reported storing fresh meat or fish preparations maximum 1-2 days in the fridge, which is in line with recommended food safety practices. A small minority, however, indicated keeping products for 5 days or longer, which may increase the risk of spoilage or foodborne illness.

### Containers used to store leftovers at home

The most common storage method for leftovers was reusable plastic containers, used by 79.7% of adults. Glass containers were used by 34.1%, followed by ceramic containers (22.7%) and single-use plastic containers (17.1%). Aluminium (7.2%) and metal containers (4.3%) were less frequently used. Only a small proportion of adults stored food in pans, vacuum packs, paper, or cardboard.

Overall, the results indicate a clear preference for reusable storage solutions, particularly plastic and glass containers, while single-use and less sustainable options were used only by a minority of adults.



**Figure 5 • Types of containers used by adults aged 18 years and older (including parents of 3–9– children) living in Belgium, to store leftovers in the fridge, Belgium, 2022-2023.**

## Key messages for safer food practices

The survey shows that most adults living in Belgium follow good food safety practices; however, targeted improvements are still needed. Based on observed behaviours, we emphasise the following safety tips :

**COOK BURGERS ALL THE WAY THROUGH**  
to prevent food poisoning

**KEEP IT CLEAN**  
Hygiene is key for safe food

**COOL BURGERS QUICKLY**  
if you plan to store them

**SEPARATE RAW AND COOKED FOODS**  
to avoid cross-contamination

**STOP THE DRIP**  
do not let raw meat or fish juices touch other foods

**CHILL MINCED MEAT FAST**  
refrigerate or freeze right after purchase

**CHECK THE DATE**  
Use-by = safety,  
Best-before = quality

**GO FOR LIGHT GOLDEN**  
Bake fries to a light golden colour  
to reduce acrylamide

Questions? Mail [fcs@sciensano.be](mailto:fcs@sciensano.be) or visit our [website FCS](#).

